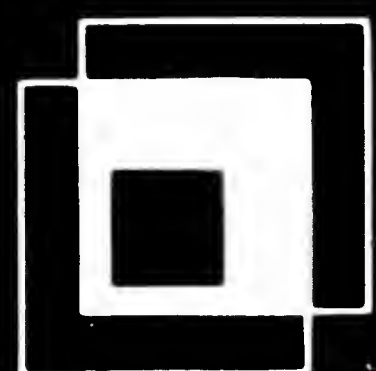


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PATENT OFFICE**

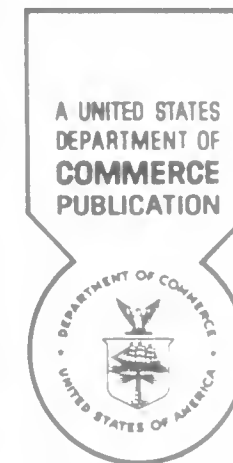
**VOL 880
NOVEMBER
1970**

MICRO PHOTO DIVISION



BELL & HOWELL

JLN



U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

November 3, 1970

Volume 880

Number 1

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of
September 1970

Examiner affirmed	117
Examiner affirmed in part	14
Examiner reversed	25
Total	156

Kraebel, Charlotte M., 3852 Florence Drive, Alexandria, Va. 22305
Loud, George, 2111 Jefferson Davis Hwy., #8068, Arlington, Va. 22202
Malenas, Giedre I., 5513 Riverdale Road, Riverdale, Md. 20840
Nace, Barry J., 11215 Oak Leaf Drive, Silver Spring, Md. 20901
Olivo, Paul J., 300 E. 40th St., #5L, New York, N.Y. 10016
Roman, Edward S., Research & Development Labs., Sprague Electric Co., North Adams, Mass. 01247
Rowe, Richard A., 4521 Weldin Road, Wilmington, Del. 19803
Samuels, Martin I., 2100 79th St., Brooklyn, N.Y. 11214
Sharkansky, Richard M., 128 Tudor Road, Needham, Mass. 02192
Stempler, Kenneth J., 1160 Midland Ave., Bronxville, N.Y. 10708
Stepanishen, William, 2 Lexington Circle, Canton, Mass. 02021
Taylor, Jay G., 2800 Prudential Plaza, Chicago, Ill. 60601
Thompson, Joel E., 7 Jonathan Drive, Edison, N.J. 08817
Tong, Ruth S., 707 Raeford St., Catasauqua, Pa. 18032
Topol, Allan J., 888 16th St., N.W., Washington, D.C. 20006

Registration to Practice

The following list contains the names of applicants for registration to practice before the United States Patent Office who attained passing grades in the examination of March 31, 1970. Information tending to affect the eligibility of any of said applicants on moral or ethical grounds should be furnished the Commissioner of Patents on or before November 30, 1970.

ROBERT GOTTSCHALK,

Oct. 15, 1970. *Chairman, Committee on Enrollment*

Blerman, Linda, 310 Madison Ave., New York, N.Y. 10017
Crossetta, William J., Jr., 120 Meyer Road, Amherst, N.Y. 14226
Feldman, Marvin, 788 Columbus Ave., New York, N.Y. 10025
Goldstein, Gustave, R.D. 2, Box 465A, James Drive, Putnam Valley, N.Y. 10579
Goodwin, Thomas J., 415 W. Miner, #D, Arlington Hgts., Ill. 60005
Hodes, William A., 511 Fairview Ave., Kalamazoo, Mich. 49001

Disclaimer and Dedication

3,487,597. *Tadus J. Gutt*, Independence, Ohio. INTEGRAL PRECAST CONCRETE LINTEL BALCONY COMBINATION. Patent dated Jan. 6, 1970. Disclaimer and dedication filed July 27, 1970, by the assignee, *Cleveland Builders Supply Company*.

Hereby enters this disclaimer to add the claims of said patent and dedicates the entire term of said patent to the Public.

New Applications Received During July 1970

Patents	8,787
Designs	484
Plant Patents	4
Reissues	16
Total	9,291

Issue—November 3, 1970

Patents	1401	No. 3,537,107 to No. 3,538,507, incl.
Designs	26	No. 219,095 to No. 219,120, incl.
Reissues	1	No. 26,977
Total	1427	

Certificates of Correction for the Week of Nov. 3, 1970

Re. 26,175	3,462,135	3,488,307	3,502,742	3,513,786	3,520,737	3,522,727	3,525,154
3,241,464	3,462,905	3,488,361	3,503,280	3,514,221	3,520,758	3,522,594	3,525,187
3,250,705	3,464,926	3,489,551	3,503,958	3,515,101	3,520,821	3,523,099	3,525,491
3,365,040	3,465,616	3,489,773	3,504,547	3,515,395	3,520,828	3,523,148	3,525,583
3,369,361	3,474,133	3,489,833	3,504,991	3,515,621	3,520,845	3,523,209	3,525,622
3,381,417	3,476,025	3,490,156	3,505,170	3,515,855	3,520,876	3,523,316	3,525,942
3,293,202	3,476,462	3,490,902	3,505,337	3,516,439	3,520,888	3,523,400	3,525,976
3,407,199	3,476,763	3,492,661	3,505,355	3,516,895	3,520,891	3,523,721	3,526,005
3,423,414	3,478,659	3,493,604	3,505,382	3,516,942	3,520,932	3,523,841	3,526,285
3,437,721	3,480,994	3,493,857	3,505,425	3,516,953	3,520,984	3,523,959	3,526,294
3,435,105	3,481,462	3,493,883	3,506,396	3,517,019	3,521,078	3,523,972	3,526,345
3,439,036	3,481,726	3,495,111	3,506,416	3,517,061	3,521,518	3,523,979	3,526,454
3,439,381	3,482,522	3,497,010	3,506,515	3,517,071	3,521,536	3,523,986	3,526,507
3,446,098	3,482,590	3,498,525	3,506,554	3,517,664	3,521,884	3,523,999	3,526,524
3,446,533	3,483,133	3,498,683	3,506,649	3,518,360	3,521,956	3,524,063	3,526,588
3,449,059	3,484,271	3,499,328	3,507,460	3,518,755	3,522,003	3,524,225	3,526,828
3,449,789	3,484,315	3,499,422	3,507,478	3,518,877	3,522,004	3,524,235	3,526,886
3,450,768	3,484,345	3,499,912	3,508,666	3,519,316	3,522,215	3,524,258	3,527,091
3,451,365	3,484,506	3,500,110	3,508,682	3,519,379	3,522,270	3,524,308	3,527,391
3,453,153	3,485,015	3,500,987	3,509,173	3,519,465	3,522,275	3,524,396	3,527,682
3,453,503	3,485,271	3,501,454	3,509,239	3,519,585	3,522,283	3,524,754	
3,457,654	3,485,506	3,502,214	3,509,587	3,519,629	3,522,303	3,524,890	
3,459,567	3,486,087	3,502,244	3,510,244	3,520,122	3,522,315	3,524,973	
3,459,835	3,486,088	3,502,446	3,510,832	3,520,178	3,522,323	3,524,988	
3,462,008	3,486,960	3,502,658	3,511,436	3,520,210	3,522,396	3,525,099	
3,462,125	3,487,978	3,502,696	3,511,779	3,520,624	3,522,508	3,525,109	

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 20, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-05-69
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director..... Heterocyclics; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxaz; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	1-01-65
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g. Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-02-69
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	3-20-69
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-03-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches Miscellaneous.	11-06-69
SECURITY, GROUP 220—C. D. QUARFORTH, Acting Director..... Ordnance; Firearms and Ammunition; Radar; Underwater Signalling; Directional Radio; Torpedoes; Seismic Exploring; Radio-Active Batteries; Nuclear Reactors; Powder Metallurgy; Rocket Fuels; Radio-Active Material.	4-03-69
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director..... Communications; Multiplexing Techniques; Facsimile; Data Processing; Computation and Conversion; Storage Devices and Related Arts.	6-03-69
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	6-30-64
PHYSICS, GROUP 280—R. L. EVANS, Director..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4-04-69
DESIGNS, GROUP 290—C. D. QUARFORTH, Acting Director..... Industrial Arts; Household, Personal and Fine Arts.	12-15-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	7-25-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	5-01-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	5-19-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	10-02-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	7-10-69
Total number of pending applications (excluding Designs).....	183,635
Total number of Design applications pending.....	2,853

Expiration of patents: The patents within the range of numbers indicated below expire during November 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 660, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents..... Numbers 2,657,382 to 2,669,722, inclusive
Plant Patents..... Numbers 1,226 to 1,231, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE JEAN-MARIE MASSOUBRE

No. 8293. Decided April 16, 1970

[57 CCPA —: 423 F.2d 1405; 165 USPQ 322]

1. PATENTABILITY—PRODUCT—RUBBER—INTERMEDIATE PRODUCT.

"Nor do we find that the claim product is inherently produced while carrying out the reference process and thus accidentally disclosed. Appellant's arguments concerning the intermediate product are persuasive, at least as to a conclusion that there is a lack of certainty as to whether such product is the same as that here claimed. Irrespective of that, however, the reference did not recognize the intermediate and is devoid of any teaching or suggestion that would render the claimed product obvious."

2. SAME—PARTICULAR SUBJECT MATTER—"METHOD OF REGENERATING VULCANIZED RUBBER, RESULTING PRODUCTS, AND COMPOSITIONS CONTAINING THE REGENERATED PRODUCTS."

The decision of the Board of Appeals, refusing a certain claim in an application entitled "Method of Regenerating Vulcanized Rubber, Resulting Products, and Compositions Containing the Regenerated Products" as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 249,994.

REVERSED

Brumbaugh, Graves, Donohue & Raymond (Mark N. Donohue, Donald S. Dowden, of counsel) for appellant.

Joseph Schimmel (Jack E. Armore, of counsel) for the Commissioner of Patents.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and ROSENSTEIN, Judge, United States Customs Court, sitting by designation

ALMOND, J., delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals, adhered to on reconsideration, affirming the Examiner's rejection of claim 41 of appellant's application¹ as unpatentable under 35 U.S.C. 103. Several claims have been allowed.

The invention relates to devulcanizing natural or synthetic vulcanized rubber to the regenerated rubber product. This is done by dividing the rubber into ground scrap, swelling the rubber with a compatible and relatively non-volatile solvent such as a mineral, vegetable or animal oil, adding a devulcanizing agent and heating. The result is a liquid or semi-liquid regenerated rubber product alleged to be superior to the prior art solid reclaims. No damaging mechanical working is required to render the liquid or semi-liquid product plastic, and it readily combines uniformly to produce a homogenous mixture with fresh rubber.

The sole claim on appeal, claim 41, is directed to a product and reads:

41. An at-least-partially-liquid product comprising a devulcanized rubber and a solvent for said rubber, said solvent being compatible with said rubber and substantially nonvolatile at a temperature of 180° C. to 230° C. and atmospheric pressure and said rubber being of a type vulcanizable with sulfur.

¹ Serial No. 249,994, filed January 8, 1963, entitled "Method of Regenerating Vulcanized Rubber, Resulting Products, and Compositions Containing the Regenerated Products."

NOVEMBER 3, 1970

U. S. PATENT OFFICE

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The Examiner's rejection under 35 U.S.C. 103 was predicated on the following reference:

Great Britain, 14,659, June 18, 1914.

The British patent discloses a process for devulcanizing and reviving rubber in which powdered rubber, a desulphurizing agent and a rubber solvent "calculated to dissolve the entire mass" are heated together in a closed boiler system. The reference states:

After having produced their respective effects in boiler *a*, the solvent and the desulphurizing agent pass, under the form of vapour, through tube *i*, into surface condenser *o* and are recovered into tank *q*.

One end of the horizontal boiler has a cover to facilitate the removal of treated rubber, the removal being accomplished by axially displacing, piston-fashion, a disc mounted tightly inside the boiler.

It was the Examiner's view that the claimed product differed from the solvent-swelled devulcanized rubber of the reference, while the system is still closed, only in the choice of solvent. The use of a non-volatile solvent to dissolve the rubber was considered to be obvious especially since appellant's disclosed solvents are allegedly well-known solvents for rubber.

In affirming, the Board stated:

We agree with the Examiner's holding to the effect that numerous solvents, both volatile and nonvolatile, are well known to dissolve rubber. Therefore, it is considered as obvious to use either type for this purpose depending on whether a solid or liquid product is desired. The temperature recited is essential only in regard to the ultimate use of the composition which is not included in this claim. In the absence of the use, the high temperature recited is therefore meaningless. Moreover, as the Examiner points out, since the reference does not specify the temperature at which the solvent is driven off, until it is volatilized the patent * * * is regarded as teaching a devulcanized rubber dissolved in a compatible solvent.

Appellant supports his contention that the Board erred by relying on four specific recitations in the appealed claim. Primarily, it is argued that the British patent fails to disclose an *at-least-partially-liquid* reclaim inasmuch as the solvent there is eliminated from the reclaim and the final product is so solid that it must be removed by a forcing disc. The whole point of the reference, it is urged, is to teach the removal of the solvent. Moreover, appellant argues, it is questionable whether the rubber is ever dissolved during the process to form a liquid since rubber characteristically does not dissolve but only swells in the presence of an oil or ordinary solvent.

Additionally, appellant argues that the precise nature of the solvent is not disclosed, whereas the claim requires that the solvent be *compatible* with the rubber. Furthermore, appellant's solvent must be *nonvolatile* at a temperature of 180° C. to 230° C. and this limitation is not suggested, it is contended, by the reference. The suggestion that such would be obvious if a liquid product is desired finds no basis in the art and is without reason, appellant argues.

Finally, appellant argues that there is no "accidental anticipation" in this case and adds that even if the reference did disclose, at some intermediate stage, a product falling within the claim language, no utility whatever therefor is disclosed. Such product, it is alleged, is inherently transitory and unstable due to the volatile solvent and is unsuitable for appellant's end uses; therefore, it fails to render obvious the claimed product. In conclusion, appellant points to his affidavit

comparing the solid reclaim of the reference with that of his invention and allegedly showing the latter to be markedly superior.

The Solicitor responds by agreeing with the Board's comment with respect to the limitations "at-least-partially liquid" and "nonvolatile" and adding:

Manifestly, if the objective is a liquid product, a solvent which is non-volatile at the treatment temperatures would be employed. A liquid product would expectedly enhance solubility and the capacity to compound with fresh rubber.

As to the requirement that the solvent be compatible with rubber, the Solicitor argues that inasmuch as the objective of the reference is to prepare a devulcanized rubber, it would be obvious to the art that the solvent should be compatible. Additionally, he notes that the Examiner was not contradicted in his statement that appellant's solvents are well-known solvents for rubber. With regard to the claimed temperature ranges, the Solicitor merely states that the particular degree of solvent volatility as so expressed has not been shown or disclosed to have any critical significance.

It is the Solicitor's view that the claimed product is disclosed in the British patent. The intermediate product is not "inherently transitory or unstable" merely because it contains a solvent which is volatile at a given temperature. Nor, it is also alleged, is there any evidence that this intermediate product is unsuitable for the same uses as appellant's reclaim. Moreover, the Solicitor contends, the failure to disclose a use for this product is of no legal significance on the issue of obviousness and even an accidental disclosure, if it is a clear teaching to the art, is available as prior art. The appellant's reliance upon his affidavit is misplaced, it is argued, because the affidavit comparisons of a solid rubber reclaim with a liquid rubber reclaim are meaningless.

We fail to find the Solicitor's arguments convincing on this record. There are similarities between appellant's invention and the reference disclosure to be sure; however, significant differences exist therebetween also.² The Patent Office's position regarding the use of a non-volatile solvent and the obtention of a partially liquid product finds no basis in the factual evidence before us. It is clear from a consideration of the British patent as a whole that the entire tenor of that reference is that the solvent is to be volatilized and recovered, leaving a solid product to be pushed out of the boiler. This is no suggestion of obviousness of the claimed product and, moreover, it appears to be a refutation of the unsupported allegation that those skilled in the art would use either a volatile or nonvolatile solvent. [1] Nor do we find that the claimed product is inherently produced while carrying out the reference process and thus accidentally disclosed. Appellant's arguments concerning the intermediate product are persuasive, at least as to a conclusion that there is a lack of certainty as to whether such product is the same as that here claimed. Irrespective of that, however, the reference did not recognize the intermediate and is devoid of any teaching or suggestion that would render the claimed product obvious. We have carefully considered the Solicitor's arguments and authorities cited in support thereof; however, we are unable to sustain the rejection on this record.

[2] Accordingly, the decision of the Board is reversed.

REVERSED.

BALDWIN, J., Dissents.

²As an example of the distinctions, we note the Board's language in reversing the Examiner's rejection of a method claim: "... the patent is silent relative to essential process features of the claim including the use of a non-volatile solvent."

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,741,893, Vandamme and Rouyer, METHOD AND APPARATUS FOR PRODUCING CRINKLED YARN; 2,761,272, same, APPARATUS FOR PRODUCING CURLED YARN; 2,780,047, same; 2,788,634, H. Crouzet, TWIST ARRESTORS FOR YARN TWISTERS; 2,823,513, Vandamme and Rouyer, APPARATUS FOR PRODUCING CURLED YARN; 2,823,514, same; 2,891,375, same, APPARATUS FOR THE PRODUCTION OF HIGH-BULK YARN; 2,944,319, H. Crouzet, HEATING DEVICE FOR FILAMENTS; 3,012,397, H. Servage, METHOD OF MAKING HIGH-BULK YARNS; 3,117,361, H. Crouzet, YARN HEAT TREATMENT APPARATUS; 3,117,410, same, PRODUCTION OF BULKED PLY YARNS OF BALANCED TENSILE STRENGTH AND THE YARN; 3,123,973, H. Servage, PROCESS FOR THE PRODUCTION OF FANCY YARNS HAVING A THREE DIMENSIONAL CURL; 3,137,119, C. Crouzet, PROCESS FOR THE PRODUCTION OF HIGH BULK YARNS; 3,165,881, De Moncult and Crouzet, PRODUCTION OF HIGH BULK YARNS; 3,166,881, H. Servage, APPARATUS FOR THE MANUFACTURE OF HIGHLY CRIMPED YARNS BY FALSE TWIST; 3,232,037, H. Crouzet, FALSE-TWIST SPINDLE; 3,237,392, same, PROCESS FOR PRODUCING BULKED YARN; 3,283,414, same, THERMAL TREATMENT OF SYNTHETIC TEXTILES; 3,333,409, same, PROCESS FOR PRODUCING HIGH BULK STRETCH YARNS; 3,382,656, H. Crouzet, FALSE-TWIST FRAMES AND METHOD FOR TEXTURING SYNTHETIC FILAMENTS, filed Aug. 17, 1970, D.C., M.D.N.C. (Greensboro), Doc. C-177-G-70, *United Merchants & Manufacturers, Inc. v. Deering Milliken Research Corp. et al.*

2,761,272. (See 2,741,893.)

2,780,047. (See 2,741,893.)

2,788,634. (See 2,741,893.)

2,823,513. (See 2,741,893.)

2,823,514. (See 2,741,893.)

2,891,375. (See 2,741,893.)

2,909,384, M. F. Saxton, MAGNETIC DOOR CATCH, filed July 29, 1970, D.C., E.D. Mich. (Detroit), Doc. 70C-933, *The Engineered Products Company v. U.S. Industrial Products Corp. et al.*

2,944,319. (See 2,741,893.)

3,012,397. (See 2,741,893.)

3,113,115, Ziegler, Brell, and Holzkamp, POLYMERIZATION CATALYST; 3,257,332, Ziegler, Brell, Holzkamp and Martin, POLYMERIZATION OF ETHYLENE, filed July 29, 1970, D.C. Del. (Newark), Doc. 3952, *Karl Ziegler v. Dart Industries Inc.*

3,115,334, O. Schauss, AERATION APPARATUS, filed Sept. 16, 1968, D.C. Wis. (Madison), Doc. 68-C-145, *Lakeside Engineering Corporation v. Beloit Corporation and Beloit-Passavant Corporation*. Neither defendant has infringed patent, July 27, 1970.

3,117,361. (See 2,741,893.)

3,117,410. (See 2,741,893.)

3,123,973. (See 2,741,893.)

3,137,119. (See 2,741,893.)

3,165,881. (See 2,741,893.)

3,166,881. (See 2,741,893.)

3,205,863, N. K. Rhodes, WRITING INSTRUMENT; Reg. No. 165,783 (PARKER), The Parker Pen Company, Fountain pens and mechanical pencils; Reg. No. 255,741, same, Desk set (desk stands and holders), for pens and pencils; Reg. No. 510,520, same, Writing ink; Reg. No. 297,913 (EVERSHARP), Eversharp, Inc., Fountain pens; Reg. No. 300,965, same, Writing ink; Reg. No. 505,581, same, Fountain pens and mechanical pencils; Reg. No. 639,379, same, Ball pens and ball pen ink cartridges, filed Apr. 2, 1968, D.C., N.D. Ill. (Chicago); Doc. 68c594, *The Parker Pen Company v. Fisher Pen Company*. By agreement, order suit dismissed without prejudice, June 2, 1970.

3,232,037. (See 2,741,893.)

3,237,392. (See 2,741,893.)

3,257,332. (See 3,113,115.)

3,276,517, L. F. Lowe, WATER HEATER, filed June 15, 1970, D.C., E.D. Va. (Richmond), Doc. 329-70-R, *The Patterson-Kelly Co., Inc. v. Adamson Company, Inc.*

3,283,414. (See 2,741,893.)

3,333,409. (See 2,741,893.)

3,368,932, Well, Woods and Solomon, APPARATUS FOR LAMINATING TWO FABRICS TO FOAM IN ONE SINGLE OPERATION, filed Oct. 21, 1968, D.C., S.D.N.Y., Doc. 68-C-4155, *Flame Laminating Machines Corp. v. Allen Knitting Mills, Inc.* Order of dismissal with prejudice, July 2, 1970.

3,382,280, C. W. Huffman, 3,4'-DICHLOROPROPIONANILIDE, filed May 7, 1968, D.C., S.D. Tex. (Houston), Doc. C.A. 68-H-460, *Monsanto Co. v. Dawson Chemical Co. and Crystal Chemical Co.* Final judgment, patent valid and infringed, May 4, 1970.

3,383,656. (See 2,741,893.)

3,452,922. (See Reg. No. 571,944.)

3,497,877. (See D. 216,577.)

3,499,290, M. F. Smith, FLOATING BOOM, filed July 28, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c1859, *Millard F. Smith, Slickbar, Inc. v. Marsan Corporation*.

D. 216,577, Greenberg and Diamond, POOL WITH INTEGRAL SLIDE; 3,497,877, same, filed May 11, 1970, D.C., N.D.N.Y. (Utica), Doc. 70-CV-154, *Coleco Industries, Inc. v. Neisner Brothers, Inc.*

Reg. No. 165,783. (See 3,205,863.)

Reg. No. 255,741. (See 3,205,863.)

Reg. No. 297,913. (See 3,205,863.)

Reg. No. 300,965. (See 3,205,863.)

Reg. No. 505,581. (See 3,205,863.)

Reg. No. 510,520. (See 3,205,863.)

Reg. No. 639,379. (See 3,205,863.)

Reg. No. 874,944 (HANG-A-HANDLE), Marketing & Motivation Incorporated, Display tote bag with hook handle closure; 3,452,922, R. L. Hart, DISPLAY TOTE BAG WITH HOOK HANDLE CLOSURE, filed June 26, 1970, D.C., S.D.N.Y., Doc. 70-C-2765, *W. R. Grace & Co. v. Uniflex Incorporated*.

REISSUES

NOVEMBER 3, 1970

Matter enclosed in heavy brackets **[]** appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,977

SWIMMING POOL CONSTRUCTION

John P. Pereira, Warwick, R.I., assignor to Weatherking Products, Inc., Providence, R.I., a corporation of Rhode Island

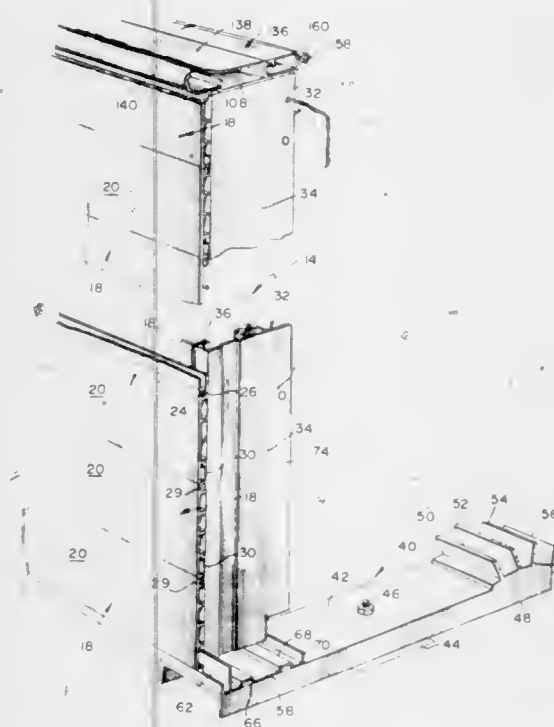
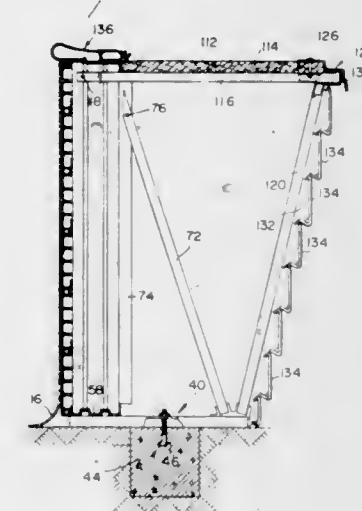
Original No. 3,416,165, dated Dec. 17, 1968, Ser. No. 599,100, Dec. 5, 1966. Application for reissue Apr. 10, 1969, Ser. No. 824,006

Int. Cl. E04h 3/16

U.S. Cl. 4-172.19

15 Claims

at the site of installation. A plurality of preformed panel assemblies are interconnected to form a shell and receive



A swimming pool construction in which all of the component parts thereof are prefabricated and are assembled at the site of installation. A flexible inner liner that defines the interior surface of the pool.

PATENTS

GRANTED NOVEMBER 3, 1970

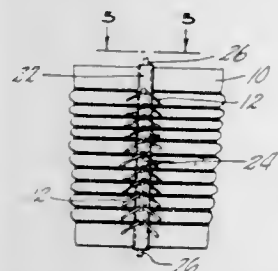
GENERAL AND MECHANICAL

3,537,107 FORESHORTENED CONVOLUTE SECTION FOR A PRESSURIZED SUIT

Michael A. Marroni, Jr., Weatogue, Conn., assignor, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 20, 1968, Ser. No. 785,710
Int. Cl. A62b 17/00

U.S. Cl. 2-2.1

2 Claims



In a first embodiment, root cords are laid on an appropriately shaped piece of flat cloth, and each cord is zigzag stitched to the cloth. Thereafter, a piece of restraint tape stitched to the cloth over the root cords along the middle thereof, the restraint tape being perpendicular to the root cords. As the stitching of the restraint tape proceeds, the cloth, together with the root cords, are bunched underneath the restraint tape so as to foreshorten the entire piece by a desired amount. Thereafter, the piece is bent into a generally cylindrical shape and appropriate edges of the cloth are sewn together. The ends of the root cords are then fitted through appropriately positioned holes in a second restraint tape, and a plastic tube is laid along the seam with the restraint tape over it. Then the second restraint tape is sewn to the seam with bunching of material occurring as the sewing proceeds so as to foreshorten the seam in the same fashion as the midsection was foreshortened. The cords may then be drawn up somewhat and tied so as to form convolutes in the completed assembly.

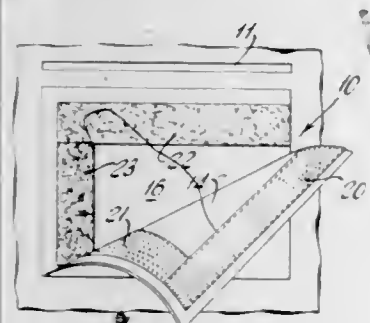
In the second embodiment, a generally cylindrically shaped piece of restraint cloth has pre-sized root cords or rings.

3,537,108 POCKET CONSTRUCTION

Richard W. Daniels, 381 Cooper Road, Red Bank, N.J. 07701
Filed Mar. 19, 1969, Ser. No. 808,484
Int. Cl. A41d 27/20

U.S. Cl. 2-252

7 Claims



A quick access safety pocket includes a rear panel and a rectangular front panel secured along its bottom and one side edge to the rear panel. Bands of overlapping com-

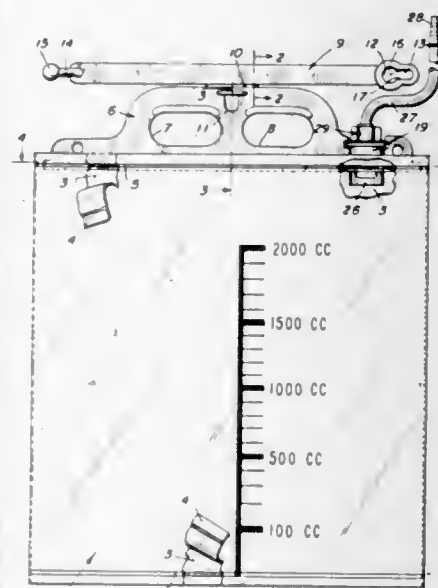
plementary gripper fasteners of the fiber hook and pile type are secured to the front panel rear top and free side borders and to the rear panel in positions coinciding with the front panel fastener bands. The pocket may be positioned on a garment face with the front panel overlying a garment pocket access opening or located adjacent to such opening.

3,537,109 HANGER STRUCTURE FOR MEDICAL LIQUID COLLECTION CONTAINER

Hal M. Spurrier, Granada Hills, and Cole C. Williams, Burbank, Calif., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Apr. 15, 1968, Ser. No. 721,244
Int. Cl. A61g 9/00

U.S. Cl. 4-110

17 Claims



A flexible plastic bag for collecting urine from a patient. The bag has a plastic handle with a tubular neck which handle is sealed to an upper end of the bag. Fillets adjoining the neck and pointed ends on the handle create a smooth contour for a liquid-tight heat seal between the bag and handle. This handle has undercut shoulders adjacent the tubular neck for holding a collection tube adapter to the tubular neck and has a tear-off hanger strap that is adapted to be looped around a bedrail to suspend the container during collection of urine.

3,537,110 DISAPPEARING BOWL

Hideharu Horie, Osaka, Japan, assignor to Tokara Company, New York, Inc., Brooklyn, N.Y., a corporation of New York

Filed Aug. 7, 1968, Ser. No. 750,903
Int. Cl. A47k 1/04

U.S. Cl. 4-169

14 Claims

A cabinet is provided with a front door hinged at its lower end and swingable forwardly to open. A shampoo bowl is hinged at its front end to the upper end of the door. Swivelled to the rear end of the bowl, on a horizontal axis, is a nut threaded on a rotatably mounted screw. Rotation of the screw in one direction raises the nut and moves the bowl to horizontal position while the

NOVEMBER 3, 1970

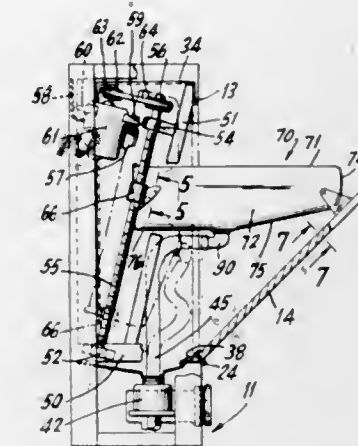
GENERAL AND MECHANICAL

11

front of the bowl swings the door open to upwardly and forwardly inclined position, to support the front end of the bowl. Upon rotating the screw in an opposite direction, the nut moves down on the screw to swing the door to vertical closed position and the bowl into the cabinet.

U.S. Cl. 4-231

6 Claims



The bowl moves into a chamber in the cabinet. Said chamber has a drain at its lower end connected to the outlet of the bowl by a flexible conduit. Any water spilled into the chamber from the top of the bowl, when the bowl tilts into said chamber, also passes to the drain.

This invention is for an improved deodorant for the toilet wherein a liquid deodorant is employed in a simple plastic receptacle which may be readily mounted below a toilet seat.

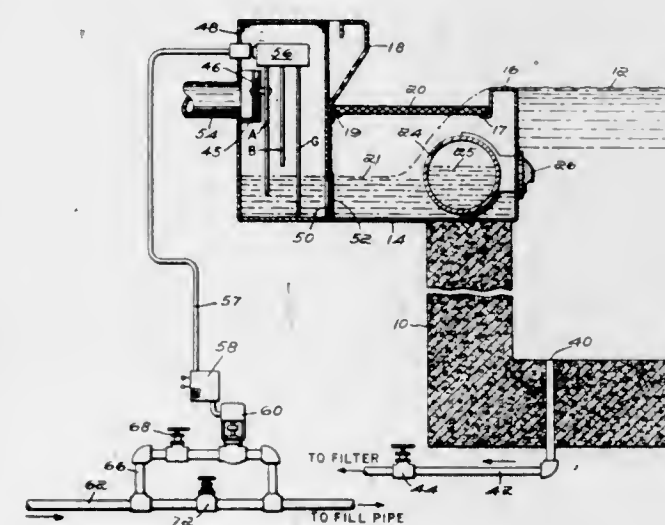
3,537,112 TOILET DEODORANT Richard E. Goodman, 1053 Roscomare, Los Angeles, Calif. 90024 Filed Aug. 18, 1967, Ser. No. 661,619 Int. Cl. E03d 9/02

3,537,111 SYSTEM FOR CONTROLLING WATER LEVEL AND RECIRCULATION IN SWIMMING POOLS WITH GUTTERS

George R. Whitten, Jr., P.O. Box 307,
Bellingham, Mass. 02019
Filed June 25, 1969, Ser. No. 836,267
Int. Cl. E04h 3/16, 3/20

U.S. Cl. 4-172.17

13 Claims



A system for controlling water level and recirculation in a swimming pool, in a manner to maintain a continuous overflow into a recirculating gutter for skimming the pool, without unnecessary waste of water when surging occurs. A continuous overflow to the gutter under both quiet and turbulent surface conditions is insured by sensing the drainage flow level in the gutter, opening a valve to deliver make-up water directly to the pool if the gutter level drops as a result of an inadequate rate of overflow, and closing this valve if the gutter level rises to a normal maximum depth. The gutter level preferably also controls the relative proportions of flow from the gutter and from the pool main drain to a recirculating pump. Flooding of the gutter is limited by using a gutter cover with a calculated area of drain holes to limit the rate of overflow. Extreme pool flooding by heavy rains, valve malfunction, or operator error is prevented by an adjustable high-limit waste drain.

U.S. Cl. 4-256

1 Claim



A device, for cleaning a clogged or sluggish-running domestic drain, comprising an inverted flexible and resilient cup adapted to embrace the drain opening in a sink or the like, a rigid vertically elongated tubular handle secured to and upstanding centrally from the cup, the latter having a passage therein establishing communication between the bore of the tubular handle and the interior of the cup, and a manually operative shut-off valve mounted on the upper end of the tubular handle and adapted for coupling to a flexible garden-type water hose.

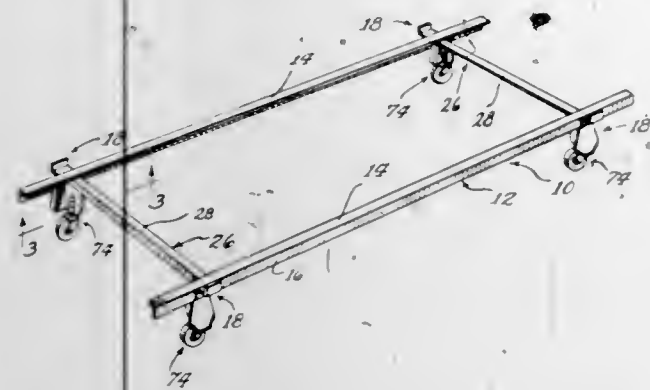
3,537,114 BED FRAME ASSEMBLY Frank J. Mis, Oak Lawn, Ill., assignor to Harris-Hub Company, Inc., a corporation of Illinois Filed July 1, 1968, Ser. No. 741,577 Int. Cl. A47c 19/00

U.S. Cl. 5-201

18 Claims

A bed frame assembly of the knockdown type including a pair of spaced parallel L-shaped side frame members and at least one perpendicularly extending L-shaped

cross frame member detachably secured to said side frame members. Slidably interengaging male and female elements are provided on the side and cross frame members for detachably securing them to one another, and



the male and female members have a corresponding taper, so that they are wedged into interlocking engagement with one another by the reaction force of floor-engaging abutments carried on the cross frame member.

3,537,115

HANGER ELEMENT FOR SUPPORTING A SPRING FRAME

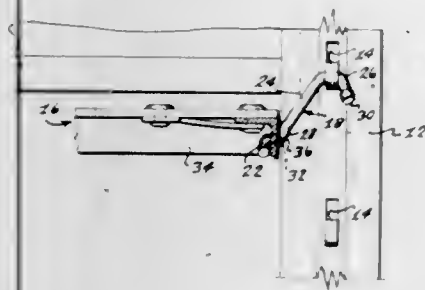
Samuel E. Gordin, Fort Smith, Ark., assignor to Hickory Springs Manufacturing Co., Inc., Hickory, N.C., a corporation of North Carolina

Filed July 23, 1968, Ser. No. 746,969

Int. Cl. A47c 19/00

U.S. Cl. 5—207

4 Claims



A hanger element for attaching a spring frame to a crib structure, the hanger element including an intermediate portion for extension in supporting relation through an aperture in a thin plate-like portion of the spring frame, including a first end portion formed for attachment with the crib structure and formed with a connecting segment extending perpendicularly from the intermediate portion, and including an opposite end portion extending perpendicularly from the intermediate portion oppositely with respect to a connecting segment of the first end portion, the opposite end portion being proportioned to pass through the spring frame aperture to install the hanger element on the spring frame and to retain the hanger element in assembly therewith. Also, the opposite end portion and the connecting segment of the first end portion are disposed for extension along opposite sides of the adjacent spring frame portion to prevent lateral shifting of the spring frame when it is supported by the hanger element.

3,537,116

VERSATILE FOLDING PAD

Calvin L. Kain, Apt. 25, London House Apartments, Bartlesville, Okla. 74003

Filed Sept. 26, 1968, Ser. No. 762,880

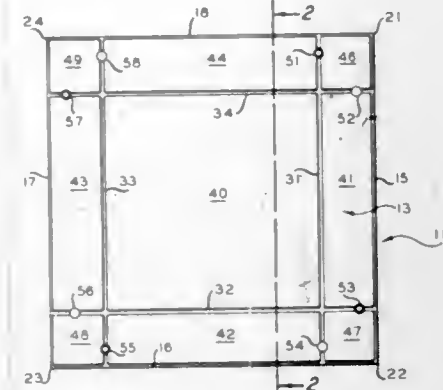
Int. Cl. A47g 9/00

U.S. Cl. 5—344

4 Claims

A generally rectangular pad sheet is provided with four fold lines spaced inwardly from and generally parallel to

the four edges of the sheet to form a rectangular center section, four generally rectangular side walls, and four corner sections. Each corner section is provided with a



3,537,117

CONVERTIBLE TRAILER-BOAT CONSTRUCTION

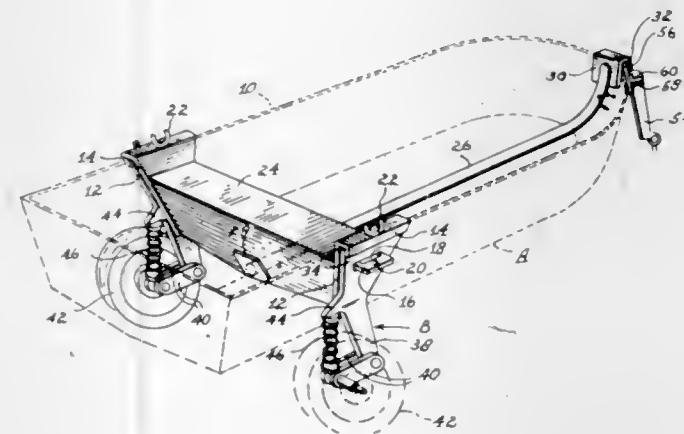
John A. Plesnevich, Box 373, R.D. 1, Allentown, N.J. 08501

Filed Feb. 24, 1969, Ser. No. 818,851

Int. Cl. B62d 53/00

U.S. Cl. 9—1

9 Claims



The combination of a sheet metal convertible boat with a pair of units carrying wheels, hydro-lift skis, pontoons or the like for supporting the boat while in transit across land, water or other horizontal surfaces, and a hitch member, each having cooperative structural means for facilitating the quick attachment of said units and hitch member to and detachment from said boat.

3,537,118

FORMATION OF FASTENERS HAVING KEYS

Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210

Filed Feb. 12, 1969, Ser. No. 798,659

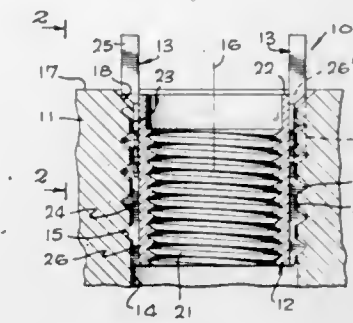
Int. Cl. F16b 39/06

U.S. Cl. 10—86

9 Claims

A fastener having a thread with a groove extending through and interrupting the thread, and a locking key retained in the groove and adapted to be driven axially to

lock the fastener in a carrier part, with the groove preferably being initially formed to a nonundercut cross-section, and with the key being shaped to itself deform



the groove to a slightly undercut cross-section as the key is initially installed in the groove, to thereby confine and retain the key in the groove.

3,537,119

JACK FOR HAND-SEWN SHOES

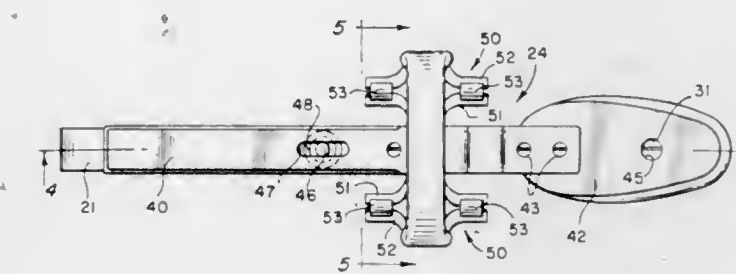
Robert D. Hussey, Skowhegan, Maine, assignor to Scoa Industries, Inc., Columbus, Ohio

Filed Aug. 19, 1969, Ser. No. 851,326

Int. Cl. A43d 3/00

U.S. Cl. 12—123

4 Claims



Apparatus for holding the vamp and plug of a mocasin type shoe in any desired position to facilitate the hand-sewing of the plug to the vamp.

3,537,120

ADJUSTABLE DOCKBOARD

Kurt Alten, 14 Ringstrasse, 3015 Wennigsen, Deister, Germany

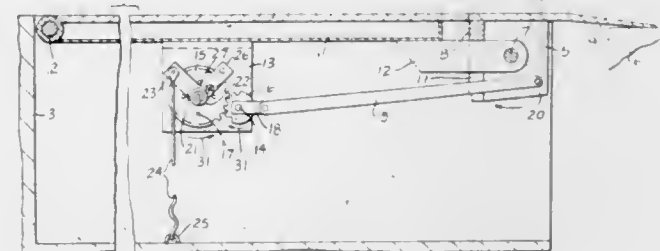
Filed Mar. 24, 1969, Ser. No. 809,863

Claims priority, application Germany, Mar. 22, 1968, 1,756,032

Int. Cl. B65g 11/00

U.S. Cl. 14—71

9 Claims



A dockboard for ramps, which is provided with an extension mechanically moveable into an effective and an ineffective position through the intervention of transmission means operable in response to a tilting movement of the dockboard.

3,537,121

CLEANING AND BUFFING PRODUCT

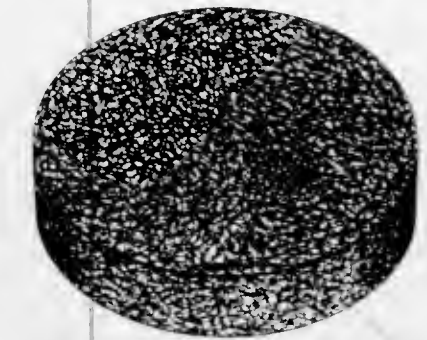
Thomas R. McAvoy, Stillwater, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Jan. 17, 1968, Ser. No. 698,497

Int. Cl. A471 11/40

U.S. Cl. 15—230.12

5 Claims



A soft resilient compressible polishing pad which is superior to lamb's wool for buffing aluminum, paint, wax, plastic, and similar surfaces. The pad is essentially a lofty fibrous nonwoven structure bonded by a soft, tough resin containing a finely divided soft mineral filler.

3,537,122

POLISHING PAD

John R. Proffitt, Jr., P.O. Box 729, Dalton, Ga. 30720

Filed Sept. 6, 1968, Ser. No. 757,974

Int. Cl. A471 11/40

U.S. Cl. 15—230.12

2 Claims



A polishing pad or disk of tufted base fabric with an attached backing of the same diameter and an additional backing disk of smaller diameter, whereby the marginal edge of the polishing pad may be caused to curl in proportion to the amount of pressure applied to such edge.

3,537,123

CLEANING DEVICE WITH INTERCHANGEABLE HEAD

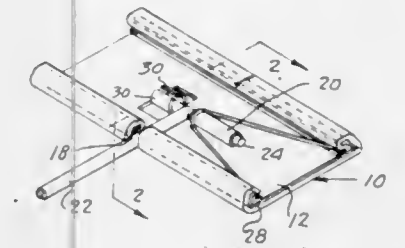
Ragnvald G. Leland, 2334 W. 241st St., Lomita, Calif. 90717

Filed Aug. 16, 1968, Ser. No. 753,246

Int. Cl. A471 13/256, 13/257, 1/08

U.S. Cl. 15—244

4 Claims



A cleaning device having an interchangeable head comprising handle means and pad means and means for detachably connecting a pad to the pad means, including holding member for holding a pad attached to the pad means until the holding member is released so as to release the pad from the pad means, and further including squeegee means.

3,537,124 DEVICE FOR REMOVING MOLTEN SOLDER FROM SOLDERED JOINTS

Rolf Alexander Wallin, Vasavagen 21a,
Jakobsberg, Sweden

Filed Feb. 26, 1968, Ser. No. 708,158

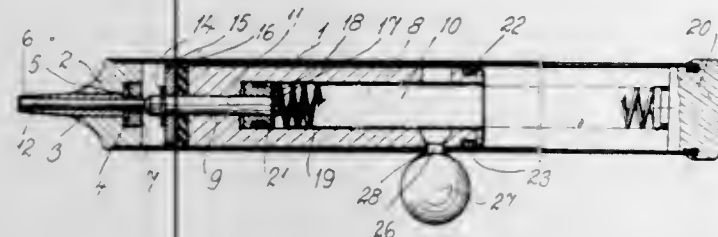
Claims priority, application Sweden, Mar. 17, 1967,

3,725/67

Int. Cl. A471 5/02

U.S. Cl. 15—341

5 Claims



A device for drawing off molten solder from soldered joints comprising a cylinder in which a plunger is displaceable through a suction stroke by a tension spring to produce suction in one end portion of the cylinder so that the molten tin to be removed can be drawn into the cylinder through a nozzle connected to the end of the cylinder. The plunger is manually displaced against the force of the tension spring by means of a knob which is secured to the side of the plunger and projects laterally through a longitudinal slot in the cylinder.

3,537,125 CASTER WITH INTEGRAL HORN AND PINTLE AND METHOD OF MAKING SAME

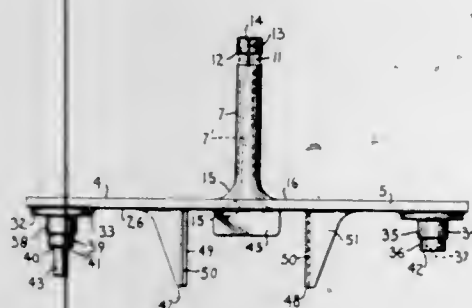
Herbert Arenson, Shawnee Mission, Kans., assignor to
United States Caster Corporation, Overland Park,
Kans., a corporation of Missouri

Filed Oct. 25, 1967, Ser. No. 677,905

Int. Cl. B60b 33/00

U.S. Cl. 16—31

9 Claims



A caster of molded parts and method of making same wherein the caster includes an integral pintle and horn with arms extending therefrom with an axle extending between the arms and mounting a wheel. A mounting member for supporting the pintle in the leg of furniture or the like, such as a sleeve having resiliently inwardly extending portions engaging a shoulder on the pintle to retain the sleeve and pintle assembled. The method, including the molding of the pintle and horn in an integral structure with the horn and arm portions in a flat strip preferably having axle portions and connector members extending therefrom, coining the horn in spaced transverse lines on each side of the pintle, placing a wheel on an axle portion, and bending the horn at the coined lines to move the arms into parallel relation with the securing portions engaged and the axle portions aligned with the wheel thereon, and electronically welding the axle portions together onto the arms to hold the assembly, said molded portions being of a suitable shock and wear resistant material such as acetal resin or nylon.

3,537,126 APPARATUS FOR ATTACHING A SWING DOOR PROVIDED WITH A DOOR CHECK

Yoshitaka Nakanishi, No. 12-9, 5-chome, Yawata,
Ichikawa-shi, Chiba-ken, Japan

Filed Feb. 6, 1969, Ser. No. 797,005

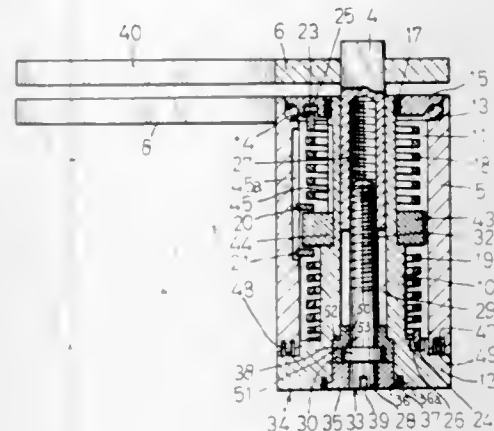
Claims priority, application Japan, Feb. 8, 1968,

43/7,587

Int. Cl. E05f 3/20

U.S. Cl. 16—50

9 Claims



Apparatus for attaching a swing door provided with a door check comprises an outer cylinder to be attached on the door side, an inner cylinder engaged freely rotatably in said outer cylinder with a space between the cylinders, a shaft for suspending an upper part of the door disposed in an inner part of said inner cylinder freely slidable and engaged with a bearing in a door frame, spring means workable in the direction for closing said door in the space between said outer cylinder and inner cylinder, and spring means workable in the direction for opening said door the spring means working in the direction for opening said door being constructed in such a way that it works more weakly than the spring means working in the direction for closing said door.

3,537,127 DEVICE FOR HOLDING POULTRY FOR SLAUGHTERING AND/OR PLUCKING

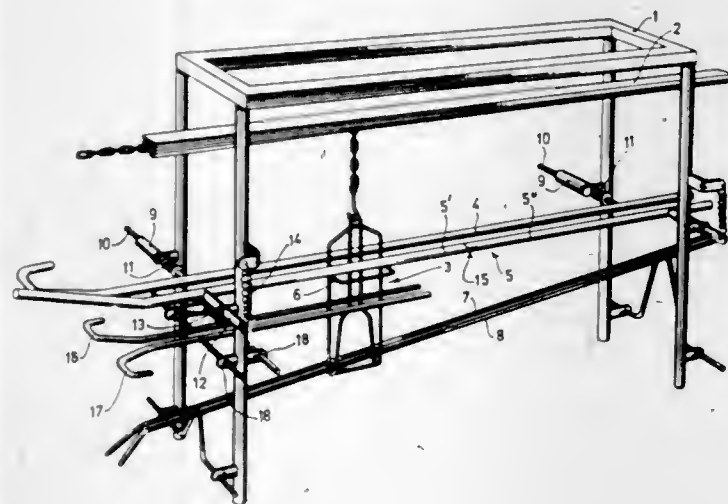
Bram Jan Martha Gerrit Brugman, Boxmeer, Nether-
lands, assignor to Stork Amsterdam N.V., Amsterdam,
Netherlands

Filed Mar. 26, 1968, Ser. No. 716,083

Int. Cl. A22c 21/00

U.S. Cl. 17—11

3 Claims



A device for holding poultry for slaughtering and/or plucking comprising an overhead conveyor with shackles for suspending and transporting the poultry, a station

being provided in which the shackles are guided and positioned between two guide rails, said rails being displaceable against a resilient force from their operative position towards an inoperative position.

3,537,128 POULTRY DEFEATHERING APPARATUS

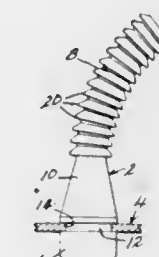
Ralph S. Zebarth and Henry E. Frederick, Kansas City,
Mo., assignors, by mesne assignments, to Gordon John-
son Company, Kansas City, Mo., a corporation of
Missouri

Filed Oct. 20, 1967, Ser. No. 676,795

Int. Cl. A22c 21/02

U.S. Cl. 17—11.1

1 Claim



A poultry defeathering apparatus including a finger mounting member rotatable about an axis and a set of elongated resilient fingers each having a base portion engaged in said mounting member and an operative portion extending outwardly from said mounting member to engage poultry conveyed adjacent thereto to remove feathers therefrom, the axis of the operative portion of each finger being non-aligned with the axis of its base portion. By varying the type, degree, and direction of non-alignment, there is provided a head which is readily adjusted to vary the degree of picking pressure of the fingers against the birds, and to provide a wider, more continuous and complete picking pattern for the fingers.

3,537,129 CONTINUOUS STUFFING SYSTEM

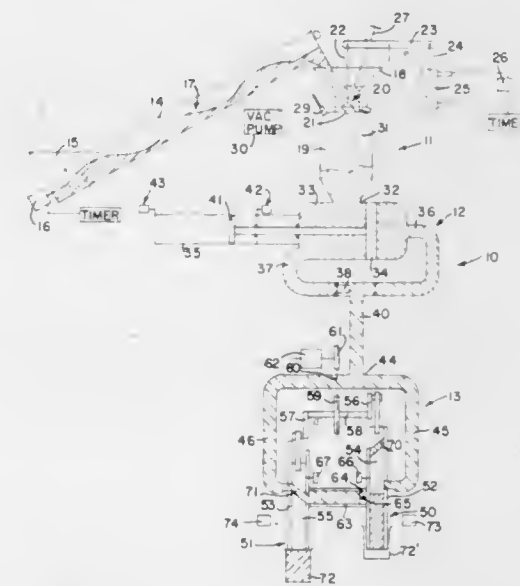
Daniel L. Orloff, Madison, Wis., and Frederic H. Middle-
ton, Honolulu, Hawaii, assignors to Oscar Mayer &
Co., Inc., Chicago, Ill., a corporation of Illinois

Filed July 13, 1967, Ser. No. 653,262

Int. Cl. A22c 11/02, 11/06

U.S. Cl. 17—35

8 Claims



A continuous stuffing system in which the product to be stuffed or packaged is deaerated, and while deaerated is continuously conveyed to a stuffer, meat form or the like. The flow of the product into the deaerator is controlled by a timer-operated valve with cutoff assured at a preset

3,537,130 HIDE PULLING PROCESS

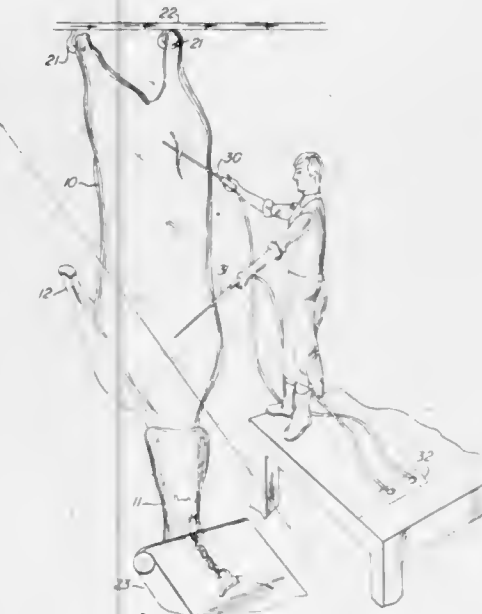
Richard L. McDonnell, White Bear Lake, Minn., assignor
to Armour and Company, Chicago, Ill., a corporation
of Delaware

Filed July 15, 1968, Ser. No. 744,907

Int. Cl. A22b 5/16

U.S. Cl. 17—50

9 Claims



Passing an electric current between electrodes through an animal carcass as the hide is pulled therefrom, to thereby prevent damage to the carcass vertebrae by the hide pulling forces.

3,537,131 MACHINE FOR PRODUCING FLEXIBLE FOAM POLYSTYRENE PLASTIC BODIES

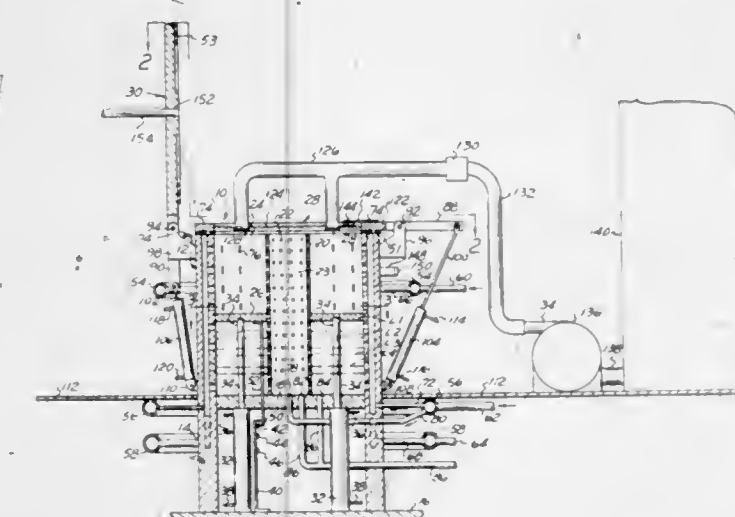
Gerhard Kracht, Allen Park, and Alvin M. Sasanko,
Taylor, Mich., assignors to Swedish Crucible Steel
Company, Detroit, Mich., a corporation of Michigan

Filed Aug. 6, 1968, Ser. No. 750,640

Int. Cl. B29b 5/04

U.S. Cl. 18—5

7 Claims



This flexible foam polystyrene plastic molding machine has a hollow-walled casing, preferably of cylindrical shape, with alternate steam and water passageways therein.

hollow perforated central cylindrical core, and an annular vertically-movable bottom raised by hydraulic cylinders. A foraminous filling cover and a solid molding cover are separately hinged to the casing at diametrically opposite locations and alternately raised and lowered by hydraulic cylinders. The filling cover has inlets for a flexible hose which fills the annular mold chamber with foam plastic beads from a storage bin by the air stream from a blower while the molding cover is raised. The filling cover is then raised and the molding cover lowered to close the mold chamber after which clamps operated by hydraulic cylinders move into clamping position above the solid cover to render the mold chamber steam-tight during molding.

3,537,132

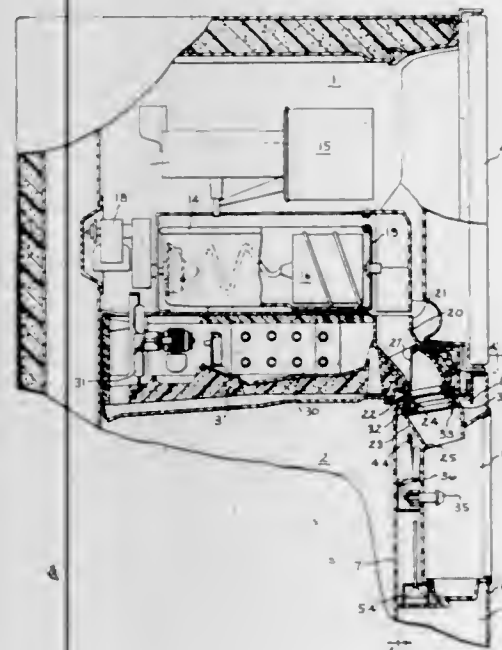
HOUSEHOLD REFRIGERATOR WITH THROUGH-THE-DOOR ICE SERVICE

Robert J. Alvarez, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 3, 1968, Ser. No. 756,746

Int. Cl. F25d 25/00

U.S. Cl. 62-266

9 Claims



A household refrigerator divided by a horizontal partition into an upper freezer compartment and a lower fresh food compartment includes an ice dispenser in the freezer compartment, an ice service area in the face of the fresh food compartment door and aligned passages in the partition and the fresh food door for conducting ice from the dispenser to the service area.

3,537,133

APPARATUS FOR MAKING PLASTIC CONTAINERS

Emery I. Valyi, 5200 Sycamore Ave.,
New York, N.Y. 10071

Original application Oct. 6, 1965, Ser. No. 493,328, now Patent No. 3,336,425, dated Aug. 15, 1967. Divided and this application June 7, 1967, Ser. No. 662,219

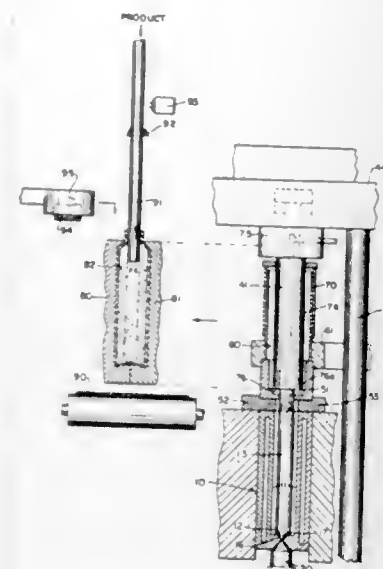
Int. Cl. B29d 23/03; B65b 47/08

U.S. Cl. 18-5

7 Claims

Injection molding apparatus including a parison die in which a parison is injected on to a blow core, a blow mold in axial alignment with the parison die, means shifting the blow core with the parison die, means shifting the blow core from the parison die into the blow mold and blowing, means separating the blow core from the parison in the blow mold, means shifting the blow mold transversely out of the path of the blow core, and means re-

turning the blow core to the parison die. Filling means is provided to fill the blown article while in the blow mold



3,537,134

MACHINE FOR CONTINUOUSLY BLOW-MOLDING HOLLOW RESIN PLASTIC ARTICLES

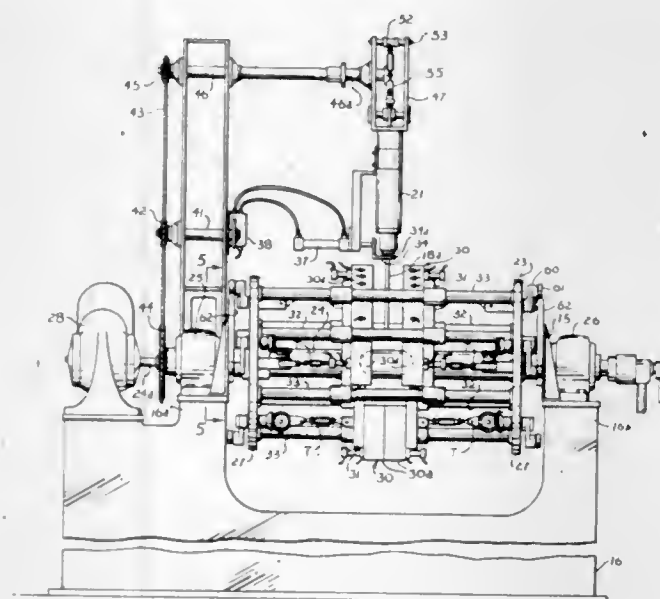
Robert D. Raper, Canal Fulton, and John P. Kinsly, Cuyahoga Falls, Ohio, assignors to Samco, Inc., Fulton, Ohio, a corporation of Ohio

Filed Oct. 20, 1967, Ser. No. 676,899

Int. Cl. B29c 3/00

U.S. Cl. 18-5

7 Claims



Blow-molding machine has mold-supporting wheel rotated at given r.p.m. through positive drive means. Mating hollow mold halves continuously moved with wheel about circular path, and each opened and closed by mechanism carried by wheel, including fixed cam means in path of rotating wheel by which each mold closing is positive and rapid at a precise point in circular path at which, without stopping wheel, mold clamps about length of extruded resin plastic continuously fed plastic parison from an extruder. At precise point of full mold-closing operation cutter automatically severs length from plastic parison without interfering with continuous circular movement of respective mold through accurately timed blow-molding and article-ejecting operations of same.

3,537,135

SPINNING APPARATUS

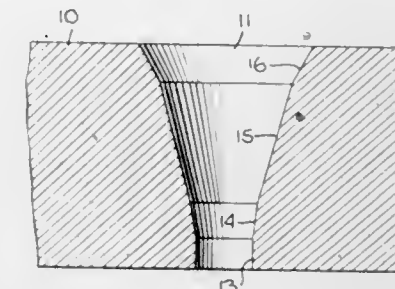
Joseph Germano Santangelo, Morristown, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 336,683, Jan. 9, 1964. This application Aug. 7, 1968, Ser. No. 750,839

Int. Cl. D01d 3/00; D01f 3/02

U.S. Cl. 18-8

5 Claims



A spinneret and method of spinning therewith, the spinneret comprising three frusto-conical sections, each having an apex angle larger than the foregoing section, and arranged successively in concentric relationship to communicate with a cylindrical portion forming the downstream portion of the spinneret, the frusto-conical sections being divergent to the upstream end thereof, said spinneret permitting the production of lower denier material at a lower drawdown with superior mechanical properties and being characterized by ease of mechanical production and special utility in spinning processes to minimize jet deposits and prolong jet life.

3,537,136

APPARATUS FOR BRIQUETTING METAL CHIPS

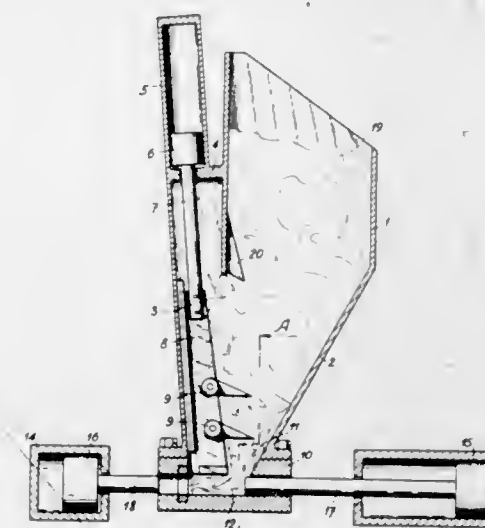
Rudolf Solc, Brno, Czechoslovakia, assignor to Prvni Brnenska Strojirna, Zavody Klementa Gottwalda, Brno, Czechoslovakia

Filed Dec. 6, 1967, Ser. No. 688,560

Int. Cl. B29c 3/00

U.S. Cl. 18-16.5

8 Claims



An apparatus for briquetting metal chips comprising a die member; a transverse channel passing through said die member, said channel being open at both ends, an inlet opening in said die member arranged at an angle to said channel and communicating therewith; a feed duct for receiving the chips to be processed, the said feed duct leading into said inlet opening; a piston forming a

punch member and being normally disposed in said transverse channel of said die; abutment means for said piston; means for supporting said piston for movement in said channel in a direction opposite to said abutment means; said means movable into the path of movement of metal chips fed through said feed duct and inlet opening, whereby the chips are forced into said transverse channel and are pressed into a briquette shape between said piston and abutment means when the piston is moved against the abutment means; and means for releasing the formed briquette from said channel.

3,537,137

MACHINE FOR HOT-CRIMPING SKIRTS OF PLASTIC CAPSULES AND THE LIKE

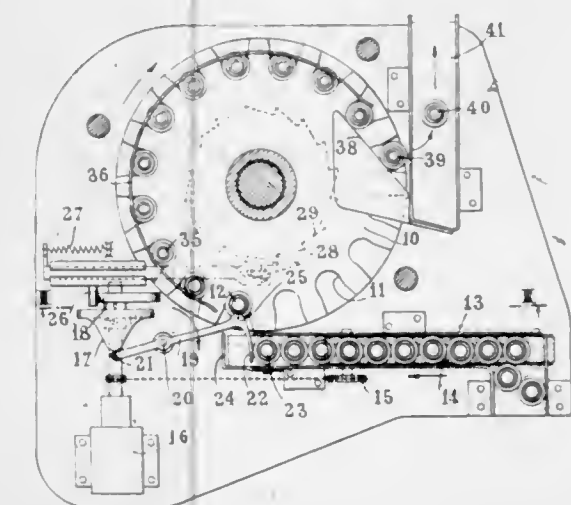
François Lancesseur, 1 Rue du Dome, Paris, France
Filed Nov. 17, 1967, Ser. No. 684,045

Claims priority, application France, Oct. 20, 1967, 125,242

Int. Cl. B29c 17/00, 3/00

U.S. Cl. 18-19

1 Claim



Machine for hot-crimping the skirts, plastic stoppers, capsules and gaskets, comprising a turret-platform, stations disposed at spaced intervals along the periphery of said turret-platform and adapted to receive the plastic stoppers to be crimped, crimping heads rotatably driven by said turret platform, corresponding in number to, and overlying, said stations, said head being mounted for vertical sliding movement, spring means constantly urging said heads away from the underlying stations, a fixed cam concentric to said turret-platform and resiliently engaged by an upper extension of each crimping head, said cam being adapted to move each crimping head downwards toward the stopper to be crimped and thus cause said crimping operation to take place and subsequently allow said head to rise again under the control of said spring means upon completion of the crimping operation.

3,537,138

APPARATUS AND METHOD FOR FORMING ARTICLES IN A PAIR OF INCREMENTALLY ADVANCED THERMOPLASTIC WEBS

Gaylord W. Brown, Robert T. Johnson, and Elwyn Jones, Beaverton, Mich., assignors to Brown Machine Company of Michigan, Inc., Beaverton, Mich., a corporation of Michigan

Filed July 2, 1968, Ser. No. 742,066

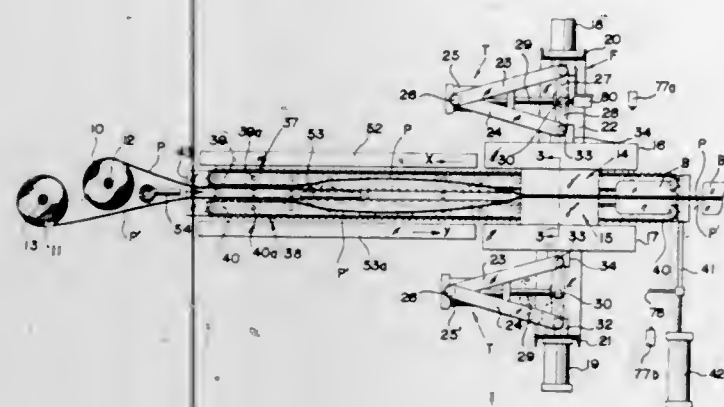
Int. Cl. B29c 17/00

U.S. Cl. 18-19

22 Claims

Apparatus for forming containers and like hollow articles in a pair of heat fusible, formable thermoplastic sheets wherein the sheets are incrementally advanced

through a pair of molds which close to heat fuse the sheets and differential pressure form the articles therein. A thermally elevated air stream is utilized to maintain



the heated and sagging sheets apart until the molds are closed and differential pressure conditions are introduced to form the containers.

3,537,139

INJECTION NOZZLE FOR HOT CHANNEL- INJECTION MOLDING DEVICE

Bruno Segmüller, Stein am Rhein, Switzerland, assignor to Segmüller AG, Stein am Rhein, Switzerland, a corporation of Switzerland

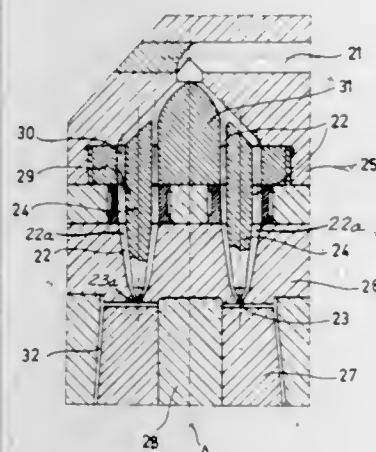
Filed July 10, 1967, Ser. No. 652,068

Claims priority, application Switzerland, Sept. 2, 1966, 12,731/66; May 17, 1967, 6,930/67

Int. Cl. B29f 1/08

U.S. Cl. 18—30

1 Claim



An injection nozzle arrangement for a hot channel-injection molding device which comprises, in combination, a heated distributor plate means, a mold portion cooperating with such heated distributor plate means, and means providing at least one delivery channel for the injection molding material. Each delivery channel incorporates a recess which is partially formed in the heated distributor plate means and partially in the mold portion. This mold portion is provided with a number of injection openings corresponding to the number of the delivery channels. Furthermore, the invention contemplates the provision of at least one heat conducting core located internally of each delivery channel and extending at least throughout a portion of the length of such delivery channel substantially coaxially with respect to and into the associated injection opening, each such heat conducting core being in heat conducting relationship with the heated distributor plate means.

3,537,140

REMOVING SPRUES IN PLASTIC MOLDS

Amedeo P. DeFelice, 105 Union St.,

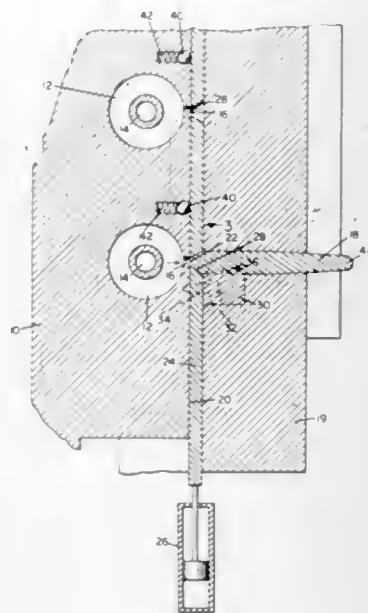
Leominster, Mass. 01453

Filed Dec. 14, 1967, Ser. No. 690,491

Int. Cl. B29f 1/00

U.S. Cl. 18—30

7 Claims



A movable cutoff for sprues in plastic molds comprising a blade having an opening therethrough through which the plastic is forced in the molding process, said blade being located closely adjacent the nozzle for the plastic, said blade moving transversely to said nozzle, cutting off the sprue formed in part in the opening, said blade being undercut and holding the cutoff sprue temporarily thereby, in combination with resiliently mounted sprue ejector means which is in the range of motion of said blade and aligned with said opening at the opposite side of the bar from the sprue held in the undercut, thereby forcing the sprue off the blade and discharging it.

3,537,141

MOLD DOSAGE MECHANISM

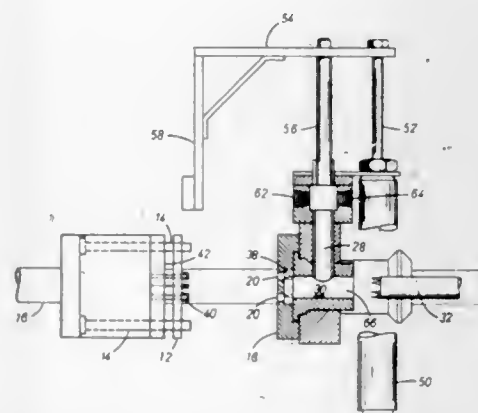
James J. Burnes, Southbury, Conn., assignor to Vitramon, Incorporated, Monroe, Conn., a corporation of Delaware

Filed Mar. 25, 1968, Ser. No. 715,759

Int. Cl. B29f 1/00

U.S. Cl. 18—30

10 Claims



The present invention concerns itself with a dosage device for a plastic molding press. More particularly, the present invention is directed to improved apparatus for cleaning the loading tube and pot of the dosage device between operating cycles of the press and to concurrently removing the finished piece and resulting cull from the mold plates.

3,537,142

APPARATUS AND METHOD FOR PROCESSING FIBROUS STALKS

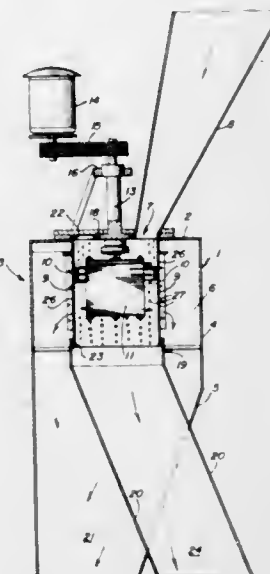
Eduardo Joel Villavicencio, Mexico City, Mexico, assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed July 9, 1968, Ser. No. 743,344

Int. Cl. D01b 1/30

U.S. Cl. 19—26

6 Claims



Apparatus for processing fragments of crushed fibrous stalks containing pith to separate the pith and the fiber including a vertically disposed casing forming a closed chamber with a feed opening at the top and an outlet at the bottom, a cylindrical screening element inside said casing and mounted so that the feed opening leads to the interior of the screening element, a rotor assembly coaxially mounted inside the screening element and having a plurality of hammers laterally extending to close proximity with the screening element and arranged to centrifugally and helically propel fragments to be processed through the treating zone defined by the cylindrical screening element and separate the pith fraction from the fiber fraction in the course of the travel through the screening element. According to the method the fragments are centrifugally and helically propelled and gravity fed through the treating zone defined by a vertical cylindrical screening element, in the absence of any extraneous artificially created air pressure differentials, so that a layer of axially aligned oriented fragments is formed on the inner surface of the screening element and the pith is separated by the rolling and rubbing action of the fragments on each other and is forced to the exterior of the screening element by centrifugal forces applied.

3,537,143

BALE OPENING APPARATUS

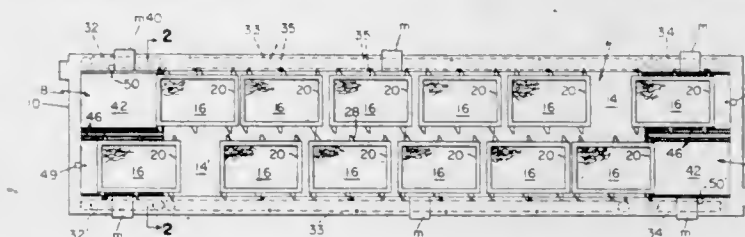
James King Merck, Pendleton, S.C., assignor to Maremont Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 1, 1968, Ser. No. 764,183

Int. Cl. D01g 7/06

U.S. Cl. 19—80

12 Claims



Cotton bales are opened by plucking fibers from discrete areas of a bale face, the areas being sequentially plucked and each extending the full length and a minor part only of the width of the bale face. The apparatus includes a plurality of short plucking rolls mounted beneath and spaced longitudinally of each of two parallel

sections of a bale-supporting platform, the platform preferably being provided with steps thereon to better support bales moved therealong by driven cages. Cross-conveyors transfer the bales between the platform sections at each end thereof, to provide a closed path of bale travel, and effect during each transfer a reversal of the leading end-trailing end orientation of each bale. Each plucker roll and its associated components constitute an independent fiber-producing unit which is so mounted as to be readily accessible for purposes of replacement or repair.

3,537,144

RECIRCULATION OPENER AND CLEANER FOR THE LICKER-IN SECTION OF CARD- ING MACHINES

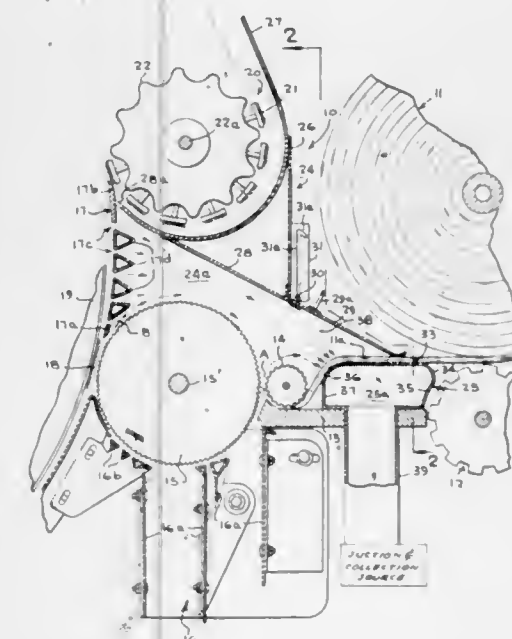
James F. King, Jr., Winston-Salem, N.C., assignor to The Bahnsen Company, Winston-Salem, N.C., a corporation of North Carolina

Filed Sept. 20, 1968, Ser. No. 761,131

Int. Cl. D01g 15/82

U.S. Cl. 19—107

14 Claims



A suction manifold assembly for the licker-in section of carding machines having a first upper suction chamber overlying the licker-in, the feed roll, and a portion of the lap leading to the feed roll, and a second lower suction chamber underlying that lap portion, with suction applied to the second suction chamber and communicated to the first suction chamber to capture fly from orifices adjacent the licker-in and deposit usable fiber constituents of the fly on the lap portion as the captured fly is conveyed in flow streams through the lap portion toward the second suction chamber.

3,537,145

RING SPINNING DRAFTING DEVICE

Karel Josef Meert, Ghent-Brugge, and Erwin Rudolf Siegrist, Ghent, Belgium, and Paul Krauss, Ebersbach an der Fils, Willi Pfeifer, Eisingen-Fils, and Heinz Hasslauer, Diegelsberg, Germany, assignors to Zinser-Textilmaschinen Gesellschaft mit beschränkter Haftung, Ebersbach an der Fils, Germany, a company of Germany

Original application June 8, 1966, Ser. No. 556,226. Divided and this application Oct. 31, 1968, Ser. No. 772,181

Claims priority, application Germany, June 10, 1965, 1,535,064

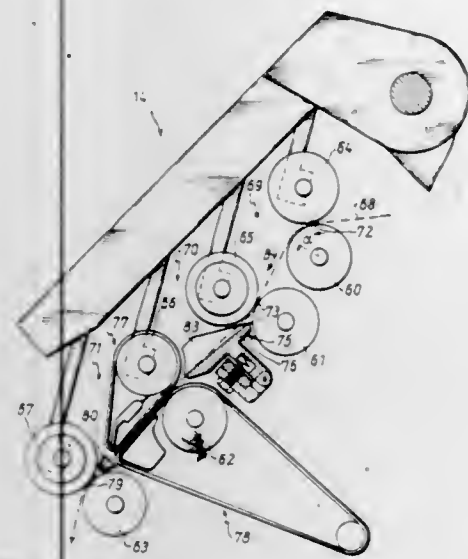
Int. Cl. D01h 5/70

U.S. Cl. 19—258

1 Claim

A pair of feed rollers and a pair of exit rollers are arranged at the ends of the preliminary drafting zone of

the drafting path of a ring spinning drafting device in such a position that the roving is in contact with the bottom feed roller through an arc of between 40° and 60°



extending from the nip of the feed rollers in the direction of rotation of the same, and then extends tangentially to the bottom feed roller from the end of the arc to the nip of the exit rollers.

3,537,146

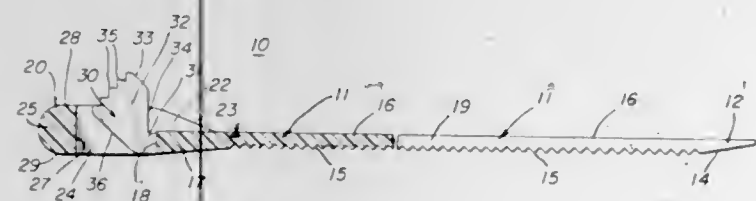
INTEGRAL ONE-PIECE CABLE TIE

Jack E. Caveney, Chicago, Ill., assignor to Panduit Corp., Tinley Park, Ill., a corporation of Delaware
Filed Aug. 6, 1968, Ser. No. 750,570

Int. Cl. B65d 63/00

U.S. Cl. 24—16

27 Claims



There is disclosed an integral one-piece cable tie to be tensioned about a bundle of wires, the cable tie including an elongated flexible strap having a frame integral with one end thereof, the frame having a pair of longitudinally extending side walls and an end wall and having a stirrup-like member cooperating with a buckle teeth on one surface of the strap, a pawl hingedly mounted on the frame and extending into the strap-receiving opening, the end wall having a strap-bearing surface disposed toward the pawl and the pawl having a strap-engaging surface disposed toward the end wall, and a set of teeth disposed on the strap-engaging surface and shaped complementary to the row of teeth on the strap.

3,537,147
HOSE CLAMP

Anton Pfeuffer, 301 E. 78th St., New York, N.Y. 10021
Continuation-in-part of application Ser. No. 567,662, July 25, 1966. This application Oct. 1, 1968, Ser. No. 764,078

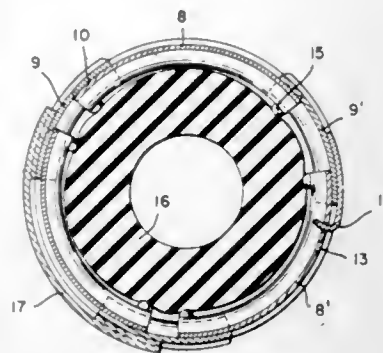
Int. Cl. B65d 63/02

U.S. Cl. 24—20

4 Claims

A hose clamp of great strength and simplicity constituted by a metal strap or band having a series of trans-

verse slots spaced from an end of the strap and an inwardly turned hook integral with or affixed to said end



in a position to engage in a selected slot when the clamp is compressed around a hose.

3,537,148

SELF-LOCKING TIGHTENER FOR BELTS, WIRES AND THE LIKE

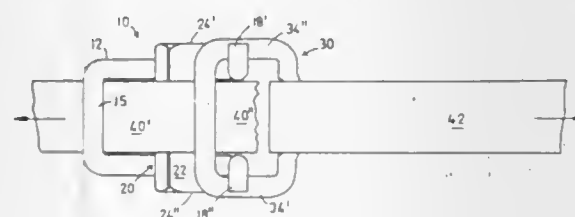
Rolf Carlmark, Box 756, 890 20, Sundasen, Sweden
Filed Feb. 26, 1969, Ser. No. 802,493

Claims priority, application Sweden, Mar. 1, 1968, 2,689/68

Int. Cl. A44b 21/00

U.S. Cl. 24—68

10 Claims



A self-locking tightener for flexible tension elements having a stirrup-like member cooperating with a buckle member. The stirrup member has a U-shaped portion provided with a transverse bridge attached to and extending between limbs of the stirrup member and lying substantially parallel with a crosspiece of the stirrup member. The ends of the limbs are raised and bent over to form two coaxial lugs facing away from one another and extending parallel to the bridge. The buckle is substantially rectangular in shape and loosely embraces the stirrup member between the bridge and the lugs, and is adapted to pivotably engage the lugs through the medium of two sidepieces. A crosspiece of the buckle is adapted to clamp, while the lugs serve as reaction points, against the bridge, a tension element passing over said bridge when a pulling force is applied to the opposite crosspiece of the buckle.

3,537,149

MOUNTING ARRANGEMENT

Horst Jakubasch, Oberndorf am Neckar, Germany, assignor to Olympia Werke AG, Wilhelmshaven, Germany
Filed Mar. 28, 1969, Ser. No. 811,321

Claims priority, application Germany, Mar. 29, 1968, 1,750,104

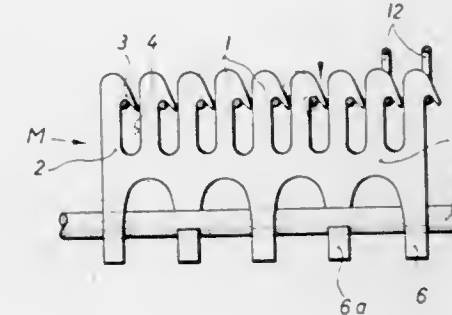
Int. Cl. A44b 13/02, 21/00

U.S. Cl. 24—73

9 Claims

A mounting arrangement for mounting adjacent springs in an office machine or the like. A mounting member is provided which is elongated and includes a main body portion to one side of which there extend a plurality of longitudinally spaced first engagement portions with which

the mounting member can be connected to a support, and to the other side of which there extend a plurality of longitudinally spaced hook-shaped second engagement portions. A plurality of discrete spring members are provided each of which has an end portion engaged by one of the hook-shaped second engagement portions. Thus, the spring members can be connected to the mounting



member, and the latter can then be secured to the support member, or the mounting member can first be secured to the support member and the spring members then be connected to the mounting member. In each case the spring members will be mounted on the support member with predetermined orientation relative to each other and to the support member.

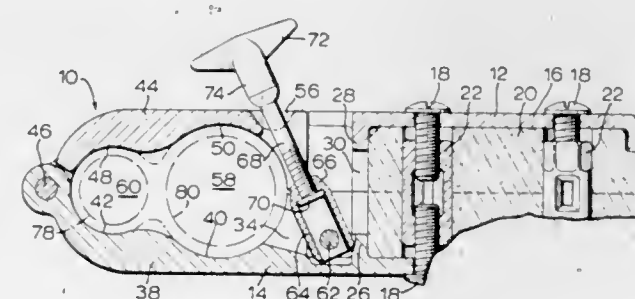
3,537,150
CLAMP

John Ernest Emberson, P.O. Box 40, Unionville, Ontario, Canada
Filed June 6, 1968, Ser. No. 735,054

Int. Cl. A44b 21/00; E04g 7/22

U.S. Cl. 24—81

1 Claim



A clamp has a throat to receive the end of a beam secured in place by bolts. The clamp has a recessed extension with a pivotable portion which closes on to the extension around another beam located in the recess. The pivotable portion is held in place by a thumb screw.

3,537,151
SHOELACE CLASP

Sol Sobel, 1356 Martine Ave., Plainfield, N.J. 07060, Theodore B. Maxwell, 590 E. 166th St., Bronx, N.Y. 10456, and Millard L. Spialter, 1888 Arbor Lane, Union, N.J. 07083

Filed Jan. 31, 1969, Ser. No. 795,584

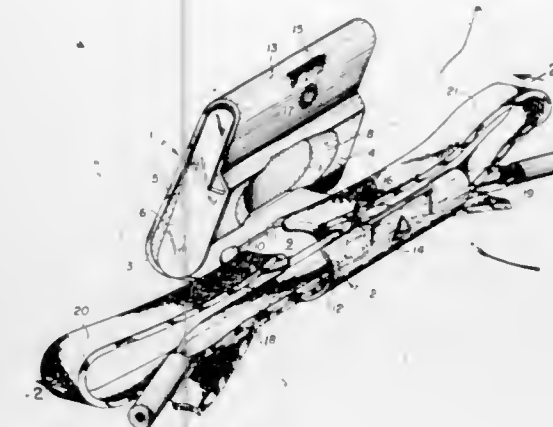
Int. Cl. F16g 11/00; A44b 21/00

U.S. Cl. 24—117

8 Claims

A shoelace clasp formed from sheet material into a substantially U-shape having substantially coextensive first and second legs spaced from each other and joined at a common base, the first leg comprising a portion thereof bent upon itself in spaced relationship and terminating substantially adjacent the base between the first and second legs, grip means on opposite sides of the bent

portion, the bent portion having a substantially annular recess in a face thereof adjacent the second leg, the second leg having a substantially annular aperture there-through, raised arcuate rim segments peripherally of or



3,537,152

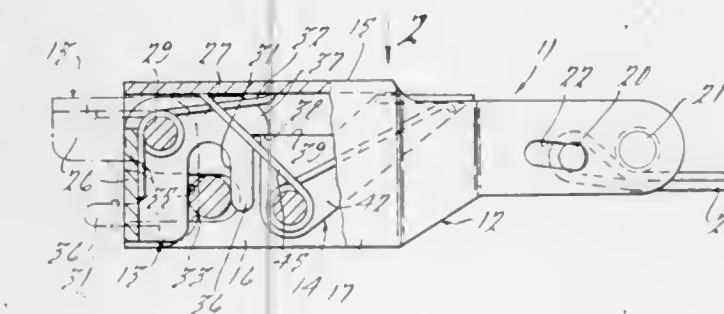
SNAP-ON AND QUICK RELEASE CONNECTOR

Paul J. E. Fournier, Jackson, Mich., assignor to Aeroquip Corporation, Jackson, Mich.
Filed Feb. 19, 1969, Ser. No. 800,566

Int. Cl. A44b 11/14

U.S. Cl. 24—165

6 Claims



A snap-on connector having a U-shaped body, a U-shaped latch pivoted at one end of the body, and a detent pivoted at an intermediate portion of the body. The other end of the body carries any of various means for attachment to webbing straps or the like. Both the latch and detent are partially enclosed by the body, and the latch swings between a releasing position and a latched position. A pair of open-ended slots in the legs of the latch are adapted to receive a ring, bar or rod to be retained, the bar passing into open-ended slots in the body as the latch swings to latched position. In doing so, the latch snaps into position behind the detent. The latter has a handle portion which, when depressed, permits a spring to open the latch.

3,537,153

FASTENER MODULE

Steven Ausnit, 124 E. 61st St., New York, N.Y. 10021
Filed June 25, 1968, Ser. No. 739,799

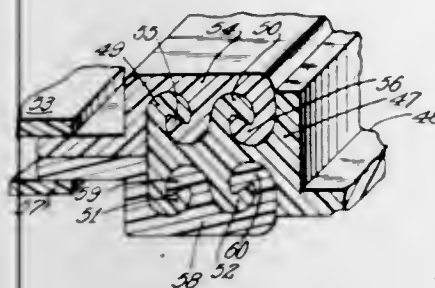
Int. Cl. A44b 19/02, 21/00

U.S. Cl. 24—201

7 Claims

Modules for connecting thin plastic film or strips such that the sheets being joined may extend in the same or opposite directions. Plastic fastener modules of various

shapes are formed with openings for receiving mating locking members that are attached to sheets to be joined.



Various modifications allow two or more sheets to be joined together which extend in various directions.

3,537,154

CLASP PRIMARILY FOR BRACELETS OR THE LIKE
Jean-Francois G. A. Limage, Annemasse, Haute-Savoie, France, assignor to Gay Freres, Annemasse, Haute-Savoie, France, a societe a responsabilite limitee

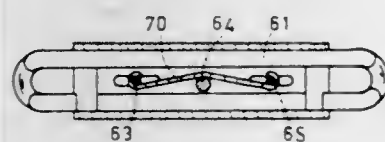
Filed Nov. 26, 1968, Ser. No. 778,971

Claims priority, application France, Nov. 12, 1968, 108,274; Nov. 28, 1967, 130,080

Int. Cl. A44b 13/02

U.S. Cl. 24—239

15 Claims



This invention relates to improvements in clasps for bracelets or the like. The clasp comprises a slide which is guided and displaceable in a sleeve in either of two opposed directions to expose the ends for attachment to a bracelet or the like so that the clasp is completely detachable from the bracelet, spring means being provided to restore the slide to a central position or snap it into its various open or closed positions.

3,537,155

CLASP

Stanley W. Burchett, 16 Academy Lane, Bellport, N.Y. 11713

Continuation-in-part of application Ser. No. 763,896, Sept. 30, 1968. This application Sept. 2, 1969, Ser. No. 854,414

Int. Cl. A41f 11/08

U.S. Cl. 24—245

16 Claims



My invention relates to an integral essentially one-piece clasp for holding a thin flexible fabric or the like. The body is generally thin, resilient material having spaced

apart locking elements for holding the fabric formed at the ends of opposing projections. In a preferred embodiment, the projecting members are separated by a side of the body formed into a thin resilient web.

3,537,156

APPARATUS FOR FILLING MOLDS

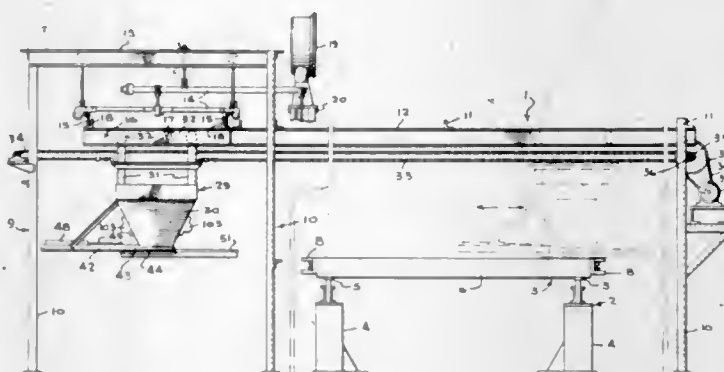
Ercell L. Glass, 7107 53rd St., Tampa, Fla. 33610

Filed Jan. 3, 1968, Ser. No. 695,481

Int. Cl. B28b 13/00

U.S. Cl. 25—103

9 Claims



Apparatus for depositing a predetermined charge of concrete into a mold, wherein a weigh lorry moves from beneath a mixer to mold traversing position. The weigh lorry rests upon a scale while being loaded, and the mixer discharge is automatically cut off when a known quantity of material is in the lorry. The discharge of material from the lorry and movement of the lorry over the mold are automatically controlled to ensure even and uniform distribution of material in the mold. The lorry carries a screed to preshape and compact material in the mold.

3,537,157

BLOCK FORMING MACHINE WITH SELF-COOLING SHOCK ABSORBER MEANS

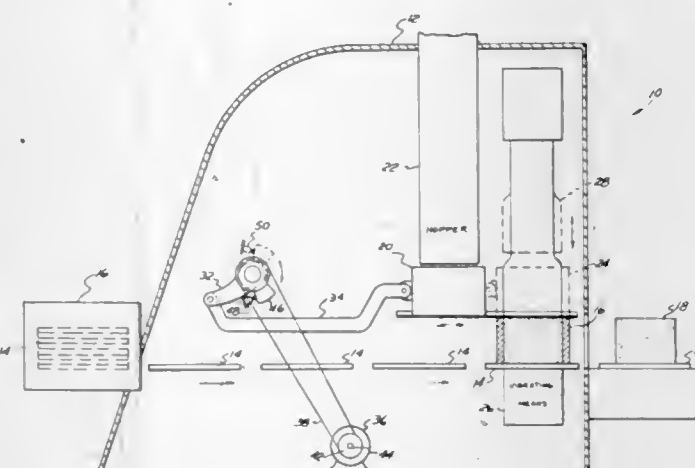
Frank K. Locke, Hudson, Mich., assignor to Stearns Manufacturing Co., Flat Rock, Mich., a corporation of Michigan

Filed Mar. 21, 1968, Ser. No. 714,939

Int. Cl. B28b 13/02; F16d 57/00

U.S. Cl. 25—103

8 Claims



A block-forming apparatus having major components driven by individual motor drive means between spaced positions. Each motor driven means has solenoid actuated brake means which are deenergized independently of the deenergization of the motor's electrical field when the motion of the associated component is to be terminated. The deceleration of the component, such as the feed drawer, as it approaches its operative positions is cushioned by a self-cooling hydraulic shock absorber system.

3,537,158

CONTROL FOR ROLL DRIVING MECHANISM FOR A NAPPING MACHINE

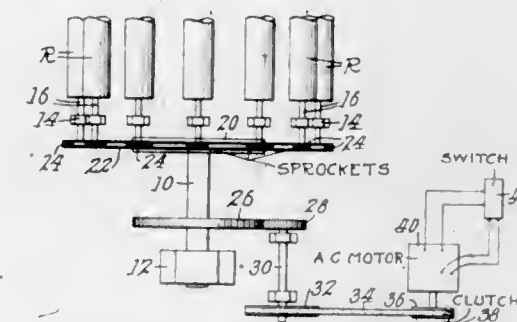
Theodore A. Dourdeville, Holden, Mass., assignor to David Gessner Company, Worcester, Mass., a corporation of Massachusetts

Filed Sept. 24, 1968, Ser. No. 761,915

Int. Cl. D06c 11/00

U.S. Cl. 26—35

9 Claims



A napping machine of the planetary type having napping rolls in a circle on a rotated carrier, driving means for each roll through a slip connection, and means for adjusting the degree of slip thereof under conditions of use, the adjusting means comprising for each roll a spring load clutch, a sprocket, and an endless chain engaging all the sprockets, said chain revolving on the carrier with the sprockets, and including means for traveling the chain relative to the sprockets, the latter adjusting the degree of slip in the clutches.

3,537,159

APPARATUS FOR ACHIEVING CUSTOM MASK TO PANEL SPACING IN CATHODE RAY TUBES

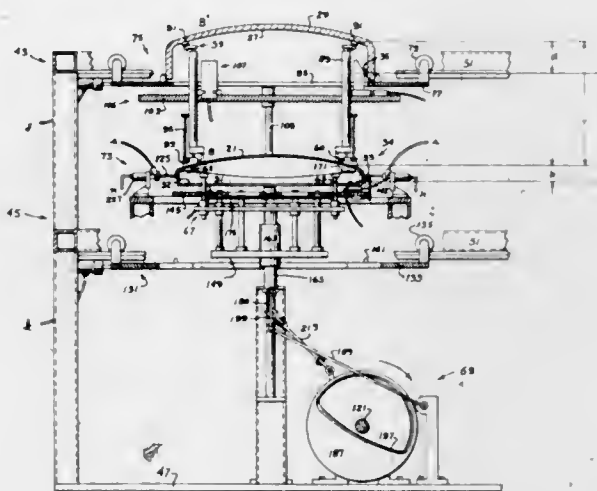
Stanley J. Gartner and La Rue V. Regelman, Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Nov. 19, 1968, Ser. No. 777,108

Int. Cl. H01j 9/06, 9/10, 9/46

U.S. Cl. 29—25.2

7 Claims



An apparatus for manufacturing a mask panel assembly for a shadow mask cathode ray tube wherein the contour of the formed aperture mask is modified in accordance with the contour of the related panel surface. Apparatus provides for panel positioning wherein a plurality of spacer rods are oriented at discrete locations to make contact with the interior surface of the panel. The mask frame with the aperture portion fitted thereon is oriented relative to the panel and the spacer rods therein in a manner that the aperture portion is positioned against terminal elements of the spacer rods. Resiliently mounted pressure pads are applied by elevator means to seat the

various portions of the mask, against the opposing spacer rods, and accordingly modify the contour of the mask therebetween. With the mask portion so formed and adjusted on its frame to effect the desired orientation of the mask relative to the interior surface of the panel, bonding means are applied to provide attachment of the modified mask to its supporting frame.

3,537,160

METHOD FOR THE MANUFACTURE OF SPARK PLUGS FOR INTERNAL COMBUSTION ENGINES

Francesco Testarini, Milan, Italy, assignor to Fabbbrica Italiana Magneti Marelli S.p.A., Milan, Italy

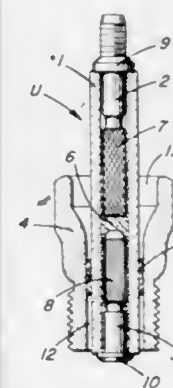
Original application Jan. 30, 1967, Ser. No. 612,550, now Patent No. 3,449,613, dated Jan. 10, 1969, Divided and this application Dec. 6, 1968, Ser. No. 798,534

Claims priority, application Italy, Jan. 31, 1966, 14,014/66

Int. Cl. F23q 3/70; H01t 13/00

U.S. Cl. 29—25.12

7 Claims



A method for making spark plugs for internal combustion engines and comprising the steps of: cementing first and second electrodes within an insulating tube in an air tight manner; positioning said tube within a body portion; positioning a bushing intermediate said tube and said body portion and compressing said bushing to thereby seal said tube to said body portion. There are also disclosed several embodiments of spark plugs constructed in accordance with the above method.

3,537,161

PROCESS FOR ACHIEVING CUSTOM MASK TO PANEL SPACING IN CATHODE RAY TUBES

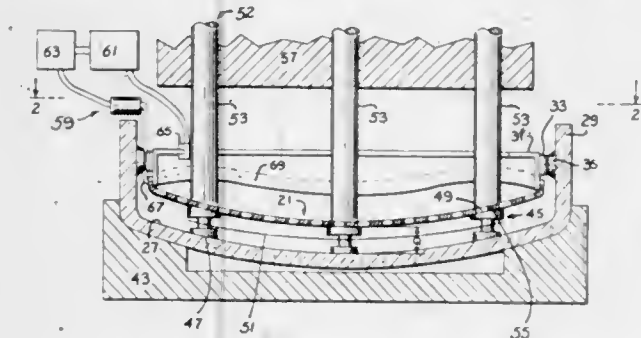
George R. Kautz, Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Nov. 19, 1968, Ser. No. 777,107

Int. Cl. H01j 9/18, 9/36

U.S. Cl. 29—25.15

5 Claims



A process for manufacturing a mask-panel assembly for a shadow mask cathode ray tube wherein the contour of the formed mask is modified in accordance with the contour of the related panel surface. Spacer sensing means are positioned at a plurality of discrete locations on the interior surface of the panel. Pressure means are then applied against the mask to seat the various portions thereof on the spacer means and modify the mask contour accordingly, whereupon the mask is attached to its supporting frame.

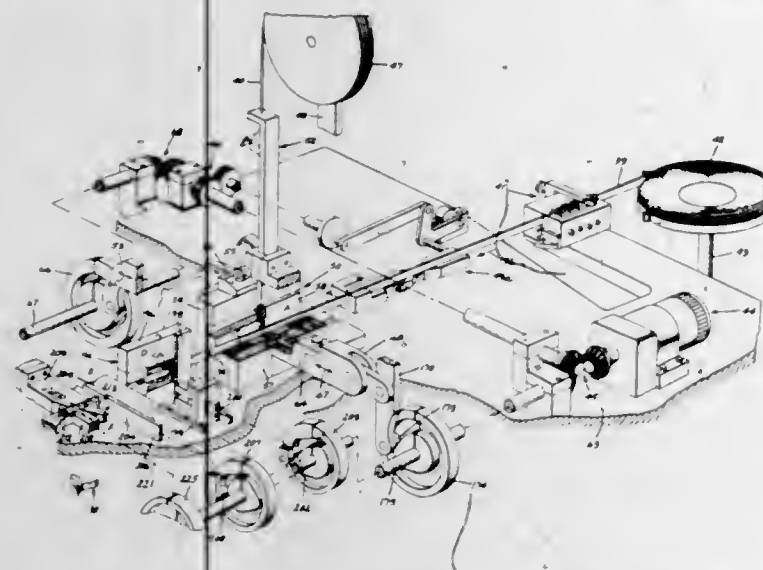
3,537,162

APPARATUS FOR ATTACHING CONTACTS TO ELECTRICALLY CONDUCTIVE ELEMENTS
 John A. Kochan, Fairfield, Conn., assignor to General Electric Company, a corporation of New York
 Original application Mar. 7, 1966, Ser. No. 532,310.
 Divided and this application Oct. 21, 1968, Ser. No. 769,066

Int. Cl. H01h 11/04

U.S. Cl. 29—33

11 Claims



Apparatus for forming electric contact elements includes successive stations for punching holes in a strip of conductive material, forming a contact at and extruding contact material through each hole, heading each contact, severing the strip into sections and forming each section into individual contact elements. At the contact-forming work station the strip is brought between a stripper plate and a die, having openings aligned with the hole in the strip. The die is moved forward to clamp the strip against the stripper plate. A plunger in the stripper plate opening then is moved forward, severing a slug of contact-forming material from the end of a continuous rod of such material, forming a contact against one side of the strip and extruding part of the contact-forming material through the hole and into the opening in the die. The die then is retracted and a stationary pin mounted in the die opening forces the extruded material out of the die opening. The plunger then is moved forward again to force the contact from the stripper plate opening.

3,537,163

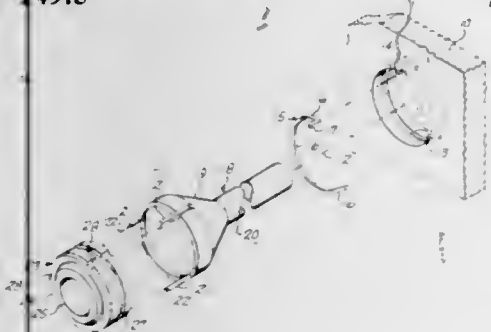
METHOD OF INSTALLING A CYLINDRICAL ELEMENT INTO A CYLINDRICAL BORE
 Robert H. Steidl, 17030 15th St. NW., Seattle, Wash. 98177

Continuation-in-part of application Ser. No. 437,115, Mar. 4, 1965. This application Apr. 30, 1968, Ser. No. 725,355

Int. Cl. B23p 11/00

U.S. Cl. 29—149.5

7 Claims



Method for assembling a cylindrical element, such as but not limited to a bearing in a mounting structure bore, for installing the element in a cylindrical bore, comprise

the basic steps of (a) forming an external annular groove in the outer surface of the cylindrical element and an internal annular groove in the inner surface of the cylindrical bore for receiving a resilient retaining ring in the cylindrical bore, and (b) forming an external slot in the outer surface of the cylindrical element transverse to the annular groove for receiving a bent-out portion of the resilient ring for locking the element in the bore.

3,537,164

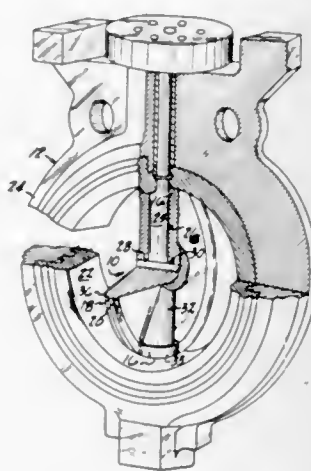
METHOD OF MANUFACTURING A BUTTERFLY VALVE DISK

Hubert L. Williams, Hinsdale, Ill., assignor to Crane Co., Chicago, Ill., a corporation of Illinois
 Original application Apr. 2, 1965, Ser. No. 444,965, now Patent No. 3,357,680, dated Dec. 12, 1967. Divided and this application July 10, 1967, Ser. No. 652,344

Int. Cl. B23p 15/26

U.S. Cl. 29—157.1

2 Claims



A novel method of manufacturing a butterfly valve disk from a disk blank wherein a frusto-conical beveled surface is formed on the blank edge of the disk in a continuous turning operation and wherein the rotational bearing surfaces are enclosed within the surface of revolution of the disk edge.

3,537,165

METHOD OF MAKING A PLATE-TYPE HEAT EXCHANGER

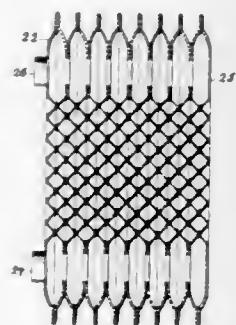
David A. Paddock, Merrimack, N.H., and Carrol B. Kemp, Millport, Pa., assignors to The Air Preheater Company, Inc., Wellsville, N.Y., a corporation of Delaware

Filed June 26, 1968, Ser. No. 740,197

Int. Cl. B23p 15/26

U.S. Cl. 29—157.3

2 Claims



A plate-type heat exchanger comprised of dish-like corrugated plates abutting in a face-to-face and back-to-back relation whereby the plates may be simply formed, readily assembled and effectively joined together by welding to form an integral assembly.

3,537,166

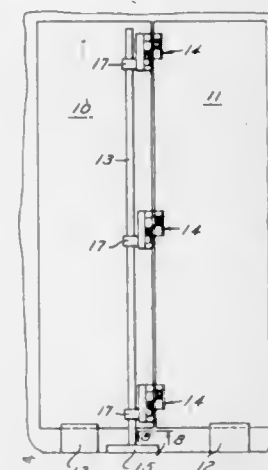
APPARATUS FOR ASSEMBLING HINGES ON FOLDING DOORS AND THE LIKE

John W. Matyas, 11300 Schaefer, Detroit, Mich. 48227
 Filed Aug. 30, 1968, Ser. No. 756,678

Int. Cl. B23p 19/00

U.S. Cl. 29—200

27 Claims



An apparatus for assembling hinges on folding doors comprising a plurality of hinge supporting assemblies mounted adjustably on a longitudinally extending member. Each hinge assembly includes magnet means for supporting the hinge and means for locating the hinge on the assembly. In addition, each hinge assembly includes means for gripping screws and holding them in alignment with the openings in the hinge until they are screwed into the openings and into the doors.

3,537,167

PREFORM COLD-CRIMP SLEEVE APPLICATOR
 Gordon Robert Lawson, Bideford, England, assignor to AMP Incorporated, Harrisburg, Pa.

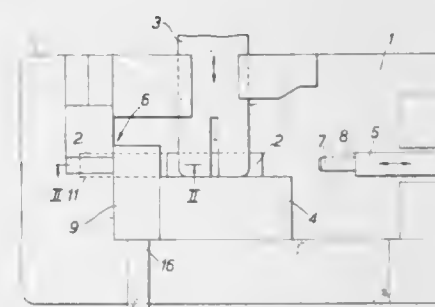
Filed Jan. 15, 1968, Ser. No. 697,839

Claims priority, application Great Britain, Jan. 19, 1967, 2,783/67

Int. Cl. H01r 9/00, 43/04

U.S. Cl. 29—203

8 Claims



A sleeve applicator which preforms a part of a sleeve to the general shape of a section of a connector, holds the sleeve to receive the connector and then crimps the sleeve to another section of the connector.

3,537,168

FULL AUTOMATIC FRAMING MACHINE

Ellsworth W. Carroll, Petaluma, Calif.; Hazel D. Carroll, executrix of the estate of said Ellsworth W. Carroll, deceased, assignor to John R. Carroll, Portland, Ore.
 Original application Oct. 20, 1965, Ser. No. 498,779, now Patent No. 3,399,445, dated Sept. 3, 1968. Divided and this application May 13, 1968, Ser. No. 739,604

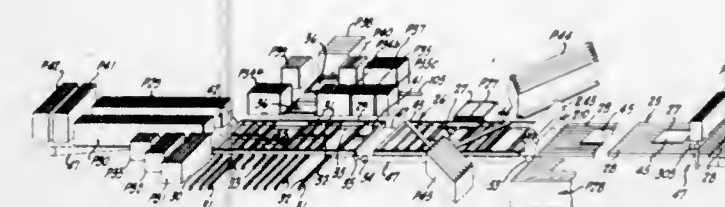
Int. Cl. B23p 19/04; B23g 7/10, 7/00

U.S. Cl. 29—208

4 Claims

Apparatus for prefabricating building components on a wall frame having studs, is provided with mechanism to

apply angularly related corner braces to the wall, saw mechanism to form recesses in the studs to receive corner



braces, and a longitudinally movable carriage to displace a corner brace into the stud recesses.

3,537,169

METHOD OF SEVERING A SEMICONDUCTOR WAFER

Jacobus Eigeman and Hermanus Antonius van de Pas, Nijmegen, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

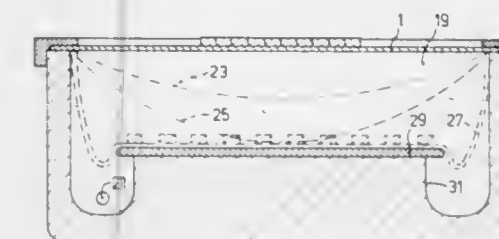
Filed July 3, 1968, Ser. No. 742,250

Claims priority, application Netherlands, July 8, 1967, 6709523

Int. Cl. B23p 17/00

U.S. Cl. 29—413

8 Claims



A method of severing a semiconductor wafer is disclosed whereby the wafer is electrostatically held to a flexible synthetic resin foil and is then grooved and subjected to bending forces to divide said wafer into a plurality of parts. The foil is then positioned on a support over an empty space and is heated so that the foil sags downward and effects a spaced separation among the wafer parts. The foil is then cooled to permanently set same.

3,537,170

STRESS-ORIENTED FILAMENT WINDING IN COMPOSITE PANELS

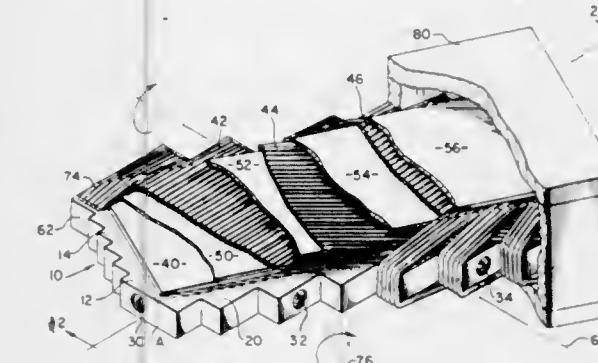
David I. Sinizer, Playa del Rey, Albert Toy, Gardena, David G. Atteridge, Santa Monica, and Louis H. Fanelli, Los Angeles, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed June 16, 1967, Ser. No. 646,582

Int. Cl. B23q 3/00

U.S. Cl. 29—467

6 Claims



Removable terraced peripheral edges on a rotating mandrel are adapted to receive successive windings of thin filament in a plurality of separate layers to form

reinforced composite panels. The mandrel edges are reversed in position between each winding step to permit winding of filaments at stress-oriented cross-ply angles with a minimum of filament wastage, after which the workpiece components are diffusion bonded together. Rare earth oxides are used in stopoff coatings to prevent bonding of workpiece materials to mandrel surfaces.

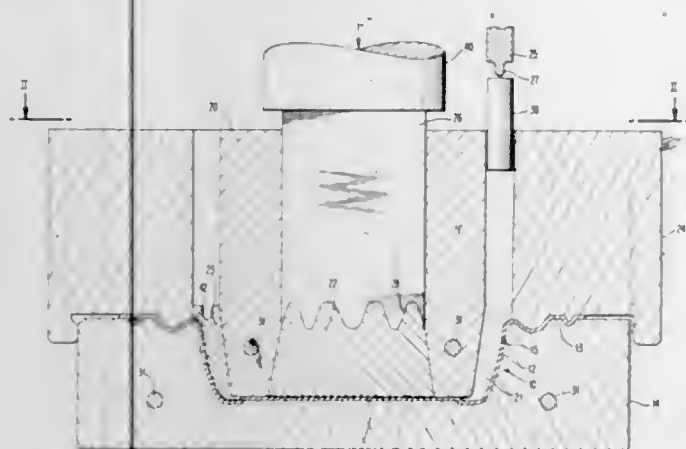
3,537,171

METHOD OF MOLDING VERTICAL BOSSES
Delbert T. Wilson, Austin, Tex., and Richard J. Young, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 15, 1968, Ser. No. 744,843
Int. Cl. B23k 21/00

U.S. Cl. 29—470.1

10 Claims



Mounting bosses and other solid forms are simultaneously molded and pressure welded to preformed sheet material by use of highly formable superplastic metals characterized by their abnormally low flow stress.

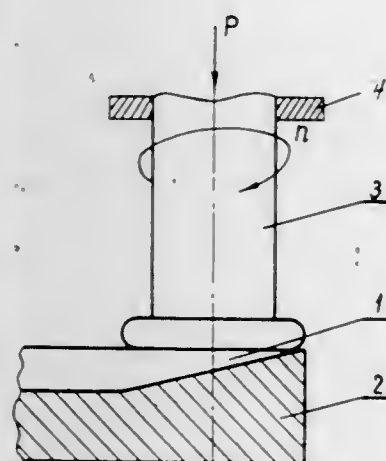
3,537,172

METHOD OF FRICTION WELDING
Valentin Dmitrievich Voznesensky, 17 Neglinnya St., Apt. 20, and Raisa Ivanovna Zaxon, Pervy Babjgorodsky Pereulok 21, Apt. 33, both of Moscow, U.S.S.R.
Continuation-in-part of application Ser. No. 286,850, June 10, 1963. This application Aug. 21, 1967, Ser. No. 661,902

Int. Cl. B23k 27/00

U.S. Cl. 29—470.3

4 Claims



A friction welding of a layer of one metal onto a surface of a thin sheet metal article or workpiece for permitting the production of a predetermined profile on the opposite surface in which the article or workpiece is fixed

in a die possessing the predetermined profile and a weld rod of the desired metal is pressed against the surface being welded while having movement imparted thereto relative to its longitudinal axis and at the same time it is imparted translational shifting movement to the article or workpiece fixed in the die relative to the rod. The foregoing assures three simultaneous operations, namely, the welding of a hard layer, the heat treatment of the metal below the welded layer and the formation of the desired profile on the surface opposite that to which the layer is welded.

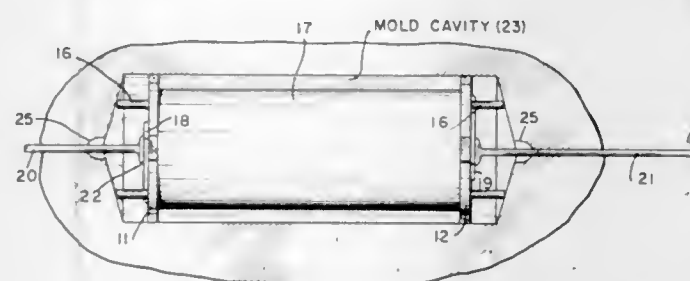
3,537,173

METHOD OF ENCAPSULATING AN ELECTROLYTIC CAPACITOR
Lawrence R. Sparrow and Jerry Braiman, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Original application Dec. 21, 1967, Ser. No. 692,614, now Patent No. 3,436,610, dated Apr. 1, 1969, which is a continuation of application Ser. No. 372,611, June 4, 1964. Divided and this application Sept. 20, 1968, Ser. No. 788,972

Int. Cl. H01g 13/00

U.S. Cl. 29—570

8 Claims

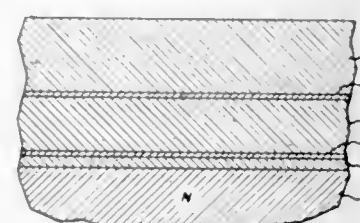


The invention provides a method for encapsulating an electrolytic capacitor having electrodes and dielectric sheets assembled on an insulative spindle with flanges at the ends. The assembly is placed in a mold and solidifiable insulative material introduced wherein portions of it may flow through openings in the flanges to seal the capacitor section and other portions may flow around the whole unit to provide encapsulation.

3,537,174

PROCESS FOR FORMING TUNGSTEN BARRIER ELECTRICAL CONNECTION
John E. May, Skaneateles, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 7, 1968, Ser. No. 765,292
Int. Cl. B01j 17/00; H01l 5/00, 7/10, 7/12, 7/48
U.S. Cl. 29—577

3 Claims



A tungsten or molybdenum electrical connector is attached to a surface of a semiconductor element adjacent an N-type region by a bonding layer comprised of aluminum. A tungsten or molybdenum refractory metal barrier layer is interposed between the bonding layer and the semiconductor surface, and thin refractory metal silicide layers are interposed between the bonding layer and the electrical connector and barrier layer. The bonding layer may be formed of an alloy of silicon and aluminum. An aluminum preform may be initially stacked

between the refractory metal surfaces to form the bonding layer. The refractory metal silicide may be formed before bonding or may be formed by reaction of silicon with the refractory metal surfaces during bonding. The resulting electrical connection formed exhibits reduced internal resistance.

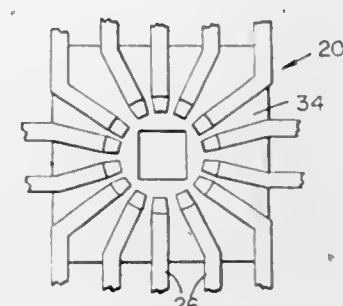
3,537,175

LEAD FRAME FOR SEMICONDUCTOR DEVICES AND METHOD FOR MAKING SAME
Michael J. St. Clair and William L. Keady, Woodside, Calif., assignors to Advalloy, Inc., Palo Alto, Calif., a corporation of California
Original application Nov. 9, 1966, Ser. No. 593,145. Divided and this application Oct. 5, 1967, Ser. No. 688,638

Int. Cl. H01b 13/00; H05k 3/00

U.S. Cl. 29—624

7 Claims



A layer of relatively soft conductive material is deposited longitudinally on a narrow strip of flexible metal material. The strip is stamped to form a plurality of integrally connected lead frames with narrow lead portions, masked, etched to remove portions of soft conductive material, plated, and bonded to substrate supporting tips of lead portions having a layer of soft conductive material.

3,537,176

INTERCONNECTION OF FLEXIBLE ELECTRICAL CIRCUITS
Richard H. Healy, San Jose, and William L. Palmer, Cupertino, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Apr. 1, 1969, Ser. No. 811,842

Int. Cl. H05k 3/36

U.S. Cl. 29—625

4 Claims



A method of assembling electrical conductors mounted on flexible insulating support material is disclosed. A conductive coating of solder is first joined to the conductors, then ground flat and a hole formed therethrough. An electrically conductive pin is inserted through the hole

and a conductive washer and a solderable locking washer is threaded on the pin. Heat is then applied to melt the coating of solder to solder said electrical conductor to the conductive pin.

3,537,177
OPERATING MECHANISM FOR POWER DRIVEN CAN OPENERS

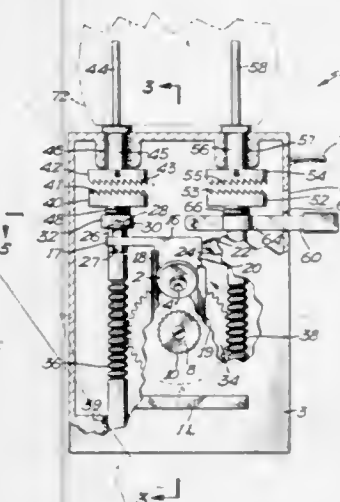
Slade Hale Baker, 210 1/2 N. Front St., Mankato, Minn. 56001

Filed July 25, 1968, Ser. No. 747,745

Int. Cl. B67b 7/38

U.S. Cl. 30—4

6 Claims



A drive mechanism particularly adapted for use in can openers having a worm gear driven by a pair of worm drive shafts in engagement with opposite sides of its periphery and mounted on a power output shaft journaled in a shiftable support member, the worm gear being movable in opposite directions in a planar path by connecting one of said worm drive shafts to a rotary power source while holding the other worm shaft stationary. As the worm gear is being driven by the rotating worm shaft it moves along the stationary worm shaft and carries with it the aforesaid power output shaft and shiftable support member. The drive wheel of a can opener may be mounted on the aforesaid power output shaft and shifted into engagement with the bead of a can lid so as to puncture the lid against a cooperating rotary cutter and start the can revolving to carry out the lid-cutting operation. An operating lever serves to engage a first clutch assembly to transmit rotary power to one of the worm drive shafts, and as the aforesaid support member is shifted by the rolling movement of the worm gear along the other stationary worm shaft, it functions to engage a second clutch assembly to start the second worm shaft rotating, both worm shafts cooperating to drive the worm gear after the drive wheel has been shifted to accomplish the puncturing of the can lid.

3,537,178

RECORDING DEVICE
William H. Fulton, Chelmsford, Mass., assignor to Fulton Projects, Inc., Chelmsford, Mass., a corporation of Massachusetts

Filed Feb. 14, 1968, Ser. No. 705,408

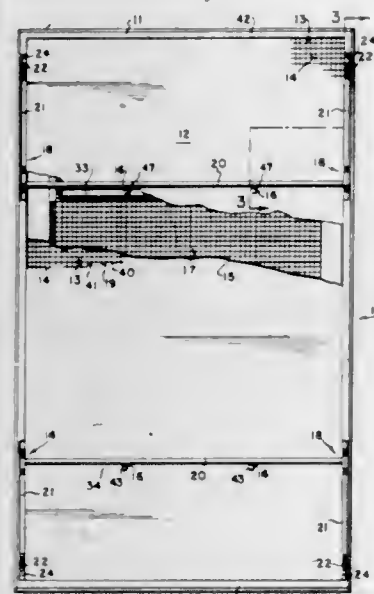
Int. Cl. B26f 1/24

U.S. Cl. 30—366

9 Claims

A recording device providing biased hold means for snugly holding a plurality of identical printed record sheets or cards, said hold means being adapted for quick release of said record sheets; pin and register hole means, cooperable with said hold means in the upper middle and lower middle of the record sheet proper thereby allowing free access of the record sheet perimeters to the

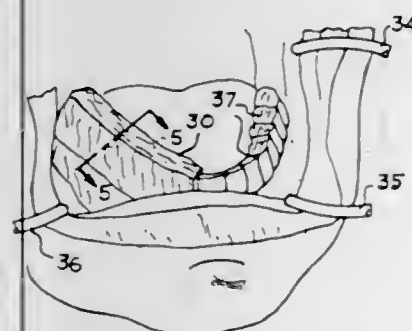
manipulator of the recording device; and a backer element providing means to permit penetration of the point of a recording instrument such as a stylus. The backer element may be a thin layer of yieldable, resilient material, such as a foamed elastomer on a solid backing, or it may be a recessed or foraminous layer wherein said



recesses or foramina will be positioned for register with the printed zones of the record sheets which are to be marked. In duplicate bridge, the game cards, played by each player in each trick, are recorded by the "dummy" player by piercing through at least one to four identical sheets at once, so that the manner and result of play is a permanent record for each player.

3,537,179
METHOD OF PRODUCING FULL ARCH IMPRESSIONS AND SECTIONAL TRAY FOR USE THEREIN AT SELECTIVE QUADRANTS
William T. Parker and Thomas M. Cooper, Lexington, Ky., assignors, by mesne assignments, to The University of Kentucky Research Foundation, Lexington, Ky., a corporation of Kentucky

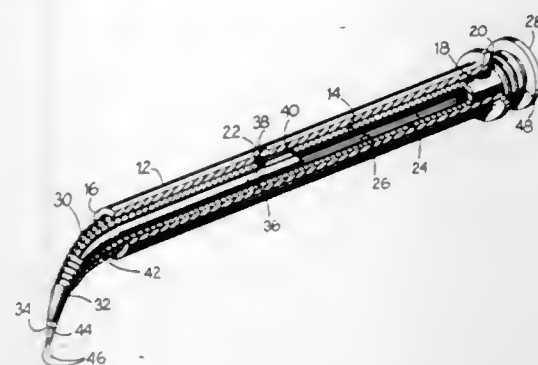
Filed July 2, 1968, Ser. No. 741,956
Int. Cl. A61c 9/00
U.S. Cl. 32—17 3 Claims



A method is described for producing a full arch impression by sequentially forming one or more quadrant impressions within sectional trays and then bonding the sectional trays while in the mouth to an overtray containing the final impression of the remainder of the dental arch thus producing a composite tray which is removed as a unit from the mouth. A rigid sectional tray shell which may be subdivided and adapted for use in any selected quadrant of the arch is provided for use in practicing the method.

3,537,180
DENTAL MATERIAL PLACEMENT INSTRUMENT
Joseph A. Mendola, 255 Nottingham Terrace, Buffalo, N.Y. 14216
Filed July 23, 1968, Ser. No. 746,992
Int. Cl. A61c 3/00

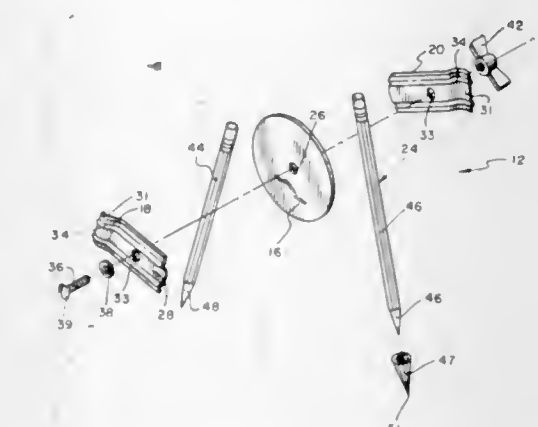
U.S. Cl. 32—40 4 Claims



A dental material placement instrument having a stationary inner member with gripping tines at one end thereof and a tubular member telescoping over the inner member and movable beyond the tines, a stationary housing member surrounding the tubular member and fixed to the inner member, and a spring between the housing member and the tubular member biasing the same such that the tines project therefrom.

3,537,181
CIRCLE MAKER APPARATUS
Arnold R. Graef, Wichita, Kans., assignor to Educational Tools, Inc., Wichita, Kans., a corporation of Kansas
Filed Mar. 3, 1969, Ser. No. 803,593
Int. Cl. B43i 9/20

U.S. Cl. 33—27 4 Claims

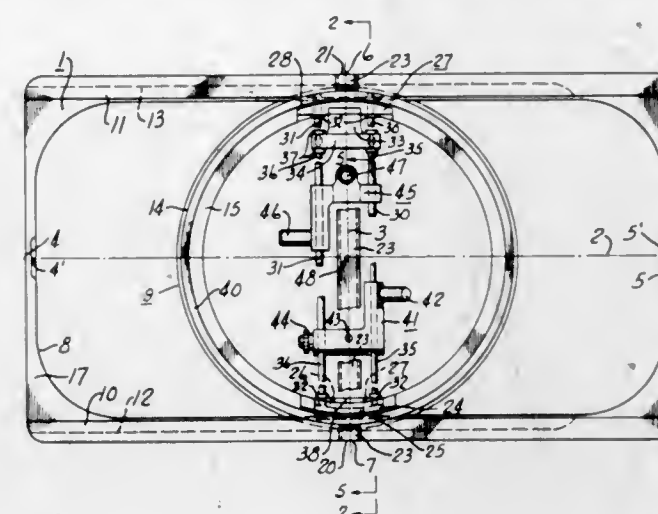


This invention is a marking device including a main support body; clamp members connected through connector means to the support body; and marking means mounted within the respective clamp members whereupon the marking means are readily adjustable relative to each other and securely anchored in a selected position and operable to inscribe circles and the like. More particularly, this invention relates to a circle maker apparatus having marking means adjustably connected to a support body structure and the marking means may be interchanged with various ones thereof for the desired function.

3,537,182
ELLIPSOGRAPH
Charles W. Kacmarcy, P.O. Box 262, Franklin, Pa. 16323
Filed Mar. 25, 1969, Ser. No. 810,152
Int. Cl. B41i 11/04

U.S. Cl. 33—30 19 Claims
An ellipsograph with an open base having spaced locked bars with opposed parallel grooves supporting the rim of a rotary annulus having a diametral guide supporting a

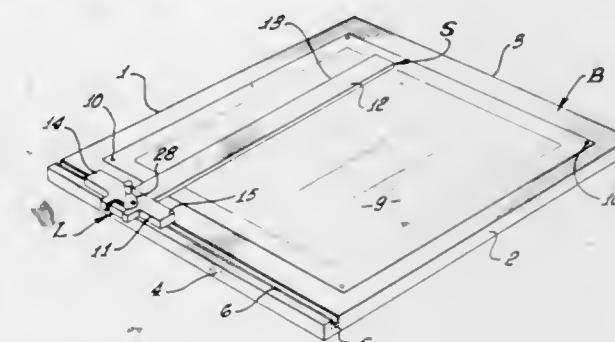
stylus slide adjustably positioned therealong, and a transverse bridge guide having abutments adjustably positioned along the spaced locked bars which may be in the form of an open rectangle base. The bridge guide receives a pivot



mounted on a second slide adjustably positioned along a diametral guide on the annulus at a level above the stylus to control the movement of the latter when the wheel is rotated to draw circular, annular and elliptical configurations.

3,537,183
DRAWING BOARD AND T-SQUARE
Roy J. Anderson, 1220 Crenshaw Blvd., Los Angeles, Calif. 90019
Filed Feb. 17, 1969, Ser. No. 799,778
Int. Cl. B43i 13/02

U.S. Cl. 33—76 1 Claim

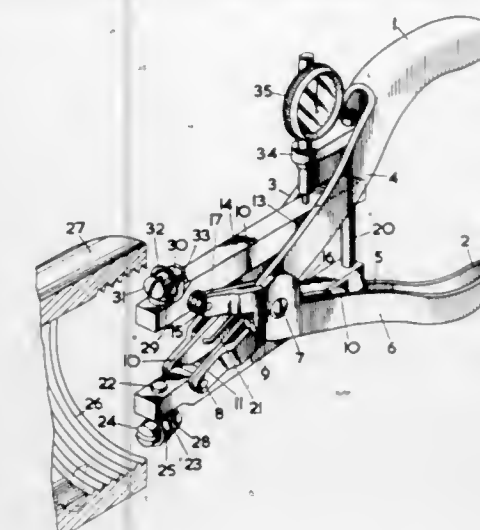


A drawing board and T-square combination in which the drawing board has an upwardly facing channel extending along a side edge, the T-square having a head provided with lugs spaced laterally of the blade of the T-square and slidable in the channel for maintaining a right angular relation between the T-square blade and the channel. A locking device is carried by the T-square head, the locking device including a clamping plate having an end disposed in the channel in the board and a portion engaged by a pivoted cam, whereby the clamping plate is actuatable into engagement with one side of the channel to force the lugs on the T-square head into engagement with the other side of the channel.

3,537,184
DEVICES FOR GAUGING SCREW THREADS
William Arthur Hearn, Bexley Heath, England, assignor to The Secretary of State for Defense in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed June 27, 1968, Ser. No. 740,643
Claims priority, application Great Britain, June 27, 1967, 29,520/67
Int. Cl. G01b 3/14

U.S. Cl. 33—199 5 Claims
A device for gauging internal screwthreads consisting of a pair of tongs having parallel jaws, spring urged to open, which carry, on their outer faces, circular anvils

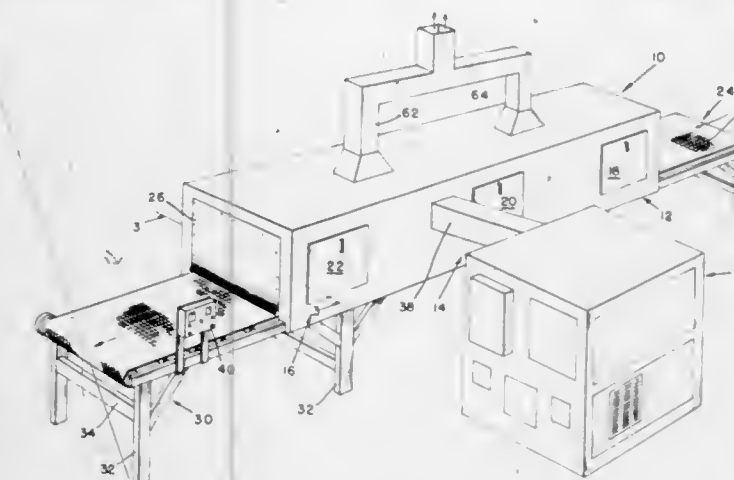
for engaging the threads; one anvil being of male form to engage a trough and the other of female form to engage the crest of a thread. The dimensions of the edges of the anvils vary circumferentially thereof and the anvils



are rotatable about their axis to set the device to test different screwthreads and are also rotatable about a perpendicular axis to accommodate to the helix angle of the thread.

3,537,185
DIELECTRIC HEATING APPARATUS
Curtis F. Ingram, Thomasville, N.C., assignor to Ingram Plywoods, Inc., Thomasville, N.C.
Filed Oct. 21, 1968, Ser. No. 769,002
Int. Cl. B01k 5/00

U.S. Cl. 34—1 10 Claims

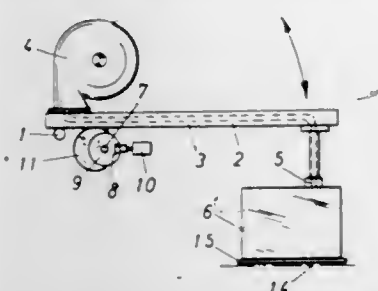


A dielectric heating apparatus for drying veneer and related wood articles having three separately controlled drying stages, a movable, mesh, conductive conveyor used as one of the heating electrodes and an exhaust system utilizing baffles to direct air flow across the surface of the articles to be dried, the mesh conveyor being driven by a plurality of interconnecting, conveyor engaging gears and each of the heating stages being adjustable for a predetermined power output by the provision of a network having a variable coil and capacitor to control the power circuit.

3,537,186
METHOD FOR DRYING MOULDS
Sven Bernhard Rennerfelt, Lovhagegangen 4, S-416 56, Goteborg, Sweden
Filed Dec. 30, 1968, Ser. No. 787,764
Claims priority, application Sweden, Jan. 16, 1968, 511/68
Int. Cl. F26b 7/00

U.S. Cl. 34—21 6 Claims
The present invention relates to a method and a device for drying moulds. The object of the invention is to eliminate at such a drying any risk for the occurring of fissures in the mould sand. This has been achieved thereby

that the hot air is injected into the mould during a short time period, that the mould then is left to cool during a considerably longer time period, that hot air again is



injected into the mould, the latter then left to cool and so on. The device for carrying this method into effect comprises a vertically displaceable fan the movements of which are guided by switches influenced by a cam disk.

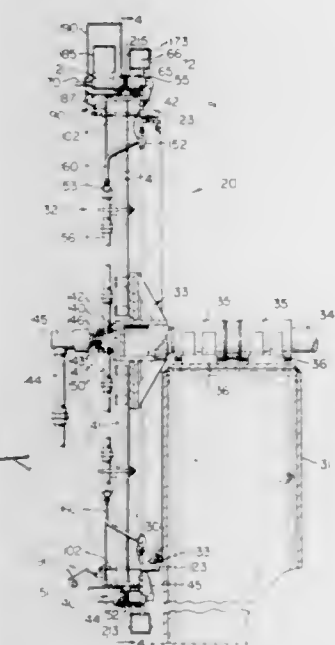
3,537,187
APPARATUS FOR AND METHOD OF RAPIDLY DRYING COATING MEANS ON A WORK-PIECE

Daniel S. Cvacho and Field I. Robertson, Jr., Chesterfield County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Jan. 13, 1969, Ser. No. 790,689

Int. Cl. F26b 7/00

U.S. Cl. 34—21

40 Claims



An apparatus for and method of rapidly drying coating means, such as printing ink, on the exposed surface of a workpiece, such as the side wall of a metal can, utilizing a heat source within the can to provide flash heating of the can body and cause the coating means to be dried from its inner surface outwardly to its outer surface and thereby provide high speed drying and a dried coating means of improved quality.

3,537,188
DRYER

Robert K. Harris, Littleton, Colo., assignor, by mesne assignments, to Mintech Corporation, a corporation of Colorado

Filed Feb. 25, 1969, Ser. No. 801,948

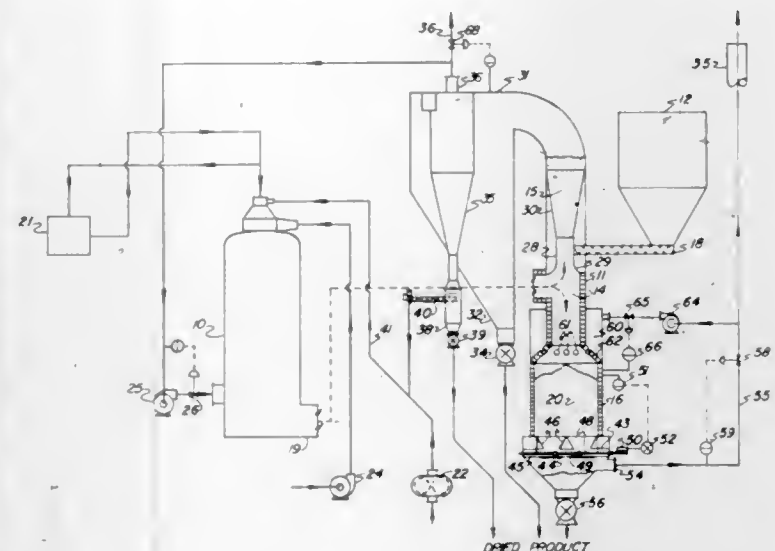
Int. Cl. F26b 17/10

U.S. Cl. 34—57

4 Claims

An apparatus for drying heterogeneously sized particulate solid materials. The apparatus embodies a dryer unit composed of an upright entrained solids drying column, a vertical shaft kiln, having a discharge grate in its lower end, and a feed and separation column connecting

the bottom of said upright drying column with the top of the vertical kiln. Hot gases are supplied to the feed and separation column from a furnace, while particulate solid materials are fed from a hopper to the lower end of the entrained solids drying column. A portion of the solids



are entrained in the hot gases and the balance of the solids, being the larger size particles, are collected in the kiln and dried by a downward flow of hot gases. Dried solids are collected from the upper end of the entrained solids column and from the lower end of the kiln.

3,537,189
REMOVABLE TRAY AND COVER LIFT ASSEMBLY

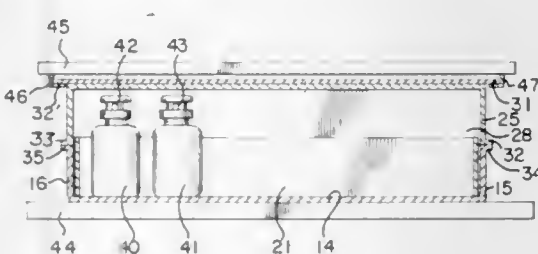
Charles E. Bender, Taylor N. Thompson, and Douglas S. Fraser, New Paltz, N.Y., assignors to The Virtis Company, Inc., Gardiner, N.Y., a corporation of New York

Filed Oct. 14, 1968, Ser. No. 767,158

Int. Cl. F26b 25/10

U.S. Cl. 34—237

5 Claims



A tray assembly consisting of a removable bottom, frame and cover. Means is provided to releasably support the tray cover on the underside of a stoppering plate in a chamber-type freeze dryer. Means is also provided to permit the bottom to be removed to permit the containers in the tray to contact the freeze dryer shelf directly. In such condition, the tray cover is maintained suspended over the frame which confines the containers.

3,537,190
TEACHING MACHINE CONTROL SYSTEM

Robert Serrell, Princeton, N.J., and Frederick R. Kling, Point Pleasant, Pa., assignors to Educational Testing Service, Princeton, N.J., a non-profit corporation of New York

Filed Feb. 5, 1968, Ser. No. 703,066

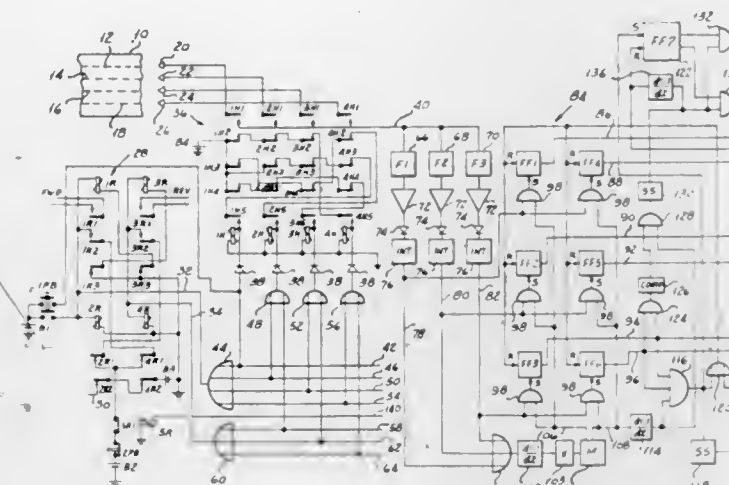
Int. Cl. G09b 7/04

U.S. Cl. 35—9

18 Claims

A teaching machine control system for presenting a student or other person with a variable audible and visible program from one of a plurality of record tracks, each of

which carries audible program information and superimposed groups of command pulses, each group comprising a plurality of pairs of pulses of various super-sonic frequencies. The groups of pulses are fed to a de-



coding mechanism which is responsive to the combinations of frequencies of the pulse pairs selectively to switch tracks, to change the visible program, to set up a response assignment, to record a score or to perform other functions.

3,537,191
DRIVING SKILL TESTING APPARATUS

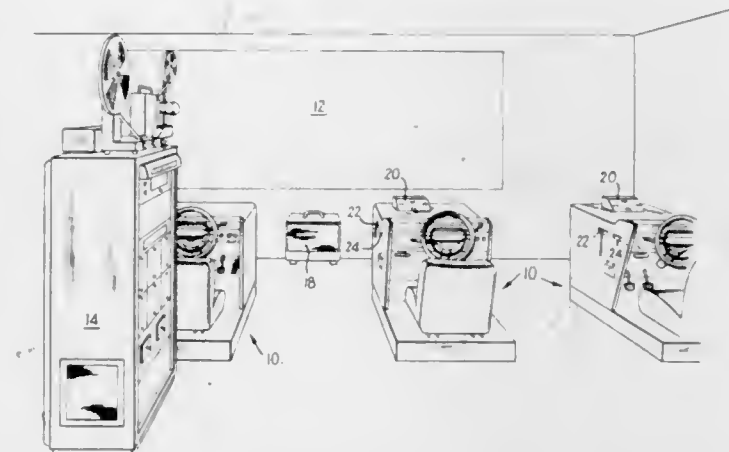
Kazuo Aso, Yokosuka, Japan, assignor to Mitsubishi Precision Kabushiki Kaisha, Tokyo, Japan

Filed Oct. 21, 1968, Ser. No. 769,163

Int. Cl. G09b 9/04

U.S. Cl. 35—11

6 Claims



A motion picture projector at a central station displays scenes and produces intermittently AC 4.5 kc. signals to stepwise read out from a programming punched tape the instructions indicating controls to be operated. After decoded, the instructions are successively applied to each operator's station to determine the erroneous operation of the indicated controls. Each operator's station is provided with a speed voltage generator, a tape puncher and error indicator lamps. The speed generator calculates a simulated speed by taking into account of the effects of ascending or descending a slope in addition to the usual acceleration and deceleration. The calculated speed is supplied to the central station and compared with the particular upper and lower speed limits by a comparison device provided for each operator's station. If any operator made an error, his tape puncher punches the associated record tape in that row specified by the instruction and then steps the tape and the corresponding lamp is energized. The absence of an error causes the tape to step with no perforation.

3,537,192
APPARATUS FOR DEMONSTRATING PRINCIPLES OF ELECTROMAGNETIC INDUCTION

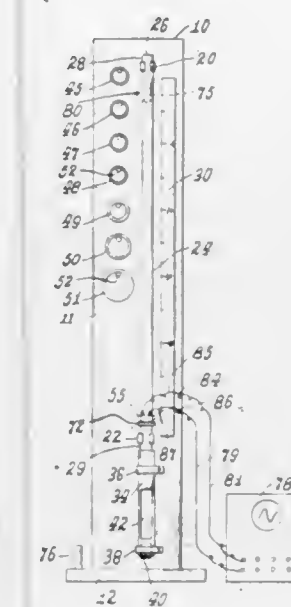
Elvin Joe Churchill, A6, R.R. 4, Macomb, Ill. 61455

Filed Jan. 11, 1968, Ser. No. 697,151

Int. Cl. G09b 23/18

U.S. Cl. 35—19

4 Claims



Experimental apparatus for use in demonstrating and teaching various principles of electromagnetic induction. The apparatus comprises permanent magnet means which may be released for free-fall through individual wire wound test coils having differing characteristics. The electromotive force induced in each coil is measured by an oscilloscope, and the resultant data is plotted to determine the mathematical relationship between the electromotive force and various parameters. A test coil and oscilloscope are used to measure the relative velocity of the falling magnet for demonstrating Lenz's law through the application of the principle of conservation of energy.

3,537,193
SHOE AND SOLE THEREFOR EMBODYING AN ANCHOR PLATE AND CLEATS

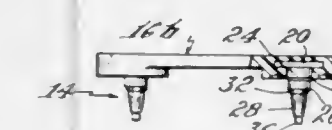
Louis E. Bernier, Rockland, and James P. Giblin, Milton, Mass., assignors to E. T. Wright & Co., Inc., Rockland, Mass., a corporation of Massachusetts

Filed Nov. 8, 1968, Ser. No. 774,382

Int. Cl. A43b 13/26

U.S. Cl. 36—59

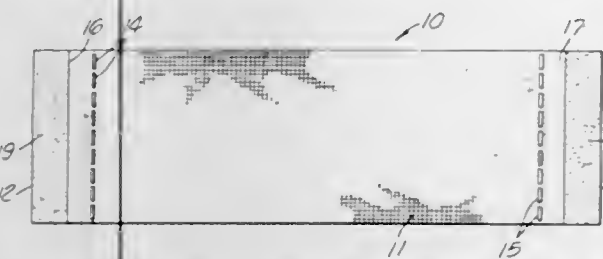
3 Claims



A shoe and sole therefor, said sole containing in the side which is attached to the upper in the completed shoe a cleat plate of smaller area than the part of the sole in which it is incorporated, and a plurality of metal cleats fixed at one end in the cleat plate and extending therefrom through the tread surface of the sole, each cleat having a head and a shaft stemming therefrom, said shaft comprising a first cylindrical portion buried in the cleat plate with the head, a second cylindrical portion of smaller diameter buried in the portion of the sole below the cleat plate, a third tapered portion extending from the tread surface of the sole, and a hardened metal tip fastened in the smaller end of the tapered portion.

3,537,194
CLOTHING LABEL
 Milton A. Engle, 4907 Alcove, North
 Hollywood, Calif. 91607
 Filed Nov. 30, 1967, Ser. No. 686,859
 Int. Cl. A44c 3/00

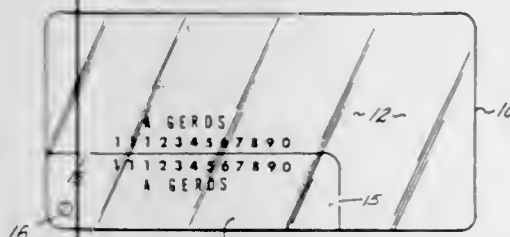
U.S. Cl. 40-2 3 Claims



The label is affixed to textile materials, such as clothing for example, by means of an adhesive layer on folded tabs of the label. Simulated stitching is provided on margins of the label giving the appearance that the label has been sewn onto the material.

3,537,195
FRAUD PROOF CREDIT CARD
 Adolph D. F. Gerds, Apple Valley, Calif., assignor to
 Gerds Associates, Apple Valley, Calif., an unincorporated association
 Filed July 1, 1968, Ser. No. 741,721
 Int. Cl. G09f 3/02

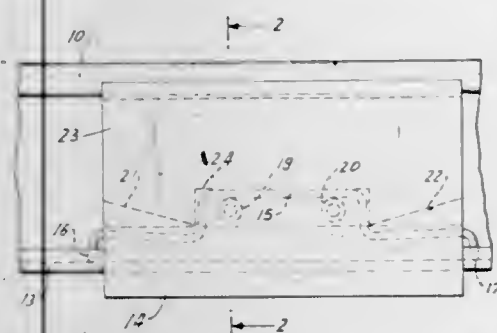
U.S. Cl. 40-2.2 2 Claims



A unitary flat rectangular credit card having the customer's name and serial number embossed thereon for printing the same on sales tickets in the conventional manner, a validating corner tab embodied with the card also having said name and number embossed thereon and being die severed from the balance of the card excepting for readily frangible connecting webs, said corner tab being apertured for carrying the same on a key chain after its being fully separated from said card.

3,537,196
SHELF DISPLAY SIGN
 Phillip Hopp, New York, N.Y., and Harry H. Lutz,
 Dumont, N.J., assignors to The Hopp Press Incorporated,
 New York, N.Y., a corporation of New York
 Filed July 5, 1968, Ser. No. 742,856
 Int. Cl. G09f 3/18

U.S. Cl. 40-11 2 Claims

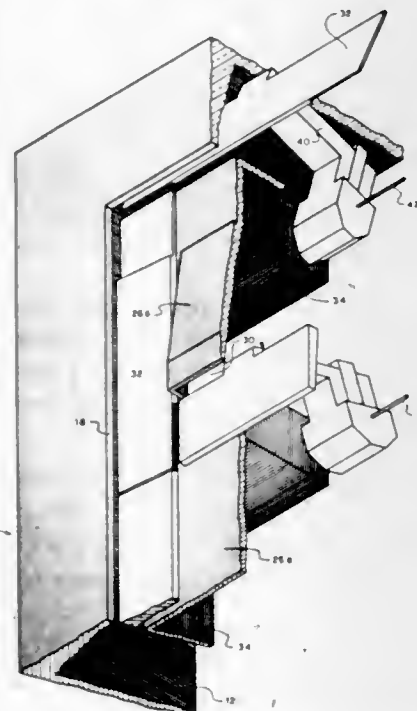


A shelf display sign suitable for use on shelf moulding which has a pair of spaced oppositely disposed facing grooves extending lengthwise along the moulding, includes a blank having a mating groove for engaging the first of the moulding grooves and a substantially flat face upon

which price, level of stock and coded data processing information can be displayed for use in conjunction with automatic ordering systems. The blank carries a fastener for engaging the second moulding groove to hold the blank in position under spring tension.

3,537,197
LEVER OPERATED DISPLAY DEVICE
 Charles Norman Smith, Cooksville, Ontario, Canada, assignor to Ferranti-Packard Limited, Toronto, Ontario, Canada
 Filed Jan. 23, 1969, Ser. No. 793,401
 Int. Cl. G09f 11/00

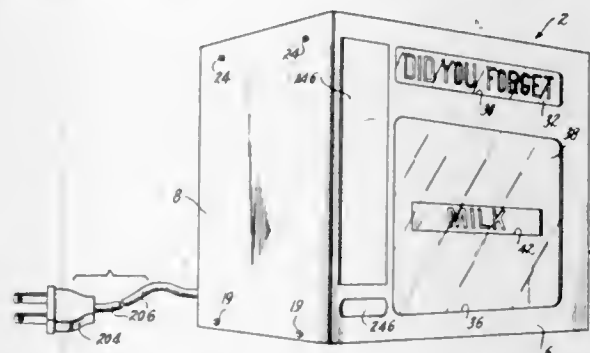
U.S. Cl. 40-28 21 Claims



A pivoted lever mounts display elements projecting approximately perpendicularly to the line joining the lever-display junction to the pivot point. Electromagnetic actuation reversibly moves the lever from a position where the element is occluded to a position where the element is displayed in the viewing direction. Placing the display element on a longer radius from the lever pivot and a lever-mounted magnet (used for actuation of the lever from one position to the other) on a shorter radius from the lever pivot, allows the display element to move to produce the desired display effects with a small magnet travel, providing better magnetic control. Recessing potentially overlapping display elements provides more compact and visually satisfying display modules.

3,537,198
SHOPPING REMINDER
 Don C. Barrett, 838 S. Dinwiddie St.,
 Arlington, Va. 22204
 Filed Jan. 5, 1966, Ser. No. 518,825
 Int. Cl. G09f 11/10

U.S. Cl. 40-77 14 Claims

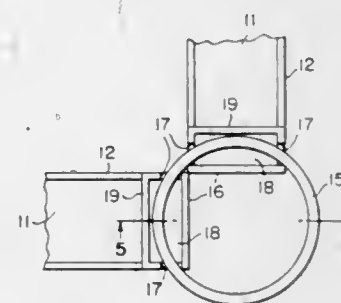


A "shopping reminder" having an intermittently rotatable drum with a series of illuminatable product signs

thereon. The drum is mounted in a housing having a viewing opening and having above such opening, a stationary sign to be illuminated. A toothed member is rotatable with the drum, step-by-step, and is actuated by a crank mounted on a driven cam to present successive signs at the viewing opening. The cam actuates switch means in timed sequence to the movement of the drum by the crank to alternately illuminate the stationary sign while the drum is being rotated and to illuminate the sign on the drum opposite the viewing opening while the drum is stationary.

3,537,199
DISPLAY SYSTEM
 James Scott Lawson, 1033 University Ave.,
 Rochester, N.Y. 14607
 Filed Mar. 24, 1969, Ser. No. 809,639
 Int. Cl. G09f 15/00; E06b 9/00

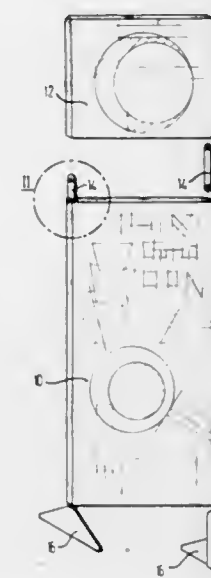
U.S. Cl. 40-125 13 Claims



Generally plane, free-standing display panels have corner slots extending vertically near their side edges and rings that fit in the slots to hold the panels together. A bottom ring rests on the floor with bottom slots of adjacent panels astraddle the ring, and a top ring rests in the top slot near these adjacent side edges to hold the display together and support it for standing freely.

3,537,200
DISPLAY PANEL ASSEMBLY
 Max Bubh, Chur, Switzerland, assignor to
 Designa G.m.b.H., Chur, Switzerland
 Filed Apr. 2, 1969, Ser. No. 812,745
 Claims priority, application Germany, Dec. 3, 1968,
 1,812,442
 Int. Cl. G09f 15/00

U.S. Cl. 40-125 11 Claims



Flat, rectangular display panels having a cardboard shell almost completely filled with plastic foam are connected edge to edge in a common vertical plane by con-

nectors of strip material whose longitudinal end portions are inserted into the connected panels through the narrow band of edge faces which connects the two wide display faces of each panel. The end portions of the connectors which can be either flat strips or U-shaped clips are received between an edge of the filler and a portion of the shell band. The width of the end portions is about equal to the thickness of the panel cavity to give good rigidity to the assembly. The assembly is held upright by legs on the lowermost panel.

3,537,201
HORIZONTAL BANNER CONSTRUCTION
 Guy L. Huey and Thomas Friedrichsen, Massillon, Ohio, assignors to The Massillon-Cleveland-Akron Sign Company, Massillon, Ohio, a corporation of Ohio
 Filed Nov. 7, 1968, Ser. No. 744,094
 Int. Cl. G09f 7/18

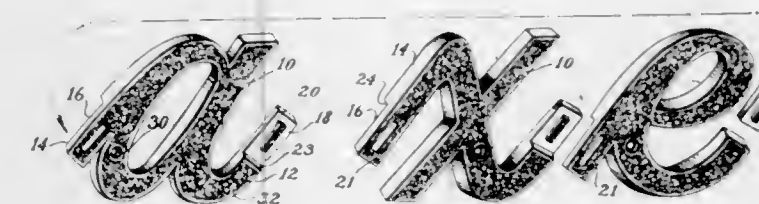
U.S. Cl. 40-128 6 Claims



A display sign is mounted extending horizontally between two goals at the pump island of a gas station. Upper and lower support members are adjustably mounted on the poles and a flexible sign banner is removably mounted on and extends between the support members centrally of the poles.

3,537,202
INTERLOCKING SCRIPT LETTERS
 Albert Braun, Valley Stream, and Frank G. Asmus, West Hempstead, N.Y., and Frank R. Asmus, Bethlehem, Conn., assignors to Letterhouse Incorporated, Valley Stream, N.Y.
 Filed Oct. 17, 1968, Ser. No. 768,407
 Int. Cl. G09f 7/02

U.S. Cl. 40-140 5 Claims



A font of individual script letters molded of plastic are provided with interlocking and aligning means whereby the resulting assembly is neatly aligned in a unitary structure.

3,537,203

MULTIPLE BARREL FIREARM HAVING BARREL SELECTION MEANS RESPONSIVE TO COUNTER RECOIL

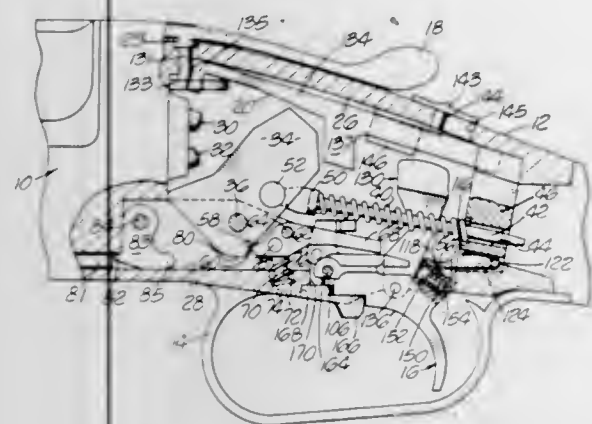
Roy E. Weatherby, 7549 E. 4th Place, Downey, Calif. 90241, and Fred L. Jennie, Buena Park, Calif.; said Jennie assignor to said Weatherby

Filed Apr. 10, 1968, Ser. No. 720,228

Int. Cl. F41c 7/00, 11/10

U.S. Cl. 42—42

11 Claims



A multiple barrel firearm, and having over and under barrels or side-by-side barrels. The barrels each can be fired by the same individual trigger. Manually actuable selector means are provided so that the shooter can select either barrel to be fired by the trigger. A counter recoil responsive means whereby after a barrel has been selected and fired, the other barrel cannot be fired unless recoil and counter recoil movements have occurred. The counter recoil mechanism cooperates with the barrel selector mechanism so that operative engagement is provided for as between the trigger and the firing means for the second barrel.

3,537,204

SAFETY MECHANISM AND STOP MEMBER FOR A CYLINDER SLIDE RELEASE

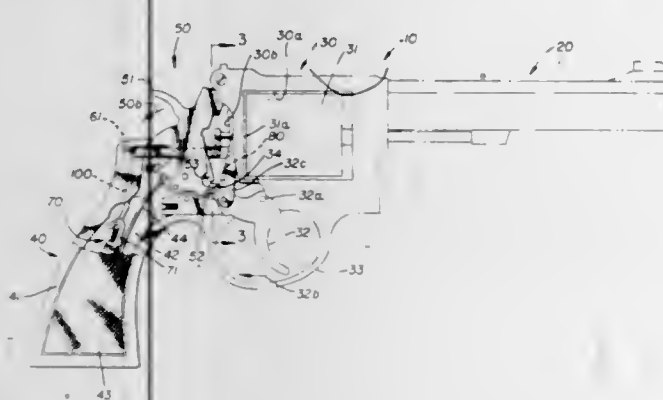
David S. Woloch, 522 Overwood Road, Akron, Ohio 44313

Filed Aug. 8, 1968, Ser. No. 751,148

Int. Cl. F41c 17/00, 17/04, 17/08

U.S. Cl. 42—56

2 Claims



A mechanism for preventing the inadvertent engagement of a handgun safety in which a spring loaded stop is carried by the handgrip and locks the cylinder release slide in its forward position in interfering engagement with the hammer automatically upon opening of the cylinder. The device includes a second stop on the cylinder indexing arm which prevents forward movement of the slide due to excessive recoil and thereby prevents the spring loaded stop from locking the slide in the forward or safety position by accident.

**3,537,205
ANIMATED WATER FOWL DECOY
OR SIMILAR ARTICLE**

Armand J. Robert, Nampa, Idaho (992 Patsy Drive, Pocatello, Idaho 83201)

Filed Dec. 16, 1968, Ser. No. 783,815

Int. Cl. A01m 31/06

U.S. Cl. 43—3

2 Claims



An animated water fowl decoy has a body portion in the shape and configuration of a live water fowl having fastened thereto a multiplicity of ground mounting stakes for securing the body portion to the ground, and a pair of movable simulated wing members each including a skeleton-like frame encased in a simulated water fowl wing, the frame having a mounting stud suitably fastened to the body portion, a humerus member, and an ulna-radius member connected to each other by a plurality of coiled, pre-tensioned springs. The wing members include members for securing a line thereto to provide a flapping-like movement of the wing members in response to movement of the line by a hunter to attract water fowl to within firing range of the hunter.

3,537,206

BAIT CASTING CARTRIDGE

Samuel T. Pool, Sacramento, Calif.

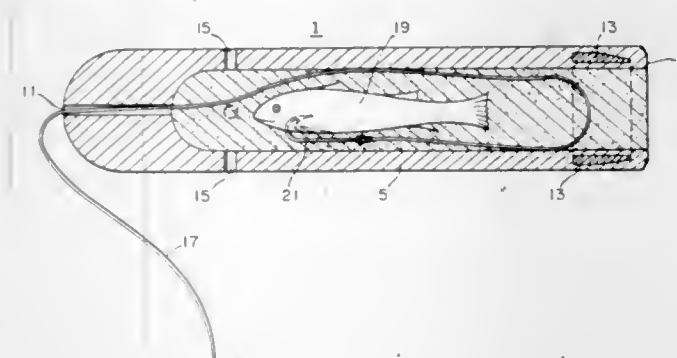
(P.O. Box 1102, Gonzales, La. 70737)

Original application June 27, 1967, Ser. No. 649,198, now Patent No. 3,494,061, dated Feb. 10, 1970. Divided and this application July 2, 1969, Ser. No. 838,386

Int. Cl. A01k 97/04

U.S. Cl. 43—41.2

3 Claims



A bait-casting cartridge in which is releasably packed, live, dead, or artificial bait, for attachment to the end of a fishing line stored on the reel of a fishing pole, the cartridge being weighted at its forward end to provide directional stability in flight and proper orientation in water after landing.

3,537,207

ARTIFICIAL FISHING LURE WITH CHAIN REINFORCED SECTIONAL BODY AND PLASTIC WEED GUARD

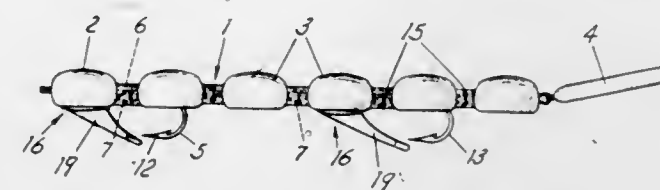
Bingham A. McClellan, John K. Peters, and David J. Hicks, Traverse City, Mich., assignors to McClellan Industries, Inc., Traverse City, Mich.

Filed July 26, 1968, Ser. No. 747,958

Int. Cl. A01k 85/00

U.S. Cl. 43—42.24

7 Claims



A body consisting of spaced masses of synthetic plastic molded around a flat folded link chain, with a joint in the chain between adjacent masses covered by a thin neck of plastic. Hooks have eyes riveted to one link and shanks that lie along the chain and pass through another link with the curved and barbed ends projecting from one of the body masses. The plastic of the body masses is relatively hard to resist tearing, while the thin necks and chain joints provide overall flexibility of the body. A plastic guard has a flat base adhered to the bottom of the body under the shank of the hook, and an integral plastic finger inclined backwardly to shield the barb of the hook from weeds.

3,537,208

TOY AIRPLANE

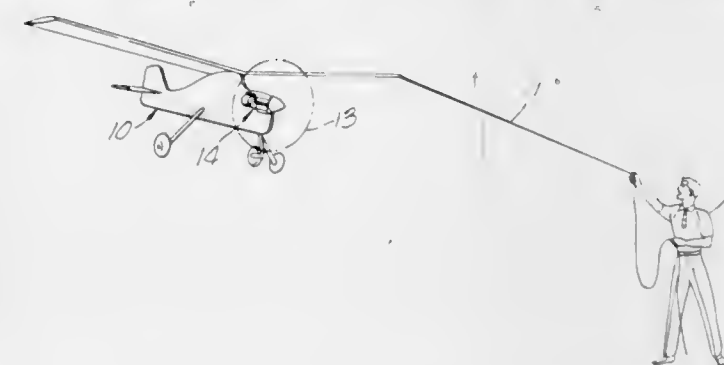
Kenneth B. Martin, 1321 N. 5th Ave., Upland, Calif. 91786

Filed Apr. 18, 1968, Ser. No. 722,467

Int. Cl. A63h 27/12

U.S. Cl. 46—75

3 Claims



A toy airplane of the type that is powered along a circular path by being swung at the end of a cord or tether, includes a dynamic stabilizer, inertia powered propeller, and engine noise simulator. The propeller, driven by the air as the plane moves along its path, rotates a flywheel to effect gyroscopic stabilization, simultaneously drive the engine sound simulator, and provide inertia power during the landing glide and subsequent roll-out along the ground.

3,537,209

DOLL WITH ASYMMETRICALLY LOCATED ARM AND/OR LEG JOINT SOCKETS

John Daggart, Harry Leslie Skelton, Geoffrey Roy Lawton, and James Ronald Lomas, Stockport, England, assignors to Frido Limited, Stockport, England, a British company

Filed Feb. 26, 1968, Ser. No. 708,304

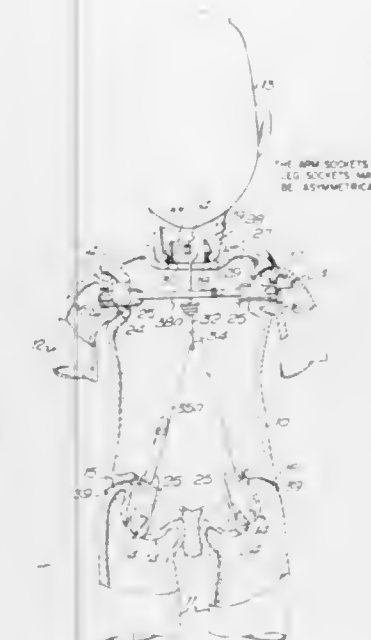
Int. Cl. A63h 3/46

U.S. Cl. 46—161

2 Claims

A toy comprising a body to which is connected a plurality of limbs, the body having, for each limb, a depression or socket containing a bearing surface which is substantially part-spherical and is surrounded by a skirt, each

limb having, at its appropriate end, a joint member which locates in the respective depression or socket, being retained therein by resilient means within the body and connecting to the joint member which has a complementary part-spherical bearing surface, each skirt and the respective limb adjacent the joint member thereof being complemen-



tally shaped to restrict the possible movement of the limbs at least partially to correspond with the possible movement of a corresponding natural limb, by the skirt obstructing movement of the limb. The doll body arm and leg sockets may be asymmetrically placed to produce slight differences in arm and/or leg length.

3,537,210

MINIATURE TOY VEHICLE

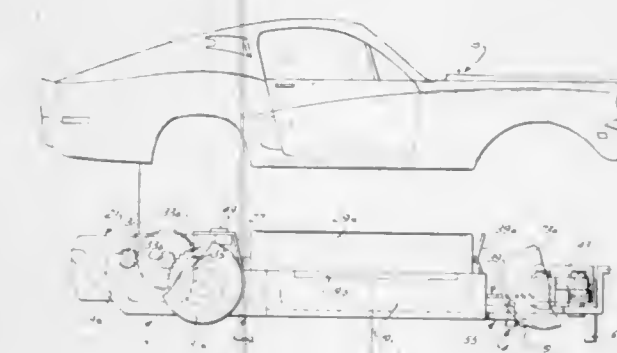
Michael Ieda, 111 Stratford Ave., Williston Park, N.Y. 11596

Filed Dec. 27, 1968, Ser. No. 787,528

Int. Cl. A63h 33/26

U.S. Cl. 46—243

25 Claims



A toy vehicle having a steering pin for following a groove in a track lay-out. The motor energization circuit for the toy vehicle includes a manually-operated switch for opening a pair of normally closed contacts. When the switch is turned on the motor runs; in the absence of any interference, the normally closed contacts remain closed. A lever is attached to the undersurface of the chassis, the lever normally depending in a vertical direction from the car in a position to allow the normally closed contacts to remain closed. A special track segment is provided with a lever which when moved into the stop position engages the lever on the undersurface of the vehicle and moves it from its vertical position. When the vehicle lever is so moved it opens the normally closed contacts in the motor energization circuit and the vehicle

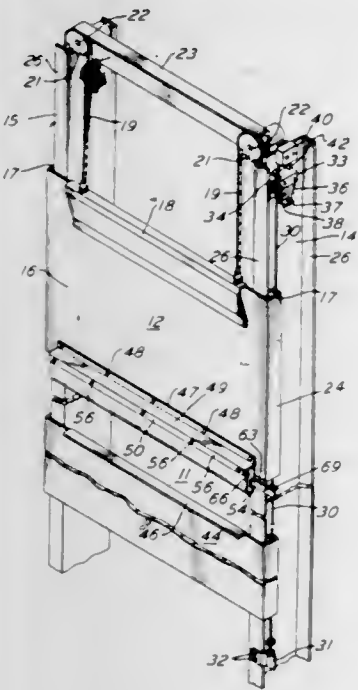
comes to a stop. When the track lever is moved to the start position, the vehicle lever reverts to its normal vertical position, the normally closed contacts close once again, and the car continues in its path of movement.

3,537,211

REVERSING EDGE CONTROL FOR CAR DOORS
Nicholas R. Guilbert, Jr., Glenside, and Louis P. Metz, Abington, Pa., assignors to Guilbert, Incorporated, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 26, 1967, Ser. No. 648,669
Int. Cl. E05f 15/08

U.S. Cl. 49—27

8 Claims



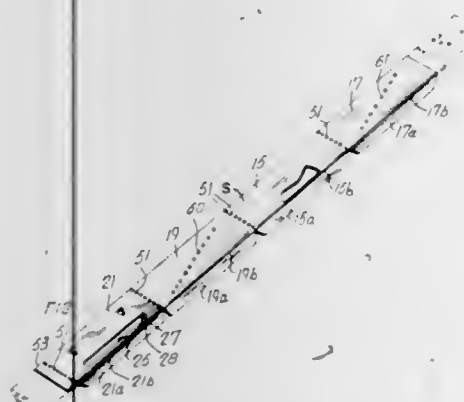
A reversing edge control for use with car doors for dumb-waiters, elevators and the like wherein deformation of the resilient edge of the door will result in an operating finger extending from the edge engaging a cable and thereby actuating a control element, such as a switch, to reverse or stop the movement of the door.

3,537,212
ACCESS DOOR

Hans Gilles, 89 90th Ave., Chomedey, Quebec, Canada
Filed Dec. 26, 1968, Ser. No. 787,176
Int. Cl. E06b 3/38; E05d 7/00

U.S. Cl. 49—381

2 Claims



A concealing access door for wall service outlets, having a frame for insertion into the wall opening and a detachable cover plate hinged to it. The frame has sides forming an open ended enclosure and provided with outwardly extending flanges forming a seat for the cover plate. One side of the frame is provided with a door-tongue receiving slot and another with a door-catch receiving opening. The cover plate has at one margin a

curved tongue which engages in the slot to hinge the cover plate to the frame. The tongue has a projection normally slidably engaging in the slot to retain the tongue from retraction and a projection which registers with a narrow extension of the slot making way for the tongue to be inserted. A facing member is preferably applied to the flanges to border the facing plate when in closed position so as to provide a finished appearance.

ERRATUM

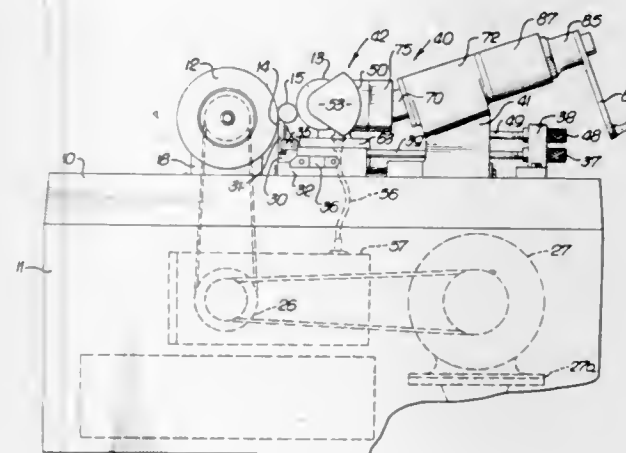
For Class 51—96 see:
Patent No. 3,537,830

3,537,213

CENTERLESS GRINDING MACHINE
Hollet E. Conley, Glendale, Calif., assignor of one-half to Allan F. Ross, Van Nuys, Calif.
Filed Oct. 16, 1967, Ser. No. 675,533
Int. Cl. B24b 5/18

U.S. Cl. 51—103

3 Claims



A regulating wheel support assembly including a main base mounted for horizontal movement relative to a fixed axis grinding wheel and a sub-base for rotatably mounting the regulating wheel which is mounted on the main base for relative movement therewith in a plane inclined to the horizontal for adjusting the position of the regulating wheel relative to the stationary axis grinding wheel, the plane of regulating wheel movement being inclined upwardly away from a point of zero clearance between the wheels. The plane in which the regulating wheel is adjustably movable by its sub-base on the assembly main base is specifically determined so that the regulating wheel is adjustable to successively contact a plurality of different diameter workpieces to be ground between the wheels at contact points on the workpieces which are level with the workpiece centers when different diameter workpieces are successively supported on the work support means without the necessity of changing the positioning of the work support and grinding wheel relative to the machine bed.

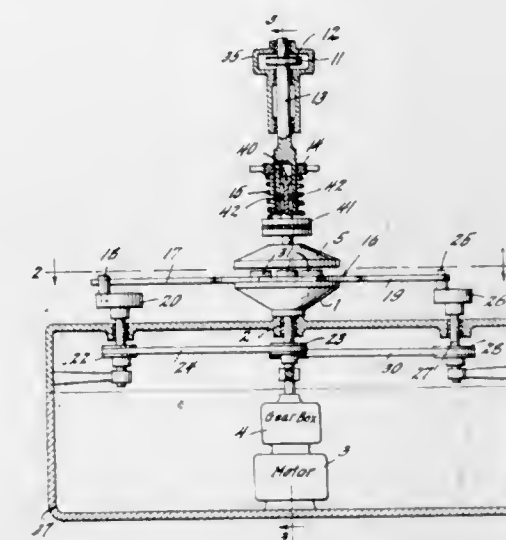
The provision of a constant blade angle of 24° and 7' for the work rest blade portion of the workpiece support and a regulating feed angle, defined by the plane of movement of the regulating wheel sub-base on its main base, of 18°40' so that a plurality of different diameter workpieces may be successively ground on said machine by adjusting the regulating wheel position relative to the grinding wheel and work support blade, such different diameter workpieces each being maintained during grinding a distance above a horizontal plane through the grinding wheel center line equal to approximately one-third their diameters and the regulating wheel contacting such workpieces at points thereon approximately level with their centers.

3,537,214

OPTICAL SURFACING APPARATUS
Thomas L. Ford, San Antonio, Tex., assignor to H. Dell Foster Co., San Antonio, Tex., a corporation of Texas
Filed Aug. 21, 1967, Ser. No. 661,975
Int. Cl. B24b 7/00

U.S. Cl. 51—113

1 Claim



Apparatus for preparing optical surfaces by grinding and polishing comprising a work holder supporting one or more articles to be surfaced, a grinding and polishing tool for contacting the articles, and driving means imparting to the tool and articles relative asynchronous motions, e.g., in rotation, oscillation, and translation, to effect a random nonrepetitive grinding action. Preferably the articles are loosely retained on the work holder and are capable of limited freedom of movement thereon independently of the driving means, further insuring random abrasive action.

ERRATUM

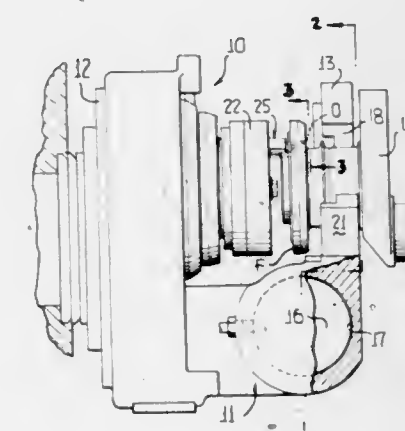
For Class 51—125 see:
Patent No. 3,537,831

3,537,215

PRECISION ROTARY LOCATION OF A CRANKSHAFT IN AN AUTOMATIC CRANKPIN GRINDING MACHINE
Lewis W. Metz and Stanley E. Grube, Waynesboro, Pa., assignors to Litton Industries, Inc., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,865
Int. Cl. B25b 5/00

U.S. Cl. 51—237

12 Claims



This disclosure is directed to means for effecting the precise rotary location of a crankshaft in an automatic crankpin grinding machine wherein the locating function

is dependent upon a locating hole, notch or similar recess in a flange of the crankshaft. The means for effecting the rotary location of the crankshaft is a locating pin which extends axially from an index plate, and includes diametrically opposite means for engaging opposite surface portions of the locating hole. The distance between the engaging means of the pin is slightly greater than the diameter of the locating hole whereupon a turning force or moment is applied to one side of the locating hole to both rotate the crankshaft and urge the opposite side of the hole into firm engagement with the locating pin. Resilient means are preferably provided for applying the turning moment to the crankshaft. The crankshaft is assured of precision rotary location for the grinding of all pins without repeating the operation after each index movement.

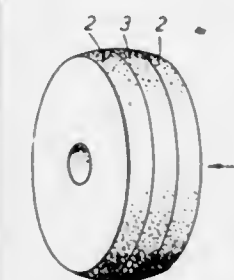
3,537,216

METHOD OF SMOOTHING

Hans P. S. Borgh, Kungälv, Sweden, assignor to Norton Abrasives Limited, Welwyn Garden, England
Filed Mar. 13, 1967, Ser. No. 622,638
Claims priority, application Great Britain, Mar. 11, 1966, 10,908/66
Int. Cl. B24b 1/00

U.S. Cl. 51—327

6 Claims



Smoothing of a workpiece is effected by contacting the workpiece with a rotating grinding wheel having areas of differing friability while effecting relative movement between the grinding wheel and the workpiece, this movement including a component of movement parallel to the axis of the wheel. The surface of the workpiece is contacted with an area of higher friability after being contacted with an area of lower friability while the area of lower friability is still in contact with the workpiece, the areas of lower and higher friability being located at different radial distances from the wheel axis.

ERRATUM

For Class 51—376 see:
Patent No. 3,537,832

3,537,217

WALL STRUCTURES

Robert Paul Lickliter and Earl Abbott, Hamburg, and John F. Reeves, Tonawanda, N.Y., assignors, by direct and mesne assignments, to Flangeklamp Corporation, Buffalo, N.Y., a corporation of New York
Filed Feb. 8, 1968, Ser. No. 703,955
Int. Cl. E04b 2/74; E04c 3/04

U.S. Cl. 52—122

12 Claims

Panel connectors are arranged in vertical and horizontal alignment to receive and support panel members defining a wall surface. In a double wall structure the opposed panel members are mounted on panel connectors spaced apart by means of detachable spacer clips extending therebetween and having a releasable interlock therewith. The panel connectors are of an elongated, reinforced construction extending substantially the full width and height of the panel members, and only a very few spacer

clips are required for a wall structure of high strength and integrity. Spacer clips adapted for adjustable mounting attachment to the floor and ceiling are provided, to-



gether with cover plates and corner blocks for the exposed edges of the wall structure. The panel connectors also are usable in single panel wall structures.

3,537,218

SKIRTING FOR MOBILE HOMES

Milo F. Hindman, 15 Evergreen, Centralia, Ill. 62801
Filed Oct. 31, 1968, Ser. No. 772,271
Int. Cl. E04b 2/82; E04d 3/365
U.S. Cl. 52-169

13 Claims



A skirting, for the space between the lower edge of a mobile home and the ground, has a number of panels which are held by attaching clips that are secured to panel supports which extend between that lower edge and the ground. The panels are made of relatively thin material, so they can be light in weight and so they can be bowed to facilitate the ready insertion of the upper and lower edges thereof into notches defined by the attaching clips; but the upper and lower edges of those panels have anchoring portions which will engage shoulders in those notches to prevent accidental separation of those panels from those attaching clips. The attaching clips can be set at different levels relative to the panel

supports; and hence those attaching clips can define constant-level lines even though the panel supports must differ in length to accommodate different distances, between the lower edge of a mobile home and the ground. The attaching clips can be set to permit the lower edges of the panels to overlap, but to be spaced short distances outwardly of, the upper edges of the next-lower panels, thereby minimizing drafts in the space between the bottom of the mobile home and the ground while permitting the skirting to "breathe." Notches and slots are formed in some of the panels to permit those panels to be bent to define the corners of the skirting; and those panels minimize drafts at the corners of the skirting, and also provide an attractive appearance for those corners. The panel supports include posts which have elongated recesses that accommodate rods and helical compression springs; and those helical compression springs urge the lower ends of those rods into engagement with the ground and urge the upper ends of those posts into holding engagement with the lower edge of the mobile home. The upper ends of the rods extend several inches up into the lower ends of the helical compression springs; and hence the posts can closely confine the rods even where the lower ends of the helical compression springs are close to the lower ends of the posts.

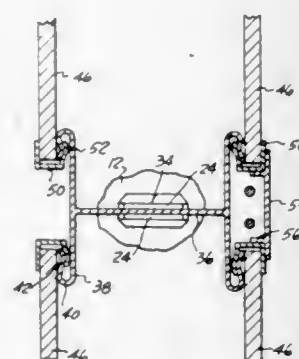
3,537,219

DEMOUNTABLE PARTITION WALL

William J. Navarre, River View, Mich., assignor of twenty-five percent to Prudent O. Blancke, Wayne, Mich.

Filed Aug. 30, 1968, Ser. No. 756,514
Int. Cl. E04b 1/06, 2/78
U.S. Cl. 52-213

8 Claims



In a demountable partition wall for use between a floor and ceiling, opposed floor and ceiling channels, with longitudinally spaced upright pairs of stud spacing tabs projected from the channels, upright spaced studs extending into said channels, interlocked with said tabs, with L-shaped wall board mounting and retaining trim flanges on said channels; the studs being H-shaped in cross-section with their flanges including reverse turned clip edges, and upright trim moldings enclosing the side edges of the wall boards and frictionally interlocked with said clip edges.

3,537,220

MASONRY WALL BRACE

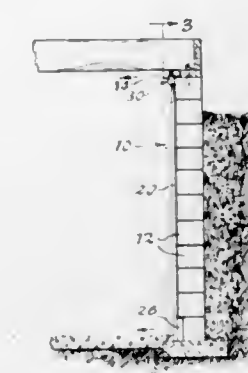
James P. Ellis, 1381 Blakely Road, East Aurora, N.Y. 14052

Filed May 22, 1969, Ser. No. 826,953
Int. Cl. E04c 3/10, 3/22; E02d 27/00
U.S. Cl. 52-225

5 Claims

An improved device adapted to be applied against the inside face of a masonry wall experiencing inwardly bowing forces applied thereagainst; said device comprising a strut member having improved forms of hook means at its opposite ends for hooking said device against a

masonry wall to apply compression thereagainst, resulting in force vector components tending to bow the wall



outwardly against the forces applied thereto from outside of the wall.

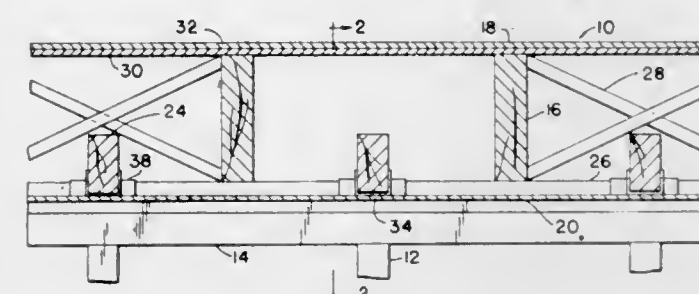
3,537,221

BUILDING STRUCTURE WITH SEPARATE FLOOR AND CEILING JOISTS

Leroy Helfman, 22638 Chatsford Circuit, Southfield, Mich. 48075, and Al A. Shackel, 23600 Marlow, Oak Park, Mich. 48237

Filed June 19, 1967, Ser. No. 646,990
Int. Cl. E04b 5/12, 5/52
U.S. Cl. 52-289

9 Claims



Building structure for separating a ceiling and a floor to prevent noise transmission directly through the floor and ceiling, including a plate, floor joists positioned on top of the plate, a floor secured to the top of the floor joists, ceiling joists extending parallel to the floor joists and centered therebetween, drop ceiling cradles supporting the ends of the ceiling joists from the plates with the bottom of the ceiling joists positioned below the top of the plate and the top of the ceiling joists positioned above the top of the plate and a ceiling secured to the bottom of the ceiling joists. Said drop ceiling cradles include an angle part adapted to be secured to the plate and an upwardly opening U-shaped part for receiving the end of a ceiling joist connected to the angle part. A portion of the angle part of the drop ceiling cradle may be used to space the floor joists from the ceiling joists.

3,537,222

PANEL WALL STRUCTURE WITH PANEL CONNECTORS JOINED BY SPACER AND ATTACHING CLIPS

Robert P. Lickliter and Earl Abbott, Hamburg, and John F. Reeves, Tonawanda, N.Y., assignors to Flangeklamp Corporation, Buffalo, N.Y.

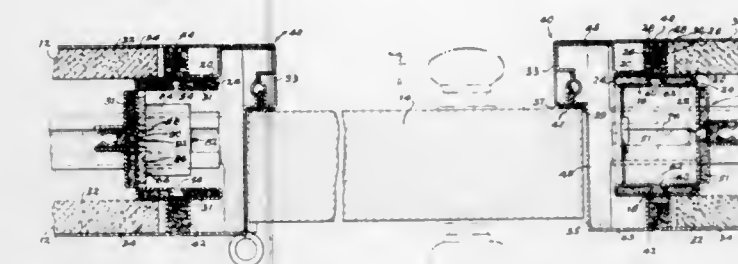
Continuation-in-part of application Ser. No. 703,955, Feb. 8, 1968. This application Nov. 20, 1968, Ser. No. 777,438

Int. Cl. E04b 2/76; E06b 1/18
U.S. Cl. 52-481

18 Claims

A rigid support structure comprising a pair of opposed panel connectors and a third adjacent panel connector extending in the same direction interlocked together by means of a spacer clip having an attaching clip. Insulation is provided within the panel connectors to fireproof the

same. The spacer clip is of generally Z-shaped configuration having a web body spanning the space between the opposed panel connectors and having locking heads for insertion into the opposed panel connectors. Legs extend in opposite directions from the web body and have lat-



eral edges with portions thereof bearing against the opposed panel connectors. An opening is provided in one of the legs for admitting the locking head of the attaching clip therethrough to be inserted in the third panel connector.

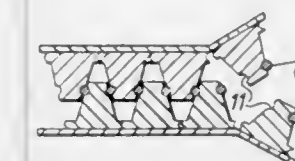
3,537,223

REINFORCED BUILDING ELEMENTS

Chaim H. Lerchenthal, 4a Sinai Ave., Haifa, Abuza, Israel

Filed Nov. 17, 1965, Ser. No. 508,269
Int. Cl. E04b 1/02

9 Claims



This invention relates to reinforced building elements and in particular to reinforced concrete slabs, blocks, panels, walls and the like. According to the present invention there is provided a reinforced building element comprising a first component capable of withstanding compressional and/or shearing forces and a second component in sheet form bonded to the first component, the second component being capable of withstanding tensional forces acting in its plane in any direction.

3,537,224

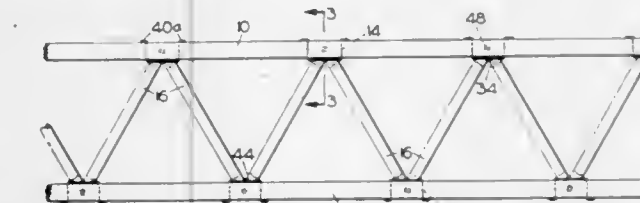
TRUSS JOIST WITH CASE-CONNECTED WEB MEMBERS

Arthur L. Troutner, Skyline Drive, Boise, Idaho 83702

Filed Sept. 20, 1968, Ser. No. 761,234
Int. Cl. E04c 3/292

U.S. Cl. 52-693

9 Claims



A truss joist comprises upper and lower chords having staggered recesses in their opposed faces. A plurality of structural cases are secured one in each of the recesses. A plurality of web members are arranged diagonally between the chords with the ends of adjacent web members overlapped, one pair of overlapped ends being inserted into each case. Securing means secure the web member ends to the respective cases, thereby interlocking the truss joist components.

3,537,225

METHOD OF FORMING CONTAINER

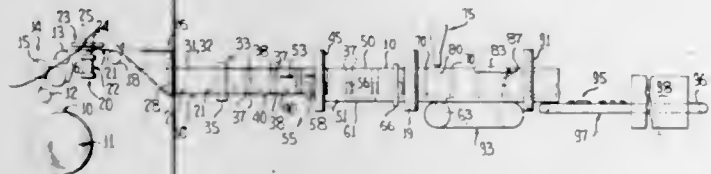
Charles M. Fields, La Grange, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Original application Jan. 22, 1965, Ser. No. 427,450, now Patent No. 3,386,604, dated June 4, 1968, Divided and this application Sept. 1, 1967, Ser. No. 665,098

Int. Cl. B65b 61/00

U.S. Cl. 53—14

17 Claims



Disclosed herein is a method of forming a pouch of flexible material, providing a dispensing nipple on the pouch and filling and sealing the pouch. The method includes the passage of a web of flexible material along a predetermined path, the distention of portions of the web to form nipples therein, the lengthwise folding of the web, the sealing of the folded together portions of the web on each side of the nipples and the severing of the web at the sealed together areas thereof. Further disclosed is a method of providing a protective covering in association with a pouch provided as set forth above including the entraining of two further webs into proximity with the first mentioned web and with each other to provide an hermetic encasement for the pouch.

3,537,226

PROCESS OF PACKAGING BATTS OF FIBERS

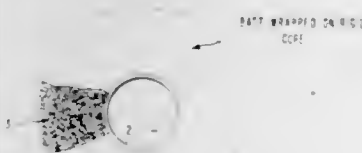
Martin D. Le Van, Wilmington, Del., and Arnold L. Willis, Chicago, Ill.; said Martin D. Le Van assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 27, 1967, Ser. No. 678,745

Int. Cl. B65b 63/02, 63/04, 7/12

U.S. Cl. 53—24

1 Claim



The process of packaging initial batts of textile fibers at a density greater than the initial batt density and without significant increase in initial batt density upon unpacking, which comprises:

(a) wrapping the initial batt onto a rigid core to form a cylindrical structure;

(b) encasing the structure with a bag of an air impervious material and removing the core;
(c) evacuating air from the bag to contract the structure and to increase the initial batt density; and then
(d) wrapping the contracted structure with a wrapper of sufficient tensile strength to maintain substantially the contracted state.

3,537,227

AUTOMATICALLY CONTROLLED WRAPPING MACHINE, PARTICULARLY FOR THE CIGARETTE FIELD

Ariosto Seragnoli, Via Bellinzoni 31, Bologna, Italy

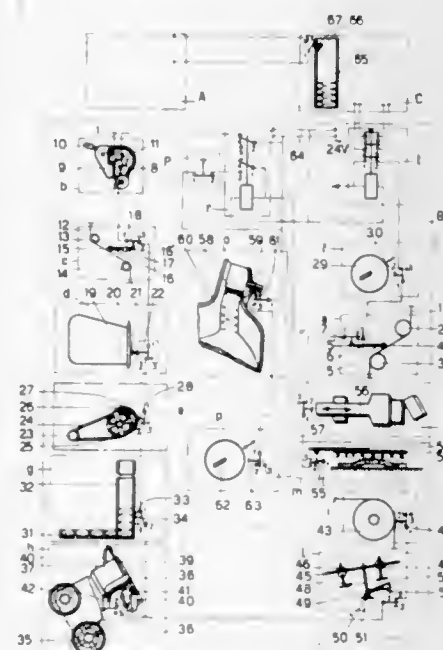
Filed May 5, 1967, Ser. No. 636,311

Claims priority, application Italy, May 6, 1966, 765,496/66

Int. Cl. B65b 57/06

U.S. Cl. 53—55

1 Claim



An apparatus for automatically wrapping articles with sheet material, particularly for wrapping cigarette packets with foil material, including a wrapping machine, a storage device, at least one feeding channel for the articles to be packaged and leading towards said storage device, a conveying channel leading towards said wrapping machine for conveying the articles towards said wrapping machine, said storage device being adapted alternatively to transfer said article from said feeding channel to said conveying channel, to collect and store the articles coming from said feeding channel and to deliver articles stored therein to said conveying channel, said wrapping machine having a plurality of control switches responsive to malfunctions of the operative parts thereof.

3,537,228

APPARATUS FOR WADDING BOTTLES

George V. Cremieux, Elkhart, Ind., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 13, 1969, Ser. No. 790,567

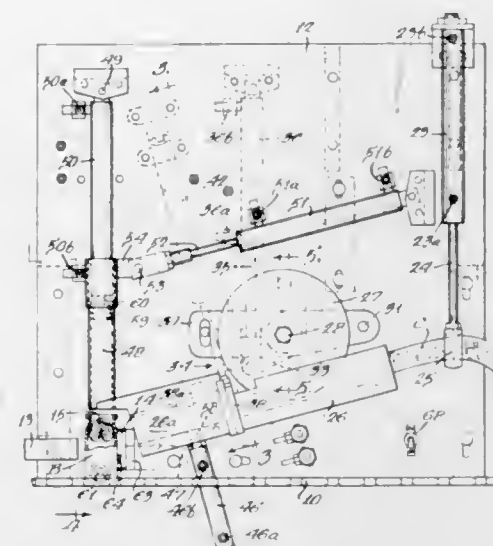
Int. Cl. B65b 57/06, 61/22

U.S. Cl. 53—63

4 Claims

Apparatus for depositing a wad of cotton in the mouth of a bottle which apparatus is designed to operate along the path of a continuously moving conveyor on which bottles are fed in succession to and momentarily arrested at a bottle station while said apparatus cuts off wad forming portions from a continuous strip of wadding material

and deposits said wad into a bottle at said station and said apparatus returns said bottle to said conveyor on described mode of operation may be performed or the two mechanisms may be operated in phase and a double



pletion of said wad depositing operation preparatory to delivery of said wadded bottle to a station for reception of a bottle cap or cover.

3,537,229

PRODUCT SPACING STRUCTURE

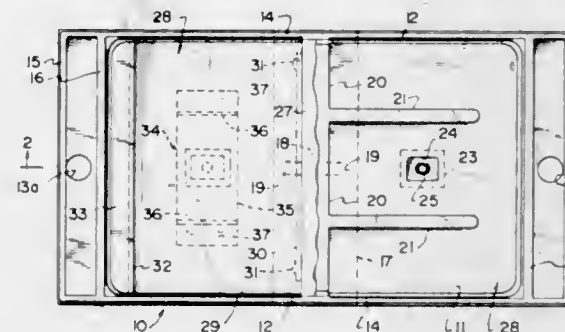
William F. Prena, Norridge, Ill., assignor, by mesne assignments, to John Morrell & Co., Chicago, Ill., a corporation of Delaware

Filed Nov. 29, 1967, Ser. No. 686,436

Int. Cl. B65b 31/00

U.S. Cl. 53—112

5 Claims



A pocket structure for a vacuum packaging machine wherein a product spacing, compartment dividing means is removably mounted in the pocket, with product holding means being formed integrally with the product spacing means. An elongate notch is provided in the product spacing means, so that packages that are joined in a double line operation can be severed while in the pocket structure.

3,537,230

BOX LOADING MACHINE

Oskar Dorfmann, North Bergen, N.J., assignor to Federal Carton Corporation, North Bergen, N.J., a corporation of New York

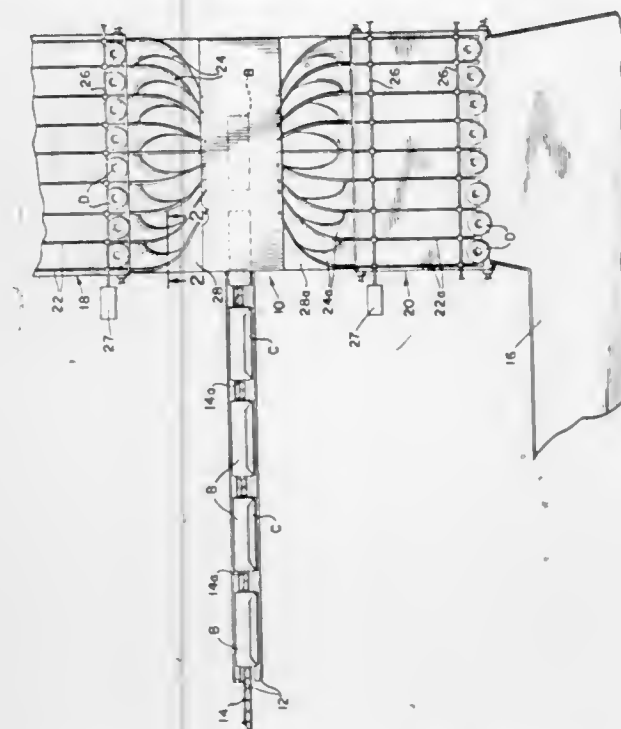
Continuation-in-part of application Ser. No. 532,696, Mar. 8, 1966. This application Apr. 9, 1968, Ser. No. 719,970

Int. Cl. B65b 5/06, 35/30, 39/12

U.S. Cl. 53—124

11 Claims

A machine for placing groups of compressible articles, such as donuts, in boxes. The donuts are supplied to each of two duplicate mechanisms in horizontal position, rotated to stand on edge, assembled in groups, axially compressed and while held by pressure members transferred from the assembly point to a box at a loading station. In one embodiment the two duplicate mechanisms are out of phase and boxes are alternately loaded from opposite sides; in the second and preferred form either the above-



row of articles, one from each of the duplicate mechanisms, simultaneously placed in a wide box.

3,537,231

BOTTLE CAPPER

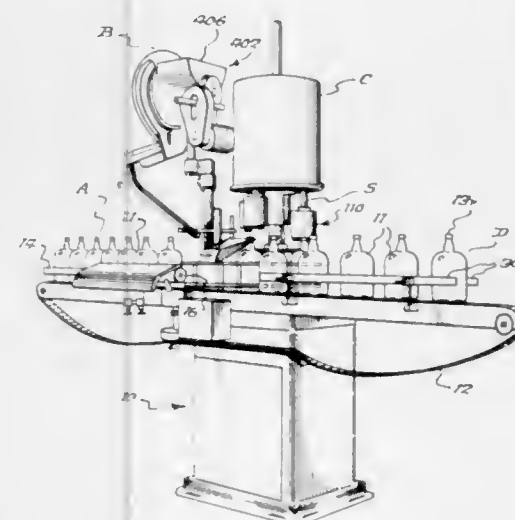
George H. Dimond, East Aurora, N.Y., assignor to Consolidated Packaging Machinery Corporation, New York, N.Y., a corporation of New York

Filed June 12, 1968, Ser. No. 736,318

Int. Cl. B65b 7/28

U.S. Cl. 53—201

1 Claim



A turret type container capper for selectively applying both screw-on and roll-on caps to containers having a spindle, comprising three coaxial spindle elements, one of which is rotated about its axis by a gear mounted thereon and is turned by engagement with a stationary gear about which the spindle orbits and two cam followers, one of which provides axial movement to the rotated spindle element and the other of which provides axial movement to one of the other spindle elements and selectively provides axial movement to the third, the cam followers being activated by a stationary cam about which the spindle orbits, the coaxial spindle elements being adapted to selectively mount and operate both screw-on and roll-on chucks without machine adjustment.

3,537,232

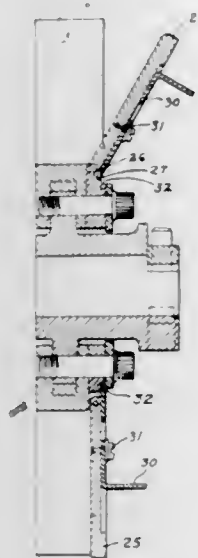
TURRET WHEEL FOR WRAPPING MACHINES
Milan Mateyka, Union, and Martin E. Leszczynski, Jersey City, N.J., assignors to Scandia Packaging Machinery Company, North Arlington, N.J., a corporation of New Jersey

Filed Aug. 16, 1967, Ser. No. 661,072

Int. Cl. B65b 11/30

U.S. Cl. 53—234

5 Claims



The invention involves rotary turret wheels mounted in the path of travel of packages and wrappers and these wheels have radial pockets which receive the packages and wrappers. Each pocket has at the outer side a tucker blade which is hinged and is held in position by a latching plate. In order to facilitate the removal of an improperly wrapped package the tucker blades can be manually swung outwardly after releasing the latching plates.

3,537,233

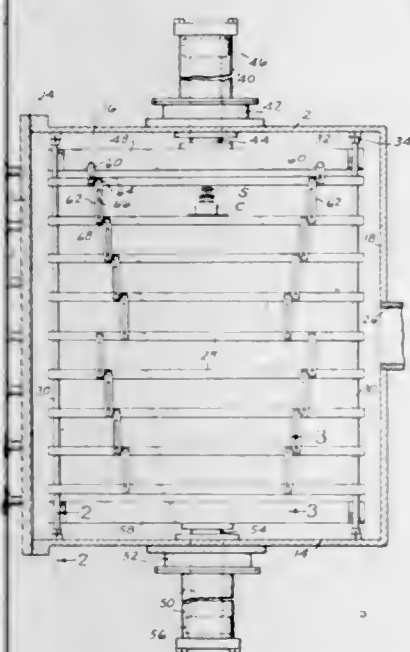
CONTAINER STOPPERING APPARATUS
Leonard C. Costello, Warminster, and Karl H. Wiegmann, Huntingdon Valley, Pa., assignors to Hull Corporation, Hatboro, Pa., a corporation of Pennsylvania

Filed Aug. 15, 1967, Ser. No. 660,717

Int. Cl. B65b 7/28

U.S. Cl. 53—264

10 Claims



A housing adapted to be evacuated has top and bottom fluid pressure piston-cylinder units between which are positioned a plurality of shelves movable vertically relative to each other upon activation of the units. In one embodiment the shelves are interconnected by vertically slotted links, the top shelf being secured to the piston rod of the top piston-cylinder unit, with the lower shelves suspended therefrom. In another embodiment the shelves are interconnected by threaded bolts in place of the slotted links.

In still another embodiment the shelves are supported in spaced apart relation resiliently by springs encircling guide rods.

3,537,234

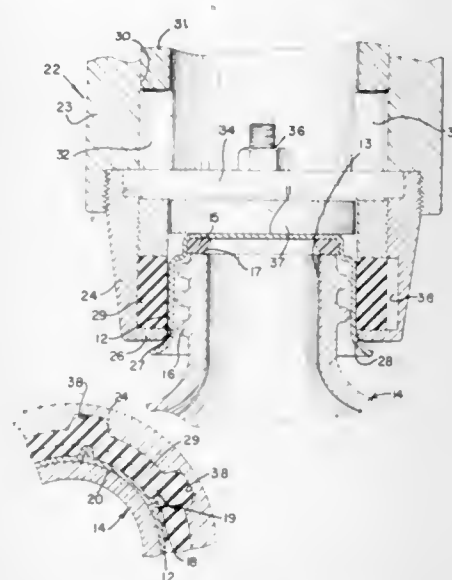
CONTAINER CAP CONSTRUCTION
Charles N. Foster, Oak Park, George F. Chaplin, Elmwood Park, and Willi F. Mayer, Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 7, 1967, Ser. No. 681,261

Int. Cl. B67b 3/16; B65b 7/28; B31b 43/00

U.S. Cl. 53—357

2 Claims



A method and apparatus for attaching a cap shell including a top and a depending skirt on the open end of a container having cap retaining rib means projecting above the opening end thereof. A compression force is applied by a continuous member formed from a compressible material about the periphery of the skirt to conform and clinch the latter about the retaining rib means. The compressible member is mounted so that the compression force is ineffective at angularly spaced locations about the periphery of the skirt to permit the metal to be displaced in these spaces to form a plurality of narrow vertical ridges projecting from the conformed portions. The resulting cap is formed with continuous protuberances contoured substantially complementary to the container retaining rib means and a plurality of spaced vertical ridges which project from the non-conformed portions of the skirt.

3,537,235

ARTICLE WRAPPING APPARATUS

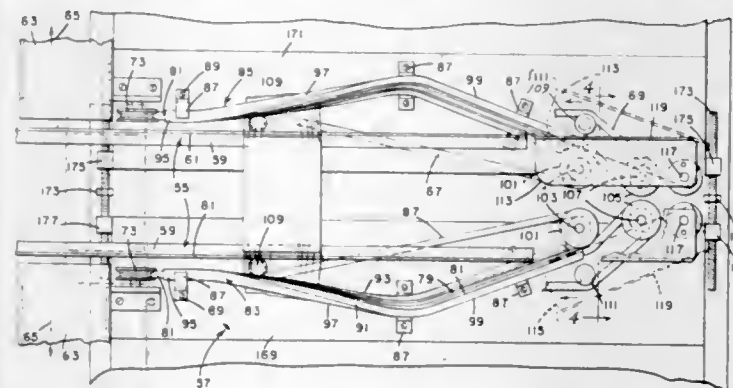
Carl R. Pepmeier, Fredericksburg, Va., and Louis E. Stoffregen, Springfield, and Joseph T. Sincavage, Media, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Continuation-in-part of application Ser. No. 628,978, Apr. 6, 1967. This application Feb. 17, 1969, Ser. No. 805,944

Int. Cl. B65b 51/10

U.S. Cl. 53—379

10 Claims



Article wrapping apparatus in which a heat-sealable, stretchable film is encircled about an article as a tube,

stretched by gripping and applying tension to its edge portions, after which its edge portions are folded onto the wrapped article and sealed in place.

3,537,236

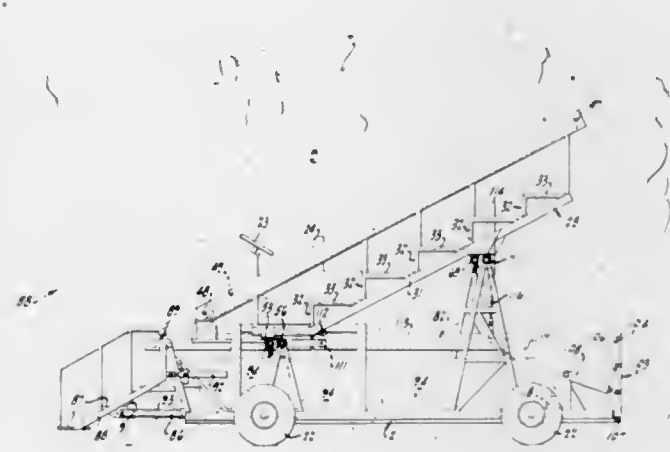
HEDGEROW PICKING MACHINE
Robert B. Fridley, Davis, Calif., assignor to The Regents of the University of California, Berkeley, Calif.

Filed Oct. 14, 1968, Ser. No. 767,207

Int. Cl. B60p 1/36

U.S. Cl. 53—391

10 Claims



A hedgerow picking machine includes a vehicle adapted to advance between a pair of hedgerows bearing produce such as fruit, the vehicle including a pair of longitudinal stairways low at the front and high at the back mounted to be moved laterally toward and away from the hedgerows and adapted to accommodate pickers standing on the stairway steps. Produce receiving conveyors run along the outboard sides of the stairways and conduct picked produce deposited therein by the pickers to a central conveyor from which the produce is discharged into bins picked up at the front of the vehicle, carried longitudinally of the vehicle and discharge at the rear thereof.

3,537,237

METHOD OF RECOVERING COMPONENTS FROM A GAS STREAM

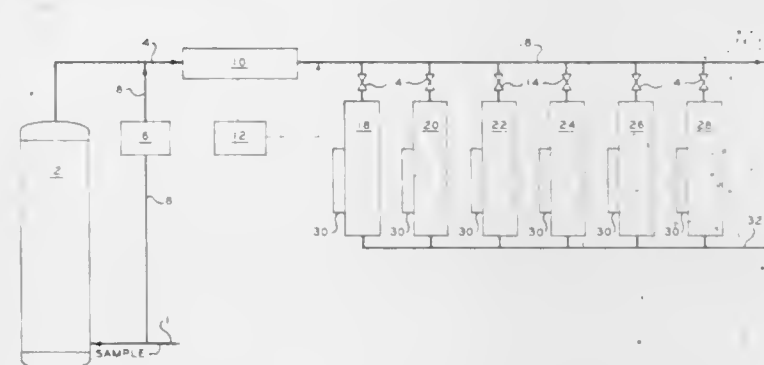
Lloyd E. Gardner, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 14, 1969, Ser. No. 824,500

Int. Cl. B01d 15/08

U.S. Cl. 55—67

7 Claims



A method of automatically recovering gas components from a separated gas stream by passing the components through a gas detector, automatically switching the stream through a different individual adsorber containing different adsorbing material as the component flow changes through the detector.

3,537,238

ELECTROSTATIC FILTER FOR THE PURIFICATION OF GASES AND PARTICULARLY OF THE AIR

Julien Dungler, 35 Rittergasse, 4000 Basel, Switzerland

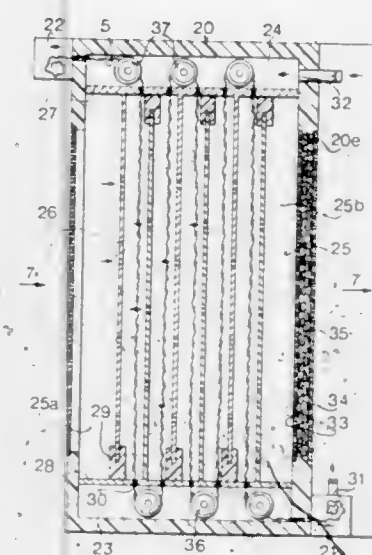
Filed Nov. 14, 1968, Ser. No. 775,613

Claims priority, application France, Nov. 16, 1967, 1,851; May 24, 1968, 1,865

Int. Cl. B03c 3/36

U.S. Cl. 55—131

7 Claims



An electrostatic precipitator having three electrodes of one electrical potential alternating with three electrodes of opposite electrical potential, each electrode having apertures therethrough, the apertures being staggered in the gas flow direction and a gas permeable ribbon made of non-conductive material arranged between the electrodes.

3,537,239

SMOKE ABATEMENT DEVICE

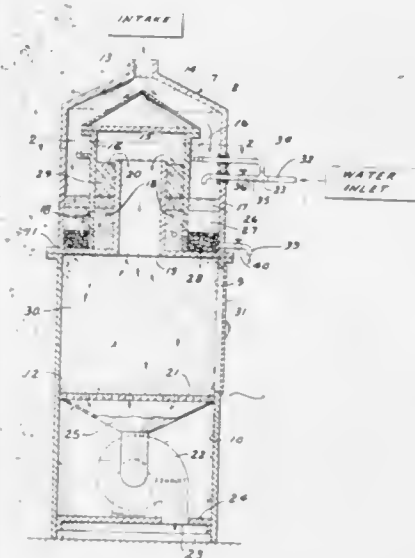
Paul C. Dunnire, 25448 River Rouge Drive, Dearborn Heights, Mich. 48127

Filed Nov. 12, 1968, Ser. No. 774,820

Int. Cl. B01d 47/02

U.S. Cl. 55—242

4 Claims



An apparatus for removing pollutants from an air stream having an upper portion including concentric chambers defined by an outer closed housing having a feed inlet, an intermediate closed housing provided with perforations along its lower half, and an inner open ended conduit which connects the upper portion of the apparatus with its intermediate portion. Feed enters the outermost

passing through layers of oil, water and lime which extend to a level above the perforations; the cleaned air then being drawn through the open ended conduit into the intermediate portion, which contains a filter bed and is connected to an exhaust. The apparatus further contains a perforated water intake pipe located in the outer passage for discharging a cooling liquid onto the upper portion of the perforated closed-housing.

3,537,240

AIR INTAKE APPARATUS FOR A JET-PROPULSION AIRCRAFT

Hans Weidinger, Ottobrunn, and Rolf G. Sturm, Munich, Germany, assignors to Entwicklungsring Sud GmbH, Munich, Germany

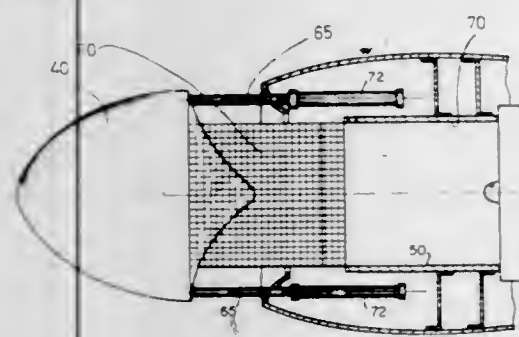
Filed Dec. 11, 1967, Ser. No. 689,494

Claims priority, application Germany, Dec. 22, 1966, E 33,078

Int. Cl. B01d 46/00

U.S. Cl. 55—306

6 Claims



The disclosed apparatus is particularly adapted for cooperation with the intake orifice of a jet-propulsion engine of a vertical take-off and landing aircraft and includes a grid screen which serves to prevent the intake of debris and other foreign matter during take-off and landing of such aircraft. A cylindrically-shaped grid screen is positioned adjacent the intake orifice of the jet-propulsion engine and coaxial therewith. A nose cone or shield is secured to the outer edge of the grid screen. Means are included for axially moving the nose shield from a first position adjacent the intake orifice to a second extended position so as to selectively permit air flow through the grid screen into the engine. During vertical take-off or landing, the nose shield is shifted to its extended position, whereas during cruise flight the cone is held adjacent the intake orifice of the intake pipe so as to block the flow of air therethrough.

3,537,241

GAS FILTER BAG STRUCTURE

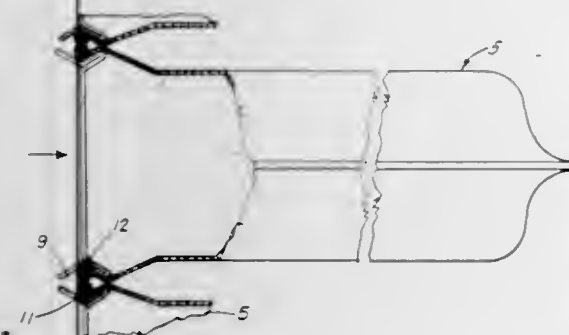
John W. Wigel, Louisville, and Paul L. Brooks, Waddy, Ky., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Apr. 21, 1969, Ser. No. 817,726

Int. Cl. B01d 46/02

U.S. Cl. 55—378

2 Claims



An improved gas filter bag structure comprising a plurality of side-by-side filter bags, each having its mouth portion held in open position by a rigid mouth-shaping mem-

ber, the opposite extremities of the mouth portions of the filter bags being inserted in a channel-shaped flow-through border frame sized to hold the mouth portions of the filter bags in fast side-by-side relation to grip such mouth portions therebetween, the sides of the rigid mouth-shaping members being of concave cross-sectional configuration so that adjacent mirror-image sides thereof provide pockets therebetween to receive the mouth portions for support.

3,537,242

FLUID FLOW FRAME RETAINER

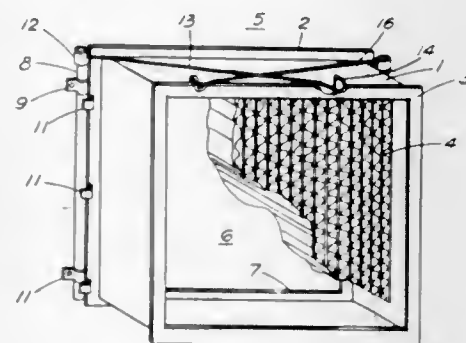
Robert L. Bennett, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Feb. 17, 1969, Ser. No. 799,658

Int. Cl. B01d 27/08

U.S. Cl. 55—493

4 Claims



An assembly to fasten a fluid flow frame to a selected wall member which includes a shaft, to be rotatably secured to the wall member, with bracket means extending radially therefrom which are adapted to engage a peripheral flange of the frame and hold the flange against the wall member. Handle means are provided to rotate the shaft so the bracket means engage the flange means of the frame and are adapted to be secured to the frame to hold the bracket means against the peripheral edge.

3,537,243

COMBINE PLATFORM SUPPORTING STRUCTURE

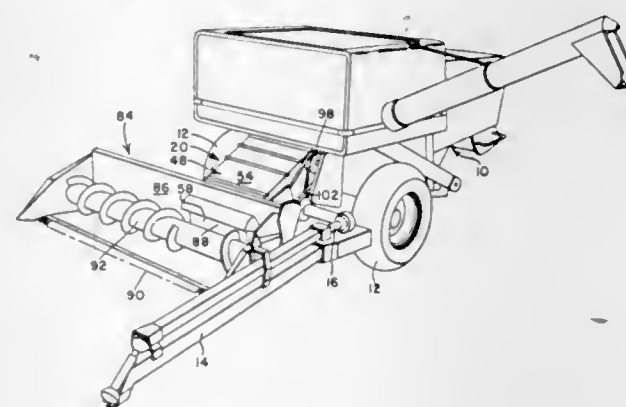
Darwin Carl Bichel, East Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Nov. 13, 1968, Ser. No. 775,341

Int. Cl. A01d 41/04

U.S. Cl. 56—21

10 Claims



A pull-type combine having a mobile body with a forwardly extending vertically adjustable feeder house and a transversely elongated harvesting platform carried by the forward end of the feeder house. The feeder house includes a rigid frame pivotally attached to and extending forwardly from the combine body and a hollow housing

which supports the platform at its forward end, the housing being adjustably connected to the frame to permit adjustment of the front end of the housing and consequently the tilt of the platform about a fore-and-aft axis.

3,537,244

LAWN EDGING AND TRIMMING DEVICE

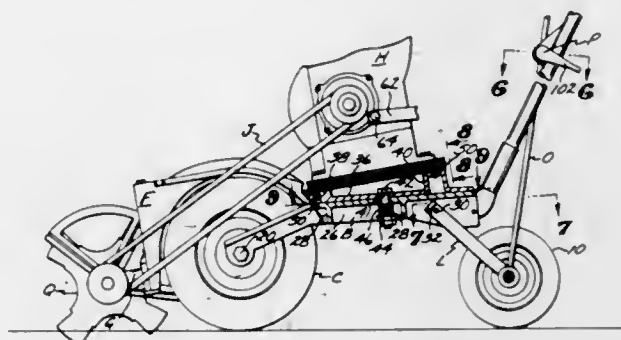
Bob J. Hicks, 11626 Vieta, Lynwood, Calif. 90262

Filed Nov. 21, 1968, Ser. No. 777,588

Int. Cl. A01d 35/00

U.S. Cl. 56—25.4

7 Claims



A power-driven lawn edging and trimming device that may be selectively adjusted to cut and trim a lawn to a uniform height on either the left- or right-hand side of the device, as well as edge a lawn to a uniform depth, both when the device is traveling along a curb, as well as moving over a lawn surface.

3,537,245

FRUIT HARVESTING APPARATUS

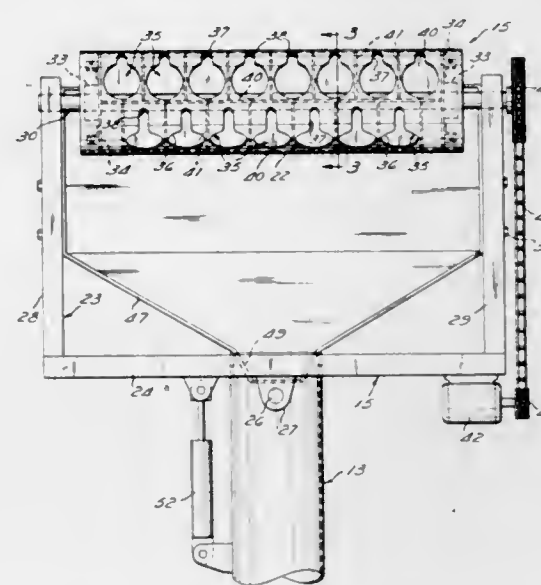
Joel E. Smith, Rte. 1, Box 75, Longwood, Fla. 32750

Filed Nov. 14, 1968, Ser. No. 775,630

Int. Cl. A01g 19/08

U.S. Cl. 56—328

10 Claims



A fruit harvester having a picking head which comprises a rotatable drum mounted for axial rotation on one end of a hollow boom. The drum is provided with a plurality of openings for the entry of fruit therein, and each opening has a slot extending therefrom in a direction opposite to the direction of drum rotation so that, after fruit enters an opening, its stem is picked or cut from the tree. After the fruit is picked from the tree, it drops into a compartment within the drum and, after further rotation of the drum, the fruit drops out of its compartment through its entry opening and into a storage apron or receptacle for gravity feed through the hollow boom to a collection station.

3,537,246

CONTROL SYSTEM FOR TREE SHAKER APPARATUS

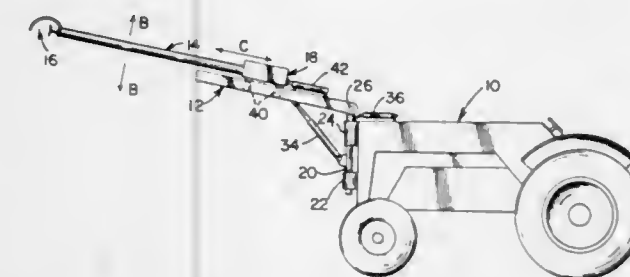
Stuart D. Pool, Naperville, and Edward Svereika, Chicago, Ill., and Jack B. Findlay, Minneapolis, Minn., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Aug. 19, 1968, Ser. No. 753,378

Int. Cl. A01g 19/00

U.S. Cl. 56—328

2 Claims



A tree shaker apparatus including a frame pivotally mounted on a tractor for swinging movement about a vertical axis and a horizontal axis. A boom and clamp assembly is mounted on the frame for movement longitudinally thereof. Movement of the frame and the boom and clamp assembly is provided by hydraulic cylinders controlled through respective valves. The valves are actuated by selective operation of a control lever which is mounted for swinging movement in three modes which are manifested in similar movements of the frame and the boom and clamp assembly to position the clamp in gripping relation on a tree limb to be shaken by the apparatus.

3,537,247

HAY BALER AND HAULING DEVICE

Bryan F. Hungate, Miami, Fla.

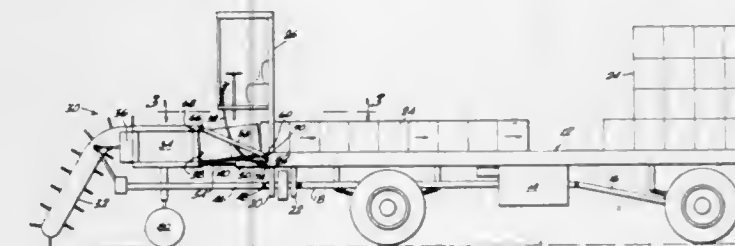
(Rte. 1, Tebbetts, Mo. 65080)

Filed Nov. 4, 1968, Ser. No. 773,231

Int. Cl. A01d 75/04, 90/00

U.S. Cl. 56—473.5

6 Claims



The combination of a hay baler and a vehicle of lading with means to detachably connect the vehicle directly to the hay baler so that the vehicle may be separated from the hay baler and the hay baler left in the field while the vehicle delivers baled hay, the vehicle having a separate power plant.

3,537,248

SIMULTANEOUSLY TWISTING AND INTERLACING A CONTINUOUS MULTIFILAMENT YARN

Ernst Berg, Elsenfeld, Peter Husslein, Mechenhard, Peter Helnen, Oberbruch, and Josef Rongen, Karken, Germany, assignors to Glanzstoff AG., Wuppertal, Germany

Filed June 14, 1968, Ser. No. 737,188

Claims priority, application Germany, June 19, 1967, G 50,413

Int. Cl. D01h 1/02

U.S. Cl. 57—34

18 Claims

A process in which a continuous multifilament yarn is simultaneously twisted and interlaced by treatment of the yarn with a fluid jet which intersects the yarn as it is guided in a substantially linear path and then directly

conducting the yarn into a rotating balloon pattern which imparts a slight twist to the yarn at approximately the same point of the interlacing or fluid jet treatment. Apparatus for this purpose essentially includes, in combination, a



ring twist twisting spindle and means for said fluid jet treatment positioned as a yarn guide at the balloon point of the balloon pattern produced by the ring twist twisting spindle.

3,537,249

PROCESS AND APPARATUS FOR MAKING A TEXTILE STRAND

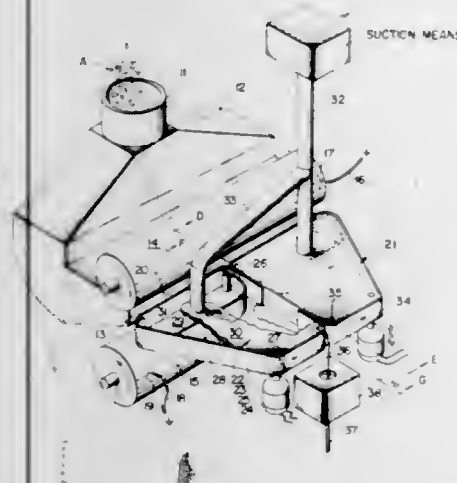
Mayer Mayer, Jr., New Orleans, La., assignor to the United States of America as represented by the Secretary of Agriculture

Filed July 28, 1969, Ser. No. 854,340

Int. Cl. D01h 1/12

U.S. Cl. 57—54.89

2 Claims



This invention relates to a process and apparatus for making a highly parallelized textile strand. More particularly this invention relates to a process and apparatus for electrostatically aligning fibers, removing them from the electrostatic field in an aligned state and forming a textile strand.

3,537,250

MEANS FOR IMPARTING TWIST TO YARNS

Alexander W. P. Mackintosh, 64 Main St.,
Huntington, Leicester, England

Filed Apr. 25, 1969, Ser. No. 819,160

Claims priority, application Great Britain, July 5, 1968,
32,188/68

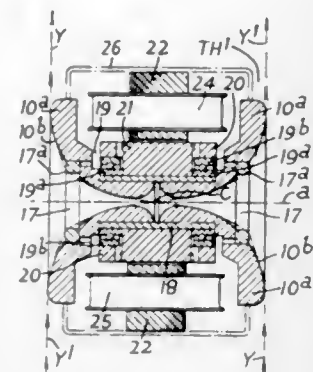
Int. Cl. D01h 7/92

U.S. Cl. 57—77.4

11 Claims

A twist head for imparting twist to yarns, has a central opening and trumpet-shaped ends each presenting an out-

wardly flared convex surface extending around an arc of 90°. A yarn travelling diagonally through the head in a direction transverse to its axis has its respectively opposite sides frictionally contacted by surface portions moving in opposite directions. Each convex surface is grooved to receive a ring presenting a narrow friction-engendering



surface area, the remainder of the convex surface being smooth. The trumpet-shaped ends may be extensions of the rotor of an electric motor, preferably of the four-pole shaped pole type. A yarn being twisted passes through the rotor and the motor speed determines the degree of twist.

3,537,251

PRODUCTION OF MECHANICALLY BUNDLED YARNS

Hiroshiro Kimura and Akio Koshimo, Uji-shi, Mafufumi Ishibashi, Miyako, Yoshinori Minoda, Uji-shi, and Kentaro Kamamoto, Kyoto-shi, Japan, assignors to Nippon Rayon Kabushiki Kaisha (Nippon Rayon Company Limited), Uji-shi, Japan, a body corporate of Japan

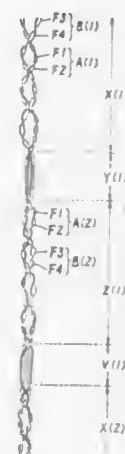
Filed June 4, 1968, Ser. No. 734,399

Claims priority, application Japan, June 6, 1967,
42/36,095, 42/36,096

Int. Cl. D02g 1/02, 3/26

U.S. Cl. 57—140

10 Claims



The present invention relates to yarns. More particularly, the present invention relates to mechanically bundled yarns having an improved alternate twist. The yarn is composed of at least two members each of which is entwisted alternatively in the S or Z direction, and which members are entwisted with respect to each other to obtain opposite twisting. The yarn is produced by a novel process wherein parallel groups of filaments are contacted with a friction means to form said bundled yarn.

3,537,252

PACKAGING OF SELF-DISCHARGEABLE WIRE

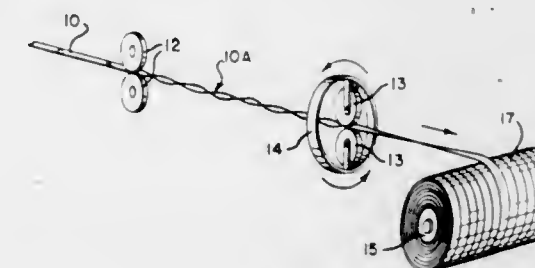
William J. Gilmore, Manitou Beach, Mich., and Vincent C. J. Peterson, Huntingdon Valley, Pa., assignors to American Chain & Cable Co. Inc., New York, N.Y., a corporation of New York

Application Sept. 5, 1963, Ser. No. 307,284, now Patent No. 3,465,743, which is a continuation-in-part of application Ser. No. 274,896, Apr. 17, 1963, which in turn is a continuation-in-part of application Ser. No. 203,979, June 20, 1962. Divided and this application Dec. 2, 1968, Ser. No. 799,537

Int. Cl. F41b 7/02; B65h 54/00

U.S. Cl. 57—156

12 Claims



The method of making a package of self-dischargeable wire by twisting the wire longitudinally, rendering the twisting resiliently permanent and helically wrapping the twisted wire under tension into a multiple layered cylindrical winding.

3,537,253

TIMER

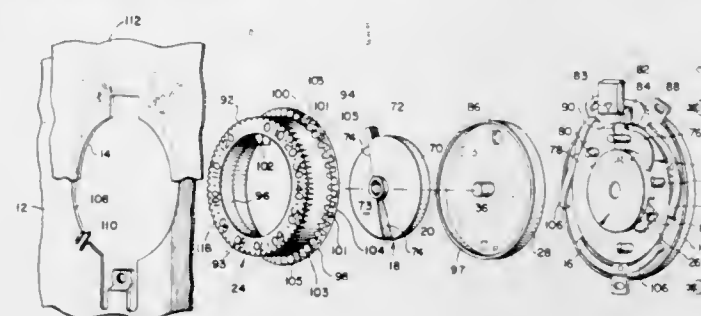
Melvin Friedman, Wakefield, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Nov. 25, 1968, Ser. No. 778,661

Int. Cl. G04f 1/00

U.S. Cl. 58—22.9

6 Claims



A timing mechanism operates to advance an element from a first movement limiting member to a second movement limiting member during a time interval proportional to the displacement between the two members. After each timing operation, the element is returned to the first member and a releasable brake means then automatically prevents further operation of the timer. The displacement between the movement limiting members is selectively variable in accordance with the duration of the interval to be timed.

3,537,254

LEVER TYPE MAINSPRING WINDING DEVICE FOR CLOCK

Masanori Kobayashi, Tokyo, Japan, assignor to Kabushiki Kaisha Hattori Tokeiten, Tokyo, Japan, a company of Japan

Filed Mar. 19, 1969, Ser. No. 809,483

Claims priority, application Japan, Mar. 21, 1968,
41/21,773

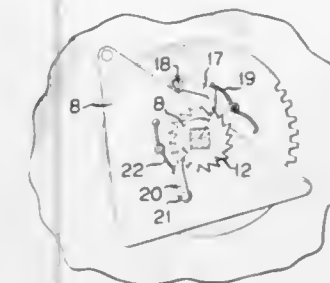
Int. Cl. G04b 3/00

U.S. Cl. 58—46

12 Claims

A lever-type mainspring winding device comprising a ratchet wheel rotated by a feed pawl, a detent mounted to a winding lever and having the central angle formed

by both meshing positions of said feed pawl and said detent with said ratchet wheel corresponding to the value obtained by subtracting a smaller angle than the central angle subtended by one tooth of said ratchet wheel from



an angle an integral number of times as large as the central angle subtended by one tooth of said ratchet wheel, thereby providing the winding lever with a free play angle through which it can move unaffected by the unwinding force of the mainspring.

3,537,255

DAY-DATE WATCH

Jean-Claude Schneider, Plaisance, Switzerland, assignor to Ch. Tissot & Cie, Le Locle, Switzerland

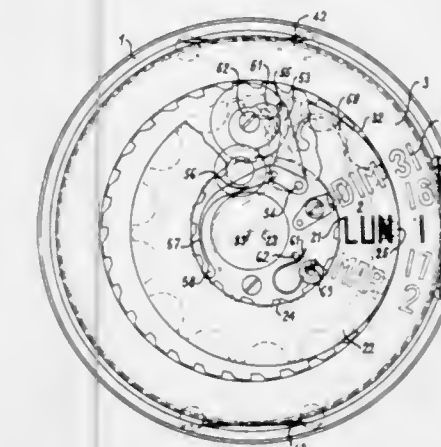
Filed Dec. 6, 1968, Ser. No. 781,904

Claims priority, application Switzerland, Dec. 22, 1967,
18,128/67

Int. Cl. G04b 19/24

U.S. Cl. 58—58

5 Claims



In a timepiece which indicates the day of the week and the date, these two indications appear in at least one window of the dial and are carried on two tangential hypocyclic rings which are not coaxial to one another, the inner ring driving by its outer teeth the inner teeth of the outer ring, with a single driving mechanism and a single jumper mechanism ensuring the simultaneous movement and positioning of the two rings.

3,537,256

ROTARY STIRLING ENGINE WITH TWO THERMAL SECTIONS AND PHOTO HEAT SOURCE

Donald A. Kelly, 58—06 69th Place,
Maspeth, N.Y. 11378

Filed Aug. 27, 1968, Ser. No. 755,755

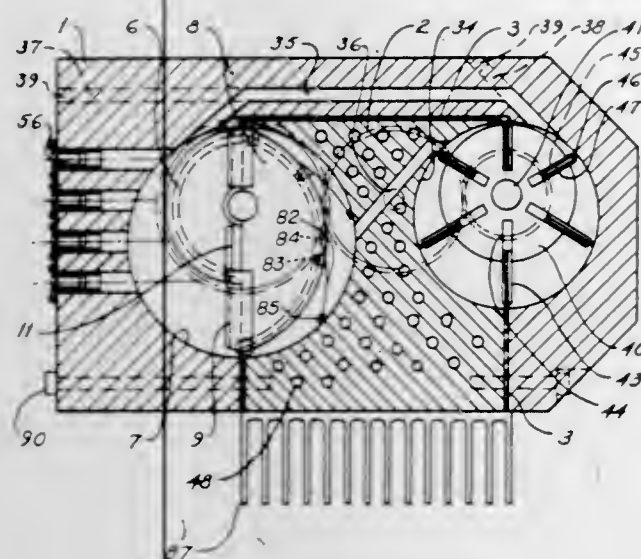
Int. Cl. F03g 7/06; F25b 9/00

U.S. Cl. 60—24

10 Claims

The rotary Stirling engine comprises two simple eccentric rotor and vane assemblies with interconnecting gas flow paths. The modular housing is split so that one portion connects the hot valves of both rotor assemblies, and the remaining housing portion connects the cold valves of both rotor assemblies.

The heating source consists of optically transmitted heat directed into the hot displacer gas volume over a large area for maximum effectiveness.



The photo heat source would be powered by liquid fuel or in certain cases by electrical projection lamps.

3,537,257

INTERNAL COMBUSTION PISTON ENGINE WITH CONTROLLED AIR INJECTION INTO BOTH EXHAUST DUCT AND CYLINDER

Henry George Webster and Lewis Henry Dawtrey, Coventry, England, assignors to The Standard-Triumph Motor Company Limited, Canley, Coventry, England

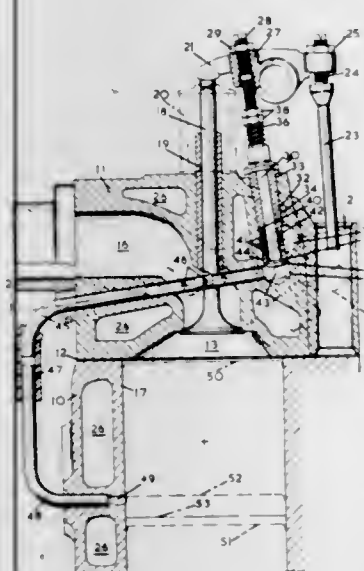
Filed Oct. 21, 1968, Ser. No. 769,100

Claims priority, application Great Britain, Dec. 22, 1967, 58,383/67.

Int. Cl. F02b 75/10; F01n 3/10

U.S. Cl. 60—30

4 Claims



Means for adding air to the products of combustion of a cylinder of an internal combustion piston engine within a period starting after the initiation of combustion of the combustible charge in one engine cycle and ending before termination of the induction of the combustible charge of the next cycle.

3,537,258

REGENERATOR CONTROL

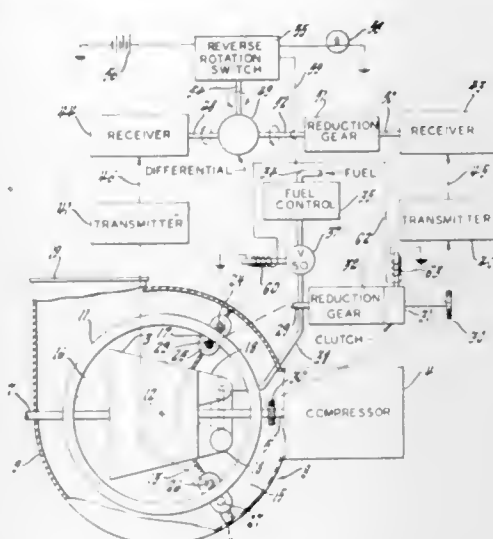
Donald E. Walsh, Aurora, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 6, 1968, Ser. No. 758,038

Int. Cl. F02c 7/10

U.S. Cl. 60—39.51

10 Claims



In a regenerative gas turbine engine in which the regenerator matrix is driven fractionally, means are provided to detect undue slippage between the matrix drive and the matrix. The detecting means may operate a signal, shut down the engine, and declutch the matrix drive.

3,537,259

ELECTRO-HYDRAULIC ACTUATING SYSTEM OF THE REMOTE CONTROL TYPE

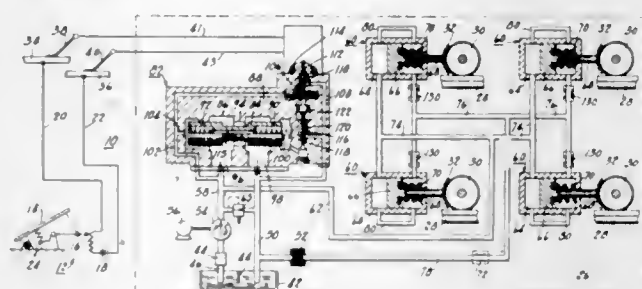
Richard O. Gordon, Belgium, and Leveret C. Russler, Milwaukee, Wis., assignors to Harnishfeger Corporation, Milwaukee, Wis., a corporation of Wisconsin

Filed Nov. 29, 1968, Ser. No. 779,811

Int. Cl. F15b 15/18, 13/044

U.S. Cl. 60—52

9 Claims



An electro-hydraulic actuating system utilizes a continuously flowing actuating fluid in the remote control of a hydraulically operated actuator. The system includes a circulatory path for the fluid having a pump, and the actuator located therein. Means are provided for generating an electric signal corresponding to the desired operation of said actuator. A means for altering the flow rate of the circulating fluid, in response to the electric signal, is inserted in the path to vary the pressure in the system and to operate the actuator.

3,537,260

TORQUE CONVERTERS

Howard Frederick Hobbs, Rose Cottage, Pillory Green, Napton, Rugby, Warwickshire, England

Filed Dec. 20, 1968, Ser. No. 785,673

Claims priority, application Great Britain, Jan. 1, 1968, 57/68

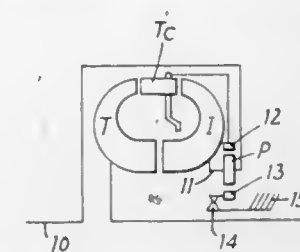
Int. Cl. F16d 33/00

U.S. Cl. 60—54

12 Claims

A hydro-kinetic torque converter-coupling having an impeller driven by an input shaft, a bladed element ad-

acent the impeller exit, a gearing connecting the bladed element to the impeller and a turbine which is impelled



by liquid from the bladed element and which drives an output shaft.

3,537,261

FAIL-SAFE TWIN MASTER CYLINDER FOR HYDRAULIC BRAKING SYSTEM

Juan Belart, Walldorf, Germany, assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

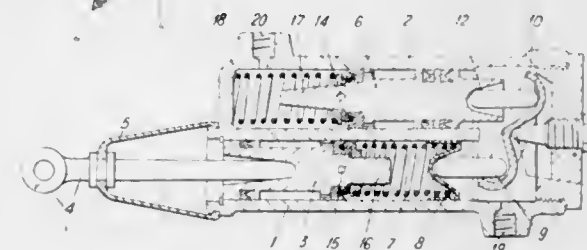
Filed Apr. 4, 1969, Ser. No. 813,566

Claims priority, application Germany, Apr. 9, 1968, 1,755,184

Int. Cl. F15b 7/08

U.S. Cl. 60—54.6

9 Claims



A twin master cylinder for a dual circuit hydraulic braking system, in which the actuation force is normally carried between the pistons hydraulically, but which may be transmitted mechanically in case of hydraulic failure in the first cylinder. The mechanical linkage is enclosed and surrounded by the fluid of the first cylinder. Each cylinder includes a piston restoring helical spring.

3,537,262

TRANSMISSION MECHANISM

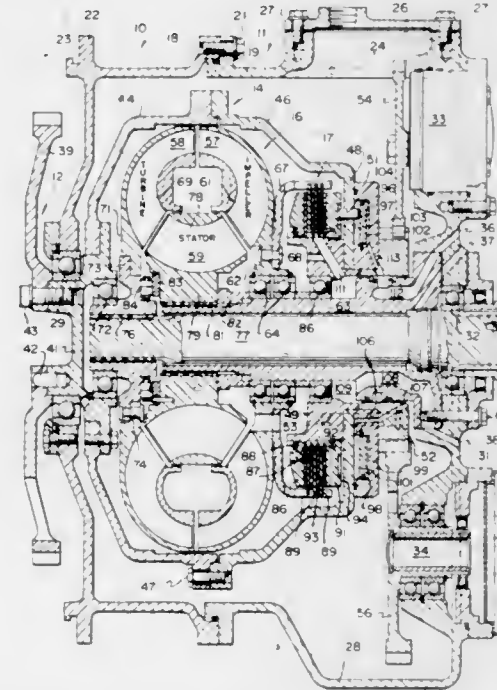
Michael Briski, Rockford, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware

Filed Feb. 26, 1969, Ser. No. 802,530

Int. Cl. F16d 33/00

U.S. Cl. 60—54

4 Claims



A transmission mechanism includes a torque converter having an impeller which is selectively connectable to

an input driving member by means of an hydraulically actuatable clutch, the clutch actuating means including a fluid impedance chamber for regulating the rate of engagement of the clutch.

3,537,263

HYDROKINETIC POWER TRANSMISSION HAVING A BY-PASS CHARGING VALVE

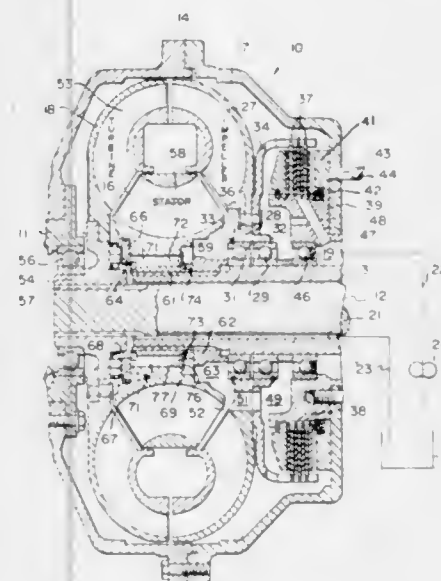
Michael Briski, Rockford, Ill., assignor to Borg Warner Corporation, Chicago, Ill., a corporation of Delaware

Filed Feb. 26, 1969, Ser. No. 802,532

Int. Cl. F16d 33/00

U.S. Cl. 60—54

4 Claims



A hydrokinetic torque converter is connected to a constant flow external circuit for circulating cooling fluid therethrough, and includes a by-pass valve arranged to recirculate charging fluid therein for maintaining the fluid charge in the converter and providing a constant cooling flow during changes in speed ratios.

3,537,264

CENTRIFUGALLY BALANCED FLUID POWER TRANSMITTING OR ABSORBING DEVICE

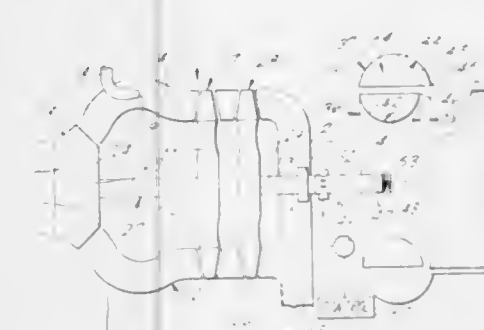
William S. Nagel, Birmingham, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 631,460, Apr. 17, 1967. This application Mar. 27, 1969, Ser. No. 811,185

Int. Cl. F16d 33/00, 57/00

U.S. Cl. 60—54

9 Claims

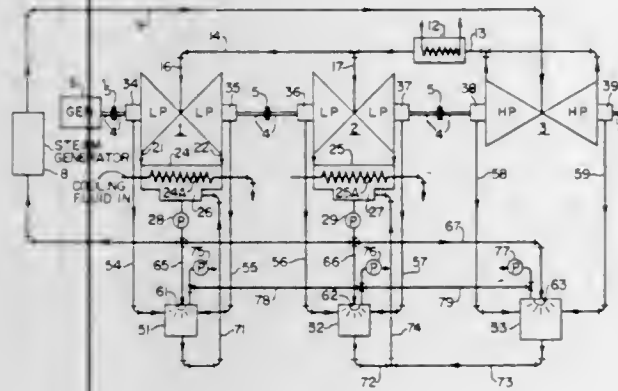


A fluid torque transfer device for transferring torque from a first member to a second member radially spaced therefrom. The first member and the second member have radially positioned and mutually facing concave surfaces defining a trough having a plurality of pockets therein. In one preferred embodiment, the concave surface, or trough, of the first member overlaps at its axial edge an axial side of the second member to define a passageway.

3,537,265
APPARATUS FOR CONDENSING SEALING FLUID FROM GLAND STRUCTURES
 Ralph D. Brown, Springfield, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
 Filed Aug. 8, 1968, Ser. No. 751,172
 Int. Cl. F01n 3/04

U.S. Cl. 60—94

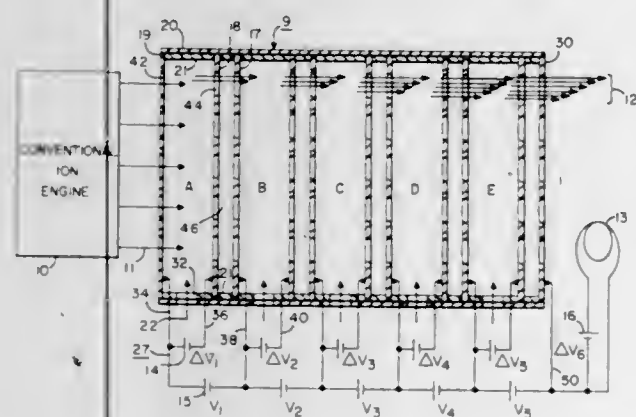
4 Claims



The invention comprises a condenser arrangement for a turbine gland sealing system in which a small individual condenser is located near each turbine unit in the system for condensing condensable vapor after it is employed to seal the shaft of the turbine units. The condensers are of the direct contact type in which a condensing liquid is intermingled with the condensable vapor conducted thereto to condense said vapor in an economical and space saving manner.

3,537,266
ION ENGINE THRUST MULTIPLIER
 Parameswar Mahadevan, Cerritos, Calif., and Carl E. Carlston and Gustav D. Magnuson, Charlottesville, Va., assignors to General Dynamics Corporation (Convair Division), San Diego, Calif., a corporation of Delaware
 Filed Jan. 22, 1968, Ser. No. 699,574
 Int. Cl. F03h 5/00; H05h 5/06
 U.S. Cl. 60—202

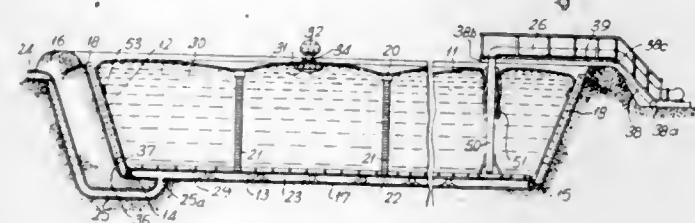
3 Claims



This invention produces a multiplied intense beam of fast neutral atoms for the purpose of space propulsion from ion streams produced by a conventional ion engine. The propellant beam of neutral atoms is formed by successive, symmetrical, resonant, charge transfer of positive ions in a uniform parent gas environment in a uniform electric field. Slow positive product ions and fast moving neutral atoms are created and multiplied through successive charge transfer between ions in the ion streams and the thermal gas atoms.

3,537,267
STORAGE OF LIQUIDS
 Michael Guthrie Webb, Wotton Bridge, Isle of Wight, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
 Filed Nov. 16, 1967, Ser. No. 683,605
 Claims priority, application Great Britain, Nov. 18, 1966, 51,859/66
 Int. Cl. B65d 25/24; B65g 5/00
 U.S. Cl. 61—5

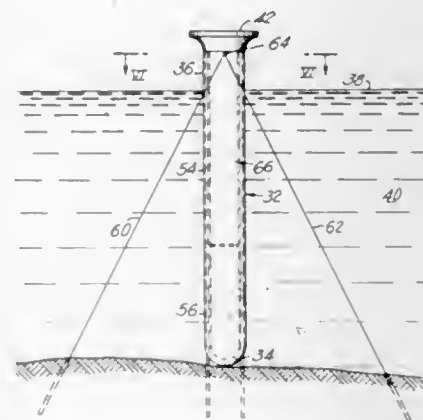
13 Claims



There is described an installation for storing liquid. The installation comprises a pit and a tank the sides of which engage the sides of the recess. There is liquid beneath the tank a small portion of which is displaced upwardly around the sides of the tank as the tank is filled. The tank is formed of unreinforced flexible sheet material.

3,537,268
MARINE STATION AND METHOD FOR FABRICATING THE SAME
 Hans Christer Georgii, 42 Rindogatan, Stockholm, Sweden
 Filed Aug. 8, 1968, Ser. No. 751,113
 Claims priority, application Sweden, Aug. 9, 1967, 11,318/67
 Int. Cl. E02d 29/00
 U.S. Cl. 61—46

9 Claims



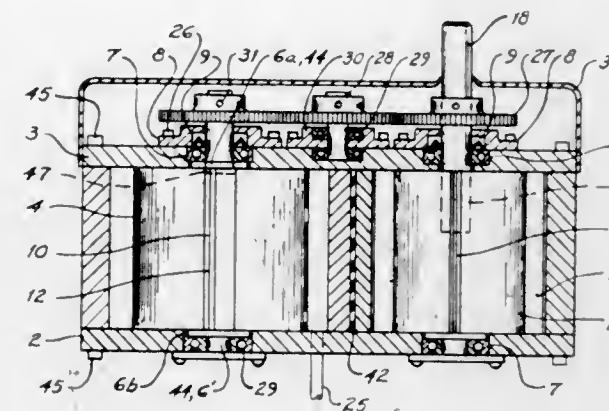
A marine station is formed of one or more concrete cylinders cast in situ in a body of water over the location intended for the station. The cylinder or cylinders are then sunk into position. The cylinders are provided with internal chambers adapted to accommodate personnel and/or equipment. Moreover, peripheral hollows or bores are provided, surrounding the chamber through which hollows or bores may be passed communication devices, tools, etc. The cylinders may be supported on piles or by cables or on platforms or the like.

3,537,269
ROTARY STIRLING CYCLE REFRIGERATING SYSTEM
 Donald A. Kelly, 58—06 69th Place, Maspeth, N.Y. 11378
 Filed Jan. 6, 1969, Ser. No. 789,303
 Int. Cl. F25b 9/00
 U.S. Cl. 62—6

7 Claims

The rotary Stirling cycle refrigerating system consists of a compact housing containing dual rotor bores in a

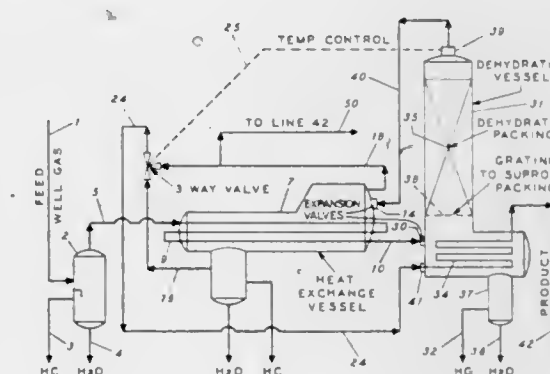
closed-loop arrangement. A displacer rotor and wide vane revolve eccentrically in one bore and a vane rotor revolves eccentrically in the adjacent bore at the same speed.



The system provides a compact heat exchange means in which the cooling medium is air, with operating torque provided by an electric motor, or other suitable power.

3,537,270
NATURAL GAS DEHYDRATION
 Louis A. Blanchard, Jr., Snyder, Tex., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
 Continuation-in-part of application Ser. No. 543,499, Apr. 11, 1966. This application Sept. 7, 1967, Ser. No. 666,202
 Int. Cl. F25j 3/08
 U.S. Cl. 62—12

9 Claims

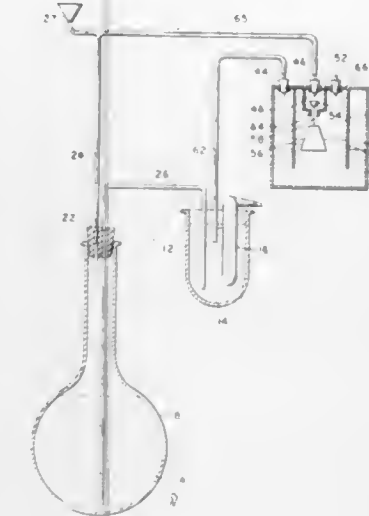


Process for dehydrating high pressure gas which comprises: flashing the high pressure gas into a first vessel to obtain a low pressure gas of reduced water content; heating the low pressure gas by heat exchange with the high pressure gas; and melting hydrates formed in the first vessel upon flashing the high pressure gas, using as a heating medium the heated low pressure gas.

3,537,271
LEVEL CONTROL FOR CRYOGENIC LIQUIDS
 Mordechai Montag, Plainview, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
 Filed Aug. 8, 1968, Ser. No. 751,101
 Int. Cl. F17c 7/02
 U.S. Cl. 62—55

3 Claims

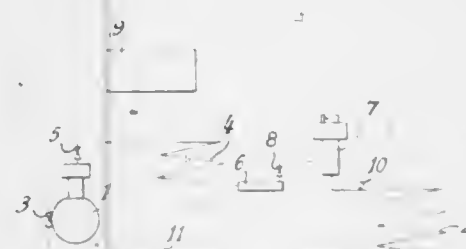
A control system for maintaining automatically the level of a cryogenic liquid in an open container. A closed storage vessel utilizes the vapor pressure of the cryogenic liquid to pump the liquid into the open container. A regulator uses a level sensing pipe extending into the open con-



control liquid to vent the storage vessel thereby stopping flow when the level reaches a predetermined value.

3,537,272
EXPANSION VALVE CONTROL INCLUDING PLURAL SENSORS
 Richard Thomas Hales, Bexley, Kent, and Brian Cecil Oliver, Upper Belvedere, Kent, England, assignors to Hall-Thermotank International Limited, London, England, a British company
 Filed Aug. 22, 1968, Ser. No. 754,571
 Int. Cl. F25b 41/06
 U.S. Cl. 62—157

3 Claims



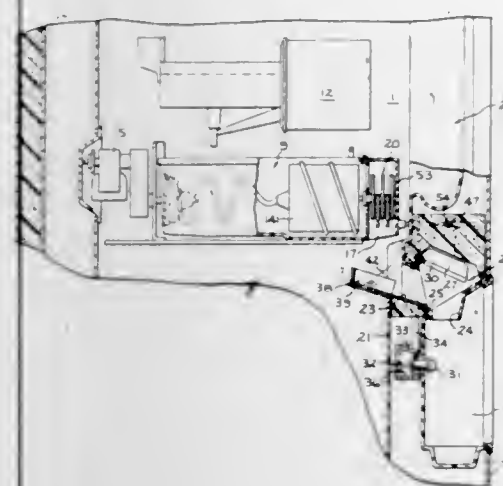
This invention relates to the refrigeration plant comprising a compressor, a condenser, an electrically controlled expansion valve and an evaporator linked in a condenser, an electrically controlled expansion valve thermo-electric devices mounted in thermal contact with the refrigerant of the plant at points spaced apart in the low pressure side of the plant and an electrical control unit to control the opening and closing of the expansion valve in dependence on the difference in electrical output from said devices.

3,537,273
HOUSEHOLD REFRIGERATOR INCLUDING EXTERIOR ICE SERVICE
 Robert J. Alvarez, Louisville, Ky., assignor to General Electric Company, a corporation of New York
 Filed Feb. 28, 1969, Ser. No. 803,316
 Int. Cl. F25d 25/00
 U.S. Cl. 62—266

14 Claims

A refrigerator including a freezer compartment, an ice dispenser in that compartment and an ice delivery passage for delivering ice exterior of the cabinet includes a chute

normally positioned to receive ice from the dispenser and direct it into the passage when the freezer door is closed



and movable to position closing the passage inlet when the door is opened.

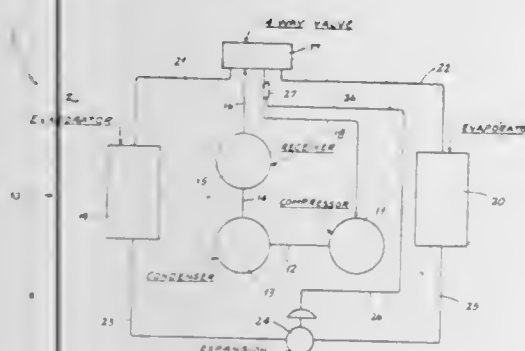
3,537,274

DUAL EVAPORATOR REFRIGERATION SYSTEM
Ralph B. Tilney, St. Louis, Mo., assignor to Alco Controls Corporation, Creve Coeur, Mo., a corporation of Missouri

Filed Oct. 18, 1968, Ser. No. 768,651
Int. Cl. F25b 13/00

U.S. Cl. 62—324

9 Claims



A dual evaporator refrigeration system piped to permit alternate connection of the evaporators for cooling while using the liquid refrigerant as the source of heat for defrosting the disconnected evaporator.

3,537,275

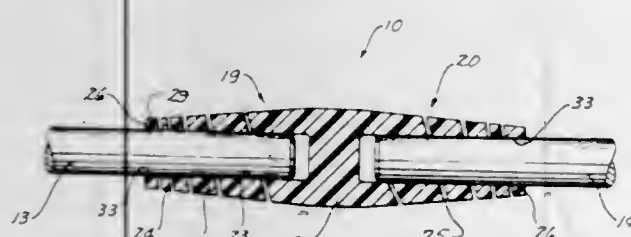
FLEXIBLE COUPLING

Thomas R. Smith, Jasper, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed Nov. 13, 1968, Ser. No. 775,339

Int. Cl. F16d 3/12, 3/14

U.S. Cl. 64—11

10 Claims



A flexible coupling is constructed of an elastomer material, such as polyurethane, in the form of a sleeve having a spiral-like slot extending along a portion of the

sleeve beginning at a position spaced axially from one end of the sleeve and extending for more than one circumference of the sleeve to form an annular end ring and a flexible spiral portion. The end ring is frictionally engageable with a shaft and responsive to rotation of the shaft for effecting frictional engagement of the flexible spiral portion with the shaft for transmitting torque through the coupling.

3,537,276

METHOD OF AND APPARATUS FOR PRODUCING MAGNETIC REED SWITCHES

Edward L. Pityo, Cedar Grove, N.J., assignor to Federal Tool Engineering Co., Cedar Grove, N.J., a corporation of New Jersey

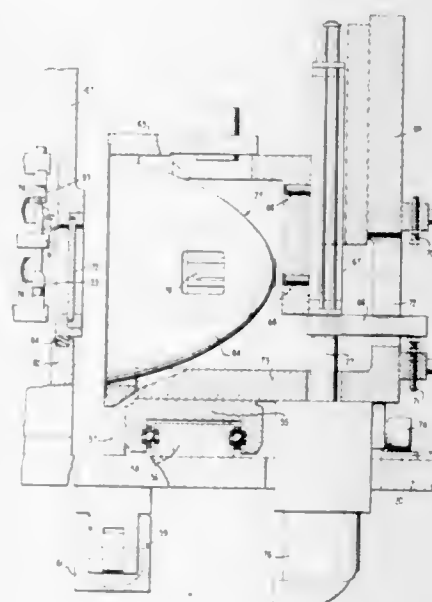
Filed June 8, 1967, Ser. No. 644,714

The portion of the term of the patent subsequent to Aug. 12, 1986, has been disclaimed

Int. Cl. C03c 29/00

U.S. Cl. 65—59

12 Claims



An apparatus and method for assembling and sealing reed switches in a completely automatic cycle of operation including means for overlapping and gapping the magnetic reeds with a high degree of accuracy and uniformity. The apparatus includes an outboard loader which transports the three switch components automatically to the holding jaws of the fabricating apparatus, and the loader then retracts automatically to the loading station so that it can be reloaded without loss of time while the apparatus is continuing to fabricate the switch. Means provided to produce the final seal of the reed switch include a source of radiant energy, a forward reflector, a divided back reflector with a gap between the back reflector sections, and means for directing a purging gas stream through the gap.

3,537,277

DEVICE FOR FEEDING GLASS TO PROCESSING MACHINES

Carsten Eden, Wackernheim, Germany, assignor to JENAer Glaswerk Schott & Gen., Mainz, Germany, a corporation of Germany

Continuation-in-part of application Ser. No. 632,261, Apr. 20, 1967. This application Dec. 22, 1969, Ser. No. 887,400

Claims priority, application Germany, May 3, 1966, J 30,733

Int. Cl. C03b 7/00

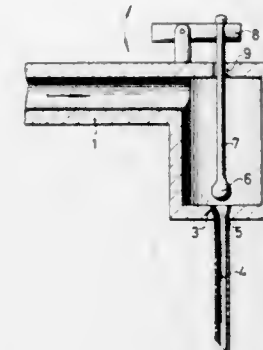
U.S. Cl. 65—324

2 Claims

A feeding device for delivering molten glass of varying viscosity in predetermined quantities to a glass processing

machine and comprising a vertically disposed pipette tube inserted with its upper end into an opening in the bottom wall of a container holding a molten glass supply. The upper end of the pipette tube is formed with a con-

In one embodiment connector strips are provided above and below the pockets, upwardly tapering support panels extend above each pocket, and support straps are joined to the upper ends of the support panels. In another embodiment, the connector strip is omitted above the pock-



ical seat cooperating with a valve member formed by a reciprocable plunger, while the lower end of the pipette tube extends downwardly and terminates at the mold of the glass processing machine.

3,537,278

METHOD OF KNITTING A RIB-KNIT TURNED CUFF SOCK

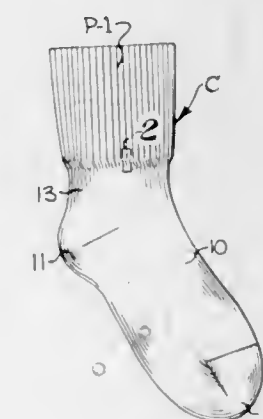
Harper Shields, Burlington, N.C., assignor to Alamance Industries, Inc., Burlington, N.C., a corporation of North Carolina

Original application July 19, 1968, Ser. No. 746,028, now Patent No. 3,479,843, dated Nov. 25, 1969. Divided and this application May 7, 1969, Ser. No. 839,120

Int. Cl. D04b 9/06, 9/54

U.S. Cl. 66—21

2 Claims



A method of knitting a sock including an integrally knit true rib turned cuff which may be worn straight up on the leg or turned down and the cuff fabric has the same appearance in either position. The method is carried out on a machine having sets of cylinder and dial needles and the initially formed loops of the cuff are held on idled cylinder needles during the rib knitting of the turned cuff portion.

3,537,279

KNIT SEAMLESS BRASSIERE AND METHOD OF FORMING SAME

Preston C. Epley, Valdese, N.C., assignor to Pilot Research Corporation, Valdese, N.C., a corporation of North Carolina

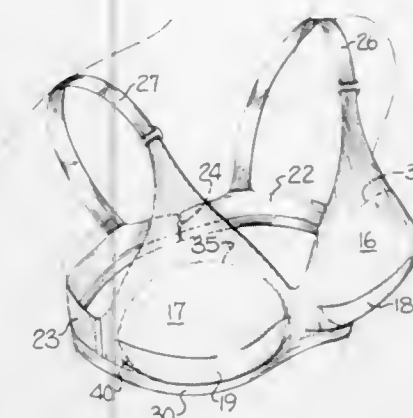
Filed June 28, 1967, Ser. No. 649,564

Int. Cl. D04b 1/24

U.S. Cl. 66—176

11 Claims

A brassiere type garment including a knit seamless blank having a pair of fashioned breast-receiving pockets.



ets and the support straps are replaced by a few complete courses completely surrounding the upper edge of the garment. All portions of each embodiment of the garment blank are fashioned to the desired shape while the garment is being knit on a circular knitting machine.

3,537,280

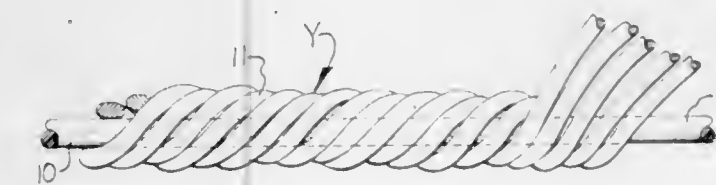
LADIES' SHEER SILK AND NYLON STOCKINGS
Louis W. Garrou and Victor H. Garrou, Valdese, N.C., assignors to Redeco S.A., Fribourg, Switzerland, a company of Switzerland

Filed Apr. 4, 1968, Ser. No. 718,825

Int. Cl. D04b 1/26

U.S. Cl. 66—178

5 Claims



The advantages of both silk and nylon yarns are obtained by knitting a sheer garment, such as a ladies' stocking, of a yarn including a nylon core with silk yarn wrapped about and covering the core yarn. The desirable characteristics of each yarn are utilized in the garment while the undesirable characteristics of the individual yarns are overcome by the presence of the other yarn.

3,537,281

SOCK CONSTRUCTION

Margaret E. Schaefer, University City, Mo., and John A. Harrington, Grand Rapids, Mich., assignors to Wolverine World Wide, Inc., Rockford, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 582,756, Sept. 28, 1966. This application Apr. 23, 1969, Ser. No. 818,773

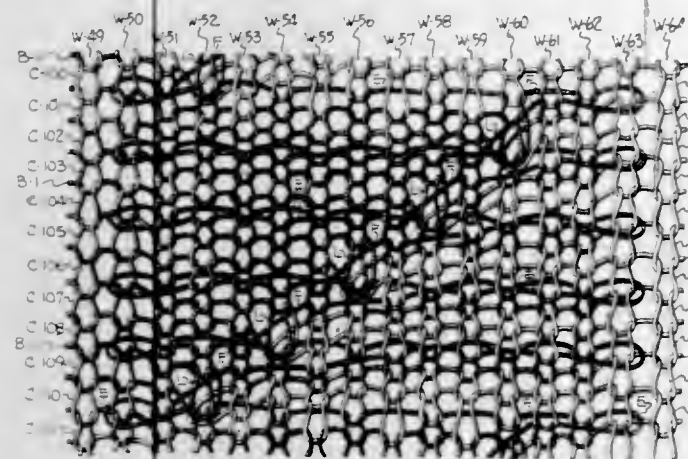
Int. Cl. D04b 1/26

U.S. Cl. 66—179

8 Claims

A sock having improved fitting characteristics and including at least one and preferably two spaced apart elastic panels extending in a walewise direction and throughout at least a portion of the leg of the sock. The elastic panels are knit of spaced apart partial courses of

elastic yarn interspersed with and overlapping the end-most portions of suture joined partial courses knit of



body yarns and extending around the front and rear portions of the sock.

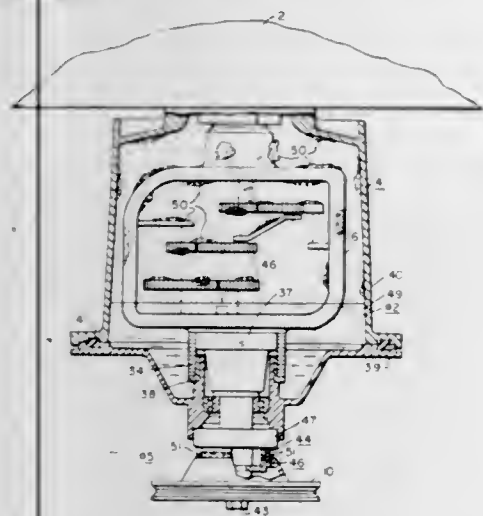
3,537,282

WASHING MACHINE TRANSMISSION AND LUBRICATING COMPOSITION THEREFOR
Gordon C. Gainer, Pittsburgh, and Russell M. Luck, Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 18, 1968, Ser. No. 776,400
Int. Cl. D06f 37/40

U.S. Cl. 68—23.7

5 Claims



Transmission and lubricant therefor, characterized by simplicity in construction coupled with capability for producing an efficient washing action. The lubricant is characterized by noise damping properties along with being compatible with a spring clutch, the functioning of which, requires a thin film lubricant. The spring clutch forms a part of the transmission including a gear train and frame which are disposed within a sealed casing structure containing the lubricant. The lubricant is further characterized by its capability of sealing leaks because of its bistable nature wherein it becomes a fluid when agitated and becomes a gel again when the source of agitation is removed, agitation being present within the casing structure and not without.

3,537,283

LOCKING FILLER CAP

John J. Moss, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

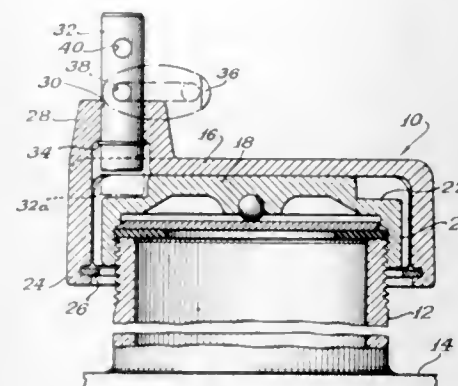
Filed Oct. 17, 1968, Ser. No. 768,262
Int. Cl. B65d 55/12

U.S. Cl. 70—164

9 Claims

A three piece locking cap with disconnecting drive, which cap is adaptable to two uses or functions and which

includes a filter cap, a separable outer cap, and drive establishing means such as a locking pin having padlock openings therein. The cap has a non-locked closure function provided by the filler cap only, and an interrupter



type locking function when the outer cap and locking pin are applied to the filler cap. The pin is selectively moved into drive establishing position of interengagement between the caps, or padlocked to the outer cap in a drive interrupter or disconnecting position.

3,537,284

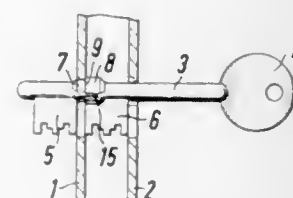
LOCKS AND KEYS

Jack William Taylor, Bournemouth, England, assignor to Ingersoll Locks Limited, London, England, a British company

Filed Jan. 25, 1968, Ser. No. 700,419
Int. Cl. E05b 15/08, 19/02

U.S. Cl. 70—403

6 Claims



This invention relates to locks and keys of the kind including a casing and associated cover plate and a key having a circular shank having either a single bit or bit portion or two bits or bit portions, spaced key bearing holes being provided at opposite sides of the casing or supporting the key at spaced points when inserted in the casing, the bearing holes being formed in the wall of the casing and cover plate or if the casing contains a key receiving bush, in opposite ends of the bush.

3,537,285

PRESTRESSED ROLLING MILL AND CONTROL
Anne Kiggell, London, and Dennis Stubbs, Sheffield, England, assignors to Davy and United Engineering Company Limited, Sheffield, Yorkshire, England

Filed Dec. 20, 1965, Ser. No. 515,128
Claims priority, application Great Britain, Dec. 22, 1964, 52,116/64

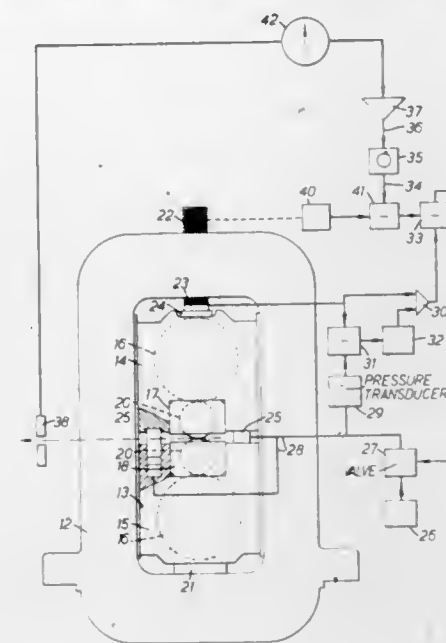
U.S. Cl. 72—8

Int. Cl. B21b 37/08, 37/00

12 Claims

The invention relates to a control scheme for a "prestressed" rolling mill, in order that the mill shall roll constant gauge. A preload is applied to the housing, but not to the rolls of the mill. The total stress in the housing due to both the preload and the rolling load is continuously measured, as is the value of the preload.

From the measurements, a continuous indication is given of the variations in the roll gap due to variations in the



preload and rolling load and the preload is controlled by that indication to keep the gap constant.

3,537,286

REGULATING DEVICE FOR CONTROLLING AN APPLIANCE FOR THE TRANSPORT OF EXTRUDED MATERIAL ISSUING FROM EXTRUSION PRESSES

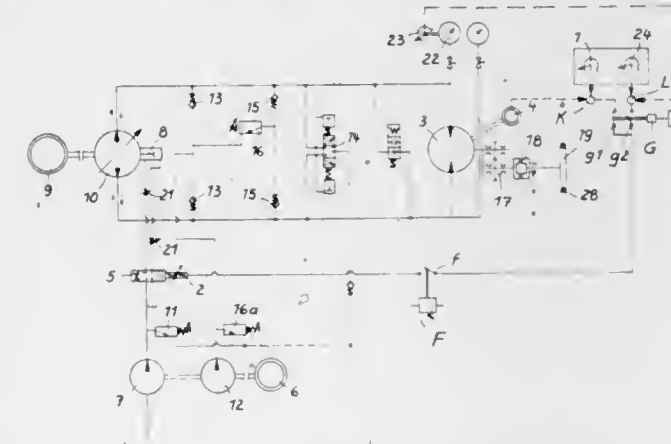
Harry Spielvogel and Gerhard Staubach, Dusseldorf, Germany, assignors to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a German company

Filed Feb. 2, 1968, Ser. No. 702,691
Claims priority, application Germany, Feb. 15, 1967, Sch 40,244

Int. Cl. B21c 35/00

U.S. Cl. 72—24

5 Claims



Means, which may include both hydraulically and electrically actuated devices, for regulating the withdrawal of extruded material from the die of an extrusion press, in the direction of extrusion, under surplus power, comprising at least two regulating circuits operatively separated from one another, one for the speed and one for the pull of the withdrawing appliance, and with a throw-over switch for setting the two regulating circuits in operation alternately.

3,537,287

TUBE CONFIGURING MACHINE

Albert Schwartz, 1000 Lake Shore Plaza, Apt. 37a, Chicago, Ill. 60611, and Bernard Schwartz, 4214 Suffolk Court, Skokie, Ill. 60076

Filed Feb. 7, 1969, Ser. No. 797,538

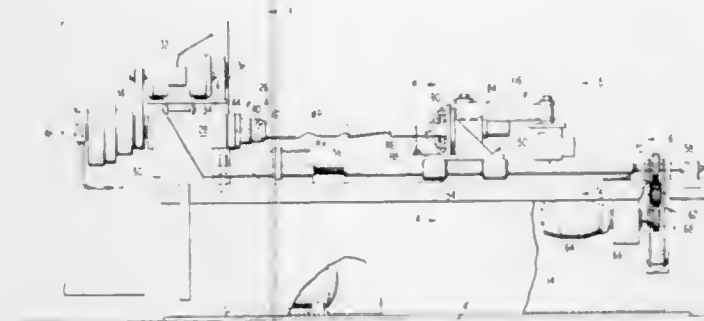
Int. Cl. B21d 22/18

U.S. Cl. 72—81

12 Claims

A tube configuring machine includes a spindle with an internally expanding chuck for positively rotating a tube

which is formed by a form wheel mounted on a movable carriage. The movement of the form wheel toward or away from axis of the tube to be configured is controlled by a hydraulic tracer and templet attachment on the side of the machine. The carriage is traversed longitudinally of the machine bed by a controlled speed drive and the



tube is configured by the movement of the form wheel. The entire cycle is automatic from the start to finish including configuring and then removal of the tube from the spindle chuck by a clamp on the carriage which clamps the tube at the end of the configuring operation and withdraws the tube from the spindle chuck as the carriage continues to move a short distance.

3,537,288

METHOD OF MANUFACTURING SELF-TAPPING SCREWS

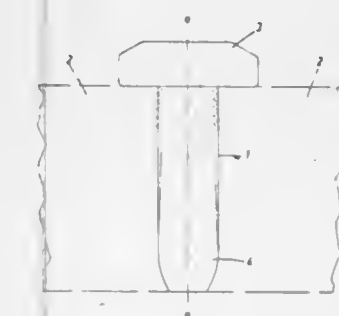
Carl H. Ansingh, Toronto, Ontario, Canada, assignor to P. D. Robertson Mfg., Co. Limited, Milton, Ontario, Canada

Original application Oct. 22, 1965, Ser. No. 500,922, now Patent No. 3,398,625. Divided and this application Aug. 5, 1968, Ser. No. 750,282

Int. Cl. B21d 17/04; B21h 3/06

U.S. Cl. 72—88

2 Claims



The method of forming a self-tapping screw comprising rolling a screw blank having a head and a shank portion of constant elliptical cross section between a pair of thread rolling dies having grooves therein to form sharply crested threads, said dies being spaced apart a lesser distance adjacent the head of the blank than at the end of the blank remote from the head, the spacing being such that on rolling the elliptical blank therebetween sharply crested threads are provided only on the ends of the major axis of the elliptical cross section at the lower end of the blank while the upper end of the blank adjacent to the head is rolled into a circular uniformly threaded shank portion with the threads continuously sharply created, the maximum dimension transverse the screw axis of the lower end of the threaded shank being greater than the diameter of the circular uniformly threaded shank portion.

3,537,289

METHOD OF PRODUCING WEBBED STEEL PIPES

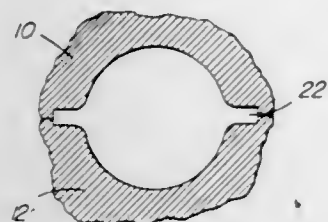
Toichiro Tsutsui, Tokyo, Japan, assignor to Nippon Kokan Kabushiki Kaisha, Tokyo, Japan
Filed Oct. 24, 1967, Ser. No. 678,164

Claims priority, application Japan, Oct. 24, 1966, 41/69,669

Int. Cl. B21b 17/10

U.S. Cl. 72-209

9 Claims



This invention relates to a method of producing webbed steel pipe constituted of forming the basic pipe conduit and web portions by a hot forming process and then, if required, cold drawing the pipe to finish dimensions. The hot forming may be an extrusion process, or preferably, plug mill rolling the pipe material under predetermined conditions. Subsequently, the webbed pipe may be cold drawn to accurate dimensions. By cold drawing the pipe web at a higher rate than the conduit portion, an accurate web is formed without detrimental effects on the pipe itself. Cold drawing also permits formation of a bevel edge on the webs adapted to facilitate welding of the pipe to adjacent pipes when used as boiler pipes or furnace walls.

3,537,290

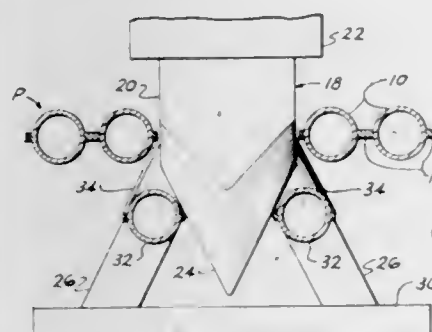
METHOD FOR FORMING OPENINGS IN TUBULAR WELDED WALL PANELS

Kenneth B. Garner and Robert G. Ives, Chattanooga, Tenn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Aug. 12, 1968, Ser. No. 751,782

Int. Cl. B21d 43/28, 53/02

U.S. Cl. 72-324

4 Claims



A method for forming openings in tubular welded wall panels such as used to line the walls of steam generating furnaces. The steps include removing portions of the connecting webbing from the sides of adjacent tubes through which the opening is to be formed, and bending and stretching the tubes by forcing a suitably shaped wedge therebetween to form the desired opening.

3,537,291

APPARATUS FOR AND METHOD OF FORMING AN END CLOSURE FOR A CAN

Gerald P. Hawkins, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Oct. 4, 1967, Ser. No. 672,894

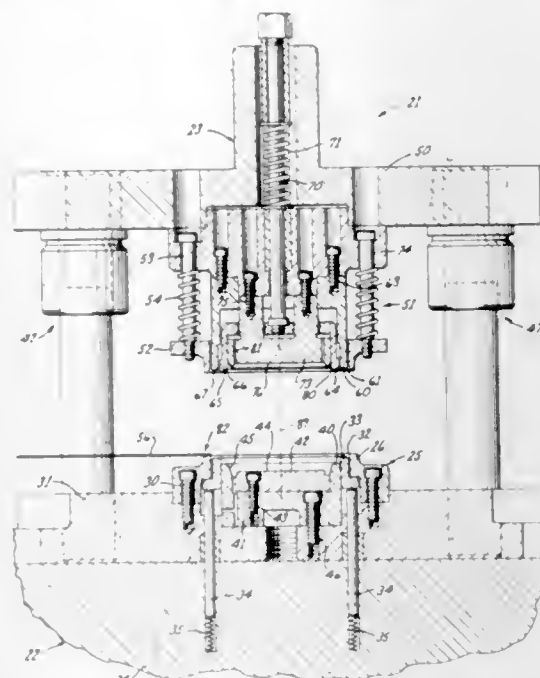
Int. Cl. B21d 28/00, 22/00, 45/00

U.S. Cl. 72-336

13 Claims

This disclosure relates to an apparatus for and method of making a metal end closure for a cylindrical can wherein such end closure has a substantially frustoconical flange which is adapted to be fastened against a cylindrical wall

of an associated cylindrical can to define a sealed fluid-tight closure. The frustoconical flange is formed by the apparatus and method of this invention by a drawing



operation which controls its configuration in a precise manner and assure that the entire end closure is formed to a more closely controlled configuration to enable mechanical handling of a plurality of such end closures.

3,537,292

METHOD OF MAKING BUSHING FROM ROLLED STRIP

George M. Federspill, Kokomo, Ind., assignor to Steel Parts Corporation, Tipton, Ind., a corporation of Indiana

Original application Nov. 19, 1965, Ser. No. 508,766.

Divided and this application Aug. 15, 1968, Ser. No. 772,877

Int. Cl. B21c 37/20

U.S. Cl. 72-368

7 Claims



A method of making bushings from a flat rolled strip in which the underside of the strip is successively coined with equally spaced parallel transversely extending V-shaped grooves and the top side of the strip is punched partially through the strip between the coined grooves to provide a plurality of embossments projecting from the coined side of the strip. The strip is successively severed along the coined grooves and as severed is formed to a U-shaped form on a mandrel, which is splined to receive the embossments. The strip is then closed to a cylindrical form about the mandrel by a series of successive cold forming operations and removed from the end of the mandrel. Opposite edges of the strip are knurled prior to coining.

3,537,293

TOOL FOR CLINCHING C-RINGS

Carl H. Gerlach, Solon, Ohio, assignor to Cooper Industries, Inc., a corporation of Ohio

Filed July 19, 1968, Ser. No. 746,051

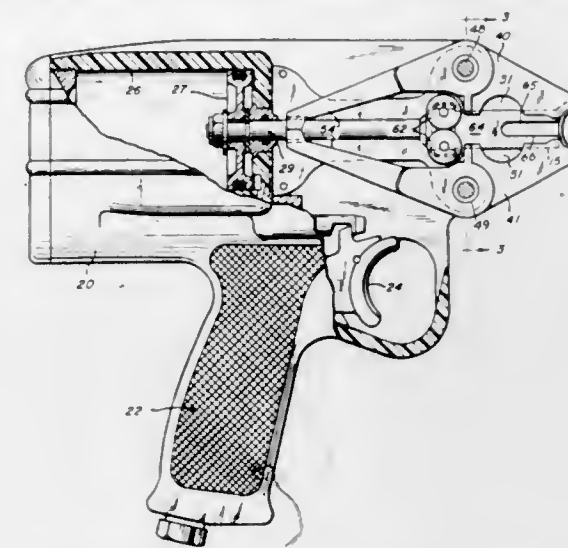
Int. Cl. B21d 7/06

U.S. Cl. 72-407

5 Claims

A C-ring clinching device having an improved feeding arrangement for feeding C-rings one at a time from a magazine to clinching surfaces on first and second pivotally mounted jaws. The improved construction comprises a

magazine shoe member which is constantly urged to engage a reference or entrance surface formed on the jaws. The shoe member has spaced first and second cam surfaces thereon and these cam surfaces are adapted to be engaged either by the C-ring or by first and second cam members carried by a feeder blade which travels generally



at right angles to the shoe member in pushing C-rings along ring feeding grooves formed in the jaws to reach the clinching surfaces on the jaws. When a C-ring is present on the entrance surface the feeder blade engages the C-ring and the C-ring engages the spaced first and second cam surfaces to retract the shoe member. The device also includes an adjustable blade stop so that various sizes of C-rings may be accommodated and properly closed by the jaws.

3,537,294

DIFFERENTIAL THERMAL ANALYSIS

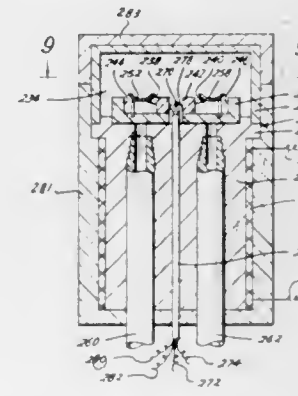
Robert L. Stone, Austin, Tex., assignor, by mesne assignments, to Tracor, Inc., Austin, Tex., a corporation of Texas

Filed June 25, 1965, Ser. No. 467,071

Int. Cl. G01n 25/20

U.S. Cl. 73-15

5 Claims



An improvement in a differential thermal analysis apparatus is provided in which the thermocouple wires at least partially support the sample holders and wherein the wires are held in place by a material of low heat capacity and thermal conductivity extending into the heating chamber.

3,537,295

METHOD AND APPARATUS FOR TESTING FOUNDRY MOLD MATERIALS

Julius Heimgartner, Sulz-Atikon, Switzerland, assignor to Sulzer Brothers, Ltd., Winterthur, Switzerland, a corporation of Switzerland

Filed July 14, 1967, Ser. No. 653,468

Claims priority, application Switzerland, July 20, 1966, 10,516/66

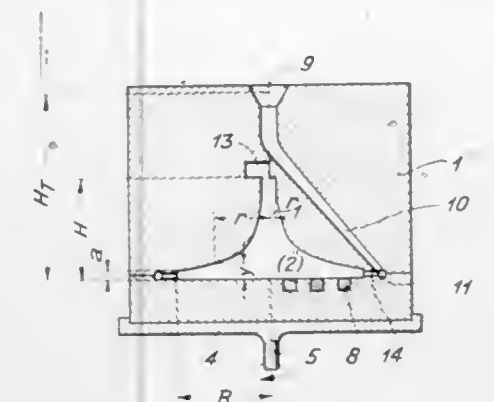
Int. Cl. G01n 25/00

U.S. Cl. 73-15.4

7 Claims

The mold materials to be tested form at least a part of the surface of the mold cavity into which casting melts

of a certain temperature are poured. The mold is rotated so as to stress the mold materials to be tested at certain



specific surface pressure whereby the characteristics of the mold materials are tested.

3,537,296

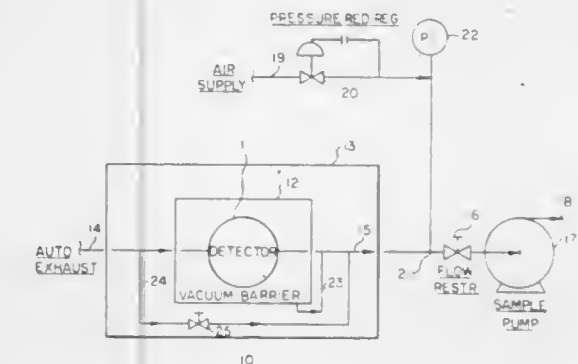
SAMPLE HANDLING SYSTEM FOR AUTO EXHAUST ANALYZER

Larry D. Gamache, Yorba Linda, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Nov. 8, 1967, Ser. No. 681,483

Int. Cl. G01n 1/24, 33/00

U.S. Cl. 73-23

2 Claims



A sample handling system for an auto exhaust analyzer to provide pressure boosting to cause the auto exhaust to flow through a hydrogen flame detector at temperatures above 150° C. without overheating the pump by providing a sample pump subsequent to the detector. A bypass around the detector increases flow rate and response. A vacuum barrier is also shown surrounding the detector to shield it from atmospheric contamination. An auxiliary air supply is connected to a point between the detector and the pump to keep the flow through the pump at the desired temperature and pressure.

3,537,297

VENTING OF UNDESIRE COMPONENTS IN CHROMATOGRAPHIC ANALYZER

Robert J. Loyd, Pittsburgh, Pa., and Buell O. Ayers, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Continuation of application Ser. No. 736,300, May 19, 1958, which is a continuation-in-part of application Ser. No. 678,699, Aug. 16, 1957. This application Dec. 9, 1963, Ser. No. 329,189

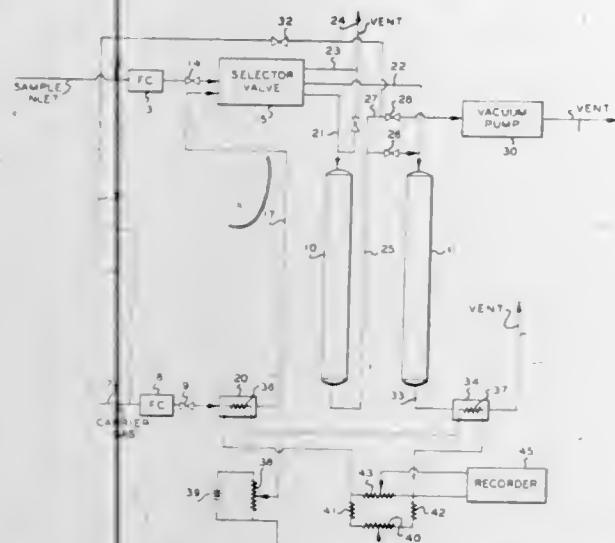
Int. Cl. G01n 31/08

U.S. Cl. 73-23.1

7 Claims

In a chromatographic analysis system undesired components eluting from a column are passed to a vent while

the components of interest are forwarded to a measuring device. The flow of carrier gas through the measuring cell

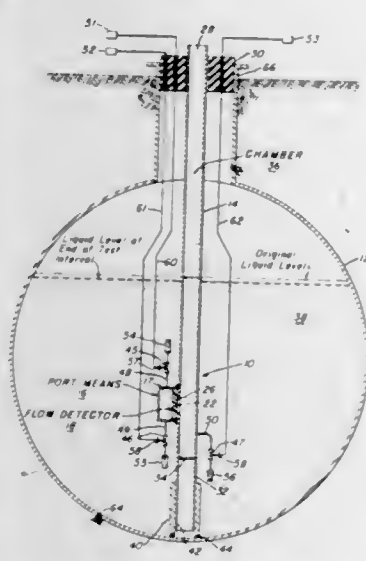


can be maintained by another route while the effluent from the column is being vented.

3,537,298
METHOD AND APPARATUS FOR DETECTING LEAKAGE IN TANKS CONTAINING FLUIDS
Sixt Frederick Kapff, Homewood, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Oct. 31, 1968, Ser. No. 772,303
Int. Cl. G01m 3/00
U.S. Cl. 73—49.2

14 Claims

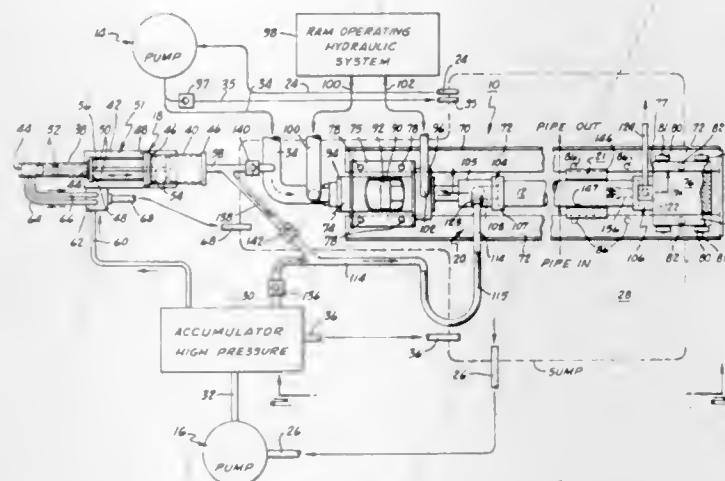


This invention concerns a method and apparatus for detecting leaks in tanks which contain fluids. The method calls for placing the tank into communication with a chamber adapted to receive fluid so that the pressures in the tank and the chamber come to equilibrium, discontinuing communication for a suitable interval, then again placing the tank and chamber into communication, and detecting if fluid flows between the tank and chamber. The apparatus includes a member having a chamber adapted to receive fluid, port means in the chamber having valve means, and flow detecting means at the port means which give a signal when fluid flows between the tank and chamber. Preferable the chamber is made of a material having virtually a zero coefficient of expansion at normal ambient temperatures. This invention also concerns a novel flow detector comprising a thermistor and a plug adapted to be inserted in the port means or a like conduit. The plug has a pinhole-like opening in it, and the thermistor, which is one element in a bridge circuit, is mounted in the opening to only partially impede fluid flow through said opening. Fluid flow past the thermistor unbalances the bridge circuit. Another device which may be used to detect flow is a Coulter counter.

3,537,299
SYSTEM FOR SUBJECTING A HOLLOW BODY TO FLUID UNDER PRESSURE
Edward A. Girard, Jr., Upland, Calif., assignor to Kaiser Steel Corporation, Oakland, Calif., a corporation of Nevada

Filed Dec. 12, 1968, Ser. No. 783,332
Int. Cl. G01m 3/04
U.S. Cl. 73—49.4

17 Claims



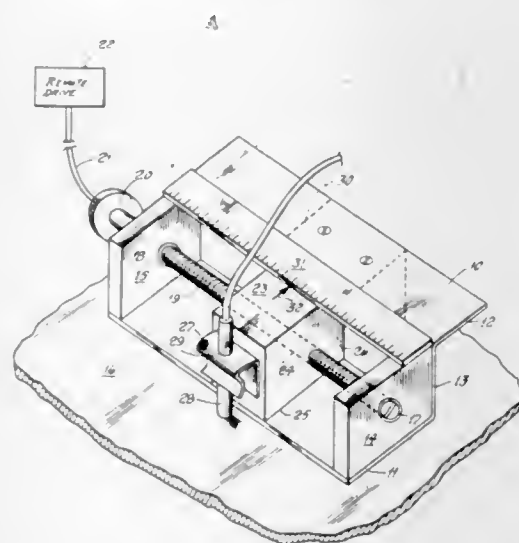
A system for subjecting the interior of a hollow body to fluid under pressure to rapidly test the body for physical defects. The system is provided with a series of sources of fluid under different pressures and an intensifier connected to said sources. The fluid sources, the intensifier and the interior of a body to be tested are interconnected by piping and valving whereby fluid under pressure can be initially directed from one fluid source to substantially fill the interior of the body to be tested in order to initially purge the interior of the body of air. Afterwards, fluid under pressure from a second source and the intensifier is used to raise the pressure level of the fluid within the interior of the body to a predetermined testing pressure level. The body can now be inspected for physical defects such as holes, cracks and the like.

3,537,300
PRECISION GUIDE FOR ULTRASONIC TRANSDUCER
John J. Rapuzzi, Queens Village, N.Y., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 25, 1968, Ser. No. 762,472
Int. Cl. G01n 29/04; H04r 17/00

U.S. Cl. 73—71.5

5 Claims



A precision linear guide including a Z cross-sectionally shaped bar member having at one set of ends support blocks which rotatably support therebetween a lead screw.

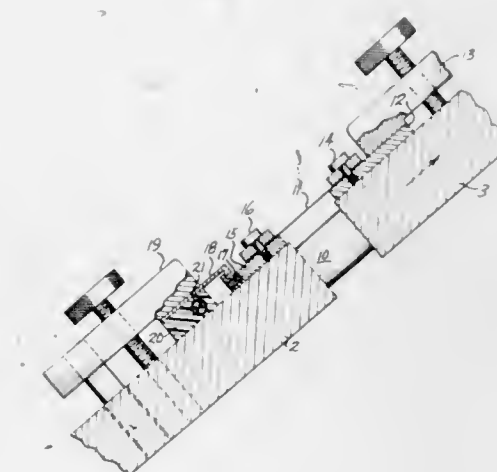
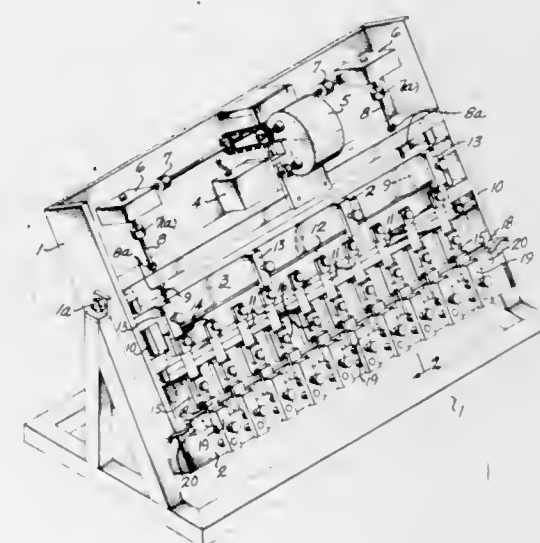
A carrier having a threaded passageway therethrough is mounted on the lead screw and supports a biased transducer holder, whereby rotation of the screw causes the carrier and a mounted transducer to linearly traverse the surface of a specimen on which the guide is placed.

3,537,301
APPARATUS FOR TESTING THIN FILMS, FOILS AND OTHER MATERIALS
Earl D. Hasenwinkle, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed July 16, 1968, Ser. No. 745,248
Int. Cl. G01n 3/08

U.S. Cl. 73—95

3 Claims



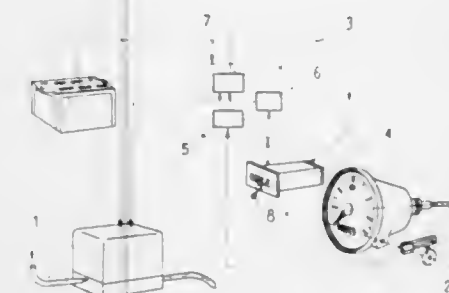
An apparatus for determining strength and/or elongation at failure of a plurality of thin films or foils with means for automatically recording the point of failure, the apparatus having a stationary bed and carriage movable with respect thereto, both inclined at a positive angle from the horizontal, the movable carriage being driven to or away from the bed by suitable means. Sample films to be tested are fixed at one end to the movable carriage by clamps or other means and at the other end to movable sample blocks on the stationary bed. The sample blocks are restrained from movement in the direction of the carriage by hooks. Electrical counters, one for each clamping position, are actuated when the carriage is moved. The elongation of the samples is easily determined from the time to failure and the rate of loading of the samples. On tensile failure of each of the thin films the sample block holding it drops by gravity against a contact block stopping the counter.

3,537,302
AUTOMATIC DIGITAL FUEL INDICATOR, PARTICULARLY FOR CAR
Cywinski Marek and Mencil Jerzy, Poznan, Poland, assignors to Prezemyslowy Instytut Maszyn Rolniczych Poznan, Poland

Filed Dec. 23, 1968, Ser. No. 785,949
Claims priority, application Poland, Dec. 28, 1967, P 124,382

Int. Cl. G01l 3/26, G01m 15/00
U.S. Cl. 73—114

3 Claims



An internal combustion engine powered vehicle having a fuel meter in which signals proportional to batches of fuel consumed are passed through a gating circuit to a counter, the gating circuit being controlled by signals derived from a circuit interrupter responsive to distance travelled, which thereby provides pulses to a logical signal generating circuit, the output of which is connected to a computing circuit which produces the control signals for the gating circuit; a re-set circuit for the counter and the computing circuit is also provided.

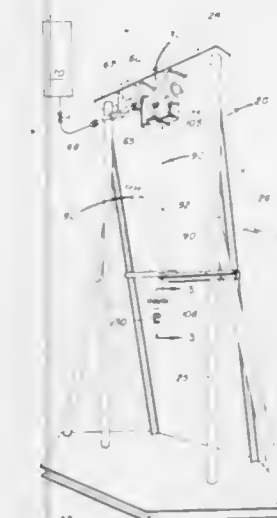
3,537,303
PENDULUM THRUST TEST STAND
Jack F. Hecht, Sr., Los Altos, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 6, 1968, Ser. No. 757,871

Int. Cl. G01f 25/00

U.S. Cl. 73—117.4

12 Claims



An apparatus and method for determining if a thrust device utilizing a compressible fluid medium will produce a thrust force at a level falling between two previously established limits wherein a pendulum supports both the thrust device being tested and a master thrust assembly representing the previously established limits. A common gas source supplies both the thrust device being tested and the master assembly and the motion of the pendulum indicates acceptability or non-acceptability of the tested device.

3,537,304

TORQUEMETER

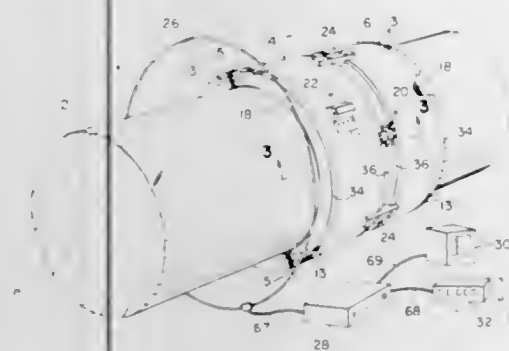
Given Ankeny Brewer, Marion, Mass., assignor to Brewer Engineering Laboratories, Inc., Marion, Mass., a corporation of Massachusetts

Filed Aug. 13, 1968, Ser. No. 752,297

Int. Cl. G011 3/10

U.S. Cl. 73—136

9 Claims



Accurate measurement of both average and transient torque is provided by a linear variable differential transformer mounted to a rotating shaft by a suspension allowing free radial and axial movement yet preventing unwanted torsional deflection.

3,537,305

TRANSVERSE PIEZORESISTANCE AND PINCH EFFECT ELECTROMECHANICAL TRANSDUCERS

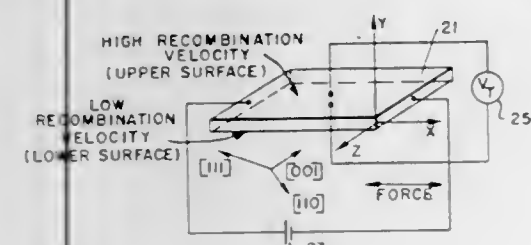
Wilhelm Rindner, Lexington, and Ernest E. Pittelli, Harvard, Mass., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Sept. 19, 1968, Ser. No. 760,927

Int. Cl. G011 1/18

U.S. Cl. 73—141

13 Claims



Solid state force-measuring electromechanical transducers formed of piezoresistive materials. The main crystallographic axis of the piezoresistive material forming the device is "off" or skewed with respect to the axis of the force to be measured. In addition, transverse surfaces (parallel to the force axis) may be doped so as to have high and low recombination velocities thereby enhancing the pinch effect to make the transducer more force sensitive. The force to be sensed and a bias voltage are both applied along the same axis and generate on the transverse surfaces a voltage that is sensed by a suitable voltage sensing means. The magnitude of the change in the transverse voltage is related to the magnitude of the applied force.

3,537,306

DAYTIME WINDS DETECTOR

John F. Bedinger, Framingham, Mass., assignor to GCA Corporation, Bedford, Mass., a corporation of Massachusetts

Filed Dec. 12, 1968, Ser. No. 783,299

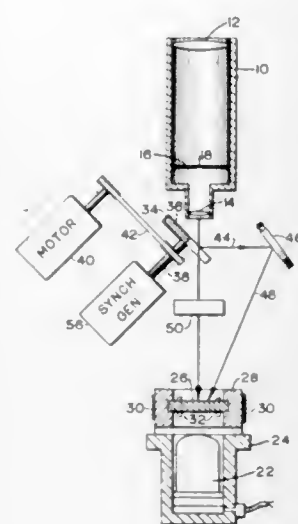
Int. Cl. G01w 1/00

U.S. Cl. 73—170

13 Claims

A photometer for daytime measurement of winds in the earth's upper atmosphere by detecting and tracking the motion of a radiant vapor trail in the presence of the natural radiation from the daytime sky by means of a

narrow band filter technique which determines the presence of the vapor trail radiation as the unbalance of a sensitive null system. A beam of light from the sky is directed toward a narrowband interference filter alternately at normal incidence and at an angle that is deviated from the normal so that light at the wavelength of the vapor trail may pass through the filter at normal incidence but not at the deviated angle. Optical filters are employed to balance the light flux of the normal and



deviated beams when the vapor trail is not within the field angle of the photometer so that the output signal of a photocell oriented to receive the filtered beams will remain constant and in balance. The presence of the vapor trail within the field angle of the photometer causes an increased light flux to pass through the filter at normal incidence which creates an unbalance in the output signal of the photocell, thus providing an indication of the presence of the vapor trail.

3,537,307

SELF-COMPENSATED PENDULOUS INERTIAL REFERENCE APPARATUS FOR VEHICLES

Donald J. Pliha, 225 S. Hamel Drive,

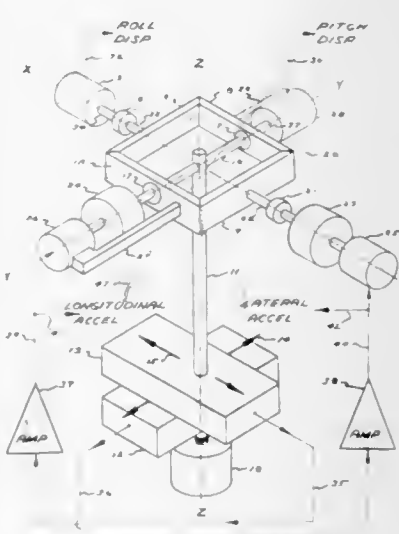
Beverly Hills, Calif. 90211

Filed Oct. 10, 1968, Ser. No. 775,988

Int. Cl. G01c 23/00

U.S. Cl. 73—178

2 Claims



A non-gyroscopic inertial data reference apparatus for vehicles developing pitch angle, roll angle, lateral and longitudinal acceleration information and comprising a

gravity-responsive pendulum device compensated for the effects of horizontal acceleration by the use of two mutually perpendicular accelerometers, both of which are mounted on and free to move with the universally mounted pendulum.

3,537,308

ALTITUDE AND VERTICAL VELOCITY INDICATOR

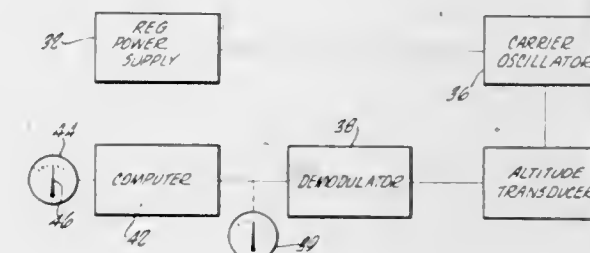
William W. Darlington, Sherman Oaks, Calif., assignor to Edcliff Instruments, Monrovia, Calif., a corporation of California

Filed June 9, 1967, Ser. No. 644,856

Int. Cl. G01c 23/00

U.S. Cl. 73—179

1 Claim



Altitude and vertical velocity measuring device utilizing a closed, pressure-sensitive capsule with a movable member and a motion sensitive transformer emitting electric signals of a varying magnitude in response to movements of the member under atmospheric pressure changes. Signals emitted by the transformer are used to indicate altitude or are fed to an operational amplifier to indicate the vertical velocity of a vehicle.

3,537,309

FLUID VELOCITY MEASURING SYSTEM

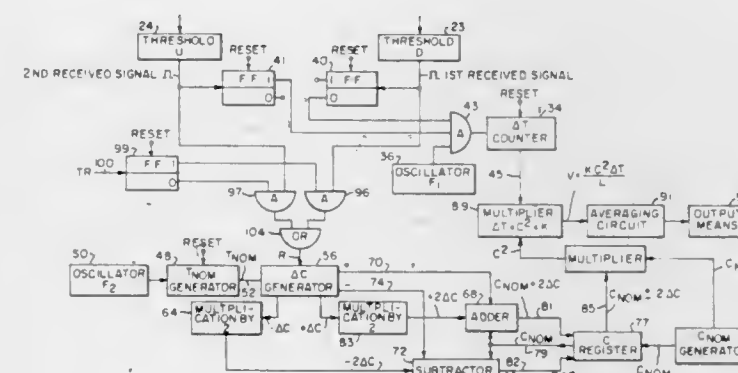
Kenneth P. Geoghegan, Jr., Donald W. Hunt, and Glenn P. Erickson, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 26, 1968, Ser. No. 779,055

Int. Cl. G01p 5/00

U.S. Cl. 73—194

6 Claims



An upstream and downstream transducer station transmit acoustic energy towards one another through the fluid under measurement and an indication of ΔT , the difference in the time arrival of the acoustic energy at the opposed transducer stations is obtained. To correct for variations in the speed of sound in the fluid under measurement, a nominally correct speed of sound is chosen and a signal is generated indicative of the acoustic energy transit time in the absence of fluid flow and with the assumed speed of sound. The signal is compared with the time occurrence of the actual receipt of acoustic energy at the

3,537,310

WIND DIRECTION INDICATING RUNWAY MARKER

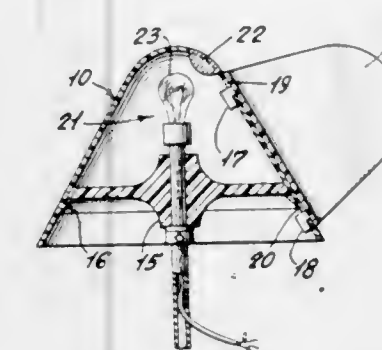
Philip Claud Barrett, 8100 Valleyview Drive, El Paso, Tex. 79907

Filed July 15, 1968, Ser. No. 744,969

Int. Cl. G01p 13/02

U.S. Cl. 73—188

4 Claims



A runway marker to indicate wind direction having a radial vane to cause the marker to rotate according to the wind direction. The marker selectively includes, in combination, reflective panels on either side of the vane and/or a light source closely adjacent the vane so that wind direction may be observed under any light condition.

3,537,311

MEASUREMENT OF HEAT EXCHANGE

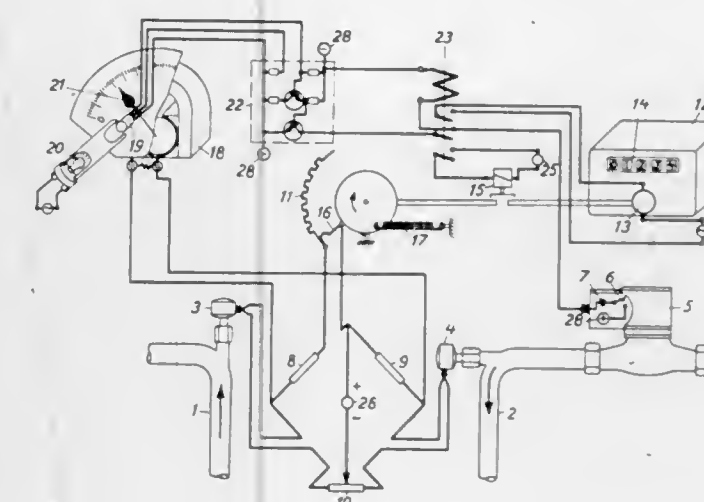
Josef Bornstein, Farsta, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Sept. 28, 1967, Ser. No. 671,300

Int. Cl. G01k 17/06

U.S. Cl. 73—193

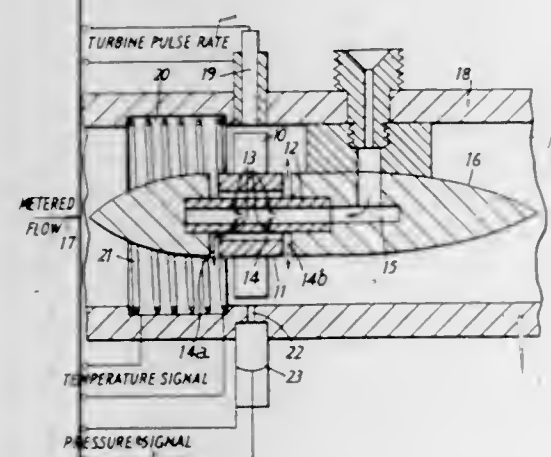
8 Claims



A device for measuring the quantity of heat consumed by a medium circulating through a heat exchange system senses the temperature differential between the medium in an input conduit and an output conduit of the heat exchange system. The sensed differential is fed to a comparing means such as a bridge and the resulting unbalance of the bridge is measured by a measuring instrument. After a predetermined volume of the medium flow a counter and a control device such as a potentiometer for returning the bridge to balance are activated. Return of the bridge to balance also returns the measuring instrument to its zero position. Return of the instrument to

zero initiates switching operations stopping the potentiometer and the counter. The period of time between starting and stopping the potentiometer and the counter is representative of the quantity of heat which has been consumed.

3,537,312
MASS FLOW MEASURING APPARATUS
 Reginald Charles Moore, Harpenden, England, assignor to Westwind Turbines Limited, Branksome, Poole, Dorset, England, a body corporate
 Filed June 21, 1968, Ser. No. 738,970
 Int. Cl. G01f 1/00
 U.S. Cl. 73-231 4 Claims



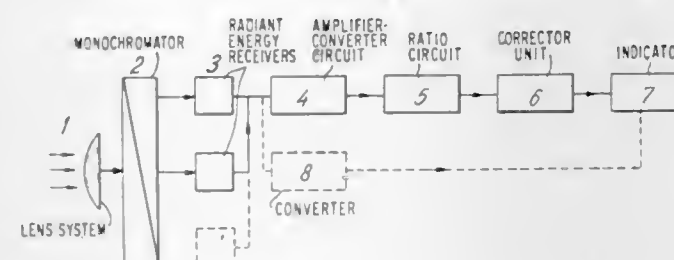
A mass flow measuring apparatus provides a first signal voltage linearly proportional to absolute temperature of the fluid in flow, a second signal voltage linearly proportional to absolute pressure of the fluid in flow, a fluid-bearing turbine producing pulses at a rate linearly proportional to its rotation by the fluid, a pulse-operable counter, a gate interposed between the pulse source and the counter, a ramp voltage varying linearly with time, means comparing the temperature signal voltage with the ramp voltage and then opening the gate, and means for comparing the pressure signal voltage with the ramp voltage and then closing the gate.

3,537,313
LIQUID LEVEL GAUGE
 Louis O. Schorsch, Monterey Park, Calif. (% Velarde & Takasugi, 5410 E. Beverly Blvd., Los Angeles, Calif. 90022)
 Filed Apr. 8, 1969, Ser. No. 814,277
 Int. Cl. G01f 23/08
 U.S. Cl. 73-318 6 Claims



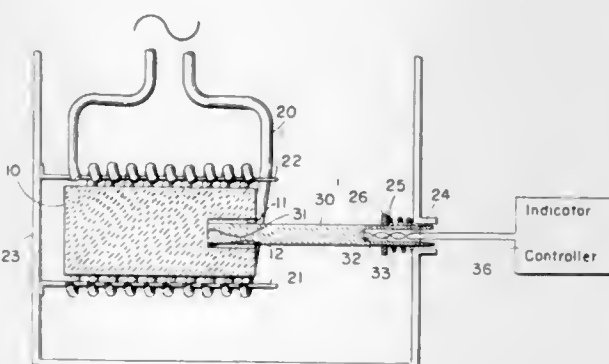
Liquid level in a tank is shown by a pointer connected with a float by way of a flexible wire slidable within a housing of adjustable length. The tube, to which the float arm is pivoted, is supported and sealed in an opening in the tank wall by a heavy rubber grommet. A coil spring acting on the float arm serves to dampen its oscillations due to liquid sloshing around in the tank while another coil spring urges the pointer toward the empty position.

3,537,314
METHOD AND APPARATUS FOR MEASURING TRUE OR ACTUAL TEMPERATURE OF BODIES BY RADIANT ENERGY
 Dary Yakovlevich Svet, Ulitsa Fersmana 3, kv. 17, Moscow, U.S.S.R.
 Filed Mar. 31, 1967, Ser. No. 627,366
 Claims priority, application U.S.S.R., Apr. 9, 1966, 1,069,259
 Int. Cl. G01j 5/30, 5/60
 U.S. Cl. 73-355 6 Claims



A method and apparatus for measuring emissivity, transmission and the true temperature of bodies by radiant energy comprises obtaining signals corresponding to the intensities of at least two fluxes of different spectral composition from a radiating body and producing a resultant signal which indicates emissivity and transmission and is independent of the temperature of the radiant body. The signal may be employed as a correction in determining the true temperature of the body by radiation.

3,537,315
TEMPERATURE SENSING DEVICE
 Robert G. Ames, Cresskill, N.J., assignor to National Beryllia Corp., Haskell, N.J., a corporation of New Jersey
 Filed July 29, 1968, Ser. No. 748,545
 Int. Cl. G01k 1/16, 7/04
 U.S. Cl. 73-362.8 2 Claims



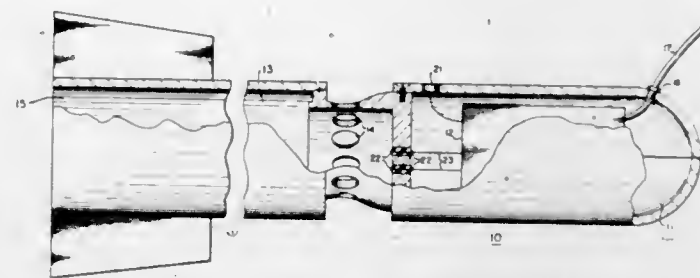
A device for measuring the temperature of devices in electromagnetic fields is provided which comprises a probe consisting essentially of beryllium oxide adapted to contact the device whose temperature is to be measured and conduct heat from the device to a temperature indicator outside of the electromagnetic field.

3,537,316
UNDERWAY WATER SAMPLER
 Richard L. Stewart, Kailua, Oahu, Hawaii, and Kenneth M. Olson, Jr. Oxon Hill, and Leonard Walsh, Forestville, Md., assignors to the United States of America as represented by the Secretary of the Navy
 Filed Jan. 25, 1968, Ser. No. 700,554
 Int. Cl. G01k 13/12; G01i 14/08
 U.S. Cl. 73-345 6 Claims

A liquid sampling apparatus having a chamber with a valve closure system which can be selectively triggered to capture a sample of liquid while the apparatus is being

towed from a ship. Electronic pressure and temperature sensor systems are located within the submerged apparatus and supply information to an X-Y plot located

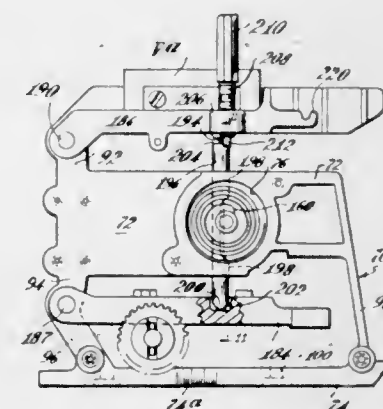
aphragm. The diaphragm, which acts as the force collector, is rigidly connected to a diaphragm stop mounted on a



above the surface aboard the towing ship so that a liquid sample can be collected based upon the information thus obtained.

movable element which can cause the mount to move responsive to the applied pressure.

3,537,317
RECORDER AND CONTROL INSTRUMENT
 Robert D. Reis, Hingham, Mass., assignor to United Electric Controls Company, Watertown, Mass., a corporation of Massachusetts
 Filed Apr. 9, 1968, Ser. No. 719,962
 Int. Cl. G01k 5/02; H01h 37/12
 U.S. Cl. 73-388 24 Claims

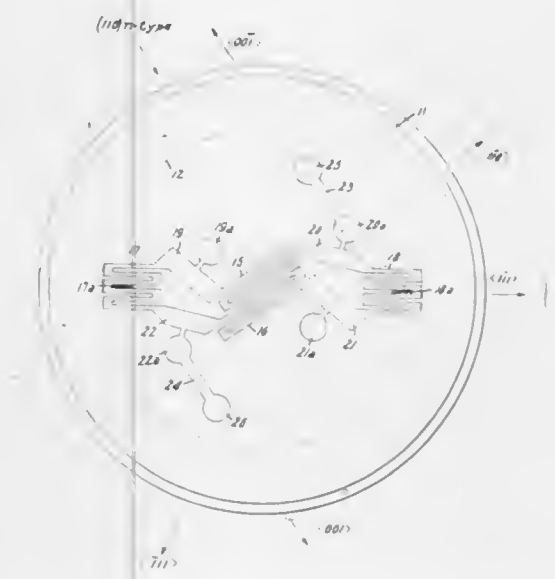


A combination recorder and control instrument having a bellows expandable by an increase in temperature to move a pointer along a temperature scale and to actuate a valve or switch to terminate or initiate an operation at a predetermined temperature level; provided with adjustments to enable selecting the level at which the valve or switch becomes actuated; and provided with a structural frame designed to enable cascading several such instruments for multiple recording and/or control.

3,537,318
TRANSDUCER OVERLOAD PROTECTION MEANS
 Ronald P. Helin, Camarillo, Calif., assignor to Statham Instruments, Inc., Oxnard, Calif., a corporation of California
 Filed Nov. 21, 1968, Ser. No. 777,767
 Int. Cl. G01i 9/04

U.S. Cl. 73-398 3 Claims
 An improved pressure transducer having a dual-action flexure device for permitting the use of a simple mechanical overload protection stop in conjunction with a force collector element whose deflection is limited to a narrow permissible deflection range, but in which the force collector mounting can move an additional distance to permit an effective action of the stop in order to reduce membrane stresses and excessive non-linearity and hysteresis and to maximize the natural frequency of the di-

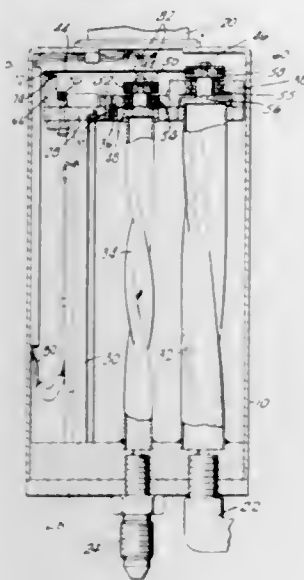
3,537,319
SILICON DIAPHRAGM WITH OPTIMIZED INTEGRAL STRAIN GAGES
 Alexander J. Yerman, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
 Filed July 26, 1968, Ser. No. 747,917
 Int. Cl. G01i 9/04
 U.S. Cl. 73-398 3 Claims



A circular, restrained edge, pressure responsive diaphragm device comprises a (110) cut of n-type silicon having at least one pair of integral p-type elongated strip strain gages respectively located at the center and toward the outer edges near the radial position of zero tangential stress, and oriented at selected crystallographic directions so as to optimize the sensitivity of each gage. In a full bridge or half bridge resistance measuring circuit, both series connected gages are active and result in additive opposite sign resistance changes whereby increased output and improved linearity are obtained.

3,537,320
DUAL PRESSURE RATIO TRANSDUCER
 William P. Pierson, Albuquerque, N. Mex., and Charles B. Aufill, deceased, late of Albuquerque, N. Mex., by Paula J. Watkins, executrix, assignors to Sparton Corporation, Jackson, Mich., a corporation of Ohio
 Filed Aug. 19, 1968, Ser. No. 753,790
 Int. Cl. G01i 13/02
U.S. Cl. 73-398 6 Claims
 A pressure transducer capable of producing an electrical signal proportional to the ratio of pressure differences utilizing a pair of pressure sensing elements, prefer-

ably having different physical characteristics, mounted in an airtight housing maintained under predetermined pressure. Alternate lips and projections may be differently spaced from the rim portion to accommodate and support



sure conditions to insure a uniform and consistent pressure differential reading.

3,537,321

SEPTUM ASSEMBLY

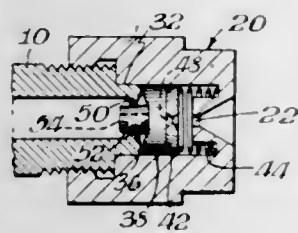
Lawrence J. LaBarre, Mountain View, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Aug. 7, 1968, Ser. No. 750,895

Int. Cl. G01n 31/08

U.S. Cl. 73-422

4 Claims



A hollow cylindrical end cap engages the tubular injection block of a gas chromatograph. The end cap has a tapered orifice in its end face and encloses a septum which seals the entrance to the injection block, and a rigid support disc for the septum. The disc has an orifice aligned with the end face orifice and the entrance to the injection block. A compression spring, also contained in the end cap, maintains a constant sealing force against the septum. The inlet to the injection block has a raised annular boss which engages the septum to decrease the pressure required to maintain the seal.

3,537,322

GAUGE BEZEL

Ralph D. Waife, Sellersville, and Leonard J. Bohenek, Northampton, Pa., assignors to Ametek, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 28, 1968, Ser. No. 708,991

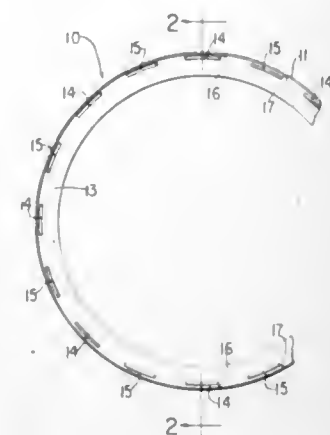
Int. Cl. G01d 11/26

U.S. Cl. 73-431

1 Claim

A plastic bezel for instrument gauges and the like in which a plurality of flexible lips extend downwardly from the rim portion of the bezel in spaced relation to the skirt portion of the bezel and carry lens retaining projections.

Alternate lips and projections may be differently spaced from the rim portion to accommodate and support



lenses of different thicknesses, and are resiliently retractable into the spaces between the lips and skirt.

3,537,323

HOVER-ALTITUDE PERFORMANCE INDICATOR FOR A HELICOPTER

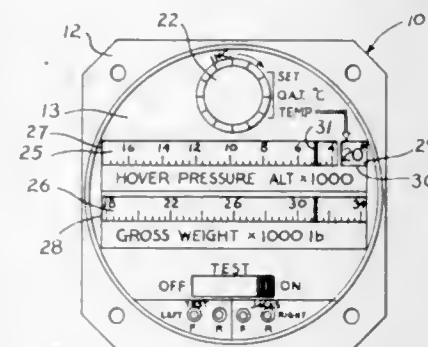
Richard D. Le Clair, Los Altos, and Clyde Himmelsbach, San Jose, Calif., assignors to Aerostructures, Inc., Menlo Park, Calif., a corporation of California

Filed Sept. 11, 1968, Ser. No. 759,058

Int. Cl. G01c 21/00

U.S. Cl. 73-432

20 Claims



An analog instrument for a helicopter to relate directly for visual display the contemporary value of the gross weight of such helicopter and corresponding in-ground-effect hover-pressure altitude for any contemporary ambient air temperature. The instrument includes a plurality of pressure transducers respectively associated with the landing gear struts of a helicopter to sense the gross weight thereof and provide electrical indicia representative thereof. Any change in such indicia produces imbalance in a null balance, resistance-type bridge network, and the direction and magnitude of such imbalance is sensed by a servo amplifier which energizes a servo motor in response thereto to change the resistance in one branch of the bridge network and thereby restore the same to balance for the contemporary value of the gross weight of the helicopter.

The mechanical motion of the servo motor required to change the resistance of the bridge network is used to move an indicator along a gross weight scale to a position corresponding to the contemporary value of the gross weight of the helicopter. The indicator also displays along a hover-pressure altitude scale the maximum permissible take off altitude for the helicopter at the corresponding contemporary value of the outside air temperature. Therefore, if the altitude of the takeoff site is less than the permissible maximum altitude displayed by the instrument for any gross weight, the aircraft can be taken off safely,

otherwise weight must be removed therefrom. The instrument is provided with a plurality of hover-pressure altitude scales respectively corresponding to various ambient air temperatures, and the pilot mechanically dials into proper display position the altitude scale corresponding to, or most closely approximating, the contemporary ambient or outside air temperature.

3,537,324

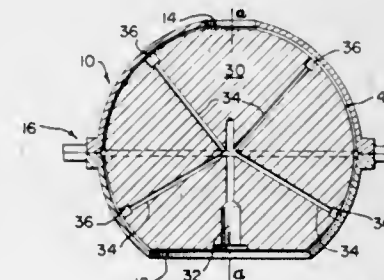
FREE ROTOR GAS BEARING GYROSCOPE
John L. Evans, Oakland, N.J., assignor to Singer-General Precision, Inc., Little Falls, N.J., a corporation of Delaware

Filed Sept. 13, 1968, Ser. No. 759,661

Int. Cl. G01c 19/06

U.S. Cl. 74-5

3 Claims



A free rotor gas bearing gyroscope in which the thickness of the wall of the rotor is small enough to permit it to distort under the pressure of the bearing gas to assume a substantially perfect spherical shape and thus correct for machine errors.

3,537,325

VALVE ROTATOR

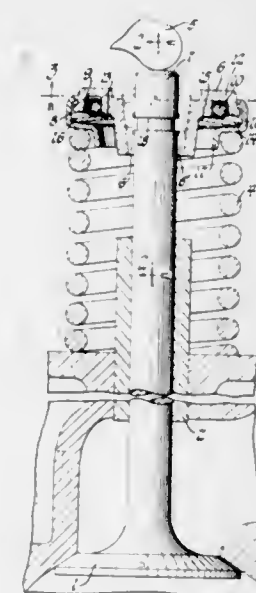
Edward Orent, Grand Rapids, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 24, 1969, Ser. No. 793,844

Int. Cl. F01l 1/32; F16k 29/00

U.S. Cl. 74-88

4 Claims



A coil spring returned and rocker actuated poppet valve having its stem slidably and rotatably guided in an engine cylinder head, including a valve rotator interposed between the return spring and a valve carried cap and comprising a Belleville spring fulcruming on a length of garter spring which seats against a helical ramp surface on the cap.

880 O.G.—3

3,537,326
DEVICE FOR TRANSFORMING OSCILLATING MOVEMENT INTO ROTATIONAL MOVEMENT IN PARTICULAR FOR TIMEPIECES

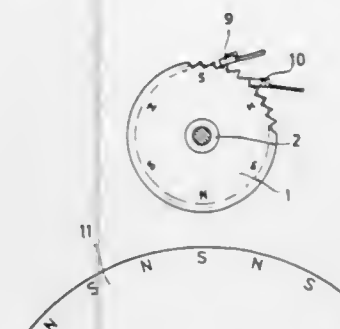
Max Hetzel, Bienne, Switzerland, assignor to Centre Electronique Horloger S.A., Neuchatel, Switzerland, a company of Switzerland

Filed July 5, 1968, Ser. No. 742,833

Int. Cl. F16h 27/00

U.S. Cl. 74-142

7 Claims



This disclosure is concerned with a device for transforming oscillating movement into rotational movement of the type in which a gear is driven by at least one pawl, wherein the gear is at least partially made of a magnetic material of high coercivity, and has poles for magnetically driving a second wheel.

3,537,327

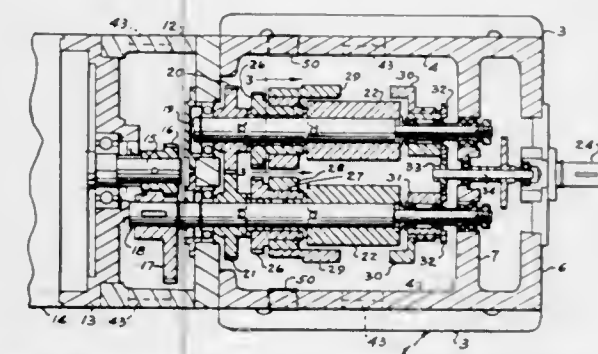
ANGULARLY ADJUSTABLE TORQUE AMPLIFIER
Francis O. Blackwell III, and Russell M. Wheeler, Seneca Falls, and Robert H. Eisengrein, Skaneateles, N.Y., assignors to SFM Corporation, Union, N.J.

Filed Feb. 4, 1969, Ser. No. 796,385

Int. Cl. F16h 5/06, 3/08

U.S. Cl. 74-335

10 Claims



A torque amplifier having a drum and a band engageable with the drum. A power transmission gear is operatively connected to an output shaft, and a band adjusting member connected to the band is rotatable with the power transmission gear. A jackscrew carried by the band adjusting member engages the gear in a manner to selectively adjust the relative angular position thereof, thereby varying the clearance between the band and drum. The member is secured in adjusted position by a locking screw accessible, along with the jackscrew through an access opening with the amplifier housing.

3,537,328

COMBINED HAND LEVER AND FOOT PEDALS FOR CONTROLLING VEHICLE SPEED AND DIRECTION

James Robert Allen, Cedar Falls, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed May 28, 1969, Ser. No. 828,642

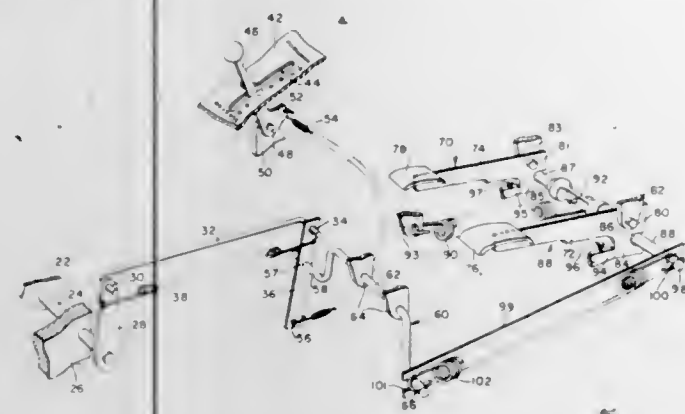
Int. Cl. G05g 11/00

U.S. Cl. 74-481

10 Claims

A tractor has an infinitely variable reversible transmission primarily controlled by a hand lever at the operator's station, which is connected to a transmission control element through a control mechanism to preselect the speed

and direction of travel of the tractor. A pair of adjacent foot pedals at the operator's station are also connected to the control mechanism, so that depression of the alternate pedals moves the transmission control element in opposite directions from the preselected position. When the



hand lever is positioned in neutral, depression of one pedal will actuate the transmission control element for forward movement of the tractor, while depression of the other pedal will result in rearward movement of the tractor, the speed of the tractor being proportional to the amount of depression of the respective pedals.

3,537,329

STEERING COLUMN HAVING AN IMPACT ABSORBING CONTRACTIBLE PORTION

Raymond A. Ravenel, Sceaux, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a company of France.

Filed July 2, 1968, Ser. No. 742,016

Claims priority, application France, July 13, 1967, 114,337, Patent 1,539,058

Int. Cl. B62d 1/18

U.S. Cl. 74—492

4 Claims



A steering rod is provided with a contractible portion adapted to absorb some of the kinetic energy developed by an impact while continuing to be capable of being used for steering the vehicle. It comprises an upper portion connected to a steering wheel and a lower portion contractible in cooperation with separable thrust bearing in which the rear end of the steering rod is mounted. The thrust bearing functions to permit free sliding movement of the steering rod in the forward direction and prevents any axial sliding movement of the steering rod in the backward direction.

3,537,330

ALTERNATING LATCH MECHANISM

LeRoy DeShon, Park Forest, and John J. Jung and Joseph F. Gasiel, Chicago, Ill., assignors, by mesne assignments, to The Seeburg Corporation of Delaware, Chicago, Ill., a corporation of Delaware

Filed Sept. 12, 1968, Ser. No. 759,461

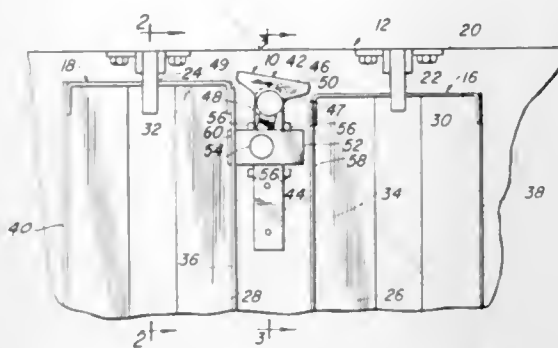
Int. Cl. B65h 3/00; G05g 5/08

U.S. Cl. 74—527

12 Claims

Alternate locking of two juxtaposed reciprocable members in a retracted position is achieved by a mechanical

latching device. The mechanical latching device is actuated to latch a reciprocable member in the retracted



position by the return motion of that member from an actuated position to the retracted position.

3,537,331

LEVER TYPE OPERATOR FOR JALOUSIE WINDOWS

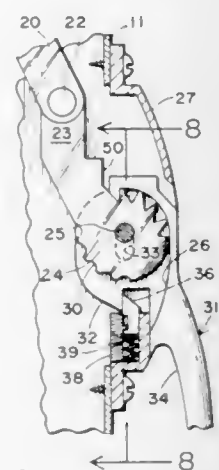
Morton S. Rifkin, Miami, Fla., assignor to Productos de Aluminio C.A., Maracaibo, Venezuela

Filed May 23, 1969, Ser. No. 827,372

Int. Cl. E05f 17/00; E06b 7/08; G05g 5/06

U.S. Cl. 74—528

4 Claims



A lever type operator for jalousie windows which opens and closes jalousie louvers by means of a lever type handle connected to an operator plate that is both pivotally and slidably mounted in an operator housing. A sector plate connected to the louvers is pivoted in the housing adjacent to the operator plate. To open or close the louvers, the operator handle must first be slid upwardly to unlock the operator plate; then upon rotating the handle, the sector plate is engaged to open the louvers. To close the louvers, the operator plate is permitted to slide downwardly causing the operator plate and sector plate to become engaged and when the handle is rotated in the opposite direction, the louvers are closed and the operator handle arrives at its retracted position to lock the operator plate and sector plate.

3,537,332

CAPSTAN AND FLYWHEEL ARRANGEMENT FOR MAGNETIC TAPE TRANSPORT

Dallas R. Andrews, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware

Filed Oct. 23, 1968, Ser. No. 769,877

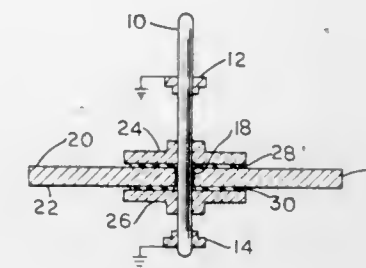
Int. Cl. H02k 7/02

U.S. Cl. 74—572

4 Claims

A capstan and flywheel mounting arrangement is provided wherein the flywheel is mounted on and rotatably

coupled to the capstan by means of a coupling member such that the flywheel is free to seek a plane of rotation



perpendicular to its dynamic axis when rotating and the capstan shaft is allowed to rotate free in its bearings.

3,537,333

WELDED HOLLOW CRANKSHAFT FOR A MULTICYLINDER PISTON-ENGINE

Richard Seifert, Friedrichshafen-Manzell, and Karl Just, Immenstaad (Bodensee), Germany, assignors to Maybach Mercedes-Benz Motorenbau G.m.b.H., Friedrichshafen, Germany

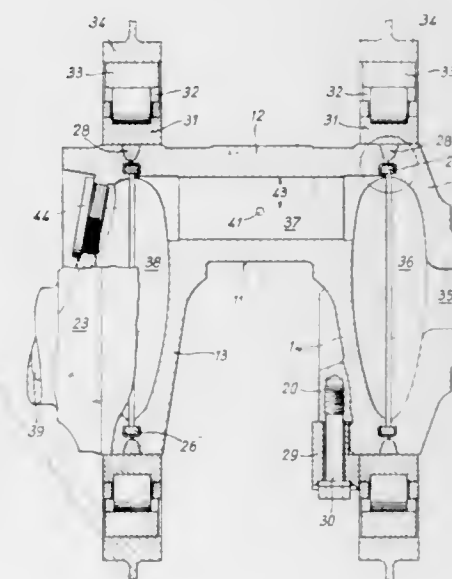
Filed Nov. 18, 1968, Ser. No. 776,635

Claims priority, application Germany, Nov. 29, 1967, 1,625,579

Int. Cl. F01b 31/00

U.S. Cl. 74—597

17 Claims



A crankshaft and method of making the same, especially for multipiston internal combustion engines which is supported in the engine on crankwebs by way of bearings; the crankshaft is composed of several pieces welded together between the shaft journal bearings which are basically similar and each include a crankpin and a crankweb section; the crankweb sections of two adjacent pieces are welded together in such a manner as to avoid the formation of scale on the inside of the crankshaft so as to permit conduction of oil therethrough; this is achieved in that each crankweb section is provided, going in the radially outward direction, with a shoulder forming a seat for a centering ring, a groove for the centering ring and a welding terminal for a bell-seam; the groove thus formed has greater dimensions in the axial and radial directions than the centering ring so that the centering ring is spaced on at least three sides from the crankweb sections whereby the heat developed during welding is conducted directly into the crankweb sections without the formation of scale on the inside of the crankshaft.

3,537,334 INFINITELY VARIABLE, POSITIVE DRIVE SPEED CHANGER WHICH CAN ALSO ACT AS A REVERSER

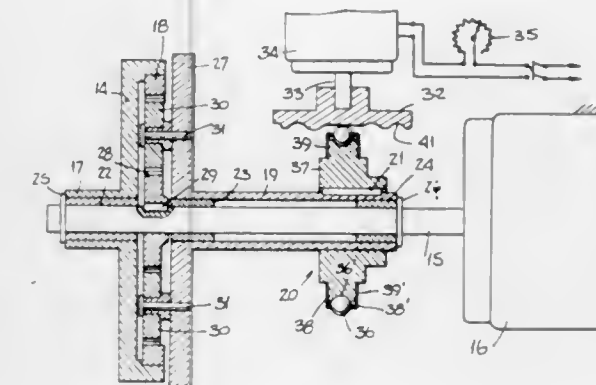
Jack J. Gilbert, Spring Valley, N.Y., assignor to Spyro-Dynamics Corporation, a corporation of New York

Filed Aug. 2, 1968, Ser. No. 749,849

Int. Cl. F16h 37/14, 1/12, 37/00

U.S. Cl. 74—675

5 Claims



The apparatus employs a planetary gear system. The input shaft carries a central sun gear. The output shaft carries an internal ring gear. An arm on an auxiliary shaft carries a plurality of equispaced orbital gears which are rotatable thereon and in meshed engagement with said sun and ring gears. All of said shafts rotate about a common axis. The auxiliary shaft carries a spur gear of special construction cooperating with a spiral face cam which is rotatably driven by an adjustable speed means in a predetermined direction, to influence output shaft performance.

3,537,335

SYSTEM FOR AUTOMATIC AND SEMIAUTOMATIC GEAR CHANGE FOR VEHICLES

Fernando Ezpeleta Aizpiri, Olite 41, Pamplona, Navarre, Spain

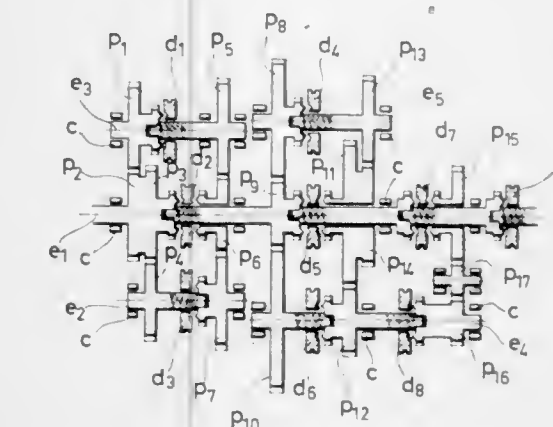
Filed Sept. 10, 1968, Ser. No. 758,884

Claims priority, application Spain, Sept. 12, 1967, 344,980

Int. Cl. B60k 17/10; F16h 5/46, 3/22

U.S. Cl. 74—867

6 Claims



A system for vehicle automatic gear change basically comprising several gears mounted on two or more shafts—one of them being an extension to the transmission outlet—some of them fixed onto the shafts, others loose and others displaceable with single or double synchronization cones. Interlocking takes place by means of a radial force

governor situated at the gear change outlet and controlling the speed of the vehicle by means of different electrical contacts coming into action in accordance with the speed, with the required electrical current sent through relays for maneuvering some sliding valves which open and shut the oil pressure flow producing the movement of the synchronized gears and thus obtaining the different gear changes required for the different vehicle speeds.

3,537,336

DETACHABLE FASTENING DEVICE FOR CLAMPING DRILLING DEPTH STOP ON DRILL OR THE LIKE HAVING A GRIPPING HANDLE

Peter Schmuck, Mauren, Liechtenstein, assignor to Hilti Aktiengesellschaft, Schaan, Liechtenstein

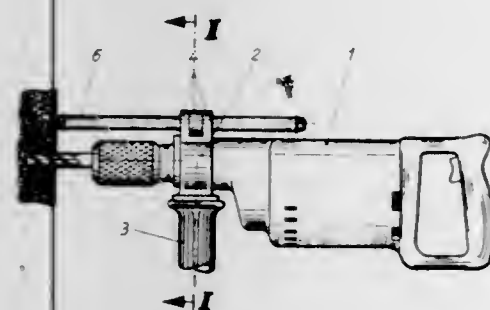
Filed July 10, 1968, Ser. No. 743,877

Claims priority, application Germany, July 24, 1967, H 59,671

Int. Cl. B23b 45/00

U.S. Cl. 77-7

8 Claims



A drill or the like includes an adjustable drilling depth stop and a gripping handle disengageably secured to the drill body and projecting laterally therefrom. Clamping means are operatively associated with the handle and are engageable with the depth stop, the clamping means being operable by the handle, upon securement of the latter to the drill body, to clamp the depth stop in adjusted position. The clamping means may comprise a hinge clamp with the depth stop forming the pintle of the hinge clamp and the handle serving to compress the hinge clamp around the drill body and to exert the clamping force upon the depth stop.

3,537,337

GUN JIG

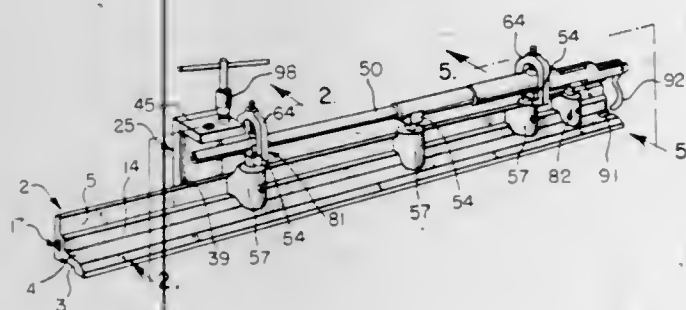
Billy M. Best, 3639 Merritt St., Memphis, Tenn. 38128

Filed Nov. 12, 1968, Ser. No. 774,800

Int. Cl. B25b 1/20

U.S. Cl. 77-62

10 Claims



A jig for mounting scopes and sight ramps on various rifles comprising a base having a flat, adjustable reference support for engagement with a flat bottom reference surface of the selected gun barrel at the action thereof, a

plurality of adjustable supports on the base spaced lengthwise of the gun barrel and cradling the barrel at a plurality of points to support the barrel in a position holding the reference surface flat against the reference support surface, and a drill and tap guide having a standard portion extending from a side of the base normal to said reference surfaces and having an overhanging template portion selected for the gun barrel to be worked on extending from the standard parallel to the reference surfaces and having guide apertures vertically aligned with the barrel for accurately positioning a drill or tap to the barrel.

3,537,338

COUNTERSINKING TOOL

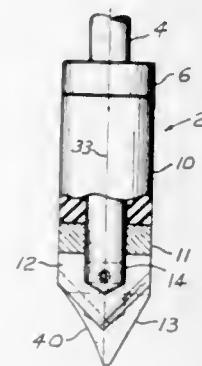
William Halpern, Haviland Road, Harrison, N.Y. 10528

Filed Oct. 9, 1968, Ser. No. 766,151

Int. Cl. B23b 51/10

U.S. Cl. 77-73.5

8 Claims



A countersinking tool is disclosed which has two diametrically spaced cutting edges which balance the cutting operation. The nose cone presents a conical surface which rests in the hole in the workpiece and the cutting edges have adjacent surfaces which cooperate with surfaces on the nose cone to insure the efficient removal of the chips which are cut away.

3,537,339

WIRE STRIPPER

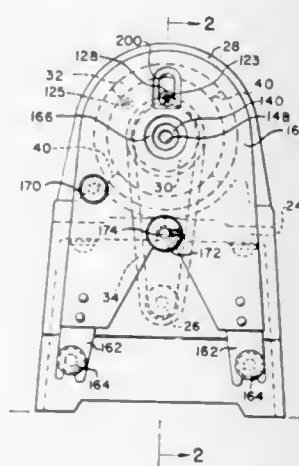
Louis M. Carpenter, 6900 Highbridge Road, Fayetteville, N.Y. 13066

Filed Nov. 22, 1967, Ser. No. 684,988

Int. Cl. H02g 1/12

U.S. Cl. 81-9.51

10 Claims



A rotary motor driven wire stripper having a hollow head and a face plate in one end with a central aperture,

a transverse slot in the rear face of the plate, blade blocks with pivoted stripping blades radially slidable in the slot, on opposite sides of the aperture with cutting edges partially overlying the aperture, means for locking the blocks in the slot, a right and left hand screw threaded in aligned apertures in the blocks, and an adjustable abutment engaging one end of the screw.

3,537,340

METHOD AND APPARATUS FOR GROOVING ROLLS

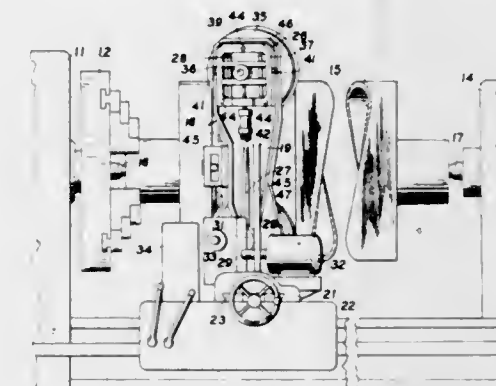
Carl M. Westbrook, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Delaware

Filed Aug. 23, 1968, Ser. No. 754,782

Int. Cl. B23b 3/36

U.S. Cl. 82-2

13 Claims



A method and apparatus for cutting relatively deep and narrow helical or annular grooves in a roll for a paper machine or the like employs a saw, preferably a band-saw, which is fed into the cylindrical surface of a rotating roll under controlled pressure while supported laterally and rearwardly along the portion of the blade engaged with the roll.

3,537,341

CUTTING TOOL

Emery J. Zahuranec, Solon, Edward Beck, Cleveland Heights, Harry G. Dodge, Painesville, and Alfred Bedo, Walton Hills, Ohio, assignors to Sno-Trik Company, Solon, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 746,465, July 22, 1968. This application June 23, 1969, Ser. No. 843,274

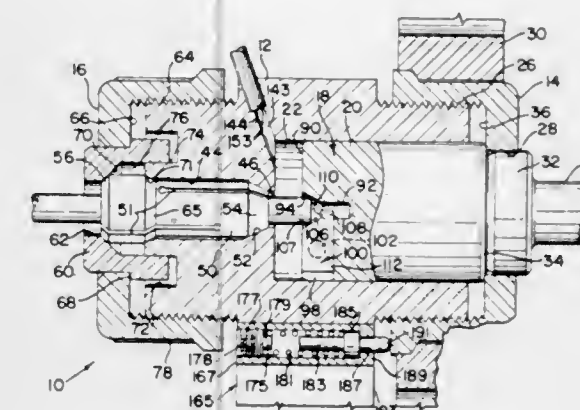
Int. Cl. B23b 5/16

U.S. Cl. 82-4

22 Claims

A cutting tool for producing a chamfer on the end of a workpiece such as a tube or rod. The tool comprises a hollow body with a cutter holder journaled within its central cavity which has a portion extending therefrom for imparting axial and rotational movement thereto. A nut threadedly received on said body engages and surrounds the portion of the cutter holder extending from said cavity to impart limited axial movement thereto. Rotation of the cutter holder is accomplished by a crank affixed to said extension. A collet is mounted in the opposite end of the body cavity to receive and hold a workpiece in cutting position within a central opening in the end of the cutter holder. A cutter projects from a cutter pocket which intersects the central opening. The cutter pocket has a cutter reference plane to locate the cutter accurately relative to the workpiece. The central opening of the cut-

ter holder includes a generally frusto-conical workpiece support surface portion extending for approximately 120° to 270° of the circumference of the opening and an intersecting chip pocket to permit movement of chips radially away from the cutting area. Openings on the side of the body intersect the central cavity adjacent the cutter holder to permit introduction of a cutting lubricant, visual inspection of the cutting operation and the removal of chips from the chip pocket. A special bracket rigidly



fastened to the exterior of the body holds the tool during the cutting operation. The proper depth of cut is insured by a gauge means and stop fastened to the body to gauge the relative axial positions of the nut driving the cutter holder and the body. The cutter has a distinctive shape which permits its being sharpened by grinding on only one face thereof without changing the angle at which it cuts. Means are provided to pass a suitable cutting lubricant from a reservoir to the cutting area.

3,537,342

PEELING MACHINE

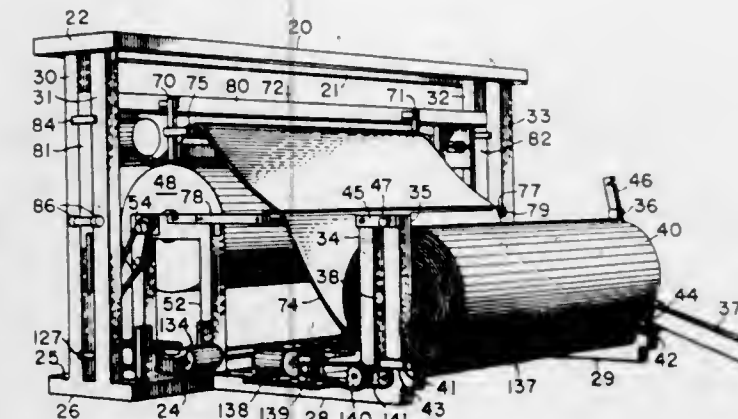
Robert M. Peck, Sparta, and Edwin P. Thompson, Comstock Park, Mich., assignors to Frank Edge Saw Manufacturing Company, Grand Rapids, Mich.

Filed July 23, 1968, Ser. No. 746,793

Int. Cl. B23b 3/04, 5/14

U.S. Cl. 82-101

12 Claims



A machine for peeling a strip from a rotatably mounted source mass by pulling the strip against a knife, with the radial feed of the knife, with respect to the axis of rotation of the source mass, related to the rate of rotation of the source mass.

3,537,343 LABEL TAPE CUTTER

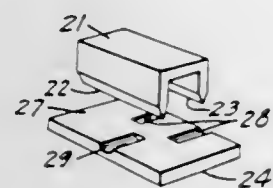
David W. Woodward, Hudson, Wisconsin, assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minnesota a corporation of Delaware

Filed June 5, 1968, Ser. No. 734,605

Int. Cl. B26d 3/00

U.S. Cl. 83-1

2 Claims



An embossed label tape with the individual labels releasably connected forming a strip including a number of such labels and a knife and anvil structure for a tape embossing tool to form the individual labels but not separate the labels.

3,537,344 CUTTING GLASS

Arthur William Nixon, Walsall and Keith Stanley Thompson, Stourbridge, England, assignors to Chance Brothers Limited, Birmingham, Warwickshire, England a corporation of Great Britain

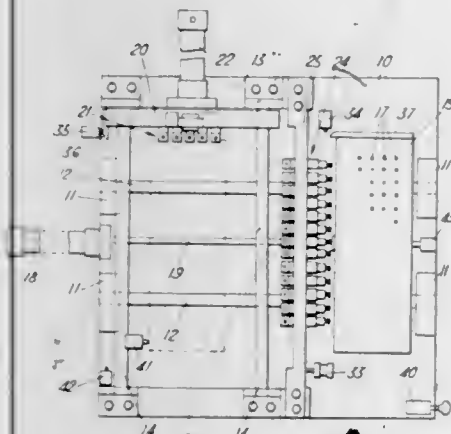
Filed Jan. 4, 1968, Ser. No. 695,756

Claims priority, application Great Britain, Jan. 6, 1967, 888/67

Int. Cl. B26d 3/08

U.S. Cl. 83-7

10 Claims



Apparatus for scoring a plurality of intersecting lines on a glass sheet comprises a cutting table movable on first guide means in a first direction under a fixed bank of scoring tools whereby a glass sheet held onto the table is scored with a first plurality of parallel lines, and a movable bank of scoring tools which is mounted on a carriage movable over the cutting table on second guide means to score a second plurality of lines on the glass sheet intersecting with the first plurality of lines.

3,537,345 GLASS CUTTING APPARATUS

Antonio Luppino, Willard, Ohio, assignor to PPG Industries, Inc., Pittsburgh, Pennsylvania a corporation of Pennsylvania

Filed Jan. 18, 1968, Ser. No. 698,863

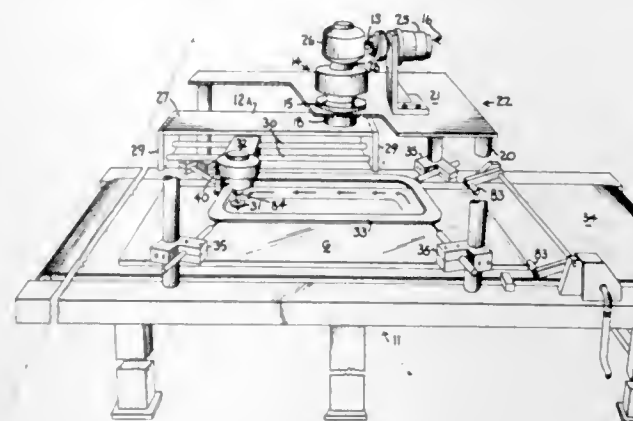
Int. Cl. B26d 3/08

U.S. Cl. 83-12

2 Claims

A device for scoring glass having a support table with a conveyor belt disposed upon the surface of the support table. A supporting frame is mounted over the conveyor belt, a rotatable eccentric arm assembly is mounted beneath the supporting frame and over the conveyor belt. An air-driven scoring tool is mounted on a sliding block which is movable upon the eccentric arm assembly, a guide track or cutting die

is mounted over the conveyor belt, the scoring tool is guided in the pattern desired by both guide wheels and a drive wheel



3,537,346

BANDSAW CUTTING-MACHINE

Gaston Gasne, Sainte-Genevieve-des-Bois and Jean Le Metayer, Bruyeres-le-Chatel, France, assignors to Commissariat a L'Energie Atomique, Paris, France

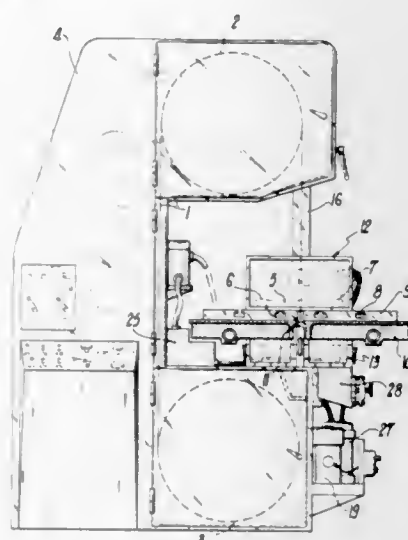
Filed Feb. 27, 1969, Ser. No. 802,976

Claims priority, application France, March 22, 1968, 145,079

Int. Cl. B26d 1/54

U.S. Cl. 83-165

11 Claims



In a bandsaw cutting-machine, a box for the recovery of fumes given off as a result of spark formation during operation of the bandsaw is placed above the work table so as to enclose the workpiece and is provided with a slit through which the band is permitted to pass. A second box placed beneath the table and partly filled with water has two communicating compartments located on each side of the band and a central drawer between the two compartments forms a seal which is traversed by the band. Spark deflectors are mounted beneath the workpiece and associated with a mechanism for adjusting their lateral positions within the second box with respect to the moving band and means are provided for producing a vacuum within both boxes.

3,537,347

METAL-CUTTING CHAIN SAW

Russell F. Rogers, Youngstown, Ohio (589 Allegheny Trail, Negley, Ohio 44441)

Continuation-in-part of application Ser. No. 534,892; March 16, 1966, now abandoned. This application April 16, 1968, Ser. No. 725,253

Int. Cl. B26d 1/54; B27b 17/02

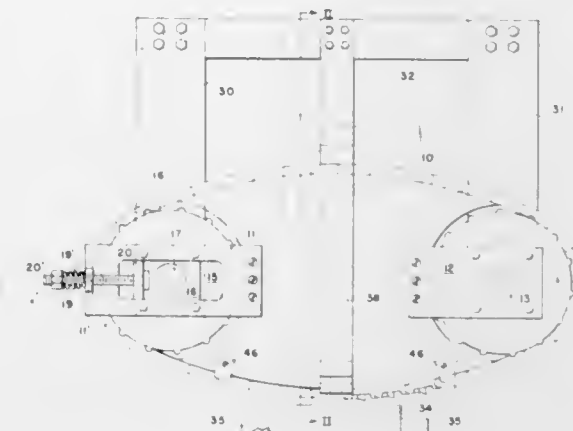
U.S. Cl. 83-201.15

5 Claims

A chain saw of the milling cutter type adapted to the cutting of ferrous and nonferrous metals, and having special

provisions to prevent chattering or jerking of the cutter chain. The cutter chain is entrained over a backup bar and a pair of sprockets. The peripheral edges of the backup bar are provided with a dovetail slot and the links are provided with a dovetail projection which is received in this slot. The drive sprocket is fixed relative to the backup bar while the takeup

the cable, a blade adjustably mounted on the support for limited protrusion into the groove, and a roller mounted to



sprocket is spring-biased to maintain tension of the cutting chain. A pair of arms are arranged to contact the opposed faces of the backup bar on its vertical centerline adjacent the point of entry of the bar into the metal being cut to guide the bar and to prevent any wobbling.

3,537,348

PIPE SAW

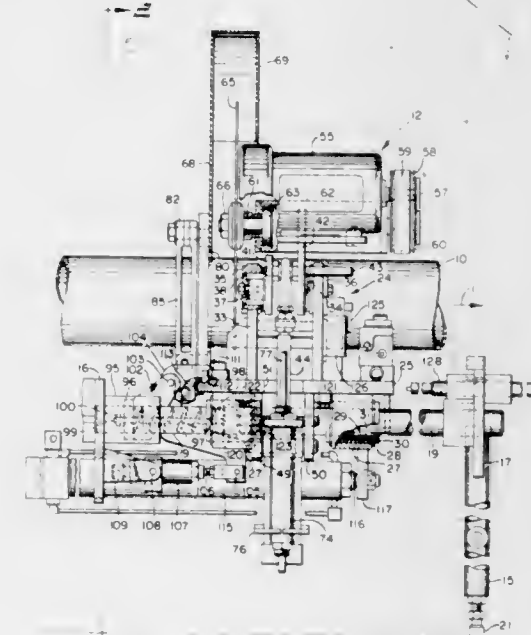
Harold J. Robins, Medina and William E. Tosko, Northfield, Ohio, assignors to NRM Corporation, Akron, Ohio a corporation of Ohio

Filed March 21, 1969, Ser. No. 809,094

Int. Cl. B23d 25/00; 45/20

U.S. Cl. 83-319

22 Claims



A flying cut-off for plastic pipe extruding lines and the like which includes a pivotally mounted saw supported on a carriage which includes linear low friction ball bushings mounting such carriage on guides extending parallel to the pipe movement, the acceleration of the carriage being obtained and the final velocity controlled by a compression spring, and clamps to hold the carriage for movement with the pipe after proper velocity is obtained.

3,537,349

LINEAR CABLE SHEATH CUTTER

William W. Scott, Raleigh, North Carolina, assignor to Aerotron, Inc., Raleigh, North Carolina

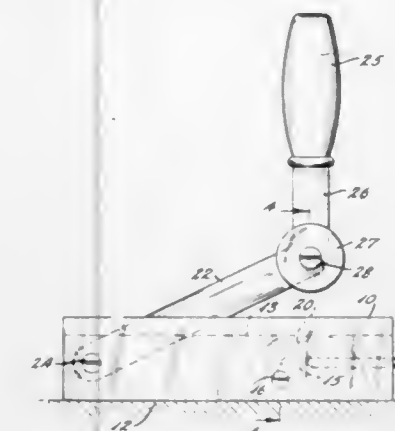
Filed Nov. 22, 1968, Ser. No. 778,162

Int. Cl. B26d 1/02; 7/06

U.S. Cl. 83-431

3 Claims

A linear cutter for the outer sheath of multiconductor cable has a supporting member with a groove for receiving



engage the cable and hold it in the groove in contact with the blade.

3,537,350

CABLE SHEATH CUTTER

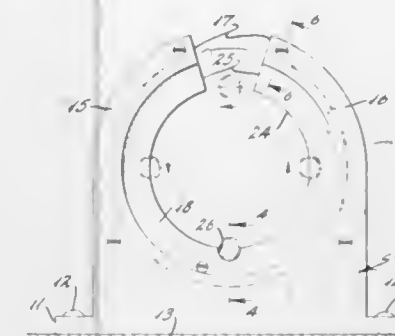
William W. Scott, Raleigh, North Carolina, assignor to Aerotron, Inc., Raleigh, North Carolina

Filed Nov. 22, 1968, Ser. No. 778,161

Int. Cl. H02g 1/12

U.S. Cl. 83-439

7 Claims



A cutter for the outer sheath of multiconductor cable has a member mounted by a fixed support for rotation about an axis and a slot with a circumferentially oriented blade for receiving the cable which is held against the blade in the slot as the member is rotated to cut the sheath.

3,537,351

POWER HACKSAW

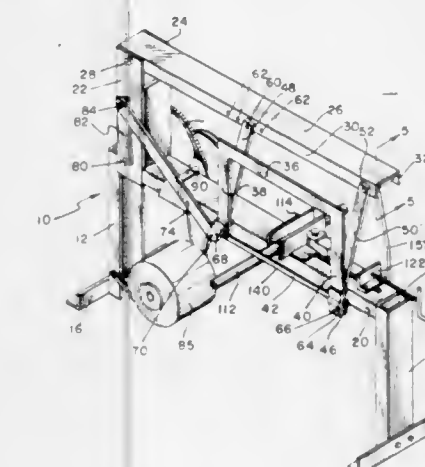
Joel D. Eck, Lincoln Township, Sedgwick County, Kansas (Rte. No. 2 Valley Center, Kans. 67147)

Filed Oct. 18, 1968, Ser. No. 768,704

Int. Cl. B23d 49/04

U.S. Cl. 83-647

12 Claims



A power hacksaw wherein the saw blade is carried at the lower ends of an inverted U-shaped carriage, such carriage being movably and dependently supported from a pivotally mounted beam by means of a pair of links pivotally con-

nected to the carriage and the beam in an arrangement such that the carriage and its blade are guided to travel along a path inclined to the beam. The beam is pivotally mounted on a frame in such an arrangement that coaction of the saw blade with a workpiece held in a vice on the frame oscillates the beam and thereby causes the blade to rock in a vertical plane. To further enhance such rocking of the blade, the four pivotal connections of the links depart from locations corresponding to the apices of an exact parallelogram. Reciprocal motion along its travel path is imparted to the carriage by a pitman having its opposite ends pivotally connected to the carriage and to a power driven crank rotatably mounted on the frame in an arrangement that the pitman rocks through a horizontal plane.

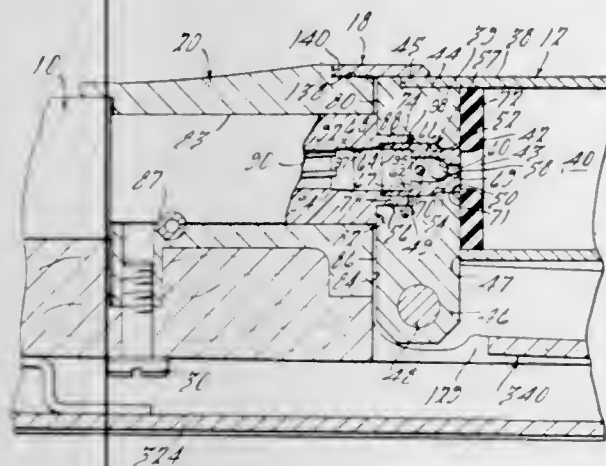
3,537,352 AIR IGNITION GUN

Ronald Wayne Joyce, Springdale, Arkansas, assignor to Victor Comptometer Corporation, Chicago, Illinois a corporation of Illinois

Filed July 25, 1968, Ser. No. 754,133
Int. Cl. F41f 1/04

U.S. Cl. 89—

2 Claims



There is herein disclosed a firearm having an air ignition system for igniting a solid propellant by surface contact with high temperature compressed air and provided with a new and improved air compression cylinder assembly.

3,537,353 CIRCUIT FOR AUTOMATICALLY OPERATING THE BREACH OF A LARGE CALIBER GUN

Robert E. Nelson, Indianapolis, Indiana, assignor to General Motors Corporation, Detroit, Michigan a corporation of Delaware

Filed Aug. 21, 1968, Ser. No. 754,320
Int. Cl. F41f 1/12

U.S. Cl. 89—135

5 Claims



An electronic circuit for automatically operating the breach of a large caliber gun. The logic circuitry of this invention is responsive to predetermined combinations of externally generated electrical input signals which indicate the condition of the breach, the recoil mechanism and the auto-

matic loader and other input signals from the automatic loader and the fire control system to provide for the following operations when the proper combination of signals are present:

- delivers a properly timed firing pulse to a firing probe within the gun chamber, and
- automatically opens the breech after the gun has fired or prevents the opening of the breech if the gun misfires.

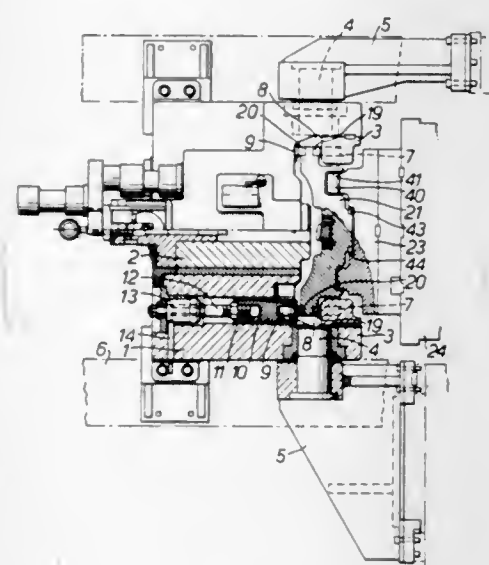
3,537,354 SURFACE BROACHING MACHINES

Benjamin A. Veazey, Bletchley, England, assignor to The Lapointe Machine Tool Company Limited, Otterspool, Watford-by-Pass, Watford, Hertfordshire, England a British Company

Filed Oct. 31, 1968, Ser. No. 772,123
Int. Cl. B23d 41/04

U.S. Cl. 90—91

12 Claims



A machine for broaching nonplanar surfaces on workpieces, in which a plurality of broach bodies resiliently secured to the tool slide and carrying teeth, the pitch of which is greater than the length of the surface to be machined, are reciprocal relative to the tool slide towards and away from a workpiece on the work fixture by cooperating cam and follower means on the broach bodies and the work fixture respectively.

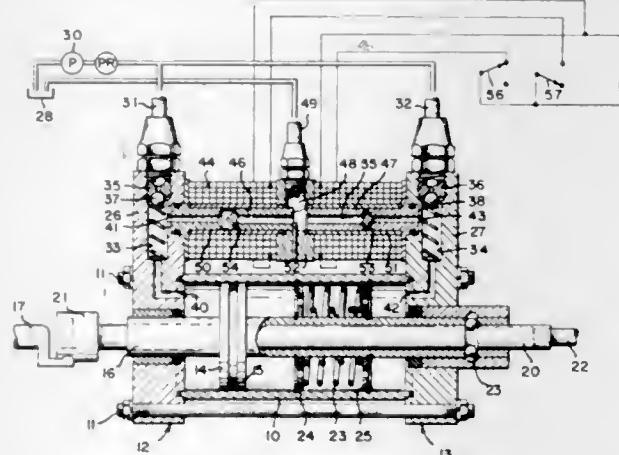
3,537,355 FLUID-OPERATED SERVOMECHANISM

George N. Bliss, 8620 106th SE., Renton, Wash. 98055

Filed Dec. 14, 1966, Ser. No. 601,620
Int. Cl. F16b 13/044, 11/15

U.S. Cl. 91—51

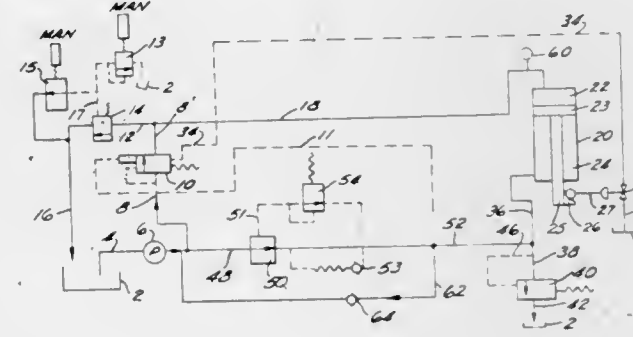
9 Claims



The actuator of the present invention is of that type in which a choked pressure supply of a liquid fluid is charged from a common source to the opposite sides of a normally centered shuttle-mounted governor piston, and by the activa-

tion of control means is caused to be bled from either side of the piston, selectively, at a rate of flow exceeding the charging rate so that a condition of differential pressure is created causing the piston to be shifted toward the side of lesser pressure.

3,537,356
HYDRAULIC CONTROL SYSTEMS
Eugene I. Odell, Columbus, Ohio, assignor to Dake Corporation, Grand Haven, Michigan a corporation of Michigan
Filed Jan. 2, 1968, Ser. No. 695,018
Int. Cl. F15b 15/22, 11/08, 13/042
U.S. Cl. 91—400 14 Claims



This disclosure relates to a hydraulic control system for a pressure responsive means such as a piston cylinder for a press. The control system employs three pressure responsive valves and a fourth manual actuating valve.

A fluid pressure source, such as a pump for example, supplies fluid pressure to a first pressure chamber, such as one end of a piston cylinder containing a piston which is attached to a hydraulic ram. A first pressure responsive valve in the line to the first pressure chamber opens responsive to a predetermined pressure in the line. A second manually operable valve in the line controls the pressure to the first pressure chamber.

Fluid pressure is applied through a second pressure responsive valve to a second pressure chamber, such as a second end of a piston cylinder. The second pressure responsive valve opens to allow the fluid pressure to communicate with the second pressure chamber when the pressure to the second pressure responsive valve is less than a second predetermined value.

A third pressure responsive valve is provided to release the pressure in the second pressure chamber when the pressure of the first pressure chamber exceeds a third predetermined value, or the pressure in the second chamber exceeds a fourth predetermined value.

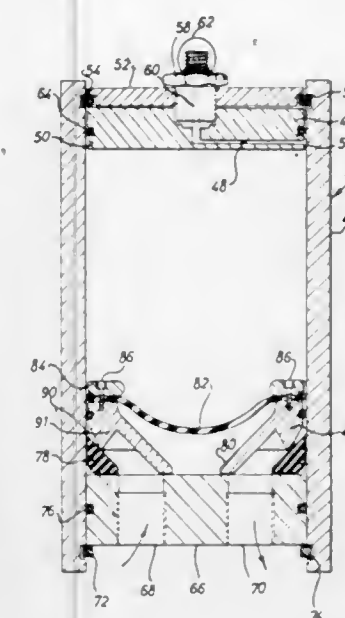
Means are provided to release the pressure in the first chamber if a fifth predetermined pressure is exceeded.

Means are also provided to open the first pressure responsive valve when a piston in the piston chamber reaches the first end of the cylinder, i.e. the first pressure chamber.

3,537,357
HYDROPNEUMATIC ACCUMULATOR
Martin Richard Packer, 19 Buckingham Road, Cheadle Hume, Cheshire, England
Filed June 4, 1968, Ser. No. 734,436
Claims priority, application Great Britain, Sept. 15, 1967, 42,061/67
Int. Cl. F01b 19/00; F16j 3/00; F01c 21/16
U.S. Cl. 92—90 2 Claims

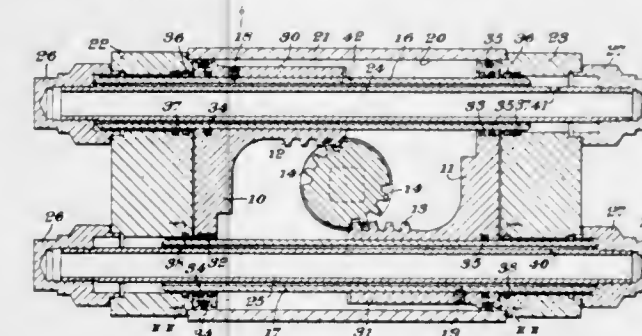
The present invention relates to hydropneumatic accumulators of the type comprising a cylinder divided by a piston, which is located as a slidable fit within the cylinder, into a first chamber for containing a compressible fluid and a second

chamber for containing a relatively incompressible fluid. At least part of one of the piston walls which separates the com-



pressible fluid from the relatively incompressible fluid is of a resiliently deformable material.

3,537,358
ROTARY ACTUATORS
Alan Donald Bunyard, Burrett Road, Haywards Heath, Sussex, England
Filed Nov. 15, 1968, Ser. No. 776,042
Claims priority, application Great Britain, Nov. 25, 1967, 53,731/67
Int. Cl. F01b 9/00; F16j 15/18
U.S. Cl. 92—136 14 Claims

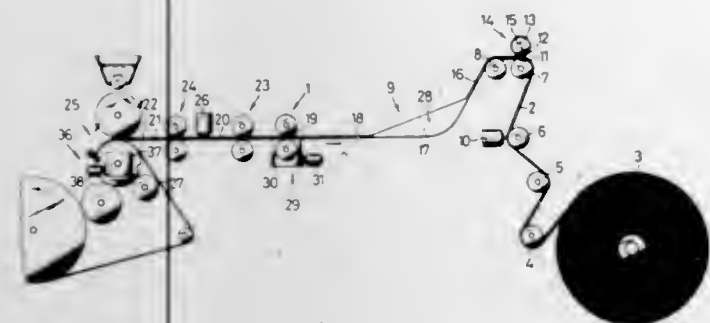


Piston-rack-type actuator in which the compressed air or gas is supplied either to the central chamber or to the two end chambers, defined by two pistons located in a cylinder, in order to cause the two pistons to move towards or away from each other and thereby to rotate an output shaft by means of their integral racks meshing with a pinion on the shaft. Two parallel guides extend through the two pistons, one piston being fixed to one guide and the other piston being fixed to the other guide, end portions of each guide sliding in bearings and serving to limit the extent of cocking or skewing of one or both of the pistons and thus preventing fouling of the cylinder thereby.

3,537,359
MACHINE FOR MANUFACTURING BAGS FROM
PREPRINTED WEBS
Arno Finke, Lengerich, Westphalia, Germany; Adele Finke, heir of said Arno Finke, deceased, assignor to Windmoller & Holscher, Lengerich, Westphalia, Germany
Filed Aug. 5, 1968, Ser. No. 750,389
Claims priority, application Germany, Aug. 30, 1967, W 44,684
Int. Cl. B31b 1/00 4 Claims

The machine comprises a perforating unit, which precedes the tube-making unit, a tear-off unit, which succeeds the tube-making unit, a feeding unit and an end-folding and ad-

hering mechanism. A first automatic register control system acts on the web-feeding unit and ensures a formation of registering transverse perforation lines in the preprinted web. A second automatic register control system comprises a sensing head for scanning the web provided with transverse perfora-



tion lines, a synchronizing rotary switch, which is in rigid operative connection with the end-folding and adhering mechanism, and a positioning device for changing the phase of the end-folding and adhering mechanism.

3,537,360

PLASTIC BAG MANUFACTURING METHOD AND APPARATUS

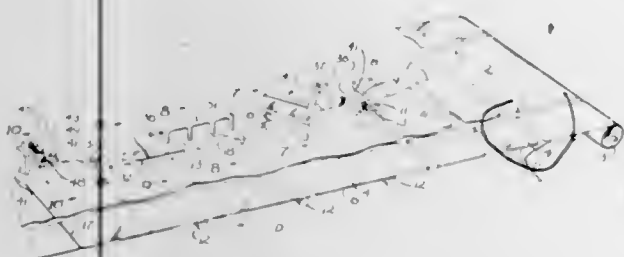
Robert M. Farnam, Palo Alto, California, assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Dec. 4, 1968, Ser. No. 781,025

Int. Cl. B31b 1/22, 1/64, 49/04

U.S. Cl. 93-33

14 Claims



The bond is broken between edges of the inside plies of a gusset having inwardly recentrant folds normally bonded together by conventional heat sealing and severing means which removes substantially triangular areas from the gusset in the conventional manufacture of square bottom bags from plastic sheet material, to enable opening of the bag. This is accomplished by a pointed separating member positioned between the inside plies with the point in alignment with the gusset fold, and moving the sheet past said member. The point is guided between such inside plies by a wire connected thereto and maintained under tension along the gusset fold.

3,537,361

MACHINE FOR FORMING UPRIGHT, RECTANGULAR CARTONS

Edward J. Derderian, 4515 N. Wilson Ave., Fresno and William L. Bridger, Fowler, California, said Bridger assignor to said Derderian

Filed Jan. 8, 1968, Ser. No. 696,263

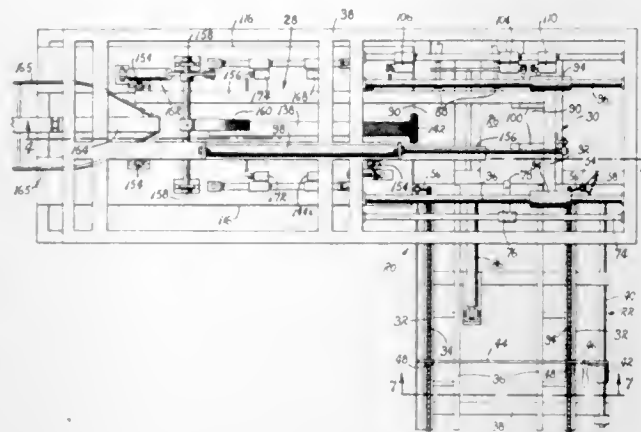
Int. Cl. B31b 1/76

U.S. Cl. 93-53

9 Claims

A machine for forming upright, rectangular cartons having vertically extended flaps from knocked-down or flattened forms thereof including a magazine supporting the forms in generally vertical positions and feeding them generally horizontally to a ready position from which they are withdrawn or plucked by a picker having suction means, and opened and substantially squared in the process, the bottom flaps being folded in and closed, the top flaps being unfolded and opened to present the container in condition ready to receive articles, particularly characterized by a magazine which includes endless chains driven by ratchet means and intermittently actuated by an air ram controlled by a switch

influenced by the position of the leading container form in the magazine and devices for exerting drag on the container



3,537,362

CREASING AND DELIVERY MEANS FOR ENVELOPE FORMING MACHINE

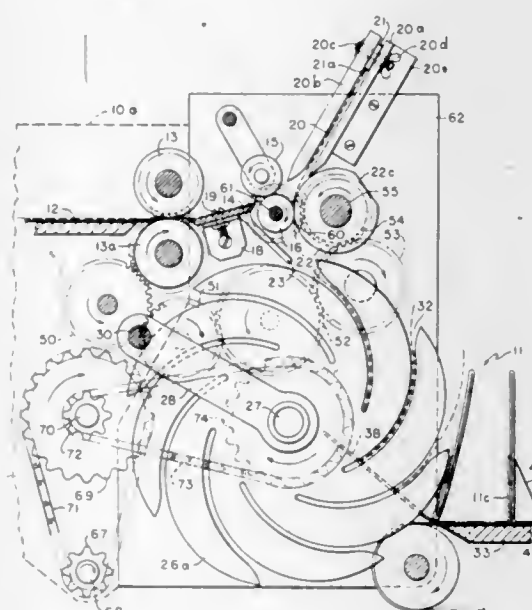
Calvin L. Harper, 3 Timberwood Court, Fort Thomas, Ky. 41075

Continuation of application Ser. No. 674,942, Oct. 12, 1967, now abandoned. This application June 30, 1969, Ser. No. 843,277

Int. Cl. B31b 21/02

U.S. Cl. 93-62

5 Claims



Novel rotary means is provided for rapid creasing and delivery of envelopes in a "wide range" envelope forming machine. The machine may be operated alternatively to deliver finished envelopes with flaps folded or extended.

3,537,363

SERVO-CONTROLLED HYDRAULIC SYSTEM

George E. Long, Rte. 2, Box 382, Monroe, Wash. 98272, and Howard G. Anson, 15823 35th NE., Seattle, Wash. 98105

Filed July 17, 1968, Ser. No. 745,507

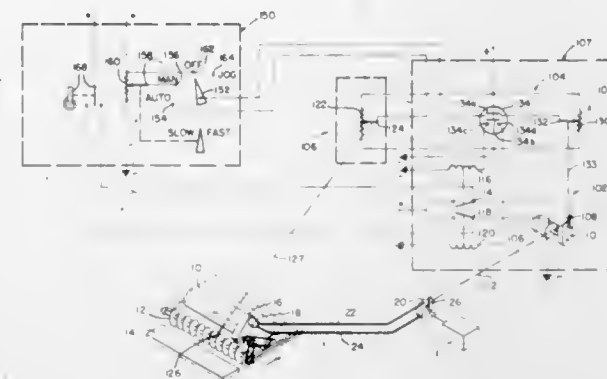
Int. Cl. E01c 19/48

U.S. Cl. 94-46

11 Claims

A servocontrol regulates the output of a variable displacement hydraulic pump to a hydraulic motor responsive to changes in a predetermined relationship between a sensing input and a feedback input to a control means, the latter

being adapted to control the output of an electromechanical transducer to the pump. This servocontrol is particularly



suited to control the conveyor system of a road paving machine.

3,537,364

AUTOMATIC DRAWING DEVICES

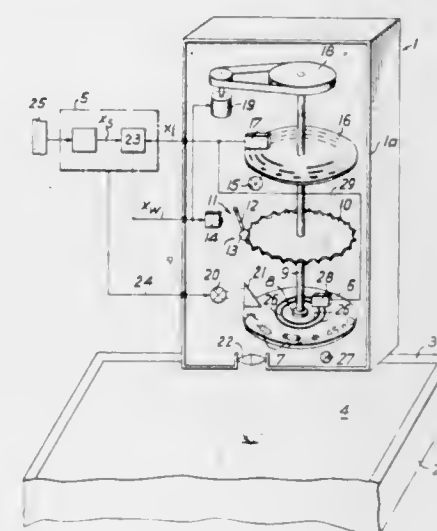
Wolfgang Pabst, Neu-Isenburg, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Nov. 12, 1968, Ser. No. 774,996

Int. Cl. B41b 17/04

U.S. Cl. 95-1

2 Claims



A device for automatically selecting symbols to be reproduced in the automatic production of drawings, which device includes a disc carrying various symbols to be produced and means for automatically rotating the disc so as to bring it into position to produce a desired symbol, this automatic positioning being accomplished by causing the disc to rotate in unison with a code carrying element which produces a code signal coinciding with a position instruction symbol when the disc is in such a position that the desired symbol is in position to be reproduced on a drawing surface.

3,537,365

PHOTOGRAPHIC PRINTING APPARATUS

Robert W. Schumann, Madison, Wisconsin, assignor to Fabrik Instruments Inc., Madison, Wisconsin a corporation of Wisconsin

Filed Feb. 29, 1968, Ser. No. 709,247

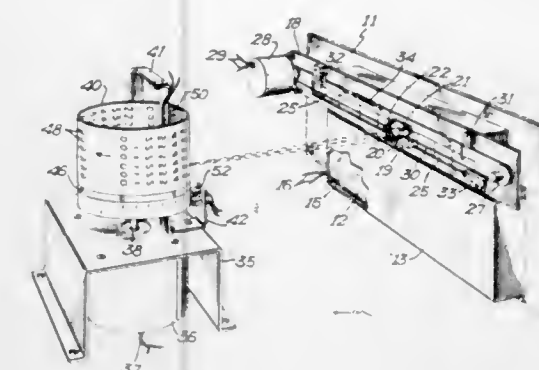
Int. Cl. B41b 17/14

U.S. Cl. 95-4.5

4 Claims

A photographic printer in which light images of desired characters fall on light sensitive paper. A cylindrical mask or grid having formed therein a plurality of characters is mounted along its longitudinal axis with the characters having their axes at 90° to the longitudinal axis of the cylindrical mask. A plurality of lamps are mounted inside the mask, and the mask is revolved relative to the lamps so that information from a stored source lights a lamp adjacent to a desired character at a proper time to provide a light projection of the

character. The projection revolves on a lens, which focuses the desired image on a photosensitive paper. The lens is movably mounted and reciprocates in a direction transverse to the direction of the moving paper, and the reading sense



3,537,366

EXPOSURE CONTROL APPARATUS FOR PHOTOGRAPHIC CAMERA

Dieter Engelsmann, Unterhaching, Germany and Rolf Schroeder, Munich, Germany, assignors to AGFA-Gevaert Aktiengesellschaft, Leverkusen, Germany

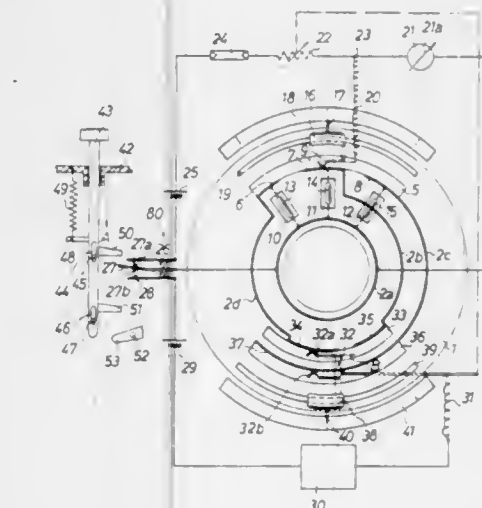
Filed Oct. 7, 1968, Ser. No. 765,332

Claims priority, application Germany, Oct. 27, 1967, 1,597,077

Int. Cl. G03b 7/12, 9/62

U.S. Cl. 95-10

10 Claims



One or more fixed resistors of a set of resistors can be connected in the circuit of the light meter as well as in the delay circuit of the shutter in a photographic camera to thereby influence the aperture size as a function of the film speed and the exposure time. The shutter release trigger completes the circuit of the light meter ahead of the delay circuit so that the diaphragm defines an aperture size which is a function of scene brightness and a function of the film speed prior to release of the shutter.

3,537,367

PHOTOGRAPHIC APPARATUS FOR ARMING PERCUSSION-IGNITABLE FLASH UNITS

Clarence W. Van Duser, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed Oct. 14, 1968, Ser. No. 767,097

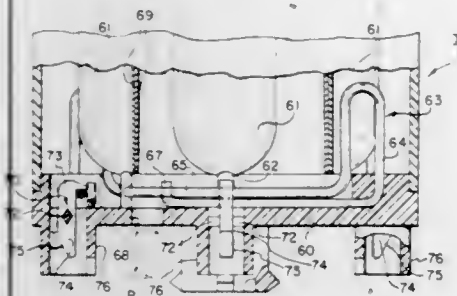
Int. Cl. G03b 17/00, 15/04; F21k 5/02

U.S. Cl. 95-11

5 Claims

A photoflash unit having percussion-ignitable flash lamps and individual, preenergized strikers is provided with disarming latch members for each striker which prevent accidental

release of the strikers. The disarming members have cam portions associable with photographic apparatus for moving the latch members to an inoperative position upon mounting of the flash unit on the apparatus. Apparatus is disclosed for cooperating during mounting of such units to arm the unit for



selective release of the strikers. The disarming members are resiliently urged to their operative position so that unreleased striker elements are again disarmed upon removal of the flash unit from photographic apparatus.

3,537,368

FLASH UNIT FOR PHOTOGRAPHIC PURPOSES

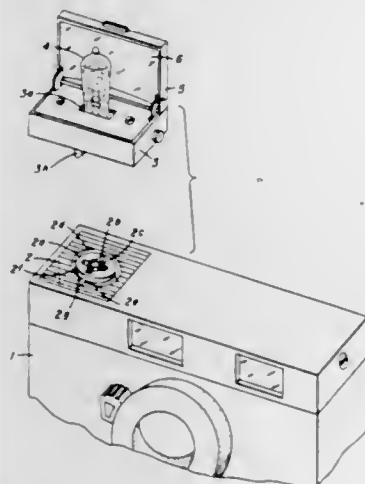
Manfred Radtke, Stuttgart-Wangen, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 563,904, July 8, 1966, now abandoned. This application Feb. 14, 1969, Ser. No. 805,095

Claims priority, application Germany, July 29, 1965 K 51,870 Int. Cl. G03b 19/00

U.S. Cl. 95-11

12 Claims



A flash attachment for receiving a single flash lamp having a base structure for insertion in a rotatable socket of a photographic apparatus that is normally used for multiple lamp flash units. The flash attachment is provided with a keying member which cooperates with a fixed structure on the photographic apparatus to prevent indexing rotation of the rotatable socket while the attachment is inserted.

3,537,369

MODEL ROCKET CAMERA

Vernon D. Estes, Penrose, Colo. 81240

Filed Mar. 7, 1966, Ser. No. 534,968

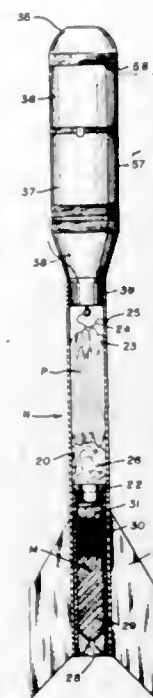
Int. Cl. G03b 29/00

U.S. Cl. 95-12.5

13 Claims

A model rocket camera in which a light weight cylindrical tube has a rocket propulsion motor attached to one end and the rear end of a tubular camera at its other end. The front end of the camera is provided with a lens and a shutter that is held in a position in which it is biased to move from a first closed position through an open position to a second closed position. The tube has attached to it a folded parachute and contains an ejection charge that is ignited after a predeter-

mined time that is calculated to permit the rocket to reach its zenith by detonation of the propulsion charge and reverse its



direction. Firing of the ejection charge ejects the camera from the tube and releases the camera shutter.

3,537,370

CAMERA STRUCTURE

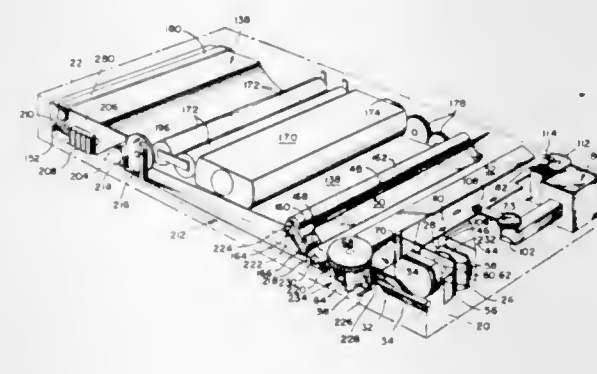
Richard R. Wareham, Marblehead, Massachusetts, assignor to Polaroid Corporation, Cambridge, Massachusetts a corporation of Delaware

Filed Sept. 18, 1967, Ser. No. 668,522

Int. Cl. G03b 17/50

U.S. Cl. 95-13

25 Claims



A compact self-developing camera for exposing and processing a film unit. The camera has a width dimension only slightly greater than the width of the film unit and a thickness dimension that is a fraction of the longest dimension of the image and includes a pair of rollers for moving the film unit in opposite directions during exposure and processing. Compactness is achieved by locating an exposure system including a lens for forming an image, a reflector for moving the image during exposure to hold it stationary with respect to the recording medium and a light blocking system for preventing exposure of the film unit during processing of the film unit, and a view finder having an optical path through the camera from front to back thereof, within one end section of the camera, and locating a drive system including a motor, and a film holder for a plurality of film units, within the opposite end section of the camera. A system is provided for preventing exposure of film units by light transmitted by the view finder.

3,537,371

PROCESSING APPARATUS HAVING SPECIALLY CONFIGURED PRESSURE APPLYING MEMBERS

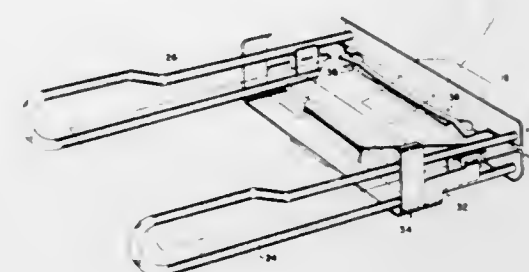
Patrick L. Finelli, Sudbury, Massachusetts, assignor to Polaroid Corporation, Cambridge, Massachusetts a corporation of Delaware

Filed March 20, 1968, Ser. No. 714,690

Int. Cl. G03d 3/00

U.S. Cl. 95-13

8 Claims



A pair of rigid spreader members, for use in a self-developing camera, having adjacent portions spaced apart and resiliently urged toward one another to form a pressure-generating gap through which photographic sheet materials are movable to effect the spreading of a processing fluid as a layer therebetween. The sheet contacting surface of each spreader member is provided with a convex curvature extending the length of the gap, the degree of curvature of one such surface being substantially greater than that of the other such surface.

3,537,372

PANORAMIC CAMERA

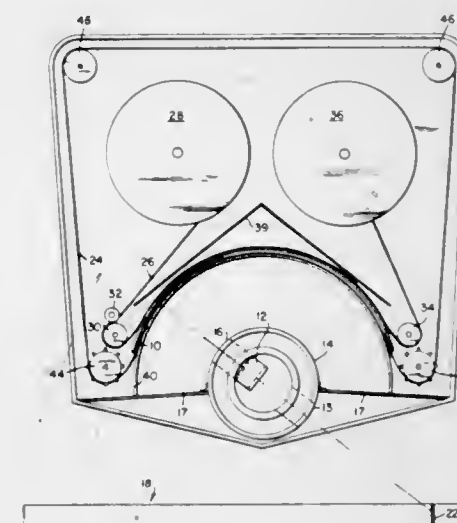
Siegfried Kaswan, Los Angeles, California, assignor to Hycon Mfg. Company, Monrovia, California

Filed Sept. 19, 1967, Ser. No. 668,852

Int. Cl. G03b 37/00, 37/04

U.S. Cl. 95-16

4 Claims



A panoramic camera system is provided with a lens assembly, an endless curtain shutter, a pair of curved "rails" to support the film at the focal "plane" in lieu of an otherwise solid platen. A single motion source drives a rotating lens barrel and an endless focal plane shutter curtain continuously and drives the film intermittently. During a first rotation of the lens barrel, the film and shutter curtain move in synchronism, but with the shutter "closed". During a second rotation of the lens barrel, an opening in the shutter curtain moves in synchronism with the lens but the film is held in place for an exposure. A forward motion compensation assembly is also driven by the single motion source.

3,537,373

COMPACT PHOTOGRAPHIC CAMERA INCLUDING A SCANNING EXPOSURE SYSTEM WITH COMPENSATION

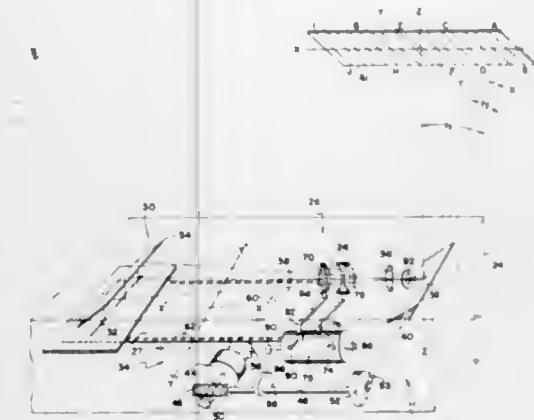
Edwin H. Land, Cambridge, Massachusetts, assignor to Polaroid Corporation, Cambridge, Massachusetts a corporation of Delaware

Filed April 7, 1967, Ser. No. 629,295

Int. Cl. G03b 19/02

U.S. Cl. 95-36

16 Claims



A compact hand-held photographic camera with scanning exposure system having a folded optical path. Cylindrical perspective distortion associated with scanning optical systems is compensated for by varying the lens' focal length in relation to the scan angle.

3,537,374

CAMERA EXPOSURE CONTROL

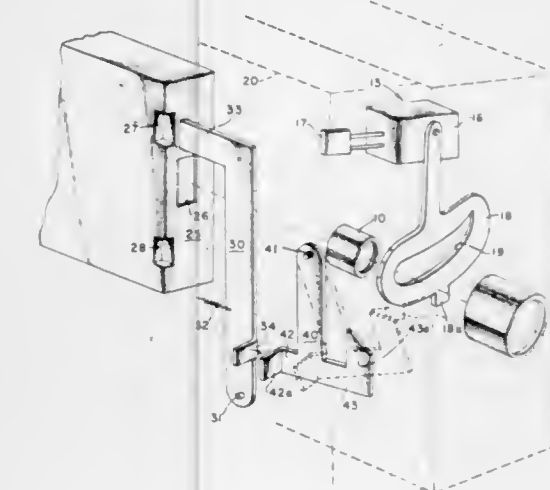
Gerald Lee Jenkins, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed July 22, 1968, Ser. No. 746,687

Int. Cl. G03b 7/08, 19/18

U.S. Cl. 95-64

9 Claims



In order to avoid underexposure when photographing scenes having high background illumination with film having relatively low sensitivity, the minimum exposure is controlled, in an automatic exposure control, in response to the film sensitivity coding on a film cartridge. A film speed notch-sensing member senses a notch on the film cartridge which is indicative of the speed of the film contained therein. The above member controls a movable stop member which in turn limits the the diaphragm blade movement which is automatically positioned by an exposure control circuit.

3,537,375 PHOTOGRAPHIC CAMERA

Gerd Kiper, Ludersen, and Gunter Fauth, Unterhaching, near Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany

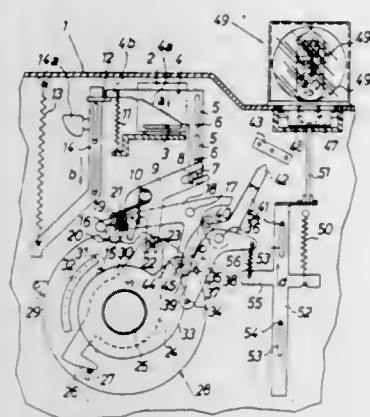
Filed Oct. 18, 1968, Ser. No. 768,646

Claims priority, application Germany, Nov. 3, 1967, 1,597,080

Int. Cl. G03b 7/12, 7/16

U.S. Cl. 95-64

23 Claims



A still camera wherein the diaphragm is adjustable by a first adjusting member as a function of the position of the needle of a light meter, and by a second adjusting member as a function of the position of the focussing member when a built-in or detachable illuminating arrangement is placed into operative position. The second adjusting member overrides the first adjusting member when the aperture size selected as a function of the position of the focussing member is smaller than the aperture size which would be selected by the first adjusting member as a function of the position of the needle, or vice versa. The diaphragm is further adjustable by a selector as a function of the guide number of the illuminating arrangement.

3,537,376 LIGHT LOCK FOR THE ENTRANCE/EXIT PASSAGEWAY OF A CONTAINER FOR LIGHT- SENSITIVE MATERIAL

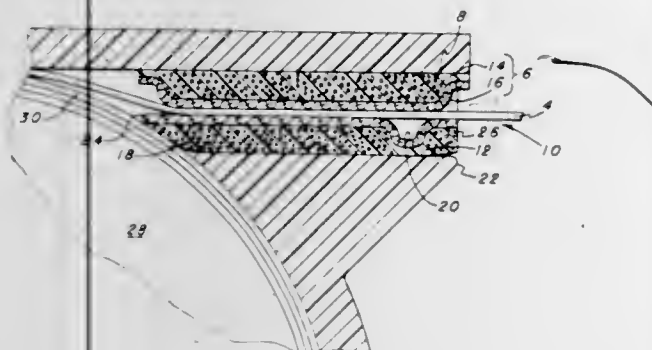
Paul J. Fleming, Arthur C. Rissberger, Jr. and Lawrence A. Ulmschneider, Rochester, New York, assignors to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed Nov. 20, 1967, Ser. No. 684,286

Int. Cl. G03b 17/26

U.S. Cl. 95-67

8 Claims



A layer of foam-cloth laminate is attached to both the upper and lower lips of the passageway to provide an effective light lock. The layer attached to the upper lip (the pad) is sealed at both the front and rear edges while the layer attached to the lower lip (the flap) is sealed only along a single line. The length of the line does not extend the full width of the passageway whereby the sides of the layers bulge toward the opposite lip to provide a light lock at the sides of the passageway. The inwardly extending end of the flap can extend into the chamber in which case it may be hemmed or pinched.

3,537,377 DEVELOPING DEVICE FOR DOCUMENT COPYING APPARATUS

Walter Limberger, Hamburg-Poppenbottel, Germany, assignor to Lumoprint Zindler KG, Hamburg, Germany

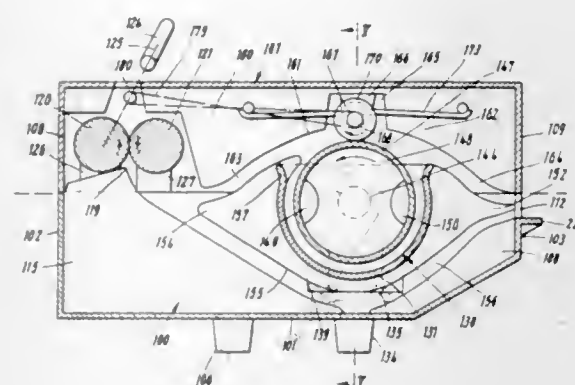
Filed Nov. 14, 1967, Ser. No. 682,809

Claims priority, application Denmark, May 11, 1967, 2,475/67

Int. Cl. G03d 3/00

U.S. Cl. 95-89

11 Claims



In a developing device for the treatment of copying materials by means of the silver salt diffusion method two tanks are provided, one inside the other. An application roller is mounted inside the inner tank for cooperating with a squeezing roller for moistening the surface of the receiving material. A pair of squeezing and transport rollers are located downstream of the tanks and in the common path of the receiving material and the negative for pressing the two together.

3,537,378 PREFABRICATED METAL INSULATED BUILDINGS

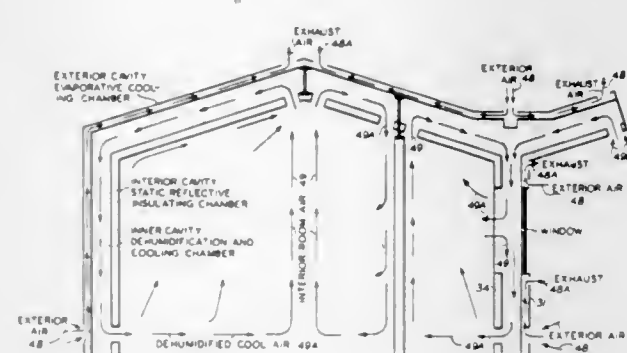
George M. Daly, 50 Wood Ave., Ardsley, N.Y. 10502

Filed Feb. 4, 1969, Ser. No. 796,525

Int. Cl. E04b 1/76; F24f 5/00

U.S. Cl. 98-30

14 Claims



This invention relates to an entire preengineered building structure including integral foundations and natural thermodynamic principles for the efficient dehumidification and cooling of the interior air in buildings. The buildings are comprised entirely of metal components which rely on the natural thermodynamic principles of reflective surfaces to obtain heat insulating barriers far superior to conventional insulating materials. The control of thermodynamic processes is achieved by automatic and natural thermal principles set in coordination with desired environmental atmospheric conditions.

3,537,379 COVER MEANS FOR VENTILATION OPENINGS OF BOX

Toshio Hirai, Tokyo; Soichi Okada, Toyonaka-shi, Osaka and Makoto Kaneko, Mihara-shi, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan and Osaka Shosen Mitsui Senpaku Kabushiki Kaisha Chiyoda-ku, Osaka-shi, Japan

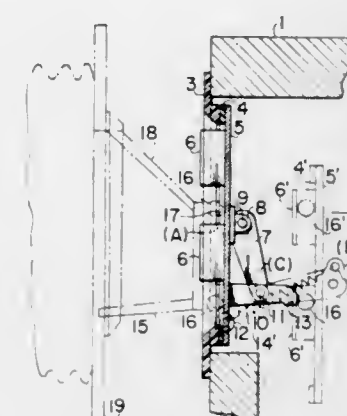
Filed Nov. 14, 1968, Ser. No. 775,818

Claims priority, application Japan, Nov. 17, 1967, 42/96491

Int. Cl. F24f 13/00

U.S. Cl. 98-32

5 Claims



Cover means include respective cover members for ventilation openings of a refrigerated box. Each of the cover members for the openings is mounted on the box body by means of at least one snap acting toggle link mechanism including a spring. Under the action of an external force, the cover member snaps into either its closing position or its opening position, beyond the dead point of the toggle mechanism.

3,537,380 VARIABLE VOLUME DISTRIBUTOR ADAPTED TO PROVIDE UNIFORM THROW

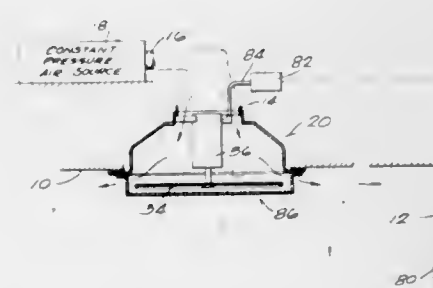
Joseph W. Spradling and John F. Newell, Madison, Wisconsin, assignors to Wehr Corporation, Milwaukee, Wisconsin a corporation of Wisconsin

Filed Jan. 22, 1968, Ser. No. 699,668

Int. Cl. F24f 13/06

U.S. Cl. 98-40

7 Claims



A distributor unit is provided which opens into a room, or other area which is to be supplied by conditioned air, through an outlet in the ceiling or one of the other room walls. The volume of conditioned air discharged through the unit outlet is varied by varying the effective area of the outlet opening into the room in direct relationship with the desired variation of volume flow into the room. This arrangement, when coupled with a constant pressure source of air, maintains a relatively uniform discharge velocity through the outlet and thus a substantially uniform throw of delivered air into the room. Structurally, a damper-deflector (hereinafter referred to as a damper) is supported at the outlet and is movable vertically to assume selectively a position closed on the outlet, a position spaced outwardly from and fully opening the outlet, or any position in between these two extreme positions. Throughout its range of movement the damper is in general alignment with the outlet to interrupt air flow and direct flow horizontally over the damper periphery and between the damper and the margin of the outlet. As the demand for conditioned air increases, the damper moves away

from the outlet to increase the volume of air being discharged with the effective outlet opening being increased in direct relation to the increased volume so that the discharge velocity remains substantially constant. Similarly a decrease in demand is met by the damper moving toward the outlet to correspondingly decrease the outlet opening and volume so that again the volume is changed but without varying discharge velocity.

The damper is preferably enclosed by an imperforate horizontal plate spaced from the outlet and a perforated cylindrical member extending around the damper and on which the imperforate plate is suspended. The damper directs air into and through the perforated member.

3,537,381 CIRCULAR WORK CENTER

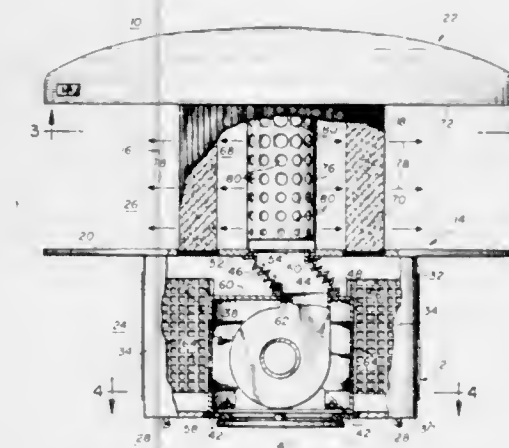
Philip R. Austin, Livonia, Michigan, assignor to Atmos-Tech Corporation, Edison, New Jersey a corporation of New Jersey

Filed Sept. 16, 1968, Ser. No. 773,681

Int. Cl. F23j 11/00

U.S. Cl. 98-115

13 Claims



A work bench is disclosed including a support stand on which is centered a work platform about which a plurality of workers may be stationed. The work platform includes a passageway therethrough which communicates with an enclosed plenum chamber centrally positioned on the upper surface of the work platform and also with the output of a blower situated beneath the work platform. The chamber includes upstanding side surfaces consisting of an air filtering material such that in operation, air is forced by the blower through the passageway of the work platform and into the chamber whereby it may be forced through and filtered by the side surfaces of the plenum chamber. The work platform is preferably circular, and overhangs the support stand therebeneath such that a maximum number of workers can be conveniently assembled about the work center. The plenum chamber situated on the work platform is of similar configuration such that a steady stream of clean air is radially blown outwardly across the work platform.

3,537,382 DEVICE FOR THE PASTEURIZATION OR STERILIZATION OF COMMODITIES PACKED IN CONTAINERS

Daniel Lambertus Moellenkamp, Amsterdam, Netherlands, assignor to Stork Amsterdam N.V., Amsterdam, Netherlands

Filed Nov. 1, 1968, Ser. No. 772,532

Claims priority, application Netherlands, Nov. 6, 1967, 6715020

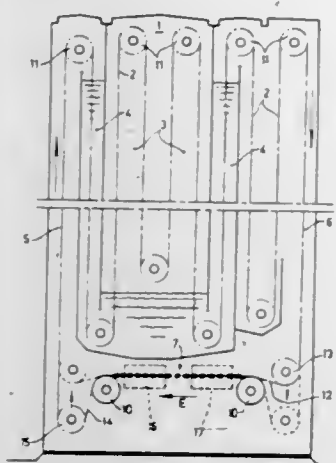
Int. Cl. B65b 55/06

U.S. Cl. 99-249

2 Claims

A device for the pasteurization or sterilization of commodities packed in containers, comprising an endless conveyor with uninterrupted main drive, a loading and an unloading station, additional driving means being provided near

said stations for temporarily stopping the conveyor at these stations and subsequently accelerating it, whereby accumula-



tion loops for the conveyor are provided before and beyond said stations.

3,537,383 COFFEE MACHINE

Gianfranco Croce, Pontecurone, Italy, assignor to Officine Cimballi Giuseppe S.p.A., Binasco (province of Milan), Italy, a corporation of Italy

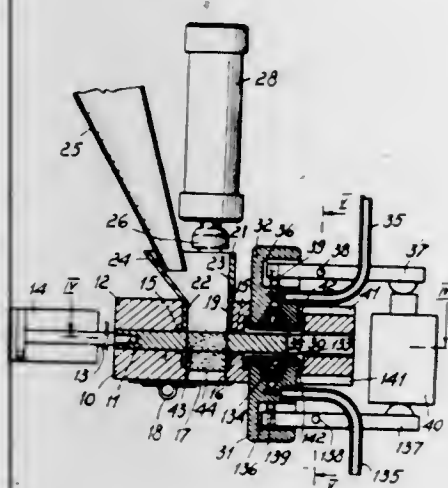
Filed Jan. 24, 1969, Ser. No. 793,752

Claims priority, application Italy, Jan. 30, 1968, 12,201A/68

Int. Cl. A47j 31/34

U.S. Cl. 99-289

7 Claims



This disclosure relates to a machine for infusing coffee and like liquid extracts which comprises a plate having a bore and arranged to reciprocate between a first and a second position, means being provided in said first position for supplying a load of coffee grounds into said bore, pressing means for pressing said coffee grounds and expelling the load of coffee grounds preceedingly supplied into said bore, hot water supply means being arranged to pass hot water into said bore from above when said plate is in said second position and receptacle means arranged below said bore in said second position so as to receive the coffee infusion resulting from the passage of said hot water through the coffee grounds contained in said bore.

3,537,384

STEAM AND WATER PREPARING MACHINE, ESPECIALLY FOR PREPARING COFFEE AND TEA BEVERAGES

Siegfried Stauber, Zurich, Switzerland, assignor to Evoco Trust Reg., Mauren, Liechtenstein a corporation of Liechtenstein

Filed May 17, 1968, Ser. No. 730,098

Claims priority, application Switzerland, May 22, 1967, 7144

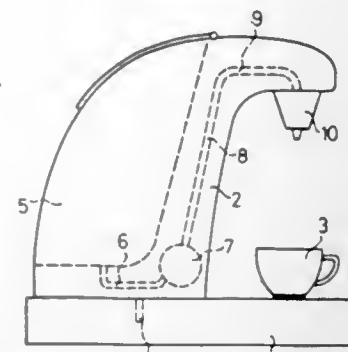
Int. Cl. A47j 31/24

U.S. Cl. 99-302

6 Claims

A steam and water preparation machine, especially useful for making coffee and tea beverages, which is of the type comprising a pump unit for delivering a practically constant

feed volume per revolution. A pouring head is provided for discharging the delivered feed volume, and an electrically heated pipelike throughflow heater means is operably coupled with the pump unit. Electrical heating means serves to



heat the pipelike heater means. The invention further contemplates the provision of means for varying the pump delivery or the heating power of the pipelike throughflow heater means.

3,537,385 DEVICE FOR THE PRODUCTION OF SKINLESS SAUSAGES

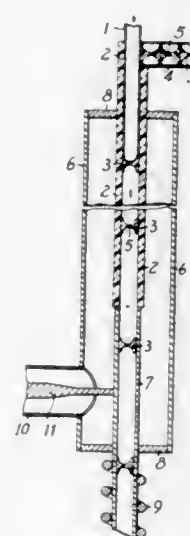
Herbert August Puschner, 175 Osterholzer Heerstrasse and Horst Eberl, Hornerstrasse 18, Bremen, Germany

Filed July 20, 1967, Ser. No. 654,909

Int. Cl. A22c 11/00

U.S. Cl. 99-353

6 Claims



A hollow waveguide concentrically surrounds a nonconducting sausage guide and is connected to a microwave generator by a coaxial waveguide contiguous with the nonconducting sausage guide.

3,537,386

APPARATUS FOR MIXING, PREPARING AND EXTRUDING VISCOUS MATERIAL

Gregory Grosbard, Long Beach, New York, assignor to International Research Development, Inc., Salt Lake City, Utah

Filed Nov. 4, 1968, Ser. No. 773,118

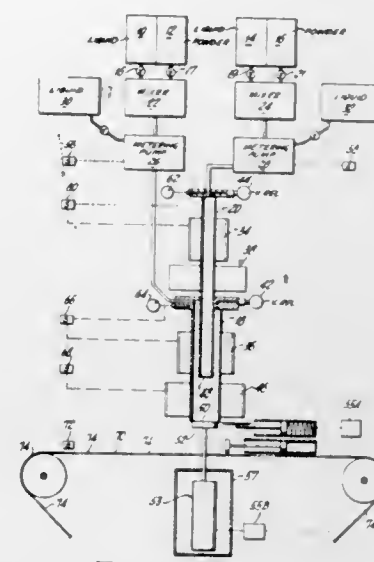
Int. Cl. A23 5/00

U.S. Cl. 99-353

14 Claims

The raw materials, particularly food products, from separate storage containers, are fed in from the top into respective ones of a plurality of flow tubes, for example, cylindrical and concentric, through which the materials flow downwardly by gravity and are discharged onto a receiver at the bottom in solidified or semisolidified form. The viscosities of the respective materials are increased in the forming tubes, depending upon the types of materials (such as liquid eggs, gelatins, chocolate, caramel, ice cream) by heating elements or cooling elements, or both, surrounding respective portions of the lengths of the respective flow tubes. Vibrator means assist the downward flow. Metering pumps control the

flow quantities, and a horizontally reciprocable cutoff mechanism at the bottom of the tubes severs the unitary sin-



gle or plural formed product from the rest of the solidifying material above within the tubes.

3,537,387 ELECTRICAL CONTACT ELEMENTS FOR RESISTANCE COOKING

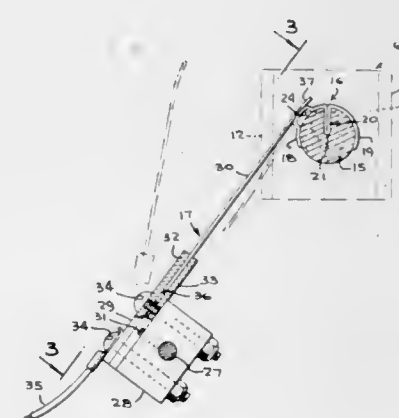
Raymond H. Sierk, Whitestone, New York and Raymond W. Sierk, Smoke Rise, New Jersey, assignors to Automatic Swank Frank Corp., New York, New York a corporation of New York

Filed Oct. 28, 1968, Ser. No. 770,996

Int. Cl. H05b 3/00

U.S. Cl. 99-358

9 Claims



Improvement in electrical contact elements for resistance cooking of frankfurters in special sandwich packages wherein one element is in the form of a spread band having a central prong for penetration of the end of a frankfurter projecting from the special package and having bendable wings for compressive encirclement of the frankfurter end. One, or both, wings are provided with raised contact pads, out of contact with the frankfurter when the band is in place, for engagement by a resilient contact arm of a second contact member.

3,537,388 CAMP GRILL AND REFLECTOR OVEN

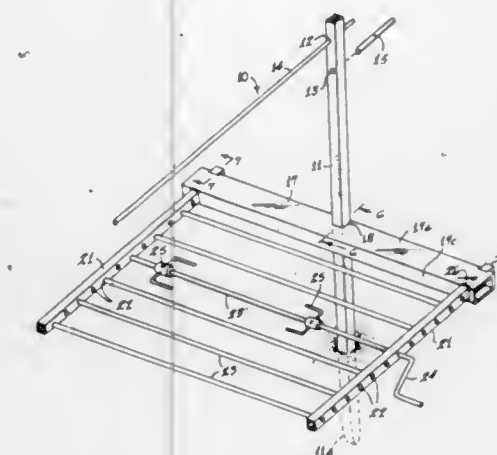
Edward J. Martin, 4909 Fremont Ave. S., Minneapolis, Minnesota 55409

Filed April 21, 1969, Ser. No. 818,004

Int. Cl. A47j 37/00; F24b 3/00; F24c 1/16

U.S. Cl. 99-421

10 Claims



A readily adjustable camp grill collapsible into small compass and incorporating a reflector oven for baking over an open fire.

3,537,389 APPARATUS FOR FRYING TACO SHELLS

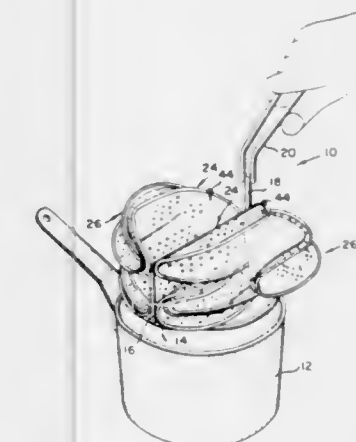
John L. Villarreal, Norfolk, Virginia (4548 Clairmont St., Jacksonville, Fla. 32207)

Filed Dec. 24, 1968, Ser. No. 786,693

Int. Cl. A47j 43/18

U.S. Cl. 99-427

12 Claims



An apparatus for frying taco shells which is substantially circular in cross section so as to be insertable into saucepans and the like found in the home. A plurality of inner molds are hingedly received within associated outer molds with each inner mold capable of being swung out independently whereby individual attention may be given to each taco shell. The outer molds are attached to a supporting structure and inclined at a slight angle to the horizontal so that the inner molds tend to remain in closed position.

3,537,390 REFUSE COMPACTOR

Lester H. Hinkel, Benton Harbor; Gordon H. Brown and Robert M. Chandler, St. Joseph, Michigan, assignors to Whirlpool Corporation, a corporation of Delaware

Filed Oct. 29, 1968, Ser. No. 724,959

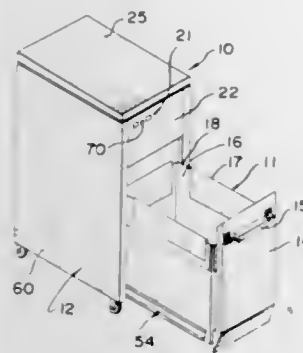
Int. Cl. B30b 15/00

U.S. Cl. 100-100

13 Claims

A domestic refuse compactor including a drawer wherein household refuse is compacted by a ram to a fraction of its normal volume. The refuse is compacted in the drawer within a suitable bag permitting the compacted refuse to be removed as a wrapped package for facilitated disposal. The

compactor may be provided with a freestanding movable cabinet or may be installed as a built-in structure in a conventional kitchen base cabinet. The ram is carried on a pair of screw members to bridge the drawer and compact the



refuse and return to a retracted position above the drawer permitting selective movement of the drawer to an open position for introduction of refuse into the drawer.

3,537,391

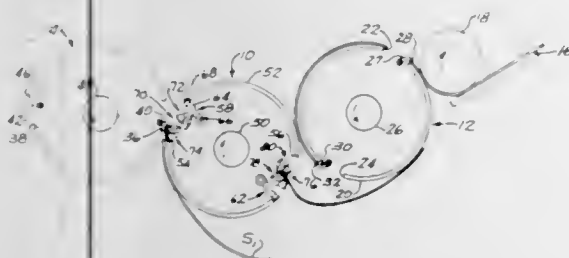
SHEET HANDLING APPARATUS AND METHOD FOR MULTICOLOR PERFECTOR PRESS

Harry E. Mowry and Guy F. Werner, Pittsburgh, Pennsylvania, assignors to Miller Printing Machinery Co., Pittsburgh, Pennsylvania a corporation of Pennsylvania
Filed Oct. 18, 1967, Ser. No. 676,188

Int. Cl. B41f 5/02; 21/06

U.S. Cl. 101-183

12 Claims



A sheet fed offset printing press having a perfecting cylinder with suction means disposed longitudinally along the periphery of the cylinder and pairs of tumbler grippers positioned adjacent to the suction means. The suction means is arranged to engage the trailing edge of a sheet on an adjacent impression cylinder and transfer the trailing edge of the sheet to the adjacent pairs of tumbler grippers. The trailing edge of the sheet is reversed by the tumbler grippers and becomes the leading edge of the sheet. The sheet with the former trailing edge as the leading edge is then transferred to an adjacent impression cylinder. The suction means is mounted for limited rotation along the periphery of the perfecting cylinder to tension the sheet on the adjacent impression cylinder before the sheet is released from the impression cylinder to remove wrinkles present in the sheet. The suction means may also be arranged for limited sliding movement relative to the sheet so that all of the sheets are engaged by the suction means at the same location adjacent the trailing edge of the sheet. The trailing edge of the sheet is engaged by the suction means when the suction means is tangent to the adjacent impression cylinder and transfers the sheet to the first pair of grippers at a location where the tumbler grippers are beyond the tangent point with the first impression cylinder. With this arrangement, the pair of tumbler grippers can extend beyond the periphery of the perfecting cylinder during transfer of the sheet thereto from the suction means.

3,537,392 REGISTRATION CONTROL FOR SUPERPOSING COMPLEMENTARY IMPRINTS

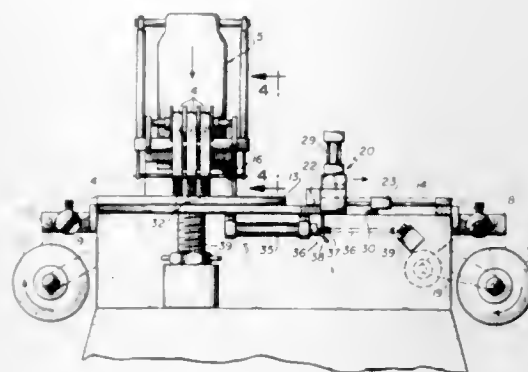
James M. Ikuss, Spring Lake Heights, New Jersey, assignor to Dri-Print Foils, Inc., Newark, New Jersey a corporation of New Jersey

Filed July 9, 1968, Ser. No. 743,513

Int. Cl. B41f 1/10; B65h 17/36

U.S. Cl. 101-198

6 Claims



An apparatus for hot stamping successive complementary imprints on a length of material and which provides: a clamp that is attachable and detachable to the material to be hot stamped; when the clamp attaches to the material, the material is moved until the clamp engages a stop; this ends the first movement of the material. The clamp then disengages and returns to the original position where the cycle starts again.

3,537,393

STARTING AND STOPPING MEANS FOR SINGLE REVOLUTION ROTARY PRINTER

Nobumitsu Hegi, Kitakyushu, Japan, assignor to Nippon Steel Corporation, Tokyo, Japan

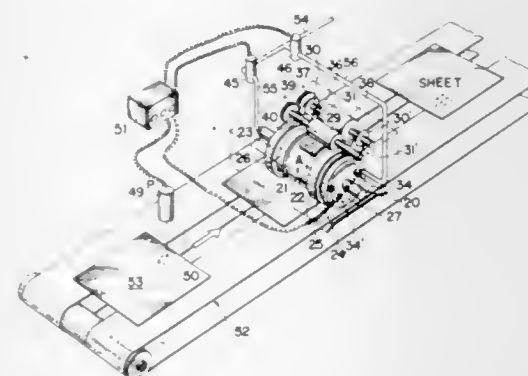
Continuation-in-part of application Ser. No. 693,340, Dec. 26, 1967, now abandoned. This application Aug. 26, 1969, Ser. No. 853,185

Claims priority application Japan, Dec. 31, 1966, Ser. No. 41/85,987

Int. Cl. B41f 13/24; F16d 67/02

U.S. Cl. 101-235

7 Claims



A running printer. The printer has a frame with a rotary shaft freely rotatably mounted on said frame. A printing drum is freely rotatably mounted on said shaft and has a clutch drum integral with one end of said drum and a brake drum integral with the other end of said drum. A clutch is engageable with said clutch drum and a brake is engageable with said brake drum. A signal means is provided for producing signals for startup and stopping in response to the feeding of a sheet to be printed. Clutch and brake actuating means is coupled to said clutch and brake, respectively, and is supplied with signals from said signal means. Means is operatively associated with said drum for feeding and guiding a sheet over said drum and drive means is coupled to said clutch and to said feed and guide means.

3,537,394

PRINTING WHEEL FOR PRINTING LAYOUT MARKS

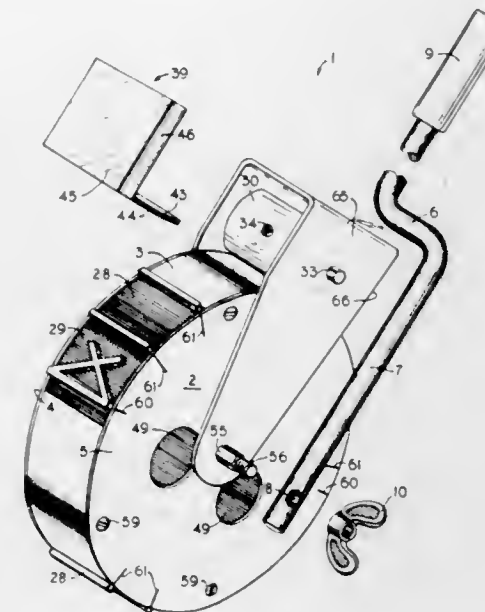
Barton L. Swapp, 1060 E. 7575 S., Midvale, Utah 84047

Filed Jan. 16, 1969, Ser. No. 791,754

Int. Cl. B41j 1/54; B41g 2/00

U.S. Cl. 101-328

12 Claims



A layout tool having a plurality of marking pads of a first type normally exposed at the periphery of a cylindrical wheel which may be selectively recessed into the wheel during alternate revolutions of the wheel. Opposed marking pads of a second type are individually manually positioned into and out of the exposed location to accommodate predetermined spacing of marks.

3,537,395

SADDLES FOR FLEXIBLE THIN PRINTING PLATES

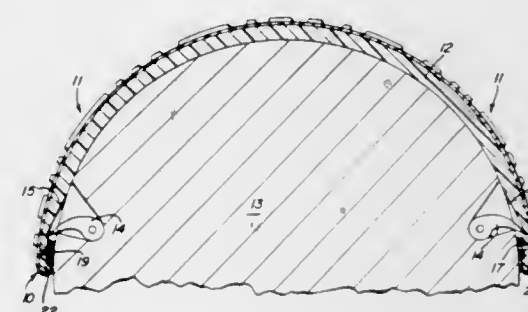
Roy W. Prince, Lexington, Massachusetts and Manuel C. Uy, Glen Burnie, Maryland, assignors to W. R. Grace & Co., New York, New York a corporation of Connecticut

Filed March 18, 1968, Ser. No. 713,956

Int. Cl. B41f 27/06

U.S. Cl. 101-378

6 Claims



This invention relates to a saddle having a recess portion transverse the width of its underside near each end, which recess portion is adapted to secure a thin flexible printing plate thereto.

3,537,396

PRINTING FORMS WITH TYPE SLUG RETAINING MEANS

Karlheinz Mock, Belair, and John S. Anderson, Glen Arm, Md., assignors to American Bank Stationary Company, Baltimore, Maryland, a corporation of Maryland

Filed March 24, 1967, Ser. No. 625,832

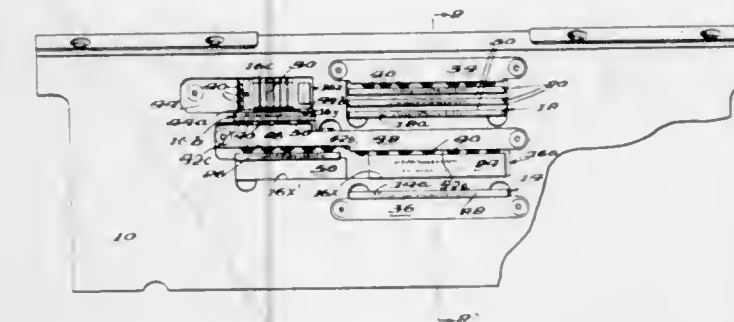
Int. Cl. B41b 1/18; B41l 25/00

U.S. Cl. 101-393

14 Claims

The invention relates to a quoinless printing form for use in specialized job printing, such as that of imprinting checks and like documents. Said printing form comprises a base plate having a plurality of functionally independent, generally rectangular window openings therein which are arranged in

accordance with the requirements of a standard job layout. One edge of each said window opening provides a locating surface for the printing element or elements to be received therein, and in each said window opening is mounted a pressure member extending along its opposite edge and which carries a plurality of individual pressure units which are operative through the side face of said pressure member that is disposed towards said one edge, said pressure units thus functioning to press the printing element or elements in a window opening served thereby against said locating surface. Means are also provided to prevent workup of the furniture conventionally employed to space the printing element or elements one from another within a window opening or from the locating edge thereof. One or more of the furniture



pieces may be specially constructed to provide either a line- or no-line-of-printing feature. The printing form also makes provision for the use of unmounted cuts, as distinguished from the conventional mounted cuts. Means in the form of an ejector grid for effecting either complete or partial ejection of the printing elements and associated furniture from their respective window openings, as permits rapid change-over from job to job, is also provided, such generally comprising a plate member having projections adapted to mate with said window openings and which when registered therewith and moved into the window openings are adapted to eject the printing elements and associated furniture therefrom.

3,537,397

PYROTECHNIC SIGNALING DEVICE HAVING WATER REACTIVE IGNITER

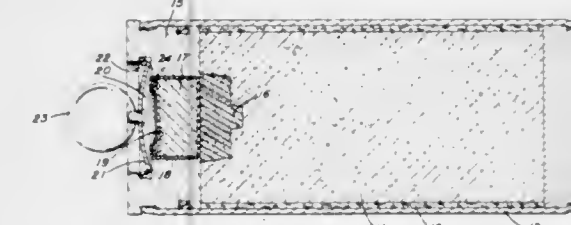
William L. Ripley and Lloyd A. Smith, Bedford, Indiana, assignors to The United States of America, as represented by the Secretary of the Navy

Filed Aug. 16, 1968, Ser. No. 753,090

Int. Cl. F42b 15/22; 22/28; F42c 3/00

U.S. Cl. 102-37.8

4 Claims



A pyrotechnic signaling device having a quantity of pyrotechnic composition for producing smoke or flame and a water reactive material for igniting said pyrotechnic composition. The water reactive material is comprised of, by weight, of between 35 and 55 percent of sodium peroxide, between 20 and 50 percent of ferrosilicon and between 10 and 25 percent of powdered aluminum.

3,537,398

RIFLE GRENADE

Andre Dauban, 51 Rue Albert Ier, Arquennes, Belgium

Filed Dec. 20, 1968, Ser. No. 787,657

Claims priority, application Belgium, Dec. 28, 1967, 708,642; Dec. 29, 1967, 708,816

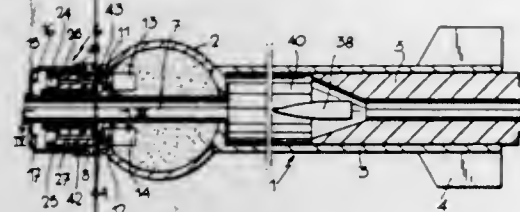
Int. Cl. F42b 11/42; F42c 15/02

U.S. Cl. 102-65.2

4 Claims

The present invention relates to a rifle grenade which comprises an explosive head and a fuze. A duct axially extends

through both explosive head and fuze for the passage of the bullet of a conventional ball cartridge fired by means of the rifle. Said fuze comprises coaxially disposed around the said duct, two members one of which is provided with a striker and a detonator which are separated from one another by the other member which is provided with a percussion cap and a



cap holder. An ejectable means is provided which, before the launching of the grenade, prevents a relative rotation of said both members towards a position wherein the said percussion cap and cap holder are in line with the said striker and detonator.

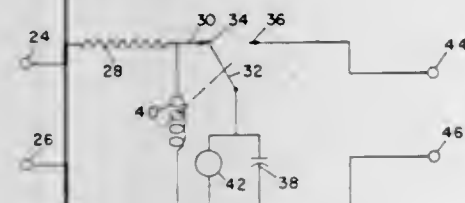
3,537,399

METHOD AND DEVICE FOR BLASTING
Paul H. Miller, Tamaqua, Pennsylvania, assignor to Atlas Chemical Industries, Inc., Wilmington, Delaware a corporation of Delaware

Filed May 31, 1968, Ser. No. 733,634
Int. Cl. F42b 3/12

U.S. Cl. 102-70.2

14 Claims



A method and blasting device are disclosed for use in initiating up to about 150 blasting caps disposed in a parallel circuit. The blasting device includes a capacitor for delivering preferably an energy output of between about 210 to about 400 watt-seconds of energy over a relatively short period of time, and a voltage sensing switch for releasing energy from the capacitor when the required level of energy output is available. The output energy, although sufficient to initiate up to about 150 blasting caps disposed in a parallel circuit, is insufficient to cause malfunction by internal arcing of as few as one electric blasting cap disposed in the parallel circuit.

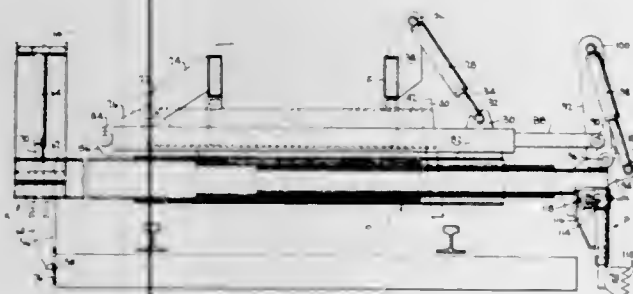
3,537,400

TIE RENEWAL MACHINES
Glenn E. Taylor, 1345 Bankhead Ave. NW, Atlanta, Georgia
Filed Nov. 18, 1968, Ser. No. 776,329

Int. Cl. E01b 29/06

U.S. Cl. 104-9

13 Claims



A tie renewal machine for removing and replacing the cross-ties of a railroad track, in which a vehicle movable along the track carries at one side thereof a tie pusher for thrusting engagement against the end of a selected tie to par-

tially eject the tie. At the other side of the vehicle is carried a tie puller having gripping jaws which are spread apart during actuation of the tie pusher to receive between them the partially ejected tie to then grip the same and complete its withdrawal by a pulling action in the direction of the tie length.

3,537,401

AUTOMATICALLY CONTROLLED TRANSPORTATION SYSTEM

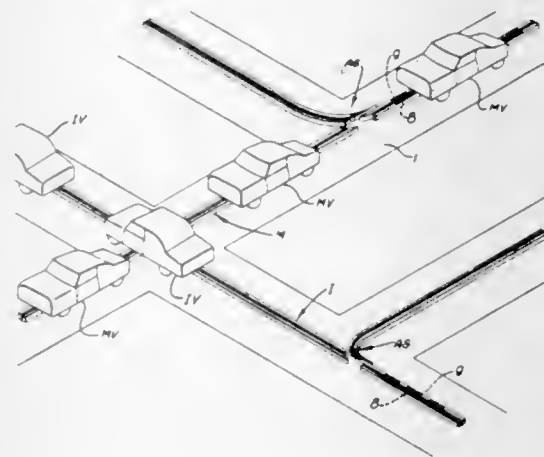
Robert G. Metzner, 916 N. Foothill Rd., Beverly Hills, California 90210

Filed Oct. 19, 1967, Ser. No. 676,594

Int. Cl. B60l 15/38

U.S. Cl. 104-149

33 Claims



A transportation system in which vehicles traveling along a track or roadway are automatically spaced in response to timing and speed controlling systems so as to assure proper spacing of intersecting vehicles.

3,537,402

DRIVE SYSTEM

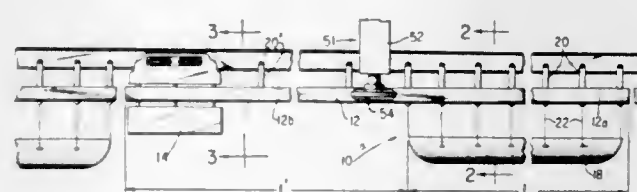
Andrew J. Harkess, Edgewater, New Jersey, assignor to Hewitt-Robins Incorporated, Stamford, Connecticut

Filed May 6, 1968, Ser. No. 726,781

Int. Cl. B61b 13/12; B65g 23/12

U.S. Cl. 104-168

5 Claims



In the present invention stationary friction drives are located at spaced locations around an overhead track system and over which system vehicles are designed to travel. Each vehicle travelling over the track system is provided with a flexible tension member that is driven by the friction drives. This tension member extends out in front of the vehicle by a distance at least equal to the distance between the two successively spaced friction drives in said track system which are spaced furthest apart. A powered vehicle is coupled to the front of the tension member and serves to extend the tension member from one friction drive to the next in order to allow the friction drives to continuously drive the vehicle.

3,537,403

DOOR OPERATOR

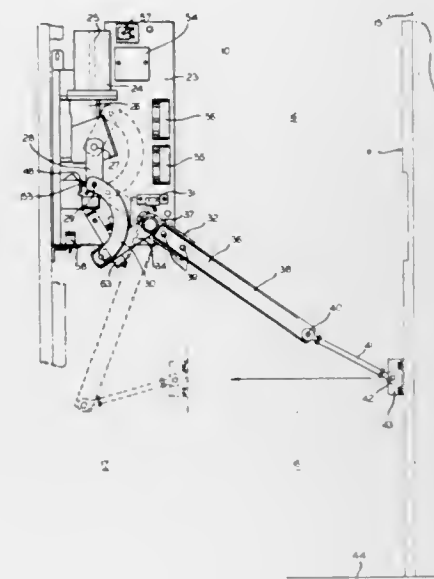
Kristupas Daugirdas, Wilmette and Charles J. Jechort, Jr., Berwyn, Illinois, assignors to Vapor Corporation, Chicago, Illinois a corporation of Delaware

Filed July 12, 1968, Ser. No. 744,543

Int. Cl. B61d 19/00; E05f 1/00

U.S. Cl. 105-341

17 Claims



Door operator for a vehicle to be mounted vertically in the wall of the vehicle substantially above the floor.

3,537,404

PASTRY FORMING APPARATUS AND METHOD

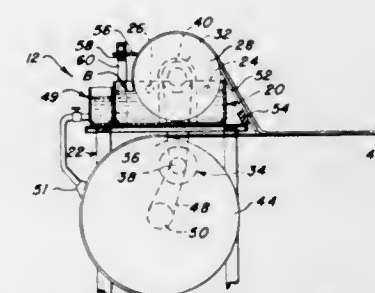
James T. Rohrbacher, Chicago and Richard C. Wagner, Clarendon Hills, Illinois, assignors to Integral Process Systems, Inc., a corporation of Illinois

Filed Aug. 27, 1968, Ser. No. 755,592

Int. Cl. A21b 1/46

U.S. Cl. 107-1

17 Claims



An apparatus and method for automatically and continuously providing individual filled pastries including, a liquid reservoir at a dispensing station, means for maintaining a preselected level of liquid within said reservoir, a rotary drum having a portion disposed below the liquid level in said reservoir for picking up liquid by surface adhesion, said drum having a portion disposed above the level of liquid in said reservoir, stripping means for removing liquid from the exposed portion of said drum and for depositing the liquid as a web on a continuously movable conveyor, heating means in line with said conveyor for cooking the web of liquid on the conveyor, a discharge conveyor for receiving the cooked web, means for severing the web longitudinally and transversely to form individual leaves, and means for dispensing filling material on each leaf.

3,537,405

BAKING IN ROTATABLE RACK OVENS

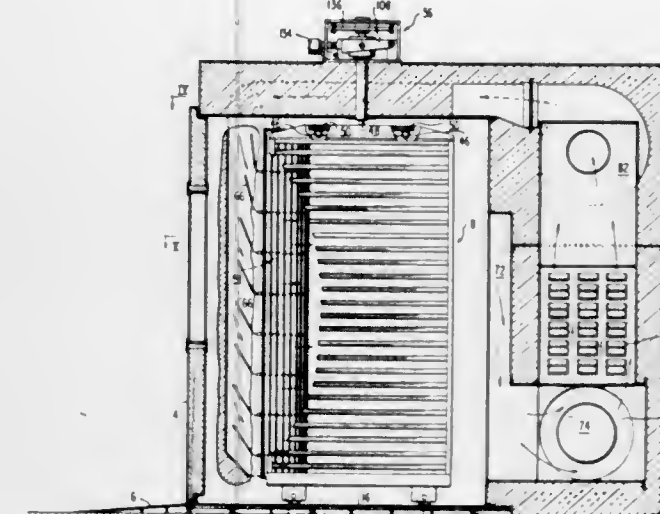
Albert F. Verhoeven, Grand Rapids, Michigan, assignor to Werner Lehara Inc., Grand Rapids, Michigan, a corporation of Michigan

Filed March 18, 1968, Ser. No. 713,695

Int. Cl. A21c 1/44

U.S. Cl. 107-54

17 Claims



This disclosure relates to baking in a rotatable rack oven in which a rack with goods to be baked is rolled into the oven, the rack is lifted off the floor and rotated while baking with heated air supplied from one side of the oven. A moving air column is provided beneath the floor of the oven to protect the floor beneath the oven. Means are provided to lower the rack in a predetermined position relative to the door when the oven is turned off.

3,537,406

DECORATING BREAD PRODUCTS

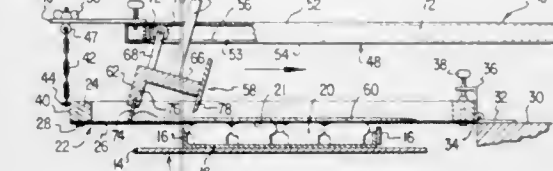
Lewis John Ort, P.O. Box 3277, La Vale, Md. 21502

Filed June 12, 1968, Ser. No. 736,394

Int. Cl. A21d 2/00

U.S. Cl. 107-54

8 Claims



Decorated bread products such as rolls or the like are produced by silk screening a design on half proof rolls. Thereafter the raising process is completed to enlarge the designs as the rolls swell. The rolls are then baked in a conventional manner.

3,537,407

FOLDING TABLE WITH TOP PIVOTALLY MOUNTED AT ONE END

Wenman E. Sarius, Barrington, Illinois, assignor to Rogal Tube Bending Company, Inc., Chicago, Illinois a corporation of Illinois

Filed July 15, 1968, Ser. No. 744,845

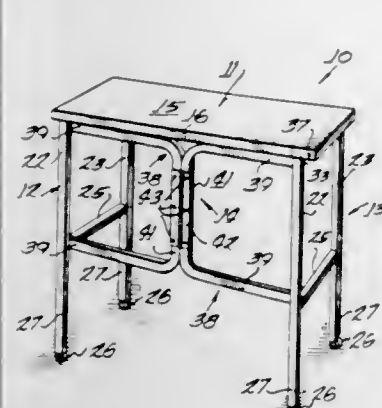
Int. Cl. A47b 3/08

U.S. Cl. 108-124

5 Claims

A folding table that collapses to take up a minimum of space and opens to form a rigid table preferably provided with casters for maximum mobility, the table including a rigid top pivotal at one end on one of a pair of end leg sections with the leg sections being connected by a hinged inter-

mediate frame. Each leg section includes a pair of legs in a rigid frame, and the intermediate frame includes a pair of U-shaped members hinged together at their bases and pivotally mounted at their outer ends to the leg sections.



3,537,408

CHANNEL RAIL SUPPORT FOR TV STANDS

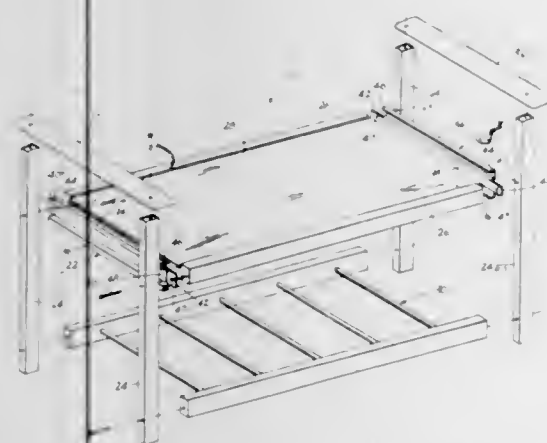
Ronald Keith Bartlett, and Thomas M. O'Sullivan, Lamar, Mo., assignors, by mesne assignments, to O'Sullivan Industries, Inc., Wilmington, Delaware, a corporation of Delaware

Filed May 14, 1968, Ser. No. 728,984

Int. Cl. A47h 47/00, 57/08, 3/06

U.S. Cl. 108-156

3 Claims



A channel rail cross member for connecting legs of a TV stand and supporting a shelf member. The channel rail is provided with two offset channels, one of which receives the shelf in supporting relation. The two channel rails are connected by a web portion and, through an extension of the web portion serve as shoulders or braces when the channel rail is connected to the legs of the stand.

3,537,409

BANK SECURITY SYSTEM

John A. Farley, Jr., 101 E. Redwood St., Baltimore, Maryland

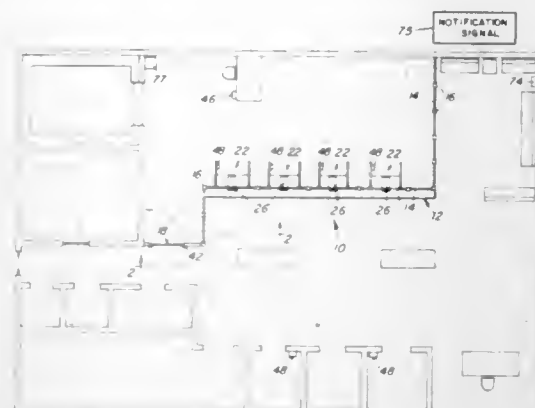
Filed May 6, 1969, Ser. No. 822,176

Int. Cl. E05g 3/00

U.S. Cl. 109-19

16 Claims

This disclosure relates to a bank security system including a bulletproof enclosure for a vault and one or more teller stations, a normally-locked bulletproof access door in the enclosure, an unlocking switch for the access door located within the enclosure, a bulletproof aperture in the enclosure at each teller station permitting a teller and customer to converse, and a bulletproof teller drawer at each teller station providing means for teller and customer to transact business without physical contact. A locking and alarm system is provided which will lock the teller drawers in either the open or closed positions, disable the unlocking switch for the access



3,537,410

INCINERATOR WITH RESIDUE REDUCTION

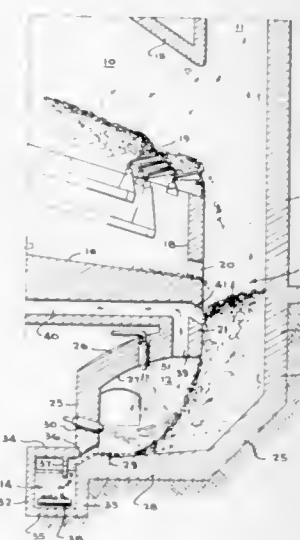
Auram B. Zanft, New York, New York, assignor to Hagan Industries Incorporated, Carona, New York a corporation of New York

Filed Sept. 20, 1968, Ser. No. 761,132

Int. Cl. F23g 5/12

U.S. Cl. 110-8

9 Claims



An incinerator including a combustion chamber, means for charging refuse into the combustion chamber, means for igniting refuse charged into the combustion chamber, the igniting means being sufficient to incinerate organic refuse in the combustion chamber, a melting chamber, passage means for conducting residue from the combustion chamber to the melting chamber, means for melting residue charged into the melting chamber, means for melting residue charged into the melting chamber and the melting means being sufficient to melt inorganic residue received from the combustion chamber.

3,537,411

DOUBLE SHELLED CHIMNEY STACK

John R. Roy, 36 Fairmont Ave., Newton, Massachusetts 02158

Filed Jan. 15, 1969, Ser. No. 791,225

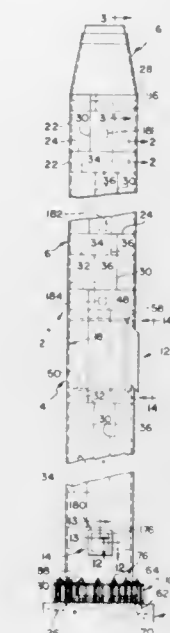
Int. Cl. F23j 11/00

U.S. Cl. 110-184

33 Claims

A double shelled metal chimney stack made up of a substantially integral load-bearing metal outer shell and a substantially integral and substantially nonload-bearing, gas-conveying metal inner shell, the hermetically sealed annular air space between the shells providing insulation. Each shell comprises an integral, unitary welded structure substantially over its length, with the inner shell being slidable axially with respect to the outer shell in response to differential thermal

expansion and contraction of the shells. A plurality of axially spaced annular spacers are located between the shells. The



top of the stack is provided with a frustoconical cap for increasing the velocity of the gases.

3,537,412

STABILIZER FOR MARINE VESSELS

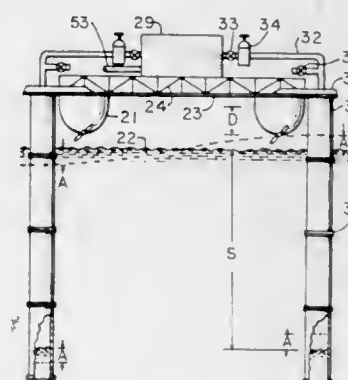
Homer I. Henderson, 2220 Live Oak St., San Angelo, Texas 76901

Continuation of application Ser. No. 727,894, May 9, 1968, now abandoned. This application June 30, 1969, Ser. No. 842,785

Int. Cl. B63b 35/44, 43/06

U.S. Cl. 114-0.5

10 Claims



A stabilizer for a marine vessel having pipes termed "buoy pipes," of relatively large diameter secured on each side and each end of the vessel; the pipes projecting downwardly into the water for a distance that is many times the draft of the vessel and the lower end of said pipes being open while the upper end is closed. Air is pumped into the buoy pipes to displace water therefrom. The resultant pressure of the air corresponds to the head of water displaced. The air pressure within the buoy pipe generates an upward force on the closed top of the open-ended buoy pipe, which force is a product of the pressure within the buoy pipe and the buoy pipe's internal area. A sufficient number of pipes, of sufficient area, and depth of submersion, are used so as to actually pneumatically jack the vessel above the water's surface a sufficient distance as to be above the crest of surface water waves. Each cubic foot of water displaced by air gives a lift equivalent to the weight of 1 cubic foot of water.

3,537,413

SEA-GOING CARGO TRANSPORTATION FACILITIES

Thomas Rankine Farrell, 132 Myrtle Ave., Millburn, New Jersey 07041

Continuation-in-part of application Ser. No. 752,376, Aug. 13, 1968, now abandoned. This application Oct. 2, 1969, Ser. No. 863,268

Int. Cl. B63b 25/00

U.S. Cl. 114-43.5

20 Claims



Plural, similar, cargo-carrying barges are floated into a well provided between twin hulls of a self-propelled transport ship and are individually raised or lowered in the well to similar draft levels at which they are rigidly held to constitute said ship and barges as a unitary, ocean-going vessel with both the transport ship and the barges contributing to the buoyancy of the vessel. Optionally, the barges are provided with novel coupling means enabling them to be interconnected in tandem, and the transport ship, optionally, is provided with means for pulling the barges into the transport ship's well. Jacking means on the transport ship are rigidly connectible to the barges to effect said raising or lowering of the latter and to function as primary securing means for holding them in their raised or lowered positions during a voyage; and secondary securing means are optionally provided for holding the barges against sidewise shifting in relation to the twin hulls.

3,537,414

SHIPBOARD CARGO STOWAGE CONSTRUCTION

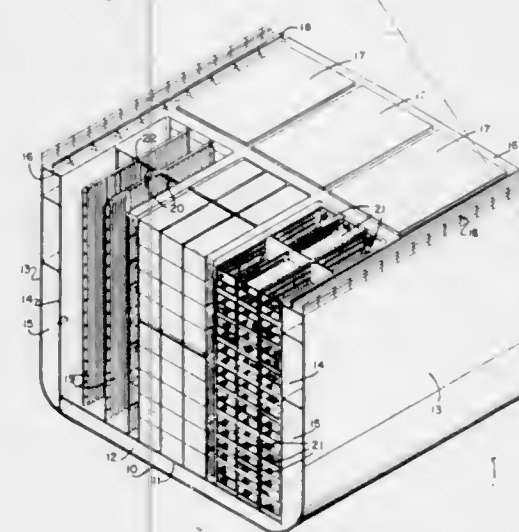
Jerome L. Goldman, 5724 Bancroft Drive, New Orleans, Louisiana 70122

Filed Oct. 2, 1968, Ser. No. 764,383

Int. Cl. B63b 25/00, 25/22

U.S. Cl. 114-72

10 Claims



Where cargo bearing containers (pallets) are loaded one upon another in cargo cells in the holds of cargo-carrying freighters the superincumbent weight, particularly where aggravated by running seas, has been a frequent cause of breaking down and destruction of both containers and cargo; to which end a form of individual support of each pallet from the structure of the cell is proposed as a species suggestive of a genus in which species normally retracted supports on the pallets are projected into pallet-supporting relation with the cell structure incident to lowering of the pallets into proximity to a next lower already set pallet whereby individual pallets are individually supported in the cells quite independently of all other pallets.

3,537,415

CONTAINER FOR LIQUEFIED GASES

Robert G. Jackson, Hornchurch, Essex, England, assignor to Conch Ocean Limited, Nassau, The Bahamas, a company of The Bahamas

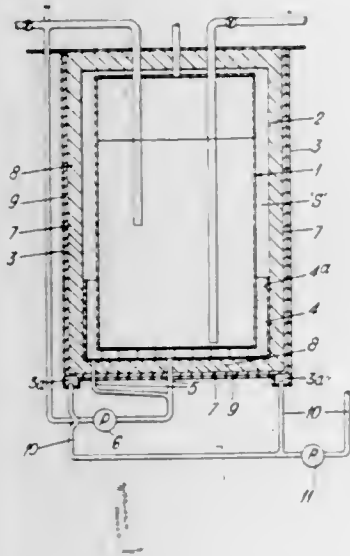
Filed Oct. 22, 1968, Ser. No. 769,650

Claims priority, application Great Britain, Oct. 31, 1967, 49,426/67

Int. Cl. B63b 25/16; B65d 25/00

U.S. Cl. 114—74

8 Claims



The present invention relates to a container of the kind for containing very cold liquids and comprising a tank (1, 15) of cold resistant material surrounded by thermal insulation (2, 14) characterized by the provision of a thin substantially water-impermeable film or foil extending parallel, or generally so, to the exterior surfaces of the sidewalls and, optionally, the bottom of the tank and located within the thickness of the surrounding thermal insulation adjacent the external face thereof, i.e. the face remote from the tank, such that any water or water vapour which penetrates the outer thickness of insulation runs down the film or foil and is collected adjacent the bottom of the tank.

3,537,416

SHIPPING CONTAINER AND METHOD FOR TRANSPORTING HYDROCARBON FLUIDS AND THE LIKE

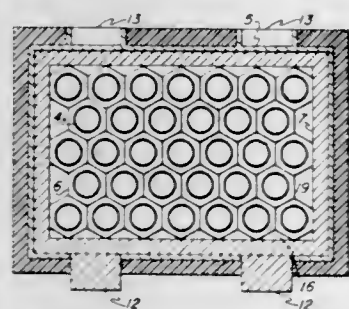
Walter C. Cowles, Stamford, Connecticut, assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 2, 1969, Ser. No. 788,533

Int. Cl. B63b 25/16; B65d 25/00, 21/02

U.S. Cl. 114—74

5 Claims



Means for the transportation of liquefied gases and the like which comprises a plurality of nested cargo cylinders each fitted with hexagonal support collars and so arranged that the collars bear against each other when the individual cargo cylinders are nested. Each plurality of such nested cargo cylinders are in turn enclosed in a boxlike enclosure, which serves as a secondary barrier in the event that one or more of the individual cargo cylinders fails. The boxlike enclosure may in turn be nested to provide as much cargo-handling capacity as desired.

3,537,417

STABILIZER UNIT FOR CANOES OR THE LIKE

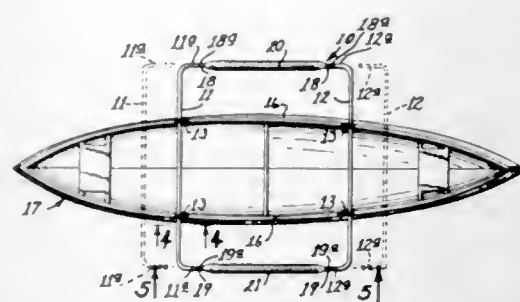
Emmett D. Beckner, 8360 Westwood Road, Spring Lake Park, Minnesota 55433

Filed Dec. 23, 1968, Ser. No. 786,324

Int. Cl. B63b 43/14

U.S. Cl. 114—123

7 Claims



A stabilizer unit for canoes having a pair of longitudinally extended rigid support elements and a pair of connector members one each extending between common opposite ends of the support elements. A polyurethane foam stabilizer float is carried by and encloses a portion of each of the connector members. Mounting means is carried by the support elements for adjustments longitudinally thereof and for mounting the support elements to the canoe so as to extend transversely thereof between the fore and aft portions of the canoe and the support elements and connector members are formed to position the polyurethane stabilizer floats below the level of the gunwales of the canoe.

3,537,418

SKI TOW HAND GRIP

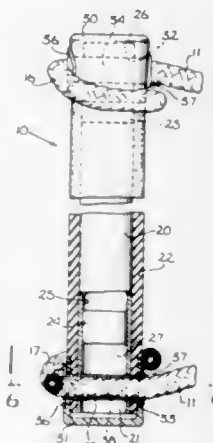
Ivan F. Brownson, 16425 Otsego, Encino, California

Filed March 24, 1969, Ser. No. 809,773

Int. Cl. B63b 21/56

U.S. Cl. 115—6.1

10 Claims



The hand grip disclosed herein provides an elongated tube having a cushion covering and resilient end caps closing and sealing the open ends of the covered tube. A pair of spaced apart transverse holes are formed through the respective end caps and tube ends that receive a curve headed sleeve adapted to conduct a tow line therethrough so that a line terminating loop may be drawn taut about the handle ends.

3,537,419

MARINE ENGINE EXHAUST SYSTEM

Theodore J. Holtermann, Wauwatosa and Gerald Haft, Brookfield, Wisconsin, assignors to Outboard Marine Corporation, Waukegan, Illinois a corporation of Delaware

Continuation-in-part of application Ser. No. 494,210, Oct. 8, 1965. This application Aug. 18, 1969, Ser. No. 850,928

Int. Cl. B63h 21/26, 1/28, 5/06

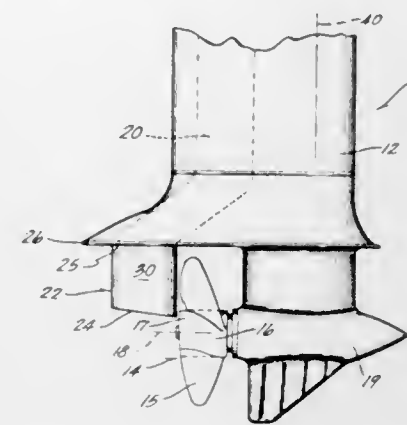
U.S. Cl. 115—34

20 Claims

Disclosed herein is a marine propulsion device including a lower unit having an engine exhaust passageway and a propeller having a hub terminating in a generally cylindrical

portion. The lower unit also includes means including a fin and an exhaust outlet located adjacent to the bottom of the fin or behind the fin for delivering exhaust gases from the passageway in the lower unit to the low pressure area behind

spring serves to preserve perfectly aligned threads which facilitate snapping the coupler over the ends of threaded



3,537,420

NUCLEAR REACTOR WITH INTEGRATED HEAT EXCHANGERS

Gerard Chollet; Daniel Giorgi, Saint-Nazaire; Didier Costes, Paris and Paul Thome, Saint-Cloud, France, assignors to Commissariat A l'Energie Atomique, Paris, France

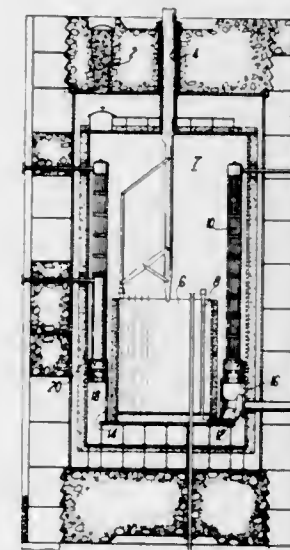
Filed Feb. 20, 1968, Ser. No. 706,820

Claims priority, application France, Feb. 24, 1967, 96491

Int. Cl. G21c 19/20; F22b 37/24

U.S. Cl. 176—65

14 Claims



In order to permit the withdrawal of any one heat exchanger block from a nuclear reactor of the integrated heat exchanger type in which the pressure vessel is provided with only a small number of extraction openings, the heat exchanger blocks are carried on a rotary support.

3,537,421

SPLIT COUPLER WITH ATTACHED INDICATOR DEVICE

Benito Carmine Zannini, Cranston, Rhode Island, assignor to International Telephone and Telegraph Corporation, New York, New York a corporation of Delaware

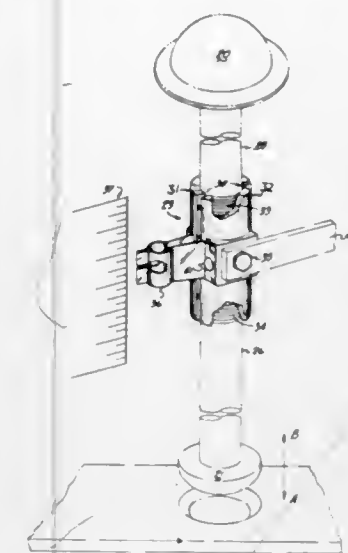
Filed May 27, 1968, Ser. No. 732,125

Int. Cl. G01d 21/00

U.S. Cl. 116—114

6 Claims

A threaded nipple is sawed apart, and the resulting two halves are joined together by a stainless steel spring. The



3,537,422

DISPENSERS PREFERABLY FOR MEDICAL PREPARATIONS IN TABLET FORM

Kjell Moe, Stocksund, Sweden, assignor to Eneqvist & Holme Farmaceutiska AB, Stockholm, Sweden

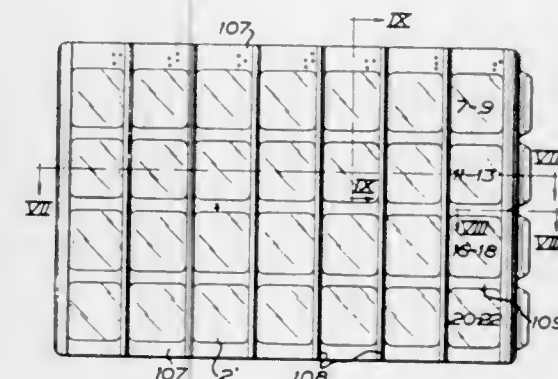
Filed Jan. 22, 1969, Ser. No. 793,047

Claims priority, application Sweden, Jan. 23, 1968, 866/68

Int. Cl. G09f 3/08, 9/00; B65d 1/24

U.S. Cl. 116—121

14 Claims



A dispenser for medical preparations has a body with several spaces or compartments therein, and at least one cover which is movable step-wise relative to the dispenser body so that the spaces or compartments which are delimited from each other are uncovered one after the other. The dispenser which can be replenished time and again with doses of medical preparations has time indications at each space or compartment and a holder for a card showing the prescribed dosage.

3,537,423

AUTOMATED CAR WASHING, RINSING AND WAXING APPARATUS

Glenn H. Burden, 1313 Fair, Gainesville, Texas 76240

Filed Dec. 5, 1968, Ser. No. 781,431

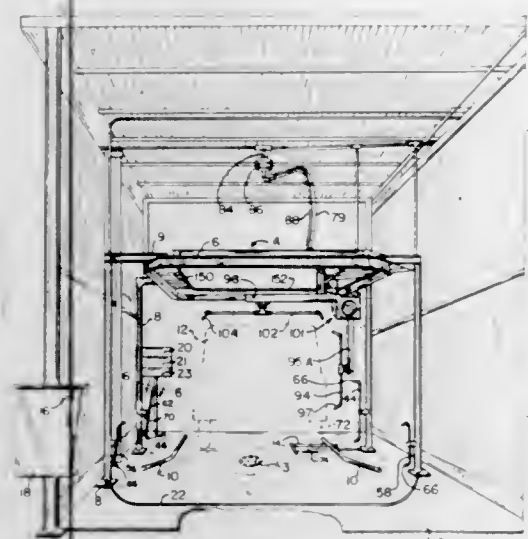
Int. Cl. B05c 5/00, 11/10

U.S. Cl. 118—2

10 Claims

A car washing, rinsing and waxing apparatus, which is normally coin operated and programmed to drive a power unit about an overhead, closed loop track in successive cycles to direct a cleaning solution, such as detergent mixed with warm water, onto a car for a predetermined number of cycles, rinse the car for a predetermined number of cycles with clean water, and selectively direct a solution containing wax onto the car, and a low surface tension rinse solution to

cause the car to dry quickly and leave a wax coating thereon. Provision is made to wash the top of the car twice each cycle



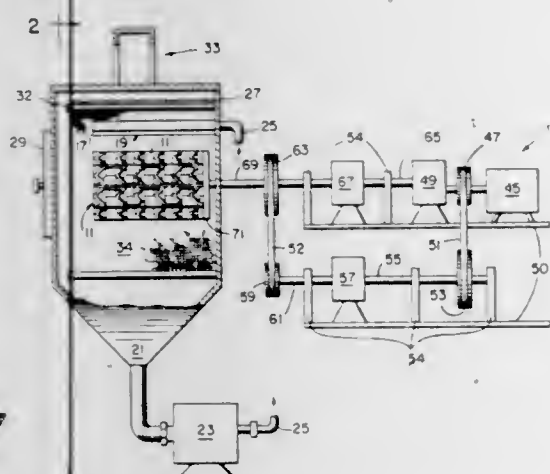
of operation, and to wash the sides of the car each cycle of operation and to wash the wheels for a predetermined time.

3,537,424

RESIN IMPREGNATION OF CELLULAR MEMBERS
Robert L. Sadler, Kansas City, Missouri, assignor to the United States of America, as represented by the United States Atomic Energy Commission
Filed Feb. 7, 1968, Ser. No. 703,596
Int. Cl. B05c 5/00, 11/16

4 Claims

U.S. Cl. 118—6



The resin impregnation of generally annular structures to achieve enhanced strengths or densities which comprises rotatably supporting the structure that is to be impregnated and applying resin thereto during an initial relatively slow rotation so that the resin may permeate wall portions of the structure, and thereafter increasing the speed of rotation of the structure to throw off resin while simultaneously monitoring the resin permeated structure, terminating rotation when throw off of resin has reduced resin permeation to a predetermined value, and subsequently curing the resin impregnated structure.

3,537,425

APPARATUS FOR COATING MEMORY DISCS WITH OXIDE OR LIKE FILM

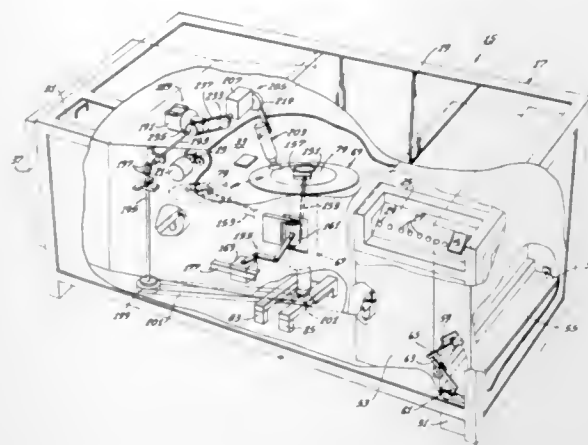
Charles W. David, Marina del Rey, California and Eugene A. Munson, Torrance, Calif., assignors, by mesne assignments, to Disc Pack Corporation, Hawthorne, Calif., a corporation of California
Filed Sept. 14, 1966, Ser. No. 579,392
Int. Cl. B05c 5/00

U.S. Cl. 118—301

3 Claims

Apparatus for spraying discs including a rotatable disc support located within a coating chamber. Arm means are

pivoted within the chamber for swinging a mask from a remote position to a position above the disc located in the support. Nozzle means are movably mounted adjacent the



support for spraying portions of the disc exposed by the mask.

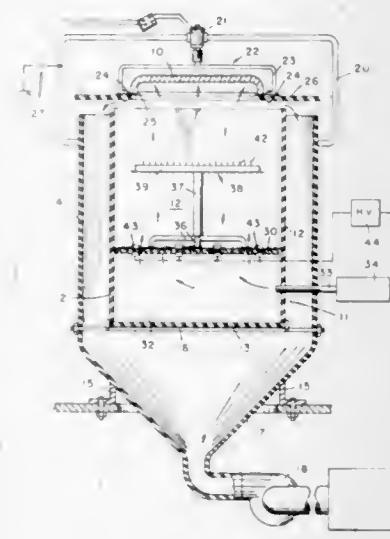
3,537,426

ELECTROSTATIC COATING APPARATUS

Lester L. Spiller and Stephen J. Smith, Indianapolis, Indiana, assignors to Ransburg Electro-Coating Corp., Indianapolis, Indiana a corporation of Indiana
Original application Feb. 28, 1966, Ser. No. 530,473, now abandoned. Divided and this application Jan. 2, 1969, Ser. No. 798,567
Int. Cl. B05c 5/02

U.S. Cl. 118—629

7 Claims



Articles, such as the surface of a television picture tube, may be electrostatically coated with powder particles by supporting them over a chamber that contains the particles and includes an air permeable plate, means to force gas through the plate to cause the particles to move upwardly, and an electrode to charge the particles and effect their deposition on the article. Undeposited particles flow into a jacket adjacent the chamber and can be reclaimed. Rotatably supporting the article permits relative rotation between the article and the electrode. Where a nonconductive surface of a television tube is to be coated electrostatically, a conductive sensitized binder is applied to the surface and maintained at a particle-attracting potential.

3,537,427

ELECTROSTATIC LATENT IMAGE DEVELOPING DEVICE

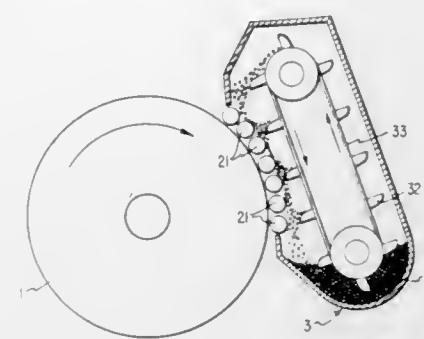
Masamichi Sato, Saitama, Japan, assignor to Fuji Photo Film Co., Ltd., Kanagawa, Japan
Filed Oct. 17, 1968, Ser. No. 768,267
Claims priority, application Japan, Oct. 17, 1967, 42/66,810
Int. Cl. B05b 5/00

U.S. Cl. 118—637

7 Claims

A cascade developing unit of an electrostatic latent image developing device is provided with a plurality of closely

spaced rollers disposed adjacent the electrostatic image carrying layer for transferring the toner from the surface of carrying layer without having said particles contact said layer.



rier particles which are cascaded over said rollers to said layer without having said particles contact said layer.

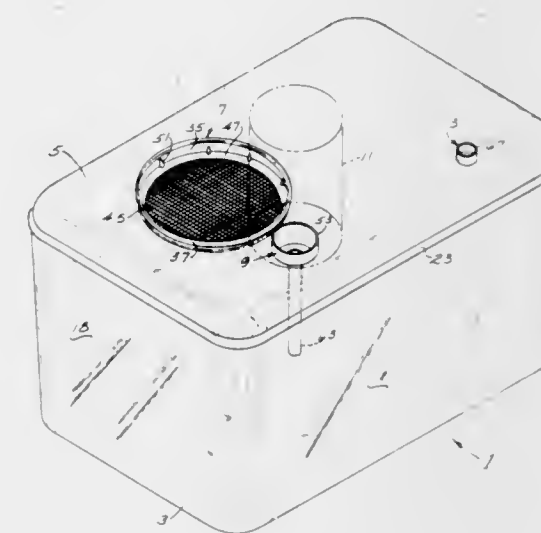
3,537,428

VENTILATED CAGE PARTICULARLY FOR PATHOGEN-INFECTED ANIMALS

James R. Montgomery, Maplewood, Missouri, assignor to Mallinckrodt Chemical works, St. Louis, Missouri a corporation of Missouri
Filed March 19, 1968, Ser. No. 714,200
Int. Cl. A01k 01/00

U.S. Cl. 119—18

11 Claims



A cage for virus-infected laboratory animals having an access opening and a removable ventilating closure therefor, the closure including a filter for passage of air while blocking ingress or egress of viral pathogens, the filter being protected against damage from an animal in the cage or careless handling by a laboratory attendant. Provision is made for removably mounting a water bottle in sealed relation at the top of the cage, and for filtered connection of the interior of the cage to a low volume vacuum pump to reduce pressure in the cage somewhat below atmospheric pressure, so that any air leakage will be into rather than out of the cage.

3,537,429

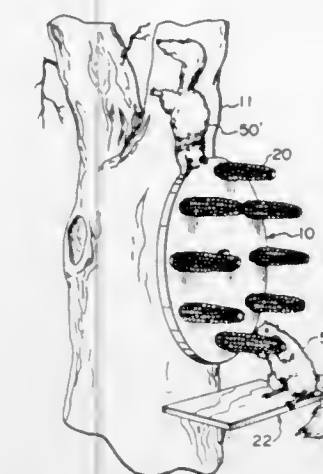
ANIMAL AND BIRD FEEDER

Gerald D. Regan, 4280 Juliet Drive, Elgin, Illinois 60120
Filed March 27, 1969, Ser. No. 811,081
Int. Cl. A01k 05/00

U.S. Cl. 119—51

5 Claims

Ears of corn project laterally from a vertical member



interest in observing feeding activities of birds, squirrels, and other tree-borne wildlife.

3,537,430

AUTOMATIC WATER SUPPLY SYSTEM FOR POULTRY, WATER DISPENSING VALVE AND METHOD FOR TRAINING POULTRY TO USE SAME

William S. Peppler, Chappaqua, New York, assignor to Diamond International corporation, New York, New York a corporation of Delaware
Filed Nov. 21, 1968, Ser. No. 777,603
Int. Cl. A01k 7/00

U.S. Cl. 119—72.5

10 Claims



An automatic, demand-type poultry-operated watering system in which a plurality of valves are mechanically, manually, etc. operated periodically whereby poultry are attracted by movement of a valve operator and the presence of a water supply thereat, causing the poultry to peck at the operator of the valves due to such movement and normal instinct to quench thirst, resulting in the poultry being trained to actuate the valves of a continuously available watering system while maintaining sanitary conditions in the poultry house in which the system is installed and in which the training takes place.

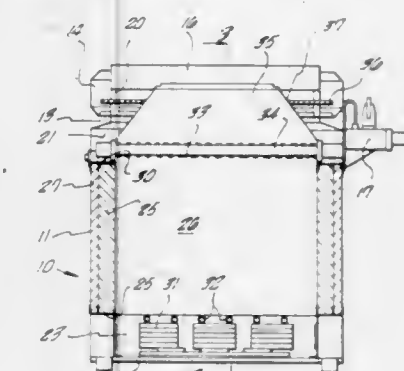
3,537,431

OUTDOOR GAS-BURNING APPLIANCE

Robert M. Ramey, North Hollywood, California, assignor to Teledyne Inc., Los Angeles, California a corporation of Delaware
Filed Jan. 21, 1969, Ser. No. 792,463
Int. Cl. F22b 37/36

U.S. Cl. 122—494

14 Claims

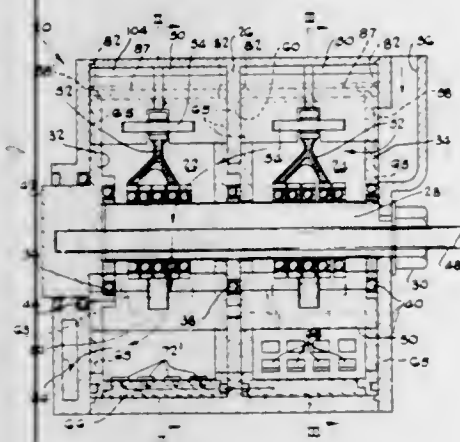


The invention disclosed herein describes a gas burning appliance that provides a means for aspirating air into the ap-

pliance for use in the combusting and exhausting of the flue products of combustion, without utilizing any stack means, or the like.

3,537,432 ROTARY ENGINES

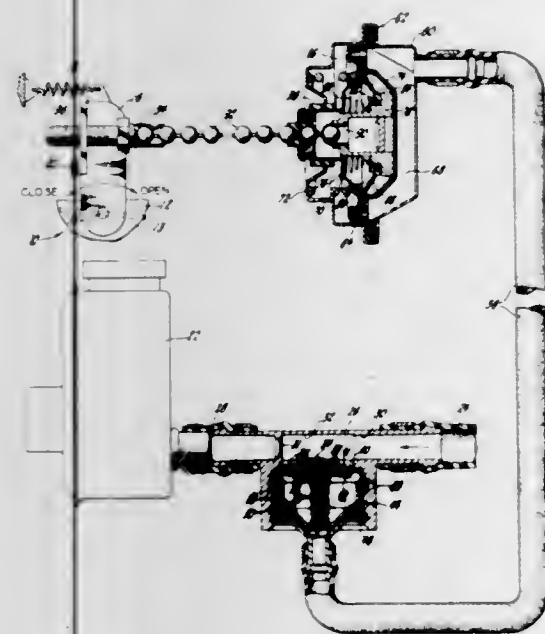
Barend Daniel Jordaan, P.O. Box 749, Welgedag, Springs, Transvaal Province, Republic of South Africa
Filed June 18, 1968, Ser. No. 737,956
Claims priority, application Republic of South Africa, June 21, 1967, Ser. Nos. 67/3696, 67/3698, 67/3697
Int. Cl. F02b 53/00
U.S. Cl. 123-8.41 16 Claims



The present invention relates to positive displacement devices of the rotary type and in particular concerns internal combustion engines having an eccentrically mounted rotor with radial blades slidable therein so as to form, with the external wall of the rotor and the internal wall of a casing surrounding it, a plurality of working chambers the respective volumes of which vary constantly during the rotation of the rotor, said chambers being provided with inlet and outlet orifices.

3,537,433 ENGINE IDLE SPEED GOVERNOR AND THROTTLE CONTROL

Lee M. Brewer and Robert P. Rohde, Saginaw, Michigan, assignors to General Motors Corporation, Detroit, Michigan a corporation of Delaware
Filed June 25, 1968, Ser. No. 739,691
Int. Cl. F02d 9/02, 31/00; F15b 15/18
U.S. Cl. 123-108 10 Claims

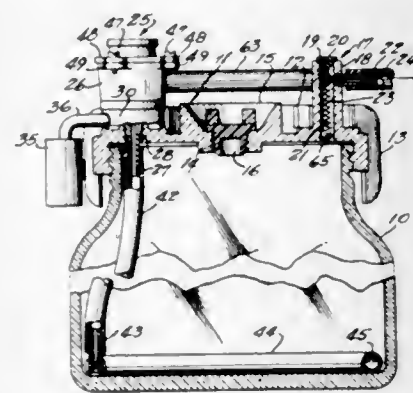


An engine idle speed governor arranged in a preferred embodiment to be operated by hydraulic pressure developed by restricting the power steering pump return flow line. A hydraulic diaphragm actuator motor operates the throttle and incorporates a dashpot to provide a throttle return check

operative after manual actuation of the throttle. A control unit in the power steering pump circuit incorporates the restrictive orifice as well as various valves and mechanisms to provide governor damping, limit throttle opening travel upon oil flow failure and hold a fast idle position during cold starting and warmup.

3,537,434 VACUUM FUEL ADDITIVE INDUCTOR FOR INTERNAL COMBUSTION ENGINES

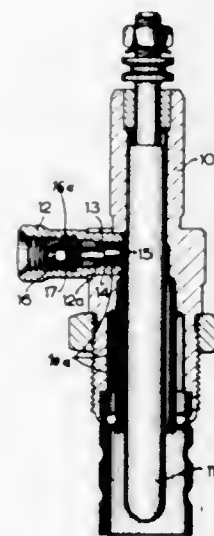
Ivey Herpin, Dallas, Tex., assignor of five percent to David E. Sherrill, Dallas, Tex.
Filed Dec. 30, 1968, Ser. No. 787,938
Int. Cl. F02m 17/22
U.S. Cl. 123-134 5 Claims



A device for the induction by vacuum of a vaporized additive, such as a water-alcohol solution, into the fuel system of internal combustion engines, comprising a container for a liquid additive composition, having an adjustable vacuum controlled air intake valve therein whereby to produce vaporization of the additive composition, and a conduit for conducting the vapors into the fuel system, means being also provided for maintaining temperature control for the vapors entering the fuel system.

3,537,435 FUEL IGNITION DEVICE

Otto Beesch and Karl Wolf, Stuttgart-Sonnenberg, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany
Filed Oct. 9, 1968, Ser. No. 766,178
Claims priority, application Germany, Oct. 19, 1967, 1,576,652
Int. Cl. F02p 19/00
U.S. Cl. 123-145 10 Claims

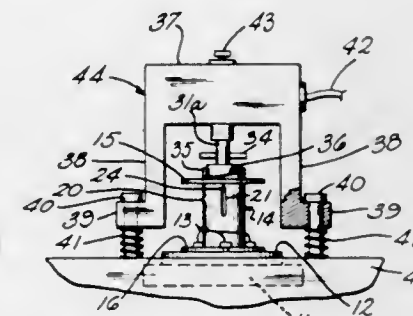


A glow plug has a housing provided with a fuel passage and a fuel inlet. Removably arranged in the fuel inlet is an adjustable throttling device consisting of two members one of which closes the inlet and is provided with an axial bore for incoming fuel. A radial bore communicates with the axial bore as well as with the fuel passage of the housing. Another member is telescoped into the axial bore downstream of the place where the radial bore communicates therewith and the

effective cross section of the radial bore may be varied by sliding the two members relative to one another so that the radial bore is partly covered by an edge of the other member. Other embodiments are also described in the disclosure.

3,537,436 ADAPTER MECHANISM FOR FACILITATING MOTORIZED STARTING OF ENGINES

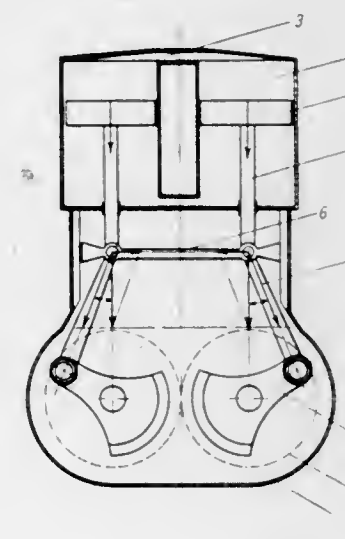
Clarence J. Heister, R.R. 2, Springport, Mich. 49284
Filed July 1, 1968, Ser. No. 741,615
Int. Cl. F02n 11/12, 1/00
U.S. Cl. 123-179 10 Claims



The present invention deals broadly with the starting of small gasoline powered internal combustion engines, such as those used on lawn mowers, and more specifically it deals with a starting mechanism utilizing a special form of spool-including adapter assembly connectable to the engine crankshaft to facilitate applying motorized power to the engine for starting same. This spool of the adapter assembly may also include flanges with one having a notch for use in emergency starting of the engine with a rope in conventional manner. The adapter assembly spool includes a tubular core member with a telescopic plug member fitting into same and subjected to outward pressure of a mild compression spring within the adapter assembly core member and under the telescopic plug member to aid in disengaging the motorized power means when the engine starts. The motorized power means may be a removable member, or in the deluxe form of the invention may be unitarily combined with the adapter mechanism and mounted on the internal combustion engine.

3,537,437 INTERNAL COMBUSTION ENGINE WITH PERMANENT DYNAMIC BALANCE

Angelo Marius Paul; Ana Paul and Alexandru Mitu Badescu, Bucharest, Romania, assignors to Ministerul Industriei Constructiilor De Masini, Bucharest, Romania
Continuation of application Ser. No. 475,484, July 28, 1965, now abandoned. This application Aug. 14, 1967, Ser. No. 665,662
Int. Cl. F02b 75/06
U.S. Cl. 123-192 16 Claims

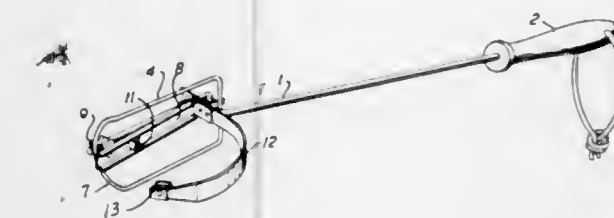


An internal combustion engine which is dynamically balanced and which achieves a highly efficient derivation of

power from the combustible fuel-air mixture. The engine has all of the components which coact with the pistons during reciprocation of the latter arranged so as to form groups of components which move in synchronism while being opposed to each other so as to achieve a dynamic balance of the moving structure of the engine. In addition, the engine has various passages, spaces, and the like through which the fuel-air mixture flows during combustion, compression, and exhausting thereof, and through various valves as well as through the opposed ends of the pistons themselves the fluid is acted upon so as to achieve such features as scavenging, supercharging, and the like.

3,537,438 HAND-OPERATED TARGET PROJECTING DEVICE

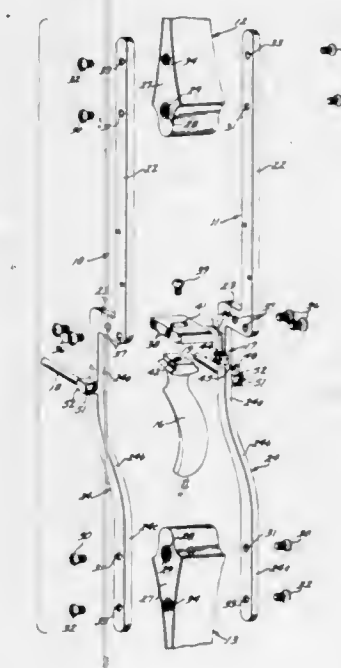
Edward R. Reed, 2102 Glengariff, Dallas, Tex. 75228
Filed Dec. 6, 1967, Ser. No. 688,526
Int. Cl. F41b 3/04
U.S. Cl. 124-5 7 Claims



A device for launching clay pigeon or the like used in target practice or skeet shooting comprising a handle having a support on the outer end thereof. A stop is provided on the support against which the edge of a clay pigeon or like device is positioned and a spring arm is carried by the support arranged to engage the outer periphery of the clay pigeon opposite the stop to retain same on the support. When the support is cast outwardly the momentum of the clay pigeon at the end of the casting stroke causes same to be separated from the spring arm and launched outwardly in a trajectory. A spring clamp is provided at the outward end of the spring arm which resiliently engages the rim of the clay pigeon to impart a spin thereto as it is launched.

3,537,439 ARCHERY BOW

William H. Joslin, Muncie, Indiana, assignor to Sabo Archery Corporation, Westminster, California a corporation of California
Filed Nov. 22, 1968, Ser. No. 778,204
Int. Cl. F41b 5/00
U.S. Cl. 124-24 17 Claims



An archery bow comprising limbs which are mounted at the upper and lower ends of parallel riser elements, the

mounting being pivotal in order that the limbs may be folded inwardly for shipment and storage purposes. The risers are connected to each other by means of a shelf element adapted to provide support for an adjustable handle, and also for an adjustable arrow rest. Portions of the risers extend forwardly at regions below the handle, to thus afford clearance for the hand of the archer, and to form mounts for forwardly extending torque rods. The arrow is discharged through the window between the risers and above the shelf, such window being narrow in a direction longitudinal to the flight of the arrow whereby to minimize the possibility of deflection of the arrow by the bow. The bow is employed by either right-handed or left-handed archers, and is easily adapted to the needs of individual archers.

3,537,440

HANDLE RISER SECTION OF ARCHERY BOW

Tadao Izuta, Hamamatsu-shi Japan, assignor to Nippon Gakki Seizo Kabushiki Kaisha, Hamamatsu-shi, Japan

Filed Nov. 4, 1968, Ser. No. 773,034

Claims priority, application Japan, Nov. 21, 1967, 42/74,401

Int. Cl. F41b 5/00

U.S. Cl. 124—30

3 Claims



The handle riser section of an archery bow is defined by laminates of resin-impregnated wood pieces of different specific gravities so positioned that the upper and lower ends of the handle riser section have higher specific gravities than the other parts of the section, whereby a bow of high static and dynamic stabilities, great durability, consistently uniform characteristics, and an aesthetically pleasing external appearance can be produced at a low cost and reproduced in large quantities.

3,537,441

TRIGGER MECHANISM FOR ARROW PROJECTING DEVICE

Georges Beuchet, Marseille, France, assignor to Beuchet & Cie., Societe Anonyme, Marseille, France.

Filed March 26, 1968, Ser. No. 716,163

Claims priority, application France, Dec. 1, 1967, 22,068

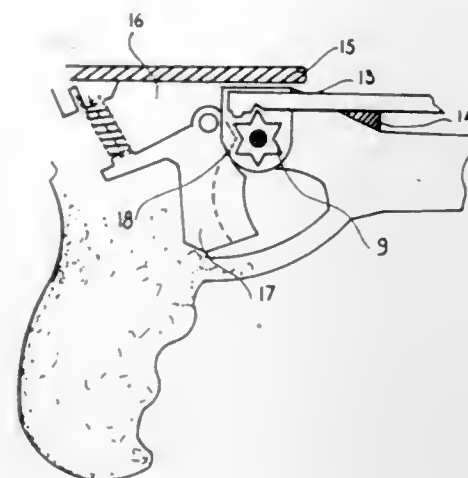
Int. Cl. F41c 19/00

U.S. Cl. 124—31

2 Claims

A trigger mechanism for a subaquatic arrow-firing gun, comprising a butt structure in which there is mounted a transverse shaft and a star-shaped latching wheel and a retainer spaced from the wheel to define an opening to receive a notched arrow to be held by the wheel until the

wheel is freed by operation of a trigger, the star-shaped latching wheel and the retainer being both assembled onto



the shaft so that the assembly bears the strains of holding the loaded arrow.

3,537,442

COOKING UNIT WITH EXHAUST

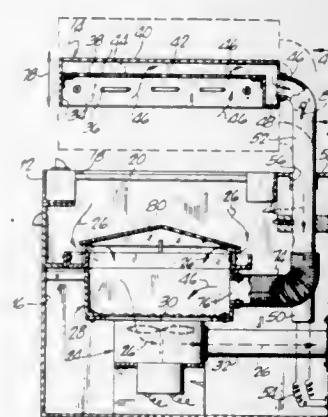
Victor M. Berger, c/o Harvic Mfg. Corp., 760 St. Anns Ave., Bayside, New York

Filed May 23, 1969, Ser. No. 827,244

Int. Cl. F24c 15/20

U.S. Cl. 126—299

3 Claims



A cooking unit having a main downdraft to exhaust smoke and odors from the cooking surface thereof, and having also an overhead, positionable hood or housing through which an auxiliary exhaust is functional whenever the food loaded on the cooking surface interferes with operation of the main downdraft.

3,537,443

VEHICULAR APPARATUS FOR THERMAL TREATMENT OF BITUMINOUS SUBSTANCES

Fritz Becker, Bonn-Lengsdorf, Germany, assignor to Helmut Becker trading as Westhydraulik Becker KG, Maschinenfabrik und Apparatebau, Bonn-Lengsdorf, Germany

Filed Dec. 13, 1968, Ser. No. 783,494

Claims priority, application Germany, Jan. 20, 1968,

W 41,477

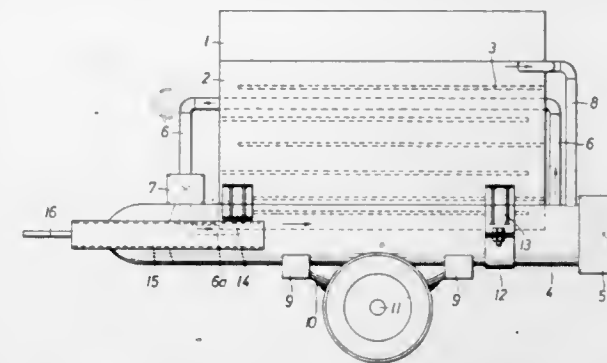
Int. Cl. E01c 19/45

U.S. Cl. 126—343.5

11 Claims

A vehicular apparatus for thermally treating bituminous substances includes a reservoir wherein the substance to be treated may be accommodated. A burner tube or flame tube communicates with a burner receiving heat therefrom, and at the same time constitutes a chassis on which the reservoir is

mounted so as to receive heat from the burner tube while the latter serves to support the reservoir as well as auxiliary com-



3,537,444

PULSATING DENTAL SYRINGE

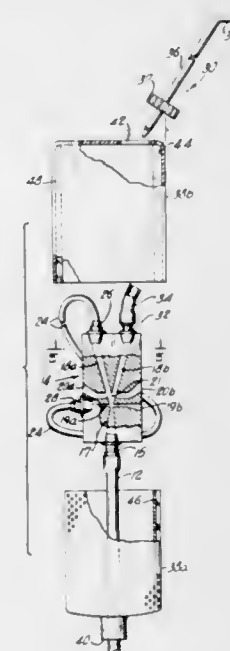
Bernard J. Garn, 242 E. 72nd St., New York and Ebrahim L. Victory, c/o N. Victory 30 Seabrook Road, Forest Hills, New York

Filed Sept. 12, 1966, Ser. No. 578,664

Int. Cl. A61h 9/00

U.S. Cl. 128—66

12 Claims



A dental device for cleaning teeth which is adapted to be attached to a source of liquid under pressure, such as a water faucet. The continuous stream of water from the faucet is directed to a fluid pulse generator which serves to develop a pulsating flow of liquid. The pulsating liquid flow is directed to a fluid ejecting unit which is held by a user who directs the pulsating flow on the teeth to be cleaned.

3,537,445

INTRAUTERINE DEVICE

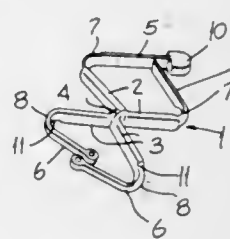
Michael S. Burnhill, Brooklyn, N.Y., assignor, by mesne assignments, to American Caduceus Industries, Inc., New York, New York, a corporation of Delaware

Filed March 6, 1968, Ser. No. 710,857

Int. Cl. A61f 5/24

U.S. Cl. 128—130

7 Claims



An intrauterine device having a pair of highly flexible front legs which are telescopically positioned relative to each other.

3,537,446

FENESTRATED SURGICAL DRAPE

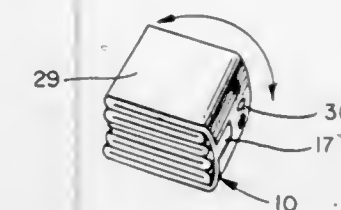
Richard H. Rowland, Jr., Locust and Arthur L. Wright, Jersey City, New Jersey, assignors to American Hospital Supply Corporation, Evanston, Illinois a corporation of Illinois

Filed March 26, 1968, Ser. No. 716,008

Int. Cl. A61f 13/00

U.S. Cl. 128—132

10 Claims



A sterile fenestrated surgical drape formed from a sheet of nonwoven cellulosic material, the sheet being fan folded to form a plurality of stacked panels. The fenestration extends from the bottom panel into the immediately overlying panel with the portion of the fenestration in the overlying panel being larger than, or at least as large as, the portion of the fenestration in the bottom panel.

3,537,447

MEDICAL SHIELDING STRUCTURE

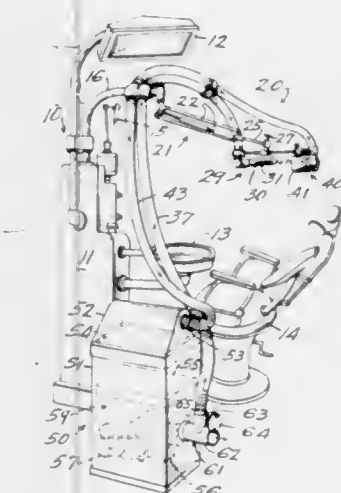
William D. Gauthier, Sylvania Township, Lucas County and George William Pifer, Toledo, Ohio, assignors, by mesne assignments, to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,682

Int. Cl. A61b 19/00

U.S. Cl. 128—139

9 Claims



A shielding apparatus for a medical operating area which forms a protective air shield between, for example, a dentist and his patient. The shielding apparatus includes a longitudinally extending outlet header having a discharge opening therethrough effective to discharge air in a planar-laminar flow path. Air is supplied to the outlet header by a motor driven blower through a conduit system. An inlet structure is spaced from the outlet header and receives the shielding airstream. The outlet header and the intake structure are mounted on an articulating support arm. Conduit means lead from the intake structure and in the preferred embodiment, discharge contaminated air passing therethrough to a filter. A portion of the filtered air is recirculated to the outlet header and another portion is exhausted.

3,537,448

THERAPEUTIC INTERMITTENT POSITIVE PRESSURE RESPIRATOR

Max D. Liston, La Habra, California, assignor to Liston-Fletcher, Inc., La Habra, California a corporation of California

Continuation of application Ser. No. 531,933, Mar. 4, 1966.

This application Aug. 13, 1969, Ser. No. 854,017

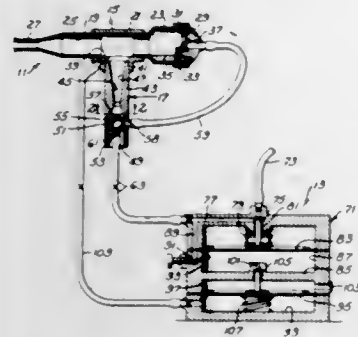
Int. Cl. A62b 7/00

U.S. Cl. 128—145.5

6 Claims

An intermittent positive pressure breathing device. A handheld respirator for connection to a pressure source by a

flexible line and providing for manual control by the patient or automatic control by the inspiration of the patient. A



bistable pressure valve controlled by the start of inspiration for regulating air flow.

3,537,449

RESPIRATOR USING PURE FLUID AMPLIFIER

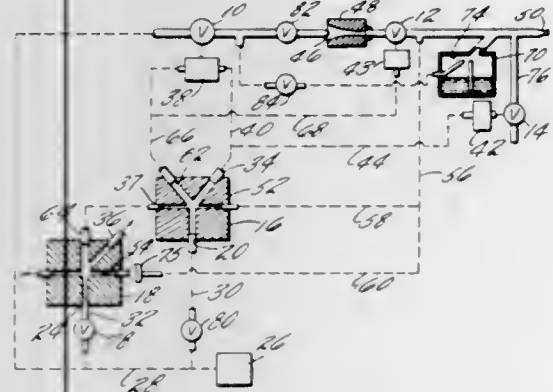
Leo G. Foxwell, Longmeadow, Massachusetts; James E. Smith, Avon and Hermann Ziermann, Cheshire, Connecticut, assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 22, 1968, Ser. No. 715,344

Int. Cl. A62b 7/02

U.S. Cl. 128-145.5

11 Claims



Pure fluid amplifiers of a respirator switch valves on and off for directing pressurized fluid to and from a mouthpiece for assisting inhalation and exhalation while minimizing pressure drop. The output channel of a second fluid amplifier is connected to the control port of the first fluid amplifier for assisting the switching thereof during the negative pressure regimes.

3,537,450

DEVICE FOR ADMINISTERING A GAS TO A PATIENT

Douglas E. R. Fox, The Cape, England, assignor to Cape Engineering Company Limited, The Cape, England

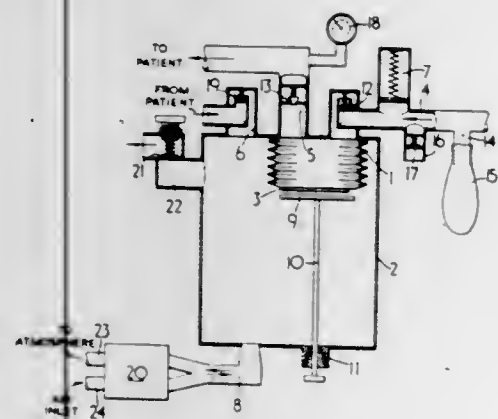
Filed June 28, 1967, Ser. No. 649,522

Claims priority, application Great Britain, June 30, 1966, 29,332/66

Int. Cl. A62b 7/00

U.S. Cl. 128-145.6

2 Claims



Device for administering a gas to a patient by deflating a self-inflatable bellows mounted in a chamber to which a pres-

surised fluid is alternately introduced and extracted to effect alternate deflation and reinflation of the bellows. The interior of the bellows is connected to a source of gas and, through a nonreturn valve, to the patient and the interior of the chamber, exteriorly of the bellows, is connected through a nonreturn valve to receive gas exhaled by the patient. When the bellows reinflates fresh gas is drawn into the bellows and exhaled gas is drawn from the patient into the chamber. When the bellows is deflated the fresh gas is expelled from the bellows to the patient.

3,537,451

INTRAVENOUS CATHETER UNIT WITH RELEASABLE INSERTER MEANS

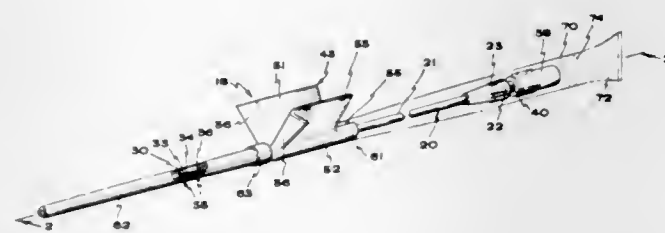
Dale F. Beck, Murray; Gordon S. Hooper and Harvey R. Moorehead, Salt Lake City, Utah, assignors to Deseret Pharmaceutical Co., Inc.

Filed Oct. 26, 1966, Ser. No. 589,673

Int. Cl. A61m 5/00

U.S. Cl. 128-214.4

8 Claims



A catheter inserter which is interiorly hollow and adapted in its at-rest position to loosely surmount an intravenous catheter tube telescopically surrounding a sytlet needle. The inserter is provided with an axial slot and opposed laterally extending projections which, when squeezed together, cause the inserter to grip the catheter tube or, when laterally parted one from the other, allow the inserter to be removed from the catheter tube. A flexible sanitary bag preferably envelops the part of the catheter tube extending rearward of the inserter and is releasably attached to the proximal end of the inserter to preserve the sterility of the enveloped catheter tube.

3,537,452

NEEDLE COVER AND BEVEL GUARD

Geoffrey W. Wilks, Basking Ridge, New Jersey, assignor to C. R. Bard Inc., Murray Hill, New Jersey a corporation of New York

Filed Nov. 18, 1968, Ser. No. 776,696

Int. Cl. A61m 25/02

U.S. Cl. 128-214.4

5 Claims



A combined needle cover and bevel guard for intravenous catheterization units. The device has a tubular body having a flat base and a longitudinally slotted top, the bore of this tube being formed adjacent one end with a first diameter to engage the needle hub and adjacent the opposite end with a second diameter to engage the catheter when the latter is extended. The second diameter is smaller than the first diameter, and the diameter of the tube intermediate its ends is greater than the diameter of the needle contained therein.

3,537,453

MICROLITER SYRINGE HAVING DISPOSABLE PARTS

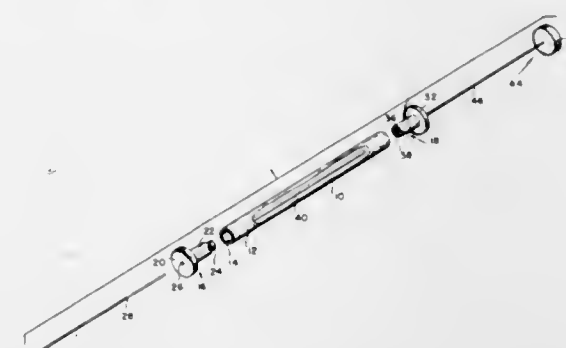
Edward L. Drummond and Michael E. Drummond, Bryn Mawr, Pennsylvania, assignors to Drummond Instrument Company, Broomall, Pennsylvania a corporation of Pennsylvania

Filed March 14, 1968, Ser. No. 713,084

Int. Cl. A61m 5/22, 5/24

U.S. Cl. 128-218

10 Claims



A microliter syringe for use as a hypodermic syringe or transfer syringe and having disposable parts which may be readily removed and replaced, the syringe including a transparent barrel having measurement graduations marked thereon, closure members having longitudinal bores removably fitted in both ends of the barrel, a capillary tube concentrically mounted within the barrel, the tube terminals extending into the bores of the closure members, a plunger insertable into, and operable longitudinally within, the capillary tube, the diameter of the plunger being substantially equal to the internal diameter of the capillary tube, for expelling fluid from the capillary tube, and delivery means beyond the terminal of the barrel remote from the plunger, through which the fluid is expelled from the syringe.

3,537,454

INSERTER AND RETAINER FOR SUPPOSITORIES

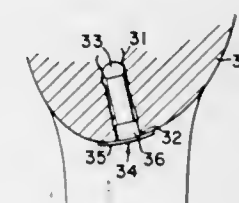
Melvin G. Gordon (1072 NE. 179 Terrace, North Miami Beach, Florida 33162)

Filed March 19, 1968, Ser. No. 714,223

Int. Cl. A61m 35/00

U.S. Cl. 128-261

12 Claims



An inserter and retainer for meltable rectal suppositories comprised of a base member to which a suppository is attached. The base member and suppository are inserted into the anal canal as a unit, holding the meltable suppository in the anal canal during its melting or dissolving, and preventing the expulsion or propulsion of any part or all of the unit into or from the anus.

3,537,455

DRAINAGE APPARATUS

Robert T. Skyles, Glenview; David L. Quinn, Libertyville and Leonard F. Waldman, Niles, Illinois, assignors to Baxter Laboratories, Inc., Morton Grove, Illinois a corporation of Delaware

Filed June 8, 1967, Ser. No. 644,540

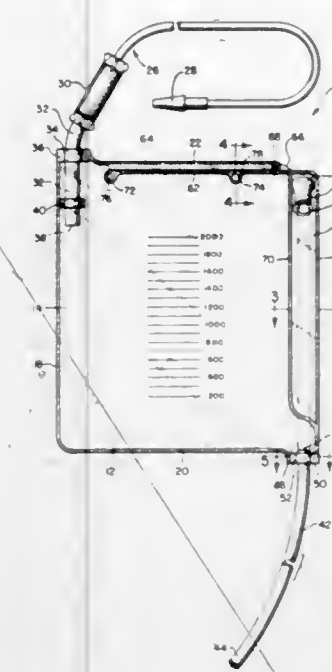
Int. Cl. A61f 5/44

U.S. Cl. 128-275

6 Claims

An outlet tube for emptying a bag for fluids draining from a patient is turnable upwardly to cut off flow from the bag, and has an upstream end which is releasably retainable in a downwardly opening socket whose upper end is secured to an upper portion of said bag for retention of the tube in such

turned condition. A portion of the bag adjacent the tube is nondistendable to preclude separation of the tube from the



socket by pressure from the bag as it distends because of collection of drain fluids.

3,537,456

BOTTOM EMPTYING DRAINAGE CONTAINER FOR MEDICAL LIQUIDS

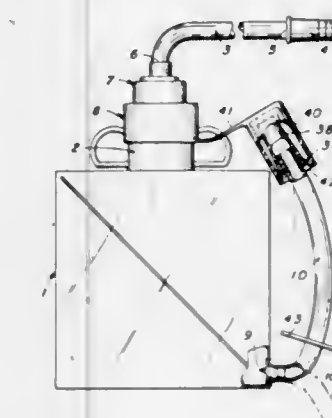
Andrew Harautuneian, Gardena and Cole C. Williams, Burbank, California, assignors to American Hospital Supply Corporation, Evanston, Illinois a corporation of Illinois

Filed April 15, 1968, Ser. No. 721,245

Int. Cl. A61f 5/44

U.S. Cl. 128-275

13 Claims



A drainage container for collecting urine output from a patient over an extended period of time. The container has a tubular neck which is attached to an adapter joined to one end of a flexible collection tube and the adapter is secured to the container neck by a rigid collar to prevent separation of the adapter and neck during urine collection. Urine is removed from the container through an outlet port structure and emptying tube near a bottom of the container. A protector joined to the rigid collar by a flexible web fits over an outer end of the emptying tube keeping it above a liquid level in the container when not in use for emptying the container.

3,537,457

RETRACTABLE ASPIRATOR TUBING, AND SHEATH, FOR SURGICAL USE

Henry J. Heimlich, 650 Main St., New Rochelle, New York 10801

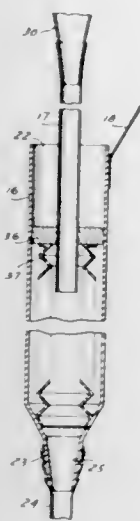
Filed Dec. 4, 1967, Ser. No. 687,715

U.S. Cl. 128-276

3 Claims

Sheath open only at its ends can be mounted with one end in sterile field. Other end connected to suction source. One end of flexible tubing in sheath communicates with suction source. Other end of tubing may be withdrawn from sheath

at will to transmit suction to operative field, and returned to sheath during periods of nonuse. Tubing may be resiliently



formed for retraction, or sheath may have interior movable portion for retracting tubing upon occlusion of the latter.

3,537,458

CRYOSURGICAL APPLIANCE

Klaus P. Lange, Minneapolis, Minnesota; Stefan Molnar and Joachim Hans Ziemann, Munich, Germany, assignors to Linde Aktiengesellschaft, Wiesbaden, Germany

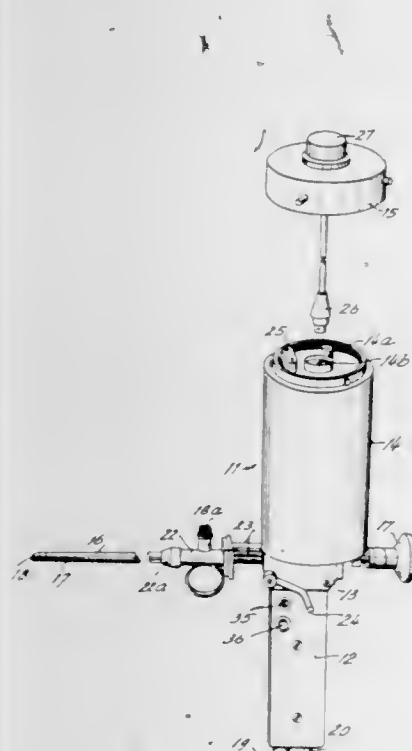
Filed Nov. 12, 1968, Ser. No. 775,008

Claims priority, application Germany, Nov. 10, 1967, 1,566,111

Int. Cl. A61b 17/36

U.S. Cl. 128—303.1

16 Claims



A cryosurgical appliance having a thermally insulated probe with a handle member and a separate container attached to the latter. The probe has a conductive nose for a cooling liquid and the separate container is attached directly to the handle member and also the latter has indicating means provided thereon.

3,537,459 THRESHING AND SEPARATING MECHANISM FOR COMBINES

John B. Thomas, Avondale Heights, Melbourne, Australia, assignor to Massey-Ferguson (Australia) Limited, Sunshine, Victoria, Australia

Filed April 26, 1967, Ser. No. 633,960

Claims priority, application Great Britain, May 13, 1966, 21,303/66

Int. Cl. A01f 12/28

U.S. Cl. 130—27

5 Claims



An adjustable threshing and separating mechanism, having a rotary cylinder, a concave and a separator assembly, which allows improved separation of grain from straw of different crops.

3,537,460

IMPELLER FOR AXIAL FLOW COMBINE

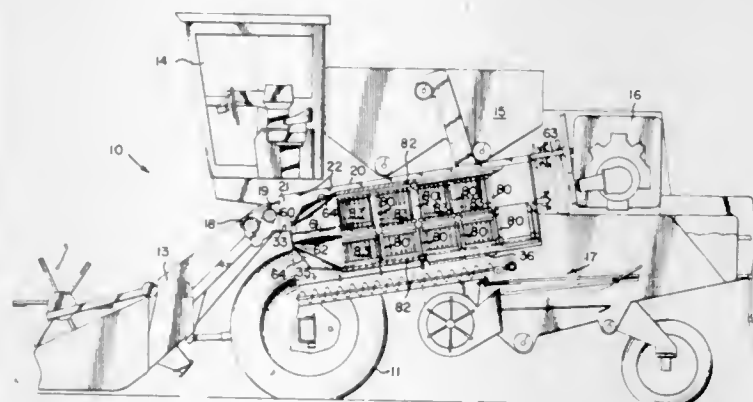
Ernest M. Van Buskirk, East Moline, Illinois, assignor to International Harvester Company, Chicago, Illinois a corporation of Delaware

Filed July 2, 1968, Ser. No. 741,963

Int. Cl. A01f 12/20

U.S. Cl. 130—27

4 Claims



An apparatus for accepting unthreshed material that is being fed axially into the cylinder of an axial flow combine. The apparatus includes generally rectangular shaped impeller blades extending tangentially from the core to the rotor with scooped portions along the forward and outer edges.

3,537,461

PROCESS FOR PRODUCING NON-STRAIGHT STRIPS

Pierre Imbert and André Pietrucci, Fleury-les-Aubrais, France, assignors to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, France, a French Public Establishment

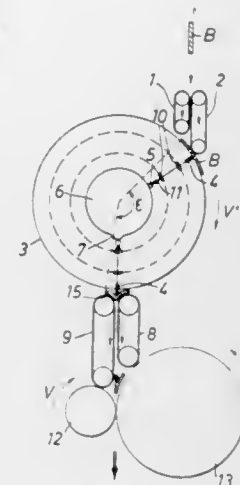
Filed July 18, 1968, Ser. No. 745,806

Claims priority, application France, July 21, 1967, 1/5084

Int. Cl. A24b 07/12, 13/02

U.S. Cl. 131—145

4 Claims



A method to produce a product to be smoked formed by strip-shaped pieces of natural or artificial tobacco, wherein said pieces are nonstraight strands. The strands are formed by bending a tobacco sheet and superimposing the bent portions. The bent sheet is then cut obliquely across the bending axis such that the resultant cut strands, when unbent, have the same extent as that of the unbent tobacco sheet.

3,537,462

SMOKING PIPE BOWL SHANK AND STEM CONNECTION

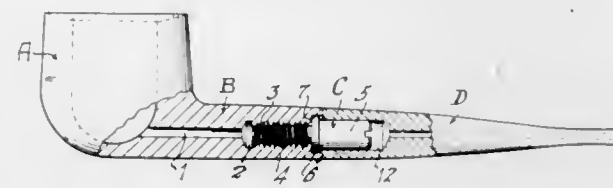
Peter V. Genna, Brooklyn, New York, assignor to Wally Frank, Ltd, New York, New York a corporation of New York

Filed Feb. 25, 1969, Ser. No. 802,170

Int. Cl. A24f 1/00, 7/02

U.S. Cl. 131—225

1 Claim



A coupler to separately connect the bowl shank and the stem of a smoking pipe, has one end threaded to screw into the shank bore. The other end portion is cylindrically smooth and the stem is frictionally longitudinally and rotatably slidable thereon. Between said end portions the coupler has a circumferential flange that is disposed wholly in a counterbore of said shank and firmly seats on the bottom wall of the counterbore.

3,537,463

CRUTCH

Alfred A. Smith, Van Nuys and Lorin A. Wood, Lakewood, California, assignors to Guardian Products Company, Inc., North Hollywood, California a corporation of California

Filed Dec. 12, 1968, Ser. No. 783,267

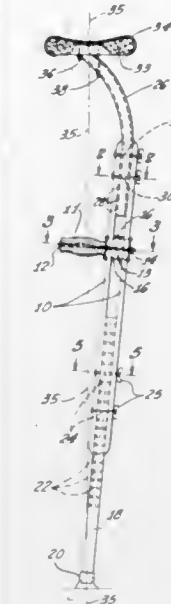
Int. Cl. A61h 3/02

U.S. Cl. 135—50

15 Claims

The major portion of the length of a crutch comprises two longitudinal wood bars with a uniform space therebetween

and the lower end of the crutch is a single shaft that extends upward through the uniform space for adjustable anchorage



to the two wood bars to reinforce a substantial longitudinal portion of the two bars.

3,537,464

DEVICE FOR DISPLACING THE FRONT PORTION OF AN AIR INLET OF JET DRIVES

Hans Jurgen Reicke, Herbert Schnabel and Dieter Weinbauer, Bremen, Germany, assignors to Vereinigte Flugtechnische Werke Gesellschaft mit beschränkter Haftung frueher "Weser" Flugzeugbau / Focke-Wulf / Heinkel-Flugzeugbau, Bremen, Germany

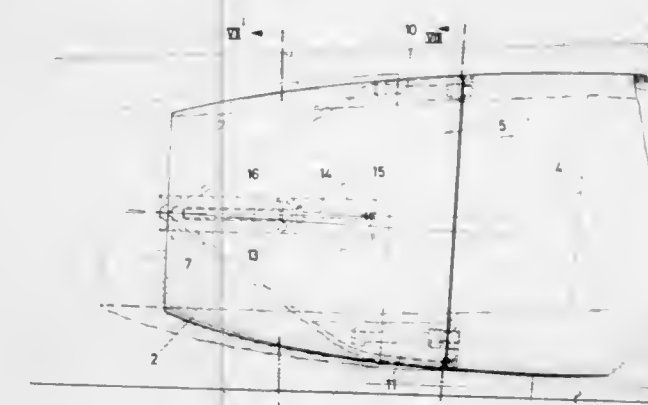
Filed Nov. 26, 1968, Ser. No. 779,104

Claims priority, application Germany, Nov. 27, 1967, 1,626,150

Int. Cl. F02r 1/02

U.S. Cl. 137—15.1

13 Claims



An apparatus for displacing the front section of a two-sectional air inlet for flying bodies, especially airplanes, in which a double acting cylinder-piston system, which may or may not be surrounded by a tube, is arranged laterally of said front section for displacing said front section, while the cylinder of said cylinder-piston system or the pipe surrounding same serves as guiding means for said front section.

3,537,465

FLUID CONTROL APPARATUS

Larry R. Moore, Silver Spring, Maryland, assignor to Bowles Engineering Corporation, Silver Spring, Maryland a corporation of Maryland

Filed March 20, 1967, Ser. No. 624,294

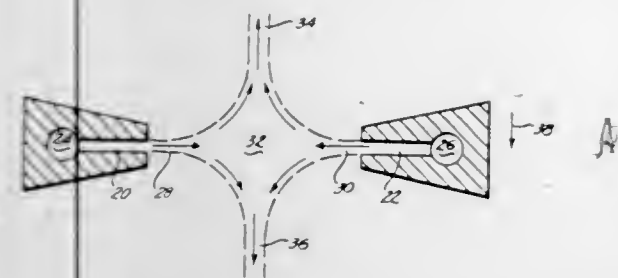
Int. Cl. F15c 1/20

U.S. Cl. 137—81.5

32 Claims

Apparatus for amplifying fluid signals embodying two opposed submerged-impacting power jets capable of controlled

relative displacement so that at impact they may be coaxial or noncoaxial. Said jets are constant but need not be of equal strength. The direction of secondary or impact jets emanating from the impact region is determined by off-set alignment



of one or both of the power jets which may be produced by relative displacement, by a rotating shaft in the impact region, a vortex flow, or transverse control jets, or by any other suitable means.

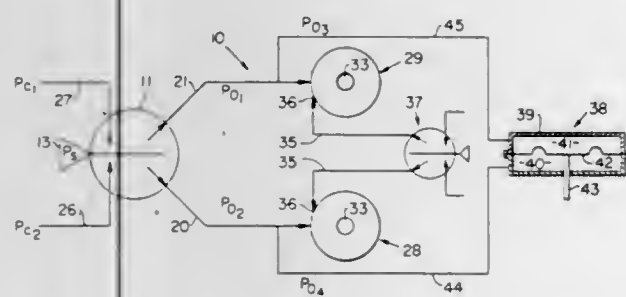
3,537,466 FLUIDIC MULTIPLIER

Donald W. Chapin, Scottsdale, Arizona, assignor to The Garrett Corporation, Los Angeles, California a corporation of California

Filed Nov. 30, 1967, Ser. No. 686,994
Int. Cl. F15c 1/12, 1/16

U.S. Cl. 137-81.5

8 Claims



The device shown herein comprises a purely fluid amplifying means in which a beam-deflection-type amplifier and a vortex-type fluid amplifier are combined in such a manner as to provide an output signal which is the product of two variable input signals.

3,537,467

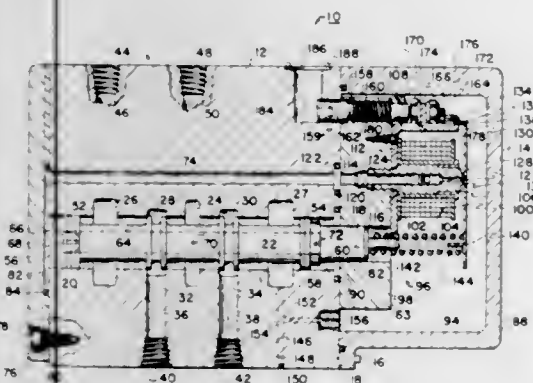
FLAPPER SERVO VALVE WITH FEEDBACK

John Marshall, Rochester, Michigan, assignor to Sperry Rand Corporation, Troy, Michigan a corporation of Delaware

Filed Aug. 12, 1968, Ser. No. 752,054
Int. Cl. F16k 1/10, 1/24

U.S. Cl. 137-83

9 Claims



A four-way, two stage, closed loop servomechanism having a spool for controlling the main fluid flow to and from the servomechanism; an electromagnetically operated flapper cooperating with a restriction for controlling the pressure differential on opposite sides of the spool to cause movement of the same; and a feedback means disposed between the flapper and the spool, the position of the spool being a function of the electromagnetic current.

3,537,468 DEVICE FOR SUPPLYING LIQUID FUEL TO BURNERS

Reiner Friedl, Starnberg and Robert von Linde, Grafelfing, Germany, assignors to Webasto-Werk G.m.b.H., Munich, Germany

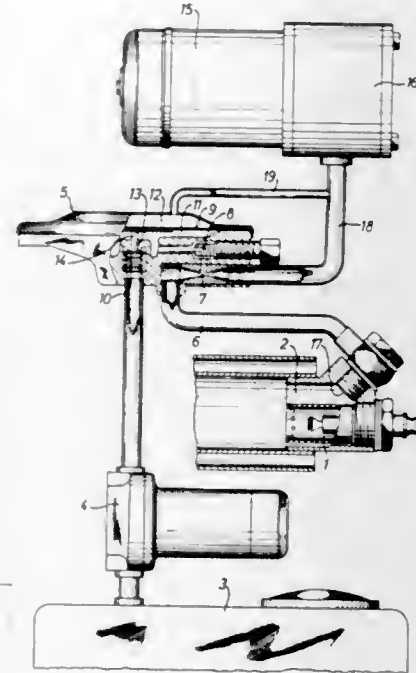
Filed Aug. 29, 1967, Ser. No. 664,144

Claims priority, application Austria, Nov. 10, 1966, A 10,388/66

Int. Cl. G05d 16/06; B60h 1/00

U.S. Cl. 137-100

4 Claims



A device for supplying liquid fuel to a burner having a high pressure air supply with a venturi section in the air supply line, and a venturi-pressure controlled fuel dosing device which includes a fuel proportioning nozzle and a membrane-operated flutter valve. One control chamber of fuel dosing device is a part of the fuel delivery conduit, and the fuel enters the air delivery conduit at the constriction portion of the venturi section.

3,537,469

INFLATION PRESSURE CONTROLLER

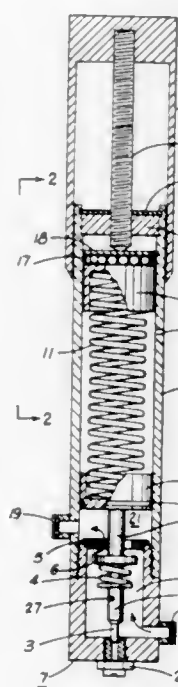
Charles E. Hagar, Maryland Heights, Missouri, assignor to American Air Filter Company, Inc., Louisville, Kentucky a corporation of Delaware

Filed July 24, 1968, Ser. No. 747,315

Int. Cl. G05d 16/00

U.S. Cl. 137-116.3

5 Claims



A pressure sensitive regulator to control flow of gas from a high pressure source to a low pressure receiving means which

includes a sleeve adapted to receive a piston which is connected to operate a first valve assembly disposed within the sleeve to shut off flow of high pressure gas through the device. The piston moves in response to change in pressure in the gas receiving means so the valve is seated when a selected pressure is reached in the receiving device. The regulator also includes a second valve assembly operated in response to selected movement of the first valve to exhaust the high pressure gas supplied to the device when the first valve is seated.

3,537,470

ARTICULATED FEED PIPE SYSTEM FOR A SPRINKLER TYPE IRRIGATION LINE

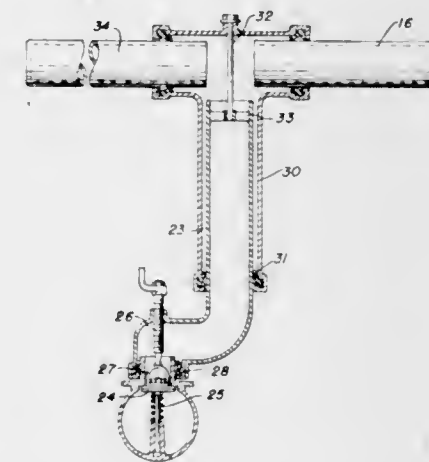
Gail Cornelius, Portland, Oregon, assignor to R. M. Wade & Co., Portland, Oregon a corporation of Oregon

Filed Oct. 30, 1967, Ser. No. 678,791

Int. Cl. A01m 7/00

U.S. Cl. 137-344

1 Claim



Connecting means between a movable pipe line which distributes water over soil to be irrigated and an outlet of a stationary supply line constructed to enable movement of the distributing line over a very large area without the necessity of moving the connecting means to a different outlet on the supply line.

3,537,471

CURB BOX AND INSTALLATIONS THEREOF

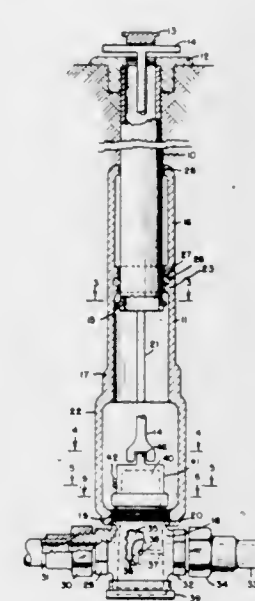
Robert R. Houle, 432 N. Shore Drive, Forest Lake, Minnesota 55025

Filed Aug. 7, 1968, Ser. No. 750,815

Int. Cl. F16l 5/00; F16r 5/00

U.S. Cl. 137-370

3 Claims



The invention is directed to a new curb box of economical functional design wherein the telescoping adjustable standpipe is maintained in essentially drift-free straight alignment with the base housing even under adverse conditions. The standpipe is essentially uniform in outer and inner diameter

throughout its length. It is equipped with a collar and removable cap at its uppermost end and a lug at its lowermost end. The base housing is of one-piece unitary cast metal having a lower chamber and upper section. The lower chamber is provided with means, preferably threaded, for secure attachment of it to a buried valve body. It has at least one interiorly directed longitudinally extending rib in it. Its upper terminus is in the nature of an interiorly directed annulus which serves as a stop against which the lug on the standpipe abuts. The upper section of the base housing is equipped with two spaced standpipe alignment means, one at the upper and the other at the lower terminus of that section. One of these alignment means consists essentially of an interiorly directed annular rib having an annular keeper ring recess intermediate the edges of that rib and a keeper ring in that recess. The other alignment means is just sufficient in size to accommodate the outer diameter of the standpipe without constriction or binding.

3,537,472

ELECTRO PNEUMATIC SEWAGE DISPOSAL SYSTEM

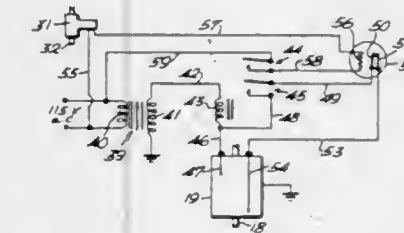
Alexander A. Yulio, 116 Union Ave., Paterson, New Jersey 07502

Filed Sept. 24, 1968, Ser. No. 762,012

Int. Cl. F16k 45/00; G01t 23/24; F01h 1/02

U.S. Cl. 137-392

6 Claims



An electrical system for controlling the operation of pneumatic apparatus for discharging liquid waste from a pumping tank in a sewage disposal installation. The system comprises a short electrode extending downwardly from the top of the pumping tank and adapted to complete an energization circuit, upon the level of the liquid waste reaching the electrode, to an electric relay which, in turn, energizes a circuit operative to actuate a pneumatic pressure blow-down system for emptying the pumping tank and, at the same time, energizes time-delay means operative to deenergize the actuating circuit after a time interval sufficient to complete the tank emptying operation.

3,537,473

ANTI-SLAM VALVE POSITIONING MEANS

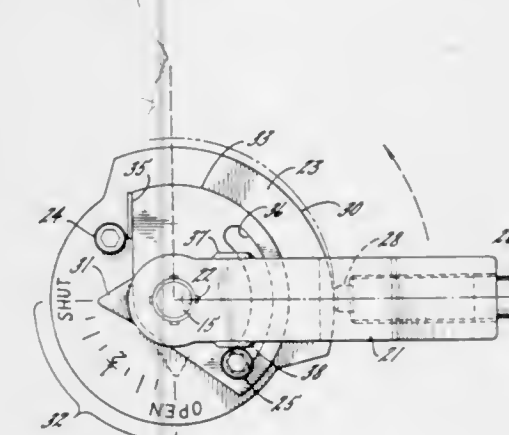
David B. DeZurik, Jr., Saint Cloud, Minnesota, assignor to DeZurik Corporation, Sartell, Minnesota a corporation of Minnesota

Filed Jan. 31, 1969, Ser. No. 795,601

Int. Cl. F16k 37/00, 1/22, 35/04

U.S. Cl. 137-556.6

6 Claims



A positioning means for the flow control member of a rotatable valve is described in which the valve actuating lever carries a threaded shaft which is tightenable against a friction plate mounted on the valve body. The surface of the friction

plate is eccentric to the valve stem so that the shaft must be progressively untightened to allow the valve to move toward the closed position.

3,537,474

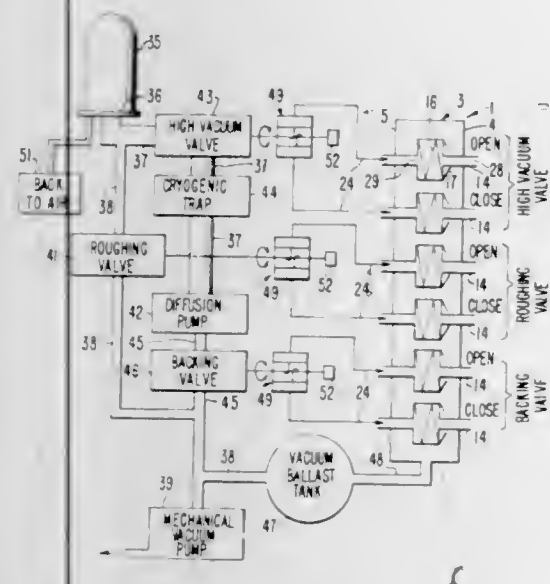
PUSH BUTTON VACUUM CONTROL VALVE AND VACUUM SYSTEM USING SAME

Daniel F. Rehner, Hillsboro, Oregon, assignor to Varian Associates, Palo Alto, California a corporation of California
Filed Feb. 19, 1968, Ser. No. 706,491

Int. Cl. F16k 11/02

U.S. Cl. 137—565

7 Claims



A pushbutton vacuum control valve and vacuum system using same is disclosed. The pushbutton vacuum control valve includes an output port, a vacuum port, and an atmospheric vent port. A pushbutton type plunger is slidable within the body of the valve and includes an extension extending outwardly of the valve structure to form a pushbutton for manual operation. The plunger includes a gas passageway therethrough providing gas communication between the output port of the valve and the vent port as formed at the pushbutton extremity of the plunger. As the plunger is manually depressed the finger which actuates the pushbutton covers over and seals the vent port. When the pushbutton plunger is depressed, it opens a gas passageway communicating between the vacuum port and the output port of the valve for applying the vacuum to the output port. The vent passageway in the pushbutton plunger also includes an adjustable stop which is accessible to a tool which is inserted through the vent passageway in the pushbutton plunger. Adjustment of the position of the stop determines the gas conductance between the opened vacuum port and the output port of the valve for adjusting the rate at which the vacuum is applied to the output device being controlled by the valve. The valve body is adapted to be inserted through an evacuated chamber and is sealed at its ends to the chamber such that the evacuated chamber forms a vacuum manifold for the valve structure and such that the plurality of such pushbutton valves may be installed in a single evacuated chamber thereby providing a common vacuum manifold for the plural valves. The pushbutton control valves are especially useful in vacuum systems employing vacuum power assisted actuators since the output of the vacuum for powering the vacuum actuators can be selectively controlled by the pushbutton control valves.

3,537,475

VALVE ASSEMBLY

Eugene A. Pottinger, Louisville, Kentucky, assignor to General Electric Company, a corporation of New York
Filed Oct. 21, 1968, Ser. No. 769,003

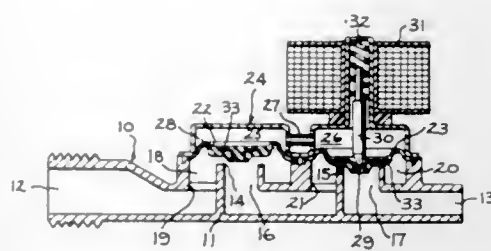
Int. Cl. F16k 31/365

U.S. Cl. 137—613

6 Claims

A pilot-controlled valve assembly employing downstream and upstream series connected valve seats and cooperating

valve members whereby flow control is normally effected by the downstream valve seat and valve member, but upon their



3,537,476

FLUID COUPLING CONNECTABLE UNDER HIGH PRESSURE

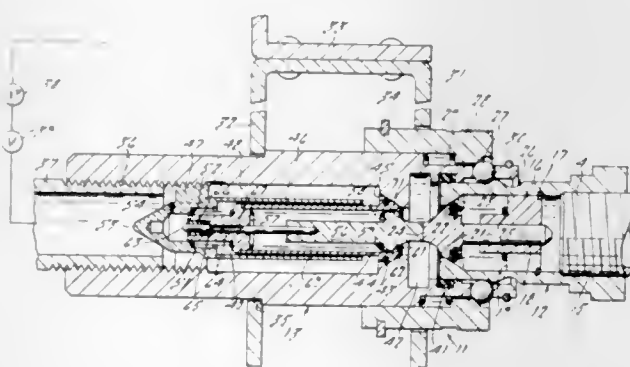
Bryce B. Evans, Jackson, Michigan, assignor to Aeroquip Corporation, Jackson, Michigan

Filed Nov. 29, 1968, Ser. No. 788,982

Int. Cl. E03b 7/09

U.S. Cl. 137—614

15 Claims



A fluid coupling of the type having interfitting male and female bodies with radially movable detents carried by the female body and held in locking engagement with the male body by a retractable sleeve. The female body is mounted on a tractor having a fluid pump. Both bodies have fluid retaining valves held normally closed. A stem valve is slidably mounted in the female retaining valve (or in both retaining valves) and coacts with a seal carried thereby, the stem valve being spring urged toward a closed position. Insertion of the male body into the female body will first cause shifting of the stem valve or valves to permit fluid flow through an orifice (or a pressure relief valve) to a cavity formed between the body halves. When the pressures on both sides of the retaining valves are equalized, they will be opened by the stem valve spring or springs. In the embodiments having a stem valve only in the female retaining valve pressure from the female body, increased if necessary by the tractor pump will open the male retaining valve.

3,537,477

SELF-SEALING DISCONNECT COUPLING

George A. Mahoff, Denver, Colorado, assignor to Gamah Corporation, a corporation of Colorado

Continuation of application Ser. No. 610,283, Jan. 19, 1967,

now abandoned. This application March 20, 1969, Ser. No.

810,914

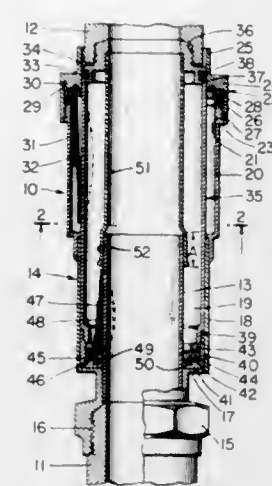
Int. Cl. F16l 37/28

U.S. Cl. 137—614.03

12 Claims

The disclosure concerns tubes coupled together for passing fuel to an aircraft engine, the coupling being such that if the tubes are pulled apart in an accident, the open ends will au-

tomatically be closed off by suitable valves which are permitted to close when the tubes are separated. This closing flow on relative portions of hot and cold water from a single



3,537,478

QUICK ACTING FLUID COUPLING

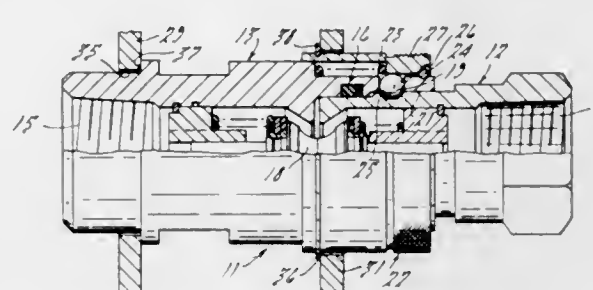
Bryce B. Evans and Charles F. Crissy, Jackson, Michigan, assignors to Aeroquip Corporation, Jackson, Michigan

Filed Oct. 29, 1968, Ser. No. 771,415

Int. Cl. F16l 19/00, 37/22

U.S. Cl. 137—614.04

6 Claims



A fluid coupling having interfitting male and female bodies with opposing valves opened when the bodies are connected. A manually retractable spring-pressed sleeve on the female body cams detents inwardly to lock the male body in position. The female body and sleeves are slidably mounted on a fixed support by two separate one-way connections acting in opposite directions. This enables the coupling to be quickly disconnected merely by pulling on the male body. To connect the coupling, the sleeve is manually retracted to permit outward movement of the detents when the male body is inserted. It is unnecessary to grasp the female body when retracting the sleeve. Therefore, both the connect and disconnect operations may be accomplished by an operator who has access only to the exposed portion of the female coupling.

3,537,479

SINGLE LEVER MIXING VALVE

Merritt J. Nelson, Grand Rapids, Michigan (13121 Paine Ave., Sparta, Mich. 49345)

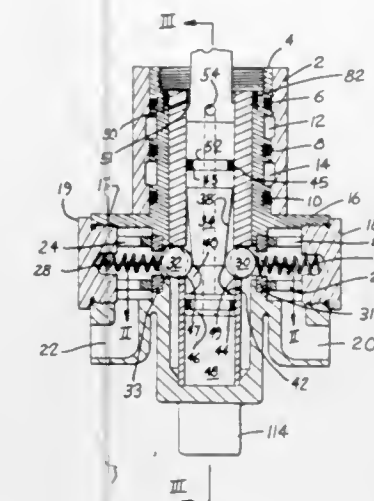
Filed Nov. 9, 1967, Ser. No. 681,628

Int. Cl. F16k 11/14

U.S. Cl. 137—636.4

15 Claims

This disclosure relates to a single lever mixing valve such



3,537,480

HYDRAULIC SYSTEM TEMPERATURE COMPENSATOR

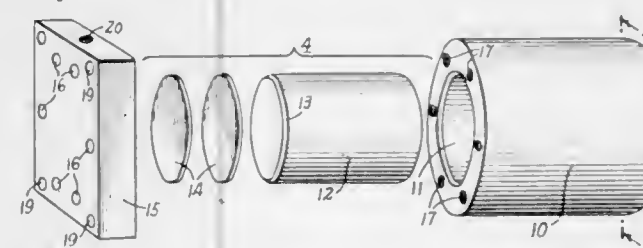
Malcolm C. Tate, Stamford, Connecticut, assignor to The A. H. Emery Company, New Canaan, Connecticut

Filed July 18, 1968, Ser. No. 745,847

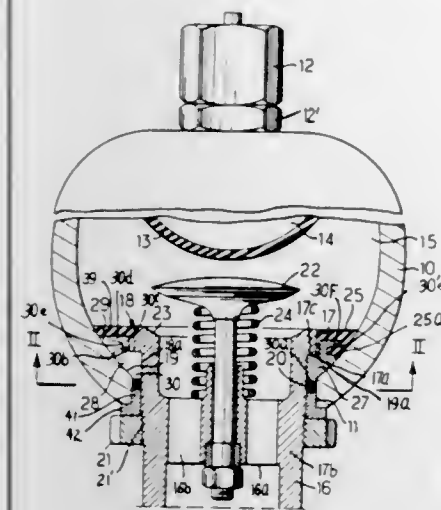
Int. Cl. F16l 55/12

U.S. Cl. 138—26

3 Claims



ring normally is of greater diameter than said port and is foldable for insertion through said port so that it may then be extended the length of the pipe and attached to the plug is



restored to its original shape to encompass the closure plug and restrain outward movement thereof from such port.

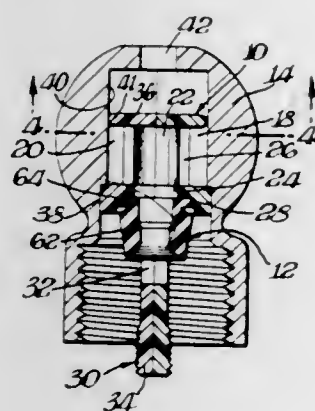
3,537,482

RETAINER ASSEMBLY FOR FLOW CONTROL DEVICE
Charles J. Rudewick, Newark, Delaware, assignor to Speakman Company, Wilmington, Delaware a corporation of Delaware

Filed Dec. 24, 1968, Ser. No. 786,622
Int. Cl. F15d 11/02

U.S. Cl. 138-44

10 Claims



Retainer assembly for releasably securing resilient flow control device in path of fluid flow through fluid conducting plumbing fixture comprising retainer body including two half portions. Fluid passageway in retainer body has inlet and discharge openings. Internal annular groove in retainer body adjacent inlet opening of fluid passageway secures resilient flow control device to retainer assembly when two half portions comprising retainer body are assembled with flow control device disposed between them.

3,537,483

RETRACTABLE PIPE PLUG

Walter Dorwin Teague, Jr., Nyack, New York, assignor to Columbia Gas System Service Corporation, New York, New York a corporation of Delaware

Filed Oct. 12, 1967, Ser. No. 674,892
Int. Cl. F16l 55/12

U.S. Cl. 138-93

10 Claims

A retractable pipe plug is disclosed for use in sealing an end of a pipeline adapted to be installed in an underwater pipeline system. The plug is retained in place by releasable locking pawls, that engage the pipe end, and an air-purized sealing ring that is expanded to engage the inside surface of the pipe. When the pipe is submerged to the installa-

pulled to release the pawls and the plug is withdrawn through the length of the pipe.

3,537,484

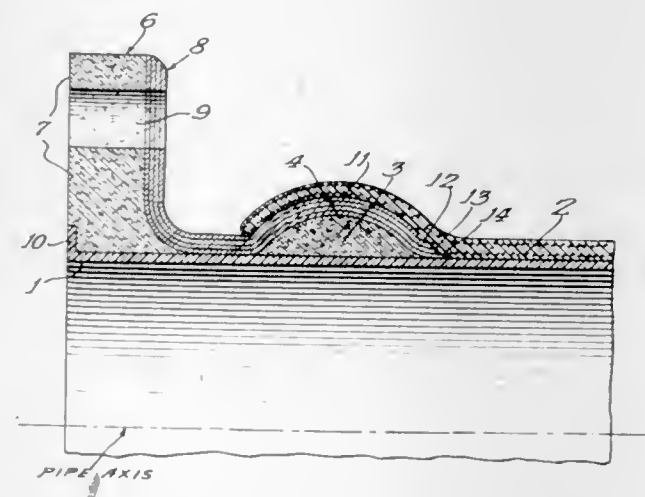
FILAMENT-WOUND PIPE

Jack L. McLarty, Milwaukee, Wisconsin, assignor to Universal Oil Products Company, Des Plaines, Illinois a corporation of Delaware

Filed Nov. 29, 1968, Ser. No. 780,108
Int. Cl. F16l 11/02

U.S. Cl. 138-109

7 Claims



In a filament-wound pipe, the improvement comprising humps formed by quantities of filler material positioned around the exterior of the pipe to provide sections of enlarged diameter at the pipe ends, over which filaments are helically wound in both axial direction. The use of these humps near both ends of the pipe induces the forces acting on the pipe to act along the length of the filaments rather than with a shearing action against the bonds between filaments.

3,537,485

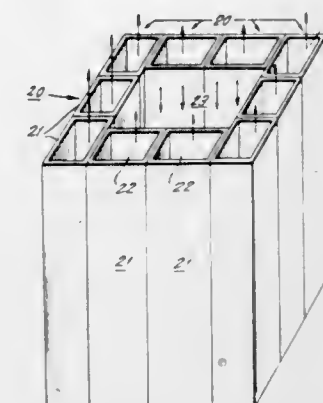
DUCT MODULES FOR CLIMATE CONTROL SYSTEM
John J. March, Rumson, New Jersey, assignor to Birma Products Corporation, Sayreville, New Jersey a corporation of New York

Filed Sept. 12, 1967, Ser. No. 667,180

Int. Cl. F16l 9/18

U.S. Cl. 138-115

5 Claims



This invention teaches a modular assembly for temperature control systems such as combined summer/winter climate control systems, and is comprised of a plurality of modules.

3,537,486

PIPE INSULATION ASSEMBLY

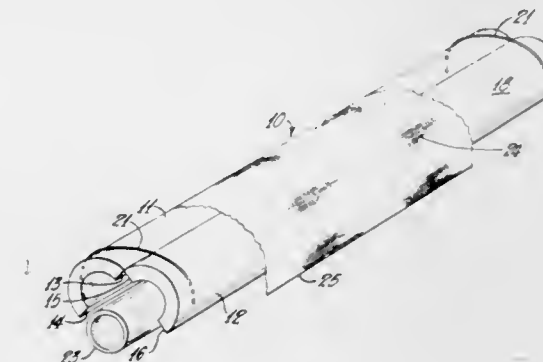
William B. Hullhorst, Granville, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Aug. 19, 1968, Ser. No. 753,452

Int. Cl. F16l 9/22

U.S. Cl. 138-147

15 Claims



A pipe insulation assembly for enclosing a conduit. The assembly includes two semiannular cylindrical sections. Preferably, the sections are formed of resin bonded fibrous glass wool. A pair of spring steel clips extend circumferentially around the sections, lying across only one of the two mating edges of the sections. The clips bias the sections toward a closed position. A layer of flexible sheet material surrounds the exterior surface of the two sections.

3,537,487

LOOMS OPERATING WITH A JACQUARD

Gabriel Servillat, Saint-Cyr-au-Mont D'or (Rhône), France, assignor to Societe des Mecaniques Verdol, Lyon, (Rhône), France, a French limited liability company

Filed Aug. 5, 1968, Ser. No. 750,275

Claims priority, application France, Aug. 4, 1967, 490/8

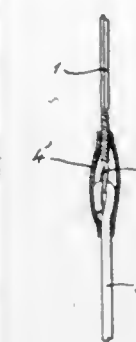
Int. Cl. D03c 13/00, 3/44

U.S. Cl. 139-90

9 Claims

In a loom operating with a jacquard and wherein the healds are individually biased downwardly by resilient cords, each cord is attached to the lower end of a heald by a mass of plastics wherein the end of the cord, preferably doubled on itself, is enclosed under such a pressure that it cannot slide under the action of the tractive forces to which the cord is submitted under normal operating of the loom. The mass of plastics may be obtained by means of sheath of a thermoplastic material disposed around the end of the cord and

the lower end of the heald (or the upper end of a retaining hook), this sheath being treated by a solvent. The subsequent



evaporation of the solvent causes a strong contraction of the sheath transformed into a tubular mass of plastics.

3,537,488

REINFORCING FABRIC

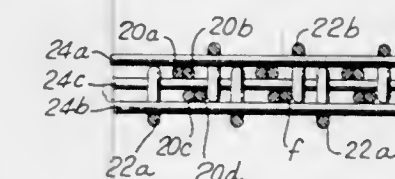
Robert N. LeBoeuf, Columbia, South Carolina, assignor to Uniroyal, Inc., New York, New York a corporation of New Jersey

Filed Sept. 27, 1968, Ser. No. 763,428

Int. Cl. D03d 11/00

U.S. Cl. 139-415

8 Claims



A fabric particularly adapted for use as a reinforcement for belting, hose walls, and the like, although the fabric also can be used wherever a fabric is subjected to relatively large loads, as in the case of automotive seat belts, for example. The fabric includes basic warp yarns and binder warp yarns as well as weft yarns extending across the warp yarns. The basic warp yarns of the fabric of the invention have a crimp which is less than 2 percent and which preferably is no greater than 1 percent, so that these basic warp yarns are virtually without any crimp.

3,537,489

FOUNDRY APPARATUS

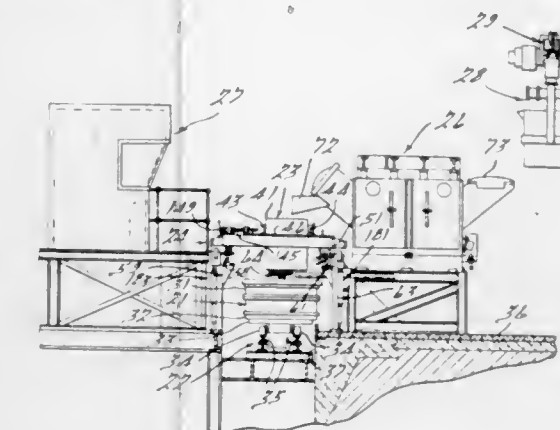
Robert T. Hall, Orchard Lake, Michigan, assignor to Kelsey-Hayes Company, a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,562

Int. Cl. B22d 35/00, 37/00

U.S. Cl. 141-137

19 Claims



A foundry apparatus for filling molds as they move along a conveyor line. The apparatus is comprised of a ladle that is supported for movement above the mold and a driving mechanism that includes a drive cylinder for moving the ladle in sequence with the mold. A bottom positioned nozzle in the ladle discharges molten metal into the mold and a flow

control device permits selective control of the amount of molten metal poured into the mold and the time sequence of the pouring. In one embodiment of the invention a sensing device is carried by the ladle and is adapted to engage the mold to sense the presence of the mold under the pouring nozzle of the ladle prior to the initiation of pouring. An operator control console is positioned on one side of the ladle and a holding furnace is positioned on the other side. An operator may selectively control the operation of the pouring apparatus as well as the discharge of the holding furnace into the ladle to maintain a relatively constant head of molten metal in the ladle.

3,537,490

RECIPROCATING BLADE SAW

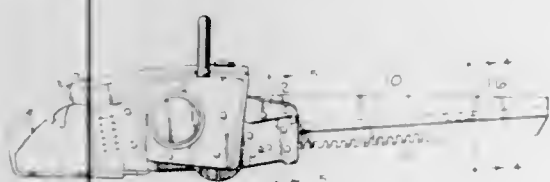
Gerald J. Shaw and William H. Hill, Shreveport, Louisiana, assignors to Beaird-Poulan Inc., Shreveport, Louisiana a corporation of Delaware

Filed Sept. 5, 1968, Ser. No. 757,739

Int. Cl. B27b 11/02

U.S. Cl. 143-68

5 Claims



A gasoline engine driven reciprocating saw having an engine crankshaft connected to the saw blade through a gearing and push rod arrangement. The components of the saw are arranged so that the principal movement of each component is along the central axis of the saw which passes through the approximate center of gravity thereof. One of the gears of the gearing arrangement is connected to the saw blade by a first push rod to convert rotary motion into reciprocal motion and is connected to a counterweight by another push rod. The push rods are arranged so that the saw blade and counterweight are always moving in the opposite direction for the counterweight to counterbalance the vibrating action of the cutting blade and its associated components.

3,537,491

CUTTING TOOLS

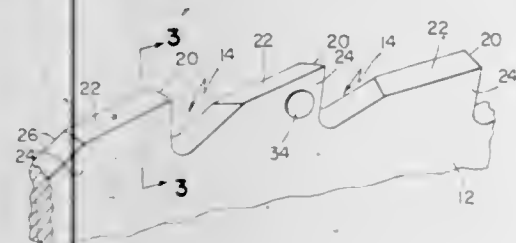
Victor Anthony Kolesh, Holden, Massachusetts, assignor to Wallace-Murray Corporation, Fitchburg, Massachusetts a corporation of Massachusetts

Filed Sept. 12, 1968, Ser. No. 759,385

Int. Cl. B27b 33/12; B27g 13/08

U.S. Cl. 143-133

18 Claims



Cutting tools having a series of solid truncated spheres seated in spherically contoured cavities in the body of the tool and presenting convexly curved (preferably circular) cutting edges facing the direction of cutting movement of the tool. The inserts may be variously located on the tool body and protrude, for example, in the case of circular saws from the side surfaces or the edge surface or both.

3,537,492

CUTTING TOOL ADAPTER

Karl J. Ritt, 1451 W. Belmont, Chicago, Illinois 60657

Filed Aug. 14, 1967, Ser. No. 660,311

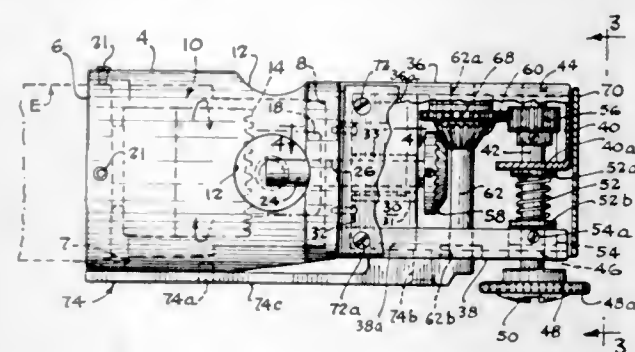
Int. Cl. B27g 13/14

U.S. Cl. 144-136

6 Claims

A cutting tool adapter for coupling to power sources such as a hand electric drill. The adapter has a bottom cutting

head which is spring-mounted on a working shaft, and a gear train which connects the working shaft at right angles to a countershaft actuated by the power source. The adapter has a flat foot plate to guide the adapter and a rearward coupler



dimensioned for secure mounting to the forward end of an electric drill. The bottom cutting head operates close to a support surface so that grooves may be cut at the bottoms of moldings or the like.

3,537,493

METHOD OF FORMING AND HEAT TREATING A COMPOSITE WIRE

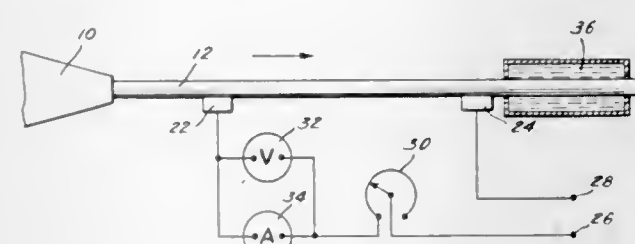
Paul O. Hagarman and Paul A. Dion, North Attleboro, Massachusetts, assignors to Texas Instruments Incorporated, Dallas, Texas a corporation of Delaware

Filed May 24, 1967, Ser. No. 640,870

Int. Cl. C22f 1/00

U.S. Cl. 148-11.5

5 Claims



A composite wire having a copper cladding on an aluminum core is provided with selected strength and deformation characteristics by closely regulated, high temperature, short duration, inline resistance annealing which provides the wire core and cladding with selected tempers without significant formation of embrittling intermetallic compounds at the interface between the wire core and cladding.

3,537,494

SLICING MACHINE

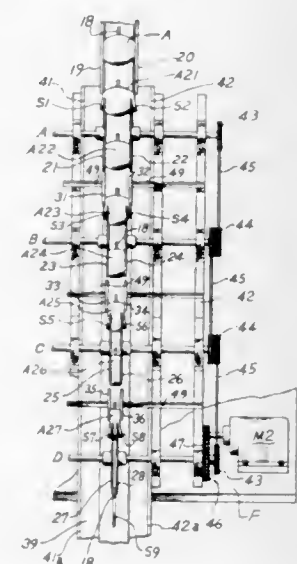
Gerald J. Orlowski, 12427 S. Honore St., Calumet Park, Illinois 60643

Filed July 18, 1968, Ser. No. 745,900

Int. Cl. B26d 4/24

U.S. Cl. 146-78

11 Claims



A slicing machine for articles such as vegetables, fruit and the like which is capable of producing equal-thickness slices

by orienting the articles and holding them oriented while passing successive pairs of slicing blades, the first pair to slice two slices from opposite ends of the article, the next pair to slice two more ends from the now shortened article and so on. Orientation of the articles is achieved by delivering them to a pair of side elements which are spaced from each other so as to receive between them the article which has previously been provided with flat ends to slide along the facing surfaces of the side elements, a wheel or conveyor belt being provided to serve as a bottom for the side elements and having article engaging blades to move the articles along the side elements and past the successive slicing knives. Intermediate the successive slicing blades, additional pairs of side elements provide continuing orientation of the articles even though their lengths are successively reduced by the removal of slices from the ends thereof, the first mentioned side elements and the additional side elements as well as the slicing blades being arranged in a specific manner to accomplish the desired type of slicing mentioned.

3,537,495

MUSHROOM CUTTING MACHINE

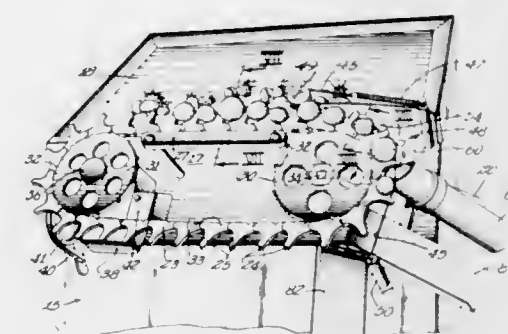
William S. Pearson, P.O. Box 225, Hampstead, Maryland 21074

Filed July 28, 1967, Ser. No. 656,763

Int. Cl. A23n 15/00; R26d 4/06

U.S. Cl. 146-81

12 Claims



A mushroom cutting machine has continuously running chain link conveyor with driving fingers on which the mushrooms are carried cap up past a root trimmer and then stem severing means.

3,537,496

MACHINE FOR PROCESSING MEAT OR THE LIKE

Siegfried Stephan and Fritz Otto, Hameln (Weser), Germany, assignors, by mesne assignments, to Blender Trust Reg., Vaduz, Liechtenstein

Continuation of application Ser. No. 49,278, Aug. 12, 1960,

now abandoned. This application April 10, 1967, Ser. No.

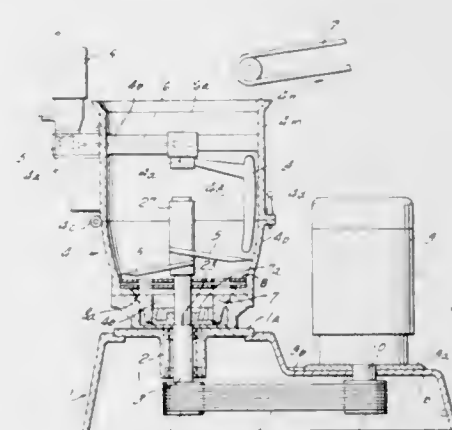
629,484

Claims priority, application Germany, Aug. 12, 1959 ST 15,455

Int. Cl. B02c 18/12

U.S. Cl. 146-192

8 Claims



The bowl of a meat-processing machine has two superimposed chambers which are separated from each other by an adjustable outlet. Meat is admitted into the upper chamber

where it undergoes agitation, coarse comminution, mixing and/or another treatment, and is thereupon caused to pass through the outlet and through the lower chamber on its way from the machine. The lower chamber can accommodate a conveyor which promotes the advance of material through the outlet, or one or more additional cutters, mixers, agitators or analogous treating units. The conveyor comprises an impeller which can be installed below the outlet to produce a pressure differential at the opposite sides of the outlet so that the material is sucked into the lower chamber. The blade or blades of the impeller can subject meat to an agitating, comminuting or analogous action.

3,537,497

METHOD AND APPARATUS FOR ASSEMBLING DRAFTS OF SLICED PRODUCT

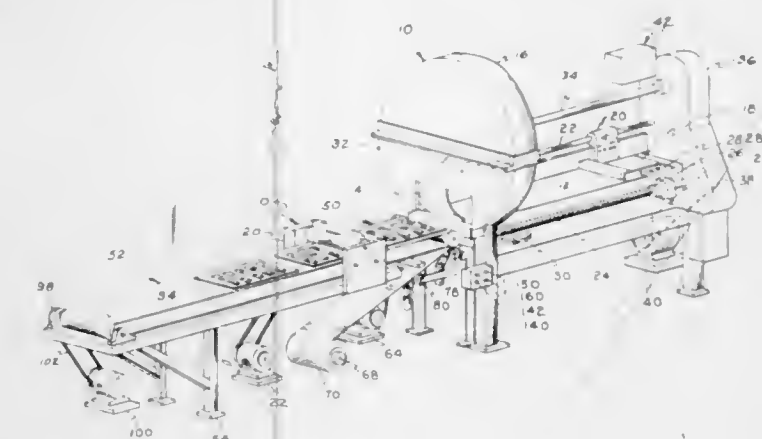
Fred H. Dickow, Henry J. Dokter, and Ogden A. Clemens, Chicago, Illinois, assignors to Swift & Company, Chicago, Illinois a corporation of Delaware

Filed Aug. 28, 1967, Ser. No. 663,584

Int. Cl. A22c 17/00; B26d 4/46; B65b 63/00

U.S. Cl. 146-222

9 Claims



Bacon is sliced and laid out substantially flat on a continuous web of material such as paper. The bacon feed into the slicing blade is interrupted periodically to denote the end of one draft and the beginning of another, by a space on the web of material which is moved continuously. Interruption of the bacon feed initiates a timed countdown upon the completion of which a knife is energized to cut the web of material, at a downstream location, across the space between two drafts of slices. An apparatus comprising a substantially conventional slicer and specially devised takeoff synchronizing devices are utilized. The slicer includes a continuously rotating blade and intermittently operated pusher for advancing product into the former. The takeoff equipment comprises an endless belt trained about a pair of pulleys located adjacent the slicer blade and at a distance therefrom greater than the length of a draft of slices. A continuous web of paper, or the like, is passed about the pulley adjacent the slicer so as to receive slices upon the upper run thereof. Beyond the belt is located a second conveyor, and an intermittently operable knife is positioned between the two. The knife is actuated by an adjustable timer which, in turn, is actuated at the time that the feed screw is halted.

3,537,498

THERMOPLASTIC BOTTLE FOR STERILE MEDICAL LIQUIDS

Elmer F. St. Amand, North Hollywood, California, assignor to American Hospital Supply Corporation, Evanston, Illinois a corporation of Illinois

Filed Oct. 14, 1968, Ser. No. 767,356

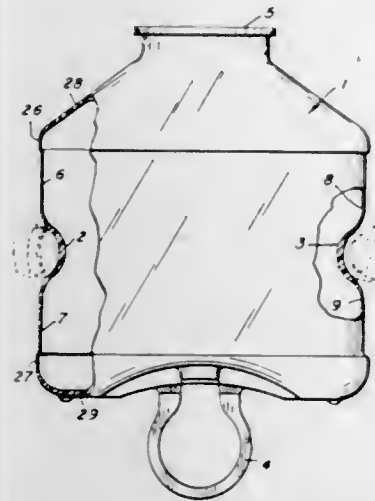
Int. Cl. B65d 1/02, 23/10

U.S. Cl. 150-5

7 Claims

A generally rectangular plastic bottle for storing and dispensing sterile medical liquids, which bottle is

strengthened about its midsection by thickened indented wall sections which permit the bottle to have thin, generally trans-



parent wall portions and still be grasped without tending to materially change the internal volume of the bottle.

3,537,499

FLOATING FASTENER UNIT

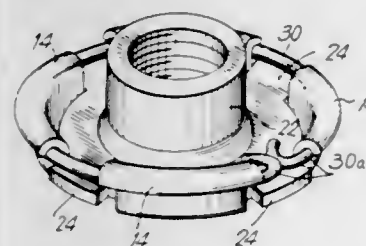
Ervin J. Dey, Santa Fe Springs and Harry A. Theakston, Jr., Santa Ana, California, assignors to Standard Pressed Steel Co., Jenkintown, Pennsylvania a corporation of Pennsylvania

Filed Aug. 16, 1967, Ser. No. 661,030

Int. Cl. F16b 1/00, 39/284

U.S. Cl. 151-41.76

7 Claims



A fastener unit in which a fastener element is contained within a retainer shell by means of a removable retainer clip. The shell has a plurality of flanges which extend around a substantial portion of its periphery and which are separated by spaces into which lugs on the fastener element extend. The retainer clip, extending around the periphery of the shell, passes under the flanges and over the lugs to captivate the fastener element in the shell.

3,537,500

TIRE CONSTRUCTION

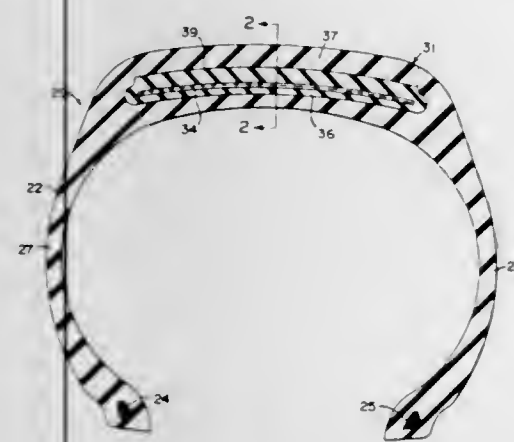
Heinz Wilhelm Beneze, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio a corporation of Ohio

Filed March 7, 1969, Ser. No. 805,154

Int. Cl. B60c 11/08

U.S. Cl. 152-211

10 Claims



A vehicle tire wherein the carcass including the sidewalls is constructed of a first elastomeric material such as poly-

urethane and the tread is constructed of a second elastomeric material such as a natural or synthetic rubber tread stock with a continuous ring of substantially inextensible material imbedded in the tread material. The outer portion of the tread material adjacent the road engaging surface is provided with a plurality of circumferentially spaced and generally axially extending grooves or passages which are filled with the first elastomeric material as an extension from one sidewall to the other to mechanically interlock the tread to the carcass.

3,537,501

TRACTOR TIRE BEAD BREAKER

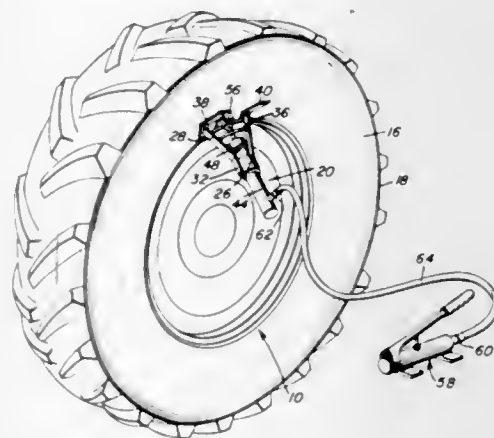
Bush A. Johnson, P.O. Box 451, Norfolk, Nebraska 68701

Filed July 25, 1968, Ser. No. 747,567

Int. Cl. B60c 25/06

U.S. Cl. 157-1.17

6 Claims



A three-pronged apparatus whose prongs generally parallel each other and are initially supported relative to each other in spaced-apart relation in the same general plane and which are adapted to be endwise wedged by hammering or other force means between a wheel flange and an associated tire casing bead portion, the remote prongs being stationarily supported relative to each other and the center prong being mounted for movement relative to the other prongs in a path disposed generally normal to the plane in which the prongs are disposed initially and the device including force means for shifting the center prong relative to the other prongs.

3,537,502

MACHINE FOR RASPING AND CLEANING OF PNEUMATIC TIRES

Vincenzo Napolitano, 2, Via Torino, Milan, Italy

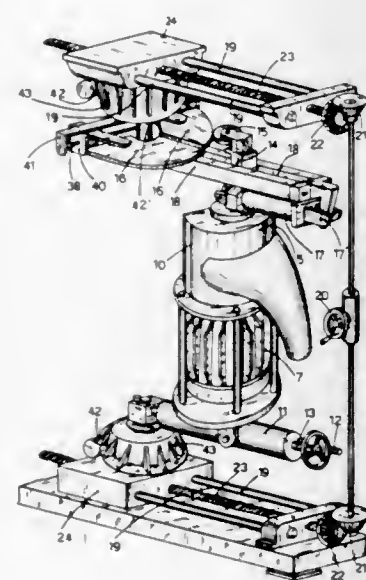
Filed Dec. 6, 1967, Ser. No. 688,577

Claims priority, application Italy, June 28, 1967, 17,790A/67

Int. Cl. B29h 21/08

U.S. Cl. 157-13

8 Claims



A machine for rasping and cleaning of pneumatic tires, which comprises two oscillatably supported rasping units,

each provided with motor means and rasping means, and positioned for raspingly contacting the tire to be processed, at diametrically opposite locations thereof. The machine is further provided with adjusting means for adjusting the relative position of the units and of the tire, for processing of tires having different diameters.

3,537,503

PNEUMATIC DOOR OPERATOR

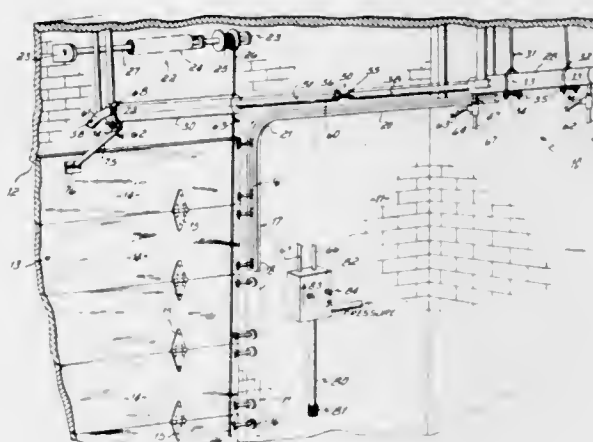
Silas E. Simmonds, Batavia, Ohio, assignor to S & S Industries, Inc., Cincinnati, Ohio a corporation of Ohio

Filed April 11, 1969, Ser. No. 815,348

Int. Cl. E05f 15/08, 17/00

U.S. Cl. 160-188

10 Claims



A pneumatic operator for overhead and other doors. The operator includes two tandem-opposed hydraulic cylinders, a stationary rear cylinder and a movable forward cylinder. The forward cylinder is connected to the upper portion of the door by a rigid link. The piston rods of the front and rear cylinders are joined by a connector member. A track having a horizontal section and a curved forward section receives rollers joined to the connector member and forward cylinder. A source of pneumatic pressure is adapted to be connected to a first or second control line. The first control line communicates with the front end of the rear cylinder and the second control line communicates with the rear end of the front cylinder.

3,537,504

CLOSURE CONSTRUCTION

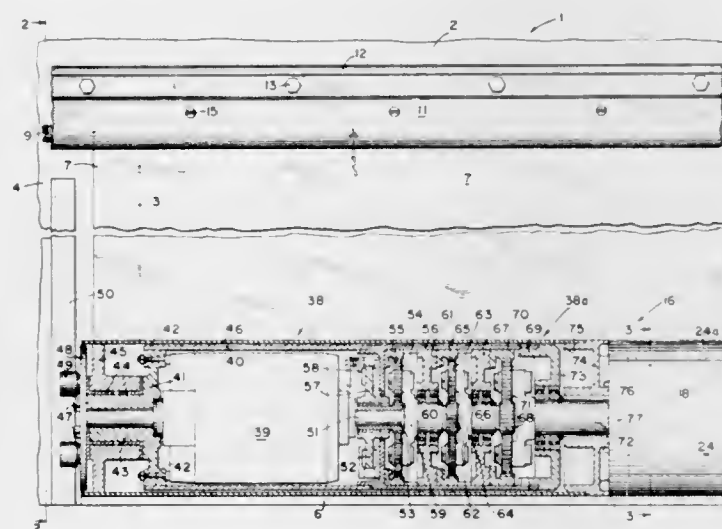
Chester A. Deane, 3149 Allentown Road, Lima, Ohio

Filed Aug. 19, 1968, Ser. No. 753,463

Int. Cl. A47g 05/02

U.S. Cl. 160-243

14 Claims



A closure for a vertical doorway comprises a sheet of flexible material secured at the top of the doorway in the plane of the latter and fixed at its lower edge to a roller within which is mounted a driving motor for rotating the roller to wind and

unwind the flexible sheet about the roller. The roller includes a plurality of end-to-end cores surrounded by a plurality of sector-shaped members each of which has an arcuate surface which together form a cylinder. The sectors have a length less than the total length of the roller and are arranged in end-to-end relation to form a combined length spanning the length of the core. The length of individual sectors is such that the joints between adjacent sectors are staggered circumferentially of the roller and of the core.

3,537,505

METHOD OF CONTROLLING CONTINUOUS CASTING

Armin Thalmann, Uster and Richard Moser, Dietikon, Switzerland, assignors to Concast A.G., Zurich, Switzerland

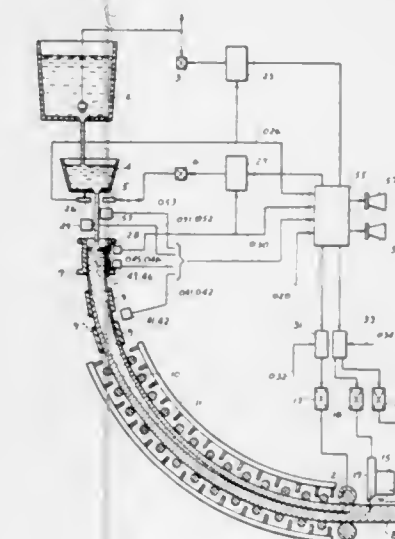
Original application Dec. 30, 1966, Ser. No. 606,147.

Divided and this application Dec. 23, 1968, Ser. No. 816,850

Int. Cl. B22d 11/10, 11/02, 17/32

U.S. Cl. 164-4

8 Claims



In a continuous casting plant sensing elements responsive to the metal supply to the mold, to the level of metal in the mold or in the partly solidified casting, and/or to a breakthrough of liquid metal from the casting generate signals that are automatically analyzed and applied to control the supply of metal to the mold, the rate of withdrawal of the casting from the mold and/or the cutting of the casting.

3,537,506

FIXED INTERNAL GUIDES FOR COOLING WATER IN ROTARY STRIP-CASTING DRUM

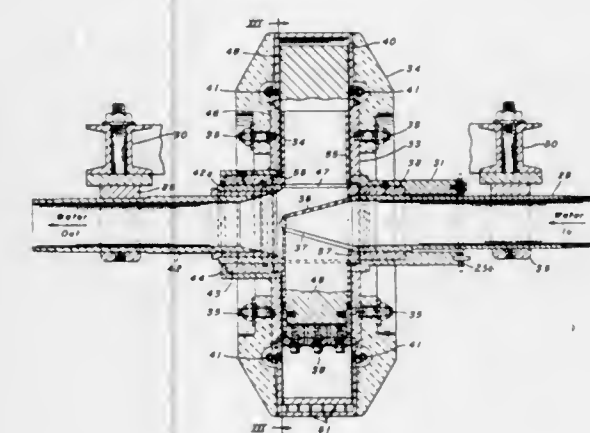
David K. Griffiths, Penn Hills Township, Allegheny County, Pennsylvania, assignor to United States Steel Corporation, a corporation of Delaware

Filed Aug. 8, 1968, Ser. No. 751,213

Int. Cl. B22d 11/06

U.S. Cl. 164-276

5 Claims



A rotary strip-casting drum is journaled on coaxially disposed stationary tubular inlet and outlet shafts. A nozzle on the inlet shaft extends into the drum and mounts a series

of circumferentially spaced cooling water guides. Each guide has a flaring stem or shank and a head the outer extremity of which is of arcuate shape to conform to the interior of the drum. Plates spaced from the sides of the guides define inlet and outlet passages. The sides of the heads are curved to guide entering water along the drum interior and scoop up a portion of the water in the drum for discharge.

3,537,507

CONTINUOUS CASTING MOLD WITH PERFORATED COOLANT DISTRIBUTOR

Gunther de Rossi Singen/Hohentwiel, Germany; and Siegfried Gimmi, Sierre/Vs, Switzerland, assignors to Swiss Aluminum Ltd., Chippis, Switzerland a corporation of Switzerland

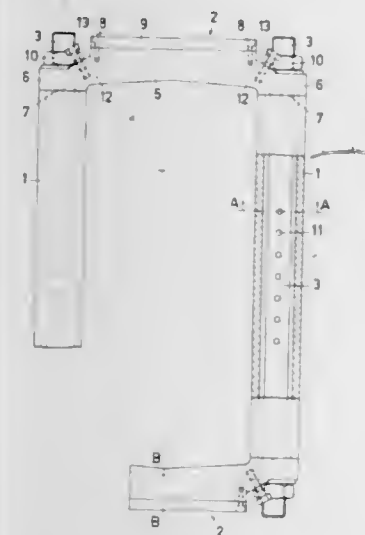
Filed Dec. 12, 1967, Ser. No. 689,968

Claims priority, application Switzerland, Dec. 16, 1966, 18,112/66

Int. Cl. B22d 11/00

U.S. Cl. 164—283

10 Claims



A mold for the continuous or semicontinuous casting of slabs has intercommunicating two hollow long side beams and two shorter hollow end beams, and a distributor pipe in one or more of the beams with outlet holes that are grouped nearer to the center than to the ends of the beam or beams, so that coolant in greater volume will flow from the center portion of the beam out of the beam interior onto the slab than from the end portions of the beam.

3,537,508

APPARATUS FOR CENTRIFUGALLY CASTING BODIES AND MOLD MEMBER THEREFOR

Pearson M. Payne, 3070 S. Jackson St., Denver and Mackey M. Payne, 7300 W. Radcliff Ave., Littleton, Colorado

Filed Oct. 16, 1967, Ser. No. 675,567

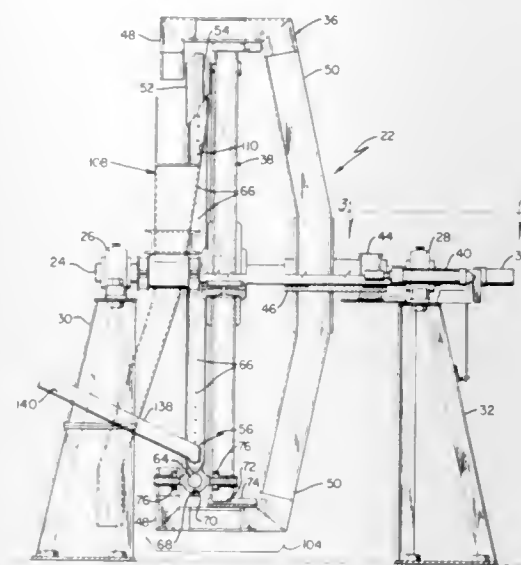
Int. Cl. B22d 13/10

U.S. Cl. 164—291

37 Claims

An apparatus for centrifugally casting bodies, particularly metal bodies, metal balls and the like, including a pair of annular, ring-shaped mold members which are supported to permit substantially unrestrained circumferential expansion and contraction thereof while maintaining substantial concentricity of said mold members and while preventing relative rotation therebetween. The apparatus also includes means for preventing damage to the mold members during removal of bodies therefrom and minimizing or preventing detrimental deformation of such bodies following removal of the bodies from the mold members. The apparatus also includes means for compensating for loss of material due to shrinkage of material, such as metal, away from the leading edge of the body being formed. The apparatus also includes means for angularly aligning one mold member accurately with respect to the other mold member. The apparatus also includes means for receiving and retaining any material which might be centrifuged from the cavities or recesses formed in the mold members. The invention also relates to a mold member including means for compensating for loss of

material due to shrinkage of material away from the leading edge of the body being formed, and to a mold member



formed from a material comprising approximately 69 percent, by weight, of copper and is substantially free of oxides.

3,537,509

CONTROL FOR HEAT PUMP

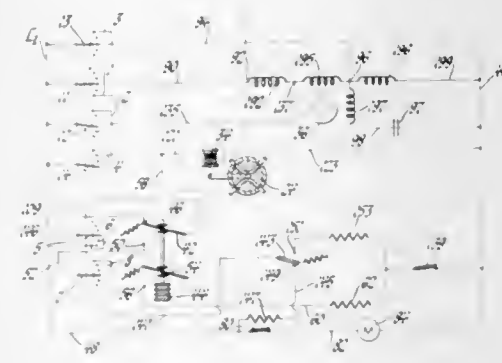
Donald C. Ferdelman, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Michigan a corporation of Delaware

Filed Jan. 23, 1969, Ser. No. 793,460

Int. Cl. F25b 29/00

U.S. Cl. 165—29

4 Claims



In the preferred form, a gang of six, six position selector switches having a common selector operating means selects either a heating cycle with medium or high fan speed or a cooling cycle with either low or medium or high fan speed. A stage type double throw thermostat switch controls the refrigeration system for both heating and cooling. A thermostatic heat changeover double-throw switch substitutes resistance heating for reversed cycle heating when the latter becomes less desirable. An additional switch on the stage thermostat energizes an added resistance heater upon a greater fall in temperature.

3,537,510

PRESSURE AND TEMPERATURE REGULATOR FOR AIRCRAFT BLEED AIR SYSTEM

George C. Rannenberg, Canton; Bartholomew J. Davison, Simsbury and Charles B. Brahm, Ellington, Connecticut, assignors to United Aircraft Corporation, East Hartford, Connecticut a corporation of Delaware

Filed Aug. 12, 1968, Ser. No. 752,046

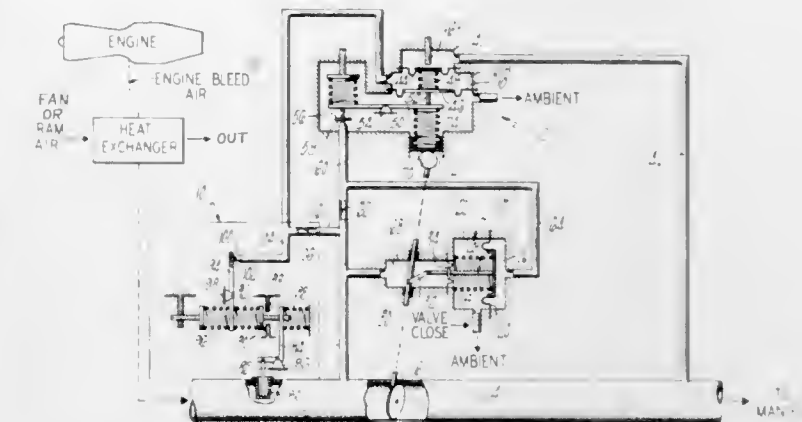
Int. Cl. G05d 23/00

U.S. Cl. 165—32

6 Claims

The load on a precooler heat exchanger is controlled by

utilizing an existing pressure-regulating valve and locating the pressure-regulating valve in proximity to the heat exchanger cooling units. A third, ventilating unit provides for the forced circulation of air to either the heating or cooling unit. Selection of the appropriate unit, either heating or cooling is made by a mechanical lever system and a by-pass valve.



and limiting the flow through the precooler as a function of temperature sensed downstream of the heat exchanger.

3,537,511

CONTROLLING FLOW IN GRANULES HEAT EXCHANGER

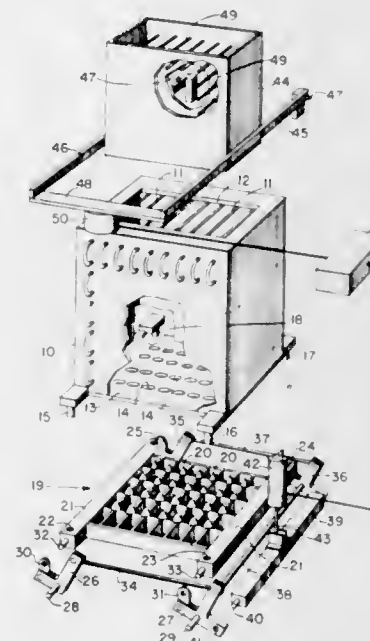
Gustav A. Maag, Crestview Hills, Kentucky and Donald L. Gerth, Springfield Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Feb. 6, 1969, Ser. No. 797,060

Int. Cl. G05d 23/00

U.S. Cl. 165—32

8 Claims



A weigh duct is mounted for pivotal movement over the inlet to a tubular heat exchanger designed for heating or cooling granular material. Flow of granules from the bottom outlet of the heat exchanger is regulated by a metering device mounted in the lowermost portion thereof which can be adjusted to control flow through the heat exchanger. The weight of granules in the weigh duct is continuously sensed by a weigh cell which transmits a proportional signal to a set point controller. The set point controller continuously sends a signal for properly positioning a control cylinder which is used to vary outflow from the heat exchanger through the metering device. Outflow is adjusted and controlled in order to maintain an optimum choked flow condition within the heat exchanger.

3,537,512

AIR-CONDITIONING APPARATUS

Luciano Romanelli, Via Trento 17, Brescia, Italy

Filed July 1, 1968, Ser. No. 741,784

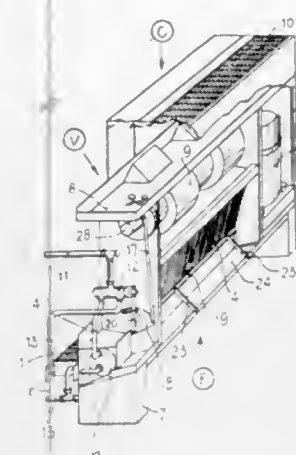
Claims priority, application Italy, July 11, 1967, 2,774/67

Int. Cl. F25b 29/00

U.S. Cl. 165—48

2 Claims

Air-conditioning apparatus adapted for use with conventional water radiator networks includes both heating and



3,537,513

THREE-FLUID HEAT EXCHANGER

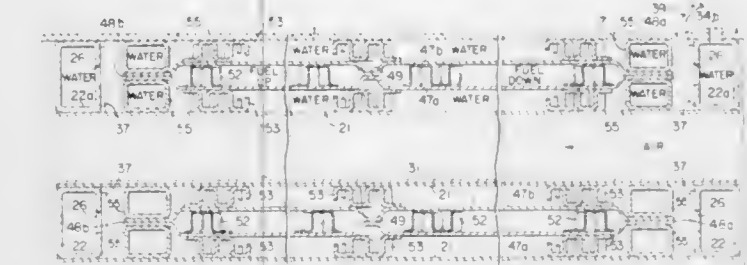
Irving G. Austin, Inglewood; David G. Bridgnell, Rolling Hills and Robert C. Kinsell, Los Angeles, California, assignors to The Garrett Corporation, Los Angeles, California a corporation of California

Filed March 11, 1968, Ser. No. 711,987

Int. Cl. F28f 23/00, 3/00

U.S. Cl. 165—70

9 Claims



A heat exchanger utilizing a pressurized buffer fluid between the coolant and the fluid to be cooled, to reduce thermal stress, and to prevent the intermixing of the coolant with the fluid to be cooled.

3,537,514

HEAT PIPE FOR LOW THERMAL CONDUCTIVITY WORKING FLUIDS

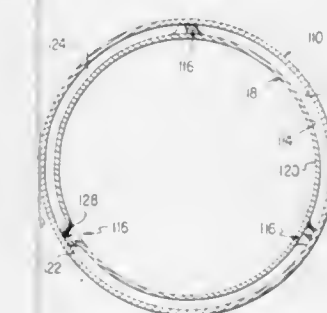
William J. Levedahl, Baltimore, Maryland, assignor, by mesne assignments, to Teledyne, Inc., Los Angeles, California a corporation of Delaware

Original application Nov. 7, 1966, Ser. No. 592,362, now pending. Divided and this application March 12, 1969, Ser. No. 823,227

Int. Cl. F28d 15/00

U.S. Cl. 165—105

2 Claims



An improved heat pipe fluid transport section, or capillary, is formed by a wall parallel to the heat pipe wall and spaced

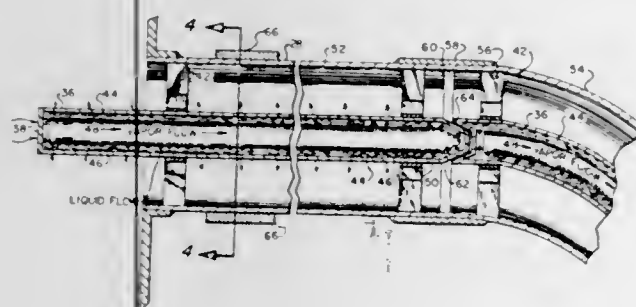
so as to provide a continuous capillary passage therebetween. The wall is perforated to allow for the passage of vapor into and out of the passage.

3,537,515

POWER SYSTEM WITH HEAT PIPE LIQUID COOLANT LINES

Ambrose W. Byrd, Huntsville, Alabama
Original application Feb. 16, 1968, Ser. No. 706,013. Divided and this application Aug. 28, 1969, Ser. No. 854,815
Int. Cl. F28d 15/00; H02n 3/00
U.S. Cl. 165—105

11 Claims



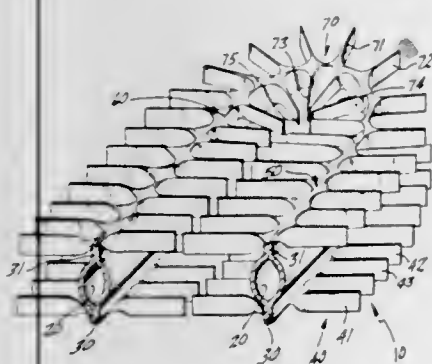
A power system having a number of thermionic diodes connected in parallel. The diodes use heat pipes as cathodes. The system employs a circulatory cooling system utilizing liquid metal coolant lines which are heated by a series of heat pipes butted end-to-end and extending through the center of the lines.

3,537,516

COMPACT HEAT EXCHANGE COMPONENT

Charles O. Kunz, East Alton, Illinois, assignor to Olin Corporation, a corporation of Virginia
Filed July 2, 1968, Ser. No. 741,982
Int. Cl. F28f 1/14
U.S. Cl. 165—181

6 Claims



A heat exchange component is provided which is made of at least two sheets of metal joined together at appropriate portions thereof to define a cavity through which a cooling medium is passed. Edge portions of the sheets, however, are not joined and are bent apart and twisted in a manner to obtain optimum surface area for a given volume into which such a heat exchanger would be placed.

3,537,517

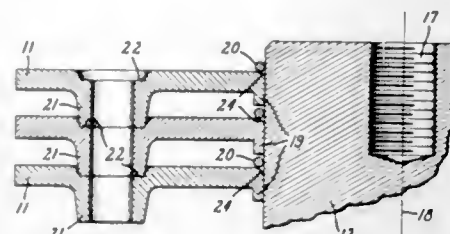
HEAT DISSIPATING ASSEMBLY

Edward P. Doyle, Philadelphia, Pennsylvania, assignor to General Electric Company, a corporation of New York
Filed March 29, 1968, Ser. No. 717,213
Int. Cl. F28f 1/30
U.S. Cl. 165—182

5 Claims

A stack of parallel, spaced cooling fins is mounted on the peripheral surface of a core for dissipating heat therefrom. The fins are provided with short tubular protrusions for

locating and spacing purposes, and in addition each fin has a core-encompassing collar that increases the area of contact

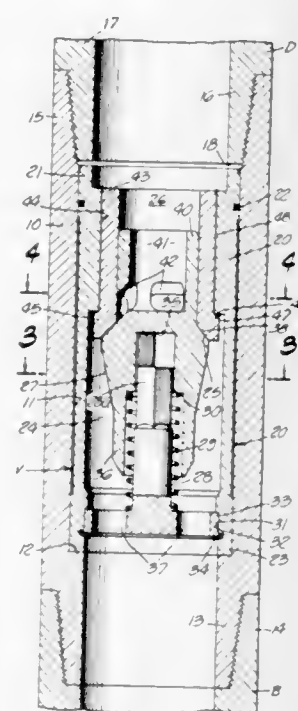


3,537,518

SAFETY DRILL PIPE FLOAT VALVE WITH HEAT RESPONSIVE SHUT OFF SLEEVE

Wayne M. Sullivan and John W. Turner, Jr., Houston, Texas, assignors to Byron Jackson, Inc., Long Beach, California a corporation of Delaware
Filed April 22, 1969, Ser. No. 818,260
Int. Cl. E21b 35/00; F16k 17/40
U.S. Cl. 166—64

7 Claims



A safety drill pipe float for use when air is employed as the drilling fluid and in which the valve seat is formed as part of a sleeve fixed in an upper position for engagement by the valve head by a bonding agent, such as solder or babbitt which is heat sensitive so as to be liquefied in the event of a bore hole fire, the sleeve moving to a lower position when the bonding agent is liquefied to engage the valve head and shut off the flow of air through the drill string to prevent further combustion.

3,537,519

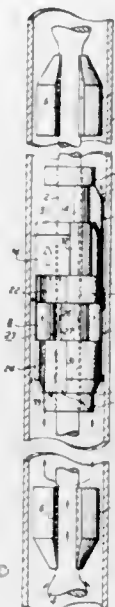
PARAFFIN SCRAPER

Travis B. Long, Arlington, Texas, assignor to Oil States Rubber Co., Arlington, Texas a corporation of Texas
Filed Jan. 2, 1969, Ser. No. 788,478
Int. Cl. E21b 37/02
U.S. Cl. 166—175

6 Claims

A migratory paraffin scraper of generally cylindrical configuration for removing deposits from oil well tubing and sucker rods and having a pair of coating longitudinal sections slidably connected together for relative longitudinal movement to open and close a longitudinal flow passage therethrough. Opening of the passage permits the scraper to drop relative to the rod and closing of said passage permits

lifting of said scraper by the well fluids whereby said scraper continuously travels upwardly and downwardly throughout



the length of a sucker rod during reciprocation of the rod. The scraper also functions as a rod guide.

3,537,520

FLOODING PROCESS FOR THE RECOVERY OF OIL

LeRoy W. Holm, Fullerton, California, assignor to Union Oil Company of California, Los Angeles, California, a corporation of California
Filed Aug. 21, 1968, Ser. No. 754,474
Int. Cl. E21b 43/22

U.S. Cl. 166—273

4 Claims

A process for the recovery of oil from subterranean reservoirs in which a substantially anhydrous soluble oil miscible with the reservoir oil is injected into the reservoir through an injection well, and thereafter a thickened aqueous flooding medium is injected to drive the soluble oil towards a production well spaced apart in the reservoir from the injection well.

3,537,521

SAND CONSOLIDATION METHOD

Bobby G. Harnsberger, Houston, Texas, assignor to Texaco Inc., New York, New York a corporation of Delaware
Filed Dec. 23, 1968, Ser. No. 786,430
Int. Cl. E21b 33/13

U.S. Cl. 166—295

12 Claims

Method of and composition for the treatment of unconsolidated sandy formations to stabilize the formation comprising injecting a treating composition of 25–100 percent by volume of acrolein dimer and 75–0 percent by volume of an oxygenated hydrocarbon solvent into said formation, effecting polymerization of said dimer and formation of a fluid permeable consolidated sand in said formation.

3,537,522

SAND CONSOLIDATION METHOD

Bobby G. Harnsberger, Houston, Texas, assignor to Texaco Inc., New York, New York a corporation of Delaware
Filed Dec. 23, 1968, Ser. No. 786,368
Int. Cl. E21b 33/13

U.S. Cl. 166—295

7 Claims

Method of and composition for the treatment of unconsolidated sandy formations to stabilize the formation comprising injecting a treating composition of 2–25 percent of acrolein dimer and 75–98 percent of an aromatic type solvent into said formation, effecting polymerization of said dimer by contact with an acid forming polymerization catalyst and water, and formation of a fluid permeable consolidated sand in said formation.

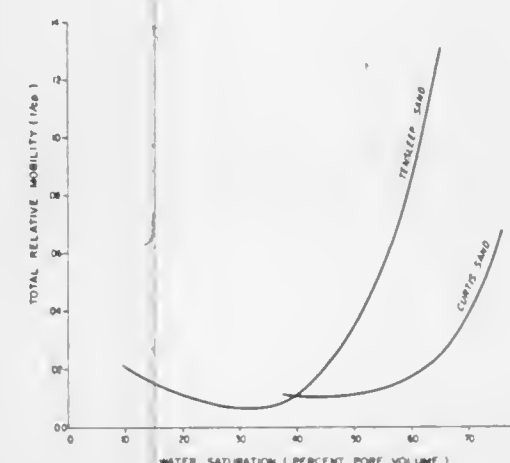
3,537,523

DESIGN OF WELL STIMULATION FLUIDS

William B. Gogarty and Marion O. Son, Jr., Littleton, Colorado, assignors to Marathon Oil Company, Findlay, Ohio a corporation of Ohio
Filed April 1, 1969, Ser. No. 811,847
Int. Cl. E21b 43/22

U.S. Cl. 166—305

10 Claims



Stimulation of a permeable, oil-bearing subterranean formation is effected by designing a micellar dispersion to have a mobility about equal to the square root of the product of the mobility of the combination of water and oil in the reservoir times the mobility of the drive fluid, injecting from about 0.1 to about 10 barrels of the micellar dispersion per vertical foot of oil bearing formation into the formation and then injecting drive fluid to displace the micellar dispersion out into the formation.

3,537,524

METHOD OF TREATING A SUBTERRANEAN CLAY-CONTAINING FORMATION

James M. McMillen, Arlington, Texas, assignor to Mobil Oil Corporation, a corporation of New York
Filed April 1, 1969, Ser. No. 812,351
Int. Cl. E21b 43/25

U.S. Cl. 166—305

5 Claims

This specification discloses a method of treating a subterranean formation penetrated by a well in order to make hydratable clays within the formation preferentially oil-wettable. A nonaqueous water-miscible solvent such as a low molecular weight aliphatic alcohol is injected into the formation in order to reduce the water saturation thereof adjacent the well. Thereafter, a nonaqueous carrier liquid containing an oil-wetting surfactant is injected into the formation. The carrier liquid has mutual miscibility with the previously injected solvent such that the solvent is displaced and the surfactant is deposited within the formation adjacent the well. A gas may be injected intermediate the solvent and the carrier liquid in order to displace the previously injected solvent and to dry the formation.

3,537,525

METHOD OF DECREASING FRICTION LOSS IN A WELL FRACTURING PROCESS

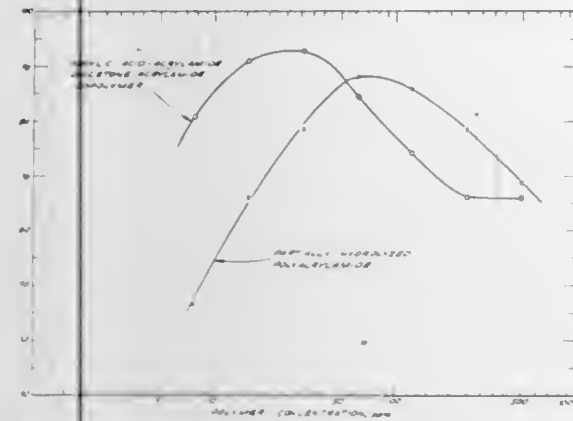
Amir M. Sarem, Yorba Linda, California, assignor to Union Oil Company of California, Los Angeles, California a corporation of California
Filed Jan. 15, 1968, Ser. No. 697,967
Int. Cl. E21b 43/26; F17d 1/16

U.S. Cl. 166—308

14 Claims

A method for decreasing friction loss in the flow of an aqueous liquid through a conduit in which a small amount of acrylic acid-acrylamide-diacetone acrylamide terpolymer is

added to the liquid. The method of this invention is particularly adapted to reducing friction loss in the flow of an aqueous



ous fracturing fluid through a well and into a subterranean formation in a hydraulic fracturing process.

3,537,526

METHOD OF RECOVERING HYDROCARBONS FROM A HYDROCARBON-CONTAINING SUBSURFACE FORMATION

Jan Offerings, Hague, Netherlands, assignor to Shell Oil Company, New York, New York a corporation of Delaware

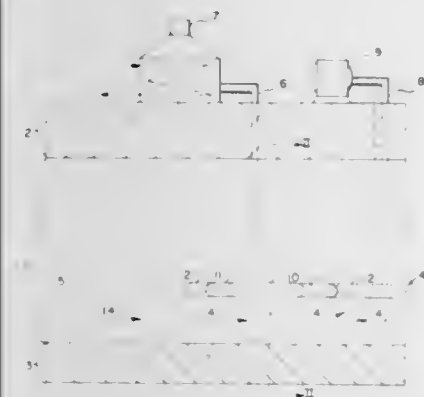
Filed Oct. 18, 1968, Ser. No. 768,668

Claims priority, application Netherlands, Nov. 15, 1967, 6715499

Int. Cl. E21b 43/20, 43/24

U.S. Cl. 166-245

12 Claims



A process of improving oil recovery using hot water injecting means wherein small quantities of hot water can be used by making up the required balance by use of connate water or cold water injected into the formation through a different injection well.

3,537,527

SWEEP IMPROVEMENT BY USE OF STATIC BLOCKS BETWEEN INJECTION AND PRODUCTION WELLS TO INFLUENCE THE INTERFACE OF THE DRIVING FLUID

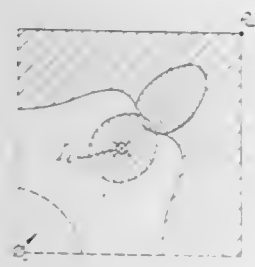
George M. Wood, Houston, Texas, assignor to Texaco Inc., New York, New York a corporation of Delaware

Continuation-in-part of application Ser. No. 786,566, Dec. 24, 1968, now pending. This application March 27, 1969, Ser. No. 811,086

Int. Cl. E21b 43/16, 43/20

U.S. Cl. 166-245

18 Claims



A barrier comprising a slug of a fluid more viscous than formation hydrocarbons is injected via a well between the in-

jection and production wells to retard the formation of the usual cusp at the interface between the injected driving and the formation fluids as it advances toward a production well. As applied specifically to thirteen and seventeen well patterns, this barrier can be placed strategically via the side wells of these patterns to affect the flow of driving fluid to result in a more complete sweep of the formation fluids, as production wells are changed to function as injection wells at predetermined periods.

3,537,528

METHOD FOR PRODUCING SHALE OIL FROM AN EXFOLIATED OIL SHALE FORMATION

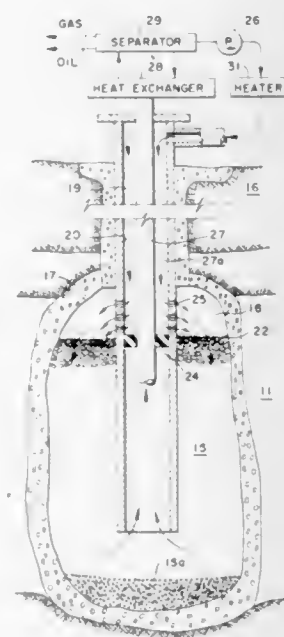
John A. Herce; Stephen M. O'Brien and Michael Prats, Houston, Texas, assignors to Shell Oil Company, New York, New York a corporation of Delaware

Filed Oct. 14, 1968, Ser. No. 767,174

Int. Cl. E21b 43/24

U.S. Cl. 166-247

6 Claims



In a process for producing shale oil from a subterranean oil shale formation by controlled in situ combustion in a cavern that contains a mass of fracture-permeated oil shale and is located within an oil shale formation, the oil shale is preheated with hot aqueous liquid to exfoliate the pieces of oil shale to cause a reduction in their particle size and improve the distribution of permeabilities and surface area-to-volume ratios within the cavern prior to the initiation of underground combustion.

3,537,529

METHOD OF INTERCONNECTING A PAIR OF WELLS EXTENDING INTO A SUBTERRANEAN OIL SHALE FORMATION

Elmer H. Timmerman, Littleton, Colorado, assignor to Shell Oil Company, New York, New York a corporation of Delaware

Filed Nov. 4, 1968, Ser. No. 772,993

Int. Cl. E21b 43/24, 43/26, 33/13

U.S. Cl. 166-271

6 Claims

A method of creating horizontal fractures and of interconnecting at least a pair of wells extending into a subterranean oil shale formation by fracturing each well and injecting a solidifiable fluid into at least one of the fractures and maintaining the fluid at substantially a fracture-extending pressure until the fluid solidifies and plugs the fracture. At least one well in which at least one preceding fracture has been formed and plugged in like manner is refractured and at least one of the fractures is extended until the fractures intersect or intersect the wells so that fluid may be pumped through a fracture path from one of said wells to the other.

3,537,530

CUTTING DEVICE AND METHOD FOR TOMATO HARVESTERS AND THE LIKE

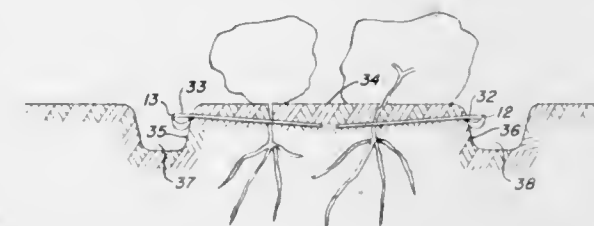
Thomas S. Bettencourt, Walnut Grove and Fredrick L. Hill, Rio Vista, California, assignors to The Regents of the University of California, Berkeley, California

Filed Aug. 22, 1967, Ser. No. 662,432

Int. Cl. A01d 25/00

U.S. Cl. 171-1

10 Claims



The cutting device for harvesters of row crops comprises a pair of stingers, forwardly extending rods with an offset portion, and a blade on each stinger extending in therefrom, with the cutting edge extending forwardly for a short portion and then rearwardly for the major portion. The method embodies riding the stingers on the side walls of the bed, below the top, trapping and retaining the top bed shape and dimensions, with the blades extending in underground from the forward edge of the stinger, thereby cutting the full width of the bed with only narrow flat blades. The blades may overlap for single row beds, or may not overlap for double row beds.

3,537,531

AUTOMATIC GUIDANCE APPARATUS FOR VEHICLES

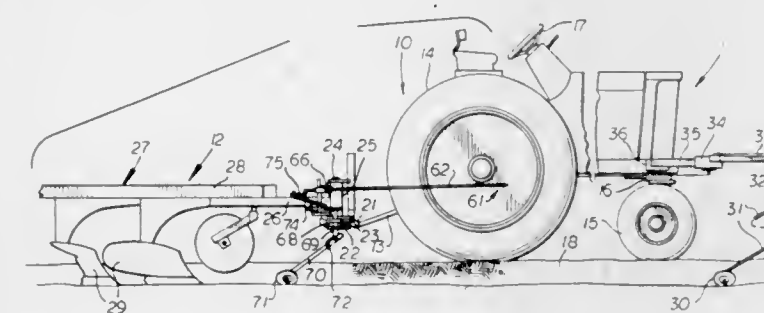
Raymond C. Fischer; Otto E. Johnson, Hinsdale and Gerald J. Tiedt, La Grange, Illinois, assignors to International Harvester Company, Chicago, Illinois a corporation of Delaware

Filed July 23, 1968, Ser. No. 746,986

Int. Cl. A01b 69/00

U.S. Cl. 172-26

8 Claims



An agricultural machine includes earthworking and tractive vehicle components, the vehicle component having a forward steerable wheel steered in relation to a guide line such as a furrow wall. A sensing device bearing against the furrow wall is sensitive to relative movement between the device and the steerable wheel, and actuates the steering mechanism to bring the front end of the machine and the sensing device back to a normal operating relation. To compensate for lateral drift of the rear portion of the machine particularly in sidehill operation, another sensing device at the rear of the machine independently actuates the power steering to adjust the position of the vehicle and overcome the effects of sidehill drift.

3,537,532

CULTIVATOR ARM

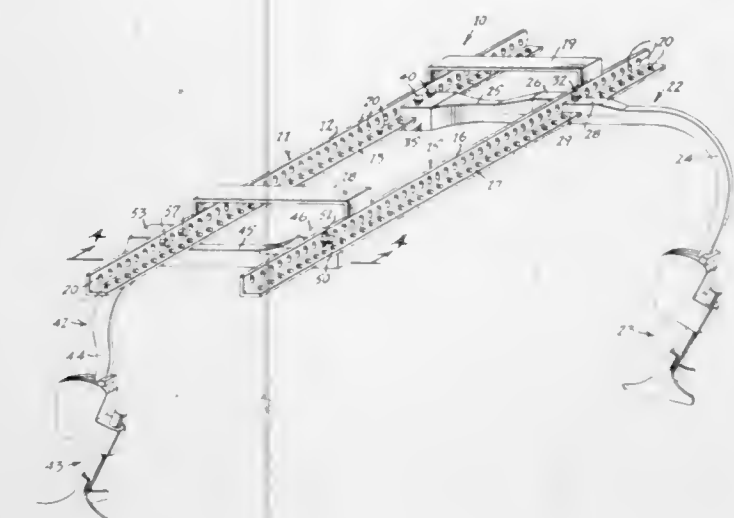
Henry A. Padgett, Sr., Rte. 1, Monetta, South Carolina 29105

Filed April 10, 1967, Ser. No. 629,450

Int. Cl. A01b 39/22, 15/12

U.S. Cl. 172-741

1 Claim



A cultivator arm for supporting a cultivator tool, having a shoulder for engaging the front face of one of the cultivator frame beams, and pin attachment means for securing the arm to the beams.

3,537,533

AUTOMATIC MARKER CHANGERS FOR FARM IMPLEMENTS

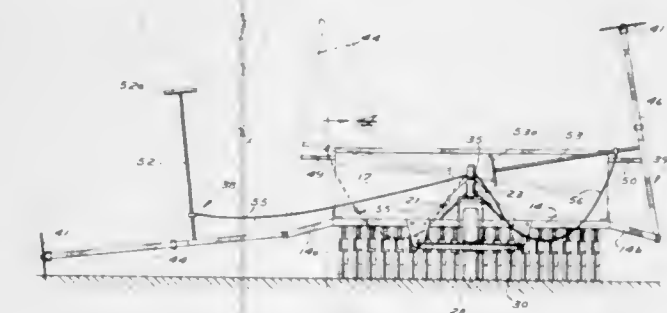
Earl P. Morehouse and Marvin L. Johnson, Bristol, South Dakota, assignors to Deere & Company, Moline, Illinois a corporation of Delaware

Continuation-in-part of application Ser. No. 574,162, Aug. 22, 1966, now abandoned. This application March 28, 1968, Ser. No. 722,520

Int. Cl. A01b 35/32

U.S. Cl. 172-130

10 Claims



A marker changer for grain drills having a pair of markers. One end of an arm is mounted on a caster wheel to the front of the drill, the other end of the arm being secured to an intermediate portion of a cable whose ends are connected to the markers. Turning of the grain drill towards the down marker will cause the caster wheel to swivel, which will in turn cause the cable to pull up the down marker, the other marker being permitted to fall to its marking position.

3,537,534

CASTER WHEEL LOCKING AND TILTING ARRANGEMENT FOR TURNOVER PLOWS

Clarence B. Richey, Fresno, California, assignor to Massey-Ferguson Inc., Des Moines, Iowa a corporation of Maryland

Filed May 9, 1968, Ser. No. 728,012

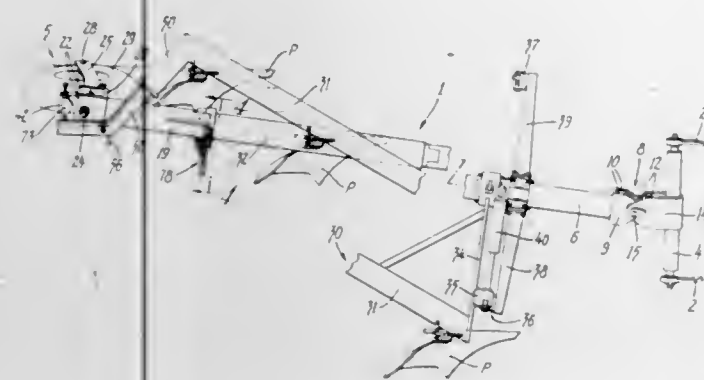
Int. Cl. A01b 3/28

U.S. Cl. 172-212

8 Claims

A turnover plow including a draft frame member having a caster wheel supporting its trailing end with a plow frame mounted on the draft frame member for rotation between opposite plowing positions and a transport position. Locking means is carried by the plow frame to directionally lock the

caster wheel in a steering position to steer the trailing end of the plow to one side of the longitudinal axis of the draft vehicle in accordance with the forces acting on the plow bottoms. A cam mechanism interconnects the caster wheel and plow frame to cause the caster wheel to tilt to an inclined position



relative to the ground during plowing so as to counteract transverse soil forces acting on the plow bottoms. When the plows are in their transport position, the caster wheel is automatically returned to a vertical position relative to the ground and is free to caster.

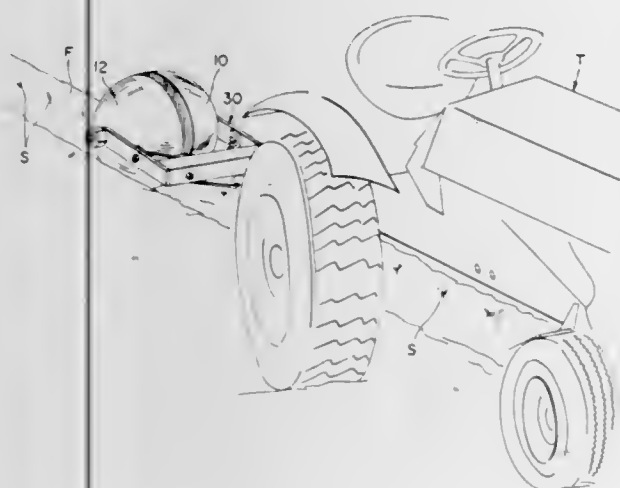
3,537,535 CULTIVATING PLOW

James G. Davis, 111 Bessemer City Road, Gastonia, North Carolina 28052

Filed Jan. 27, 1969, Ser. No. 794,124
Int. Cl. A01b 31/00

U.S. Cl. 172-767

9 Claims



The present invention is directed to a primary cultivating device capable of use much sooner after seedlings are planted than in the case in previous known devices. More specifically the cultivating device comprises a pair of spaced, heavy, non-rotating, hemispherically shaped, earth working members attached to a framework which in turn is propelled behind a tractor, by hand, or by some other suitable drive means.

3,537,536 PILE CLAMP FOR POWER HAMMERS

Hugo H. Cordes, 78 Brunnenstr, Hamburg 50 and Hans A. Kroeger, Hamburg 62, Germany, said Kroeger, assignor to said Cordes, Hamburg, Germany

Filed Sept. 20, 1968, Ser. No. 761,259
Claims priority, application Germany, Sept. 21, 1967, 1,634,303

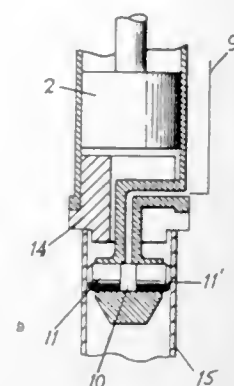
Int. Cl. B25d 9/00

U.S. Cl. 173-92

5 Claims

A clamping device for a power hammer of the type having a housing and ram reciprocable by fluid pressure, the clamping device comprising at least one cylinder having transverse clamping means solidly contacting the pile to be driven, the cylinder being supplied with pressure fluid from the ram,

thereby controlling clamping pressure between the hammer housing and pile along with fluid pressure for the downward



stroke of the ram. A return spring may be provided for retraction of the clamping piston.

3,537,537

BOULDER DISLODGING TOOL

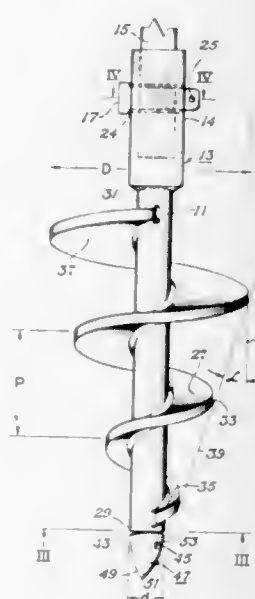
John V. Watson, Fort Worth, Texas, assignor to Watson Manufacturing Company, Fort Worth, Texas

Filed July 18, 1967, Ser. No. 654,113

Int. Cl. E21c 13/04

U.S. Cl. 175-394

6 Claims



Following is disclosed a tool for dislodging boulders from a hole being drilled in the earth. This tool includes a central shaft around which is secured a spiraled blade extending from the normally lower end of the shaft toward its upper end. In addition, the exterior edges of the blade diverge in a substantially conical manner from the lower end toward the upper end of the shaft. The pitch of the blade and the imaginary conical angle touched by its exterior edge are correlated to achieve an effective driving force which disrupts boulders from their supporting matrix such as shale. For superior results a pilot bit also having spiraled and tapered cutting edges is utilized on the lower end of the shaft.

3,537,538

IMPREGNATED DIAMOND BIT

Robert E. Generoux, North Bay, Ontario, Canada, assignor to Christensen Diamond Products Company, Salt Lake City, Utah a corporation of Utah

Filed May 21, 1969, Ser. No. 826,542

Int. Cl. E21b 9/36

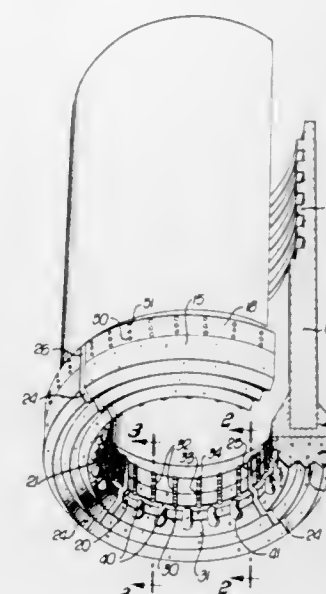
U.S. Cl. 175-330

34 Claims

A rotary formation drilling-core bit, including an impregnated portion containing diamonds dispersed in a matrix, the inner part of the impregnated portion having a step disposed axially inwardly of the bit face and in which surface-set diamonds are disposed to create formation cuttings flushed laterally outwardly across the full face of the bit to

abrade and effect its resharping by exposing additional diamonds. The rise between the step and bit face has circumferentially spaced ribs for creating cuttings also flushed

are linked at articulation points by inextensible members. Means for sequentially inflating or deflating said chambers and means controlling, in the deflated state of the said cham-



3,537,539

BIT ASSEMBLY FOR BOTTOM HOLE IMPACT DRILLING TOOL

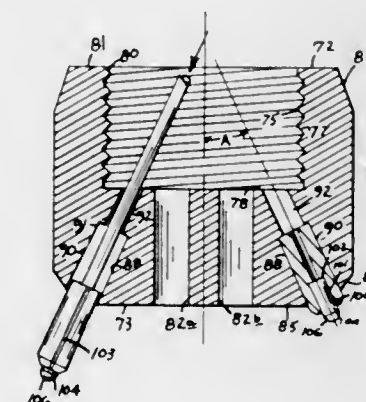
Gerald L. Adcock, 511 Airway Drive, Lewiston, Idaho 83501

Filed April 8, 1969, Ser. No. 814,412

Int. Cl. E21c 13/00

U.S. Cl. 175-413

9 Claims



A two piece bit assembly is provided for a bottom hole impact drilling tool. The bit assembly has an anvil and a bit threadably mounted on the anvil with a plurality of button assemblies mounted in the face of the bit. The button assemblies have tapered sleeves that are forced fit in tapered bores. Access apertures are provided in the back of the bit to enable the button assemblies to be punched out to replace worn buttons.

3,537,540

HANDLING DEVICE

Paul J. Zuppiger, Athenaz and Gabriel Bouladon, St. Loup, Versoix, Switzerland, assignors to MacGregor-Comarain, Paris, France a company of France

Filed Oct. 9, 1968, Ser. No. 766,168

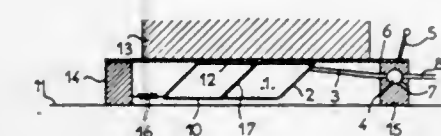
Claims priority, application Switzerland, Oct. 13, 1967, 14,361/67; France, Sept. 19, 1968, 166,760

Int. Cl. B62d 57/02

U.S. Cl. 180-8

14 Claims

The handling device for the transportation of loads is of the type comprising inflatable chambers interposed between the load and the ground. The device comprises two substantially parallel surfaces, one of which is adapted to receive the load, and the other is adapted to bear upon the ground. Said chambers are interposed between said two surfaces, which



bers, the shifting of the said surfaces with respect to one another insure the motion step by step of the device.

3,537,541

ACOUSTIC BOMB AND TRANSDUCER APPARATUS

Kantilal P. Desai and Edward J. Moore, Tulsa, Oklahoma, assignors to Sinclair Research, Inc., New York, New York a corporation of Delaware

Continuation-in-part of application Ser. No. 691,748, Dec. 19, 1967, now abandoned. This application July 2, 1968, Ser. No. 744,256

Int. Cl. G01v 1/28; E21b 49/00; G01v 1/16

U.S. Cl. 181-.5

6 Claims



Apparatus for permitting calculation of dynamic moduli of earth formations by determining the longitudinal wave velocity and the shear wave velocity within a sample of the formation. The sample is held within a cylindrical shell, and the vertical pressure, the circumferential pressure and the pore pressure are individually varied to the desired levels. Longitudinal waves and shear waves are then transmitted through the sample. In one embodiment these waves are transmitted simultaneously by a single transducer and are received sequentially by another single transducer. In another embodiment the longitudinal waves and the shear waves are transmitted and received sequentially by separate sets of transducers. The transmitted and received waves are monitored, and the wave velocities are determined from the transmission times and the sample length.

3,537,542

SPARKING DEVICES SUITABLE FOR SEISMIC PROSPECTING

Jean Claude Dubois, Royan, and Andre James, le Verdon/Mer, France, assignors to Institut Francais du Pétrole, des Carburants et Lubrifiants, Hauts-de-Seine, France

Filed Dec. 13, 1968, Ser. No. 783,586

Claims priority, application France, Dec. 14, 1967, 132,358

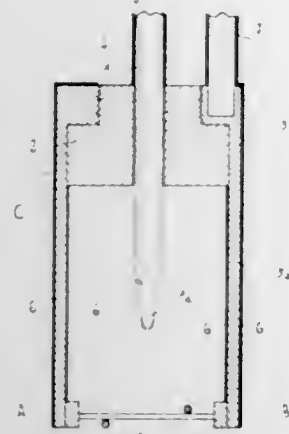
Int. Cl. G01v 1/06

U.S. Cl. 181-.5

12 Claims

A sparking device for underwater seismic prospecting

comprising at least two immersed electrodes and means for suddenly discharging a high electrical energy, in combination



with a burner supplied with an inflammable gaseous mixture adapted to produce a conducting ionized flame.

3,537,543

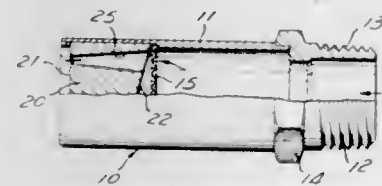
NOISE MUFFLED AIR EJECTOR

Stephen J. Gibel, 5846 Edgerton Road, North Royalton, Ohio
Filed July 3, 1969, Ser. No. 838,785

Int. Cl. F01n 1/00; B05b 1/14

U.S. Cl. 181-36

12 Claims



Noise muffler for air-ejectors comprising a plug for the outlet of an air passageway having three or more substantially equally spaced tapered openings whose axes are parallel to the axis of the outlet. By thereby restricting the flow of air to approximately one-third or less (up to approximately one-eighth) of the quantity discharged in the absence of the plug, the noise of the ejector is significantly reduced without significant reduction of thrust efficiency and increased efficiency of air consumption. Optimum efficiency is obtained by a diffusion screen located adjacent the inlets to the tapered openings.

3,537,544

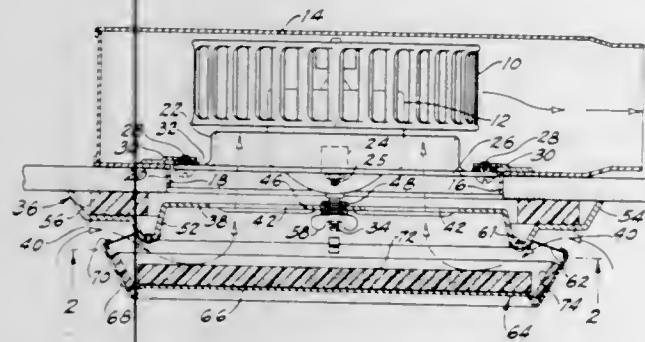
SOUND ABSORBING GRILLE

Reynold C. King, Jasper, Indiana, assignor to Emerson Electric Co., St. Louis, Missouri a corporation of Missouri
Filed June 11, 1968, Ser. No. 736,078

Int. Cl. F01n 1/10; F24f 7/02, 7/06

U.S. Cl. 181-50

7 Claims



A sound absorbing grille covering a wall opening leading to an electric fan mounted in the wall comprising a perforated disc member supported by the fan motor overlying the opening and having a rim portion lying against the wall and an imperforate disc member overlying the apertured member and

being spaced therefrom whereby air flow to or from the opening passes between the peripheral portions of the spaced members, the rim portion of the imperforate member being detachably connected to the rim portion of the perforated member and the imperforate member having a sound absorbing lining facing the wall opening to intercept fan motor sound issuing therefrom.

3,537,545

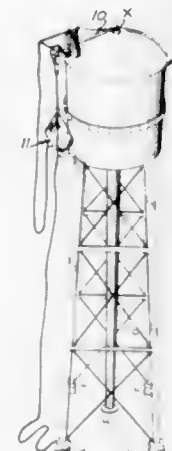
POSITIONING DEVICE FOR ELEVATED STRUCTURES

James E. Willis, RFD 2, Hiram, and Refford L. Leggett, RFD 3, Douglasville, Georgia
Filed Oct. 23, 1968, Ser. No. 769,835

Int. Cl. E04g 3/10

U.S. Cl. 182-14

10 Claims



A positioning device for use with elevated structures and a method of using the same. The apparatus includes a boom attachable to the top of the structure and rotatable about the centerline of the structure. Power means is provided for rotating the boom about the centerline of the structure and means is provided on the outer extending end of the boom for suspending a workman's platform therefrom. The invention also includes a workman's platform selectively suspendable from the extending end of the boom for supporting a workman thereon and is provided with a power means for selectively raising and lowering the workman's platform with respect to the extending end of the boom to give the workman access to the exterior of the structure. Control means is provided on the workman's platform for selectively controlling the raising and lowering of the workman's platform with respect to the outer extending end of the boom and for selectively controlling the movement of the boom about the centerline of the structure.

3,537,546

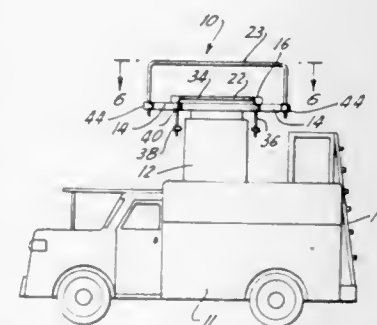
DUAL PLATFORM VEHICLE LIFT SYSTEM

Lawrence Klosk, 120 Gale Place, Bronx, New York
Filed July 11, 1968, Ser. No. 744,092

Int. Cl. E04g 1/22

U.S. Cl. 182-63

14 Claims



A vehicle lift system comprises a main platform which is raised to a first height by an elevator system carried by the vehicle, said main platform carrying on its upper surface an auxiliary platform which may be raised from a position substantially flush with said main platform to a level above that of the main platform.

3,537,547

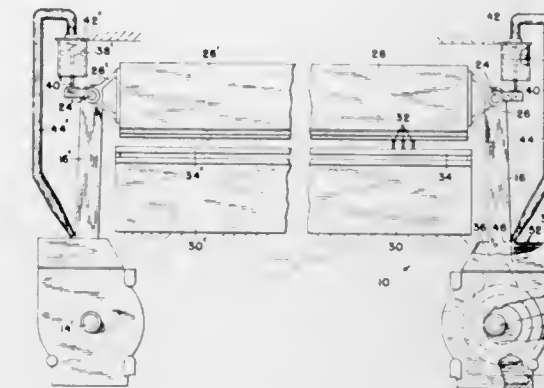
VENTING SYSTEM FOR ECCENTRIC DRIVE

Edgar C. Rust, Jr., Williamstown, Massachusetts, assignor to Crompton & Knowles Corporation, Worcester, Massachusetts a corporation of Massachusetts
Filed Sept. 23, 1968, Ser. No. 761,523

Int. Cl. F16n 13/00, 17/00

U.S. Cl. 184-6

10 Claims



A venting system for the housing of an eccentric drive which reciprocates a connecting rod, a portion of which extends through an opening in the housing. The system includes a reciprocating pump which pumps air into and out of the housing in timed relation but opposite to the inherent pumping action due to the movement of the connecting rod into and out of the housing.

3,537,548

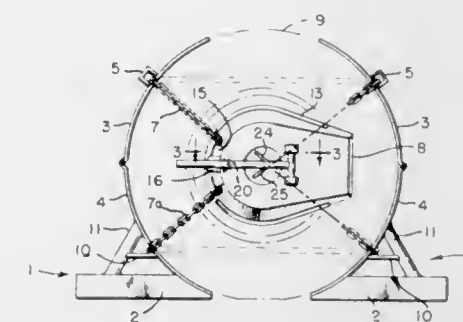
AUTOMOBILE IMPOUNDING APPARATUS

Patrick R. Jeppesen, Seattle, Washington, assignor to Intrastream Security Associates, Inc., Seattle, Washington
Filed Aug. 27, 1968, Ser. No. 755,566

Int. Cl. B60t 3/00

U.S. Cl. 188-32

5 Claims



A locking mechanism is attached to a vehicle wheel to prevent movement of the vehicle by impeding rotation of the wheel. The locking mechanism employs wheel blocks to abut the periphery of the wheel and a shield to prevent removal of a hub cap. The blocks and shield are bound tightly to the wheel by a link chain.

3,537,549

FRICTION CONTROL FOR CABLE DRUMS

Robert G. Ely, 8321 Sanders Court, Fresno, California 93702
Continuation-in-part of application Ser. No. 684,749, Nov. 21, 1967. This application Nov. 21, 1968.

Ser. No. 784,515

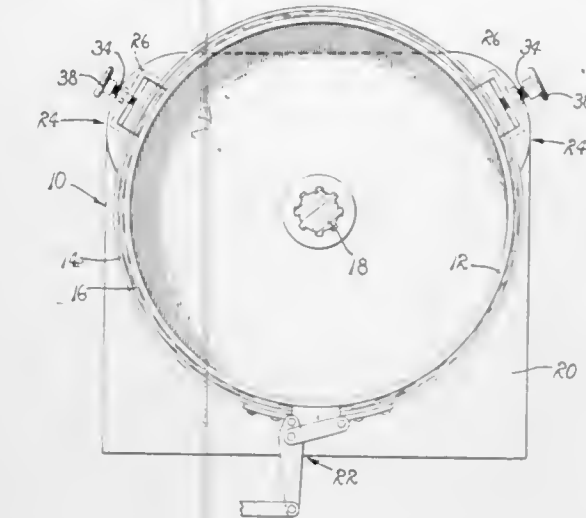
Int. Cl. F16d 49/10

U.S. Cl. 188-77

6 Claims

A braking device for achieving graduated control over the rotation of a cable drum or the like consisting essentially of a brake drum, a brake lining and a constrictable brake band

supporting the brake lining in operative relation to the brake drum, and a friction pad adjustably mounted on the brake



band adapted to engage the brake drum in advance of the brake lining incident to constriction of the brake band.

3,537,550

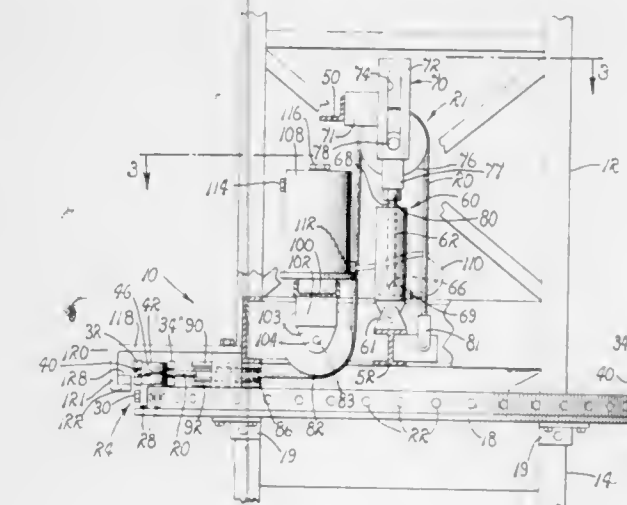
STOP FOR RECIPROCABLY COUPLED MEMBERS

Robert G. Ely, 8321 Sanders Court, Fresno, California 93702
Filed March 12, 1969, Ser. No. 806,745

Int. Cl. B60t 7/12

U.S. Cl. 188-110

10 Claims



A stop for reciprocably coupled members, particularly suited for use in a braking device for rotary structures including cranes and the like mounted for rotation on stationary base structure, being particularly characterized by an hydraulic-pneumatic shock absorber operatively coupled with a ring-like support fixed in circumscribing relationship to the base and having spaced, bifurcated stop members mounted thereon and interconnected with the shock absorber through a flexible cable including a protuberance fixed near one end thereof adapted alternately to be received within the spaced stop members as the rotary structure is reciprocated relative to the base structure, whereby the protuberance alternately serves to engage the stop members and causes the cable to apply energy-dissipating force to the shock absorber for achieving a gradual braking, at preselected rates, for arresting the displacement of the rotary structure.

3,537,551

SEQUENTIAL BRAKE OR CLUTCH DEVICES

Lawrence John Serra, 1536 E. Cold Spring Lane, Baltimore, Maryland 21218
Filed Oct. 24, 1967, Ser. No. 677,537

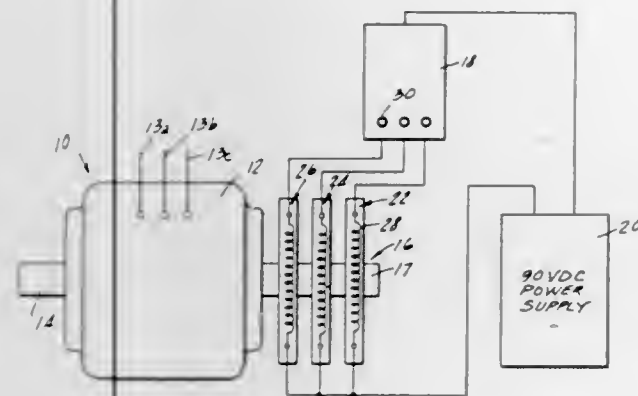
Int. Cl. B60t 7/00

U.S. Cl. 188-158

12 Claims

A sequential speed changing system including a rotor driven by a motor, a plurality of speed control units mounted

to control the speed of the rotor, a sequential control box, a power supply for the electrically actuated speed control units to supply electric power through the sequential control box



such that the speed control units are operated individually to operate within the heat tolerances allowed by manufacture for each of the units.

3,537,552

COMBINATION HANDBAG AND MAKEUP KIT

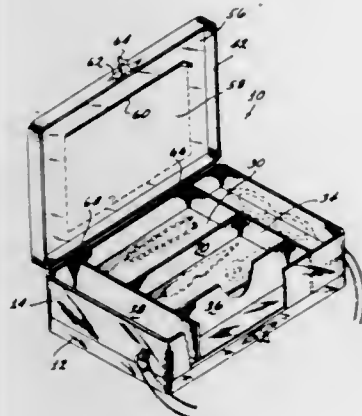
Neil M. Noble, 2150 N. Brentwood Ave., Santa Susana, California 93063

Filed Sept. 3, 1968, Ser. No. 757,061

Int. Cl. A45c 3/06, 15/04

U.S. Cl. 190-51

5 Claims



The device of the invention is a carrying case preferably taking the form of a woman's handbag which is a combined purse and makeup kit. It has hinged top and bottom covers providing access to holding compartments under each cover. The case has additional compartments having a depth that extends entirely through the case so that access may be had to them upon opening either the top or bottom cover.

3,537,553

POWER TRAIN INCLUDING A TORQUE-PRESSURE TRANSDUCER

Howard E. Olsen, Plymouth, Michigan, assignor to General Motors Corporation, Detroit, Michigan a corporation of Delaware

Filed Jan. 13, 1969, Ser. No. 790,823

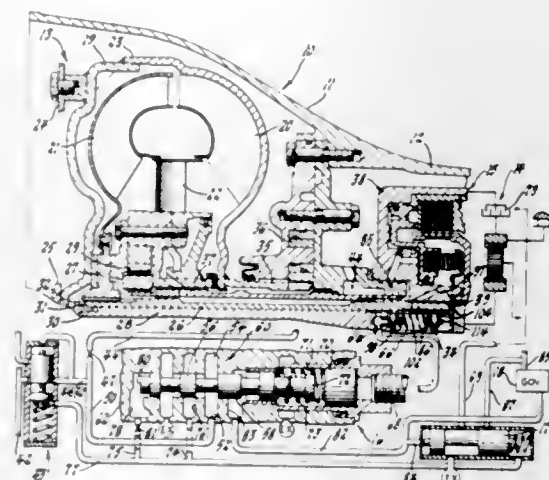
Int. Cl. F16d 39/00

U.S. Cl. 192-3.33

10 Claims

A power train including a torque-pressure transducer for an automatic transmission having a converter pump, a converter-driven member or turbine, a hollow turbine shaft fixed at one end thereof for rotation with the turbine and restrained at the other or output end thereof by virtue of being connected to drive a forward clutch assembly, a shaft slip-fitted into the turbine shaft and secured at the one end thereof, the other or output end thereof being free to rotate relative to the restrained end of the turbine shaft, a sleeve including arcuate slots secured to the turbine shaft adjacent longitudinal slots formed in the free end of the inner shaft, a pin mounted in the arcuate and longitudinal slots for axial movement during twisting of the turbine shaft, a valve

mounted in the inner shaft and biased by a spring mounted between the valve and the pin to produce a fluid pressure



signal representative of the twist and, hence, representative of the input torque on the turbine shaft.

3,537,554

FINGER-TYPE CAGE FOR OVERRUNNING CLUTCH

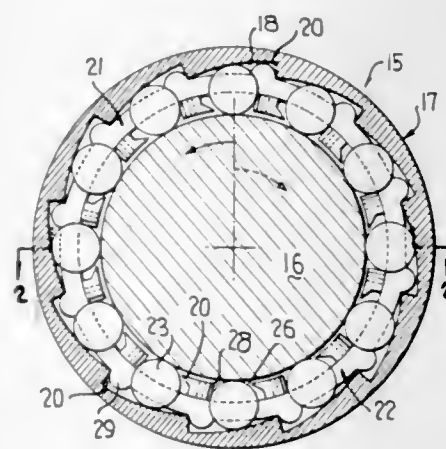
J. Russell Elmore, New Hartford and John H. Cowles, Forestville, Connecticut, assignors to The Torrington Company, Torrington, Connecticut a corporation of Maine

Filed Nov. 27, 1968, Ser. No. 779,460

Int. Cl. F16d 15/00, 41/06

U.S. Cl. 192-45

20 Claims



This disclosure relates to a cage for an overrunning clutch of the type wherein rollers are positioned between a cylindrical race surface and a cam surface and wherein a cage is provided for retaining the rollers in alignment with the cam surfaces and in spring loaded wedging engagement therewith. The cage of this disclosure is a finger-type cage and consists simply of an end ring having a plurality of circumferentially spaced, axially extending fingers. The cage may be molded of a suitable material, including plastic, or may be stamped from sheet metal. The fingers are spaced apart to define pockets therebetween and the end ring has stop means thereon for engagement with a clutch member to position the cage in a position wherein each finger is resiliently deflected by the associated roller when the roller is in operative engagement with its associated cam surface so that the normally straight fingers of the cage function as spring elements in the assembled clutch. Because the cage is disposed at one end of the rollers, one cage dimension may be utilized with a plurality of different roller lengths.

3,537,555

OVERRUNNING ROLLER CLUTCH

Dietrich Reister, Herzogenaurach, and Wolfgang Pflugner, Niederndorf, Germany, assignors to Industriewerk Schaeffler, OAG, Herzogenaurach, Germany a corporation of Germany

Filed Dec. 17, 1968, Ser. No. 784,389

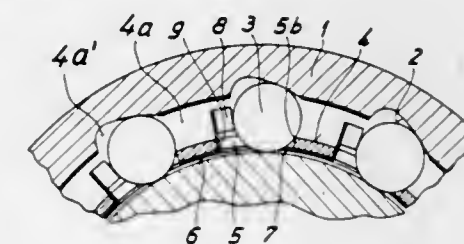
Claims priority, application Germany, Jan. 17, 1968,

1,675,151

Int. Cl. F16d 41/06; F16c 33/46

U.S. Cl. 192-45

9 Claims



A grip overrunning roller clutch having a ring provided with camming surfaces and a resilient strip of material, flat in the initial state of manufacture, secured against rotation relative to the ring. The strip is also provided with openings for grip rollers and spring elements, formed integrally therewith, for urging the rollers resiliently against the camming surfaces.

3,537,556

CLUTCH

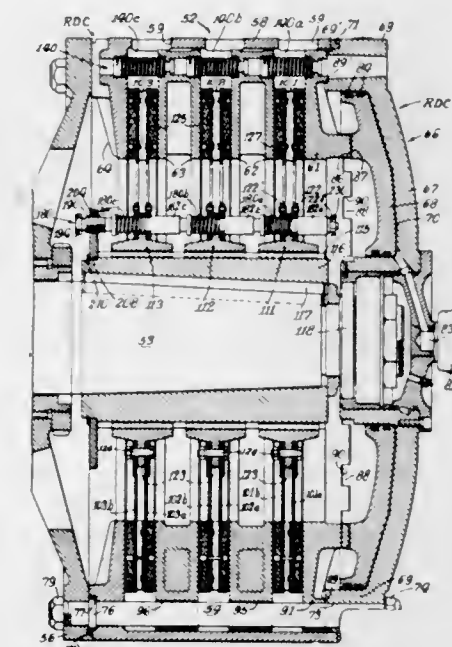
David J. Pfeffer, Waukesha and George W. Culbertson, Oconomowoc, Wisconsin, assignors to Industrial Clutch Corporation, Waukesha, Wisconsin a corporation of Wisconsin

Filed Oct. 11, 1968, Ser. No. 766,686

Int. Cl. F16d 13/69

U.S. Cl. 192-70.28

18 Claims



A friction clutch comprising a set of outer driving clutch plates and a set of inner driven clutch disks in interspersed relation, in which said driving and driven clutch elements are forced together into frictional driving engagement by a compressed air cylinder, and are separated into released non-driving relation by a set of outer separator springs acting on the outer driving plates, and by a set of inner locator springs acting on the inner driven clutch disks. All of these springs are precompressed into self-contained spring units before assembling in the clutch, so that in any field operation requiring the disassembling and/or reassembling of the clutch it is not necessary to manually restore or establish any of the original or desired pressures in the springs by manual effort, which is an almost impossible task in most instances. All of the precompressed spring units are also permanently locked or fastened to their respective clutch elements, so that the springs cannot become separated and lost in any such assembling or disassembling operation, nor improperly connected nor associated with the wrong clutch element, etc.

3,537,557

HYDRAULICALLY ACTUATED CLUTCH HAVING A FEEDBACK DUMP VALVE

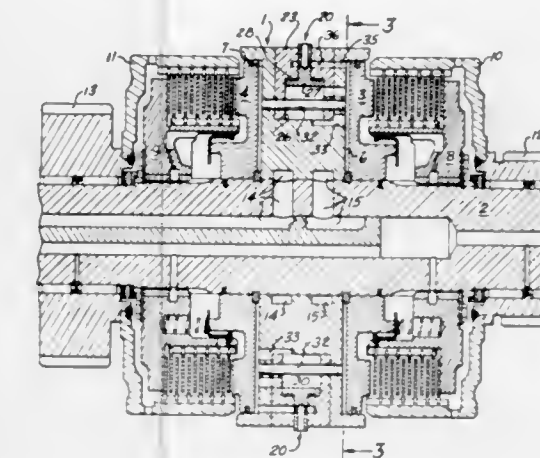
Gordon C. Olson, Rockford, Illinois, assignor to Twin Disc Incorporated, Racine, Wisconsin a corporation of Wisconsin

Filed Dec. 18, 1968, Ser. No. 784,627

Int. Cl. F16d 43/04

U.S. Cl. 192-106

2 Claims



A hydraulically actuated friction clutch having a valve in the fluid inlet to the actuating chamber, which valve balances the head due to centrifugal force of that supply fluid located in the rotating supply passage, assuring positive disengagement, a fluid feedback system making actuation of the clutch directly responsive to the actual control pressure and uninfluenced by centrifugal head of the fluid supply column. The valve is so constructed and arranged that when the actuating pressure to shut off to release the clutch, the feedback of fluid from the clutch actuating chamber causes rapid and complete dumping of fluid from the actuating chamber.

3,537,558

INTERLOCKING TOOTHED MEMBERS

William H. Bibbens, 16500 North Park Drive, North Park Towers Apt. 820, Southfield, Michigan

Continuation of application Ser. No. 689,877, Dec. 12, 1967,

now abandoned, which is a division of application Ser. No.

618,633, Feb. 27, 1967, now Patent No. 3,367,462, which is a

division of application Ser. No. 339,374, Jan. 22, 1964, now

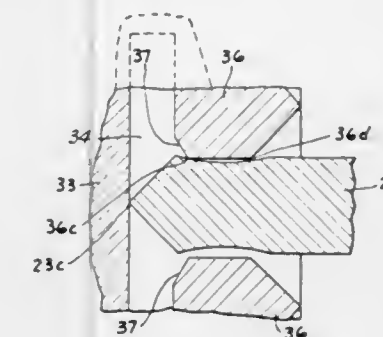
Patent No. 3,334,715. This application Feb. 19, 1969, Ser.

No. 808,362

Int. Cl. F16d 23/02

U.S. Cl. 192-114

3 Claims



The application discloses a pair of torque transmitting toothed members engageable and disengageable by axial movements and provided with means resisting their undesirable self-disengagement. The self-disengagement resisting means disclosed in this application are of the type based on line-to-surface contact for transmitting the torque, as disclosed in U.S. Pat. No. 3,334,715, but operating with a single disengagement-resisting ramp on one tooth, rather than two oppositely inclined ramps between which the male or external tooth seeks a balanced position as in said patent. As disclosed in the present application, the position of the sharp corner of the external tooth on the inclined ramp is at the terminal position of the internal tooth in the full engagement. Such construction produces double unit pressure at the locality of transmission of torque, much quicker wear-in process and production of edge and shallow groove engagement of the teeth.

3,537,559

SPRING FOR USE IN LIMITING TORQUE IN VALVE OPERATORS

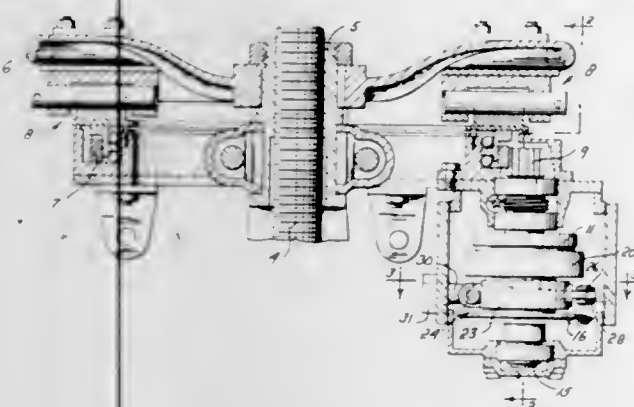
Daniel R. McNeal, Jr., Gwynedd, Pennsylvania, assignor to Andale Company, Lansdale, Pennsylvania a corporation of Pennsylvania

Filed Feb. 7, 1969, Ser. No. 797,559

Int. Cl. F16p 7/02; F16h 1/28; F16k 31/05

U.S. Cl. 192-150

3 Claims



Valve equipment including a rotative valve operating mechanism and power means for driving the rotative operating mechanism including a motor and gearing interconnecting the motor and the operating mechanism, the gearing incorporating a gear element serving as a reaction point during the transmission of torque through the gearing and mounted with freedom for limited movement under the influence of such torque transmission, together with a spring for restraining the gear element as against such movement, the spring comprising a tapered rod mounted in cantilever from its large end and having its small end in engagement with the movable gear element.

3,537,560

CONVEYING SYSTEM AND METHOD

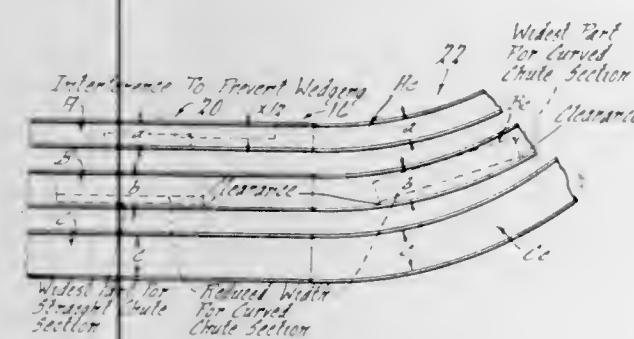
Kenneth Secunda, Detroit, Michigan, assignor to Federal-Mogul Corporation, Southfield, Michigan a corporation of Michigan

Filed Jan. 11, 1968, Ser. No. 697,210

Int. Cl. B65g 11/00

U.S. Cl. 193-2

11 Claims



A conveying system including a plurality of chutes in which circular parts of varying widths and diameters can be handled with substantially no change-over of the chutes for different part sizes.

3,537,561

AUTOMATED COIN DEPOSITORY WITH DUAL SIGNAL

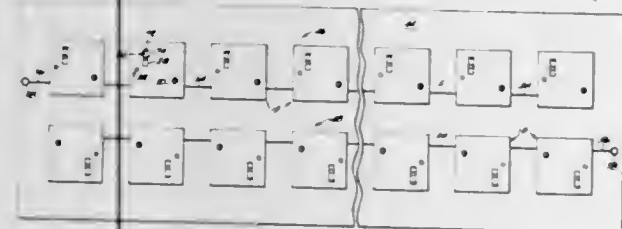
Jack Miller, 1410 20th St., Miami Beach, Florida 33145

Filed Jan. 21, 1969, Ser. No. 792,426

Int. Cl. G07f 5/00

U.S. Cl. 194-92

16 Claims



A device for use in the playing of public games of chance such as "Bingo" which is adapted to substantially shorten the

time period between each individual game. In games of this nature wherein the players pay for each individual game just prior to the start thereof, each player will be provided with an automated coin depository of the instant invention which is in the form of an enclosed box having a coin slide for the reception of a specific coin and an indicator light to be illuminated when the player, after deciding to participate in the following game, injects the coin into the box to complete a first electric circuit to said indicator light. A plurality of coin depositories, one in front of each player, are arranged in aligned banks along each side of each table and the devices in each bank are interconnected to be operable collectively, by an attendant stationed at one end of the table, to break the first circuit to extinguish the indicator lights on the coin depositories in front of all participating players and to simultaneously complete a second circuit on the devices in front of all players who did not inject specific coins therein, to illuminate the indicator lights thereon. The indicator lights illuminated by the second circuit remain "on" until the game is completed to indicate those persons not participating and therefore ineligible for a prize at the completion of the game.

3,537,562

COIL SPRING NONREPEAT KEYLEVER DOBBER

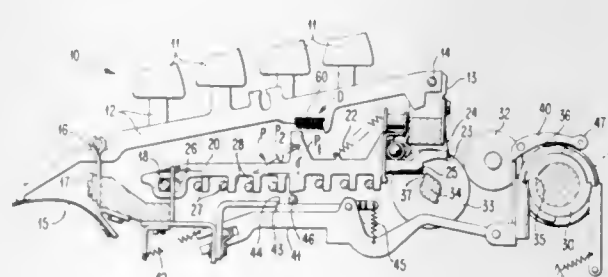
Allison H. Caudill and Willie Goff, Jr., Lexington, Kentucky, assignors to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed July 16, 1968, Ser. No. 745,250

Int. Cl. B41j 23/02

U.S. Cl. 197-17

13 Claims



A coil spring that is compressible along its longitudinal axis but relatively stiff along its transverse axis is employed to connect typewriter keylevers with power operating mechanisms so as to prevent multiple output operations from a single depression.

3,537,563

CYLINDRICAL PRINTING MEMBER

Ivan Tenev Stantchev, Sofia, Bulgaria, assignor to Zentralen Institut Po Itchislitelna Technika, Sofia, Bulgaria, a corporation of Bulgaria

Filed Feb. 26, 1968, Ser. No. 708,268

Claims priority, application Bulgaria, Feb. 27, 1967, I-262

Int. Cl. B41j 1/08

U.S. Cl. 197-48

4 Claims

A printing device for printing numbers or the like, comprising a first, hollow, vertical cylindrical body. A second hollow cylindrical body is mounted on a rotatable shaft inside the first hollow cylindrical body. The second hollow cylindrical body is provided on its outer surface with a plurality of longitudinally vertically extending grooves in which a corresponding plurality of printing rods are slidably disposed. These printing rods are operatively connected to a plurality of biasing means and are provided with a plurality of radially projecting pins. The interior surface of said first cylindrical body is provided with a plurality of guide grooves into which the aforementioned pins extend. A plurality of electro-

mechanically actuated fixing pins adapted to be selectively moved into control positions in said plurality of guide

3,537,565

ADAPTER FOR POSITIONING A CHARACTER ADDING DEVICE ON TYPEWRITING EQUIPMENT

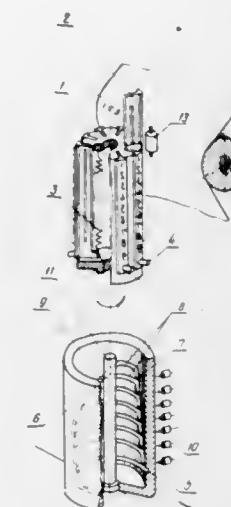
Robert H. Twyford, Falls Church, Virginia, assignor to Mechanical Enterprises Incorporated, a corporation of Virginia

Filed Oct. 31, 1967, Ser. No. 679,499

Int. Cl. B41j 29/00

U.S. Cl. 197-180

4 Claims



grooves thereby adjusting and controlling the movements of the pins of the printing rods in the guide grooves.

3,537,564

MEMORY BACKSPACE DEVICE FOR PRINTING APPARATUS

James M. Huckabee, Lexington, Kentucky, assignor to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed Nov. 15, 1967, Ser. No. 683,258

Int. Cl. B41j 19/62

U.S. Cl. 197-91

24 Claims



3,537,566

DEVICE FOR REORIENTING PARTS

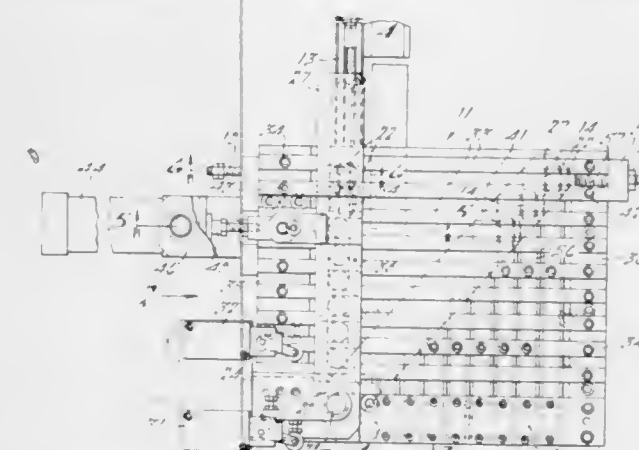
Maurice H. Bricker, Orchard Lake, Michigan, assignor to Micromatic Hone Corporation, Detroit, Michigan a corporation of Michigan

Filed March 8, 1968, Ser. No. 711,655

Int. Cl. B65g 47/24

U.S. Cl. 198-24

11 Claims



Semifinished gears roll in single file into aligned, open-ended carriers guided for parallel movement at right angles to their alignment. A pivotally supported arm above and directly coupled to the carriers, is swung to move the carriers from their aligned position to a stepped position, so that the gears are discharged along parallel paths, ending up in coaxial relation at a work station.

3,537,567

BOTTLE ORIENTING MECHANISM

Casimir W. Nowicki, 3728 Bowen Road, Toledo, Ohio 43613

Filed Dec. 31, 1968, Ser. No. 788,202

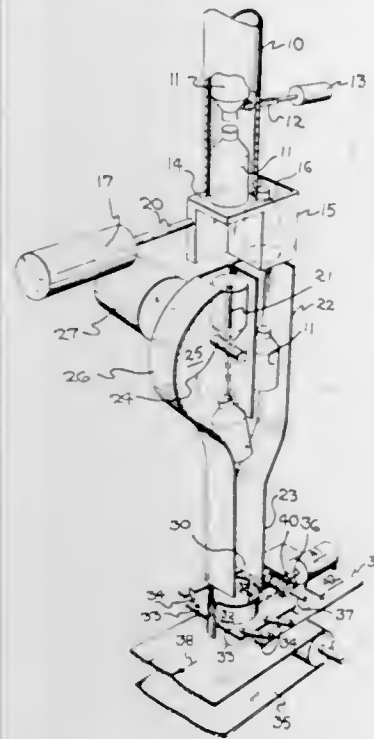
Int. Cl. B65g 47/24

U.S. Cl. 198-33

6 Claims

Apparatus for orienting bottles including a peg capable of swinging through an annular path. Bottles are delivered to the apparatus in random orientation with their center lines

parallel with one another. All neck-down bottles fit over a peg and are turned to an upright position as the peg swings



through its annular path. All neck-up bottles circumvent the peg and exit from the apparatus through an auxiliary chute.

3,537,568

ARTICLE HANDLING CONVEYORS

John M. Leach, P.O. Box 341, Port Jefferson, New York 11777

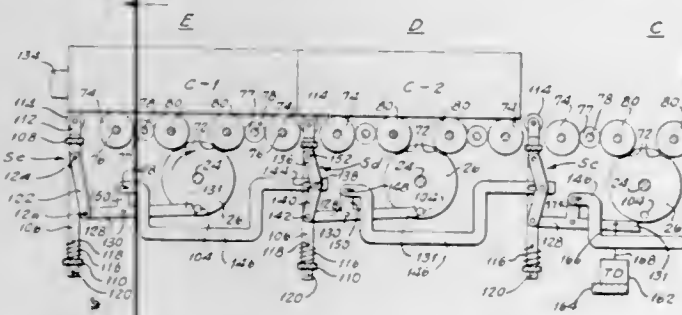
No. 2 Valley Center, KS 67147

Continuation-in-part of application Ser. No. 765,250, Oct. 4, 1968, now Patent No. 3,537,569. This application Jan. 10, 1969, Ser. No. 790,239

Int. Cl. B65g 13/02

U.S. Cl. 198—127

10 Claims



This invention relates to an article handling conveyor of the accumulation type in which the accumulation function is accomplished rapidly, smoothly, always under positive control, and with the accumulated articles in a solid line where desired with no pressure between them.

This is accomplished by stopping the forward movement of each article undergoing accumulation in two stages. The first stage primes the article movement stopping mechanism for final operation and is activated by the presence of an article in the path of the article to be stopped. The second and final stage is activated by the article to be stopped when it reaches a predetermined position.

3,537,569

ARTICLE HANDLING CONVEYORS

John M. Leach, P.O. Box 341, Port Jefferson, New York 11777

Continuation-in-part of application Ser. No. 726,381, May 3, 1968, now Patent No. 3,451,527. This application Oct. 4, 1968, Ser. No. 765,250

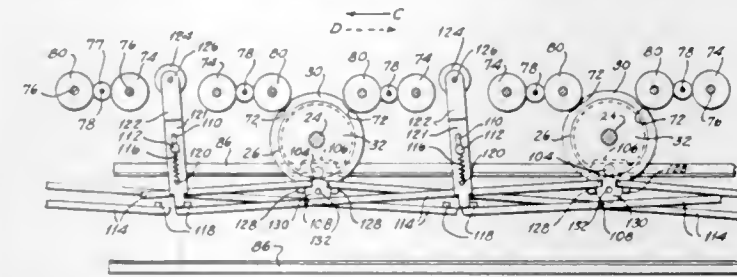
Int. Cl. B65g 13/02

U.S. Cl. 198—127

10 Claims

This invention relates to power-driven article conveyors of the type commonly known as accumulation conveyors. In the operation of such type conveyor, whenever an article is

stopped thereon for any reason, suitable mechanism is operated to stop the forward movement of the next article behind the stopped article in the direction of article flow just before or just as it touches the stopped article, and this action is continued along down the line of approaching articles



so as to prevent the articles from forcibly crowding together sufficiently to damage each other or make them difficult to remove from the line. The accumulation conveyor of the present invention is capable of performing its accumulation in both directions of article flow, or is reversible.

3,537,570

APPARATUS FOR CONVEYING TUBULAR ARTICLES

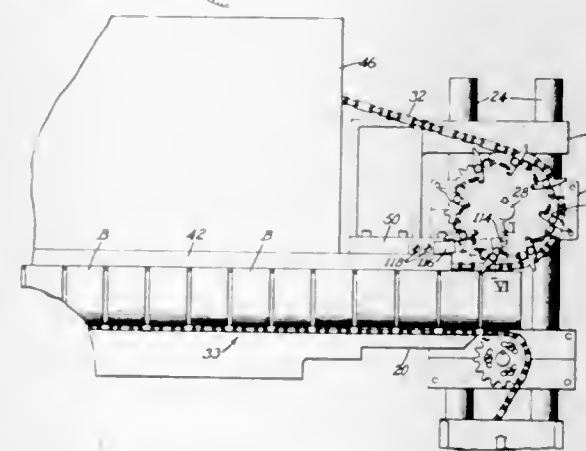
Frederick S. Sillars, Beverly, Massachusetts, assignor to USM Corporation, Flemington, New Jersey a corporation of New Jersey

Filed May 24, 1968, Ser. No. 731,771

Int. Cl. B65g 19/02, 17/46

U.S. Cl. 198—170

7 Claims



Apparatus for conveying tubular articles, for example, can bodies, in coaxial succession along a predetermined path, comprises a conveyor chain having spaced lugs pivoted thereon and having legs for engaging end portions of the articles, the lugs being formed with article-entering projections from the legs for stabilizing the articles during transit.

3,537,571

TOOTHED CONVEYOR BELT

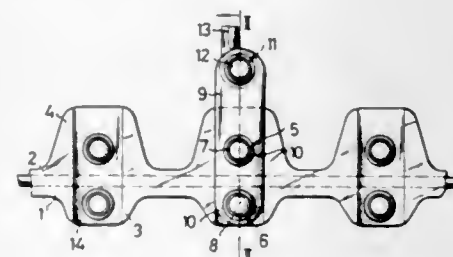
Hans-Holger Wiese, 3001 Fuhrberg No. 197, Fuhrbert, Germany

Filed Oct. 17, 1968, Ser. No. 768,278

Int. Cl. B65g 15/30

U.S. Cl. 198—193

11 Claims



An endless conveyor belt has a reinforcement, on both sides of which regularly spaced transverse tooth blocks with transverse holds are arranged. Into these holes rods are inserted the ends of which are joined with one another and with a supporting member of the conveyor element by connecting members arranged on both sides of the belt parallel to one another.

3,537,572

BELT STRUCTURE

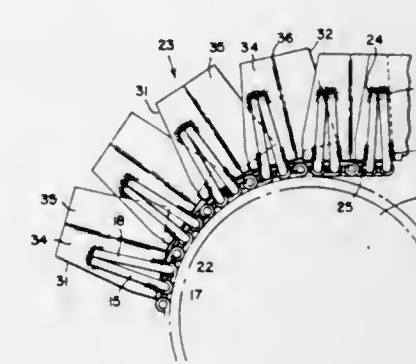
Otto Carl Scherfel, Academy Gardens, Pennsylvania, assignor to Manganese Steel Forge Company, Philadelphia, Pennsylvania a corporation of Pennsylvania

Filed Feb. 23, 1968, Ser. No. 707,803

Int. Cl. B65g 15/40

U.S. Cl. 198—201

7 Claims



A friction belt structure comprising a series of spaced cross rods having ends which are turned up to form end portions connected to a cross portion by bends, said cross rods being paired together, an edge plate mounted on each of the paired end portions, and helically coiled wires in interlooped engagement around the cross wires. The end portions of the paired rods are inclined toward each other like the sides of a capital "A", the rods are welded to the edge plates at the top and bottom of the end portions, the edge plates have end faces which incline toward each other from bottom to top so as to give the belt structure a backbreak, a cross rod which is free of end plates is positioned between the paired cross rods connected to edge plates, and the edge plates are offset and include an inner section connected to an outer section by a transverse section.

3,537,573

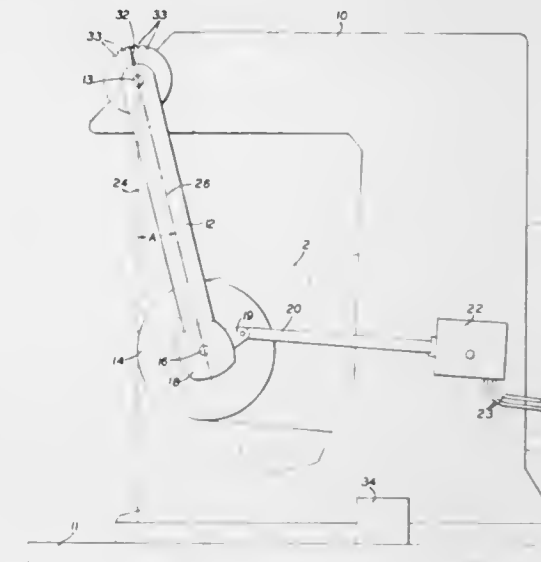
WEB TENSIONING DEVICE

Raymond J. Tangye, Rockton, Illinois and Merle W. Hauser, Beloit, Wisconsin, assignors to Beloit Corporation, Beloit, Wisconsin, a corporation of Delaware

Filed Sept. 13, 1968, Ser. No. 759,746

Int. Cl. B65g 15/30

U.S. Cl. 198—208



A device for tensioning webs such as felts, wires and other endless loops, particularly those used in the paper making art, comprising a frame, a roll suitable for engaging the web, a pair of pivot support arms suspending the roll from the frame, connector arms mounted on the ends of the roll and attached to power means which are adapted to move the roll in a direction tensioning said web, and cross shaft means connecting the pair of pivot support arms to maintain said arms in a parallel relationship with each other.

3,537,574

RETRACTABLE SHAKER CONVEYOR

Edward J. Berk, Chicago, Illinois, assignor to Westinghouse Air Brake Company, Pittsburgh, Pennsylvania a corporation of Pennsylvania

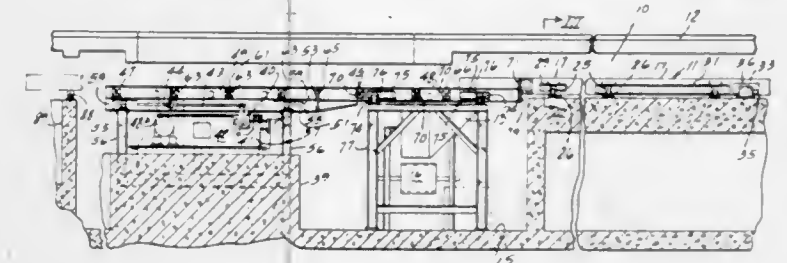
Continuation of application Ser. No. 671,871, Sept. 29, 1967. This application Oct. 22, 1969, Ser. No.

868,645

Int. Cl. B65g 15/42

U.S. Cl. 198—220

9 Claims



Conveyor for hot foundry sand in the form of a shaker conveyor trough line supported and guided below floor level in a trench for reciprocable conveying movement beneath a grating extending over the trench. A drive unit is mounted in spaced relation with the discharge end of the shaker conveyor trough line and has driving connection with trough line through an open connecting frame guided for reciprocable movement and connected with the trough line inwardly of the discharge end of the trough line, to accommodate the discharge of material through the connecting frame. The drive connection between the connecting frame and the shaker conveyor trough line includes an abutment plate or flange on the end of the connecting frame, extending upwardly along opposite sides of the trough line, and a mating abutment plate or flange detachably mounted on a trough of the trough line and bolted or otherwise secured to the abutment plate on the connecting frame. The connecting frame has spaced rollers extending transversely thereof and underlying the trough line and supporting the entire trough line for retraction along the connecting frame, upon the release of the drive connection between the connecting frame and trough line.

3,537,575

PACKAGING INSERT FOR PARTS

Hans Haidegger, Solothurn, Switzerland, assignor to Ebauches S.A. Neuchatel, Switzerland

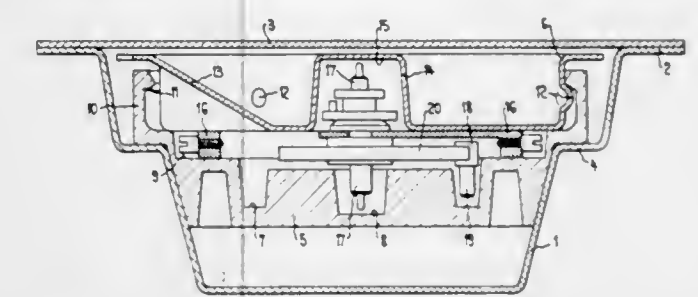
Filed Oct. 23, 1968, Ser. No. 769,848

Claims priority, application Switzerland, Nov. 10, 1967, 15766/67

Int. Cl. B65d 43/10, 85/40

U.S. Cl. 206—18

3 Claims



A packaging insert for parts, such as watch parts, comprising an insert body and an insert cover made of plastic material and defining a space between said body and cover adapted to the shape of a part to be packed.

3,537,576

GOLF GAME

Michael Macaluso, Jr., 222 Chili Ave., Rochester, New York 14611

Continuation of application Ser. No. 480,354, Aug. 17, 1965. This application June 20, 1968, Ser. No. 742,957

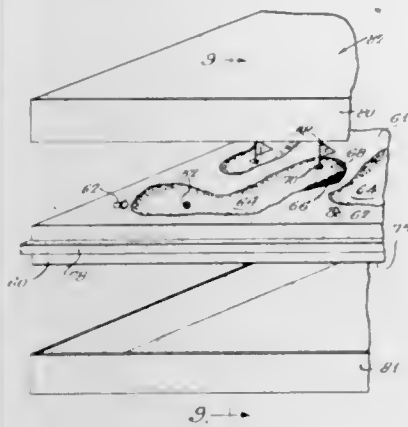
Int. Cl. A63b 67/02; A63f 7/06, 7/10

U.S. Cl. 206—46

5 Claims

A golf game board made by coloring areas on a deformable sheet, applying fine sand to some of the colored areas be-

fore the coloring material dries to define sand traps, applying an adhesive on other areas of the sheet, forming the sheet with the colored and adhesive areas facing upward, applying flock to the adhesive before it sets and removing surplus sand and flock from the surface after the adhesive sets. The game board is contoured and includes a tee, fairway and green having a cup. A ball is provided and a specialized club is provided for striking the ball. The club has a two-faced head, a



vertical shaft and a lateral handle generally parallel with the head and having outer cylindrical gripping surface for rotating the handle between the player's fingers to strike the ball. The gripping surface provides the sole means of support for the club. The board may be formed from a foam plastic material with contours on both sides and a peripheral rib extending outwardly from its edge. A cover member on each side of the board engages the rib and together form a storage box.

3,537,577

PACKAGING DEVICE FOR SEPARATE PREMEASURED QUANTITIES OF MATERIALS

Jean-Jacques Goupil, 30 Avenue du President Wilson 94, Cachan, France

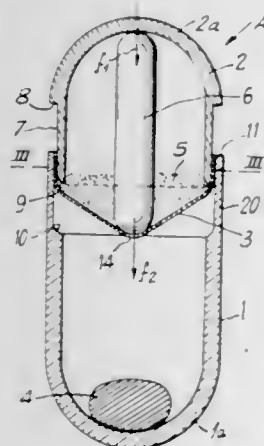
Filed Nov. 1, 1967, Ser. No. 679,811

Claims priority, application France, Nov. 2, 1966, 82413

Int. Cl. B65d 77/08, 81/32

U.S. Cl. 206-47

8 Claims



A packaging device is formed of two separate open ended containers arranged in telescopically sliding interengagement with the open ends in opposed relationship. Each of the containers holds a premeasured quantity of material to be mixed with the other immediately prior to use. A tearable membrane is disposed across the end of one of the containers to prevent any mixing during storage of the packaging device. A punch member is positioned in the other container and during storage the punch member contacts and extends between the membrane and the opposite end of the container in which it is located. The contact of punch member with the membrane during storage is insufficient to cause any tearing action, however, when the materials are to be mixed the containers are urged together in sliding relationship and the punch member tears the membrane and permits the mixing of the materials. Additionally, the packaging device also acts as a mixing vessel for the materials when they are ready to be used. The membrane may be provided with weakened spots

or tear lines to facilitate the perforation of the membrane. Further, the punch member may be provided with lateral projections near its end in contact with the membrane to provide a greater tearing action.

3,537,578

TAPE

Vincent D. Figliuzzi 1101 N. Central Ave., Chicago, Illinois 60651

Filed Feb. 6, 1969, Ser. No. 797,204

Int. Cl. B65d 85/67

U.S. Cl. 206-59

4 Claims



Includes a novel means for enabling the determination of the free end of a piece of tape on a roll, or the like so that the tape can be unraveled from its roll.

3,537,579

CONTAINER GAUGING AND SORTING APPARATUS

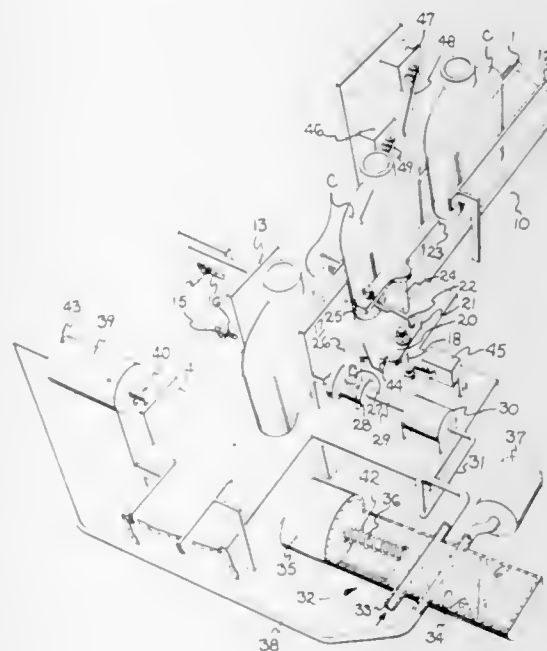
Wayne A. Roberson, New Orleans, Louisiana, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Oct. 15, 1968, Ser. No. 767,786

Int. Cl. B07c 1/14

U.S. Cl. 209-73

5 Claims



The gauging of the side wall dimensions of a bottle or article in which the articles are moved in succession on a conveyor through an accurately positioned gate. The gate consists of a pair of opposed, substantially planar surfaces spaced from each other such that an oversized container or article will be stopped in the gate. Electronic means is provided for sensing the stopping of a container within the gate and, in proper sequence, will open one gauging member forming a portion of the gate so as to permit the blocked bottle or article to pass beyond the gate. Subsequent articles are stopped in their movement until the moveable portion of the gate is closed again and the oversized container or bottle is automatically rejected from the conveyor.

3,537,580

METHODS OF AND APPARATUS FOR STORING AND TESTING PARAMAGNETIC ARTICLES

John E. Beroset, Oley and Donald M. Large, Temple, Pennsylvania, assignors to Western Electric Company, Incorporated, New York, New York a corporation of New York

Filed Nov. 30, 1968, Ser. No. 763,860

Int. Cl. B07c 1/06

U.S. Cl. 209-73

18 Claims U.S. Cl. 210-189

3,537,582

FILTRATION

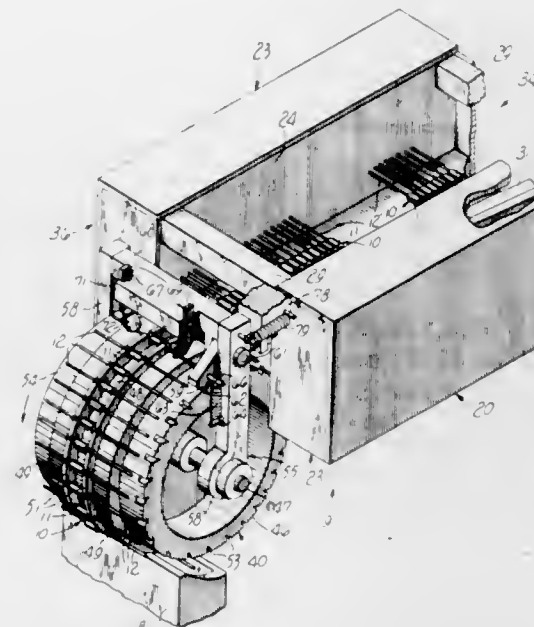
Laszlo Demeter, Budapest, Hungary, assignor to Simonacco Limited, Cumberland, England a British Company

Filed March 13, 1967, Ser. No. 622,550

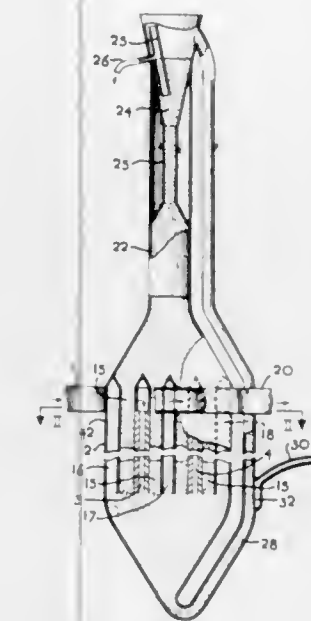
Claims priority, application Hungary, March 21, 1966, DE-546

Int. Cl. B01d 33/30

6 Claims



A storage bin has a pair of horizontally extended upstanding walls which are parallel and spaced apart a distance slightly greater than the length of elongated paramagnetic articles. Horizontally extending plate magnets within each wall form a gap of uniformly increasing width to establish a magnetic field having a flux density which increases from the back end to the front end of the bin. A random mass of articles deposited in the back end of the bin are suspended and migrate toward, and congregate at, the front end of the bin where the articles are removed individually by a rotary member which is moved through a sector of the bin to attract and hold the articles.



A liquid filter comprising a container, a liquid inlet leading into said container and a liquid outlet leading from said container, the arrangement being such that in the operation of the filter a substantially continuously moving body of discrete filter particles is provided through which liquid to be filtered passes, transversely of said body, in passing from the inlet to the outlet, filter particles through which liquid has been passed are conveyed to a locality where they are cleaned by contacting with liquid which has been filtered by the body of filter particles, and the cleaned filter particles are recycled for further filtration of liquid.

3,537,581

APPARATUS AND METHOD FOR SEPARATING SOLID PARTICLES

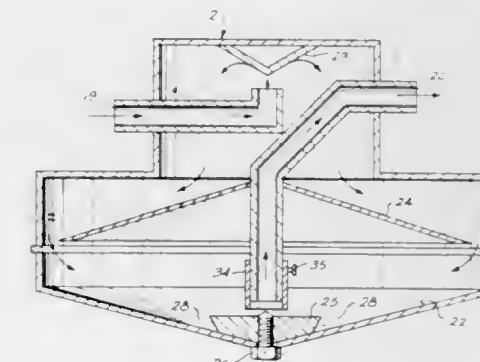
George Paul Baummer, 8029 Dalesford Road, Baltimore, Maryland 21234

Filed July 25, 1968, Ser. No. 747,725

Int. Cl. B03b 3/14

U.S. Cl. 209-437

6 Claims



Apparatus for separating solid particles has a closed housing with a conical bottom, a retainer block at the apex of said bottom, a feed inlet, a deflector beneath said inlet, a discharge conduit having its inlet opening adjacent the retainer block and means for oscillating the housing.

3,537,583

APPARATUS FOR PURIFYING WASTE WATERS

Gerhard Waehner, Plochingen and Juergen Zink, Kemnat, Germany, assignors to Menzel & Co., Stuttgart-Wangen, Germany

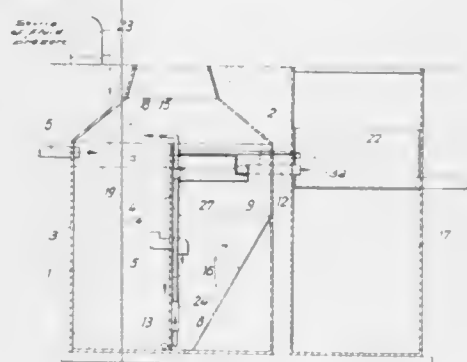
Filed April 26, 1968, Ser. No. 724,396

Claims priority, application Germany, April 29, 1967, M 3,790

Int. Cl. C02c 1/08

U.S. Cl. 210-195

12 Claims



An apparatus and method for purifying waste waters, according to which waste is aerated at a aerating tank, whereupon the sludge is separated from the waste water in a postsettling tank and is subsequently concentrated or thickened in a sludge thickening tank while the sludge level in the postsettling is kept substantially constant by continuously controlling the transfer of sludge from the postsettling tank to at least one of the other two tanks, and while water is conveyed from said sludge thickening tank to at least one of the other two tanks.

3,537,584

APPARATUS FOR REMOVING SOLIDS FROM LIQUID SUSPENSIONS THEREOF

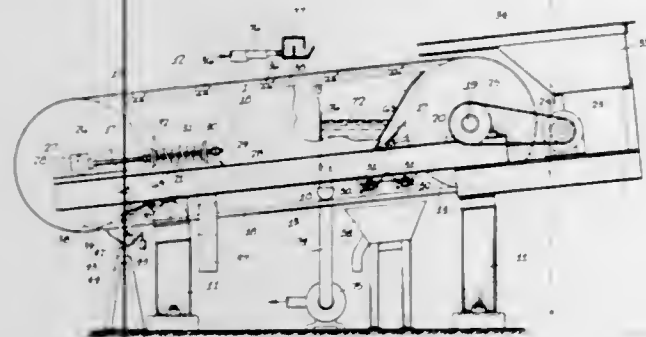
Ernest G. MacDonald and Per R. Berg-Johannessen, Dryden, Ontario, Canada, assignors to Dryden Paper Company, Limited, Dryden, Ontario, Canada

Continuation-in-part of application Ser. No. 739,113, June 21, 1968. This application Dec. 5, 1968, Ser. No. 783,454

Int. Cl. B01d 33/32, 33/38

U.S. Cl. 210—196

4 Claims



The invention relates to the removal of solids from liquid suspensions thereof by screening through a travelling belt. The invention includes an apparatus having a belt of perforated plate of uniform thickness, means for cleaning the belt, and means for recirculating a portion of the filtrate through the belt. The invention has particular application in the removal of bark solids from the effluent of barking devices in pulp mills.

3,537,585

CHROMATOGRAPHIC SEPARATION SYSTEM

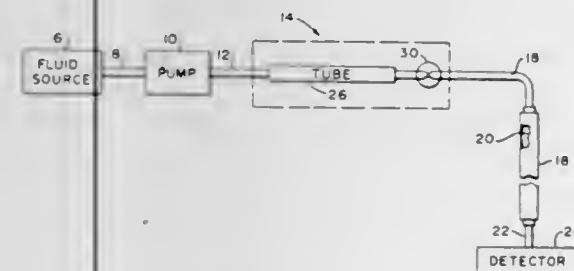
James L. Waters, Framingham, Massachusetts, assignor to Waters Associates, Inc., Framingham, Massachusetts

Filed June 19, 1968, Ser. No. 738,259

Int. Cl. B01d 15/08

U.S. Cl. 210—198

7 Claims



An improved chromatographic separation system employs a chromatographic column and a positive displacement pump for pumping carrier and sample liquids to the column. A fluid pulse dampener consisting of a flexible, resilient tube and a capillary restriction downstream from the tube is connected between the pump and the column to smooth out variations in the liquid flow prior to delivery to the column.

3,537,586

MAGNETIC SEPARATOR

Ernst J. Hunkeler, Fairport, New York, assignor to The Gleason Works, Rochester, New York a corporation of New York

Filed July 15, 1968, Ser. No. 747,770

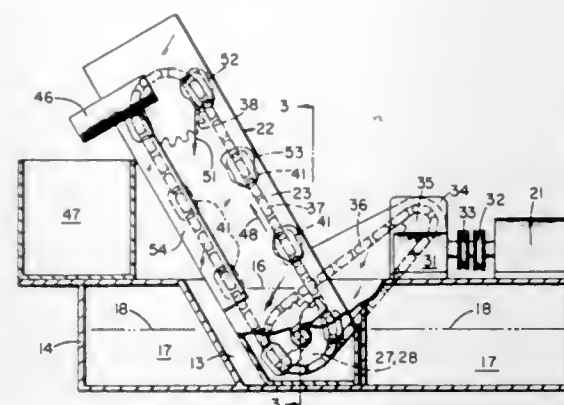
Int. Cl. B01d 35/06

U.S. Cl. 210—222

10 Claims

Magnets carried by an endless chain traverse one face of a stationary upright nonmagnetic barrier plate, drawing cutting chips upwardly, along the opposite face of the plate, from a sump for cutting liquid in a machine tool. The chips are brought into the sump and directed against the surface of the plate by a screw conveyor and an agitator. A baffle near the top of the plate prevents chips from being drawn back into

the sump by descending magnets, the chips dropping from the baffle into a basket. The magnets ascend in an inclined



path so that drainage from ascending chips drawn by one magnet will bypass chips being drawn by following magnets.

3,537,587

FLEXIBLE FILTRATION BOOM

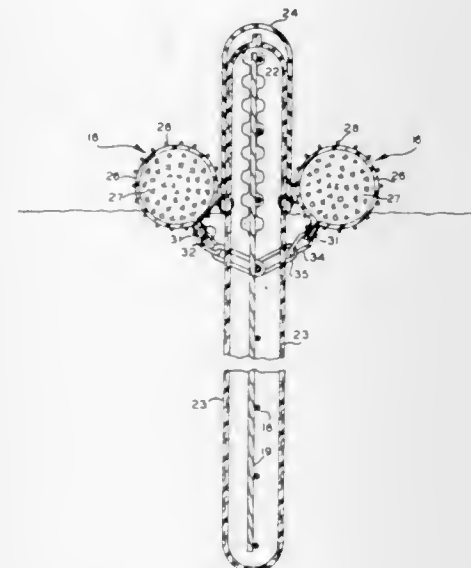
Calvin L. Kain, 1325 Rockdale, Bartlesville, Oklahoma 74003

Filed June 5, 1969, Ser. No. 830,602

Int. Cl. B01d 33/00

U.S. Cl. 210—242

10 Claims



A flexible weighted net is supported in a vertical position by at least one horizontally elongated floatation unit. A flexible layer of hydrophobic, oleophilic material is attached to the net to generally conform to the position and movement of the net. Water passes through the filter layer while liquid hydrocarbons are blocked.

3,537,588

MEMBRANE SUPPORT PLATES

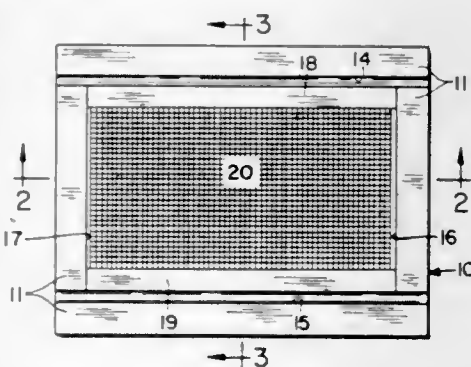
George T. Backer, Horseheads, New York, assignor to Corning Glass Works, Corning, New York a corporation of New York

Filed March 14, 1968, Ser. No. 713,005

Int. Cl. B01d 31/00

U.S. Cl. 210—321

18 Claims



Membrane support plates or panels for fluid exchange or dialyzer chambers, each such plate comprising a vitreous photosensitively opacifiable material having at least one flat

surface including a first region which is selectively opacified and etched to provide a myriad of crisscross and evenly spaced-apart rows of projections or pillars having relatively flat and minute end surfaces for support of a membrane thereon and substantial spaces between said projections for fluid flow.

3,537,589

OUTSIDE DRIVE FOR A TILTING PAN FILTER

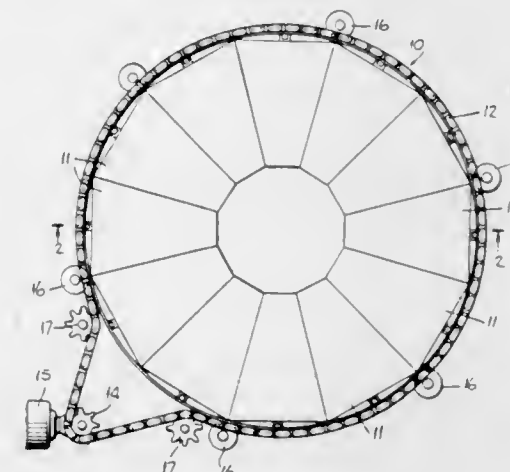
Anthony J. Fratto; Richard D. James and James D. Helm, Moab, Utah, assignors to Texas Gulf Sulphur Company Inc., New York, New York a corporation of Texas

Filed Dec. 9, 1968, Ser. No. 782,242

Int. Cl. B01d 35/08

U.S. Cl. 210—328

6 Claims



The required rotary motion is imparted to the tilting pan filter by use of a drive chain around the perimeter of the rotating parts. The drive chain engages a toothed gear welded to the undercarriage of the rotating part as well as a sprocket on the output shaft of the gear motor mounted outside the outer diameter of the tilting pan filter. Additionally, centering wheels and sprockets are used to make adjustments in the drive to compensate for wear and chain stretch.

3,537,590

TOILET SYSTEM FOR TRAILERS

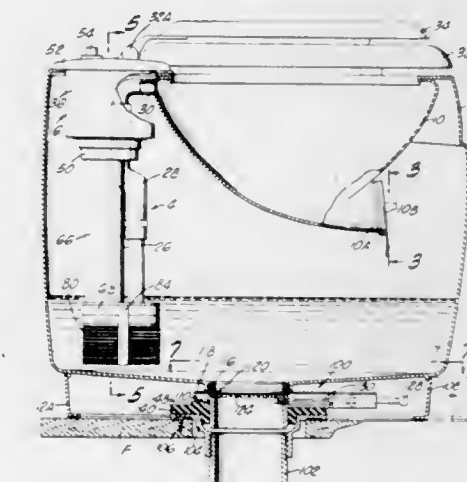
Norbert James Palmer, Playa Del Rey, California, assignor to Monogram Industries, Inc., Culver City, California a corporation of California

Original application Nov. 6, 1967, Ser. No. 680,776, now Patent No. 3,473,171, which is a division of application Ser. No. 438,500, March 10, 1965, now abandoned. Divided and this application March 17, 1969, Ser. No. 829,827

Int. Cl. B01d 33/06

U.S. Cl. 210—359

3 Claims



In a recirculating toilet construction a motor drives a pump impeller as well as a cylindrical perforate filter element rotatably supported on a pump housing. The filter element is of one-piece construction with a series of outer circumferential grooved portions having slit portions through which fluid pumped by the impeller flows. Such grooved portions

are cleaned by a comb element mounted as a cantilever on the pump housing. The entire assembly may be removed as a cartridge from an apertured portion of a tank upon which such assembly is mounted.

3,537,591

CONTINUOUSLY OPERATING CENTRIFUGE

Dirk Hoks, Hengelo, Netherlands, assignor to Stork-Werkspoor-Sugar N.V., Hengelo, Netherlands

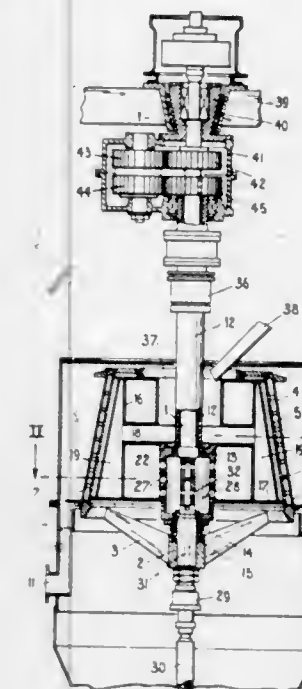
Filed Nov. 29, 1968, Ser. No. 779,960

Claims priority, application Netherlands, Dec. 2, 1967, 6716436

Int. Cl. B04b 11/08

U.S. Cl. 210—374

11 Claims



The cake built up on the inside of the porous drum of a centrifuge is scraped off by a blade. The scraping edge of the blade is disposed in a plane containing the axis of the drum while a portion of the blade next to its scraping edge is inclined at a greater angle than the scraping edge so as to cause scraped-off material to migrate along such portion to a discharge area.

3,537,592

CARTRIDGE OF SPACED WALL FILTER ELEMENTS AND SPACERS

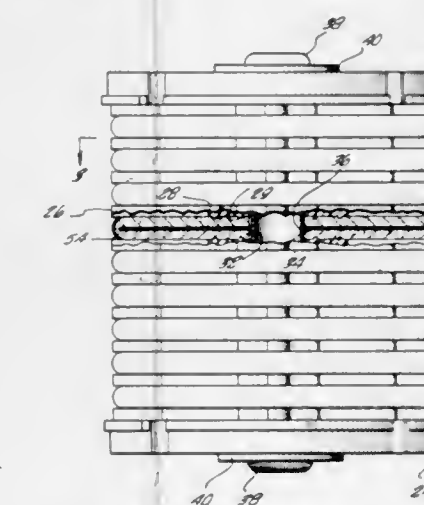
Hubert S. Ogden, Hollywood and Stanlet D. Ogden, Glendale, California, assignors to Ogden Filter Co., Inc., Los Angeles, California a corporation of California

Filed July 29, 1968, Ser. No. 748,540

Int. Cl. B01d 25/02

U.S. Cl. 210—343

3 Claims



A liquid filter element for removing foreign matter from liquid such as water is disclosed. The filter element includes a pair of annular fibre mats separated by a screen partition. An impermeable plastic material bonds the periphery of the mats together to provide a unitary element and prevents leakage

of liquid between the interior surfaces of the mats at the periphery thereof. A plurality of the mats may be placed around a perforated sleeve and between a pair of compression plates to form a replaceable filter cartridge.

3,537,593

DEVICE FOR SEPARATING SOLID BODIES FROM FLUID STREAMS

Klaus Ruthrof and Gerhard Schwarzer, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Berlin and Munich, Germany a corporation of Germany.

Filed Oct. 14, 1968, Ser. No. 767,146

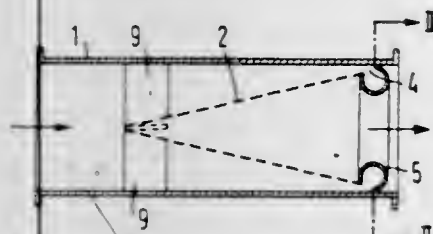
Claims priority, application Germany, Oct. 14, 1967,

1,611,143

Int. Cl. B01d 29/42

U.S. Cl. 210-409

3 Claims



Described is a device for continuous separation of solid objects from liquid currents in pipelines wherein a conical sieve, with its apex pointing against the flow direction, is installed into the pipeline. The resulting annular clearance between the sieve base and the inside wall of the pipeline is widened at its narrowest point into a torus-shaped channel. The torus-shaped channel is located partly or completely inside the conical sieve.

ERRATUM

For Class 210-496 see:
Patent No. 3,538,020

3,537,594

SHOE HOLDER

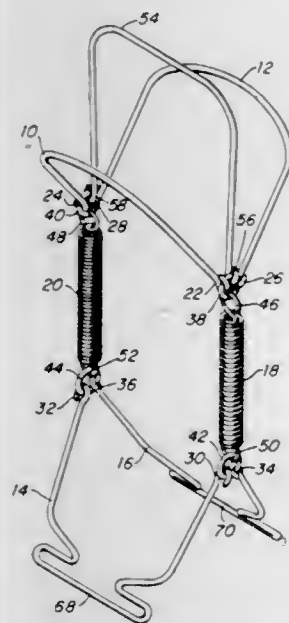
Peter Joseph Daley, Hudson, Massachusetts (Harvard Road Stow, Mass. 01775)

Filed Jan. 28, 1969, Ser. No. 794,649

Int. Cl. A47f 7/08

U.S. Cl. 211-37

17 Claims



Apparatus is disclosed for holding a pair of shoes together including a first pair of elements for engaging the toes of the shoes, a second pair of elements for engaging the heels of the shoes and interconnection means for connecting the first and second pairs of elements to each other to secure the shoes together, at least a part of one of the pairs of elements or the interconnection means being resilient.

3,537,595

FISHING ROD RACK

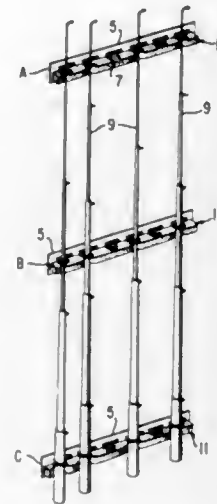
Martin H. Mathisen, Sun Valley, California, assignor to Eaz-Lift Spring Corporation, Sun Valley, California a corporation of California

Filed Jan. 9, 1969, Ser. No. 790,060

Int. Cl. A47f 7/00

U.S. Cl. 211-60

6 Claims



A fishing rod or the like securing and supporting rack composed of separate relatively rigid striplike members adapted to be secured to a vertical or horizontal wall or ceiling in relatively spaced laterally disposed relationship, each striplike member having struck therefrom a longitudinal aligned series of spaced open ended hooks, and an elongated depressible bar of resilient material of a height substantially equal to said hooks secured to said strip member and extending between adjacent hooks and closing one longitudinal side thereof.

3,537,596

SUSPENSION ARM SUPPORTING MEANS

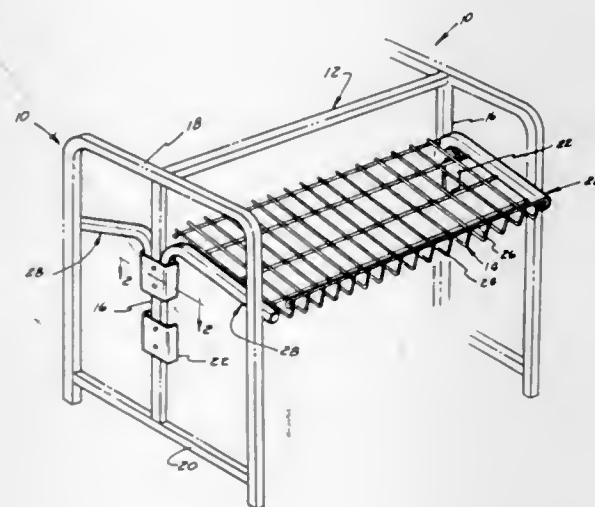
Frederick F. Brunette, Plymouth, Michigan, assignor to Brilliant Products, Inc., Plymouth, Michigan a corporation of Michigan

Filed Sept. 5, 1967, Ser. No. 665,399

Int. Cl. A47f 5/01

U.S. Cl. 211-148

11 Claims



A display rack having removable shelves which are supported by suspension arms adapted to be received by bracket members cooperating with the upright posts of the rack such that the arms are wedgably locked in place for such assembly and disassembly. Single bracket members are used to support pairs of arms in assemblage with the structure while employing applicant's locking feature.

3,537,597

CABLE CONVEYOR

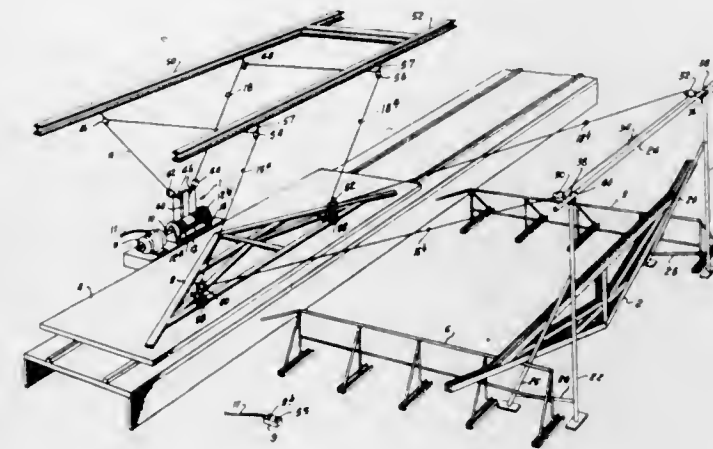
Charles A. Barns, Dallas, Texas, assignor to Barns Lumber and Manufacturing Company, Dallas, Texas a corporation of Texas

Filed Oct. 7, 1968, Ser. No. 765,485

Int. Cl. B66c 21/08; B65g 57/00

U.S. Cl. 212-75

10 Claims



A conveyor and clamps wherein the clamps, suspended from traveling blocks in a loop in a flexible line, are connected to an article and the loop is shortened to move the article vertically as the traveling blocks move along the line by force of gravity to convey the article horizontally until the loop is lengthened to lower the article. The clamps automatically release the article to deposit same when the weight of the article is released from the clamp.

3,537,598

SHOCK ABSORBER FOR RAILROAD ROLLING STOCK

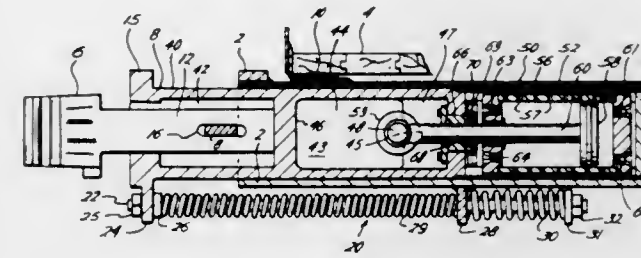
Timothy R. Moody, 7600 High Meadow Apt. 45, Houston, Texas 77042

Filed Sept. 6, 1967, Ser. No. 665,821

Int. Cl. B61g 9/02, 9/12, 9/06

U.S. Cl. 213-8

9 Claims



A hydraulic shock absorber for use in railroad cars and the like and adapted to absorb the impact occurring when one car is driven into another during the makeup of a train, and wherein the hydraulic cylinder and piston are arranged so that the impact causes the piston to be pulled through the cylinder during absorption of the impact.

3,537,599

MATERIAL CONTAINER

Richard S. Jay, 2526 Jackson Ave., Evanston, Illinois 60432
Continuation-in-part of application Ser. No. 700,846, Jan. 26, 1968, now Patent No. 3,503,519. This application Aug. 16, 1968, Ser. No. 753,206

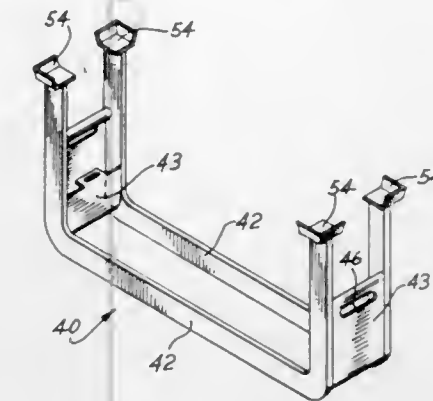
Int. Cl. B65g 1/14

U.S. Cl. 214-10.5

2 Claims

Material containers for handling flexible material which are constructed to perform at least three functions, namely: to shape the flexible materials into a generally rectangular bundle; To provide longitudinal support for the flexible material when stored on racks of cantilever style; and to in-

corporate sufficient clearance at spaced supporting positions so that sling passageways are defined which permit the flexi-



ble material to be easily removed from the container, or without buckling or bending of the material.

3,537,600

ROLLOVER BARGE UNLOADER

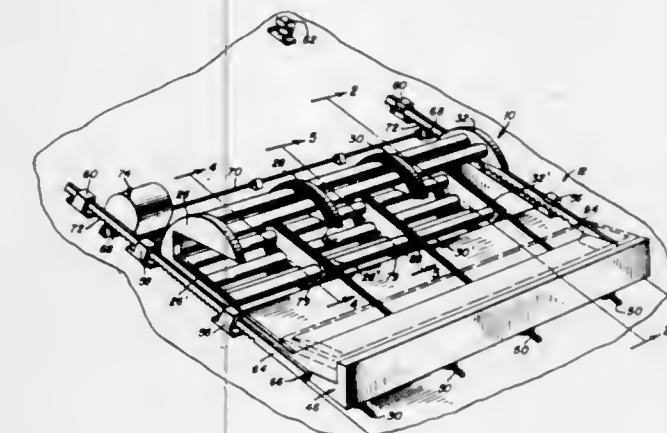
Commodore A. Schuchmann, 112 Crest Haven Drive, Belleville, Illinois 62221

Filed Sept. 18, 1968, Ser. No. 760,484

Int. Cl. B65g 63/00

U.S. Cl. 214-12

12 Claims



An unloader including a horizontally disposed elongated body structure journaled for rotation about a longitudinal axis and defining an entrance opening into which an upright load carrier may be advanced for support from the body structure. The body structure includes a generally radial outlet opening from which a load from within a load carrier supported from the body structure may be dumped upon rotation of the body structure and the load carrier therein to a position with the load carrier in inverted position.

3,537,601

SHAFT MUCKER

Arthur Stevens, North Bay, Ontario, Canada, assignor to S & C Shaft Equipment Co. Ltd., Port Kells, British Columbia, Canada

Filed Oct. 24, 1968, Ser. No. 770,328

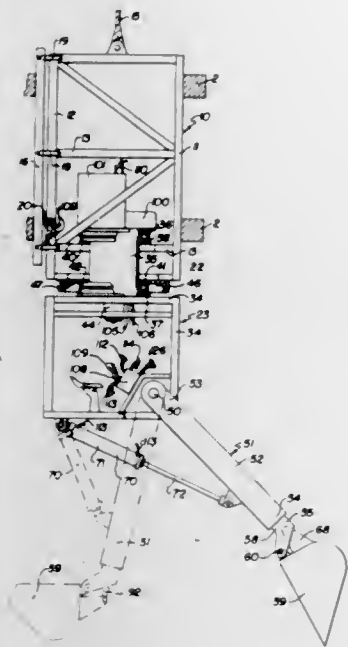
Int. Cl. E02f 3/28

U.S. Cl. 214-141

11 Claims

A mine shaft mucking machine having a supporting frame adjustably positionable in a mine shaft and a cab rotatably suspended beneath the frame to which one end of a telescopic boom is connected. A digging bucket is pivotally mounted at the free end of the boom and operated by a piston and cylinder assembly connected by telescopically extensible and retractable fluid conduits to a motor driven hydraulic pump mounted in the cab. Fluid actuated means for rotatably positioning the cab, swinging the boom, and telescopically extending and retracting the boom is also connected by operator controlled valves to the pump. Valve controlled relief

conduits connect the pump and the telescopically extensible and retractable fluid conduits to permit the passage of fluid



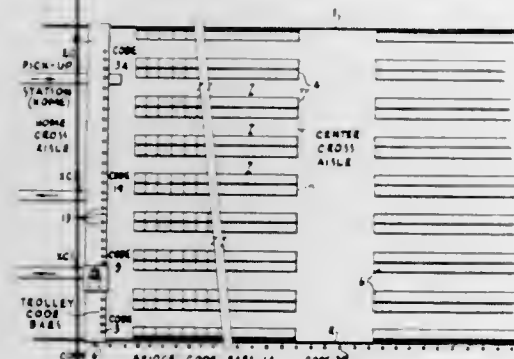
therefrom and thereinto when the boom is telescopically retracted and extended.

3,537,602

AUTOMATIC STORAGE AND RETRIEVAL SYSTEM
 Ronald K. Cotton, Rockledge, Florida and Barney O. Rae, Shorewood, Wisconsin, assignors to Cutler-Hammer, Inc., Milwaukee, Wisconsin a corporation of Delaware
 Original application Oct. 20, 1965, Ser. No. 498,326, now Patent No. 3,504,245. Divided and this application Sept. 25, 1967, Ser. No. 670,094
 Int. Cl. B65g 1/00

U.S. Cl. 214-16.4

11 Claims



An automatic warehouse system which allows an operator to sit at a fixed station and by placing punched cards into card readers and pressing a "GO" button can cause a fork to take one article from a pickup station into storage and to retrieve any other article from storage on its return trip and bring it to a selected setdown station and then return to the starting point. Depending upon the information punched on the card, it can skip either the storage or the retrieval operation and perform the other or it can cause the fork to move an article from any rack in the warehouse to any other rack without returning to the pickup or setdown stations. In performing these movements in three dimensions, the system is provided with apparatus which recalculates the position of the fork every step of the way so as to eliminate any error that may occur.

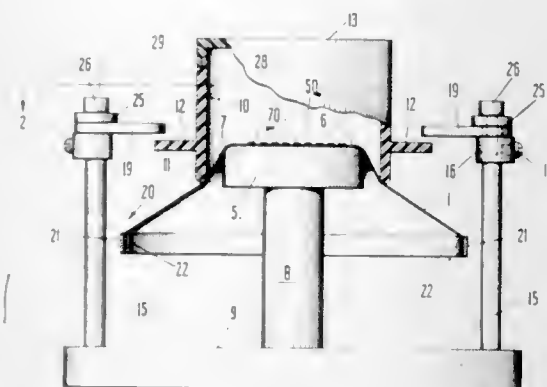
3,537,603 METHOD OF SEPARATING DICE FORMED FROM A WAFER

John G. Willis, Wakefield and Johannes J. Van Den Broeke, Wilmington, Massachusetts, assignors to Transiron Electronic Corporation, Wakefield, Massachusetts a corporation of Delaware

Filed July 27, 1967, Ser. No. 656,516
 Int. Cl. B65g; B25j 3/00

U.S. Cl. 214-152

1 Claim



A mechanism and method for uniformly spreading apart a group of dice formed from a unitary semiconductive wafer after the dice have been severed from each other but before they are otherwise spread comprising a stretchable diaphragm secured at its periphery by an annular frame with the diaphragm adapted to be stretched over a surface having a circular edge and with the diaphragm adapted to be secured in its stretched position by engagement with the edge of a cylinder which fits over and is secured about the stretched diaphragm and surface.

3,537,604

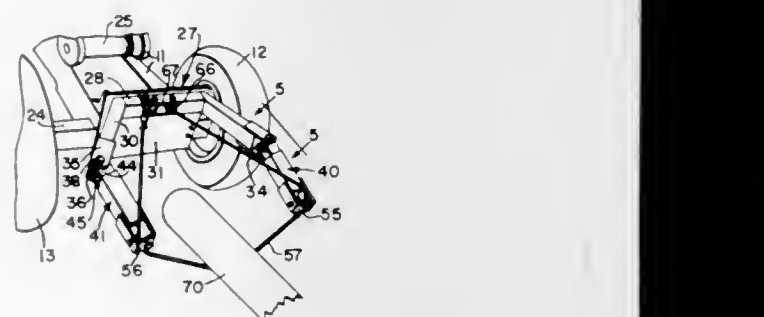
LOG-HANDLING DEVICE

Edwin Lee Whisler, Moline, Illinois and Robert Paul Zimmerman, Davenport, Iowa, assignors to Deere & Company, Moline, Illinois a corporation of Delaware

Filed April 15, 1968, Ser. No. 721,303
 Int. Cl. B66f 9/18

U.S. Cl. 214-651

14 Claims



A log-pulling and log-gripping device that is composed of a rearwardly opening U-shaped structure fixed to and extending rearwardly from a tractor and in which the sides of the U-shaped structure are composed of forward rigid arms and rearward extensions that are swingable inwardly and forwardly. A winch-operated cable extends through the free ends of the extensions so that a log may be placed on the cable. The cable is then drawn up to swing the arms inwardly and forwardly while at the same time causing the cable extending between the free ends to grip the log.

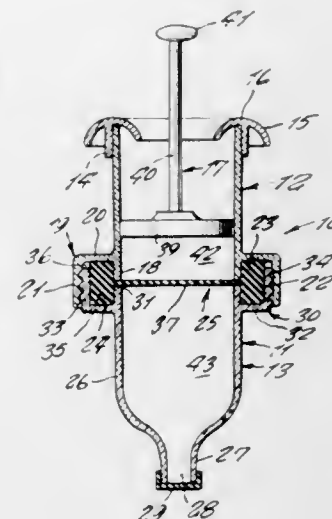
3,537,605 COMPARTMENTED CONTAINERS HAVING A RUPTURABLE DIAPHRAGM BETWEEN COMPARTMENTS

Ida Solowey, P. O. Box 34, Fresh Meadows Station, Flushing, New York 11365

Filed Jan. 13, 1969, Ser. No. 790,626
 Int. Cl. B65d 1/04, 81/32; A61j 1/00

U.S. Cl. 215-6

3 Claims



A container having an upper and lower compartment separated by a transverse diaphragm of rupturable material, the upper compartment containing a slidably plunger for movement toward the diaphragm.

3,537,606

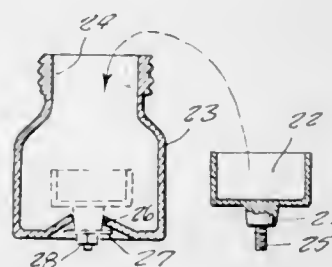
COMPARTMENT BOTTLE

Ida Solowey, P. O. Box 34, Fresh Meadows Station, Flushing, New York 11365

Filed June 17, 1968, Ser. No. 737,796
 Int. Cl. B65d 11/04, 25/02

U.S. Cl. 215-6

4 Claims



A multiple compartmented bottle, formed by a one step bottle molding operation, wherein a secondary compartment may be contained on a plug securable in the bottle; or by a secondary vessel contained within the bottle; and by equivalent methods which will not necessitate a two step bottle molding operation.

3,537,607

QUICK-CLAMPING CELL

Herbert H. Loeffler, Arlington, Massachusetts, assignor to Amicon Corporation, Lexington, Massachusetts a corporation of Massachusetts

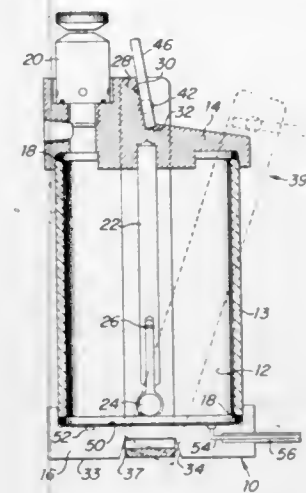
Filed Jan. 8, 1969, Ser. No. 789,881
 Int. Cl. B65d 7/24, 45/06

U.S. Cl. 220-4

7 Claims

A quick-opening process vessel with a novel, overcenter, toggle-type closure assembly wherein a very high mechanical advantage is achieved in compressing the vessel into closed and sealed position utilizing locking grooves on each end cap of the vessel. The toggle lever comprises a display surface especially desirable for use with transparent vessels. Moreover, the toggle lever utilized on ultrafiltration cells, wherein it modifies the rate of compression obtained during

the edge-sealing of the membranes, has the particular advantage of assuring that the membrane is subjected to



minimum strain as it is subjected to the maximum compressive sealing pressure.

3,537,608

STORAGE TANK FOR STORING TWO FLUIDS

Robert G. Fallows, Cheshire and Joseph E. Conder, Denbighshire, England, assignors to Shell Oil Company, New York, New York a corporation of Delaware

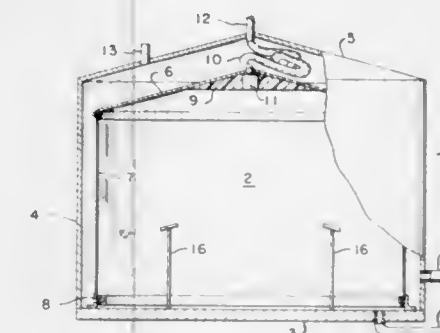
Filed March 14, 1969, Ser. No. 807,384

Claims priority, application Great Britain, March 20, 1968, 13,461/68

Int. Cl. B65d 25/06, 25/18

U.S. Cl. 220-22

10 Claims



A fluid storage tank for storing two fluids of variable volumes, for example, oil and gasoline in which a rigid outer shell forms a first fluid storage chamber and an enclosed flexible wall located within the outer shell forms a second fluid storage chamber, the flexible wall permitting variable volumes to be stored in the two chambers. The outer shell is formed with an inlet and outlet to the first storage chamber and access is gained to the second fluid storage chamber by means of a flexible conduit extending through the first fluid storage chamber in communication with the space outside the storage tank and the first fluid storage chamber.

3,537,609

CLOSURE FOR APERTURES IN THE WALL OF A CONTAINER

Kenneth Calvert Hales, Cambridge; Arthur Victor Heighton, Marden Ash and Gerald Robin Scrine, Girtton, England, assignors to Shipowners Refrigerated Cargo Research Association, London, England a corporation of the United Kingdom

Filed Feb. 19, 1969, Ser. No. 800,559

Claims priority, application Great Britain, March 11, 1968, 11,777/68

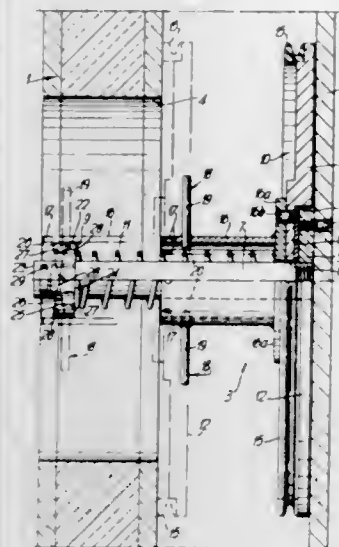
Int. Cl. B65d 45/00

U.S. Cl. 220-25

10 Claims

A closure for an aperture provided in an outer wall of a container, particularly a container for refrigerated or cooled cargo, the closure being connected to the container and being movable between closed and open positions to allow temperature control of the contents of the container, said closure being slidably mounted on a spindle projecting from an internal wall of the container into the aperture in the con-

tainer and being movable against a biasing force from an open position to a position in which it closes off said aperture



and securing means for maintaining the closure in its closed position.

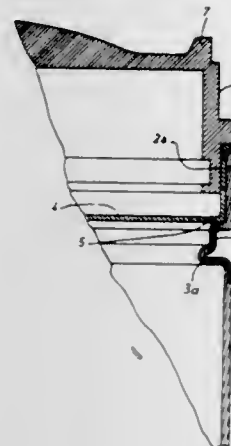
3,537,610

DEVICE FOR CLOSING A BOX

Marcel Bilon, Beaurepaire, France, assignor to Boxal Beaurepaire, S.A., Beaurepaire, France, a French company
Filed Sept. 6, 1968, Ser. No. 758,009
Int. Cl. B65d 17/16, 17/24, 51/20

U.S. Cl. 220—27

9 Claims



A device for closing a box is provided with a rupturable membrane for fluidly closing the box, means for rupturing this membrane in order to unseal the box and a cover which is placed on the opening of the box when the membrane has been moved away, these means including an annular groove cut on the side of the membrane near its edge and forming a weak point facilitating the rupture thereof and on the other hand a curved bearing surface of either one side of the cover and at least two projections positioned at the front of this surface along a diameter corresponding substantially to that of the annular groove.

3,537,611

CLOSURE DEVICE FOR CONTAINERS SUBJECTED TO HIGH INTERNAL PRESSURES

Heinz Lohrengel, Pfungstadt, Germany, assignor to Friedrich Uhde GmbH, Dortmund, Germany a corporation of Germany

Filed Feb. 7, 1969, Ser. No. 797,450

Claims priority, application Germany, Feb. 8, 1968, 1,675,350

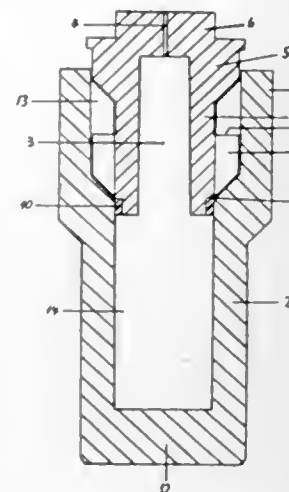
Int. Cl. B65d 41/06

U.S. Cl. 220—40

6 Claims

A safety closure for containers subjected to high internal pressures and of particular use for the isostatic method of shaping pulverulent materials. The closure plug, having an enlarged central recess, fits into the container and by means of cams on the closure plug and tappets on the container, a

bayonet type connection is provided, the container wall at the upper end being extended outwardly to provide a space to accommodate the joint parts. The lower end of the closure plug which fits inside of the container is provided with a plurality of sealing rings, the lowermost of which is of elastomer-



ic material, which is pressure responsive for sealing contact with the container walls. Fluid activated means is provided for vertically actuating the cover plug with respect to the container and power means is employed for rotating the cover plug to lock and unlock it to the container.

3,537,612

CLOSURE FOR HIGH PRESSURE CONTAINERS

Heniz Lohrengel, Pfungstadt, Germany, assignor to Friedrich Uhde GmbH, Dortmund, Germany a corporation of Germany

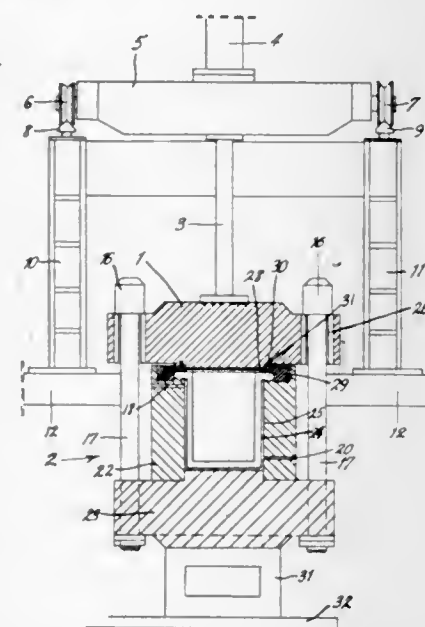
Filed Feb. 13, 1969, Ser. No. 798,941

Claims priority, application Germany, Feb. 15, 1968, 1,675,351

Int. Cl. B65d 41/06, 25/14

U.S. Cl. 220—40

4 Claims



A container and a closure are provided with flanges which lie parallel to one another. One flange has a circular row of round bores which connect with arcuate elongate holes, whose radial width is less than the diameter of the round bores. The other flange carries a circular row of bolts facing the first flange, which are guidable through the elongate holes and terminate in heads which extend through the round bores and when locked the heads rest on the edges of the elongate holes. The closure may be hydraulically lowered over the receptacle so that the bolt heads of the one flange are passed through the round bores in the other flange. Subsequently by relative rotation of the closure on the receptacle, the bolts leave the round bores and extend into the circular elongate holes. The heads of the round bolts then lie on the outer side of the flange over the elongate holes. During the pressing operation a force takes effect on the closure device which connects the bolt heads with the corresponding outer side of the flange in force locking.

3,537,613

CAPSULE FEEDING APPARATUS

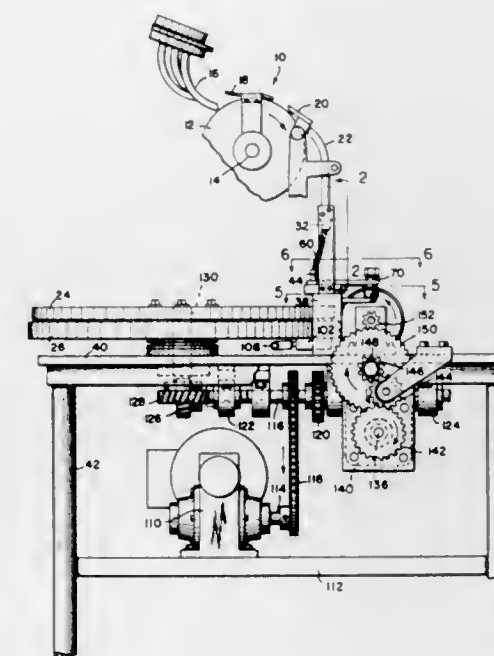
Henry W. Greer, Philadelphia, Pennsylvania, assignor to Smith Kline & French Laboratories, Philadelphia, Pennsylvania a corporation of Pennsylvania

Filed Nov. 13, 1968, Ser. No. 775,301

Int. Cl. B65g 1/10, 59/06; B65h 3/34

U.S. Cl. 221—68

10 Claims



Apparatus for feeding capsules from a supply thereof through a tube containing capsules arranged in end-to-end relationship and to capsule receiving holes in a rotating transfer wheel. A member is mounted at the discharge end of the capsule feeding tube adjacent the transfer wheel and is moved along with the wheel during a period when a gate is opened to permit transfer of the capsules from the tube to the capsule receiving holes in the transfer wheel.

3,537,614

RESETTING ARRANGEMENT FOR MOVABLY MOUNTED SUPPLY CONTAINERS

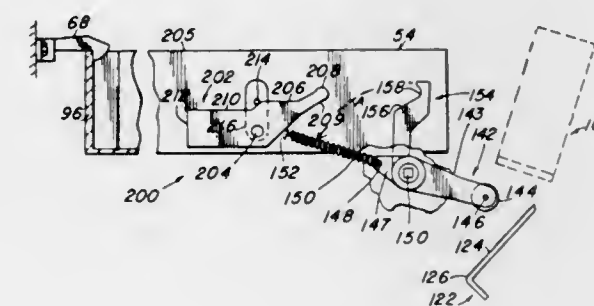
Owen J. Schwertfeger and Roy A. Johnson, Chicago, Illinois, by mesne assignments to The Seeburg Corporation of Delaware, Chicago, Illinois a corporation of Delaware

Filed Sept. 12, 1968, Ser. No. 759,464

Int. Cl. A24f 15/04

U.S. Cl. 221—187

9 Claims



Return of a releasably latched reciprocable member from an unlatched position to a position beyond its normally latched position, without engaging other reciprocable members retained in their latched positions, is achieved by using a pivoted reset arm adjacent each reciprocable member and a rotatable lever mounted on each reciprocable member. Each lever is biased so that it may be engaged by its associated reset arm when the reciprocable member on which it is mounted is in its unlatched position, but is not engagable by its reset arm when the reciprocable member is in its latched position.

3,537,615

NEWSPAPER DISPENSER WITH DOOR CONTROLLED SEQUENTIAL RELEASE MEANS

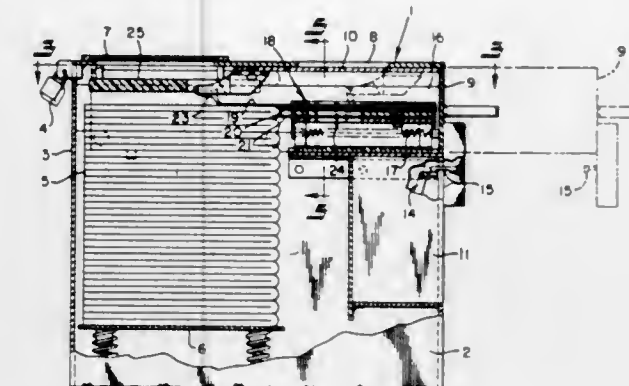
Joseph M. Kalafsky, 1460 E. 9th St., Cleveland, Ohio 44114

Filed March 5, 1969, Ser. No. 804,626

Int. Cl. B65g 59/00

U.S. Cl. 221—298

10 Claims



A coin-operated newspaper dispenser characterized in that when the door thereof is unlocked by proper coin deposit, only a single newspaper is exposed for removal by the customer, the dispenser being further characterized in that such exposure of one newspaper at a time for removal is automatically effected regardless of variation in thickness of the newspaper from day to day, or issue to issue.

3,537,616

DRINK DISPENSING APPARATUS WITH EMPTY CONTAINER CUT-OFF

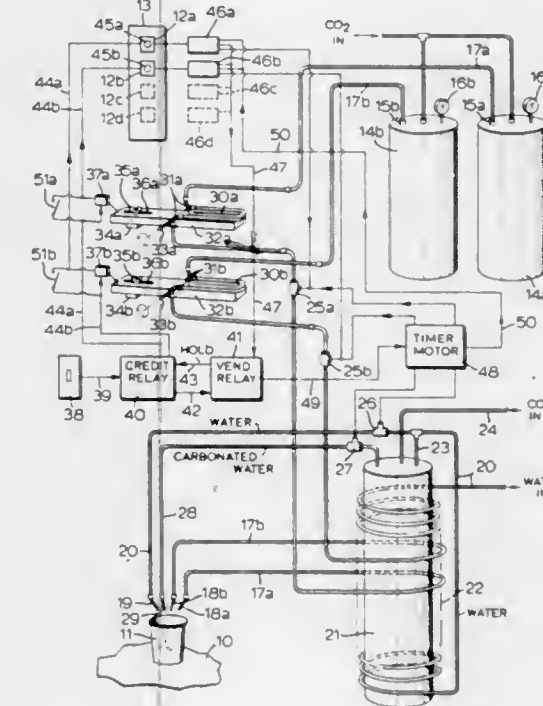
Howard Diebel; Jay B. S. Moyer, Jordan Village and John F. Pond, Box 120, Vineland Station, Ontario, Canada

Filed Aug. 5, 1968, Ser. No. 750,285

Int. Cl. B67d 5/32

U.S. Cl. 222—66

7 Claims



In a drink dispensing apparatus of the type wherein a drink component such as a syrup is mixed with water to provide the drink, the presence or absence of the drink component is detected by weighing a portion of the pipe means that feed the component to the dispensing station; this portion preferably takes the form of a multiturned coil that is connected by flexible junctions to the remainder of the pipe and is mounted on one end of a balance beam; the other end of the beam carries an adjustable counterweight for adjusting the balance of the beam, and moves to operate a cooperating microswitch when the pipe coil empties; the apparatus is arranged to prevent dispensing of the corresponding drink and also to give an "empty" signal.

3,537,617

DENTAL MATERIAL DISPENSER

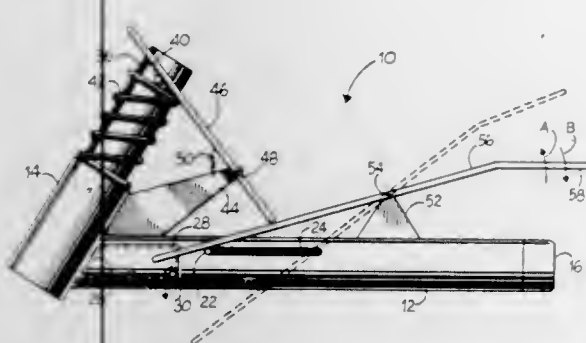
Joseph A. Mendola, 255 Nottingham Terrace, Buffalo, New York 14216

Filed Aug. 7, 1968, Ser. No. 750,975

Int. Cl. G01f 11/00

U.S. Cl. 222-256

6 Claims



A dental material dispenser having a barrel and an attached dispensing head; a plunger slidable in the dispensing head and a piston slidable in the barrel; an opening between the barrel and the plunger; a pivotally mounted lever engaging the plunger; a single actuating pivotally mounted lever engaging the plunger lever in one position and engaging the barrel in another position.

3,537,618

ICE PIECE DISPENSER INCLUDING STALL ELIMINATING MEANS

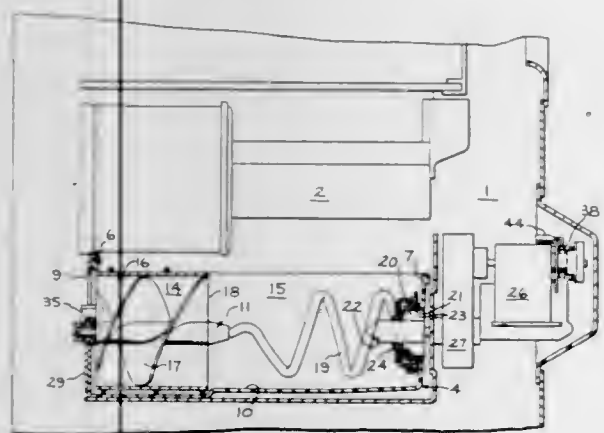
Robert J. Alvarez, Louisville, Kentucky, assignor to General Electric Company, a corporation of New York

Filed Dec. 16, 1968, Ser. No. 783,801

Int. Cl. G01f 11/20

U.S. Cl. 222-333

9 Claims



An ice dispenser comprising a receptacle containing a motor-driven, rotatable dispensing means includes means for storing energy when the motor is energized and the dispensing means is stalled by an ice piece lodged between the dispensing means and the receptacle so that upon deenergizing the motor, the stored energy will reverse the rotation of the dispensing means to clear the stalling ice piece.

3,537,619

DISPENSING APPARATUS

William K. Glesner, Midland and John K. Rexer, Essexville, Michigan, assignors to The Dow Chemical Company, Midland, Michigan a corporation of Delaware

Continuation-in-part of application Ser. No. 525,665, Feb. 7, 1966, now abandoned. This application Oct. 23, 1967, Ser. No. 677,441

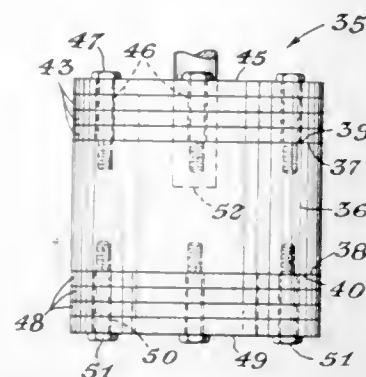
Int. Cl. G01f 11/30; F16j 9/00

U.S. Cl. 222-334

6 Claims

A piston-type dispensing apparatus is described suitable for

polymerizable resins containing a particulate filler. A sealing and bearing ring of a deformable material such as



polytetrafluoroethylene is protected by a metal retainer which serves to protect the sealing from hardened resin.

3,537,620

METERING AND DISPENSING DEVICE FOR LIQUIDS

Kurt Artmann, Liebenstrasse 48, Vienna, Austria

Filed July 17, 1968, Ser. No. 745,444

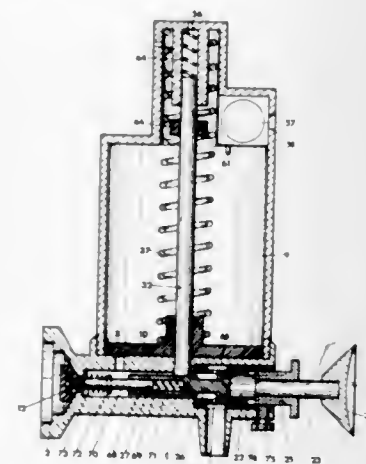
Claims priority, application Austria, July 18, 1967, A 6,699/67;

Dec. 27, 1967, A 11,654/67; Apr. 29, 1968, A 4,143/68

Int. Cl. G01f 11/06

U.S. Cl. 222-335

42 Claims



A metering system for fluids under pressure, in particular carbon dioxide pressure, which comprises a housing having inlet means and discharge means. A control piston is disposed and guided in the housing and the inlet means include an inlet valve. The discharge means include a discharge socket and a metering chamber includes a metering system and has a wall. The housing defines a bore which connects the housing with the metering chamber. The metering system comprises a spring biasing said piston which reciprocates in the metering chamber. The control piston opens and closes alternately the discharge means and simultaneously closes and opens the inlet means and defines a recess. A bolt is axially movable in the metering chamber, and the bolt engages in the recess of the control piston, only upon filling the metering chamber.

3,537,621

MORTAR GUN AND DISC THEREFOR

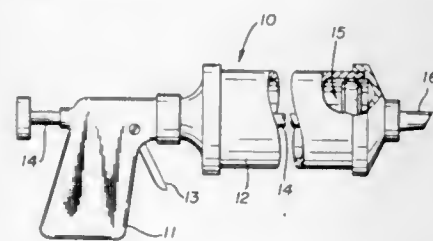
Walter A. Jesse, 3094 Jackson, North, Uniontown, Ohio 44685

Filed Aug. 9, 1968, Ser. No. 751,396

Int. Cl. B67d 5/42

U.S. Cl. 222-386

1 Claim



An improved resilient disc for use on the plunger of a mortar gun characterized by having a concave peripheral groove

terminating in opposed feathered edges so that sealing and wiping contact with the interior surface of the barrel of the gun are achieved when the plunger is both advanced and retracted.

3,537,622

VALVE ASSEMBLY FOR A SELF-VENTING AND REFILLABLE AEROSOL DISPENSER

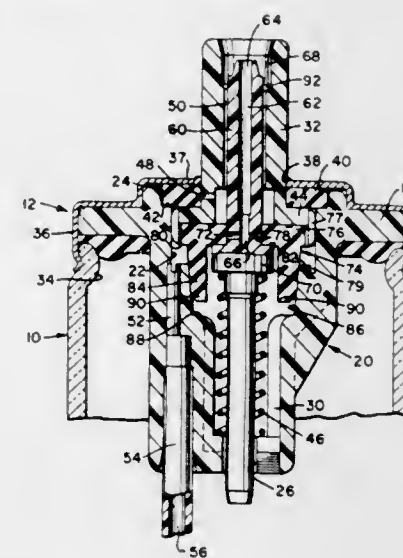
Frank Venus, Jr., Watertown and Richard I. Baker, Newtown, Connecticut, assignors to The Risdon Manufacturing Company, Naugatuck, Connecticut a corporation of Connecticut

Filed Dec. 19, 1968, Ser. No. 785,267

Int. Cl. B65b 3/04, 3/18; B65d 83/14

U.S. Cl. 222-402.16

8 Claims



A valve assembly for a self-venting and product rechargeable dispenser for spraying solutions under pressure of gas within the dispenser through a first valve in an upper chamber of the valve housing and adapted to be connected to a supply container for being refilled with solution and gas through a second valve in a lower chamber of the valve housing while permitting gas within the dispenser to escape therefrom to the atmosphere through the first valve thus lowering the pressure in the dispenser while being fed. An inner continuous seal is provided which blocks communication between the upper and lower chamber, as a result of which product emission takes place only through the first valve in the upper chamber.

3,537,623

OIL GUARDE POURING SPOUT AND FUNNEL

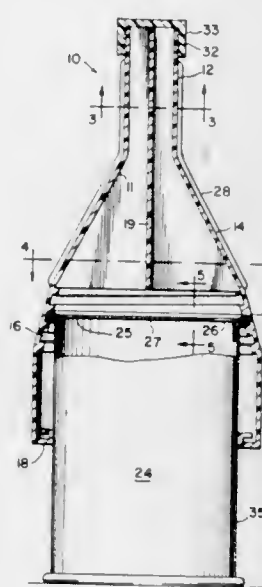
James M. Fisher, Rte. 1, Box 39, Kosciusko, Mississippi 39090

Filed Sept. 6, 1968, Ser. No. 757,840

Int. Cl. B65m 5/74

U.S. Cl. 222-460

14 Claims



A generally funnel shaped article for use in dispensing liquids from cylindrical containers having a seam construction around an end closure thereof which is larger in diameter than the adjacent cylindrical body portion. The seam construction provides an annular portion which projects outward past the wall of the container for use in attaching the internally grooved funnel-shaped article.

3,537,624

ANIMAL FEED-DISPENSING APPARATUS

Jack E. Hartman, Holland and Le Roy A. Wright, Saugatuck, Michigan, assignors, by mesne assignments, to U.S. Industries, Inc., New York, New York, a corporation of Delaware

Filed Feb. 1, 1968, Ser. No. 702,353

Int. Cl. B65d 47/00; A01k 05/00

U.S. Cl. 222-503

7 Claims



A dispensing device for animal feed and the like including a walled enclosure with an inlet opening at the top and a discharge opening at the bottom, and with a pair of cooperative doorlike gate elements pivotally mounted to the enclosure which, when swung apart, open the discharge opening thereof and which, when swung together, close such opening to entrap feed within the enclosure. The two doorlike gate members directly carry the weight of feed entrapped within the enclosure, with the total weight of such feed being divided about equally thereupon, and the two gate members are interconnected for controlled and articulated operation and a spring biases them toward a closed position while an electrical solenoid is provided to overcome the spring and open both doors simultaneously.

3,537,625

TIE HANGER AND STORAGE DEVICE

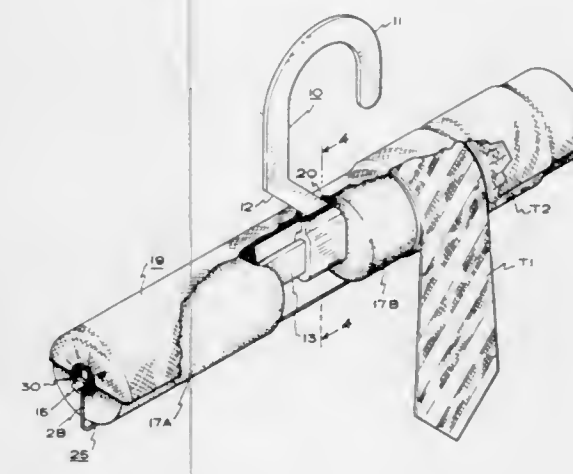
Ben E. Nuttall, 1090 S. State St., Salt Lake City, Utah 84111

Filed Jan. 27, 1969, Ser. No. 793,971

Int. Cl. A47j 51/08, 51/24

U.S. Cl. 223-85

2 Claims



A tie hanger and storage device designed for suitcase and travel bag storage and also erect placement upon a hanger support. The device of the present invention includes one or

more storage members, generally resilient and cylindrical in configuration, upon which ties may be wrapped such that creases therein are not produced. These storage members will generally take the form of a sponge rubber or sponge plastic roll or rolls which are mounted upon a transverse rod in the device.

An elastomeric strap secures the ties in rolled configuration and an accessory hanger is optionally used. When desired, the ties can be unrolled in a manner hereinafter described so as to hang properly when suspended from the hook in a hotel room, for example.

3,537,626

GARMENT HANGER ATTACHMENT

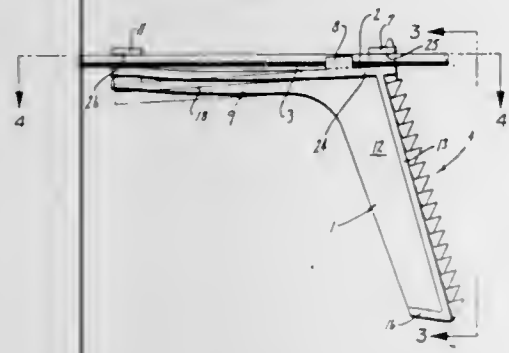
James H. Wright, Albany, California (P.O. Box 641, Station A, Richmond, Calif. 94808)

Filed June 2, 1969, Ser. No. 829,645

Int. Cl. A47j 51/094; B47j 51/14

U.S. Cl. 223-95

10 Claims



A garment hanger with a pair of depending members slidably mounted on the horizontal wire in an arrangement wherein the depending members may be manually slid away from each other internally of the waistband or cuff of a garment and will automatically lock in position to support the garment.

3,537,627

CLAMP TYPE GARMENT HANGER

John H. Batts, Grand Rapids, Michigan, assignor to John Thomas Batts Inc., Zeeland, Michigan a corporation of Michigan

Filed Oct. 28, 1968, Ser. No. 771,234

Int. Cl. A47j 51/14

U.S. Cl. 223-96

7 Claims



A garment hanger of the clamping variety including a pair of bar members having facing garment-engaging surfaces. The bars are forced toward one another resiliently by a U-shaped spring. The base of the spring passes through suitable apertures in the bars at the extremity of the garment-clamping sections thereof and the legs extend along the exterior surfaces of the bar in suitable grooves. The legs of the spring are formed so as to contact the bars near their midpoints such that primary compression force is exerted centrally of the bar rather than at the extremities thereof.

3,537,628

ARTICULATED CARRYING MEANS

Robert G. Thompson, 5312 S. Melvina Ave., Chicago, Illinois 60638

Filed Jan. 22, 1968, Ser. No. 699,695

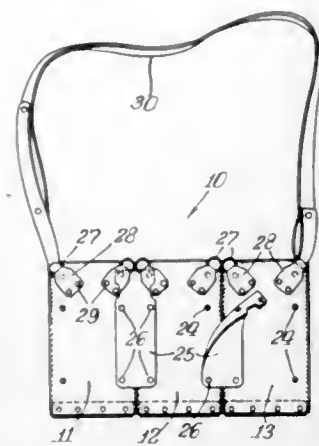
Int. Cl. A01k 97/06

U.S. Cl. 224-5

1 Claim

The present invention provides a plurality of pouches for carrying fishing tackle or the like, with the pouches being

secured together in a manner permitting them to adapt themselves to the contour of the wearer's body so as to provide a



readily accessible and yet comfortable, and noninterfering container means for fishing tackle.

3,537,629

CLAW PULLDOWN FOR CINEMATOGRAPHIC APPARATUS

Wolfgang Riedel, Winnenden, Germany, assignor to Robert Bosch Elektronik und Photokino GmbH, Stuttgart-Unterkheim, Germany

Filed April 10, 1969, Ser. No. 815,164

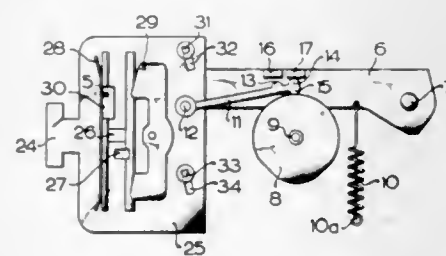
Claims priority, application Germany, April 13, 1968,

1,772,208

Int. Cl. G03b 1/22

U.S. Cl. 226-64

10 Claims



A claw pulldown for cinematographic apparatus wherein the pulldown lever is rockable by a spring and a disk cam through the intermediary of a follower arm which is pivotably secured to an adjusting plate and can move its point of engagement with the pulldown lever in a direction toward or away from the pivot axis of the lever to thereby change the initial angular position and/or the extent of angular displacement of the lever in response to each revolution of the cam. The adjusting plate for the follower arm can be provided with film guides and with a discrete light-transmitting window for each position of the follower arm.

3,537,630

MANUFACTURING PHOTOGRAPHIC FILM PACKETS

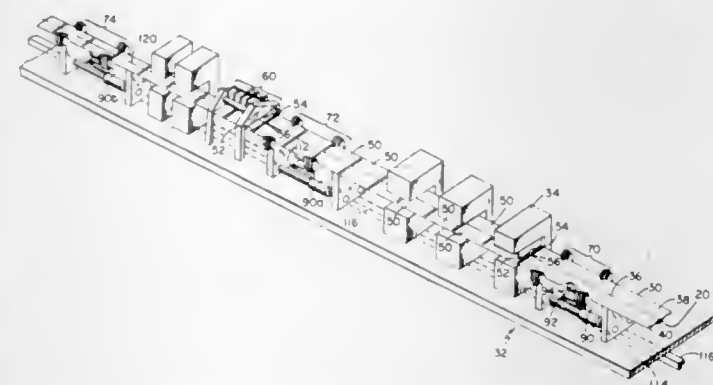
George P. Reimann, Jr., Framingham, Massachusetts, assignor to Polaroid Corporation, Cambridge, Massachusetts a corporation of Delaware

Filed Nov. 18, 1968, Ser. No. 776,734

Int. Cl. B65h 17/36

U.S. Cl. 226-115

3 Claims



Grippers arranged to longitudinally advance a web in the production of photographic film packets, one set of grippers drawing the web at a narrow portion, a second set of grippers

drawing the web at a wider portion to isolate upstream propagation of the off-center force exerted by the first set, and a third set of grippers bearing the main burden of drawing the web from a position upstream of weakened portions of the web.

3,537,631

IDLER ROLLER

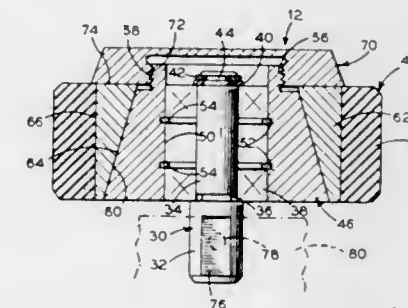
Wesley M. Fujii, Menlo Park, California, assignor to Bell Sound Studios, Inc., New York, New York a corporation of New York

Filed May 14, 1968, Ser. No. 728,967

Int. Cl. B65h 17/20

U.S. Cl. 226-191

16 Claims



An idler roller for use in a tape recorder and the like comprising a shaft adapted to be received in the tape recorder. A mounting member is rotatably received on the shaft and a roller assembly is removably and concentrically mounted on the mounting member. The mounting member is provided with a first surface and the roller assembly is provided with a second surface adapted to engage the first surface. Retaining means is provided to force the first and second surfaces into intimate contact with each other so that the mounting member and the roller assembly rotate as a unit.

3,537,632

DETACHABLE COVER FOR A PULL ROLL OR COLLAR

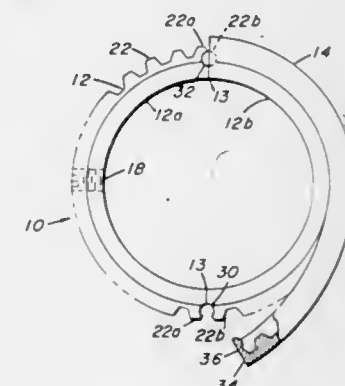
Raymond S. Watson, Baltimore, Maryland, assignor to The Ward-Turner Machinery Company, Baltimore, Maryland a corporation of Maryland

Filed July 3, 1968, Ser. No. 742,369

Int. Cl. B65h 17/20

U.S. Cl. 226-191

11 Claims



Pull rolls and pull collars having manually detachable split covers of resilient material, and provided with circumferential notches and under cuts for engaging and retaining the covers, are disclosed.

Both collar and cover are split, in a preferred embodiment of the invention, and the cover is extended radially onto a uniform circumference of the collar.

3,537,633

APPARATUS FOR STAPLING SHEETS INTO PADS

Wally Charles Hoff, 15 Anwen Drive, Toronto and Charles Nicholas Hoff, 37 Marowyn Drive, Willowdale, Ontario, Canada

Filed July 22, 1968, Ser. No. 746,372

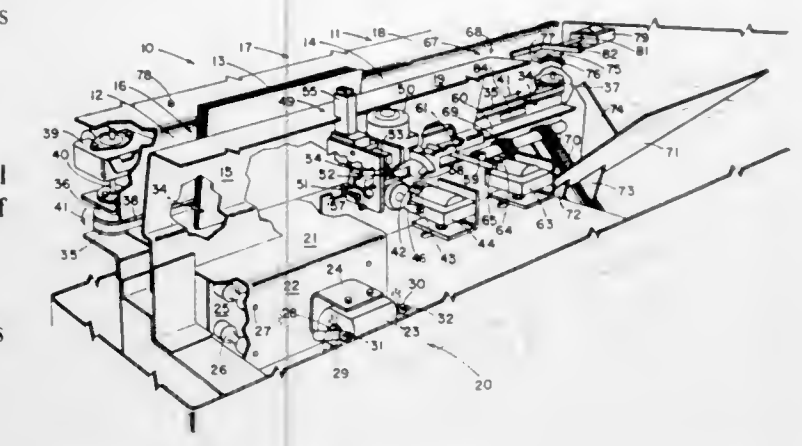
Int. Cl. B27f 7/06

U.S. Cl. 227-7

9 Claims

A stapling apparatus having a jogger means at the bottom wall of a holder at a loading station to jog a set of juxtaposed sheets in substantial alignment and a pin extending from a belt which runs in the holder engages the side edges

taped sheets in substantial alignment and a pin extending from a belt which runs in the holder engages the side edges



of the set of sheets and delivers the sheets to a stapling station in substantial alignment.

3,537,634

PUSHBUTTON OPENER FOR GABLE TOP CONTAINERS

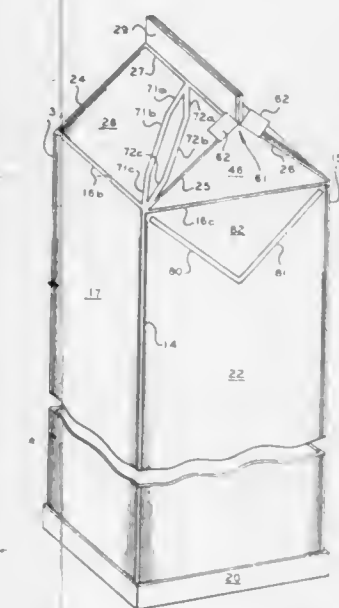
Stafford D. Collie, Kansas City, Missouri, assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 19, 1969, Ser. No. 825,490

Int. Cl. B65d 51/22, 51/02, 17/00

U.S. Cl. 229-17

7 Claims



Snap-action score lines in the side wall adjacent the first end closure panel of the container cause the first end closure panel to snap open when a portion of the side wall within said score lines is depressed.

3,537,635

OVERWRAP WITH INSPECTION DOORS

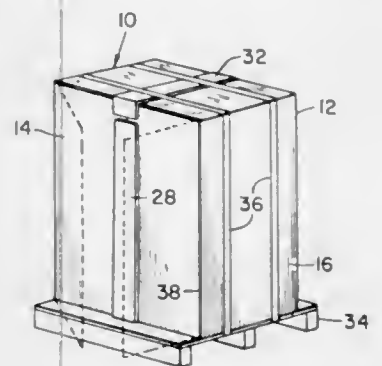
Lewis F. Reas, Big Flats, New York and Victor Schleich, Williamsport, Pennsylvania, assignors to Corning Glass Works, Corning, New York a corporation of New York

Filed Oct. 7, 1968, Ser. No. 765,514

Int. Cl. B65d 51/54

U.S. Cl. 229-51

4 Claims



An overwrap for cabinets or the like is provided in the form of a carton having resealable inspection doors, which may be opened to inspect the contents of the carton without effecting the integrity of the carton structure.

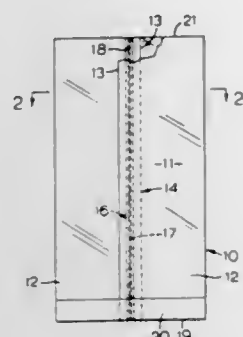
3,537,636 RECLOSABLE PACKAGE

Robert D. Rochette, 74 Maple Circle, Dollard des Ormeaux, Canada

Filed Jan. 21, 1969, Ser. No. 792,626
Claims priority, application Canada, Feb. 14, 1968, 012,471
Int. Cl. B65 33/16

U.S. Cl. 229—65

1 Claim



A bag closure for bags formed in tubular form comprising a strip of bendable inelastic material forming a longitudinal seam for the tubular bag, an end portion of the strip adjacent the open end of the bag adapted to be folded with the end portion of the bag to hold the folded end portion of the bag closed.

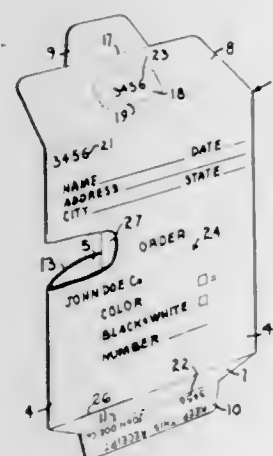
3,537,637 ENVELOPE WITH REMOVABLE IDENTIFICATION LABEL

Walter L. Hiersteiner, Mission, Kansas, assignor to Tension Envelope Corporation, Kansas City, Missouri a corporation of Delaware

Filed Jan. 14, 1969, Ser. No. 791,011
Int. Cl. B65d 27/14

U.S. Cl. 229—70

2 Claims



This invention discloses an envelope or container used in the handling of film and prints for photo finishing, the container being provided with a number and a removable label attached to the envelope, having the same identification number as the envelope, to be placed on the negative or exposed film to provide positive identification of the film placed in the envelope, and a removable tab providing a receipt to the owner of the film which also has the same identification number as the label and the envelope, so that the identification is maintained throughout the processing and printing of the photo finishing step.

3,537,638 MAILING ENVELOPE FOR FILM OR THE LIKE

Jerome Hyman, Memphis, Tennessee, assignor to Tension Envelope Corporation, Kansas City, Kansas a corporation of Delaware

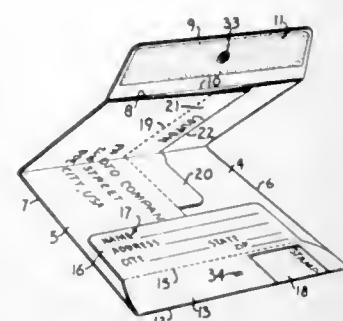
Filed Jan. 14, 1969, Ser. No. 791,012
Int. Cl. B65d 27/00, 75/54, 73/00

U.S. Cl. 229—70

2 Claims

This invention relates to an envelope for mailing of film or the like. More particularly, it includes a film mounted on a card which includes the envelope mounted on said card and

displayed on a display rack. It includes a tab on the envelope for temporarily fastening of the mailing envelope to the card, including a perforation on the tab whereby when the film is used, the user can remove the envelope from the card, place



the film, shipping label, and a coupon in the envelope along with the film, and mail the same to the processor.

3,537,639 PORTABLE RECORDING

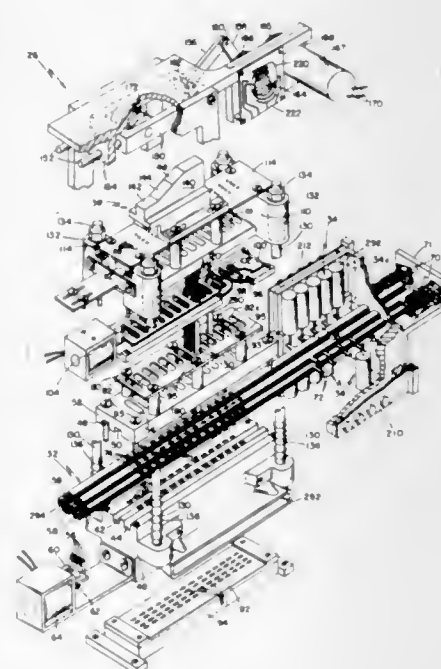
George A. Ruger, Brighton and Roger W. Hood, North Attleboro, Massachusetts, assignors to Hersey-Sparling Meter Company, Dedham, Massachusetts a corporation of Massachusetts

Filed July 3, 1968, Ser. No. 742,422

Int. Cl. G06k 1/06, 13/08

U.S. Cl. 234—94

11 Claims



A portable data recorder has punches movable between retracted and recording positions. Slides stacked along the direction of movement of the punches are movable transversely to the punches to control their movement. The slides have openings arranged so that when the openings in all slides in a stack are aligned a punch can pass through a stack to its recording position.

3,537,640 APPARATUS FOR ENTERING DATA FROM A DATA GENERATING MECHANISM TO AN ACCUMULATION AND PRINT-OUT MECHANISM

Donald C. Norton, 777 Rand Ave., Oakland, California 94610

Filed June 7, 1967, Ser. No. 656,971

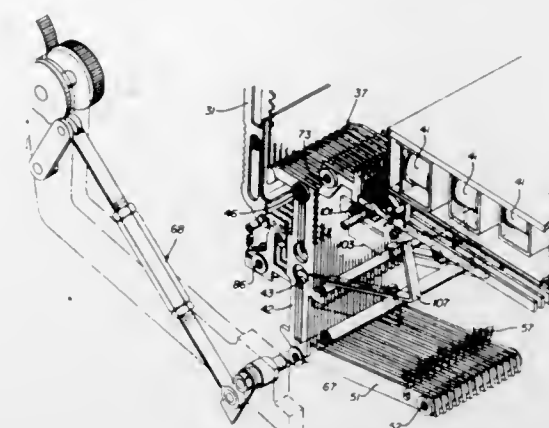
Int. Cl. G06k 15/06

U.S. Cl. 235—58

15 Claims

A solenoid-actuated entry system for an adding machine-type accumulation and printout mechanism wherein cyclically-generated, multidigit data is directed during the operating cycle of the accumulation and printout mechanism to a

plurality of solenoids which mechanically set the position of a plurality of stops, the positions of which determine the



number which is stored and printed by the accumulation and printout mechanism.

3,537,641 TOTALIZER CONTROL MECHANISM

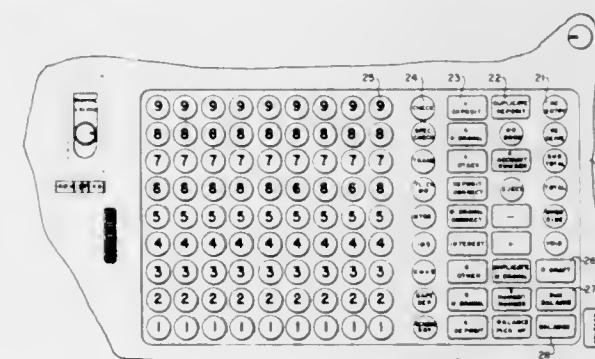
Larry D. Altic, Pittsburg and Burl H. Vick, Vandalia, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed July 7, 1969, Ser. No. 839,301

Int. Cl. G06c 21/04

U.S. Cl. 235—60.2

4 Claims



An accounting machine having an add-subtract totalizer with control keys to reset the totalizer when in a positive or a negative condition and to read the totalizer when in a positive condition only, and an electrical circuit for utilizing the existing control keys to read the totalizer when in a negative condition.

3,537,642 AVERAGING DEVICE

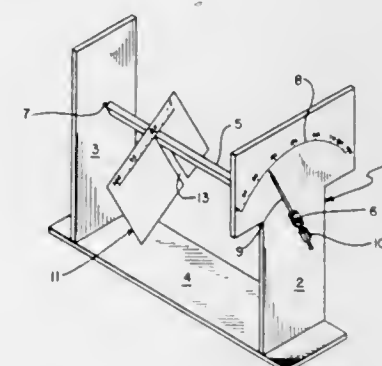
William Laurita, 343 E. Walnut St., Kutztown, Pennsylvania 19530

Filed Jan. 24, 1968, Ser. No. 700,241

Int. Cl. G01d 1/02; G01g 19/00

U.S. Cl. 235—61

3 Claims



A simple and readily portable device for computing averages is disclosed, in which an axle is mounted for rota-

tion and weights are hung on the axle at varying distances from its center of gravity. The distance that the center of gravity of the weight is displaced from the axis of rotation is related to a numerical value, so that when a number of weights are placed on the axle, the axle will rotate until the moment arms are balanced. The device is calibrated so that the angular displacement of the axle at equilibrium conditions will indicate the desired average.

3,537,643 OPTICAL FLUIDIC OUTPUT DEVICE

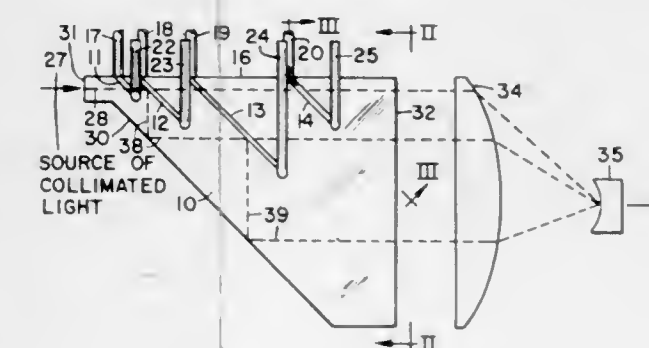
Lynn G. Amos, Powell, Tennessee, assignor to Corning Glass Works, Corning, New York a corporation of New York

Filed Dec. 6, 1968, Ser. No. 781,716

Int. Cl. G06m 1/22

U.S. Cl. 235—201

13 Claims



A fluidic numerical display device which translates digitally coded fluidic signals into a displayed numerical output. A collimated light beam entering the device may be caused to undergo one or more reflections depending upon the state of the fluidic signals being supplied thereto. The position of emergence of the light beam from the device depends upon the number of reflections to which the beam is subjected as well as the points at which the reflections occur. Each of the possible positions of emergence is provided with a numeral which becomes visible when the light beam emerges therefrom.

3,537,644 COMBINED PRESSURE AND TEMPERATURE REGULATOR

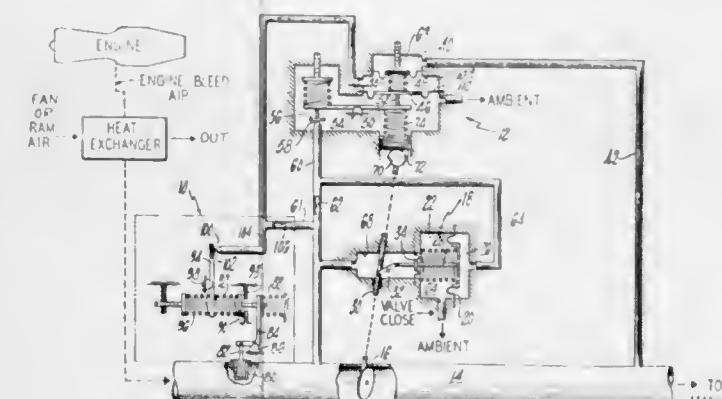
Bartholomew J. Davison, Simsbury, Connecticut, assignor to United Aircraft Corporation, East Hartford, Connecticut a corporation of Delaware

Filed Aug. 12, 1968, Ser. No. 751,784

Int. Cl. G05d 23/12

U.S. Cl. 236—80

5 Claims



The temperature and pressure discharging from a heat exchanger is controlled by a single valve by utilizing a single controller responding to temperature and pressure including stop means to render the temperature sensor inoperative when the temperature is below a certain value and to render the pressure regulating means inoperative when the pressure is below a certain value and providing position feedback to assure stable operation so as to assure maximum flow during all conditions of operation.

3,537,645

BULBLESS EXPANSION VALVE

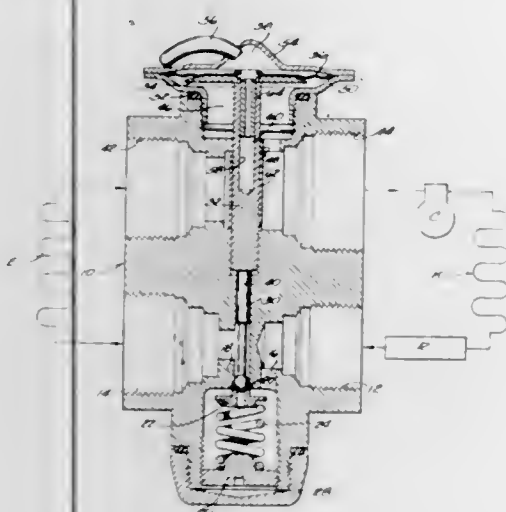
Charles F. Treder, Brookfield, Wis., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Jan. 16, 1969, Ser. No. 791,626

Int. Cl. F25b 41/04

U.S. Cl. 236—92

8 Claims



The thermostatic expansion valve controls refrigerant flow to the evaporator in accordance with the pressure acting below the diaphragm and the temperature influencing the temperature responsive charged space above the diaphragm. The pressure is derived from the return conduit through the upper part of the body leading from the evaporator outlet to the compressor inlet. The rider pin connecting the diaphragm to the valve is hollowed out so that the bottom of the hole in the rider pin is in the refrigerant return flow path. This permits the charge to condense in the area of the system of refrigerant flow and respond to this temperature. Since the temperature in the return flow path is lower than the temperature ambient to the charged head, the condensed refrigerant will always be in the pin. A restrictor is placed in the upper end of the rider pin to prevent migration of condensed refrigerant to the head chamber in the event the valve is mounted upside down. A sleeve of low thermal conductivity positioned around the rider pin where it passes through the return conduit damps temperature changes and reduces valve hunting.

3,537,646

ROCKET NOZZLE STRUCTURE

Herff C. Emerson, Chula Vista, Calif., assignor to Rohr Corporation, Chula Vista, Calif., a corporation of Delaware

Original application Apr. 19, 1965, Ser. No. 449,076, now Patent No. 3,418,707, dated Dec. 31, 1968. Divided and this application Aug. 9, 1968, Ser. No. 766,009

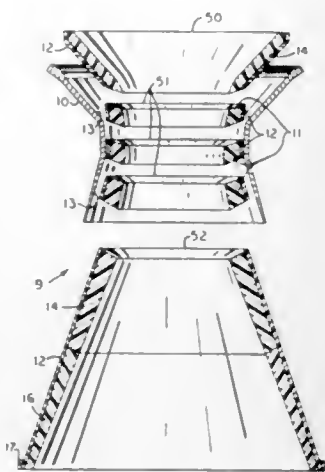
Int. Cl. B64d 33/04

U.S. Cl. 239—265.15

7 Claims

A rocket nozzle shell-ablative liner composite is disclosed in which a large hot sized, high strength unitary nozzle is formed of annularly welded frusto-conical ring sections of varying diameters and cone angles. Each of the ring sections is formed of arcuate ring segments welded together to form a unitary frusto-conical ring section, and each ring segment is cut and contoured plate metal. The welded ring sections and unitary nozzle are hot sized to remove distortion, and the external surfaces of the resulting nozzle structure is only nominally machined to design configuration. The internal surface dimensions of the nozzle are measured numerically to receive a match

machined ablative liner which is bonded thereto. The liner has an inner layer of an ablative material and an outer



layer of a resin impregnated fibre glass fabric which is machined to the inner dimensions of the nozzle shell.

3,537,647

VARIABLE AREA NOZZLES

André Alphonse Médéric Leon Camboulives, Billancourt, and Jean-Claude Lucien Delonge, Moissy-Cramayel, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France

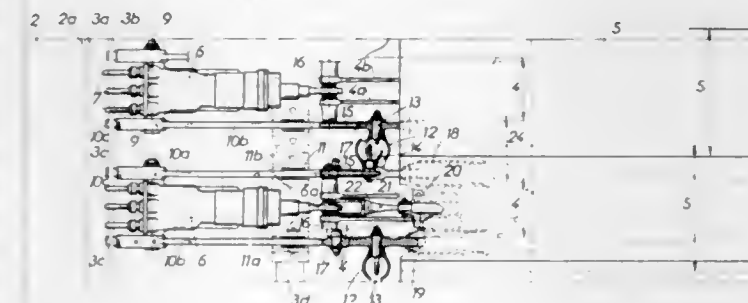
Filed Jan. 16, 1969, Ser. No. 791,716

Claims priority, application France, Jan. 19, 1968, 136,774

Int. Cl. B64c 15/06

U.S. Cl. 239—265.39

6 Claims



This invention relates to a variable area nozzle having a set of controlled flaps disposed circumferentially around a fixed nozzle duct and adapted to pivot under the control of a plurality of control devices to vary the transverse cross-section of the nozzle duct, together with intermediate levers articulated to the flaps in alternating disposition therewith to correlate the flap movements, and is characterized by the provision of a mounting means for the flap and lever assembly including side plates supporting the main flap and lever articulations in such a manner that stresses, introduced into the nozzle duct by virtue of correlating the flap movements, are minimised.

3,537,648

INSECT BARRIER FOR IRRIGATION NOZZLES

Tony Radecki, West Covina, Calif., assignor to Rain Bird Sprinkler Mfg. Corp., Glendora, Calif., a corporation of California

Filed Nov. 26, 1968, Ser. No. 779,039

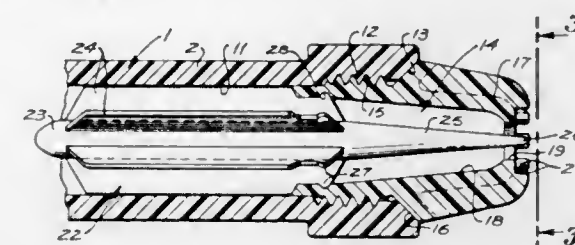
Int. Cl. B05b 15/02

U.S. Cl. 239—288.3

2 Claims

A barrier which is attached to the removable nozzle of an irrigation sprinkler and is centered within the

sprinkler outlet passage by means of radial fins, the barrier having a tapered and pointed outer end which blocks



entrance of insects, such as wasps, without adversely affecting the flow of water from the sprinkler nozzle.

3,537,649

SPREADING IMPLEMENTS

Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland, and Hendricus Jacobus Cornelis Nieuwenhoven, Baar, Switzerland

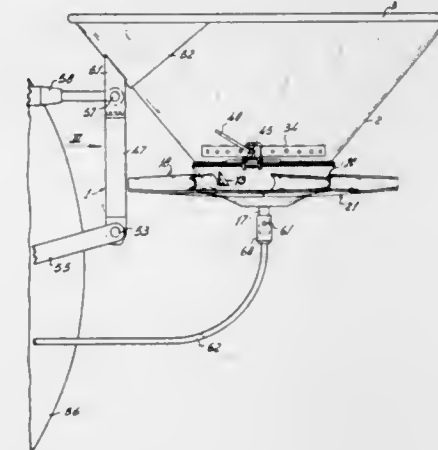
Filed Feb. 9, 1968, Ser. No. 704,343

Claims priority, application Netherlands, Feb. 20, 1967, 6702499

Int. Cl. A01c 17/00

U.S. Cl. 239—666

22 Claims



A spreader with a hopper and a rotary spreading member supported at the bottom of the hopper. An outlet member at the bottom of the spreader has ports which can be placed in or out of register with corresponding ports of a masking member. A power take-off can be connected to the shaft for rotating the spreading member. The spreading member is a segmented disc with curved upright blades.

3,537,650

TWO-STAGE SONIC ATOMIZING DEVICE

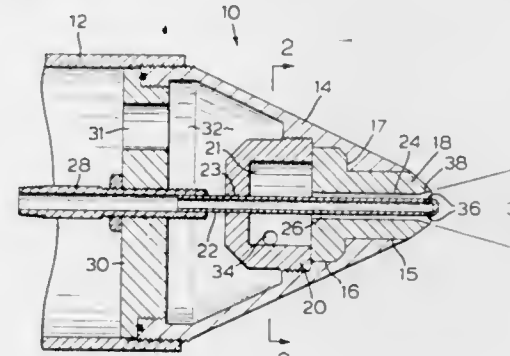
Charles F. Peczel, Clarkson, Ontario, and Edward T. Tyrce, Toronto, Ontario, Canada, assignors to Gulf Oil Canada Limited, Toronto, Ontario, Canada

Continuation-in-part of application Ser. No. 650,342, June 30, 1967. This application Apr. 14, 1969, Ser. No. 825,091

Int. Cl. B05b 7/10

U.S. Cl. 239—405

5 Claims



A liquid atomizer having a cylindrical vortex chamber with at least one tangential inlet, and a concentric outlet

tube. A substantially sharp corner marks the transition from the chamber to the outlet tube and the chamber wall through which the outlet tube opens is substantially normal to the latter. A liquid feed tube is provided axially within the outlet tube and has a port for expelling a jet of liquid centrifugally toward the outlet tube walls.

3,537,651

DEVICE FOR AERATING WATER UNDER PRESSURE, PARTICULARLY FOR HOUSEHOLD WATER SUPPLY

Hans Heinrich Classen, Lobberich, Germany, assignor to Firma Rokal G.m.b.H., Lobberich, Germany

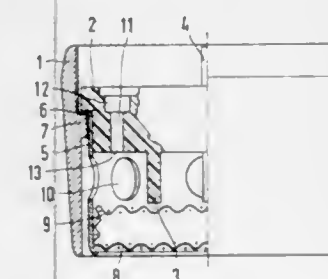
Filed Dec. 27, 1967, Ser. No. 693,914

Claims priority, application Germany, Jan. 9, 1967, R 34,269

Int. Cl. E03c 1/08

U.S. Cl. 239—428.5

10 Claims



Aerating device for attachment to water faucet which has a perforated transverse wall or plate with the perforations offset in steps inwardly and downwardly so that the lower parts of the perforations are narrower than the upper parts, which provides for improved aeration and easier cleaning of the device.

3,537,652

FREELY MOVABLE GAS-AIR TORCH

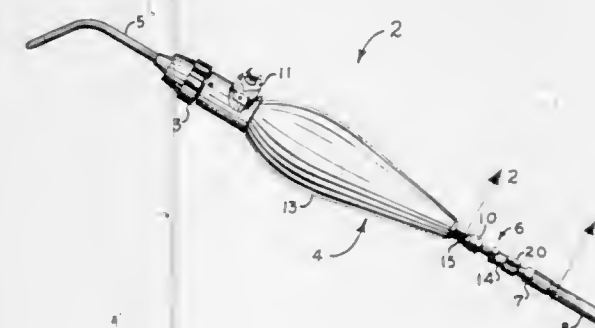
David S. Pearl, Fort Lauderdale, Fla., assignor to Uni-weld Products, Inc., Fort Lauderdale, Fla., a corporation of Delaware

Filed Oct. 16, 1968, Ser. No. 768,029

Int. Cl. B05b 7/02

U.S. Cl. 239—525

2 Claims



A gas-air blowpipe, or torch, freely movable in use without any coiling of the gas supply hose, comprising, in combination, a blowpipe, or torch, handle including gas inlet swivel coupling connection means, a blowpipe, or torch, head and a replacement blowpipe, or torch tip, whereby the blowpipe can be freely moved without any twisting and turning to keep the gas supply hose connected thereto in uncoiled condition.

3,537,653

ADHESIVE APPLICATORS

Reginald Jones, Sheffield, England, assignor to Stabilag Engineering Limited

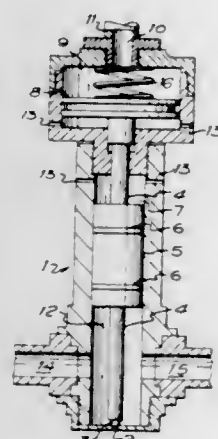
Continuation-in-part of application Ser. No. 637,294, May 9, 1967. This application July 30, 1968, Ser. No. 748,783

Claims priority, application Great Britain, May 10, 1966, 20,666/66

Int. Cl. B05b 1/30

U.S. Cl. 239—533

2 Claims



This invention is a system for applying hot melt adhesives and other viscous thermoplastic materials at various application points. It operates by a continuously circulating system through which the melted adhesive is fed from a melting pot and when adhesive is to be applied through a nozzle, the pressure in the system is raised by restricting the return path and the increase in pressure opens the applicator, there being means associated with the nozzle to prevent opening of the nozzle in response to the increase in pressure.

3,537,654

METERING AND DISTRIBUTING DEVICE FOR FUEL INJECTION SYSTEMS

Gerhard Stumpp, Stuttgart, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany

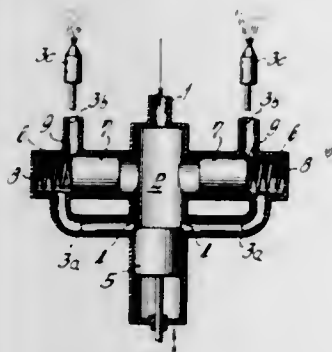
Filed Nov. 22, 1968, Ser. No. 778,152

Claims priority, application Germany, Dec. 20, 1967, 1,576,489

Int. Cl. B05b 1/30

U.S. Cl. 239—533

10 Claims



A unitary device for metering fuel and distributing the same to injection valves of an internal combustion engine, said device includes a control plunger for varying synchronously flow passage sections associated with each injection valve to provide uniform metering of the fuel and a plurality of piston-cylinder assemblies, one associated with each injection valve, the piston of each said assembly controls the admission of fuel to its associated valve in response to the pressure fluctuations upstream of said synchronously variable flow passage sections to ensure a constant difference between the pressures upstream and downstream of said sections.

3,537,655

TREATMENT OF WASTE EFFLUENTS

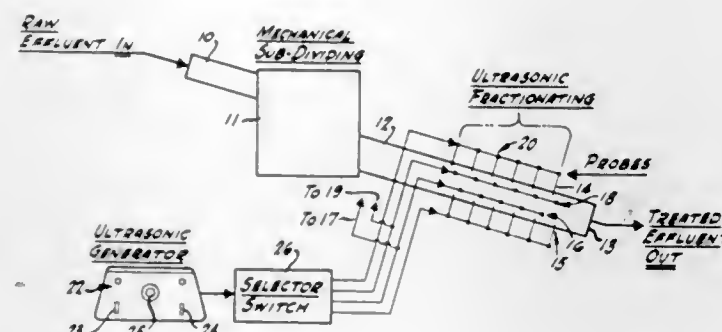
Joel F. Gustafson, 35 Morningsun Ave., Mill Valley, Calif. 94941

Filed Apr. 18, 1968, Ser. No. 722,400

Int. Cl. B02c 19/00

U.S. Cl. 241—1

8 Claims



Method of treating sewage effluents and the like so as to at least partially sterilize the same and to facilitate decomposition thereof. The method includes the steps of subdividing the effluent by physical treatment thereof such as by means of mechanically grinding the same, and thereafter further fractionating and partially sterilizing the effluent by subjecting it to the action of ultrasonic vibratory energy.

3,537,656

PROCESS FOR THE UPGRADING OF POTASH MINERALS CONSISTING ESSENTIALLY OF HARD SALTS

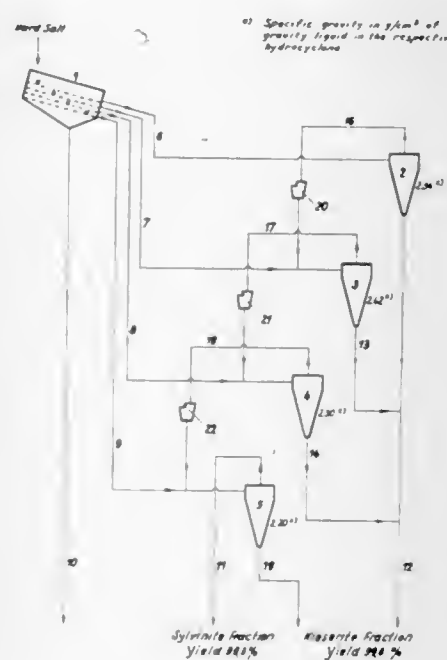
Hans Henne and Arno Singewald, Kassel, Germany, assignors to Wintershall Aktiengesellschaft, Hauptverwaltung Kassel, Germany

Continuation-in-part of application Ser. No. 593,563, Nov. 10, 1966. This application May 8, 1969, Ser. No. 822,895

Int. Cl. B02c 21/00

U.S. Cl. 241—20

4 Claims



A continuous process for the upgrading of potash minerals consisting essentially of hard salts by gravity separation in a plurality of hydrocyclones respectively containing gravity liquids of different specific gravity to obtain kieserite and so-called "quasi-sylvinites" therefrom.

3,537,657

PROCESS FOR THE UPGRADING OF POTASH MINERALS CONSISTING ESSENTIALLY OF SYLVINITE

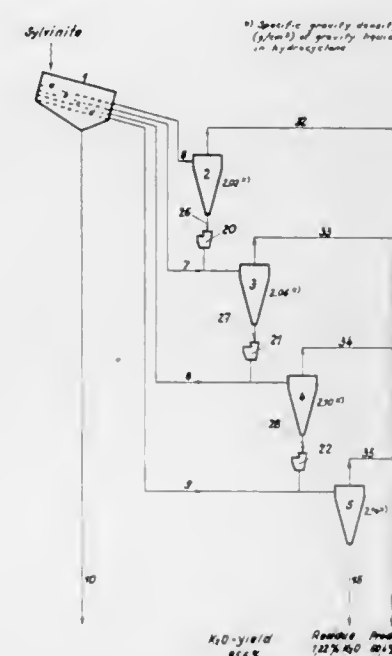
Hans Henne and Arno Singewald, Kassel, Germany, assignors to Wintershall Aktiengesellschaft, Hauptverwaltung, Kassel, Germany

Continuation-in-part of application Ser. No. 593,563, Nov. 10, 1966. This application May 8, 1969, Ser. No. 822,896

Int. Cl. B04c 5/26

U.S. Cl. 241—20

4 Claims



A continuous process for the upgrading of potash minerals consisting essentially of sylvinites by gravity separation in a plurality of hydrocyclones respectively containing gravity liquids of different specific gravity to obtain sylvine concentrates (KCl) and NaCl in concentrated form.

3,537,658

AUTOGENOUS AIRSWEEP MILL

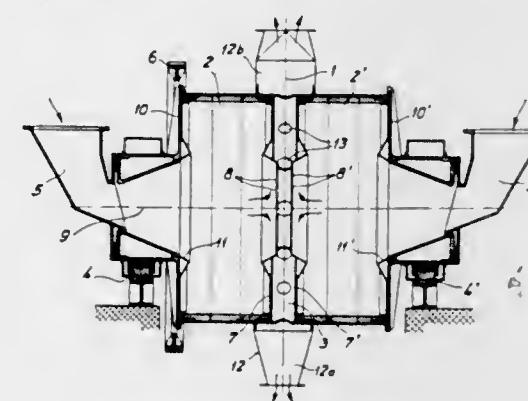
Hans Jurgenjanich, Neubeckum, Germany, assignor to Polysius G.m.b.H., Neubeckum, Germany

Filed Dec. 10, 1968, Ser. No. 782,698

Int. Cl. B07b 3/00

U.S. Cl. 241—44

2 Claims



In this mill, from which the autogenously ground material is extracted by a gas stream, two substantially cylindrical coaxial grinding chambers are mounted to rotate as a unit about their common axis, and are separated by a common extraction chamber. Each of the remote end walls of the grinding chambers is provided with a central inlet aperture for the introduction of gas and material to be ground, and the walls which separate the grinding chambers from the extraction chamber are provided with apertures which extend no farther from the common axis than the inlet apertures and which discharge gas laden with ground material into the extraction chamber.

3,537,659

CHOPPER IMPELLER PUMP WITH AGITATION AUGER

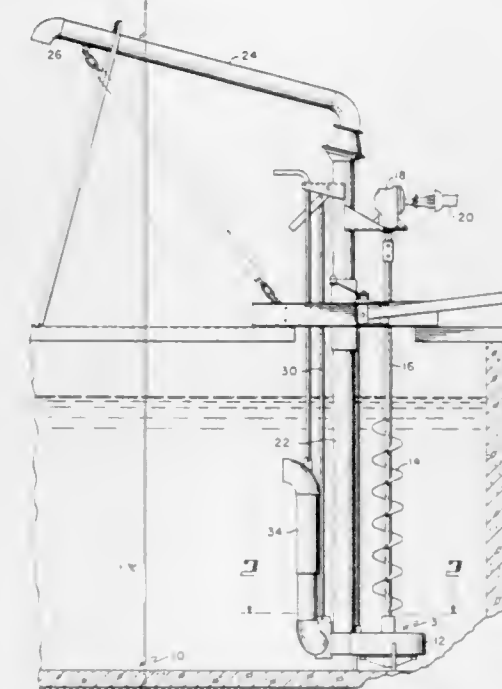
Lawrence J. Vagedes, Celina, Ohio, assignor to Avco Corporation, Coldwater, Ohio, a corporation of Delaware

Continuation of application Ser. No. 578,220, Sept. 9, 1966. This application Mar. 17, 1969, Ser. No. 808,011

Int. Cl. B02c 21/02

U.S. Cl. 241—46.02

2 Claims



A chopper type pump connected for recirculation is provided with an auger which rotates and is secured to the vertically extending drive shaft of the pump for a distance from the top of the pump adjacent the top of the pit in which the unit is installed. It is possible to set the pump for recirculating and chopping and after this is completed to remove the chopped and mixed material from the pit by connecting the pump to the vertical outlet from the pit.

3,537,660

REGULATING SYSTEM FOR WINDING DEVICES FOR THREADS OR THREADLIKE STRUCTURES

Heinz Schippers and Hans Lohest, Remscheid-Lennep, Wolfgang Weber, Wuppertal-Elberfeld, and Erich Lenk, Remscheid-Lennep, Germany, assignors to Barmag Barmer Maschinenfabrik AG, Wuppertal, Germany

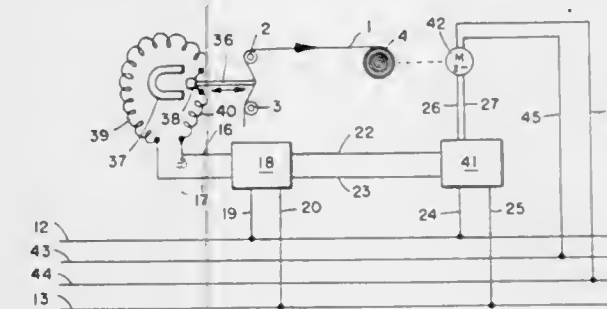
Filed Aug. 17, 1967, Ser. No. 661,430

Claims priority, application Germany, Aug. 18, 1966, B 67,512

Int. Cl. B65h 59/38

U.S. Cl. 242—45

4 Claims



The invention described herein consists of apparatus for accurately maintaining a predetermined thread tension during winding operations. Variations in thread tension are detected by a sensing device and transformed into proportional or approximately proportional electrical or electronic control signals for regulating the speed of the

take-up spool drive motor. A damping mechanism is employed in conjunction with the sensing device to permit the use of proportional-integral or differentiating rate-time regulation.

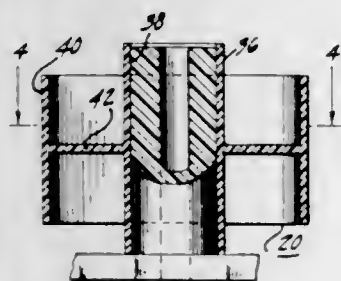
3,537,661

PRESSURE ROLLER CONSTRUCTION

Warren R. Isom, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed July 17, 1968, Ser. No. 745,457
Int. Cl. B65h 17/48

U.S. Cl. 242—55.19

6 Claims



An all plastic pressure roller construction includes a thin walled tubular rim portion concentric with an inner hub portion. A web portion provides a rigid support coupling between the hub portion and the axial mid-point of the rim portion.

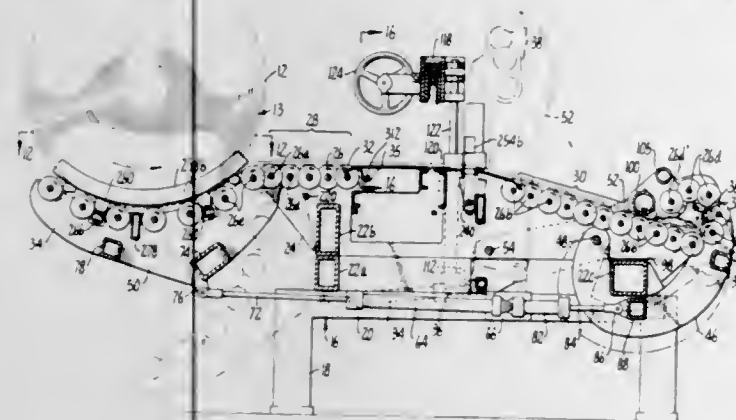
3,537,662

FABRIC CUTTING AND MEASURING MACHINE

Thomas B. Keesling, Los Gatos, and Clifford E. Keesling, San Jose, Calif., assignors to Functional Systems Corporation, Los Gatos, Calif., a corporation of Nevada
Filed May 21, 1968, Ser. No. 730,836
Int. Cl. B65h 75/02, 19/20

U.S. Cl. 242—56

15 Claims



Apparatus for the cutting of carpet and other sheeting material in which a supply roll is placed on a conveyor system, automatically aligned and unrolled in place, measured and then cut. Thereafter the supply roll is automatically reroled and the cut section formed into a separate roll and discharged.

3,537,663

PAPER UNWIND STAND EQUIPPED FOR FLYING SPLICE

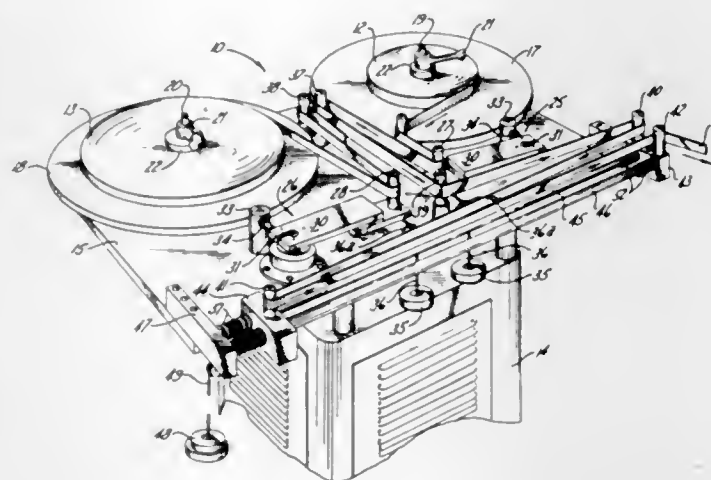
Carl W. Johnson, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Jan. 17, 1969, Ser. No. 791,932
Int. Cl. B65h 19/18

U.S. Cl. 242—58.1

10 Claims

A method and apparatus for continuously supplying strip material, such as paper tape, under substantially constant tension to a helical tube winder or the like is disclosed. The unwind stand includes a pair of circular turntable assemblies each rotatably mounted on a base for

supporting a roll of the strip material with a mechanical strip tension feedback and frictional drag element biased against each of the turntables to maintain substantially constant tension on the strip material drawn from the supply rolls. The strip material is initially guided from the respective supply rolls over elements defining closely spaced parallel paths and then over additional elements which define a variable length discharge loop normally biased to maintain a substantial length to the loop. Be-



fore the supply of strip material from the first roll is exhausted, the strip material traveling along the path to the discharge loop is severed and held while the leading end of the strip material from the other supply roll is spliced to the trailing end of the severed strip material. As this takes place the strip tension overcomes the biasing force imposed on the long discharge loop permitting it to shorten as the strip material is drawn from the loop prior to release of the splice.

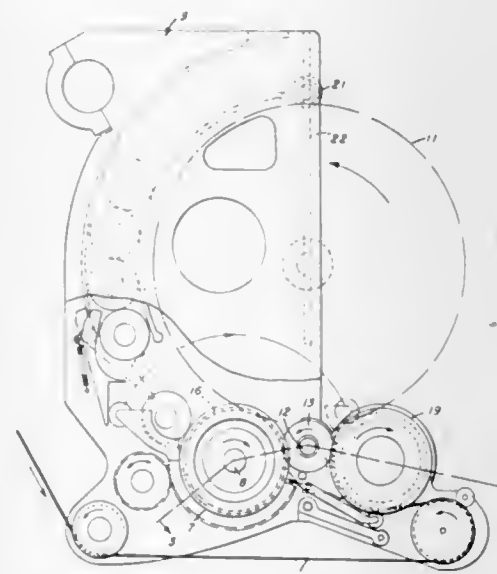
3,537,664

SURFACE WINDING DEVICE

Howard R. De Mallie and Thomas J. Perconti, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 9, 1968, Ser. No. 766,241
Int. Cl. B65h 17/12

U.S. Cl. 242—66

2 Claims



A surface winding device for winding a narrow strip into a flangeless roll at high speed. The strip comes from a slit to a roll nested between rotatable drive and idler drums.

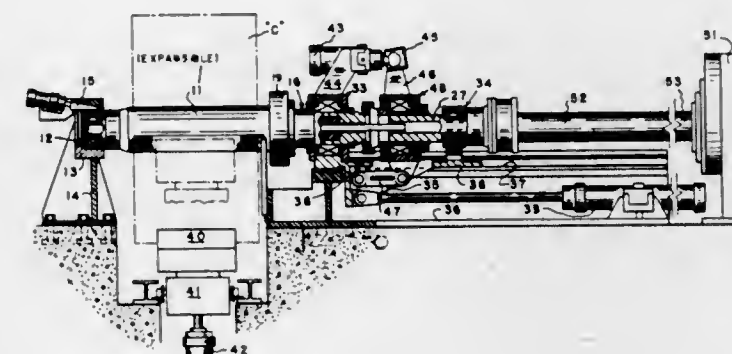
3,537,665

REPLACEABLE MANDREL FOR TENSION REEL

Charles Storer Shumaker, Glenshaw, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1968, Ser. No. 768,623
Int. Cl. B21c 47/02

U.S. Cl. 242—78.1

8 Claims



The tension reel disclosed is designed to facilitate rapid replacement of the expandable mandrel as a unit through a construction of associated parts. The expandable mandrel has a flange at one end and an outboard bearing at the other end. Projecting outward from the flange is a stub shaft constructed to fit within a recess formed in a bearing mounted shaft that also has a flange adapted to be bolted and keyed to the mandrel flange in a driving relation. A rod extends axially from the mandrel a short distance into the bearing mounted shaft where it is connected to levers associated with a piston cylinder assembly for axially displacing the rod to expand the mandrel. The bearing mounted shaft is carried by a sled that is displaceable to remove the shaft from the mandrel while it is supported by a coil lift or other supporting means.

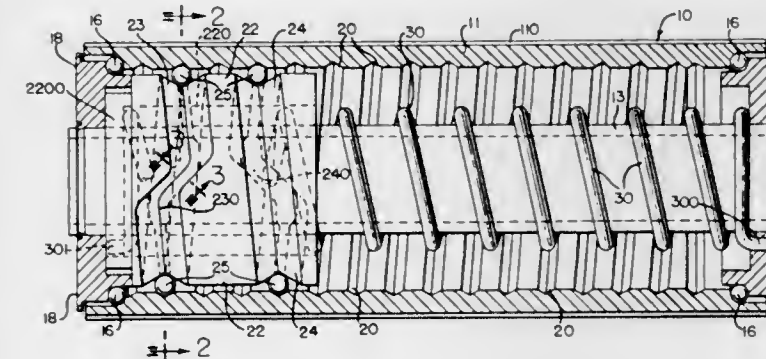
3,537,666

RETRACTOR FOR SEATBELTS AND THE LIKE

Gerald F. Lewis, 1850 Columbia, Berkley, Mich. 48072
Filed Mar. 20, 1969, Ser. No. 808,778
Int. Cl. B65h 75/48

U.S. Cl. 242—107

2 Claims



A retractor for seatbelts or other manually extended and self-returned spool wound items including a fixed shaft having end caps fixed thereto, an outer sleeve type winding spool disposed in spaced relationship over said fixed shaft mounted for free rotation on said end caps, said winding spool having a helical ball track formed therein, a cylindrical ball nut having a pair of outer helical ball tracks formed therearound, each of the same pitch as the helical ball track in said outer sleeve and including a depressed ball return passage therein, each ball

track in said ball nut including its ball return being substantially filled with balls also disposed in running relationship within said helical ball track in said winding spool, compression spring means disposed in spaced relationship around said fixed shaft extending between and anchored to said ball nut and the end cap of one end of said fixed shaft normally biasing said ball nut to the end cap at the other end of said fixed shaft, means nonrotatively supporting said retractor at its central shaft, and a seatbelt secured against rotation with respect to and wound on the said winding spool, manual pulling of said seatbelt outwardly from said winding spool rotating said winding spool in one direction biasing said ball nut toward the end cap at said one end of said fixed shaft and compressing said compression spring, the subsequent release of said seatbelt permitting said compression spring to thrust said ball nut to the end cap at said other end of said fixed shaft thereby counter-rotating said winding spool and causing said seatbelt to become rewound thereon.

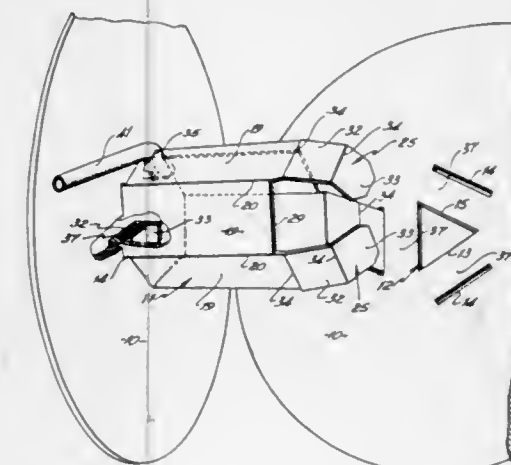
3,537,667

REEL

Jack R. Dorman, 1071 Celestial St., Cincinnati, Ohio 45202
Filed Dec. 26, 1968, Ser. No. 786,939
Int. Cl. B65h 75/14

U.S. Cl. 242—118.8

4 Claims



A reel adapted for receiving and paying out relatively light filament-like products comprising, in preferred form, (a) opposed side walls, each of the side walls defining a centered eye having at least three sides and at least one slit substantially parallel to and spaced from the eye's periphery, (b) a core section having at least two integral center panels, the core section being formed into a core and positioned between the side walls, and (c) a hook integral with each of the center panels with successive hooks being attached to opposite sides of the core section, each of the hooks being inserted through the slit in that hook's adjacent side wall and wrapped back into the eye of that side wall.

3,537,668

EXTRAVEHICULAR TUNNEL SUIT SYSTEM

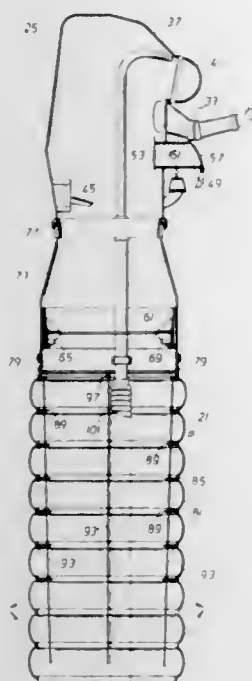
Joseph J. Kosmo, Houston, and Elton M. Tucker, La Porte, Tex., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Sept. 12, 1969, Ser. No. 857,445
Int. Cl. B64g 1/00

U.S. Cl. 244—1

9 Claims

An extravehicular human work station permitting manual operation in a hostile environment. The work station consists of a semi-anthropomorphic assembly attached to the distal end of a tunnel extending from a vehicle wall.

The tunnel is of convoluted bellows construction and may be selectively axially expanded or contracted by a system of



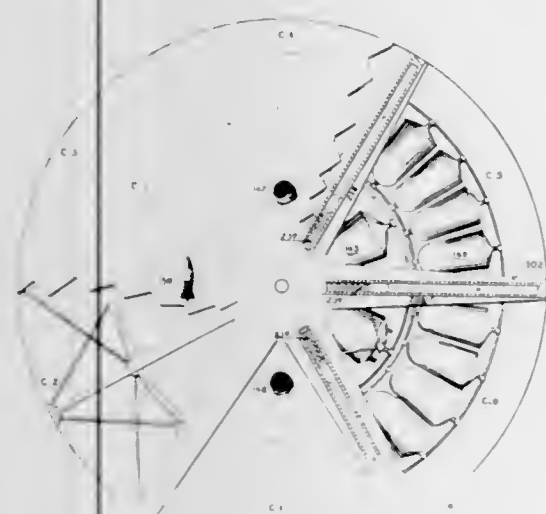
individually controlled cables. The cables may be operated individually also in order to regulate the angle from which the tunnel axis projects from the vehicle wall.

3,537,669 MANNED DISC-SHAPED FLYING CRAFT

James N. Modesti, Brooklyn, N.Y.
(230 W. 76th St., New York, N.Y. 10023)
Filed Feb. 5, 1968, Ser. No. 703,011
Int. Cl. B64c 29/04

U.S. Cl. 244-23

7 Claims



An experimental and disc shaped flying craft or "space-craft" so constructed that the bottom half of the flying craft is raised or "deflected" to a higher level from its normal horizontal position, that is, at a right angle to its axis of rotation, with an effect on the gravity pull. The flying craft has means for obtaining a cancelling effect or action on the gravity pull, by the use of centrifugal force, with a loss in weight of the disc shaped flying craft. The bottom surface of the disc shaped flying craft is conical in shape and its top surface is convex

in shape. The craft is provided with radially extending tubular arms, each of which contains a supply of mercury which under centrifugal pull slides at an upward angle to the other edge of the disc shaped flying craft thereby adding mass and weight to the deflected centrifugal pull thus increasing the power of the pull.

3,537,670 ARTICLE OF FURNITURE INCORPORATING ELONGATED TUBING CLUSTER SUPPORT AND LOCKING MEANS THEREFOR

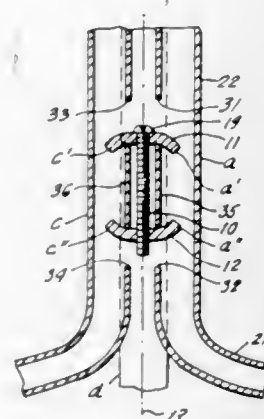
David C. Dionne, Mattapoisett, Mass., assignor to R & D Manufacturing Corporation, New Bedford, Mass., a corporation of Massachusetts

Filed May 27, 1968, Ser. No. 732,130

Int. Cl. F16m 11/20

U.S. Cl. 248-188.7

6 Claims



An article of furniture is provided with a support or pedestal comprised of a cluster of tubes rigidly secured together by a locking device having a pair of multiprong brackets and a bolt. The two brackets are displaced from each other along the axial length of the tubes with at least one prong of each bracket sitting within an aperture in each of the tubes of the cluster. The bolt passes through one of the brackets and threadably engages the second to cause the drawing together of the two brackets upon the tightening of the bolt. The prongs of the bracket are angled in a manner as to cause the tubes to be drawn towards the center and secured in a cluster upon the drawing together of the brackets by the tightening of the bolt.

3,537,671 BRACKET FOR USE WITH WALLBOARD

Raymond G. Wenthe, Fair Lawn, N.J., assignor to Perma-Fix Co., Fair Lawn, N.J., a corporation of New Jersey

Continuation-in-part of application Ser. No. 606,404, Dec. 30, 1966. This application Sept. 25, 1967, Ser. No. 675,737

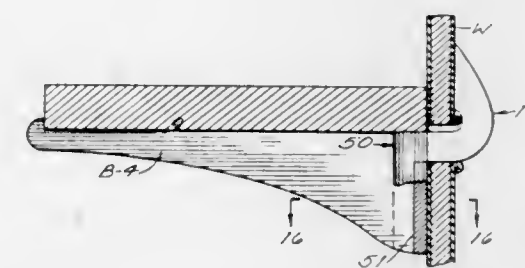
Int. Cl. A47h 96/06

U.S. Cl. 248-220.5

14 Claims

Bracket means for use with wallboard including a planar bracket comprising a body having a forward edge and a hook member projecting upwardly from the body and terminating in a pointed tip. The hook member has a rearward edge which extends above the forward edge, these edges lying in corresponding parallel planes which may be spaced apart a distance equal to or greater than the thickness of the wallboard. The bracket is mounted on the wallboard by inserting a portion of the hook member through and beyond a slot in the wallboard and then disposing the bracket so that the forward edge of the body is positioned along the front surface of the wallboard and the rear edge of the hook member is positioned

along the rear surface of the wallboard when said distance between the edges is substantially equal to the thickness of the wallboard. One form of the bracket means includes a clip associated with the bracket to prevent movement of the bracket relative to the wallboard



about an axis parallel to its edges. Another form of the bracket means includes a U-shaped shim which engages the bracket body and which is adapted for use therewith when said distance between the edges is greater than the thickness of the wallboard.

3,537,672 PASSIVE CAGING MECHANISM

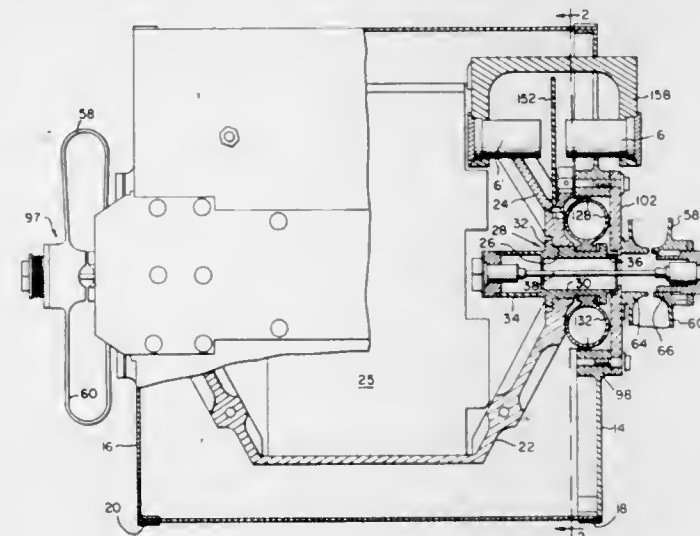
T. O. Paine, Acting Administrator of the National Aeronautics and Space Administration, with respect to an invention of Jerzy George Zaremba, Rolling Hills Estates, Calif.

Filed Feb. 11, 1969, Ser. No. 798,278

Int. Cl. F16f 13/02, 15/00

U.S. Cl. 248-358

5 Claims



A caging mechanism for protecting the gimbals of a guidance system from vibrations generated during launch of a spacecraft comprising a three stage passive vibration damper including a circumferentially spaced plurality of spring hoops mounted on a sleeve secured to and surrounding a mounting shaft for the gimbals, the spring hoops frictionally engaging the gimbals to damp relatively low amplitude, three-dimensional vibrational movement of the gimbals, the spring hoops being of sufficient stiffness upon compression to damp intermediate amplitude vibrational motion of the gimbals, the shaft mounting said gimbals being impinged upon hard stops for restraining the movement of the gimbals beyond a maximum allowed, relatively large amplitude vibrational movement, the gimbals mounting a pair of circumferentially spaced retractable spring loaded pins providing soft stops for restraining rotation of the gimbals.

3,537,673 DRAWING BOARDS

Jan Eric Karmazin, % Cerro de Pasco Corp., Box 137, Inca House, La Oroya, Peru

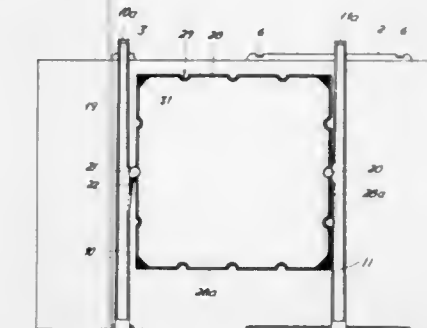
Filed Feb. 20, 1968, Ser. No. 706,966

Claims priority, application Sweden, Feb. 24, 1967, 2,625/67

Int. Cl. A47b 97/02

U.S. Cl. 248-361

7 Claims



Drawing sheets are individually mounted on plates which have spaced recesses around their edges. Rulers having projections are mounted on a drawing board. A selected plate is easily mounted on the drawing board by the projections fitted into the desired recesses.

3,537,674 ADJUSTABLE VEHICLE SEAT

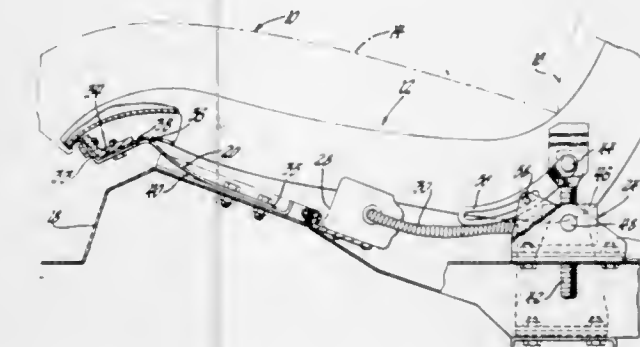
Peter M. Kobrehel, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 6, 1967, Ser. No. 680,838

Int. Cl. B60n 1/02

U.S. Cl. 248-372

2 Claims



An adjustable vehicle seat characterized in that it has a leaf spring that connects the forward end of the seat to a base support and serves as a counterbalance to ease the movement of the seat during vertical adjustment.

3,537,675 SWIVEL

Izchak Cycowicz, Brooklyn, N.Y., assignor to Mohasco Industries, Inc., Amsterdam, N.Y., a corporation of New York

Filed Aug. 15, 1968, Ser. No. 752,975

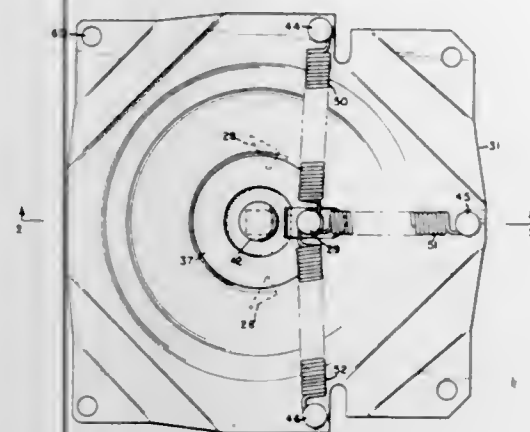
Int. Cl. A47c 3/18

U.S. Cl. 248-417

6 Claims

A memory swivel device comprising a spring biased plate resiliently connected to a second plate by spring means mounted exteriorly of the swivel. The two plates are mounted in face-to-face relation, and one of the plates has a lug extending from one of its surfaces through an

aperture in the other plate. An extension spring or springs are connected between a lug and a point or points, respectively, on the outside surface of the second plate so that



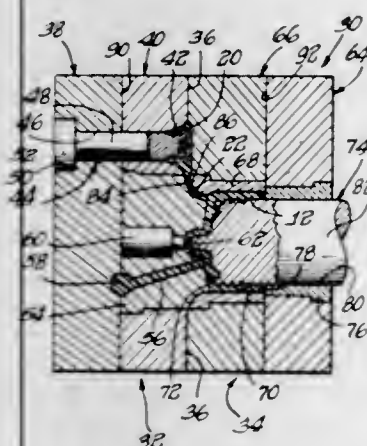
upon rotation of one of the plates relative to the other plate, a force will be applied to return the one plate to its normal at home position.

3,537,676 MOLD APPARATUS FOR CLOSURE WITH INTEGRAL CAP

Christian F. Miller, Palos Park, Ill., assignor, by mesne assignments, to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Dec. 20, 1967, Ser. No. 692,235
Int. Cl. B29d 1/00

U.S. Cl. 249—59

4 Claims



In molding apparatus for producing a threaded bottle cap having an auxiliary reclosure element, a pair of die plate units defining radially spaced mold cavities for the cap proper and for the reclosure element respectively and a pair of core pins which are retractable in opposite directions, one core pin cooperating to define the reclosure element cavity and the second core pin being externally threaded to cooperate in defining the cavity for the cap proper.

3,537,677 METHODS AND APPARATUS FOR ENCAPSULATING ELECTRICAL WINDINGS

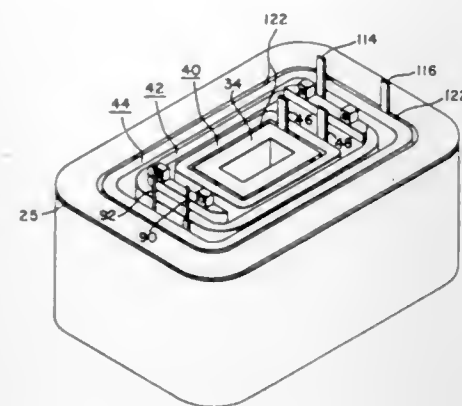
John F. Cotton, Hubbard, Ohio, and Edgar R. Eley, Sharon, and Robert A. Kurz, West Middlesex, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 17, 1967, Ser. No. 675,840
Int. Cl. B22d 19/00; B29d 27/04

U.S. Cl. 249—83

8 Claims

A mold formed of an expanded cellular plastic or resin system, such as a rigid polyurethane foam. The foam mold has a resinous coating disposed in the mold cavity

which functions as a liner, and also as a noncontaminating mold release means. An upstanding metallic center



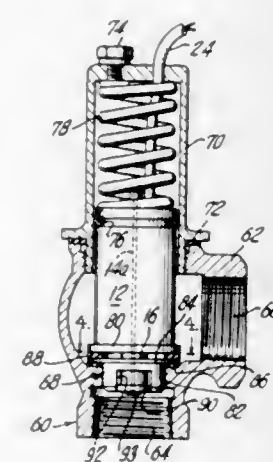
post is fixed in the mold cavity by a stud having one end embedded in mold.

3,537,678 THERMAL MOTOR ACTUATED VALVES

Kalman Shmueli, Upper Montclair, and Robert T. Scott, Boonton Township, Morris County, N.J., assignors to International Controls Corp., Fairfield, N.J., a corporation of Florida
Filed Aug. 19, 1968, Ser. No. 753,359
Int. Cl. F03g 7/06; F16k 31/02

U.S. Cl. 251—11

7 Claims



Valves are actuated by thermal motors. The valve assembly includes a valve housing which carries a thermal motor means. The thermal motor means includes an outer cylinder member and a piston member axially slidable through the outer cylinder member. The piston member has elongated portions of different diameters respectively extending fluid-tightly through end walls of the cylinder member and defining between themselves in the interior of this cylinder member an annular working surface to be acted upon by the pressure of an expandable material within the cylinder member, the expandable material expanding when heated. The valve housing carries an annular valve seat defining an opening through which the fluid flows when the valve assembly is open, and a valve closure coacts with the valve seat to engage the latter for closing the valve assembly and for opening the valve assembly when displaced from the valve seat. One of the above members of the thermal motor means coacts with the valve closure for displacing the latter from the valve seat when the temperature of the material within the thermal motor means increases.

3,537,679 CRANKCASE DRAIN APPARATUS

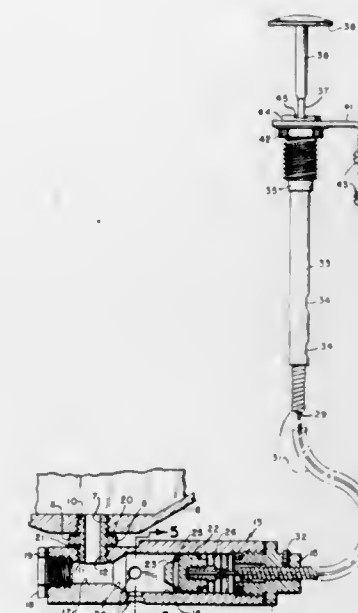
William C. McCarthy, 12000 NE. 16th Ave H-812 33161, and Evaristo Bulnes, 8511 SW. 27th St. 33155, both of Miami, Fla.

Filed Nov. 12, 1969, Ser. No. 875,737

Int. Cl. F16k 51/00

U.S. Cl. 251—144

7 Claims



A device including a valve for connection in the drain opening of the crankcase of an automobile for use in draining oil from it, the valve being operable, through a cable connected to a remote operator preferably on the dashboard of a vehicle. The valve is provided with an entrance port and a plurality of discharge ports and a valve member normally sealing the oil against drainage from the crankcase, the valve member dwelling intermediate the ports, but operable by the cable means upon an application of a pulling force to shift the valve member to an open position so that used crankcase oil can drain, without the need of crawling under the vehicle to open the crankcase drain opening.

3,537,680 CONTROL VALVE

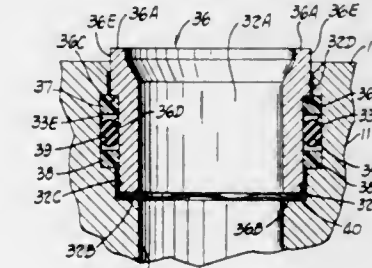
Theodore S. Zajac, Rocky River, Ohio, assignor, by mesne assignments, to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 26, 1968, Ser. No. 708,184

Int. Cl. F16k 3/10

U.S. Cl. 251—172

11 Claims



A valve mechanism having a sealing sleeve disposed in a port of the valve body adapted to sealingly engage a rotatable valve face in the cavity of the valve body, the sleeve having an annular shoulder extending radially outward therefrom and subjected to fluid pressure from the discharge side of the port leaking between the sleeve and port wall, which fluid pressure urges the sleeve toward

the valve face, the sleeve having opposite end surfaces subject, respectively, to the fluid pressure on the inlet side and the discharge side of the port, the port wall having a groove formed therein outwardly of the sleeve, a resilient sealing member disposed in said groove and extending radially inward into sealing engagement with the sleeve, the sealing member being supported by the port wall against fluid pressure from the discharge side of the port to direct such discharge fluid pressure against said annular shoulder, and a spring biasing the sleeve toward said valve face.

3,537,681 VALVE GATE WITH DEFLECTABLE FACES

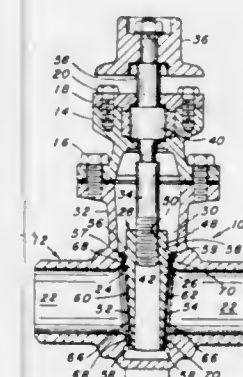
Edward N. Wrenshall, Ross Township, Allegheny County, Pa., assignor to Kerotest Manufacturing Corp., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 24, 1968, Ser. No. 700,124

Int. Cl. F16k 3/14

U.S. Cl. 251—193

4 Claims



A metallic valve gate having deflectably mounted rigid base members. The valve gate has a pair of generally flat side walls on opposite sides thereof. Each side wall has an annular peripheral shoulder portion defining a recessed portion in the side wall. A resilient member is adhesively bonded to the side wall within the recessed portion. A rigid annular face member, which is preferably formed from a non-corrosive material, is adhesively bonded to the resilient member within the recessed portion and extends outwardly therefrom a distance greater than the annular peripheral shoulder portion. The face member is, therefore, deflectably mounted to absorb stresses across the valve gate and is adapted to deflect to compensate for stresses induced by displacement or non-alignment of the valve seats.

In another form, an inner annular shoulder smaller than and disposed concentrically with the outer annular shoulder is provided to form an annular recessed portion therebetween. In this form, the resilient member and rigid face member are both annular rings and are disposed within the annular recessed portion defined by the two annular shoulders. The adhesive employed to bond the opposite sides of the resilient member to the valve gate side wall and the rigid face member is stable at elevated temperatures and inert to certain gaseous materials.

3,537,682 HIGH TEMPERATURE BALL VALVE

Werner K. Priese, Barrington, Ill., assignor to Hill-McCanna Company, Carpentersville, Ill., a corporation of Delaware

Filed Jan. 12, 1968, Ser. No. 697,518

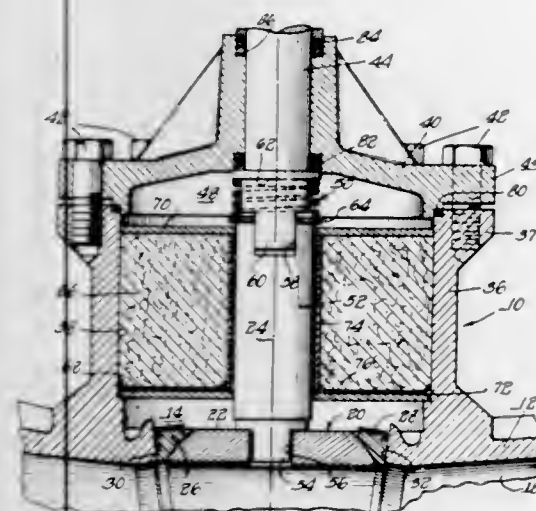
Int. Cl. F16k 41/00, 43/00

U.S. Cl. 251—214

5 Claims

For controlling very hot fluids, a ball valve having an internal chamber space receiving fluid under the highest line pressure applied to the valve and containing within a

high temperature zone of the chamber space a flow control assembly that is dynamically tightened and operated by tightening spring and operating structure accommo-



dated in a low temperature zone of the chamber space which is effectively insulated thermally from the high temperature zone of the chamber space.

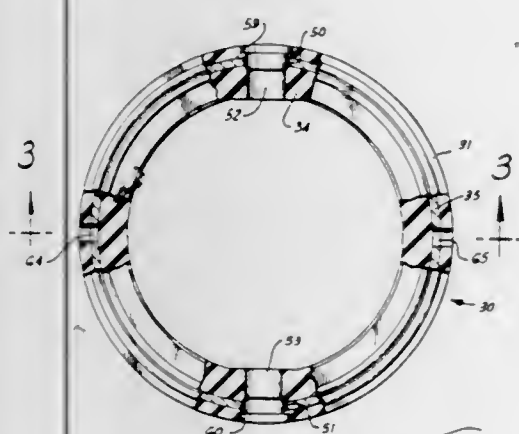
3,537,683

VALVE SEAT FOR A BUTTERFLY VALVE AND METHOD FOR MAKING THE SAME

Arthur H. Snell, Jr., Houston, Tex., assignor to Keystone Valve Corp., Houston, Tex., a corporation of Texas
Continuation-in-part of application Ser. No. 697,817, Jan. 15, 1968. This application Nov. 4, 1968, Ser. No. 772,972

Int. Cl. F16k 1/22; B22c 9/24
U.S. Cl. 251-306

6 Claims



The valve seat is an annular body of rubber with a rigid tubular reinforcing member molded therein. The annular body is compressed longitudinally when in service and space is provided for the rubber displaced by this compression by beveling the bore of the seat adjacent each end. The reinforcing member for the seat is held in position in a mold cavity to be embedded in the rubber by four locating pins. Two pins extend across the cavity through openings in the member and form aligned openings in the seat to receive the valve stem. The other two locating pins extend into the cavity only far enough to engage openings in the member. The pins are spaced 90° apart around the mold to hold the member against movement during the molding of the rubber body in the annular cavity. The last-mentioned locating pins, when withdrawn after the molding operation, will leave small spaces or chambers extending from the outer surface of the rubber or elastomer portion of the seat into the openings in the

reinforcing member, which may serve the useful purpose, in the event the openings through the reinforcing member extend all the way through, of providing an area the size of the opening through the reinforcing member which is bridged only by elastomer which is continuous over the opening in the reinforcing member inwardly thereof, and hence provides an area having definite limitations on the interior pressure within the valve which it will hold. Pressures exceeding such value will cause an outward bulge through the opening in the reinforcing member and cause the valve to leak past the disc at that point, thus providing both a definite safety limit beyond which the valve will leak, and a definite location at which leakage will occur. If this result is not desired, such opening or cavity may be filled and finished flush with the outside surface of the seat to prevent such bulging and leakage.

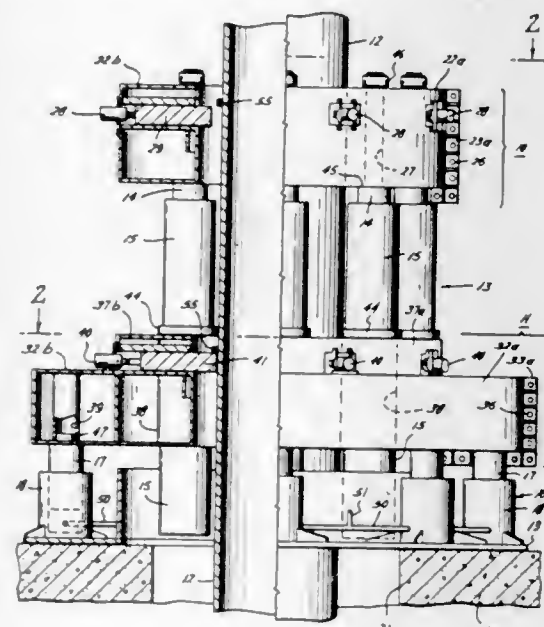
3,537,684

PIPE HANDLING APPARATUS

Joe C. Stine and Arthur L. Seljos, Houston, Tex., assignors to Joe Stine, Inc., a corporation of Texas
Filed May 23, 1968, Ser. No. 731,510

Int. Cl. B66f 1/00
U.S. Cl. 254-106

4 Claims



Pipe handling apparatus for raising or lowering pipe, particularly large diameter casing pipe, into a well bore or mine shaft or the like. The apparatus includes upper and lower releasable pipe clamping assemblies each having a central opening through which the pipe passes. A primary jack system is located between the upper and lower pipe clamping assemblies for raising and lowering the upper assembly relative to the lower assembly. A secondary jack system is located between the lower pipe clamping assembly and the support surface above which the apparatus is resting for automatically leveling the pipe handling apparatus. The apparatus is constructed so that it may be readily dismantled for transportation purposes.

3,537,685

TOOL FOR ADJUSTING CAMBER AND CASTOR OF VEHICLES

Rafael A. Gregory, deceased, late of Cleveland, Ohio, by Raymond A. Stachewicz, administrator, Garfield Heights, Ohio, assignor to Robert A. Schurr, Solon, Ohio

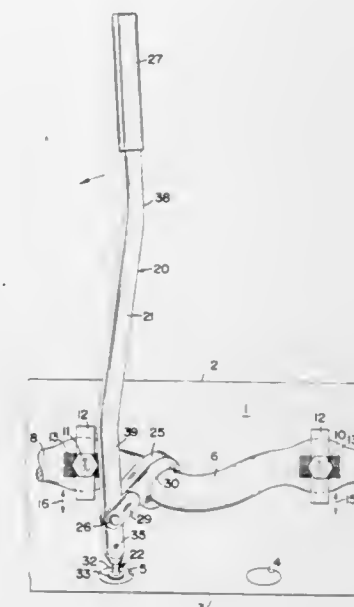
Filed Apr. 16, 1968, Ser. No. 722,818
Int. Cl. B66f 3/00

U.S. Cl. 254-131

4 Claims

A tool for adjusting camber and castor of motor vehicles is provided with a rodlike body which is slightly S-shaped to increase the range of permissible adjustments

and a force-limiting replaceable tip which is adjustable as to length is mounted in a cavity at the lower end of the body to protect the tool against irreparable damage. An arm having at its free end an enlarged portion with



a transverse, generally inverted U-shaped opening therein for receiving the cross-member of an A-frame that carries the wheel suspension is pivotally mounted on the lower portion of the body.

3,537,686

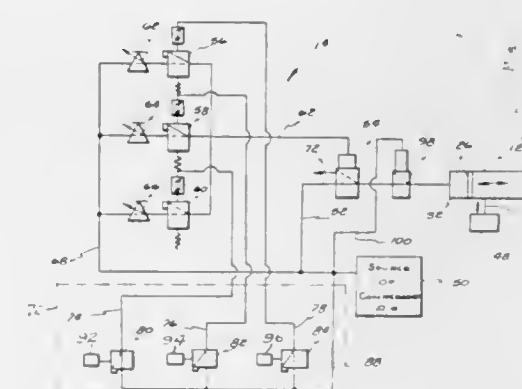
HOIST AND BALANCING APPARATUS

Lorne J. McKendrick, 9212 Greenfield Road, Detroit, Mich. 48126

Filed May 31, 1968, Ser. No. 733,610
Int. Cl. B66d 1/36

U.S. Cl. 254-168

16 Claims



A pneumatic hoist in which a supported cylinder and a piston in the cylinder, connected to a load-attachment means, form a chamber for the introduction of compressed air which acts on the piston to develop a lifting force. A system is disclosed for controlling the pressure of compressed air admitted into the chamber. The system is adapted to selectively introduce air having one of three adjustable predetermined pressures chosen to balance either the weight of the load-attachment means, the combined weight of the load-attachment means and the load, or the weight of a load greater than the combination in order to lower, suspend, or raise the load. A safety valve in the system is arranged to trap the air in the cylinder behind the piston in the event of loss of source pressure so that a suspended load cannot accidentally drop.

3,537,687

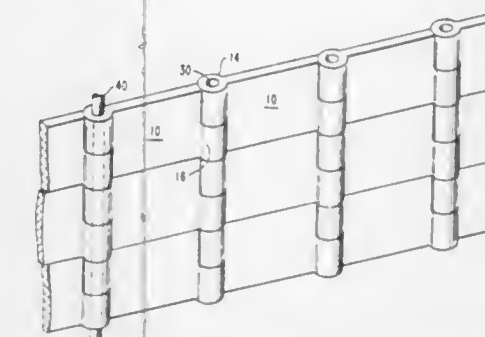
GARDEN FENCE AND WALL

Philip Adelman, 8677 Evergreen St., Apt. D, South Gate, Calif. 90280

Filed Sept. 25, 1967, Ser. No. 670,108
Int. Cl. E04h 17/16

U.S. Cl. 256-19

10 Claims



A wall construction is provided in which standard block units having a central body portion and opposite end shoulder portions are interconnected to form a continuous wall. The end shoulder portions of adjacent blocks are interconnected by metal rods extending through apertures therein to form vertical support columns, and the blocks may be pivoted about the metal rods to form zig-zag or straight wall configurations. Vertical spaces between the central body portions of adjacent blocks may be provided by extending the height of the end shoulder portions or by using separate extension elements, and the blocks may be integrally fabricated or assembled from prefabricated parts.

3,537,688

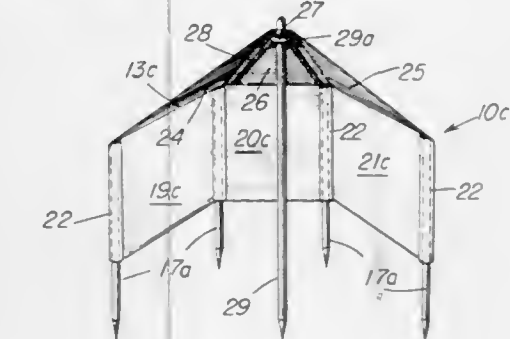
CONVERTIBLE WINDBREAK

Bertha Stein, 1981 Yorktown Blvd., Toms River, N.J. 08753

Filed Dec. 16, 1968, Ser. No. 783,937
Int. Cl. E04h 17/16

U.S. Cl. 256-24

2 Claims



This specification discloses a portable, collapsible, economical and practical device defining a multi-sectioned windbreak for protection against wind and sand in gardens, patios; at beaches, poolsides and lakesides. The device comprises a combination of a suitable wind-impervious material interspersed with mutually spaced ground anchoring poles running transversely thereto. The device can be converted into any one of several different configurations, depending upon the number and size of its separate windbreaking sections. It can also be devised as a winter protection for shrubs and the like.

3,537,689

WASTE MATERIAL TREATING APPARATUS

Joseph B. Ferguson, Jr., Flushing, N.Y., and Ian Westwood-Booth, Hackensack, N.J., assignors to Federated Waste & Pollution Control Corporation, New York, N.Y., a corporation of New York

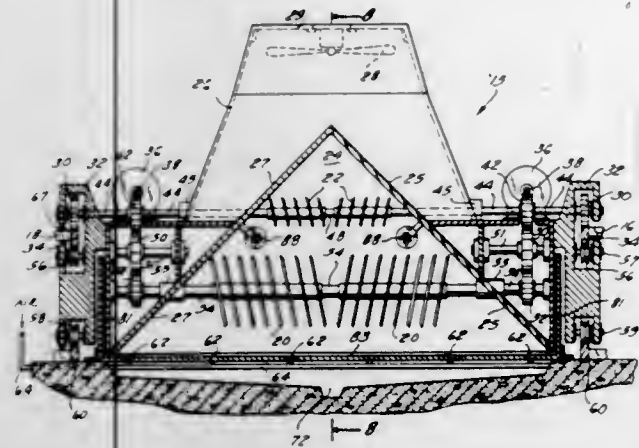
Filed June 14, 1968, Ser. No. 737,112
Int. Cl. B01f 15/00

U.S. Cl. 259-2

19 Claims

A waste material treating apparatus is moved along an elongated mass of waste material and causes successive

portions of the waste material to be thoroughly agitated and aerated, and thereafter deposited in an elongated pile of predetermined size and shape. Means are provided for



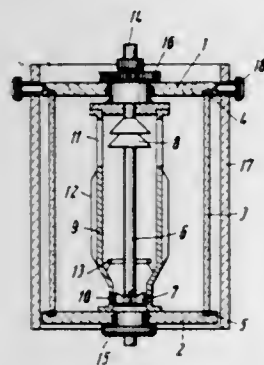
turbulently mixing the material with air while the material is confined within a chamber of appropriate volume. The apparatus can also be designed to function as a pile-shifting apparatus.

3,537,690 APPARATUS FOR AGITATING FLUIDS

Hans Muller, Alte Landstrasse 415,
Mannedorf, Zurich, Switzerland
Filed Dec. 19, 1968, Ser. No. 785,100
Claims priority, application Switzerland, Dec. 21, 1967,
17,905/67
Int. Cl. B01f 7/16

U.S. Cl. 259-66

7 Claims



An apparatus for agitating fluids includes a vessel having two end walls and a circumferential wall of transparent material which is liable to shatter under certain conditions. Agitating means is located within the vessel for agitating the contents thereof. A mechanical protective shield is provided and can be affixed by releasable coupling means so as to surround the exterior of the circumferential wall, to be used in conditions where the latter is liable to shatter so as to protect persons and equipment in the vicinity of the apparatus. The shield can be removed when the conditions likely to lead to shattering of the circumferential wall do not obtain.

3,537,691 JUICE MIXER

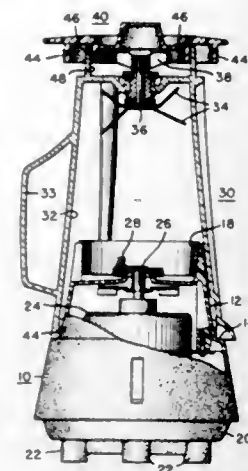
Takeshi Tsuruta and Miyoshi Miwa, Kamakura, Japan,
assignors to Mitsubishi Denki Kabushiki Kaisha,
Tokyo, Japan
Filed Feb. 18, 1969, Ser. No. 800,166
Claims priority, application Japan, Feb. 23, 1968,
43/13,380
Int. Cl. B01f 7/16

U.S. Cl. 259-108

4 Claims

The disclosed mixer includes a main body in the form of a frusto-cone and a cup complementary in shape to the main body to be capable of overlapping the main body for packing purposes. To limit an extent to which the

cup overlaps the main body, a peripheral shoulder is disposed on the outer periphery of the main body. Alternatively

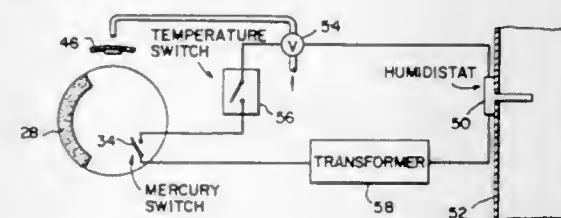


natively angularly spaced longitudinal ridges may be disposed on the inner periphery of the cup.

3,537,692 HUMIDIFIER

Leroy Vick, 107 Aberdeen Road, Rockville, Md. 20850
Filed Aug. 29, 1967, Ser. No. 664,042
Int. Cl. B01f 3/04, 15/06
U.S. Cl. 261-39

1 Claim



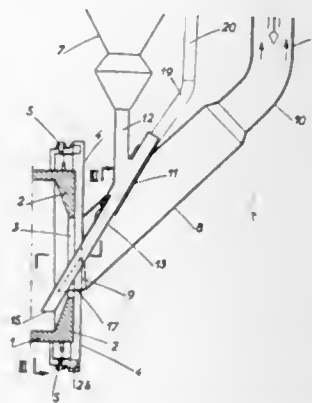
A device for humidifying air emitting from a hot air furnace which includes an absorbent material within a hot air plenum associated with a source of water discharging onto the absorbent material under influence of electrically operated control over the water source, said electrical control being responsive to the degree of saturation or weight of the absorbent material and a humidistat in circuit with said controls.

3,537,693 SYSTEM FOR CONNECTING ROTARY KILN FOR TREATING MATERIALS TO AN INSTALLATION FOR PREHEATING THE MATERIALS VIA THE GASES LEAVING THE KILN

René Bovagne and Gérard Deynat, Chalon-sur-Saone,
France, assignors to Societe des Forges et Ateliers du
Creusot, Paris, France, a company of France
Filed Sept. 16, 1968, Ser. No. 759,837
Claims priority, application France, Feb. 20, 1968,
140,574
Int. Cl. F27b 7/00

U.S. Cl. 263-33

3 Claims



A rotary kiln from which extends a duct for connecting gases from the kiln to a preheater and to which is

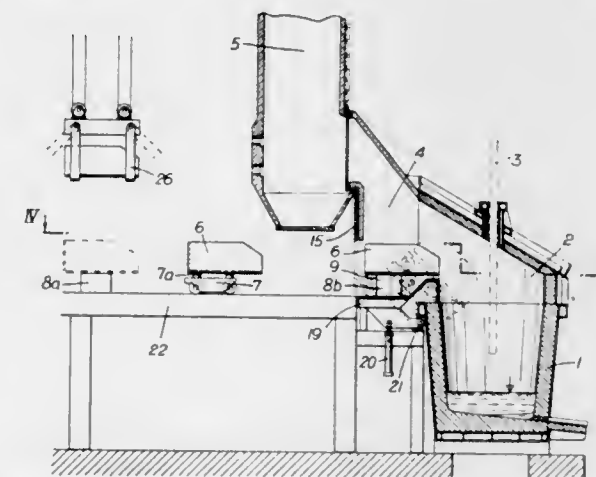
coupled a device for feeding preheated material, the device outlet being in the kiln and below the lower edge of the duct at the kiln.

sealing enclosure which encloses a rotatable bowl having a removable side wall.

3,537,694
PLANT COMPRISING A STATIONARY, REFRAC-
TORY-LINED REACTION VESSEL
Rudolf Rinesch and Gerald Kaspar, Linz, and Josef Lam-
brecht, Haid, Austria, assignors to Vereinigte Oster-
reichische Eisen- und Stahlwerke, Aktiengesellschaft,
Linz, Austria, a company of Austria
Filed June 16, 1967, Ser. No. 646,685
Claims priority, application Austria, July 14, 1966,
A 6,757/66
Int. Cl. C21c 5/46

U.S. Cl. 266-13

6 Claims

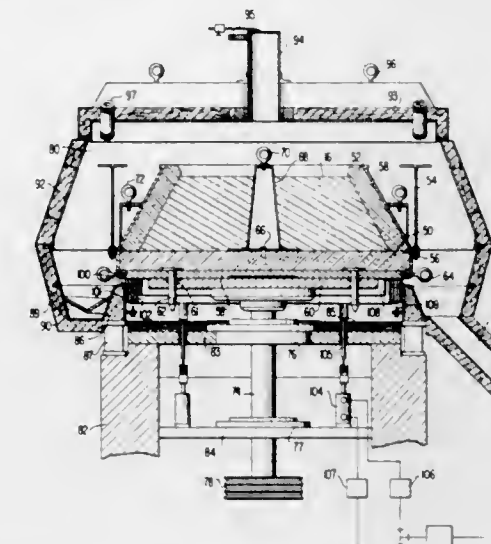


The invention relates to a scrap charging and pre-heating chamber joined to the mouth of a stationary reaction vessel wherein the dimension of said chamber transversely of the direction of the flue gas stream is substantially equal to the diameter of the vessel mouth to enable quick pre-heating of large amounts of scrap using the flue gas stream for the pre-heating process. Rail tracks arranged in the scrap pre-heating chamber and adapted to adjoin corresponding tracks provided outside of said chamber enable quick delivery of scrap to said chamber, and tilting means arranged within the chamber enable quick feeding of the pre-heated scrap to the refining vessel.

3,537,695
APPARATUS FOR CENTRIFUGING
Grover C. Robinson, Jr., and Ogle R. Singleton, Jr.,
Richmond, and John L. Jorstad, Jr., Glen Allen, Va.,
assignors to Reynolds Metals Company, Richmond,
Va., a corporation of Delaware
Filed Jan. 19, 1968, Ser. No. 699,183
Int. Cl. B04b 1/02, 1/12

U.S. Cl. 266-37

19 Claims

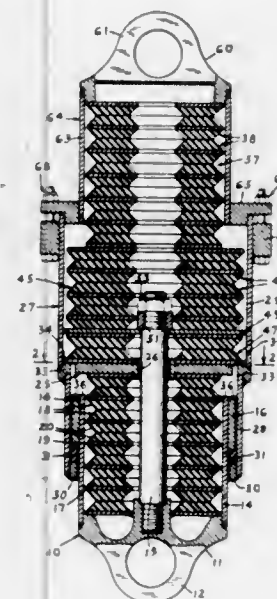


Apparatus for separation of liquid and solid phase metals from each other by centrifuging, comprising a

3,537,696
MULTISTAGE SUSPENSION
Robert M. Webster, Jr., Emmaus, Pa., assignor to Mack
Trucks, Inc., Allentown, Pa., a corporation of New
York
Filed May 15, 1968, Ser. No. 729,343
Int. Cl. B60g 11/22

U.S. Cl. 267-63

16 Claims

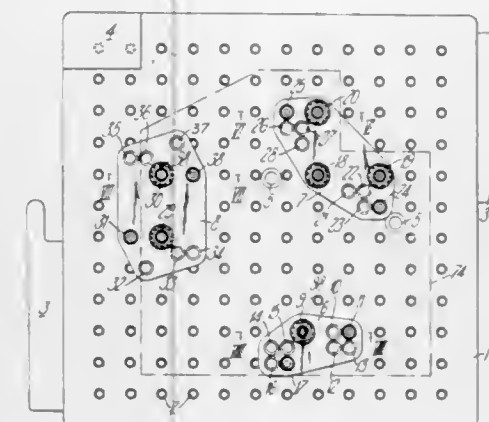


A multistage suspension for resiliently supporting a first member relative to a second member under variable load conditions comprising two or more spring stages, one more readily compressible than the other stage or stages, a mechanism for limiting the compression of the more readily compressible spring stage and transferring the load to the less compressible spring stage or stages in turn, and a mechanism for cushioning the rebounding of the suspension.

3,537,697
DEVICES FOR SECURING OR POSITIONING
WORKPIECES FOR MACHINING OPERATIONS
Peter Grant Davis, Deptford, London, England, assignor,
to The Molins Organisation Limited, London, England,
a British company
Filed Apr. 4, 1968, Ser. No. 718,887
Claims priority, application Great Britain, Apr. 14, 1967,
17,248/67
Int. Cl. B23q 3/06

U.S. Cl. 269-50

7 Claims



A common form of pallet, to which different work-pieces can be secured, has tapped holes arranged at the

junctions of a square grid so that support elements can be screwed to the pallet in different positional relationships to provide different support arrangements. The support elements have fixing holes arranged at junctions of a square grid of smaller spacing than the grid of tapped holes, and some support elements are hollow to accommodate different forms of fixing and locating devices for a workpiece. Some support elements have associated clamps.

3,537,698

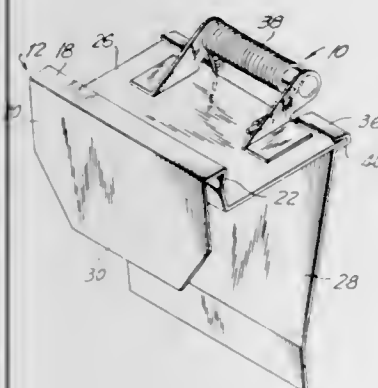
ELECTRICAL OUTLET BOX MOUNTING JIG
Joseph R. Callanan, Whitman, Mass., assignor to Cal-Tav, Inc., Cambridge, Mass.

Filed Nov. 1, 1968, Ser. No. 772,565

Int. Cl. B25b 5/04, 5/06

U.S. Cl. 269—98

10 Claims



A jig for mounting electrical outlet boxes to building wall and ceiling members having a three-sided open loop section adapted to grasp a wall of an outlet box, an alignment arm section extending from the loop section to align the box and jig on a building member, and a leg member section extending from adjacent the arm section to hold the jig and box on a building member.

3,537,699

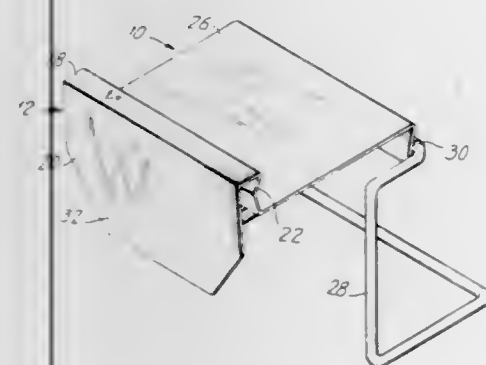
JIG FOR ELECTRICAL OUTLET BOX MOUNTING
Joseph R. Callanan, Whitman, Mass., assignor to Cal-Tav, Inc., Cambridge, Mass.

Filed Nov. 1, 1968, Ser. No. 772,567

Int. Cl. B25b 5/04

U.S. Cl. 269—98

10 Claims



A jig for mounting electrical outlet boxes to building wall and ceiling members having a three-sided open loop section adapted to grasp a wall of an outlet box, an alignment arm section extending from the loop section to align the box and jig on a building member, and a leg member section extending from adjacent the arm section to hold the jig and box on a building member.

3,537,700 METHOD OF MOLDING PLASTIC COATINGS TO BODIES

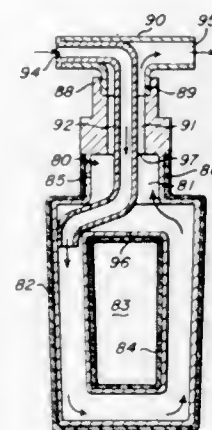
Robert C. Schenck, Jr., and Herbert C. Ferris, Dayton, Ohio, assignors to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York

Original application Oct. 19, 1965, Ser. No. 497,869, now Patent No. 3,459,213. Divided and this application Aug. 13, 1968, Ser. No. 772,876

Int. Cl. B29c 17/07

U.S. Cl. 264—112

6 Claims



A corrosion resistant coating of polytetrafluoroethylene is formed on a base member by an isostatic process in which an elastomeric pressure transmitting member is assembled in spaced relation to the base member. The space between the base member and the elastomeric pressure transmitting member is filled with a granular polymeric polytetrafluoroethylene powder and thereafter exposed to pressure such that all surface portions of the pressure transmitting member are exposed to essentially the same amount of pressure. The isostatic compression compacts the powder of polytetrafluoroethylene to the base member to form a preform coating on a base. The base and the preform coating are removed and heated to a temperature above the gel point of the polytetrafluoroethylene for a period of time sufficient to coalesce the preform into a coherent plastic member free of pin-holes and wherein essentially all portions of the plastic member have essentially the same density.

3,537,701

SPRING LOADED JACK LOCK ASSEMBLY

Dean A. Claycomb, 7059 Colony Drive,

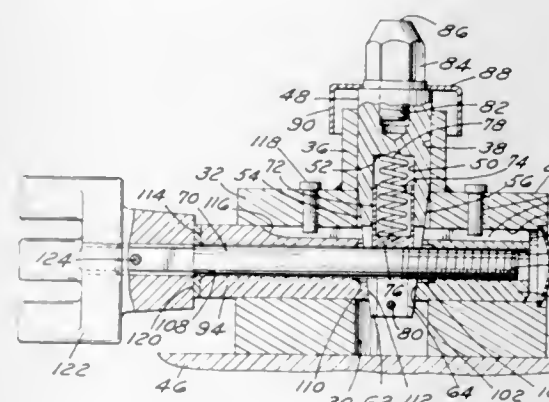
Walled Lake, Mich. 48088

Filed Aug. 21, 1967, Ser. No. 662,031

Int. Cl. B23q 3/10

U.S. Cl. 269—309

11 Claims



This disclosure relates to a spring loaded jack lock assembly or to a work supporting and locking device especially adapted for use with metal working machines. In finishing a casting or workpiece such workpiece is

supported at fixed points. In addition adjustable intermediate supporting means, such, for example, as one or more movable plungers are provided for holding the medial portion of the workpiece against distortion, deflection and vibration.

3,537,702

WORK HANDLING APPARATUS FOR USE WITH SEWING MACHINES

Robert L. Kosrow and James J. Matias, Hoffman Estates, Ill., assignors to Union Special Machine Company, Chicago, Ill., a corporation of Illinois

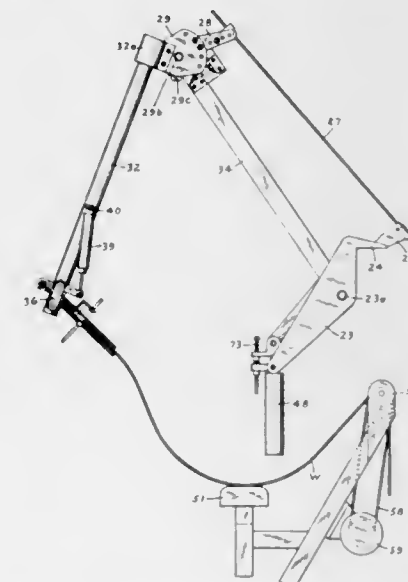
Filed Apr. 16, 1968, Ser. No. 721,745

Int. Cl. B65h 29/08, 5/14

U.S. Cl. 271—1

17 Claims

U. S. Cl. 271—74



Apparatus adapted to grip a limited area of the forward portion of a work piece, such as that which has passed through the stitch forming region of a sewing machine, to then straighten out or flatten a substantial width of said forward portion of the work piece, and to then deposit the work piece at a receiving station. Such receiving station may be a stacking bar, and the work piece may be deposited thereon, with substantially equal lengths depending from the opposite sides of the bar. The apparatus has various members operated by power supplied either in pneumatic, hydraulic or electrical form for performing the various operations mentioned above, including the conveying of successive work pieces through a substantial distance in the course of transferring them from one region to another. Means are provided for making various adjustments of the extents of movement of certain members to adapt the apparatus for the handling and proper delivery of work pieces of different sizes and configurations.

3,537,703

MANIFOLD SHEET SEPARATING DEVICE

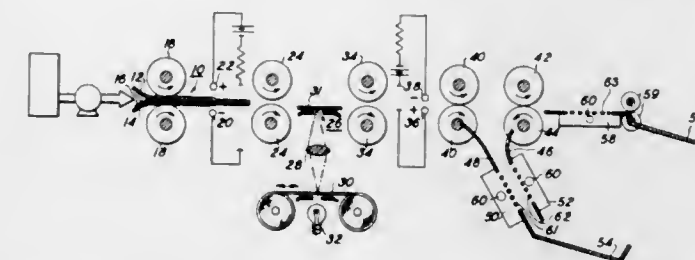
James H. Blow, Jr., Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Feb. 5, 1968, Ser. No. 702,898

Int. Cl. B65h 29/64

U.S. Cl. 271—18

4 Claims



Apparatus for separating sheets from a manifold package by use of counter-rotating rolls or the like to

3,537,704

SHEET FEEDING APPARATUS

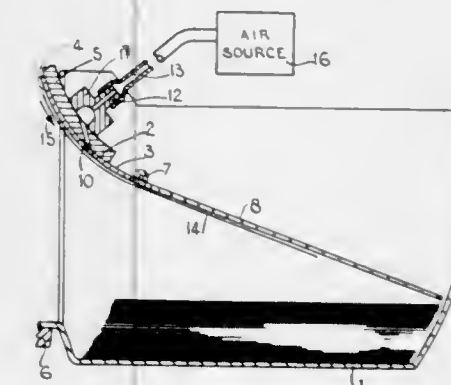
William Percy Bond, Langford, England, assignor to International Computers and Tabulators Limited, London, England, a British company

Filed May 9, 1968, Ser. No. 727,923

Claims priority, application Great Britain, May 16, 1967, 22,615/67

Int. Cl. B65h 29/24

1 Claim



A sheet feeding arrangement is disclosed in which sheets are fed along the surface of a guide by means of air streams issuing from the surface of the guide. At the end of the guide a hinged extension enters a sheet receptacle. As a sheet is fed along the hinged extension from the guide, it is arrested by an end wall of the receptacle and the air stream then strips the sheet from the extension. As the stack of sheets is built up in the receptacle, the extension pivots about the hinge.

3,537,705

SHEET FEEDER

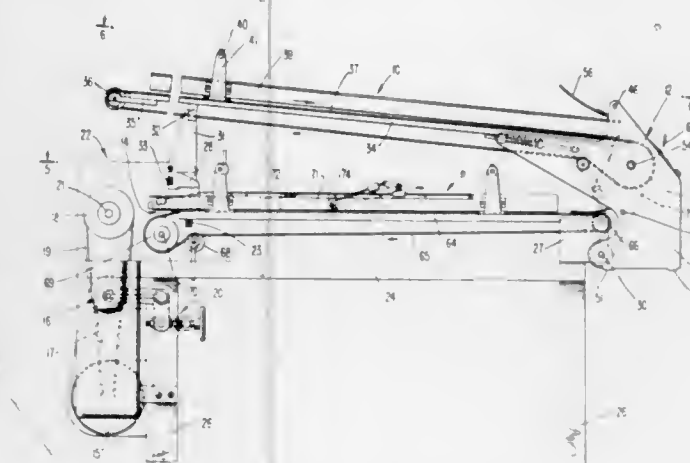
Owen L. Gore, Hillsdale, N.J., assignor, by mesne assignments, to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed May 14, 1968, Ser. No. 729,121

Int. Cl. B65h 5/02; B65g 37/00

U.S. Cl. 271—45

10 Claims



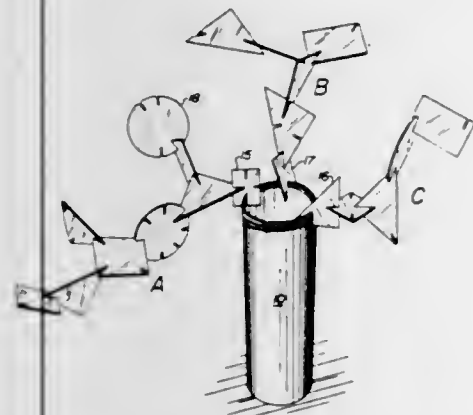
Apparatus for feeding sheets in sequence from a pile of sheets to a processing apparatus such as a sheet folding device. The apparatus includes two driven conveyors, the second of which is disposed above the first. The apparatus is selectively used in two manners, one requiring the use of both conveyors and the second requiring the use of only the first, lower conveyor. The present invention is particularly concerned with novel means whereby the second

conveyor is selectively coupled to the first conveyor to be driven thereby when the second conveyor is in operative position and whereby the second conveyor is uncoupled from the driving means for the first conveyor when the second conveyor is moved into inoperative position.

3,537,706
CONSTRUCTION GAME
Chester P. Heavener, Jr., 424 Junior Ave.,
Morgantown, W. Va. 26505
Filed Mar. 5, 1968, Ser. No. 710,594
Int. Cl. A63h 33/08

U.S. Cl. 273-1

6 Claims

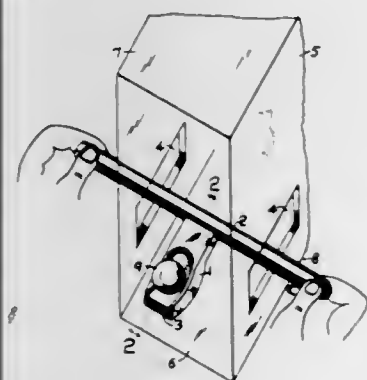


A game construction is disclosed that employs an upright hollow container of cylindrical shape representing a tree trunk and a group of differently shaped sets of playing elements that are adapted to be interlatched through slotted portions with respect to each other and the container to represent branches of the tree. The elements of each set are of the same shape with respect to each other and of different shape with respect to the other sets of the group and have a different number and arrangement of mounting slot portions that are adapted to interlatch with slotted portions in an upper lip edge of the container and with slotted portions of elements of the same set and of the other sets to extend outwardly from the container, and when of sufficient build-up extension, to topple the container. The playing elements are shown of flat construction and of relatively the same thickness as the container which also serves to store the elements when they are dismounted with respect to each other and the container.

3,537,707
MANUALLY OPERATED PROJECTILE THROWING DEVICE FOR GAMES
Benjamin Goldberg, 603 Brighton Beach Ave.,
Brooklyn, N.Y. 11235
Filed May 13, 1968, Ser. No. 728,635
Int. Cl. A63b 65/12

U.S. Cl. 273-101

8 Claims



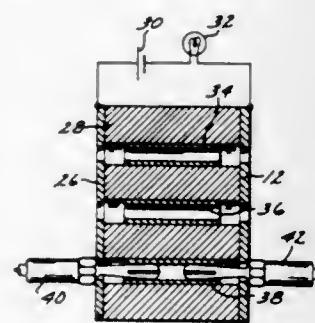
A projectile throwing device for games wherein a projectile, such as a small ball, is projected toward a target. The device comprises a projectile thrower, operating in a

transparent casing having: an open back for projectile flight therethrough; a bottom base, inclined for a projectile ball to roll down to the front wall of the casing; and elongated slots in the casing sidewalls for the thrower handle to project therethrough exteriorly, for manual operation thereof. The thrower is supported in the casing by its handle resting on the bottom of the slots. The slots are in elongated form to enable said handle, which is longer than the span between the casing sides, to be inserted therein; and to provide suitable space to move said handle to suitable positions and directions for aiming a projectile toward its target. The thrower is comprised of a holding member body formed with an elongated, shaft-like, handle extending across and beyond the sides at one end of the body; and a projectile-retaining, elongated, surface-recess extending from the opposite or throwing-end of said body, transversely toward the handle. The said recess is formed with a sloping lip at its throwing-end, for deflecting the path of a ball, being thrown, to a predetermined angle of departure of the ball from the thrower body, said angle being a factor in controlling the trajectory of the ball in flight. The mode of operating the device to pick up, aim, and throw the projectile, is as follows: With a projectile ball resting at the base and front wall in the casing, the player, holding the thrower handle ends, shifts the handle in the elongated slots so as to push the thrower body-recess lip against the lower part of the ball and said wall; then turns the handle to raise the thrower body up so that the ball rolls into said recess, to be held therein preliminary to being thrown; then shifts the handle to position the thrower into a desired direction of aim; then makes a quick turning-movement of the handle so that the thrower body turns with sufficient speed to throw the ball into space in the direction of whatever target it is aimed at. The device is adaptable for use with any of a variety of games of the character mentioned in the disclosure.

3,537,708
ELECTRICAL POSITION MATCHING GAME APPARATUS
Nicholas J. Carr, 5512 Santa Catalina,
Garden Grove, Calif. 92641
Filed Dec. 16, 1968, Ser. No. 784,150
Int. Cl. A63f 3/00

U.S. Cl. 273-130

10 Claims

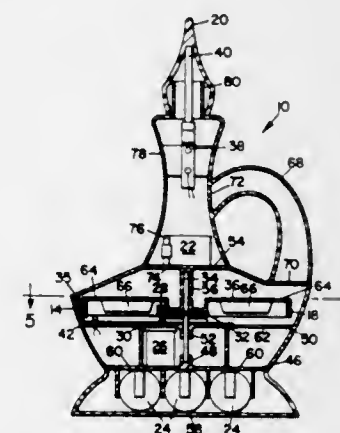


Position matching game apparatus comprising two game boards made of electrically conductive material mounted back to back over an insulating member which separates them. Corresponding positions of the two boards are marked by through openings formed axially each with the corresponding opening of the other board. Connectors imbedded in the insulating member, and insulated from the boards, are aligned with the board openings to receive conductive playing pieces which connect the connector with the board in which the piece is inserted. Connection of both boards to the same connector completes an indicating circuit.

3,537,709
COMBINATION FORTUNE TELLING AND SMOKE EMITTING DEVICE
Gerard P. O'Connell, West Springfield, Mass., assignor, by mesne assignments, to Baltimore Brushes, Inc., Boston, Mass., a corporation of Maryland
Filed Mar. 20, 1969, Ser. No. 808,859
Int. Cl. A63h 33/28

U.S. Cl. 273-161

6 Claims

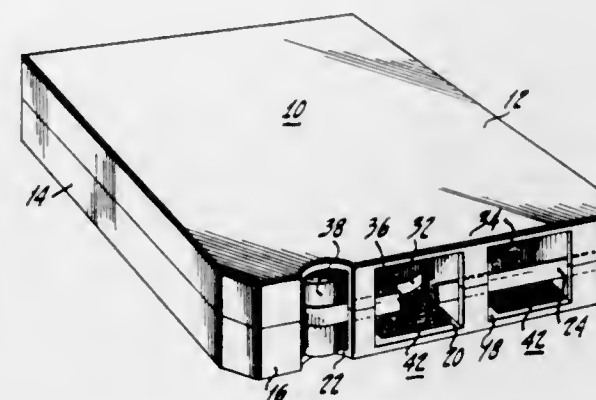


A battery-powered combination fortune telling and smoke emitting device comprising an outer casing of fanciful form, a disc-like ring carrying the "fortunes" and a smoke generating unit within the casing and actuable by removal of a cap from the casing, the disc-like ring rotating and the smoke generating unit emitting smoke so long as the cap is disengaged from the casing, and a slidable door selectively covering and uncovering a sight opening in the casing for selectively revealing and concealing the "fortune" on the disc-like ring, and a lamp for illuminating the "fortune" when the sight opening is uncovered.

3,537,710
CARTRIDGE DEBRIS TRAP
Warren R. Isom, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed Apr. 8, 1968, Ser. No. 719,311
Int. Cl. G11b 3/58

U.S. Cl. 274-47

5 Claims



A blocked pad is provided in a tape cartridge for the entrapment of loose debris produced during the operation of said cartridge.

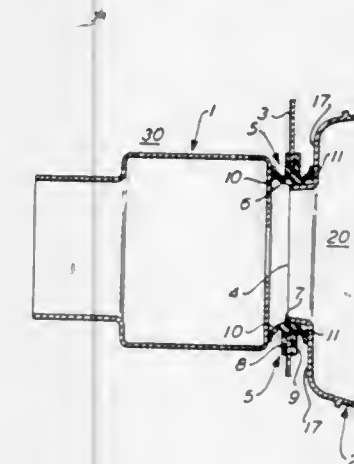
3,537,711
PRESSURE DIFFERENTIAL SEAL
Clifford R. Walker, Peabody, Mass., assignor to Proctor-Silex Incorporated, Philadelphia, Pa., a corporation of New York
Filed May 22, 1969, Ser. No. 827,004
Int. Cl. F16j 15/16; B61f 15/22

U.S. Cl. 277-12

5 Claims

A thin-walled, soft rubber, annular gasket has a base portion with four circumferentially continuous flanges ex-

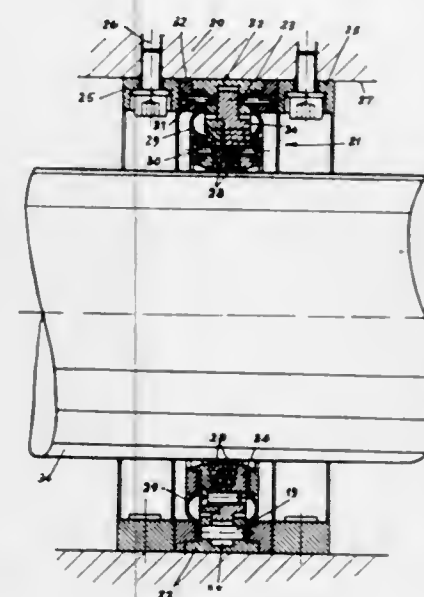
tending outwardly therefrom, the two intermediate flanges being substantially parallel and forming a channel adapted to securely receive the structural perimeter of an opening in a vacuum cleaner support plate and the other two flanges diverging from each other. The two other flanges, located on opposite sides of the support plate, are adapted to abut against a motor housing on one side and a vacuum



3,537,712
SHAFT SEAL
Erwin Paul Rüttener, Riehen, Basel, Switzerland, assignor to Buss A.G., Basel, Switzerland
Filed Nov. 20, 1967, Ser. No. 684,320
Claims priority, application Switzerland, Nov. 21, 1966, 16,761/66
Int. Cl. F16k 41/00; F16j 15/00

U.S. Cl. 277-30

1 Claim



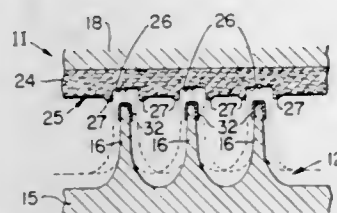
This invention provides a sealing device for a shaft which has a rotation axis that deviates from the longitudinal axis of the shaft. The shaft is rotatably mounted in a housing, in the inside wall of which a mounting ring is fixed. A ring-shaped sealing member bears snugly against the surface of the shaft and is connected, preferably through the intermediary of an elastic intermediate ring, to the mounting ring. The sealing device is at least radially movable and may be equipped with a cooling system.

3,537,713

WEAR-RESISTANT LABYRINTH SEAL

Jennifer V. Matthews, Phoenix, and Charles W. Mulkin, Scottsdale, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
 Filed Feb. 21, 1968, Ser. No. 707,267
 Int. Cl. F02f 11/00; F16j 15/48
 U.S. Cl. 277—55

8 Claims



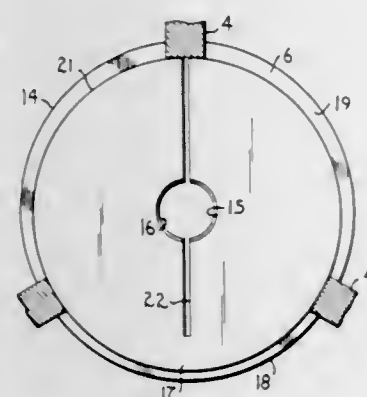
This labyrinth seal has first and second relatively movable members with a rub-tolerant layer on one and spaced continuous projections on the other. The projections have relatively thin edges which are coated with a wear-resistant material and are initially disposed in closely spaced relation to the surface of the rub-tolerant layer, and when relative movement between the members takes place some engagement of the edges with the rub-tolerant layer may take place. The layer is of a composition such that when the edges of the projections engage it during relative movement the material will be displaced to one or both sides to form grooves. The resulting interfitting projection edges and grooves form a tortuous passage and reduce the flow of fluids between the members.

3,537,714

CHUCKING FIXTURE ASSEMBLY

Otis F. Anderson, R.R. 3, Winfield, Kans. 67156
 Filed Jan. 2, 1968, Ser. No. 695,172
 Int. Cl. B23b 5/24, 31/20, 31/36
 U.S. Cl. 279—6

8 Claims



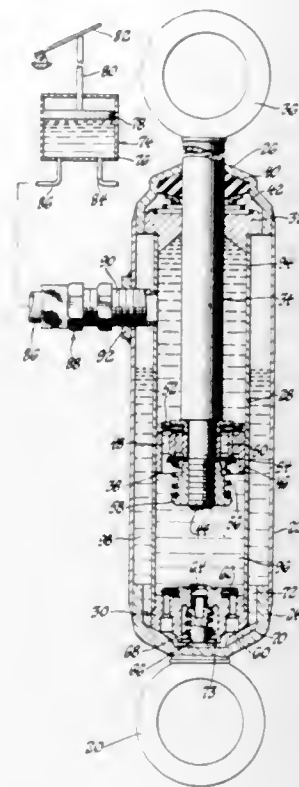
A chucking fixture assembly for centering workpieces for axial rotation of portion during working and having a collet member and a turning machine chuck, the collet member having a wall portion defining an axial bore with surfaces substantially corresponding to workpiece portions to be received and clamped therein. The collet member wall has a shoulder for engaging the chuck to limit axial movement of the collet member therein, the shoulder extends substantially radially outwardly from a collet portion that has a cylindrical outer peripheral surface eccentric to said bore with a slot for the length of the collet member extending from the outer periphery diametrically through and beyond the axial bore, the slot being in a radial plane substantially from the point of greatest eccentricity. The eccentric surface is engaged in the chuck and compressed thereby to clamp and retain the workpiece with a portion of the wall defining the axial bore being positioned and of a length whereby the workpiece portion to be worked extends from said bore for suitable engagement by a working tool.

3,537,715

SNUBBING MEANS FOR AUTOMOTIVE VEHICLE

Robert R. Gualdoni, P.O. Box 113, Mount Clemens, Mich. 48043
 Filed Feb. 19, 1968, Ser. No. 706,558
 Int. Cl. B60g 23/00
 U.S. Cl. 280—6

5 Claims



Snubbing means for an automotive vehicle having a braking system, the snubbing means being operable to pull the rear of the sprung mass of the vehicle downwardly to counteract the dive of the forward end of the vehicle as braking is applied. The snubbing means includes a piston and cylinder arrangement, one of such elements being secured to the sprung mass of the vehicle and the other of such elements being secured to the unsprung mass of the vehicle. A fluid is pressurized when brakes are applied to move the piston in the cylinder and pull the two masses together. The snubbing means can be a separate system or may be combined with other vehicle components, such as the master brake cylinder and the rear shock absorbers.

3,537,716

ICE SKATE

Leo I. Norgiel, 7621 W. Morrow Circle, Dearborn, Mich. 48127
 Filed July 15, 1968, Ser. No. 744,740
 Int. Cl. A63c 1/02
 U.S. Cl. 280—11.3

5 Claims



An ice skate including an ankle boot and a skate blade affixed to the sole of the boot, wherein the ankle section

of the flexible upper of the boot is flared forwardly and rearwardly and the inner surfaces of the ankle section are adapted to clamp the ankle joint therebetween, providing for restricted pivoting movement of a person's leg relative to the ice skate.

3,537,717

DAMPED SKI AND METHOD OF MAKING

Donald B. Caldwell, East Oakdale, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
 Filed Nov. 29, 1968, Ser. No. 780,088
 Int. Cl. A63c 5/12
 U.S. Cl. 280—11.13

4 Claims



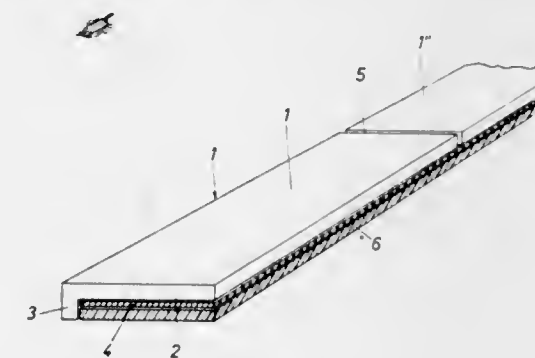
Ski flutter is greatly reduced and maneuverability enhanced by sandwiching a viscoelastic layer (formed, e.g., from certain acrylic copolymers) between the upper surface of the ski and a stretch-resistant constraining layer (e.g., aluminum sheet).

3,537,718

SKI

Alfred Müller, Lucerne, Switzerland, assignor to Realverbund, Zug, Switzerland
 Filed Aug. 13, 1968, Ser. No. 752,288
 Claims priority, application Austria, Aug. 17, 1967, A 7,562/67
 Int. Cl. A63c 5/04
 U.S. Cl. 280—11.13

1 Claim



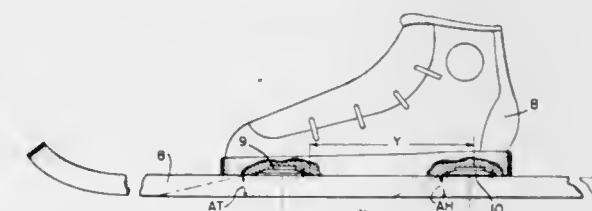
A ski having a composite steel edge structure, which is partly covered by a thread covering, a layer having a high toughness being disposed between the tread covering and the steel edge structure.

3,537,719

SKI BINDINGS

Paul Gottfried, 9251 Three Oaks Drive, Silver Spring, Md. 20901
 Filed Nov. 8, 1968, Ser. No. 774,454
 Int. Cl. A63c 9/08
 U.S. Cl. 280—11.35

13 Claims



A releasable ski boot binding in which a pair of nesting frusto-conical cooperating parts are releasably secured together by a magnet in one part and an armature in the

SSO O.G.—6

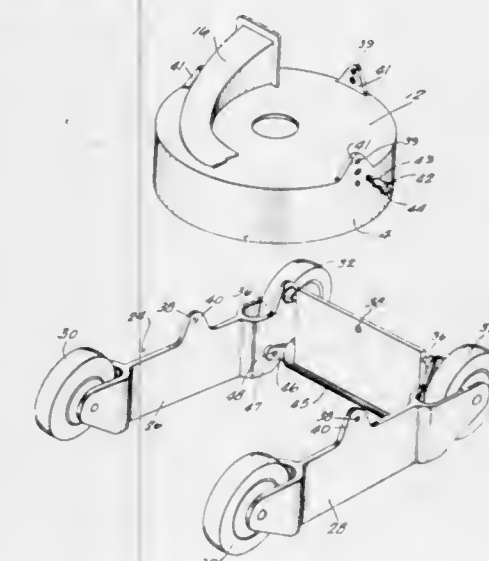
other part with one attaching unit adjacent the toe and another attaching unit adjacent the heel. The slopes of the frustums and the adjustable magnetic attractions determine the force required to separate the boot from the ski when twisting or lateral force is applied, while the magnetic attractions retain the boot and the ski together against normal vertical separation.

3,537,720

LAWN MOWER WITH ARTICULATED FRAME ASSEMBLY

Finn T. Irgens, Milwaukee, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
 Filed Jan. 30, 1968, Ser. No. 701,582
 Int. Cl. B62b 3/02; A01d 53/00
 U.S. Cl. 280—43

13 Claims



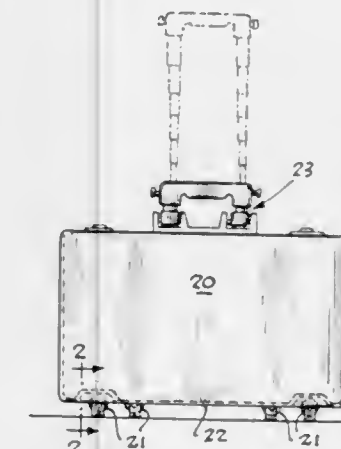
Disclosed herein is a rotary lawn mower with an articulated frame assembly comprising two side walls and a rear or end wall connected to the side walls by ball and socket joints or couplings. A blade housing carrying an engine and cutting blade is mounted within the frame assembly by studs extending through apertures in up-standing ears in the side walls and the end wall and threaded into the blade housing. A roller is located between the rear wheels and supported for swinging movement by straps pivotally connected to the side walls.

3,537,721

WHEEL AND SUPPORT FRAME STRUCTURE

John W. Warner, Jr., Waukegan, Ill., assignor to Hideaway Handles, Inc., Waukegan, Ill., a corporation of Illinois
 Filed Nov. 25, 1968, Ser. No. 778,690
 Int. Cl. B62b 3/00
 U.S. Cl. 280—47.17

5 Claims



A directional wheel and supporting wheel frame structure for use with a movable case to facilitate rolling the case along a variable direction course in which the axle

of the wheel is supported in an elongated longitudinally extended slot formed in a wheel yoke and wherein a wheel frame is pivotally and slidably mounted on the wheel axle to form a locking engagement with said wheel yoke when the wheel frame is in a vertical wheel supporting position.

3,537,722

SUSPENSION SYSTEMS

Alexander Eric Moulton, Bradford-on-Avon, England, assignor to Moulton Developments Limited, Bradford-on-Avon, England, a British company

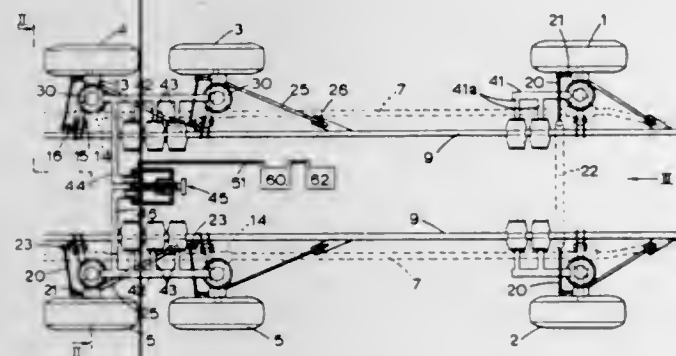
Filed June 24, 1968, Ser. No. 745,334

Claims priority, application Great Britain, June 22, 1967, 28,929/67; Jan. 20, 1968, 4,579/68

Int. Cl. B60g 13/08

U.S. Cl. 280—96.2

12 Claims



A chassis structure for a commercial vehicle having four or more road wheels wherein all wheels on each side have identical suspension systems including arms laterally from the spring structure of the vehicle and the arms being connected to the king pin assembly, and a hydraulic displacer operated by a part of the wheel suspension system, the displacer being in intercommunication with one or more hydraulic accumulator springs.

3,537,723

VEHICLE SUSPENSION SYSTEM FOR AIRCRAFT TRANSFER VEHICLE

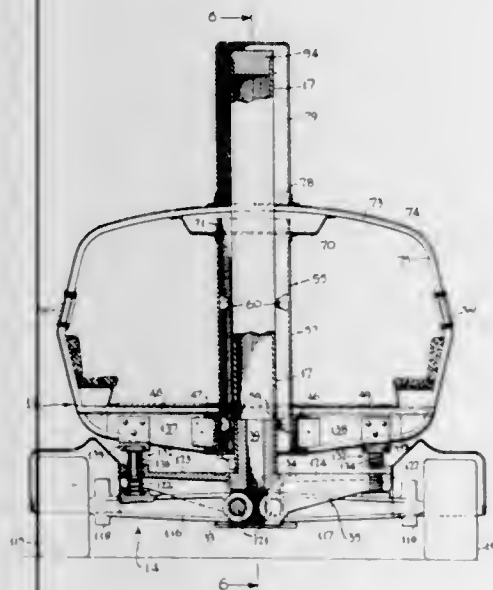
James M. Herring, Jr., Merion Station, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 25, 1968, Ser. No. 762,445

Int. Cl. B60g 9/02

U.S. Cl. 280—124

4 Claims



A suspension system for an aircraft transfer vehicle which includes front axle members with pivots adjacent the center of the vehicle. Springs are interposed between

the axle members outboard of their pivots and laterally extending rigid frame portions to provide road vibration isolation.

3,537,724

TRAILER SUPPORT

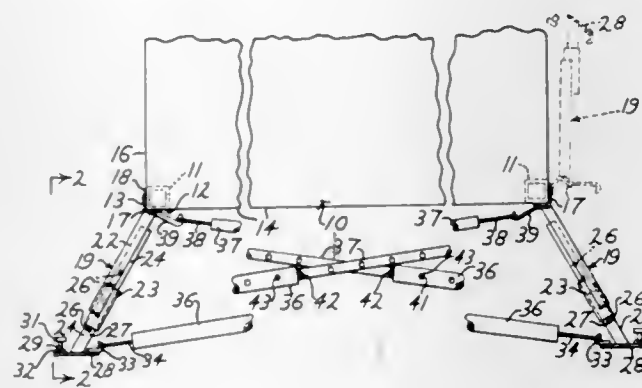
Ralph E. Matthews, Box 156, Rte. 3, Decatur, Ala. 35601

Filed Aug. 6, 1968, Ser. No. 750,626

Int. Cl. B60s 9/04

U.S. Cl. 280—150.5

2 Claims



A trailer support having elongated members extending alongside and engaging the outer sides and under surface of trailer frame members. The elongated members are hingedly connected to trailer frame and carry downwardly and outwardly extending adjustable legs detachably connected at their lower ends to elongated members at opposite side of trailer.

3,537,725

TROUGH-LIKE SEAL FOR ROLLER ASSEMBLY

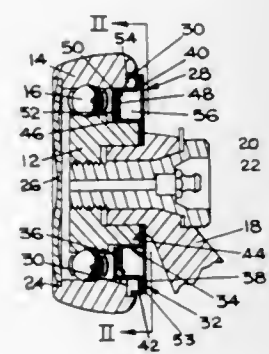
Ruben E. Frost, Grand Rapids, Mich., assignor to C. L. Frost & Son, Inc., Grand Rapids, Mich., a corporation of Michigan

Filed Nov. 5, 1968, Ser. No. 773,490

Int. Cl. F16c 33/78

U.S. Cl. 308—187.2

13 Claims



This disclosure relates to a seal structure for a bearing assembly in which roller bearings are sealed between an outer and inner race. The seal structure has an outer seal ring, an intermediate seal ring, and an inner seal ring. The outer seal ring and the intermediate seal ring are fixed to the inner race. The inner seal ring is fixed to the outer race and has an axial ring portion which extends axially outwardly. A radial outwardly extending flange forms a trough at the axial outer portion of the inner seal ring axial ring portion. Another trough is formed between the outer and the intermediate seal rings. A drain hole is provided in the outer seal ring to drain the liquid which accumulates in the trough.

3,537,726

PASSENGER CARRYING TOY

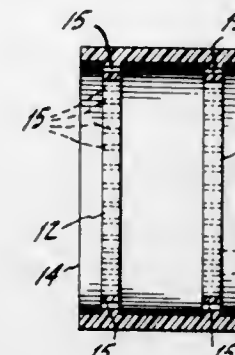
Roy H. Conover, Edinburgh-Windsor Road, Box 161A, Rte. 1, Hightstown, N.J. 08520

Filed Mar. 4, 1968, Ser. No. 710,220

Int. Cl. B62k 1/00

U.S. Cl. 280—206

11 Claims



A passenger carrying rolling toy of the type comprised of a cylindrical body has finger gripping means with holes therein extending inwardly from and circumferentially around the inner cylindrical surface of the toy. The finger gripping means is recessed from the outer periphery of the toy such that the passenger's entire body including the hands are confined within the toy when holding the finger gripping means.

3,537,727

COUPLED CHASSIS

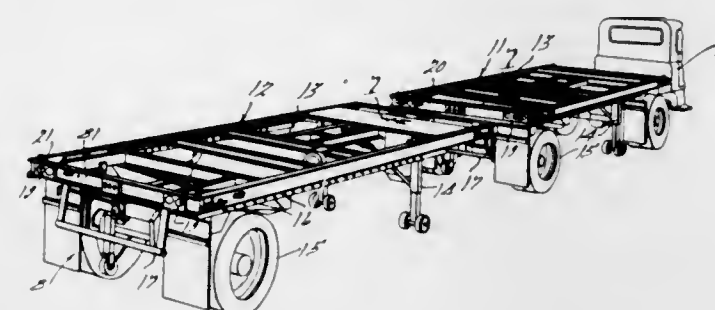
Keith W. Tantlinger, Grosse Pointe Shores, and George Chieger, Birmingham, Mich., assignors to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan

Filed July 19, 1967, Ser. No. 654,603

Int. Cl. B62d 53/06

U.S. Cl. 280—415

13 Claims



A semitrailer frame for carrying a separable container, the frame constituting a pair of rigidly interconnected but longitudinally separable and interchangeable units. Each unit is also usable as a semitrailer and has for such purpose, selectively longitudinally shiftable wheels and retractable landing gear actuated by shifting of the kingpin during coupling operation with a tractor or during assembly with another trailer unit to be joined in tandem relation when the trailer wheels are shifted towards the rear of the combined units.

3,537,728

CARD HOLDER AND RECORD BOOK

Richard D. Reese, 1632 Delaware St., Berkeley, Calif. 94703

Filed Feb. 6, 1968, Ser. No. 703,413

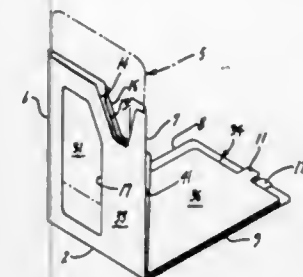
Int. Cl. B42d 3/18

U.S. Cl. 281—31

9 Claims

This specification discloses a card holder and record book which is made from a single sheet of flat stock such as paper in which as few as two die cuts are made

in the stock and with three simple folds, a pocket is formed for the receipt of a card such as a credit card



and there are several pages for the marking of purchases made with the credit card.

3,537,729

EXPANSION JOINT FOR PIPE

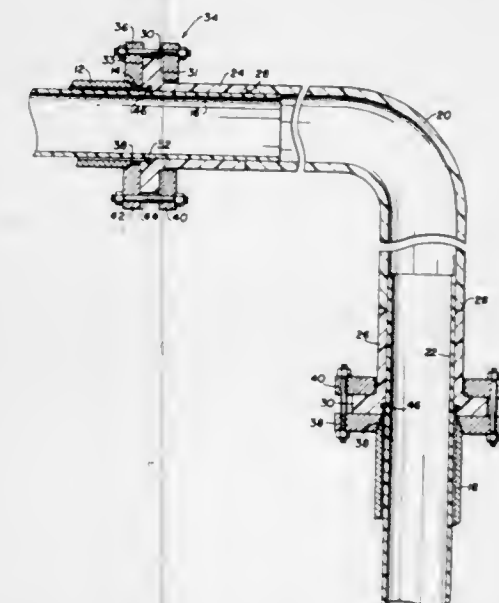
Albert C. Burkett, Winnie, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Dec. 28, 1967, Ser. No. 694,190

Int. Cl. F16l 9/14

U.S. Cl. 285—55

5 Claims



The particular embodiment described herein as illustrative of one form of the invention utilizes a plastic connecting member to form a continuous plastic pipeline between spaced apart plastic lined metallic pipes. Slip joints are formed between the pipe liners and the plastic connecting member to form a fluid seal while permitting relative movement between the plastic pipe components.

3,537,730

QUICK FLEXIBLE HOSE AND/OR PIPE CONNECTION

Adolf Kresin, Nachbarsweg 91, Muhlheim (Ruhr) Germany

Filed July 2, 1968, Ser. No. 741,989

Claims priority, application Germany, Feb. 14, 1968, 1,284,751

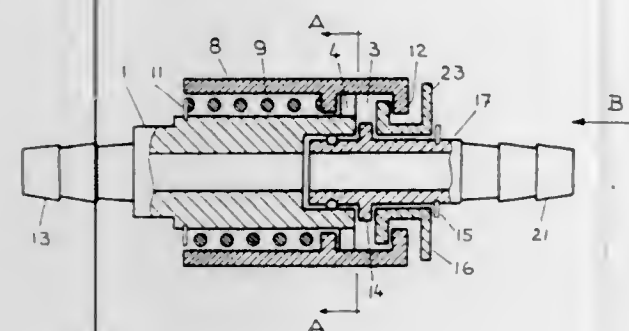
Int. Cl. F16l 55/00

U.S. Cl. 285—86

1 Claim

For connecting a pair of tubular male and female members, a coupling in combination provides an enlarged head portion at one end of the female member having an outer periphery and at least one axially spaced end portion, an internal annular recess-forming means and means defining at least one axially and radially extending slot communicating with the recess, the outer periphery and axial end portions of the head portion. The female member carries

a locking sleeve having at least one lug positioned within and substantially filling the slot means and having inner annular recess defining means communicating with the recess in the head portion. Resilient means are mounted on the female member to urge the sleeve toward one end and cooperating means between the female member and sleeve limiting axial movement of the sleeve beyond the location where the recesses communicate. The male member has a slider means mounted thereon for rotatable

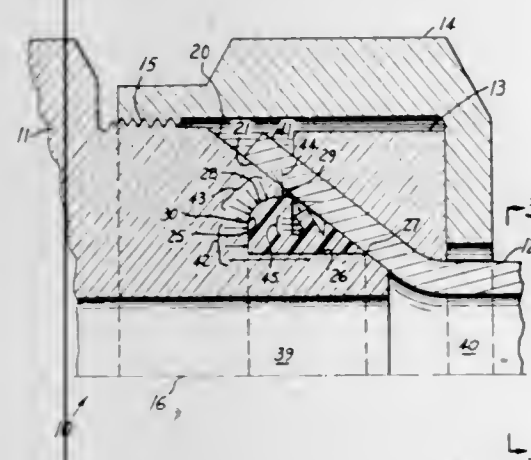


movement only relative thereto. The slider means has at least one arcuate radially extending locking key fitting within the annular recess defined by the recesses in the head portion and lug whereby uncoupling occurs without relative rotation of the male and female members when the sleeve is moved against the resilient means to move the lug out of the slot means allowing the locking key to be withdrawn through the slot means when rotated into alignment therewith.

3,537,731
SEAL FOR A TUBING JOINT
Robert R. Reddy, 1195 Michillinda Blvd.,
Pasadena, Calif. 91107
Filed May 23, 1969, Ser. No. 827,413
Int. Cl. F16l 17/00

U.S. Cl. 285-110

6 Claims



A seal for a tubing joint between two bodies having abutting surfaces that extend peripherally around a pair of joined passages. The seal is made against a differential pressure from a region of higher to a region of lower pressure, one of the regions being inside the passages, and the other being outside of the bodies. A ring groove is formed in one of the abutting surfaces and is defined by a base face intersecting at an angle with its respective abutting surface, a backing face spaced from its respective abutting surface, and a retention lip adjacent to the backing face overhanging at least a portion of the ring groove. Within the ring groove there is placed a sealing

ring having a base lying flat and continuously peripherally against the base face, an abutment adjacent to the backing face and retention lip, and a wedge face intersecting the base in such a manner as to form with it a wedge to wedge against the base face and the opposed abutting surface. A land member is formed adjacent to the wedge surface which in its relaxed condition projects beyond the wedge face so that it will be deflected into an adjoining groove when the two abutting surfaces are brought against one another. The differential pressure will force the base of the sealing ring against the base face of the groove to make a peripheral seal, and will press the abutment so as to force the wedge toward the intersection of the base face with the abutting surfaces. The differential pressure also loads the land member toward the opposed abutting surface. The seal is therefore fully effective.

3,537,732
FITTING FOR FLEXIBLE WALLED RECEPTACLE
Richard L. Cook, Rte. 2, Box 444, Flagstaff, Ariz. 86001
Filed Jan. 27, 1969, Ser. No. 802,311
Int. Cl. F16l 5/00

U.S. Cl. 285-200

6 Claims

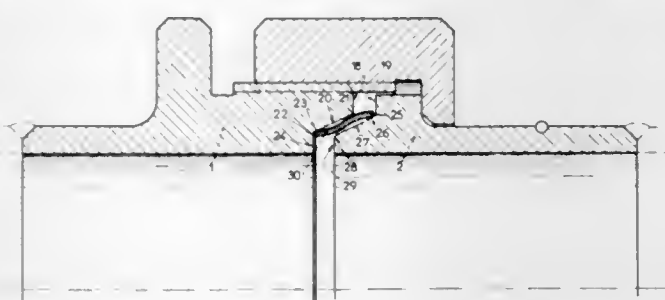


A fitting for defining an opening in a flexible walled tank to which attachments such as connectors, gauges, pumps, conduits and the like are mounted, and is particularly directed to a nylon fiber bundle structure adhesive bonded to the tank reinforcement and acting as a structural intermediate between the fitting and the flexible fuel tank or other self-sealing or impact resistant bladder-type container.

3,537,733
PIPE CONNECTION INCORPORATING A DEFORMABLE PACKING
Georges Lucien Henri Martin, Paris, France, assignor to Societe de Precision General (Societe Anonyme), Montreuil-sous-Bois, Seine-Saint-Denis, France
Filed Apr. 9, 1968, Ser. No. 719,935
Claims priority, application France, Apr. 13, 1967, 102,549
Int. Cl. F16l 19/00; F16j 15/08

U.S. Cl. 285-332.3

13 Claims



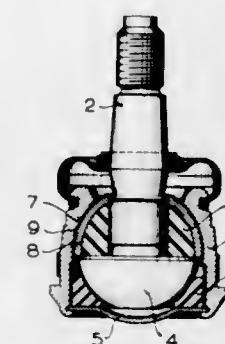
A pipe connection comprising two end-pieces the cooperating male and female surfaces of which include a

central frusto-conical surface and two terminal radial surfaces. A deformable frusto-conical packing fitted and compressed between the two frusto-conical surfaces is bounded by inner and outer surfaces having an inflexion point in their middle so that the successive inwardly and outwardly convex sections engage the cooperating frusto-conical surfaces and the packing edges are extruded between the suitably shaped corresponding ends of the two frusto-conical surfaces.

3,537,734
BALL JOINT
Rudolf Gottschald, deceased, late of Osterath, Germany, by Erika Gottschald, heiress, Am Meerbusch 4, Osterath, Germany
Filed July 22, 1968, Ser. No. 777,516
Claims priority, application Germany, July 21, 1967, E 25,479
(Filed under Rule 47(b) and 35 U.S.C. 118)
Int. Cl. F16c 11/06

U.S. Cl. 287-87

4 Claims

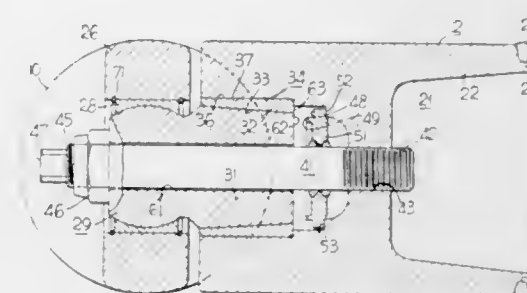


A ball and socket joint having a bearing body of polyurethane in the form of a substantially hemispherical segment. A bearing cup of steel engaging the hemispherical segment is provided. The outside surface of the cup is plated with a porous metal and engages the inner surface of the housing. The porous metal has its pores filled with polytetrafluorethylene or a plastic material on a polyoxymethylene base.

3,537,735
RELEASEABLE JOINT HAVING TAPERED PARTS
Dale W. Hawk, Springfield, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Sept. 2, 1969, Ser. No. 855,079
Int. Cl. B25g 3/28

U.S. Cl. 287-20.3

7 Claims



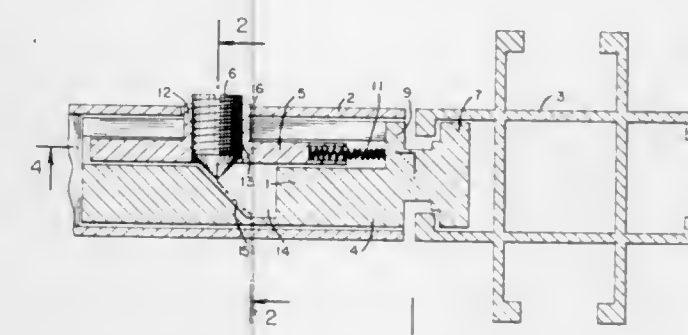
A pivot member for mounting a cylinder is secured to the frame of the vehicle by a tapered joint including a split tapered sleeve. To facilitate removal of both the tapered pivot member and tapered sleeve, a threaded fastening member for the pivot member is provided

with a pair of axially spaced abutment surfaces which sequentially abut with the pivot member and sleeve as the fastening member is screwed out.

3,537,736
MEANS FOR JOINING TOGETHER BUILDING UNITS
Karl-Gunnar Kroopp, Farsta, Sweden
Filed Feb. 10, 1969, Ser. No. 798,092
Claims priority, application Sweden, Feb. 9, 1968, 1,704/68
Int. Cl. F16b 7/00

U.S. Cl. 287-54

5 Claims

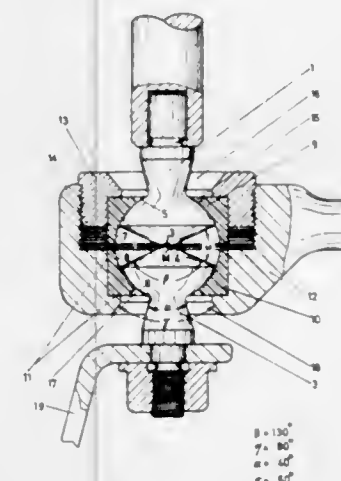


As described herein, a coupling member is inserted in a building unit which is to be connected to another building unit. The coupling member includes a ram member formed with a longitudinal groove having a recess with a sloping plane surface. The sloping plane is obliquely positioned in the longitudinal direction of a screw which extends through an opening in the building unit and abuts the surface during the coupling operation.

3,537,737
JOINT ASSEMBLY FOR USE IN SUSPENSION SYSTEMS OF MOTOR VEHICLES
Johannes Ortheil, Ayrath, Germany, assignor to Langen & Co., Dusseldorf, Germany
Filed Dec. 24, 1968, Ser. No. 786,714
Int. Cl. B60d 3/18

U.S. Cl. 287-88

4 Claims



A joint assembly particularly for suspension systems of motor vehicles for transmitting, especially pressures between linkage components which can be turned relative to each other through small angles in which the transmission or transfer of the forces is effected via convex bearing bodies provided at the ends of the linkage components which roll off or slide on opposite surfaces and a common guide element capable of being turned through larger angles relative to the linkage components is operably related to such components.

3,537,738 DRILL ROD FOR LONG HOLE DRILLING IN THE GROUND

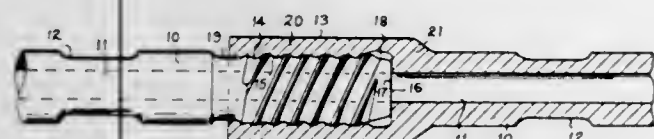
Hans Christian Peder Fischer, Nacka, and John Anders Hjalsten, Sandviken, Sweden, assignors to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden

Filed Apr. 15, 1968, Ser. No. 721,320

Int. Cl. F16b 7/00

U.S. Cl. 287—103

4 Claims



Extension drill rod for percussion drilling having at one end a cylindrical external thread with an external diameter that is in the main the same as the external diameter of the main part of the rod, and at the other end having a socket portion with an internal cylindrical thread matching the said external thread, the external diameter of the socket portion being greater than the external diameter of the main part of the rod. The rod has a coaxial flushing channel. Each rod is characterized by the following combination of features:

- the thread has a wave-shaped, high-pitched longitudinal profile;
- the socket portion is forged integrally in one piece with the rod;
- the bottom of the socket portion constitutes an annular plane abutment surface, the end surface of the externally threaded end having an abutting matching annular plane abutment surface and the width between the inner and outer edges of the abutment surfaces being approximately equal to the radius of the flushing channel; and
- the abutment surfaces and the threads form the only axial abutments between two adjacent rods when they are screwed together.

3,537,739 DOOR LOCK

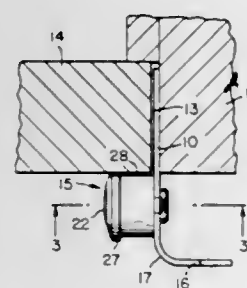
Aaron Harry Lippman, Rochester, N.Y., assignor to Brainerd Manufacturing Co., Inc., East Rochester, N.Y., a corporation of New York

Filed Feb. 19, 1969, Ser. No. 800,457

Int. Cl. E05c 19/06

U.S. Cl. 292—2

10 Claims



A door lock is made with a slotted guide plate, a post extending through the slot, a retainer holding the post in place, a spring-loaded knob wider than the slot and movable axially on the post, and the slot having an enlarged end near the door so that the knob snaps into the slot enlargement to latch relative to the guide plate to block the opening of the door. By pulling the knob out of the slot enlargement and sliding it along the slot out of the way of the door, the door can be opened.

3,537,740 CLOSURE LATCH

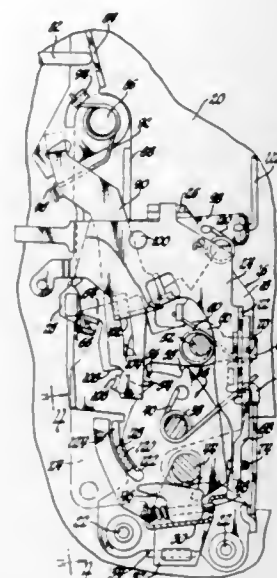
Henry J. Brockman, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 14, 1968, Ser. No. 713,155

Int. Cl. E05c 3/26

U.S. Cl. 292—198

3 Claims



The latch frame of a door lock includes a pair of spaced latch supports interconnected by a pivot pin and a strut. The bolt is rotatably mounted on the pivot pin and includes a slot receiving the strut in the latched position of the bolt to transfer part of the resultant of a force-open load applied to the door from the pivot pin to the strut.

3,537,741 BALL OR ROLLER LOCKS

Paul Boyriven, Paris, France, assignor to Compagnie Industrielle de Mecanismes, Courbevoie, France

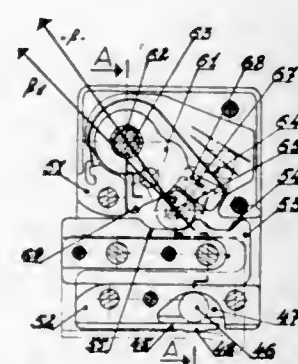
Filed Apr. 10, 1969, Ser. No. 815,071

Claims priority, application France, Dec. 31, 1968, 182,539

Int. Cl. E05b 15/00; E05c 1/08, 19/06

U.S. Cl. 292—261

4 Claims



A lock, particularly for the door of a vehicle, in which a keeper pin formed with locking recesses in succession along the periphery of and axially thereof is received in a keeper formed with an appropriate chamber. The keeper has a housing formed with an aperture opening into the locking recesses in locking position of the lock. A locking roller is provided in the housing to normally protrude from the aperture whereby to be received in one of the locking recesses. The roller has lateral lugs engageable in slots of the lock casing and there is provided in the housing a rotatable sector which is adapted to abut the locking member to hold it in aperture protruding locking position. The improvement lies in the provision of finger-like thrust members that radially project from the rotatable sector at either end thereof and which are intended to control the locking roller for movement between the locking and release position; the rotatable sector being

biased by a leaf spring. Further improvement resides in the provision of a resilient ball in a recess formed in a portion of the keeper located on the side of the pin chamber opposite the aperture; the recess being closed by a resilient wall having a boss outwardly of the recess. In combination with a flange extending parallel to the pin and movable integrally therewith to press on the said boss to flex the resilient wall inwardly whereby to compress the resilient ball.

then latch to the spearhead portion of the core barrel assembly. The latched condition between the overshot and the core barrel assembly is sure and the core barrel assembly cannot inadvertently be thereafter separated from the overshot. Structurally, the preferred overshot comprises a bell, an interior plunger, and plunger release mechanism including a release housing which in combination can be situated in a latched posture or a released posture according to the desire of the operator.

3,537,742 LIFT SLING CONSTRUCTION

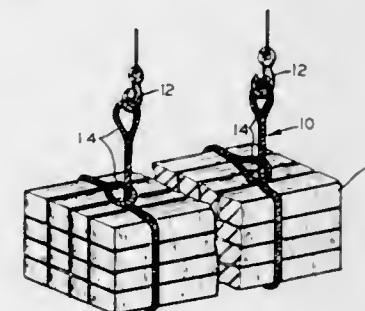
Boyd C. Black, 1174 S. 30th St., Newark, Ohio 43055

Filed Jan. 31, 1969, Ser. No. 795,652

Int. Cl. B66c 1/12

U.S. Cl. 294—74

12 Claims



A composite sling construction for lifting heavy, easily damageable loads, such construction being two slings in one, namely; a high strength metal wire rope sling which is completely enclosed within an outer sling of softer fiber rope.

3,537,743 CORE DRILLING SYSTEM

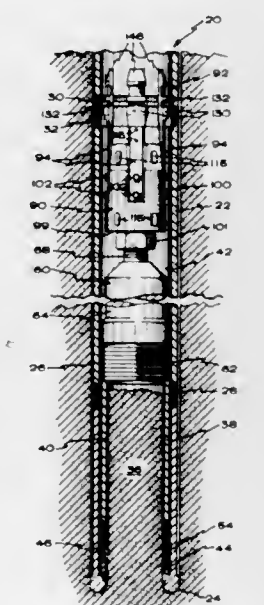
Lyle J. Martinsen, Murray, Utah, assignor to Boyles Bros. Drilling Co., Salt Lake City, Utah

Original application Aug. 10, 1966, Ser. No. 571,521, now Patent No. 3,441,098, dated Apr. 29, 1969. Divided and this application Aug. 27, 1968, Ser. No. 778,879

Int. Cl. E21b 31/00

U.S. Cl. 294—86.17

9 Claims



A core drilling system comprising a novel overshot which provides a new release feature to accommodate selective or controlled release of its coupling relation with spearhead or latch structure of a core barrel assembly within the drill hole when an operator pumps the wire line, to which the overshot is attached, up and down a prescribed number of times. The overshot is advantageously adapted, during its motion toward the bit, to first uncouple the core barrel assembly from the outer tube and

3,537,744 VEHICLE BODY CONSTRUCTION

John Dunbavan, Preston, England, assignor to Leyland Motors Limited, Leyland, Lancashire, England

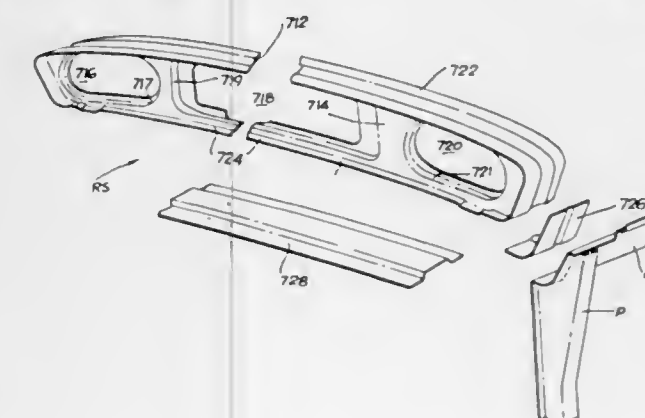
Filed Feb. 28, 1968, Ser. No. 708,818

Claims priority, application Great Britain, Mar. 1, 1967, 9,751/67

Int. Cl. B62d 25/06

U.S. Cl. 296—28

4 Claims



A vehicle body having a roof stick in the form of an assembly consisting of two main components secured back-to-back with abutting flanges with a number of openings therein and an out-turned flange around the outer circumference of the opening.

3,537,745 AIRCRAFT TRANSFER VEHICLE

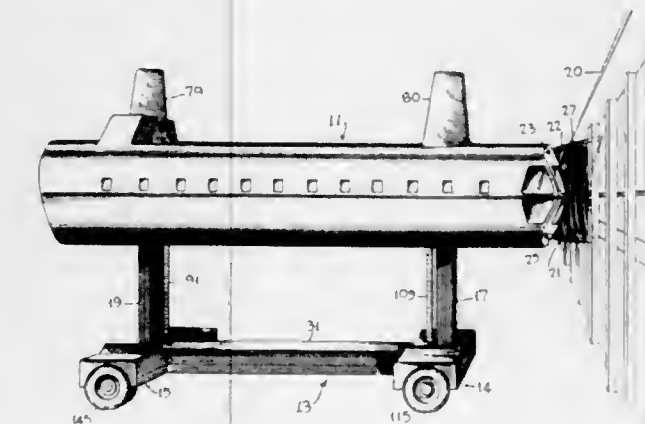
James M. Herring, Jr., Merion Station, Pa. (The Budd Company, 2450 Hunting Park Ave., Philadelphia, Pa. 19132)

Filed Sept. 25, 1968, Ser. No. 762,443

Int. Cl. B62d 31/02

U.S. Cl. 296—28

4 Claims



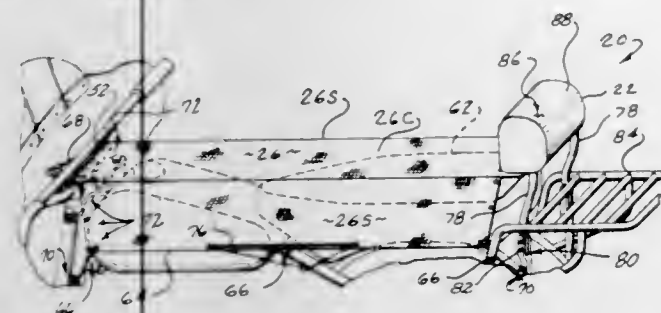
A vehicle to transfer passengers between an airport terminal and parked aircraft. The vehicle includes a chassis and a passenger pod, the pod capable of being elevated to the floor level of airport terminals. Buffer means associated with the pod provide interfacing with the aircraft. The vehicle normally travels with the pod in the down position but is elevated when loading or unloading passengers. The pod contains a loading ramp which is extended to contact the aircraft or terminal building.

3,537,746
NORMALLY RETRACTED, CONTROLLABLY
EXTENDABLE PROTECTIVE COVER FOR A
MOTORCYCLE SEAT

Thomas A. Peters, 734 N. Inglewood Ave.,
 North Hollywood, Calif. 90302
 Filed Apr. 8, 1968, Ser. No. 719,494
 Int. Cl. B62j 1/18

U.S. Cl. 296—78.1

10 Claims



The specification discloses the invention in its broadest form as comprising a normally retracted, controllably extendable protective cover for a motorcycle seat and adjacent, underlying portions of a motorcycle. The cover comprises a flexible, waterproof sheet having a central portion adapted to overlie and protect the motorcycle seat, and having side portions adapted to extend downwardly on each side of the motorcycle seat and underlying upper portions of a motorcycle so as to laterally, at least partially, encompass and protect same. The side portions of the sheet are adapted to be folded over the central portion into an overlapped, multiple-layer relationship (usually a three-layer relationship) and, in one preferred form, to be fastened by suitable fastener means in said folded, multiple-layer relationship having an effective folded width such as to be capable of being received within a storage chamber in a laterally directed housing means mounted behind or ahead of the motorcycle seat, although, in one preferred form, it is shown as being mounted behind the motorcycle seat and being provided with compressible padding means at the top and front thereof so as to effectively comprise a backrest for a motorcycle rider, usually an extra or auxiliary motorcycle rider seated behind a primary motorcycle rider who actually drives the motorcycle. The folded, multiple-layer, flexible protective sheet is adapted to be fully retracted and stored, except for a free operating end, in a spirally rolled, stored relationship within the storage chamber inside of the housing means, rolled around a spindle or roller which, in a preferred form, is disclosed as being spring-biased so as to cause automatic retraction of the folded, protective, flexible sheet when desired. Front and side edges of the extended unfolded sheet are provided with retention means, usually of an elastic type, adapted to be engaged with respect to corresponding portions of a motorcycle so as to hold the extended, unfolded sheet in protective relationship overlying and laterally encompassing the motorcycle seat and adjacent underlying portions of the motorcycle.

3,537,747
ROCKING AND RECLINING CHAIR
 Walter C. Rogers, Jr., High Point, N.C., assignor to
 Mohasco Industries, Inc., Amsterdam, N.Y., a corporation
 of New York

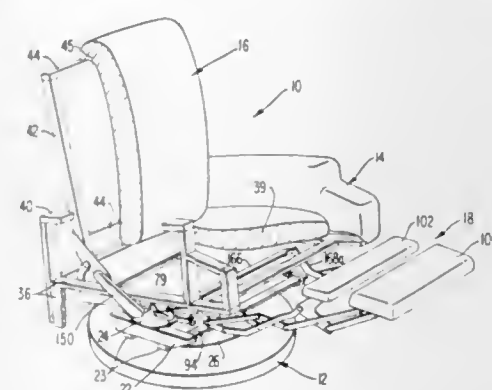
Filed July 31, 1968, Ser. No. 749,106
 Int. Cl. A47c 1/024

U.S. Cl. 297—85

23 Claims

A chair including a base, a seat frame mounted on the base for rocking movement, a backrest pivotally connected to the seat frame for movement between upright and reclining positions and a footrest assembly attached to the seat frame for movement between extended and retracted positions. Linkage is provided such that when the backrest is pivoted for reclining, a locking bar descends and

engages the base to lock the seat frame against forward rocking movement. When the backrest is in the fully reclining position, engagement of the rocking cams on the base prevents rocking movement in the rearward direction so that the seat frame is locked against rocking movement in both the forward and rearward directions. Actuation of the backrest is effected by the occupant exerting rearward back pressure thereon which also causes the seat frame to be raised and moved rearwardly relative to the base so that the occupant's weight is used to balance the seat frame and backrest in the various reclining positions.



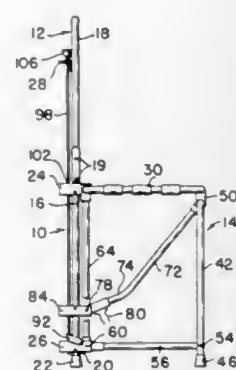
The footrest is comprised of dual footrest sections actuated through a handle located on one side of the chair for convenient access by the occupant even from the fully reclining position. In the retracted position the footrest sections extend vertically in parallel relationship and in the extended position they are disposed horizontally in coplanar relationship. Linkage between the locking bar and the footrest causes the locking bar to descend into engagement with the base to prevent forward rocking movement when the footrest is extended. If desired, the base of the chair may be formed in two sections, the upper section being rotatable about a vertical axis relative to the lower section so that in addition to rocking and reclining, the occupant may also revolve the chair as desired.

3,537,748
COMBINED AMBULATORY ASSISTANCE
DEVICE AND FOLDING CHAIR
 Orville L. Knapp, 41 NE. 16th St.,
 Fort Lauderdale, Fla. 33304

Filed Mar. 3, 1969, Ser. No. 803,816
 Int. Cl. A47c 4/00, 13/00

U.S. Cl. 297—118

10 Claims



An ambulatory assistance device, which may be a crutch, a cane or the like, combined with a folding chair having novel construction features including a brace and locking means to retain the chair in extended position. The brace is pivoted at one end to the forward end of the seat, and at its other end is pivoted to a slide adapted to move upwardly and downwardly on a part of the ambulatory assistance device. The slide carries a lug or similar detent which, when the chair is extended, engages a latch to retain the chair in extended position. The latch is remotely actuated to unlocked position by means adjacent the upper end of the ambulatory assistance device.

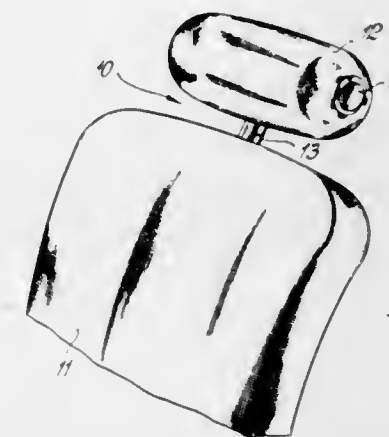
3,537,749
HEADREST CONSTRUCTION
 Peter Ulrich Putsch, Mannweiler, Pfalz, and Friedrich
 Wilhelm Putsch, Remscheid, Germany, assignors to
 Fritz Keiper, Remscheid-Hasten, Germany

Filed Jan. 15, 1969, Ser. No. 791,295
 Claims priority, application Germany, Jan. 20, 1968,
 K 64,508

U.S. Cl. 297—408

Int. Cl. A47c 7/36

17 Claims



A vehicle seat has a backrest having an upper edge and a headrest is arranged adjacent the upper edge of the backrest. Mounting means mounts the headrest on the backrest with freedom of angular adjustment relative thereto. The mounting means includes a pair of mounting elements each of which is associated with either the headrest or the backrest, a ring gear provided on one of the mounting elements and having inwardly directed teeth and a bridging portion extending across the inner free space of the ring gear, and a spur gear provided on the other of the mounting elements and received within the ring gear as to mesh with the teeth thereof. An eccentric extends through and is turnable with respect to both the gears and is so selected as to assure self-locking of the gears. Actuating means is provided for turning the eccentric with reference to the gears.

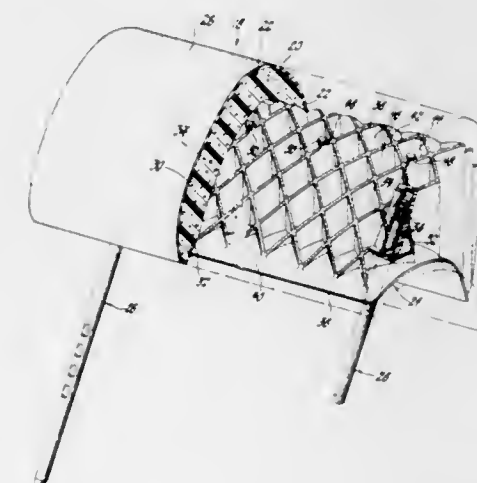
3,537,750
HEADREST ASSEMBLY
 Thomas E. Lohr, Warren, Mich., assignor to General
 Motors Corporation, Detroit, Mich., a corporation of
 Delaware

Filed July 3, 1968, Ser. No. 742,375

Int. Cl. A47c 7/36, 7/42

U.S. Cl. 297—410

4 Claims



A motor vehicle headrest construction characterized by separate head supporting and structural support subassemblies. The structural support subassembly includes a

plastic reinforcing member having an upwardly extending honeycomb core and a pair of support bars which are adapted to be adjustably mounted on a seating unit. The resilient head supporting subassembly includes an exterior vinyl shell and an integrally bonded interior foam padding. The honeycomb core is inserted within a pocket formed in the head supporting subassembly and is secured thereto by means of retention tabs which are embedded in the foam padding.

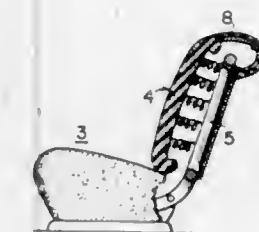
3,537,751
SEAT CONSTRUCTION
 Masahiko Inoue and Katsuo Sakurai, Toyota-shi, Japan,
 assignors to Messrs. Toyota Jidosha Kogyo Kabushiki
 Kaisha, Toyota-shi, Japan

Filed Aug. 2, 1968, Ser. No. 749,796
 Claims priority, application Japan, Aug. 26, 1967,
 42/54,521

U.S. Cl. 297—452

Int. Cl. A47c 7/20, 7/14

3 Claims



In an automobile forward seat, the seat back is provided with a shell arrangement for shock absorbing. The shell arrangement is secured along at least a part of the frame in such a manner that the hollow shell space is so disposed as to receive a possible impact. The shell arrangement will withstand a normal load on the seat back but collapses when the seat back frame is subjected to a large impact so as to provide an absorption of the shock of the impact.

3,537,752
UPHOLSTERED SEATS AND MOLDED FOAM
PADS THEREFOR

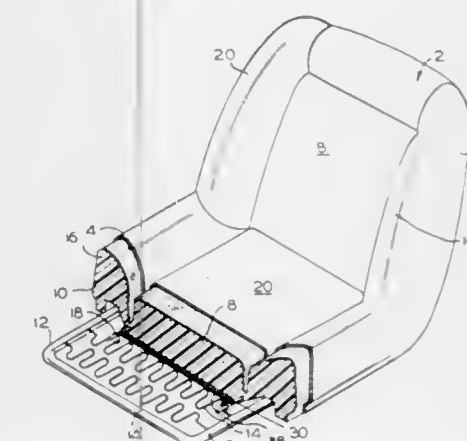
Harry A. Kushnarov, 1006 Oxford Drive, Marion, Ind.
 46952, and Rogel E. Brown, 242 Gladstone St.,
 Wabash, Ind. 46992

Filed Sept. 19, 1968, Ser. No. 760,858

Int. Cl. A47c 7/20, 7/14

U.S. Cl. 297—456

4 Claims



Molded foam pads for construction of upholstered seats of the body contoured type, e.g., automobile bucket seats, are formed with a wire embedded in the foam material, preferably along the crevasse between the center portion of the pad and the surrounding yoke. The pad may then be fixed to the supporting springs of the seat by fasteners joined to the enclosed wire and covering fabric may also be fixed to the seat by means of the wire.

3,537,753

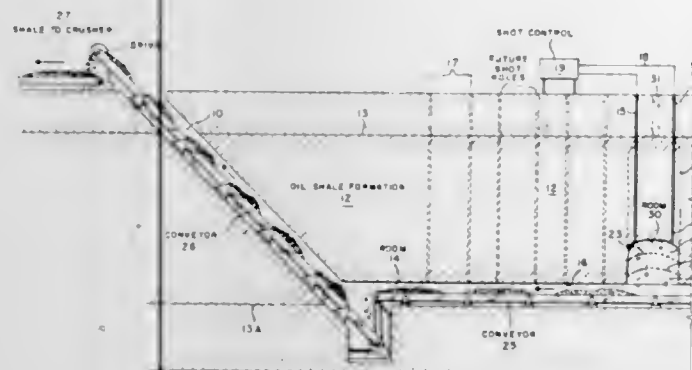
OIL SHALE MINING METHOD

Harry S. Arendt, New Canaan, Conn., assignor to
Esso Research and Engineering Company
Filed Nov. 1, 1968, Ser. No. 772,750

Int. Cl. E21c 41/10

U.S. Cl. 299—2

8 Claims



A method for mining underground oil shale formations by drilling a series of small diameter shot holes from the earth's surface substantially vertically downwardly to near or into the roof of a room previously dug out and mined from the formation, and lowering explosive charges to the same depth in each hole and simultaneously exploding these charges to bring down into the room an appropriate thickness of roof. Withdrawable automatic conveying equipment is arranged in the room for hauling rubbleized shale from the formation to the earth's surface. After the automatic conveyors have hauled away the rubbleized shale, additional explosive charges are lowered in each of the shot holes to an appropriately lesser depth and exploded simultaneously to bring down additional roof material. This sequence is repeated to extend the room vertically upward maintaining the same gauge to the desired height (usually to the top of the shale formation). The shot holes are arranged in a closed pattern or configuration which defines an area of roof span sufficiently large to cause the inner portions of the area to collapse because of roof instability when only moderate charges are used to knock down the periphery of the area. A preferred configuration is a circle. To dispose of retorted spent shale, one or more of the shot holes may be enlarged, or a new hole may be drilled at any desired location, from the surface of the earth to the top of the shale oil formation after the vertical room (or corridor) has been completed to the top of the oil shale section and spent shale may be dumped into the room through the hole until the room has been filled.

3,537,754

APPARATUS FOR MOVING A MINING MACHINE RELATIVE TO A FACE BEING WORKED

Alfred Valantin, Clermont, Oise, France, assignor to
Charbonnages de France, Paris, France
Filed Oct. 22, 1968, Ser. No. 769,648

Claims priority, application France, Oct. 27, 1967, 126,239

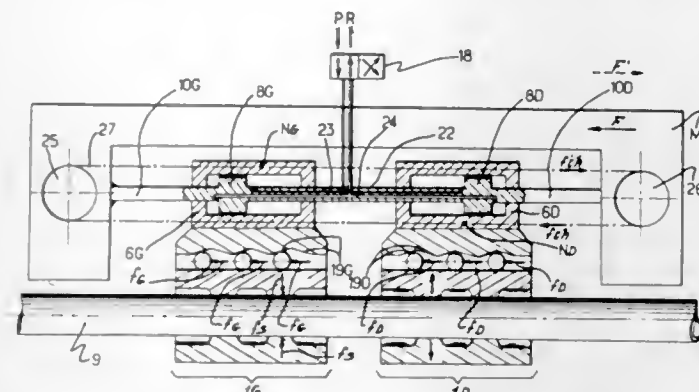
Int. Cl. E21c 29/02

U.S. Cl. 299—32

10 Claims

The present invention relates to devices for the displacement of an ore-mining machine along the cutting face, while being supported on a longitudinal guide of rigid elements of constant section, held fixed at least momentarily with respect to said cutting face, said devices comprising at least one double-acting jack and at least a pair of jaws located on each side of said longitudinal guide, one of said jaws being free in orthogonal translation while the other is coupled to one element of the jack, the other

element being rigidly coupled to the machine, and means for successively and alternatively bringing closer together



and separating said jaws in synchronism with the alternative movements of said jack.

3,537,755

CHARGING COKE OVEN WITH HOT COARSELY COMMUNUTED COAL

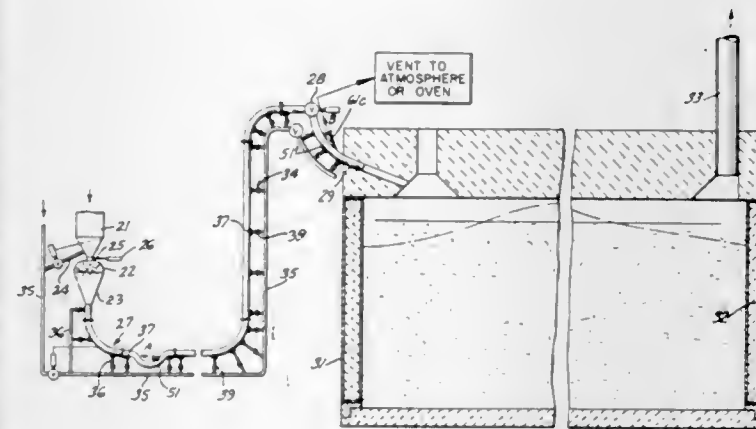
Lawrence D. Schmidt, New York, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Original application July 14, 1964, Ser. No. 382,609.
Divided and this application Sept. 30, 1968, Ser. No. 785,414

Int. Cl. B65g 53/04

U.S. Cl. 302—24

11 Claims



A method of charging coking chambers or coke oven battery with hot coarsely comminuted coal particles, the particles being introduced into the chamber through a pipeline through which they are carried by a carrier gas under super-atmospheric pressure, the gas being the means for inducing flow of the hot coal through the pipeline, the pressure being controlled carefully to maintain a certain coal-to-carrier-gas weight ratio and venting the line at least once before the oven, so that the oven feels a charge which has a high coal-to-carrier-gas weight ratio, which is brought to the oven at a relatively low pressure.

3,537,756

COMBINATION WHEEL AND HUBCAP ASSEMBLY

Edward G. Spisak, Wayne, Mich., assignor to Gar Wood Industries, Inc., Wayne, Mich., a corporation of Michigan

Filed June 5, 1968, Ser. No. 734,748

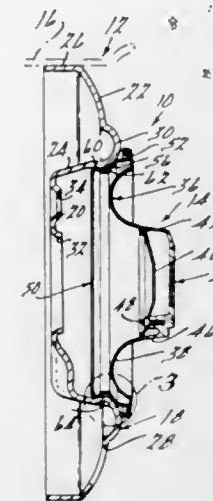
Int. Cl. B60b 7/00

U.S. Cl. 301—108

1 Claim

A combination vehicle wheel and hubcap assembly comprising a vehicle wheel having a generally circular shaped, radially disposed spider member and an annular wheel rim extending therearound; the spider member having a central mounting section, a peripheral section spaced radially outwardly from the mounting section and

an axially extending intermediate shoulder portion disposed radially between the mounting and peripheral sections; a hubcap assembly adapted to be mounted over the mounting section of the spider member; and means for detachably securing the hubcap assembly to the spider member including an annular hubcap attaching ring mem-



ber adapted to be disposed radially inwardly from the shoulder portion of the spider member and a plurality of circumferentially spaced projections extending radially outwardly from the spider member and frictionally engaged with an annular recessed portion on the ring member.

ERRATUM

For Class 302—24 see:
Patent No. 3,537,755

3,537,757

DUAL POLARITY VOLTAGE DISCRIMINATOR

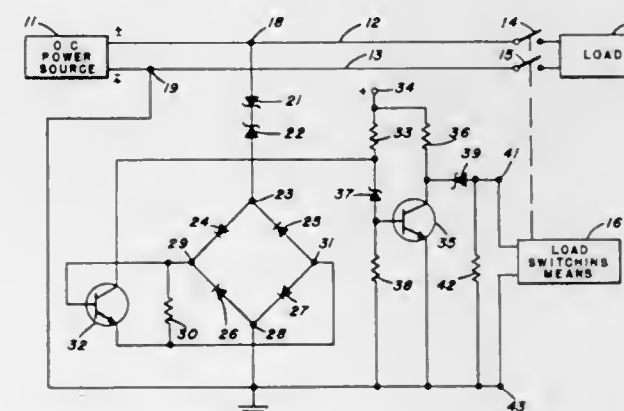
Hugh A. Griffin, Fortville, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed Apr. 29, 1968, Ser. No. 724,939

Int. Cl. H03k 5/20

U.S. Cl. 307—235

1 Claim



A voltage discriminating control circuit for automatically detecting and monitoring the presence or absence of a direct current voltage in excess of a predetermined magnitude, of either positive or negative polarity, comprised of a pair of Zener diodes placed back to back, for sensing the relative magnitude of the voltage to be monitored, coupled in series with a diode bridge across that voltage. The bridge converts the monitored voltage, when in excess of a predetermined minimum absolute level, regardless of polarity, to a single polarity potential for controlling a solid state transistor-Zener diode switching network which may actuate any suitable load switching means to maintain a load coupled to a direct current voltage source whose output potential is proportional to the monitored voltage, only so long as the potential level of the monitored voltage remains in excess of the absolute predetermined magnitude.

3,537,758

DEVICE FOR CONTROLLING THE PNEUMATIC BRAKING FORCE OF A RAILWAY TRAIN

Hansrudl Buhler, Tessin, and Hans P. Wenk, Zurich, Switzerland, assignors to Oerlikon Engineering Company, a corporation of Switzerland

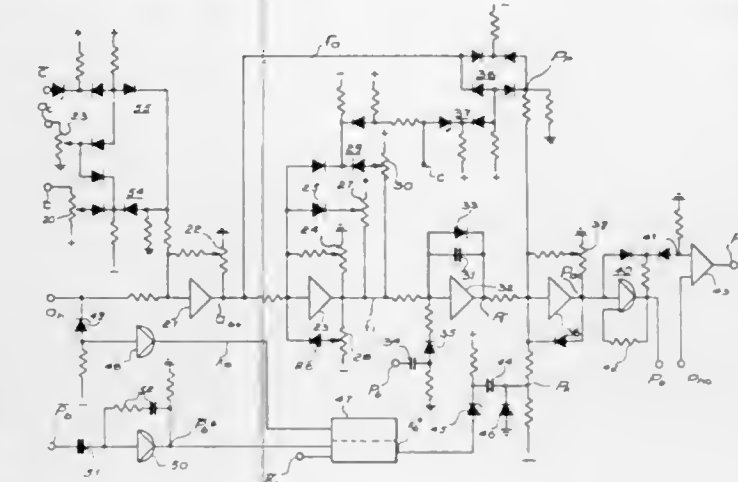
Filed May 31, 1968, Ser. No. 733,690

Claims priority, application Switzerland, June 1, 1967, 7,778/67

Int. Cl. B60t 13/68

U.S. Cl. 303—20

17 Claims



Railway train has braking devices each of which is connected to a main air pressure line, and has a brake cylinder. Pressure within cylinder controlled by pressure in main line. Air pressure in main line controlled by first electric signal which is a function of a second electric signal corresponding to difference between desired deceleration and instantaneous actual deceleration of train. Voltage signal produced which is dependent upon second electric signal, and fed into an integrator whose output controls air pressure in main line. Time constant of integrator is such that change of air pressure in main line with time is about equal to or less than change of air pressure in brake cylinder with time.

3,537,759

HYDRAULIC BRAKE ACTUATING AND CONTROL SYSTEM

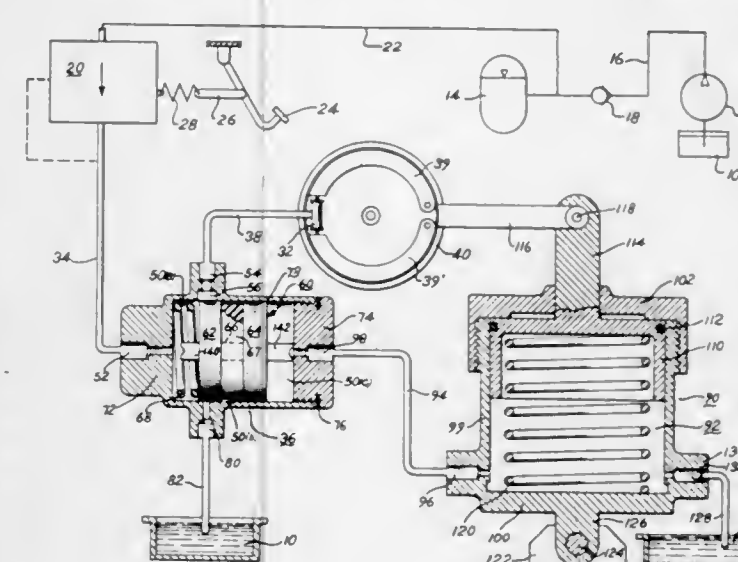
William H. Du Bois, 1646 N. O'Brien St.,
South Bend, Ind. 46628

Filed Feb. 12, 1969, Ser. No. 799,549

Int. Cl. B60t 8/02

U.S. Cl. 303—21

11 Claims



A hydraulic brake actuating and control system in which the line between the operator control means and the brake cylinder includes a control valve responsive to the torque on the brake backing or torque plate. The control

valve includes an element for restricting the flow of fluid to the cylinder and for momentarily relieving the pressure in said cylinder, the valve element being controlled by a torque arm which actuates a fluid pressurizing device for moving the valve from a nonoperating position to a position where pressure in the brake cylinder is relieved.

3,537,760

TRACK FOR CRAWLER TRACTORS

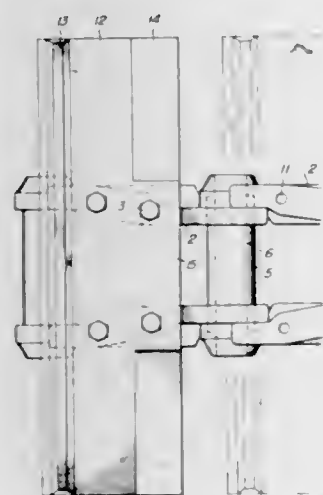
Jun Kimura, Matsudo-shi, and Toshimichi Ikeda, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed May 17, 1968, Ser. No. 730,160

Int. Cl. B62d 55/26

U.S. Cl. 305—54

5 Claims



A track for crawler tractors including track shoes each having an inclined plate portion extending from the trailing end of a flat plate portion of a conventional track shoe having a grouser projecting from the leading end of the flat plate portion. By the use of such track shoes, soil broken by the grouser is received and caught by the inclined plate portions and reduces the sinkage of the track and generates effective reaction against the traction force of the track when it is in the operation on a soft and weak ground.

3,537,761

TRACK PLATE FOR ENDLESS TRACK VEHICLES

John H. Olbermann, Jr., Edison, N.J.

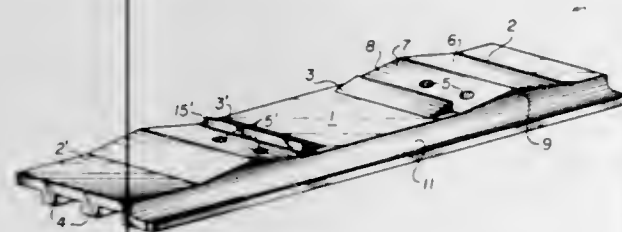
(3600 N. 6th Ave., Phoenix, Ariz. 85012)

Filed Oct. 18, 1968, Ser. No. 768,687

Int. Cl. B62d 55/26

U.S. Cl. 305—54

4 Claims



This invention relates to an improved track process for endless track vehicles, preferably of the towed or non-self-propelled type. The improvement comprises a track plate reinforcement member, triangular in cross section affixed on the track rail engaging surface which serves to aid in reducing strain and preventing breakage and to increase the useful life of the track plate. An additional feature is a right triangular alignment element adjacent the interior edge of the reinforcement member, the alignment means providing an additional safeguard in maintaining the track plate in proper alignment.

3,537,762
GUIDE SYSTEM WITH PRECISION ADJUSTMENT FOR TELESCOPIC COMPONENTS

Alois Lödige, 13 Frankfurter Weg,

479 Paderborn, Germany

Filed May 13, 1968, Ser. No. 728,548

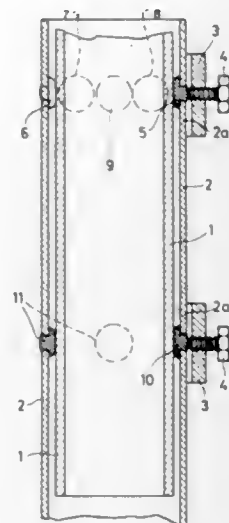
Claims priority, application Germany, May 26, 1967,

1,575,542

Int. Cl. F16c 23/02

U.S. Cl. 308—3

11 Claims



In an apparatus including a pair of longitudinally slideable telescopic components a guide system for guiding each component in the other comprising a plurality of guide members such as mushroom-headed slides, rollers or strips carried by a flexible diaphragm formed by or secured to one of the components so that the guide members engage the other component. At least some of the guide members are contacted by adjustment members such as screws engaging a support member to resist the forces normal to the longitudinal direction of the components. The support member may be formed by the component or by a separate rigid yoke secured to the outside of the component.

3,537,763

HYDROSTATIC AIR-BEARING SYSTEM

Richard Unterberger, Munich, Germany, assignor to Johannes Heidenhain, Traunreut, near Traunstein, Germany, a corporation of Germany

Filed Aug. 9, 1968, Ser. No. 751,421

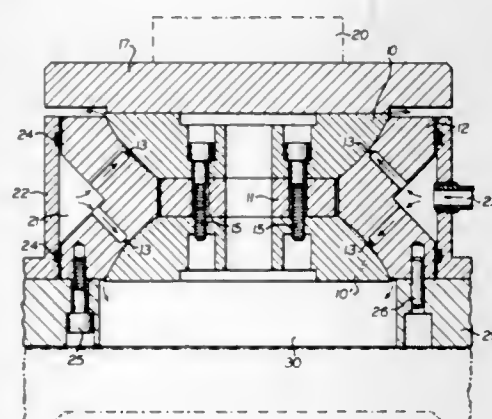
Claims priority, application Germany, Aug. 10, 1967,

1,625,656

Int. Cl. F16c 17/16

U.S. Cl. 308—9

5 Claims



A hydrostatic air-bearing system preferably for precision round tables or the like, which comprise a stationary housing having air feeding nozzles and two rotation bearing inner parts coaxially centered by means of connecting elements and rotatably received in the stationary

housing. The outer contours of the bearing inner parts are disposed symmetrically about an axis extending crosswise to the rotary axis of the bearing inner parts. The rotation bearing inner parts are secured at a constant distance relative to each other by means of an intermediate bent-resistant connecting element and are rigidly coupled together fitted into the housing.

3,537,764

BEARING FOR THE ROTOR IN AN ELECTRIC MOTOR

Johannes Anders Krosby, Hauketo, Norway, assignor to Kvaerner Brugs Kjøleavdeling A/S, Sandvika, near Oslo, Norway

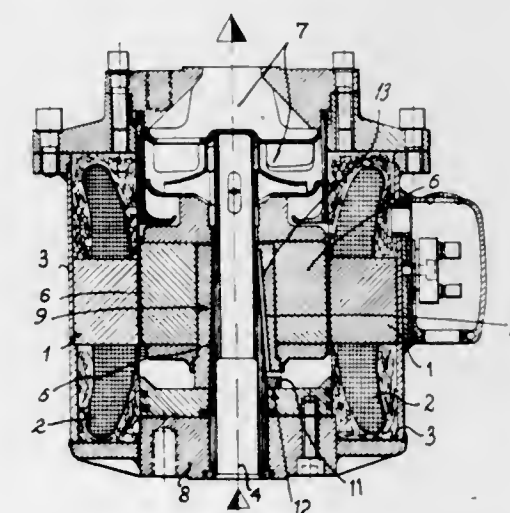
Filed Feb. 18, 1969, Ser. No. 800,229

Claims priority, application Norway, Feb. 29, 1968, 762

Int. Cl. F16c 25/02

U.S. Cl. 308—70

3 Claims



A bearing having conical wearing surfaces which are prevented from being wedged together by means of radially extending wearing surfaces which will be worn in a predetermined proportion to the wear on the conical surfaces.

3,537,765

ROTARY SUPPORTS AND ASSOCIATED VIBRATION DAMPERS FOR FAST SPINNING BODIES OF REVOLUTION

Johannes Lagerwey, Leidschendam, Netherlands, assignor to Reactor Centrum Nederland, The Hague, Netherlands, an institute of the Netherlands

Filed Aug. 21, 1968, Ser. No. 754,398

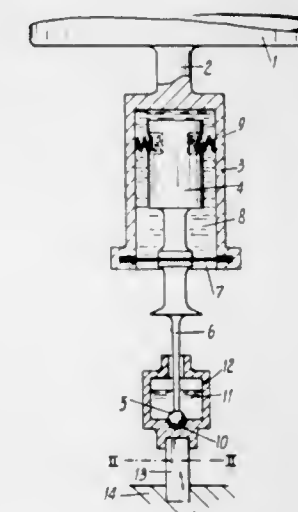
Claims priority, application Netherlands, Aug. 25, 1967,

6711711

Int. Cl. F16c 23/00, 23/04, 25/04

U.S. Cl. 308—142

6 Claims



A rotary support for a fast spinning body, comprising at least one bearing adapted to move radially against a

readjusting force and a vibration member provided between said body and said bearing and attached to said body, in which supporting members are provided between said bearing and a stationary member, said supporting members being so constructed as to make the relations between the readjusting force on and the radial movement of the bearing different from one another for movements of the bearing in different radial directions.

ERRATUM

For Class 308—187.2 see:
Patent No. 3,537,725

3,537,766

ROLLER BEARING CAGE AND ROLLER UNIT AND SPACER THEREFOR

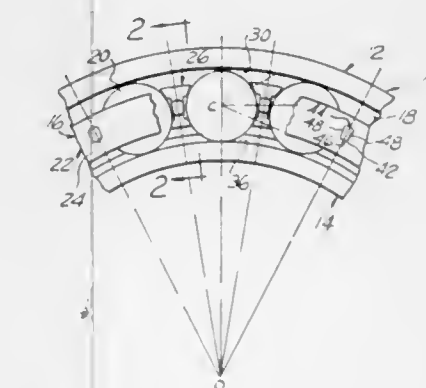
Hudson B. Scheifele, Franklin, Mich., assignor to Aetna Bearing Company, a division of Textron, Inc., Chicago, Ill., a corporation of Rhode Island

Filed Jan. 2, 1969, Ser. No. 788,461

Int. Cl. F16c 33/46

U.S. Cl. 308—217

7 Claims



This roller bearing cage and roller unit consists of axially-spaced end rings containing aligned circumferentially-spaced rounded wedge-shaped holes receiving the correspondingly rounded wedge-shaped opposite end shanks of bearing roller spacers having outer and inner roller-contacting portions of trapezoidal cross-section converging toward and interconnected by a narrower intermediate portion also of trapezoidal cross-section which in turn converges from the outer portion toward the inner portion, and which terminates at its opposite ends in said shanks. These outer and inner portions have roller-contacting side surfaces which converge toward one another at different included angles, and the radii drawn to their contact points on the rollers make different angles with the line of centers extending between the axes of adjacent rollers. This rounded wedge-shaped cross-section of the holes and shanks prevents assembly of the spacers upside down and provides maximum strength and resistance to twisting, because of the great widths of the flat tapering sides with respect to the thicknesses of the shanks.

3,537,767

DEVICES INCORPORATING A SPRING OF PLASTICS MATERIAL

Michael James, Welwyn Garden City, England, assignor of one-third each to Trevor Gwilym and Geoffrey Alan Ryder, both of Welwyn Garden City, England

Filed Jan. 17, 1969, Ser. No. 792,119

Claims priority, application Great Britain, Jan. 31, 1968,

4,991/68

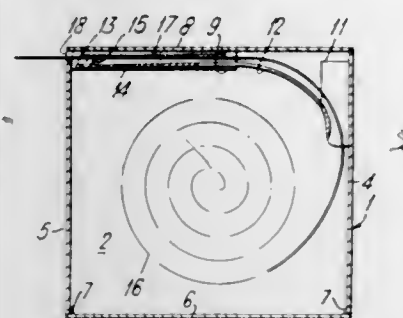
Int. Cl. B65h 19/00

U.S. Cl. 312—39

4 Claims

A device such as a container for strip material comprises a housing which is integrally moulded out of

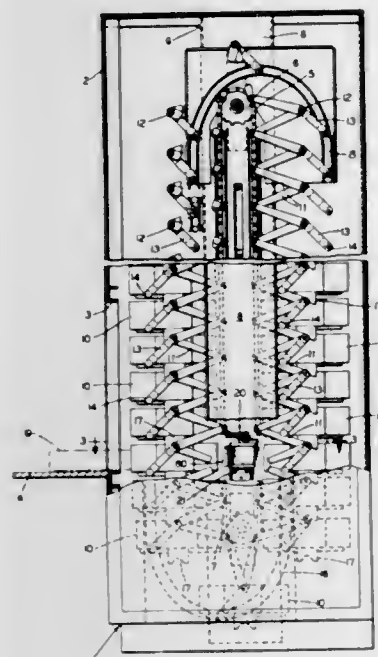
thermoplastic plastics material and has a sliding cover which can be moved to and from manually. A leaf spring is integrally moulded with the housing and is arranged to press the strip against the cover as this is moved in one direction so that gripping means on the cover grips the



strip and dispenses a length of it from the housing. In order to stress the spring to cause it to press the strip against the cover, the cover has a part which moves along the face of the spring remote from the cover as the cover is moved and this part acts on the spring and bends it towards the cover.

3,537,768

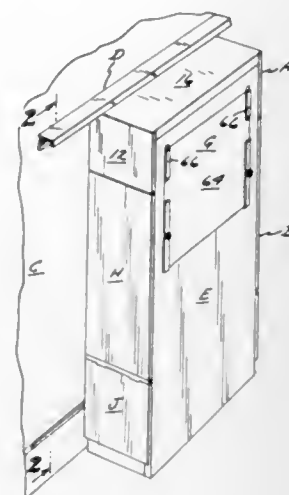
EJECTOR MECHANISM FOR POWER FILE
Walter G. Anders, Canton, Ohio, assignor to Diebold, Incorporated, Canton, Ohio, a corporation of Ohio
Filed Nov. 19, 1968, Ser. No. 777,101
Int. Cl. A47b 77/08, 81/00
U.S. Cl. 312-223 7 Claims



A power operated drawer moving ejector mechanism to move a drawer of a pan-drawer assembly between extended and retracted positions when the assembly is located at the work station of a power filing appliance wherein a number of pan-drawer assemblies travel on an endless conveyor in a continuous orbit. The ejector mechanism is located in a limited space between the flights of travel of the conveyor and imparts positive straight line movement to a fixedly oriented actuator head releasably engageable with the drawer to impart movement from a power operated scissors type lever system through the head to the drawer.

3,537,769

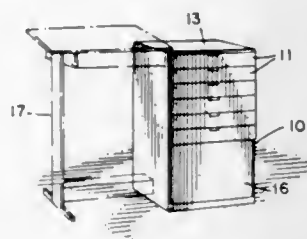
MULTIPLE PURPOSE FURNITURE UNIT
Constantino Di Carlo, 920 W. 6th St.,
San Pedro, Calif. 90731
Filed Nov. 18, 1968, Ser. No. 776,361
Int. Cl. A47b 85/00, 85/04, 95/18
U.S. Cl. 312-250 10 Claims



A multiple purpose furniture unit that can be movably positioned relative to a wall to provide a compact attractive cabinet, with the cabinet capable of being expanded to provide a horizontal surface that serves as either a table or desk of desired height, and the cabinet also having portions that can be separated therefrom to provide expandable benches which include seats that may be adjusted to desired elevations.

3,537,770

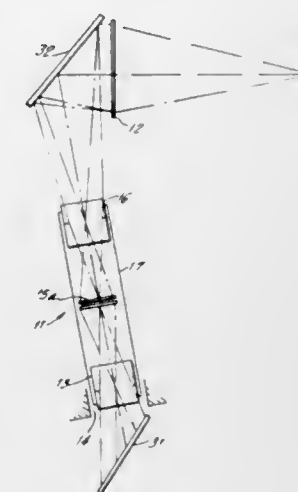
CABINET FOR DRAFTING IMPLEMENTS
David F. Evans, Joseph Klug, and Leonard J. Yindra,
Manitowoc, Wis., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Jan. 15, 1969, Ser. No. 791,370
Int. Cl. A47b 27/00, 88/12, 97/04
U.S. Cl. 312-294 20 Claims



A drawer-equipped cabinet which is particularly suitable for classroom use in the storage of drafting equipment and supplies. Each drawer is dimensioned to contain the usual drawing instruments, notebooks, and the like, and, in addition, to support a drawing board thereon. Each board covers the contents of the drawer on which it is supported so that when each drawer is locked its contents are protected against pilfering even if the drawers above and below the locked drawer were fully extended in an effort to gain access to such contents. Cooperative action between the drawers, boards, and cabinet frame simplifies removal and replacement of the boards despite their relatively large size in comparison with the drawers upon which they are supported.

3,537,771

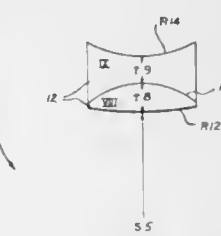
VIEWING SYSTEM EMPLOYING A FRESNEL LENS
Doric Trufanoff, North Massapequa, N.Y., assignor to Kollsman Instrument Corporation, Syosset, N.Y., a corporation of New York
Filed Dec. 7, 1967, Ser. No. 688,927
Int. Cl. G02b 3/08, 23/08
U.S. Cl. 350-52 1 Claim



A Fresnel type plastic lens is combined with an optical system to provide a lightweight viewing system which produces a virtual image of unity magnification and with a stereoscopic or three-dimensional viewing.

3,537,772

FIVE MEMBER MICROSCOPE OBJECTIVE HAVING A MAGNIFICATION OF 100X
Arthur H. Shoemaker, East Aurora, N.Y., assignor to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed Dec. 11, 1968, Ser. No. 783,078
Int. Cl. G02b 9/60, 21/02
U.S. Cl. 350-176 2 Claims



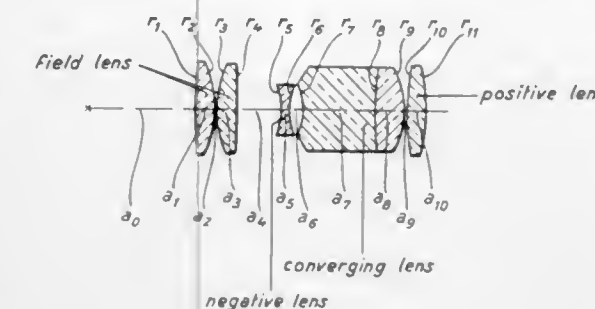
A five member microscope objective having a numerical aperture of substantially 1.25 and a magnification of substantially $\times 100$.

3,537,773

MICROSCOPE PLANO OBJECTIVE
Walter Klein, Auf der Hohl 36, Wissmar,
Kreis Wetzlar, Germany
Continuation-in-part of application Ser. No. 290,727,
June 26, 1963. This application Jan. 4, 1967, Ser. No. 621,372
Int. Cl. G02b 9/34, 9/60, 21/02
U.S. Cl. 350-177 7 Claims

A low-power tele-system type microscope objective is improved by correcting the curvature field by means

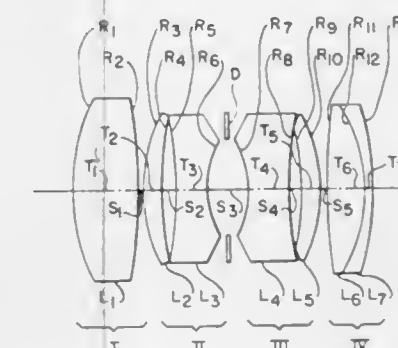
of at least one converging lens member added to the tele-system to shorten the focal length thereof, the focal



length being shorter than the adjustment length of said objective.

3,537,774

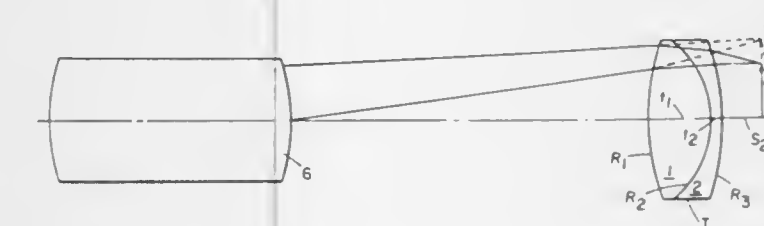
PHOTOGRAPHIC OBJECTIVE OF THE GAUSS TYPE HAVING TWO AIRSPACED NEGATIVE DOUBLETS
Rudolf Kingslake, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 2, 1969, Ser. No. 812,837
Int. Cl. G02b 9/36, 9/62
U.S. Cl. 350-215 4 Claims



Four-component objectives of the Gauss type adapted for printing at unit magnification in monochromatic light, comprising two inner airspaced doublets on opposite sides of a centrally located diaphragm and two outer positive components.

3,537,775

SINGLE COMPONENT, TWO ELEMENT MAGNIFIER
James R. Johnson, James E. Harvey, and Rudolf Kingslake, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Original application June 30, 1965, Ser. No. 468,265, now Patent No. 3,441,338, dated Apr. 29, 1969. Divided and this application Oct. 17, 1968, Ser. No. 844,677
Int. Cl. G02b 3/00
U.S. Cl. 350-233 1 Claim



An accessory lens, having each of its principal points closer to its respective focal point than to the other focal

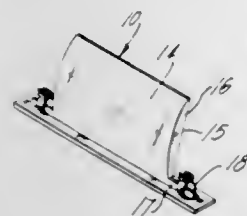
point and having at least one of its principal points within the outside surfaces of the lens, is disclosed for use in an optical system to change the magnification of a primary lens in the system.

3,537,776
MEANS FOR ATTACHMENT OF MAGNIFYING DEVICE TO PRINTING CALCULATORS, ADDING MACHINES, AND THE LIKE

Benjamin J. Connito, 4 Dogwood Drive,
Saddle River, N.J. 07458
Filed Apr. 11, 1969, Ser. No. 822,837
Int. Cl. G02b 7/04

U.S. Cl. 350—243

1 Claim



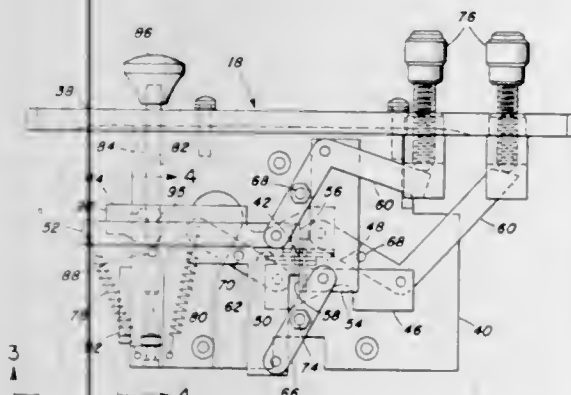
A magnifying lens with integral ear elements secured to a standard having an adhesive backing to permit attachment of the standard to calculators, adding machines and the like.

3,537,777
MICRODENSITOMETER BILATERAL ADJUSTABLE FIELD SLIT SCANNING APERTURE INCLUDING AN OVERRIDE MECHANISM

Frank M. Flynn, Binghamton, N.Y., assignor, by mesne assignments, to Technical Operations, Incorporated, Burlington, Mass., a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 669,856
Int. Cl. G02f 1/30

U.S. Cl. 350—271

9 Claims



This invention relates to an adjustable bilateral scanning aperture for a microdensitometer scanning system. The aperture adjusting mechanism consists of a multiple parallelogram linkage system which will facilitate adjustment of the scanning aperture dimensions to extremely accurate tolerances. The adjustment is accomplished through manual manipulation of one or more control knobs and threaded calibration screw members.

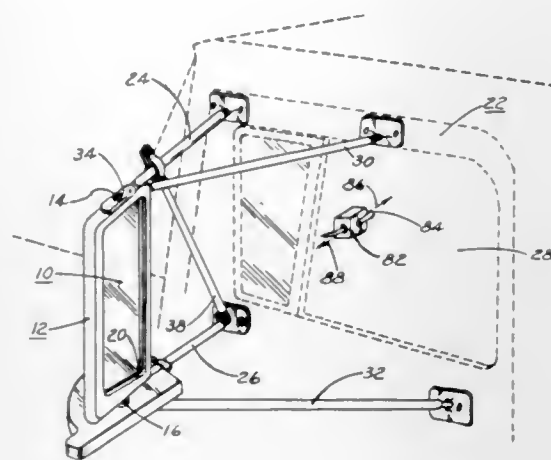
3,537,778
REMOTE CONTROL FOR MIRROR
Arthur W. Kurz, Jr., 3871 Wedgewood,
Birmingham, Mich. 48010
Filed Oct. 11, 1967, Ser. No. 674,572
Int. Cl. G02b 5/08; F16h 1/18

U.S. Cl. 350—289

5 Claims

An actuating device for adjusting the angular position of a vertically elongated rear view mirror about a ver-

tical axis on a wide vehicle of the truck and bus type, wherein support arms are interposed between the pivots for the mirror and the vehicle door. Gearing mounted on



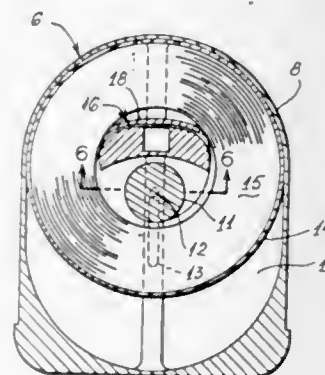
one of the support arms is provided to adjust the mirror angularly, a switch positioned in the driver's compartment being provided for controlling a reversible electric motor for driving the gearing.

3,537,779
CARTRIDGES AND RELATED MECHANISMS

Tibor Horvath, 944 Avenue R,
Brooklyn, N.Y. 11223
Filed Aug. 24, 1967, Ser. No. 663,056
Int. Cl. G03b 23/02

U.S. Cl. 352—78

9 Claims



Cartridge apparatus for motion picture and recording systems including related mechanism, such as components for driving the cartridges, where the cartridge apparatus includes a pair of spools or reels, a supply reel and a take-up reel, one reel in close proximity with the other. In one embodiment of the invention, the reels are coplanar having parallel movable axes, slidable laterally relative to each other, as the film or tape is being transferred from the supply reel to the take-up reel. In another embodiment of the invention, the reels are also coplanar but have coaxial stationary axes. The tape is directed through a guiding structure which has either an optical or a magnetic-type of exposure assembly. In the first embodiment of the invention, the reels are superimposed, one within the other, in the same housing with the guiding structure and exposure assembly located within the housing interweaved within the film or tape between the take-up reel and the supply reel for producing a generally compacted unit, taking up substantially the same space of a single reel in the housing or cartridge. In the second embodiment of the invention, the reels are coplanar having coaxial stationary axes and also superimposed, one

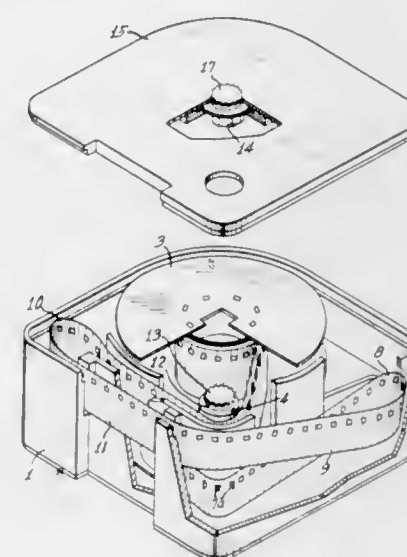
within the other in the same housing with the guiding structure and exposure assembly located on the periphery of the reels adjacent the housing.

3,537,780
MOTION PICTURE FILM MAGAZINE
Pierre Angenieux, 27 Rue du Cherche-Midi,
Paris 6, France

Filed Feb. 6, 1968, Ser. No. 703,320
Claims priority, application France, Feb. 13, 1967,
94,620
Int. Cl. G03b 23/02

U.S. Cl. 352—78

11 Claims



A film magazine adapted to receive motion picture film and intended for use in association with a motion picture camera. The film magazine comprises two compartments adapted to receive, respectively, a feed spool and a take-up spool for the motion picture film. The unexposed film strip on the feed spool is adapted to be unwound therefrom, intermittently moved past an exposure aperture, and wound onto a take-up spool. A substantially cylindrical member adapted to be rotatably driven by apparatus associated with the camera is provided with a pair of integral coaxial sprocket drums adapted to engage and drive the film strip. One of these sprocket drums is adapted to engage the film strip as it is unwound from the feed spool for controlling the rate of film feed. The other sprocket drum is adapted to engage the film strip prior to its being taken up by the take-up spool for controlling the rate of film take-up. The film strip extending between the two sprocket drums follows a path defining two hairpin shaped loops. The first of these loops is formed as the film strip emerges from the sprocket drum controlling the feed rate and such first loop is housed in the upper portion of the magazine. The second of these loops is formed before the film engages the other sprocket drum and is housed in the front portion of the magazine.

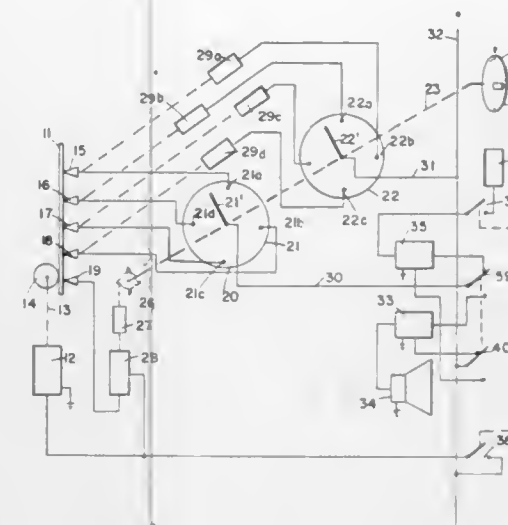
3,537,781
ENDLESS TRACK MOTION PICTURE RECORDING APPARATUS

Jerome H. Lemelson, 85 Rector St.,
Metuchen, N.J. 08841
Filed Aug. 23, 1965, Ser. No. 481,812
Int. Cl. G03b 41/00

U.S. Cl. 352—83

2 Claims

Apparatus for recording plural parallel sound tracks on an endless motion picture film. A plurality of sound



activate the appropriate sound head for recording as the endless film moves through the apparatus.

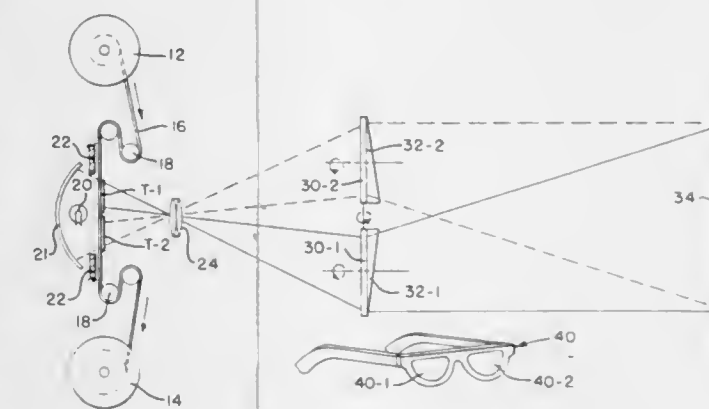
3,537,782
THREE-DIMENSIONAL MOTION PICTURE FILM PROJECTION SYSTEM USING CONVENTIONAL FILM

Dwin R. Craig, Gaithersburg, Md., assignor to Fairchild Hiller Corporation, Germantown, Md., a corporation of Maryland

Filed Sept. 23, 1968, Ser. No. 761,705
Int. Cl. G03b 21/32

U.S. Cl. 352—86

15 Claims



A system for projecting conventional motion picture film with a three-dimensional effect, including a projector having a film gate sufficiently large so that two frames of film can be simultaneously projected there-through. An optical system is positioned outside the focal plane of the projector lens and includes two polarizing members for imparting a predetermined phase to each image of the two frames being projected. At least one of the images also has its light rays bent by an optical component and the two images are projected onto a screen in substantial registration. When viewed through a pair of spectacles with suitable polarizing filters, each eye sees the image of one of the frames projected and the two images are registered in the brain with the spatial displacement between objects in the consecutive frames producing the three-dimensional effect. Several novel embodiments of holders for the optical components of the system which can be readily used with motion picture projectors are also disclosed.

3,537,783

CINEMATOGRAPHIC APPARATUS

Peter Körner, Retschenbach, and Herbert Reinsch, Stuttgart, Germany, assignors to Robert Bosch Elektronik und Photokino GmbH, Stuttgart-Untertürkheim, Germany

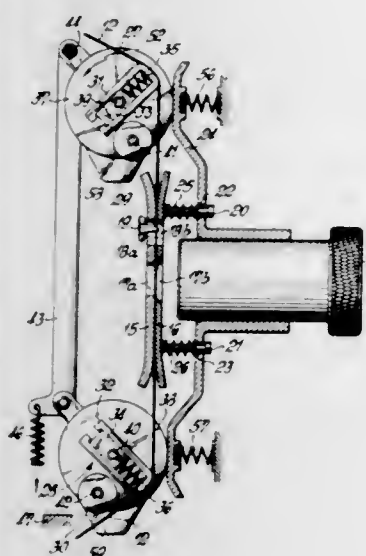
Filed Nov. 21, 1968, Ser. No. 777,666

Claims priority, application Germany, Dec. 14, 1967, 1,280,670

Int. Cl. G03b 1/46

U.S. Cl. 352—124

20 Claims



A motion picture projector wherein the film is guided for movement back and forth between a supply reel and a takeup reel and passes through a gate which is flanked by two guide rolls and two yieldable snubbing units. Each guide roll and the corresponding snubbing unit is mounted on a carrier which is turnable between two positions to respectively move the associated guide roll or the associated snubbing unit into deflecting engagement with the film. The guide rolls engage and deflect the film during rewinding onto the supply reel and the snubbing units engage and deflect the film during travel from the supply reel toward the takeup reel. The two carriers are coupled to each other for simultaneous movement and the gate opens and enables the guide rolls to disengage the film from the calw pull-down in response to movement of guide rolls to film deflecting positions.

3,537,784

MOTION PICTURE PROCESSING AND PROJECTION SYSTEM EMPLOYING MULTIPURPOSE CASSETTE AND STRIP TAPE

Rogers B. Downey, Lexington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Continuation-in-part of application Ser. No. 761,771,

Sept. 23, 1968. This application Nov. 18, 1968, Ser. No. 776,481

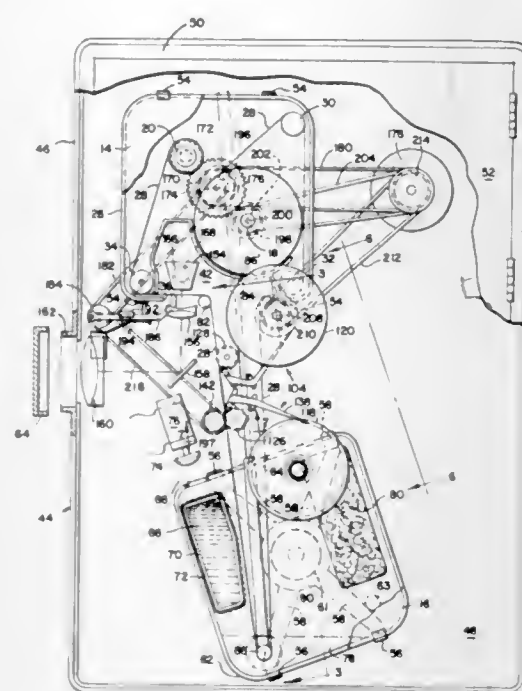
Int. Cl. G03d 15/00

U.S. Cl. 352—130

26 Claims

A motion picture system utilizing film of the type from which the negative image must be removed after development in order to render the positive image suitable for projection purposes and in which the steps of development, stripping and projection are sequentially and simultaneously performed. A cassette may be employed having two releasably connected sections. In one section respective ends of a strip of film are permanently attached to reels for reversible transport across a film gate, while the other section contains processing fluid. Initially, when the two sections are connected together, such a cassette is adapted to be positioned in a camera for exposure purposes. Subsequently, the two sections are separated and mounted

independently in a unique projector which includes means for drawing a loop of the film strip from the film gate of the cassette's first section into the processing fluid contained in its second section. A unique low cost strip tape assembly is replaceably mounted on the inside face of the projector's door so that a section of the strip tape is positioned in contact with a section of the developed film strip when the projector's door is closed. Specially devised features are employed to drive the strip tape assembly in synchronization with the motion of the film strip and projector's claw mechanism and to firmly press the developed film against the strip tape.



3,537,785

PHOTOGRAPHIC APPARATUS WITH PIVOTABLE HANDLE

Bernhard Jablonski, Musberg, Germany, assignor to Robert Bosch Elektronik und Photokino GmbH, Stuttgart-Untertürkheim, Germany

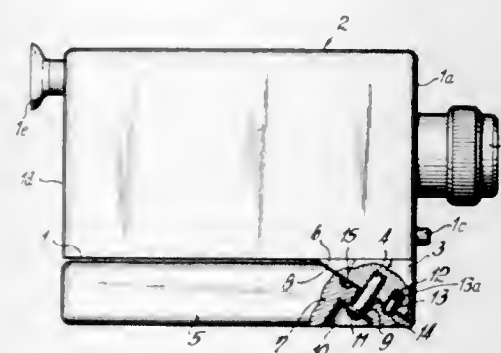
Filed Mar. 17, 1969, Ser. No. 807,567

Claims priority, application Germany, Mar. 28, 1968, 1,284,283

Int. Cl. G03b 17/04

U.S. Cl. 352—243

10 Claims



The front end of the bottom wall on the housing of a motion picture camera carries a downwardly and rearwardly inclined pivot for a pistol grip handle which is turnable on the pivot between an inoperative position adjacent to the underside of the bottom wall and an extended position in which it extends downwardly and forwardly beyond the front wall of the housing. A spring-biased detent is used to yieldably hold the handle in each of its positions.

ERRATA

For Classes 353—101 and 353—120 see:
Patent Nos. 3,537,791 and 3,537,792

3,537,786

PIP MACHINE

Herbert N. Schlein, Beverly, Mass., and Felix H. Brown, Okemos, Mich., assignors to Rahn Corporation, a corporation of Massachusetts

Continuation-in-part of applications Ser. No. 445,910,

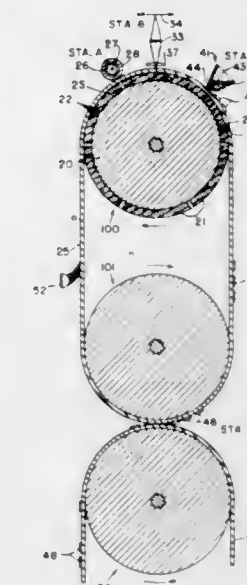
Apr. 6, 1965, and Ser. No. 534,697, Mar. 16, 1966.

This application Oct. 28, 1966, Ser. No. 590,261

Int. Cl. G03g 15/22

U.S. Cl. 355—3

17 Claims



A copying machine utilizing material capable of being persistently internally polarized as the latent image storage means. A removable insulative carrier is applied to the storage means and receives a toner which clings to the carrier in correspondence with a previously applied image pattern. The carrier is then removed from contact with the storage means and forms a record of the recorded image. In one embodiment, the insulative carrier is then passed over a heater to fix the toner so that the insulative carrier forms the final image bearing means. In an alternative embodiment the insulative carrier bearing the toner is brought into contact with a separate image bearing media so as to transfer the toner to this image bearing media which then acts as the final image bearing means.

3,537,787

PHOTOCOPY REPRODUCTION SYSTEM

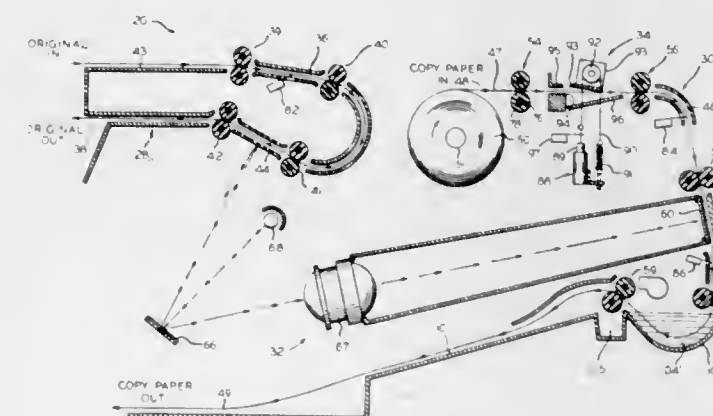
Karl M. Murgas, Lincolnwood, and Burton Greenberg and Otto A. Clark, Chicago, Ill., assignors to ICP, Inc., Skokie, Ill., a corporation of Illinois

Filed Sept. 18, 1967, Ser. No. 668,543

Int. Cl. G03b 27/58

U.S. Cl. 355—29

10 Claims



A photocopy machine having an original document transport system and a copy paper transport system for

reproducing a moving document onto a simultaneous moving photosensitive copy paper. A first feed means initially pulls copy paper into the copy paper pathway and a second feed means spaced therefrom receives the copy paper from the first feed means. A knife means disposed between the first and second feed means severs a length of copy paper after the original has been copied thereon. Means are provided to decouple the drive means from the first feed means after the copy paper is received by the second feed means and before the knife means has severed the copy paper, so that the second feed means controls the pulling of the copy paper past the first feed means and the knife means. The second feed means pulls the copy paper taut when the knife means contacts the copy paper just prior to severing the copy paper, and thereby enabling the copy paper to be sharply cut away from the copy paper supply.

3,537,788

AUTOMATIC DISCRIMINATION TECHNIQUE FOR SELECTIVE PHOTOCOPYING

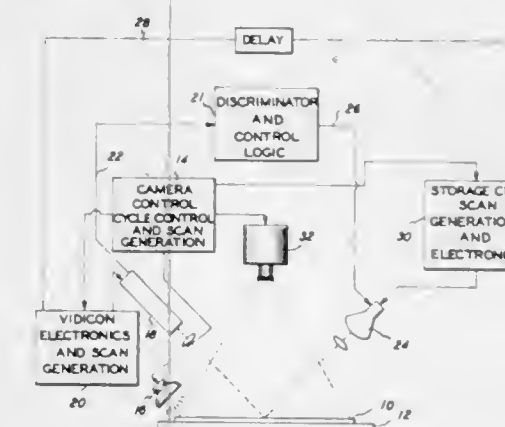
James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 19, 1968, Ser. No. 738,248

Int. Cl. G03b 27/72

U.S. Cl. 355—40

16 Claims



Apparatus for automatically masking selective graphic material to be recorded on a photosensitive recording member. A signal is generated by a vidicon which discriminates areas of text from areas of charts and figures in an original. A cathode ray tube (CRT) is then used to mask the undesired portion so that the desired area can be selectively recorded.

3,537,789

LIGHT SOURCE FOR COLOR PRINTER

Tutomu Kimura, Minami-Ashigara Machi, Ashigara-Kamigun, Kanagawa, Japan, assignor to Fuji Photo Film Co., Ltd., Kanagawa, Japan

Filed Apr. 15, 1968, Ser. No. 721,322

Claims priority, application Japan, Apr. 15, 1967, 42/23,940

Int. Cl. G03b 27/76

U.S. Cl. 355—32

4 Claims



A trichromatic light source for a color printer in the form of three cylindrical color filters, each containing a

lamp and positioned within a mirror box or light integrating device. The end(s) of each of the cylindrical filters extend externally of the mirror box or light integrating device.

3,537,790 NEGATIVE FEEDER FOR PHOTOGRAPHIC PRINTER

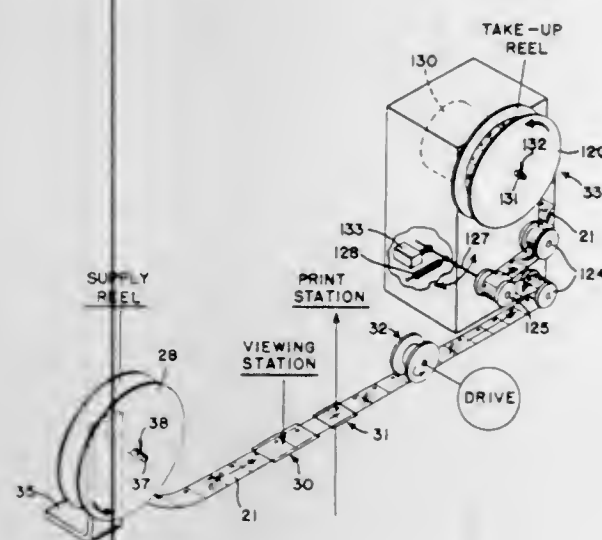
Harold G. Ferguson, Dayton, Ohio, assignor to Progressive Industries Corporation, Dayton, Ohio, a corporation of Ohio

Filed July 22, 1968, Ser. No. 746,676

Int. Cl. G03b 27/52

U.S. Cl. 355—41

10 Claims



An attachment adapted to be mounted on a photographic printer for the purpose of automatically and continuously feeding the negatives through the printer. The negative feeder includes apparatus for advancing the negatives one frame at a time by use of a clutch-brake drive in controlled relationship with the printer. The strip of negatives is engaged and driven by a drive wheel having resilient tires which engage the marginal edges of the negatives.

3,537,791 AUTOMATIC FOCUSING DEVICE FOR SLIDE PROJECTOR

Arthur Kessler, Grossaltstadten, Rudolf Kreiling, Giessen, and Paul Schwetz, Asslar, Germany, assignors to Ernst Leitz GmbH, Wetzlar, Germany

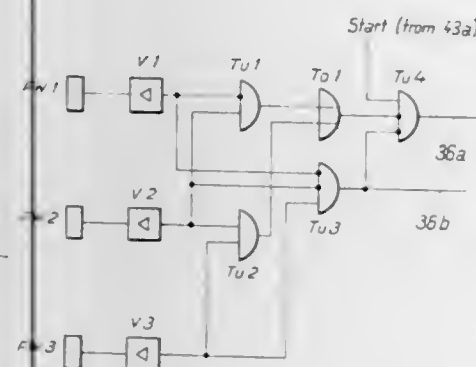
Filed Sept. 28, 1967, Ser. No. 671,449

Claims priority, application Germany, Oct. 1, 1966, L 54,702

Int. Cl. G03f 3/10

U.S. Cl. 353—101

10 Claims



An automatic focusing device for slide projectors is disclosed in which three photo detectors respond to re-

lections of a control beam by the slide, to control the distance between objective and slide. In the correct distance a particular detector receives a reflection, to the exclusion of the others in case of a slide without glass mount, or in conjunction with another detector after a particular sequence of reflections have been received by the detectors in case of multiple reflections by a slide in a glass mount. The control operates in that either a particular, initial distance is established before the three detectors take over control, or a fourth detector supplements the three detector system to permit bidirectional control even in case of multiple reflections.

3,537,792 TRANSPARENCY PROJECTION SYSTEM

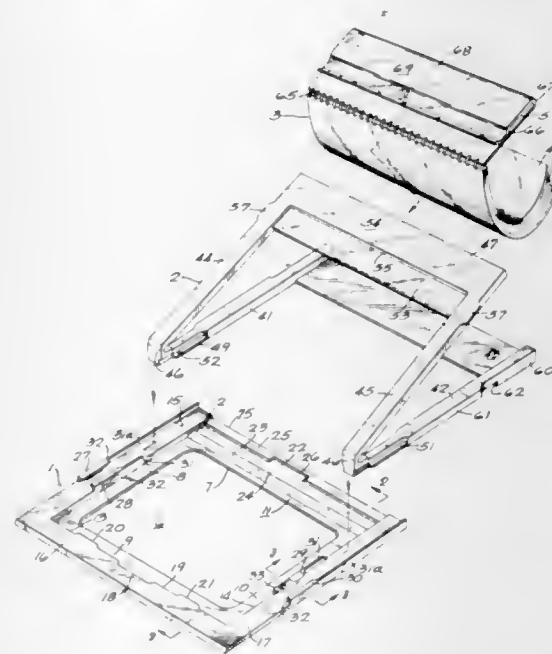
William R. Furniss and Richard J. Weir, Milwaukee, Wis., assignors to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware

Continuation-in-part of application Ser. No. 685,771, Nov. 27, 1967. This application Mar. 28, 1969, Ser. No. 814,886

Int. Cl. G03b 21/00

U.S. Cl. 353—120

14 Claims



Apparatus for arranging and manipulating transparencies on the stage of a projector including a base member which rests on the projector stage, a second member hingedly connected to the base member, and a bound set of transparencies connected to the second member so that the transparencies can be moved from a storage or at rest position to a projection position in which one or several of the transparencies can be projected. A particular form of base member suitable for use in projecting a single transparency as well as a bound group of transparencies is also shown.

3,537,793 IMAGE MOTION DETECTOR

Philip A. Shaffer, Jr., Pasadena, Calif., assignor to Hycon Mfg. Company, Monrovia, Calif.

Filed Jan. 24, 1968, Ser. No. 700,303

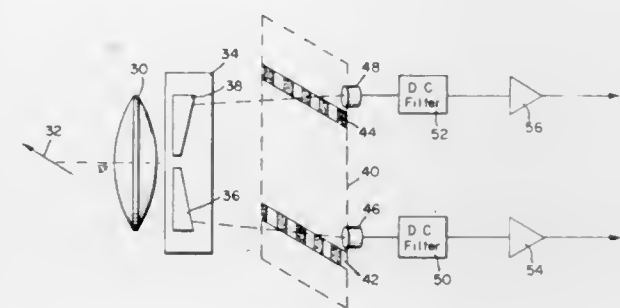
Int. Cl. G01p 3/36

U.S. Cl. 356—28

12 Claims

An improved apparatus for detecting the velocity of moving optical images, and for stabilizing images. Electronic means are utilized for imparting apparent translational velocity to a spatial filter without actual move-

ment of the spatial filter, effectively heterodyning a generated high frequency reference signal with an image



velocity signal. Phase rate detection techniques are utilized for isolating the image velocity information from the heterodyned signal.

3,537,794 APPARATUS FOR THE AUTOMATIC ANALYSIS OF A PLURALITY OF BLOOD SAMPLES WITH MEANS FOR AGITATION OF EACH SAMPLE

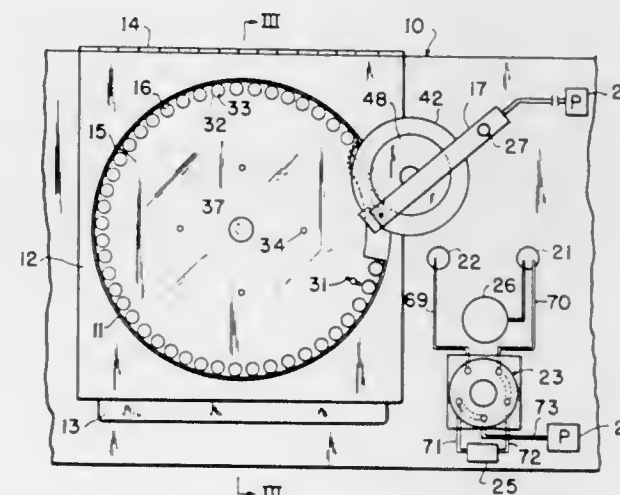
Nevitt M. Louder, Penn Hills, Pa., assignor to Fisher Scientific Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 14, 1968, Ser. No. 752,690

Int. Cl. G01n 33/16

U.S. Cl. 356—40

14 Claims



A blood analyzer having a turntable loosely holding receptacle holders which loosely hold specimen cups. A paramagnetic pin extends from each receptacle holder into a magnetic field of changing polarity positioned adjacent the sampling station whereby the cups are oscillated. A filter disc is rotatably mounted over the specimen cup at the sampling station. A sampling probe is mounted adjacent the turntable and can be moved vertically through the filter disc into and out of a specimen cup and can be moved horizontally to deposit a specimen in cuvetts positioned adjacent the turntable. Means including a valve are provided for selectively drawing specimens from the cuvetts and passing them through a blood counter.

3,537,795 OPTICAL SCANNING DEVICE FOR RAPID SPECTROSCOPY

Michel Clerc, Gif-sur-Yvette, France, assignor to Commissariat a l'Energie Atomique, Paris, France

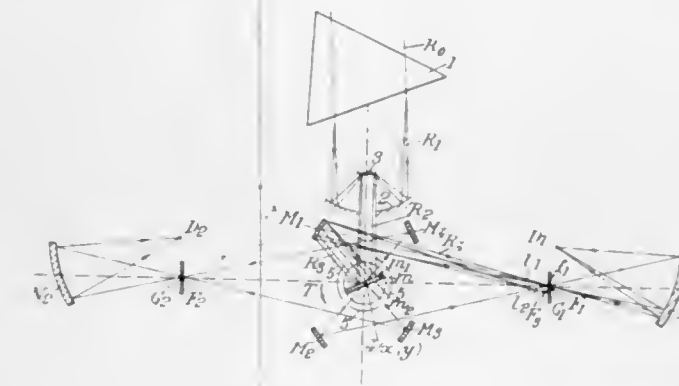
Filed Nov. 29, 1967, Ser. No. 686,666

Claims priority, application France, Nov. 30, 1966, 85,700

Int. Cl. G01n 21/34; G01j 3/06

U.S. Cl. 356—51

7 Claims



The device comprises, in combination with the usual rotating mirror (first mirror) receiving the dispersed beam to be observed, a series of fixed second mirrors, advantageously parabolic or elliptical, disposed to receive successively, in the course of half-revolution of the first mirror, the dispersed beam reflected by the first mirror and to focus these beams on one, two or a small number of slits, these slits being projected by a small number of concentration third mirrors, fewer in number than the second mirrors, and advantageously elliptical, on one, two or a very small number of detectors.

3,537,796 TEMPERATURE COMPENSATED SPECTROMETER

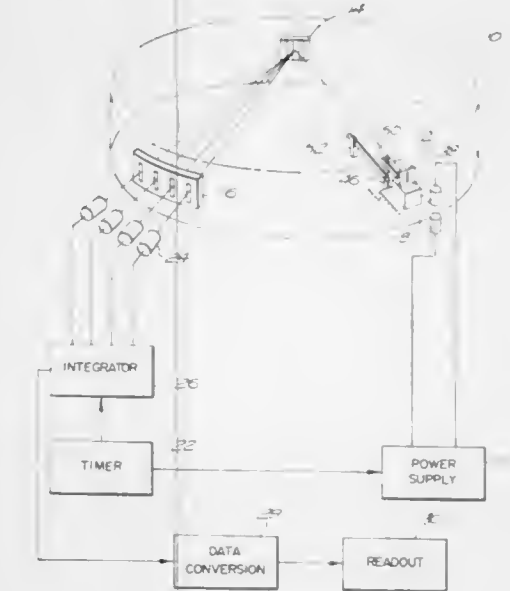
Peter N. Dudeney, Wayland, Mass., assignor to Baird-Atomic, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Nov. 30, 1967, Ser. No. 686,899

Int. Cl. G01j 3/00

U.S. Cl. 356—74

5 Claims

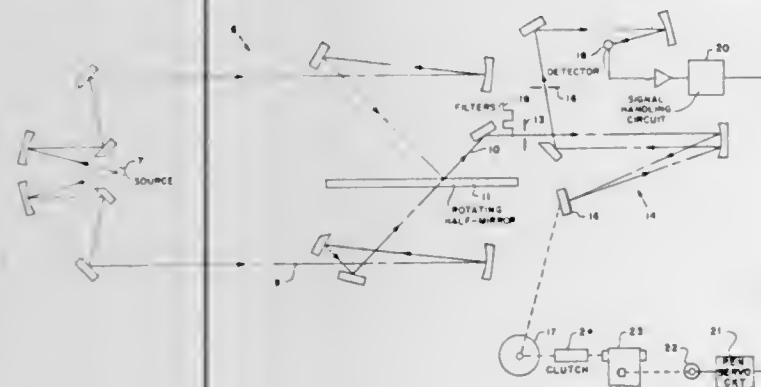


In an optical spectrometer a constant path length is maintained between the entrance and exit slits regardless of dimensional changes in the spectrometer housing due to changes in ambient temperature conditions. The entrance slit is mounted on a parallelogram structure connected to a point along a lever which is pivoted to the housing. Connected to another point on the lever

is a rod of a material having a very low coefficient of expansion. This rod is fixed parallel to the housing whereby, as the housing expands or contracts, it will move the lever causing it to pivot with respect to the rod. This in turn displaces the slit in one direction or another along the optical axis by a distance sufficient to maintain a constant path length between the entrance and exit slits thereby maintaining the system in focus.

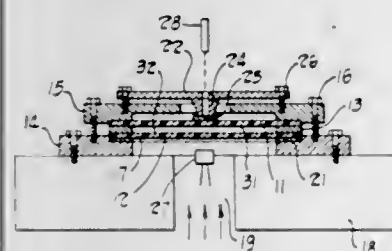
3,537,797
CONTROL CIRCUIT FOR AUTOMATIC RADIANT ENERGY ANALYZERS
Kenneth V. Matthews, Garden Grove, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Mar. 1, 1968, Ser. No. 709,580
Int. Cl. G01j 3/42
U.S. Cl. 356-93 5 Claims



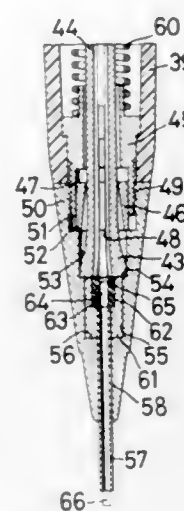
There is disclosed a control system for radiant energy analyzers in which all critical functions are initiated by optical means. A control circuit is provided in which various circuits are conditioned by cam operated mechanical switches, the operation of the control circuit being initiated by the optical means. In this manner, only the tolerances and alignment of the optical means are critical.

3,537,798
DIGITAL PRESSURE TRANSDUCER
Charles K. Toft, Durham, N.H., and Robert D. Smith, Louisville, Ohio, assignors to Case Western Reserve University, a corporation of Ohio
Filed Jan. 8, 1968, Ser. No. 696,250
Int. Cl. G01b 9/02
U.S. Cl. 356-112 6 Claims



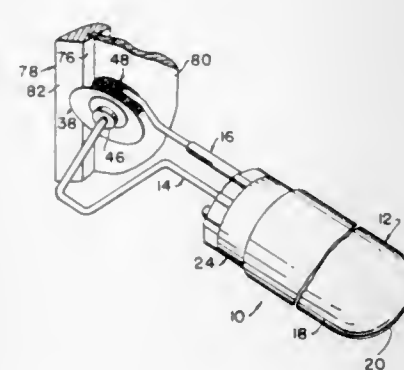
A digital pressure transducer is provided for converting an analog pressure signal into a digital signal by employing an interferometer principle. The transducer has upper and lower glass plates separated by a thin spacer therebetween, each plate having a reflective surface, and the plates are held together by a clamp. The transducer is arranged to have the pressure to be observed or measured applied to the lower plate. Means are provided for illuminating the lower plate and observing the curvature distortions effected by changes in pressure which manifest themselves in the form of interference fringes. These fringe movements are converted to digital signals.

3,537,799
MECHANICAL PENCIL
Fumiko Sakamoto, 7-2 Sanban-cho, Koshien, Nishinomiya-shi, Hyogo-ken, Japan
Filed Dec. 11, 1968, Ser. No. 782,975
Claims priority, application Japan, Dec. 20, 1967, 42/106,817; Sept. 4, 1968, 43/76,409; Nov. 5, 1968, 43/96,382
Int. Cl. B43k 21/16, 21/08
U.S. Cl. 401-67 11 Claims



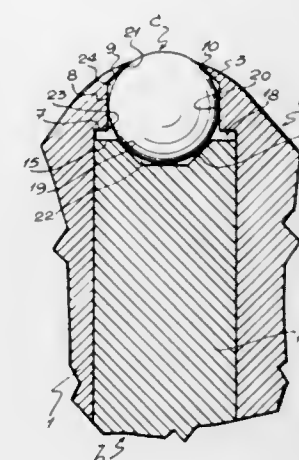
An automatic pencil having a body with a lead extending device therein. A lead protecting element is slidably mounted on the lower part of the body, and it covers the outside of the lead which protrudes from the pencil body. The lead protecting element is retracted as the lead is worn away during writing.

3,537,800
PAINT RESERVOIR AND APPLICATOR ASSEMBLY
Francesco Mocerì, 733 Lantz W., Detroit, Mich. 48203
Filed Oct. 10, 1968, Ser. No. 766,460
Int. Cl. B44d 3/28
U.S. Cl. 401-193 7 Claims



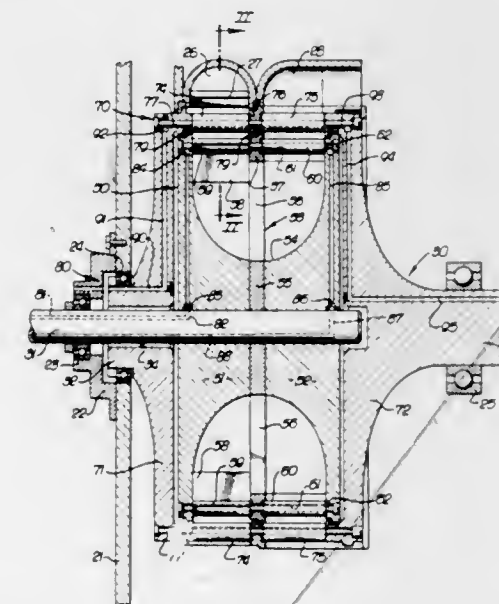
A paint reservoir and applicator assembly is provided. The assembly includes a handle structure which carries an axle. The handle structure comprises a flexible paint reservoir. A roller is rotatably mounted on the axle along with a guide wheel. The roller has an outer paint receiving and transferring surface which is tapered inwardly towards the center of the roller. The guide wheel also has an angled surface for guiding the mechanism during use. A nozzle extends from the reservoir to the roller. Paint may be dispensed from the reservoir to the roller by manual depression of the handle structure. The outer portion of the nozzle is curved around the guide wheel to dispense paint tangentially onto the guide wheel. This portion may be rotated 180° to a position on either side of the roller to facilitate use of the assembly at different angles and positions and with the roller rotating in different directions.

3,537,801
BALL POINT FOR WRITING INSTRUMENTS
Francisco Barcellona Corte, Liniers 3448, Olivos, Buenos Aires, Argentina
Filed Mar. 22, 1968, Ser. No. 715,315
Claims priority, application Argentina, Dec. 19, 1967, 211,549
Int. Cl. B43k 7/10
U.S. Cl. 401-216 4 Claims



A ball point writing instrument comprising a body of generally cylindrical configuration having a longitudinal step bore therethrough, a ball to be housed in the writing end of said step bore, and a ball retaining insert to be housed in the step bore for maintaining the ball in a predetermined position; the ball being housed in an end portion of the step bore but partially projects beyond the bore; the insert having two portions both being of generally cylindrical configuration, a recess on the end of the insert adjacent the ball for cooperating with the end portion of the step bore for housing the ball, a plurality of longitudinal grooves on said insert for supplying writing fluid to the ball; the body, ball and insert defining an annular chamber therebetween, the annular chamber communicating with said grooves to receive writing fluid therefrom.

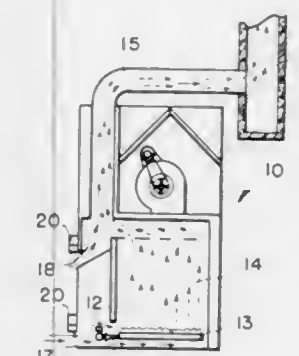
3,537,802
RADIAL FLOW TURBINE
Abas B. Neale, 3172 Ellington Drive, Hollywood, Calif. 90028
Filed Dec. 9, 1968, Ser. No. 782,111
Int. Cl. F01d 1/08
U.S. Cl. 415-64 5 Claims



A radial flow turbine having a pair of oppositely rotating concentric turbine shafts each of which carries an annular disc, the inner disc having a concave peripheral wall

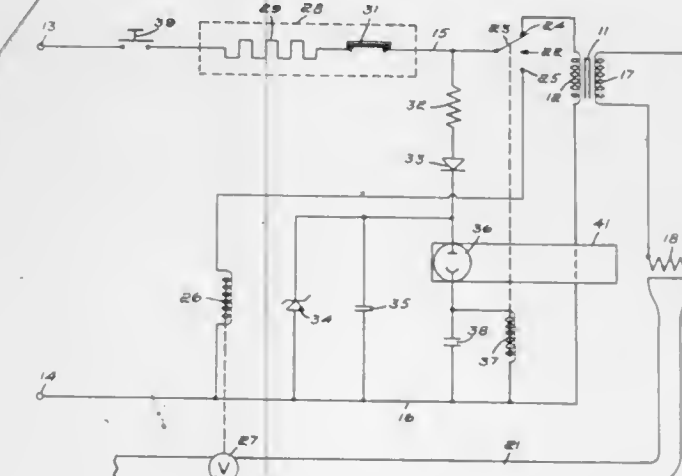
traversed by a plurality of circumferentially spaced turbine blades and the outer disc comprising two walls axially spaced on opposite sides of the first disc and larger in diameter than the first disc and also having a plurality of circumferentially spaced turbine blades traversing the first annular disc.

3,537,803
SAFETY DEVICE FOR GAS-FIRED FURNACES AND THE LIKE
Joseph N. Ignazio, 1655 Lancaster Drive, Youngstown, Ohio 44511
Continuation of application Ser. No. 706,355, Feb. 19, 1968. This application Oct. 29, 1969, Ser. No. 872,420
Int. Cl. F23h 5/24
U.S. Cl. 431-22 2 Claims



A temperature sensing unit is mounted above the primary, secondary air inlet and/or the draft-diverter inlet of a gas-fired furnace. The sensing device is operative to shut off the fuel supply to the furnace in the event the temperature rises above normal, which occurs when there is any obstruction of the flue or chimney serving the furnace. A mounting box for improved sensitivity is also provided.

3,537,804
FUEL IGNITION AND FLAME DETECTION SYSTEM
Lyman H. Walbridge, Ashland, Mass., assignor to Fenwal, Inc., Ashland, Mass.
Filed Mar. 1, 1968, Ser. No. 709,545
Int. Cl. F23n 5/08
U.S. Cl. 431-66 24 Claims



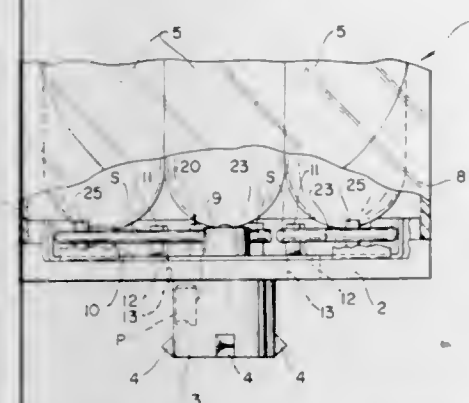
A hot-wire ignition system including a photoelectric element that senses igniter temperature by detecting the radiant energy level emitted by the igniter wire. A control circuit responsive to the photoelectric element regulate both fuel flow to the burner and electrical energy flow to the igniter.

3,537,865

Z-SHAPE STRIKER SPRING FOR PERCUSSION-IGNITABLE, MULTILAMP FLASH UNITS
 Chester W. Michatek, Rochester, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., Danvers, Mass., a corporation of Delaware
 Filed Oct. 14, 1968, Ser. No. 767,341
 Int. Cl. F21k 5/02

U.S. Cl. 431—93

6 Claims



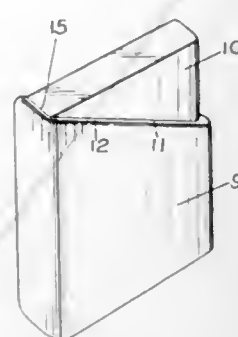
A multilamp photoflash unit is disclosed having a plurality of percussion-ignitable flash lamps mounted on a base. A spring member of generally planar, Z-shaped configuration is mounted in a flat orientation on the base of the flash unit. Sheared-up portions of a metal plate on the unit base are located to restrain striker portions of the Z-spring at energized positions, stressed inwardly towards the connecting portion of the spring. Upon release from its restraint, a striker portion moves outwardly into percussion impact with an associated flash lamp.

3,537,806

CIGARETTE LIGHTERS
 William Retzler, Wickham, England, assignor to Tetra Molelectric Limited, a British company
 Filed July 1, 1968, Ser. No. 741,407
 Claims priority, application Great Britain, July 14, 1967, 32,610/67
 Int. Cl. F23q 2/08

U.S. Cl. 431—130

6 Claims



The invention concerns an automatic cigarette lighter having an outer casing formed by parts of an actuating member and a main body. In the rest position the actuating member is resiliently held in a position in which visible external surfaces of the actuating member part and of the main body part terminate at a common imaginary plane. The lighter is operated by displacing the actuating member relatively to the main body with a translational movement substantially parallel to the imaginary plane.

CHEMICAL

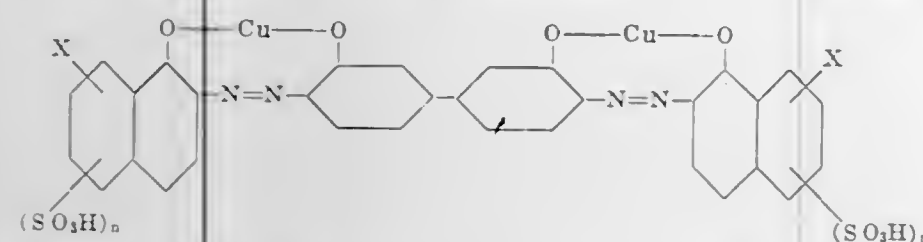
3,537,807

PROCESS FOR DYEING PAPER EMPLOYING METALIZED DYESTUFFS CONTAINING DIETHYLENE TRIAMINE
 Clemens Strack, Loudonville, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
 No Drawing. Filed Mar. 14, 1967, Ser. No. 622,940
 Int. Cl. D21h 1/46

U.S. Cl. 8—7

4 Claims

Paper is dyed with dyestuffs of the formula:



wherein n is 1-2, and X is hydrogen, chlorine or —NHR , wherein R is hydrogen, lower alkyl, benzyl, aryl or acyl, to which there has been added 5-20 parts of diethylene triamine and preferably 10-30 parts of (A) dialkali metal phosphate and/or (B) hexamethylene tetramine for 100 parts of dyestuff to obtain an even dyeing of true shade.

3,537,808

METHOD OF DEPOSITING POLYMERS ON FIBROUS PRODUCTS
 John L. Gardon, Levittown, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
 No Drawing. Filed Feb. 17, 1961, Ser. No. 89,921
 Int. Cl. D06m 13/34

U.S. Cl. 8—116.2

46 Claims

1. A process for modifying a fibrous substrate which comprises forming an oil-in-water emulsion, the oil phase of which contains a reactant A dissolved in a water-im-

miscible non-polar solvent and the aqueous phase of which contains a reactant B dissolved therein, applying the emulsion and an alkaline catalyst to a fibrous substrate at a temperature of -10°C . to $+100^\circ\text{C}$. to effect reaction between the reactants therein and the formation of a condensation polymer in contact with fibers of the substrate, reactant A being selected from the group consisting of dicarboxylic acid halides, disulfonic acid halides, bisulfoformates, and biscarbonyl halides and reactant B being selected from the group consisting of guanidine, thiourea,

dithiobiuret, diamines, diphenolates, dithiols, aminoalkylphenolates, and aminothiols.

3,537,809

SWELLING AGENTS USED IN CONJUNCTION WITH REDUCING AGENTS IN PROTEINACEOUS TEXTILE SETTING PROCESS
 Ulla Margareta Cednäs, Molndal, and Ebba Marianne Kärrholm, Gothenburg, Sweden, assignors to Stiftelsen Svensk Textilforskning, a foundation of Sweden
 Filed Dec. 30, 1964, Ser. No. 422,311
 Claims priority, application Sweden, Jan. 8, 1964, 183/64
 Int. Cl. D06m 3/06, 3/10

U.S. Cl. 8—127.6

2 Claims

Woolen and related proteinaceous materials are set by swelling the material with a strong solution of hydrogen bond breaking agents such as urea, guanidine and monoethanolamine and reducing agents such as water soluble sulphites and bisulfites in water or water soluble

organic solvents or mixtures thereof and thereafter deswelling the materials in water while maintaining the desired shape and dimension thereof. Mechanical treatments may be applied to the materials during the deswelling to obtain the desired shape or surface finish thereof and other solvents than water may be used in the deswelling operation.

3,537,810

PROCESS FOR THE CARBONIZATION OF WOOL
 Heinz Fleissner and Gerold Fleissner, Egelsbach, near Frankfurt am Main, Germany, assignors to Anstalt für Patentedienst, Vaduz, Liechtenstein
 Filed Apr. 1, 1966, Ser. No. 539,529
 Claims priority, application Germany, Apr. 10, 1965, A 48,926; Oct. 14, 1965, A 50,486
 Int. Cl. D06c 7/04

U.S. Cl. 8—140

14 Claims

The present disclosure is directed to a process and apparatus for the continuous carbonization of wool, preferably in the form of flock, comprising the steps of wetting the wool with an acid solution, thereafter extracting, drying and heating the wool to a baking temperature, subsequently removing carbonized matter from the wool and thereafter neutralizing the acid adhering to the fibers of the wool, at least some of the treatment media used in the aforementioned steps being applied to the wool by means of a suction draft.

3,537,811

PROCESS OF DYEING AROMATIC POLYESTER FIBERS WITH NITRODIPHENYLAMINE DISPERSE DYES AND DYED PRODUCTS THEREOF
 Hans Alfred Stengl, Toms River, N.J., assignor to Toms River Chemical Corporation, Toms River, N.J., a corporation of Delaware
 No Drawing. Filed Jan. 16, 1968, Ser. No. 698,142
 Int. Cl. D06p 3/54

U.S. Cl. 8—176

8 Claims

Nitrodiphenylamine compounds of the formula



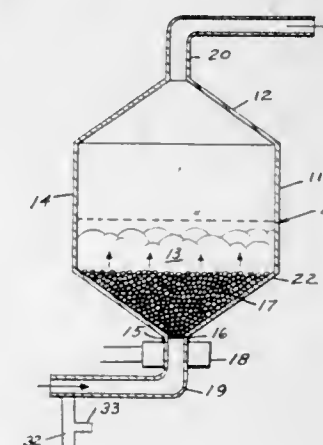
in which A is an arylene radical or an alkylene radical and R is alkyl, amino or substituted amino are yellow to orange dyestuffs particularly suitable for the dyeing and printing of synthetic fibers, notably polyalkylene terephthalate fibers.

3,537,812

GRAVITY DISPLACEMENT STERILIZER
 Charles E. Gallagher, Donald A. Gunther, and James H. Patrie, Erie, Pa., assignors to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
 Filed Dec. 13, 1967, Ser. No. 690,304
 Int. Cl. A61l 3/00

U.S. Cl. 21—91

9 Claims



A gravity displacement sterilizer comprising hood, diffuser and intermediate sections and including a gas

outlet in the hood section and a gas inlet in the diffuser section. The hood and diffuser sections are in the form of truncated cones with the widest portion thereof connected to said intermediate section. Diffusion means is located in said diffuser section to direct incoming sterilizing gas so it is distributed generally uniformly over the entire cross-sectional area of said intermediate section, said gas distribution being accomplished generally without turbulence to provide for a minimum of mixing of the sterilizing gas and air present in the sterilizer.

3,537,813

RECOVERY OF LITHIUM FROM BITTERNS
 Joseph R. Nelli and Theodore E. Arthur, Jr., Gastonia, N.C., assignors to Lithium Corporation of America, New York, N.Y., a corporation of Delaware
 Continuation-in-part of application Ser. No. 570,192, Aug. 4, 1966. This application Apr. 25, 1968, Ser. No. 724,295
 Int. Cl. C01d 11/02

U.S. Cl. 23—89

17 Claims

A process for recovering certain mineral, specially lithium, values from liquids obtained from brines or sea water, after removing the major content of sodium chloride and reducing the content of other salts in said brines or sea water. A metal halide which is reactive with lithium to form a lithium-containing compound, particularly ferric chloride, is added to the liquid, together with an acid, such as hydrochloric acid, to inhibit hydrolysis of the metal halide, and the lithium values are recovered by extraction with a water-insoluble organic solvent, phase separation, and washing of said separated organic solvent extract phase with water.

3,537,814

AMMONIUM POLYPHOSPHATE PRODUCED AT ATMOSPHERIC PRESSURE
 Thad D. Farr, Sheffield, and Henry K. Walters, Jr., Florence, Ala., assignors to Tennessee Valley Authority, a corporation
 Original application Aug. 24, 1967, Ser. No. 663,171, now Patent No. 3,484,192, dated Dec. 16, 1969. Divided and this application Oct. 2, 1968, Ser. No. 765,746
 Int. Cl. C01b 25/28, 25/38

U.S. Cl. 23—107

5 Claims

A process for the preparation of ammonium polyphosphate by the ammoniation of polyphosphoric acids containing preferably more than 80 percent P_2O_5 with concurrent hydrolysis of the objectionable long-chain phosphate species. An intermediate melt pH 5 to 6 is prepared and processed further to produce granular solids, solutions, or suspensions that contain ammonium pyrophosphate as the major phase.

3,537,815

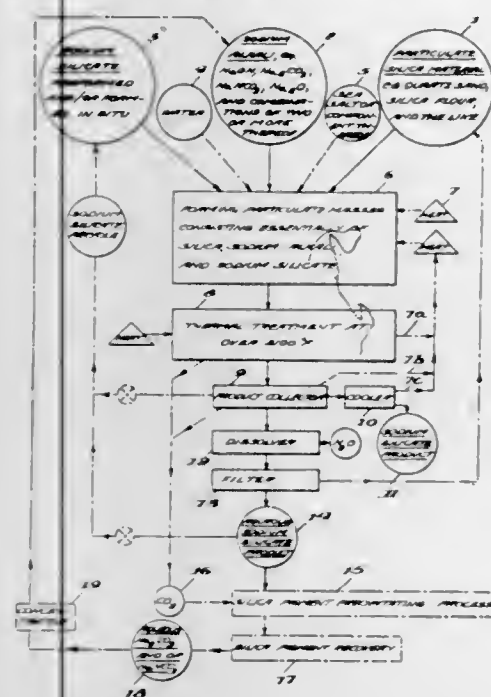
PREPARATION OF ALKALI METAL SILICATES
 Oliver W. Burke, Jr., P.O. Box 1266, Fort Lauderdale, Fla. 33061
 Filed Mar. 9, 1967, Ser. No. 621,970
 Int. Cl. C01b 33/32, 33/20

U.S. Cl. 23—110

24 Claims

Known operation of sodium silicate furnaces has been limited to about $2300-2600^\circ\text{F}$. by the volatility of the alkali, these temperatures necessitating prolonged treatment in the furnace; alkali attack has required periodic replacement of furnace linings; and as alkali, soda ash has been preferred to caustic soda as the latter gives off water in the furnace. Herein sodium silicate is produced more rapidly, e.g. at higher temperatures in the range of $3100-3900^\circ\text{F}$., by a preliminary depression of the volatility of the alkali; the said reaction is preferably conducted in

particulate masses essentially out of contact with the furnace lining; and the high temperature reaction is preferably



erably conducted in a modification of the type of furnace heretofore used to produce carbon black.

3,537,816 PROCESS FOR REDUCING THE ALKALI METAL CONTENT OF FAUJASITE TYPE CRYSTALLINE ZEOLITES

Leo Moscou, Castricum, Netherlands, assignor to Koninklijke Zwavelzuurfabrieken v/h Ketjen N.V., Amsterdam, Netherlands, a corporation of Netherlands
No Drawing. Filed Sept. 27, 1968, Ser. No. 763,389
Claims priority, application Netherlands, Oct. 2, 1967, 6713340

Int. Cl. G01b 33/28

U.S. Cl. 23—112 10 Claims

A crystalline aluminosilicate of the faujasite type, for example of the species thereof which have been referred to as zeolite X and zeolite Y, and which has had its alkali metal content reduced by one or more base exchange procedures with an aqueous solution containing rare earth metal ions with or without hydrogen ions and/or ammonium ions to partly replace the alkali metal ions, has its alkali metal content further reduced by being suspended in water together with a water-insoluble cation exchange resin in the hydrogen and/or ammonium form in such relative amounts that the equivalence ration of H^+ and/or NH_4^+ ions in the cation exchange resin and the Na^+ or other alkali metal ions in the aluminosilicate is within the range of from 2 to 100, with the concentration of aluminosilicate in the suspension being within the range of from 1 to 20 wt. percent, and by stirring the suspension thus obtained at a temperature within the range of from 10 to 90° C. for a time within the range of from 15 to 300 minutes, whereupon the aluminosilicate of reduced alkali metal content is separated from the cation exchange resin.

3,537,817 PROCESS FOR THE PREPARATION OF ANHYDROUS HYDROFLUORIC ACID

Roland Bachelard, Lyon, France, assignor to Ugine Kuhlmann, Paris, France, a corporation of France

No Drawing. Filed Dec. 4, 1968, Ser. No. 781,252

Claims priority, application France, Dec. 6, 1967, 131,128

Int. Cl. C01b 7/22

U.S. Cl. 23—153 8 Claims

A process for preparing anhydrous hydrofluoric acid from aqueous solutions of fluosilicic acid by (1) neu-

tralizing the solution and precipitating silica by addition of ammonia and forming an ammonium fluoride, (2) adding a metal fluoride to the ammonium fluoride to form a double fluoride of ammonia and the metal, (3) heating the double fluoride and adding thereto ammonium fluoride to generate ammonia, ammonium difluoride, ammonium cryolite, (4) heating the cryolite and difluoride to generate hydrofluoric acid and a double fluoride of the metal and ammonium which is decomposed for recycling wherein all by-products of the process are recycled to maintain a closed system.

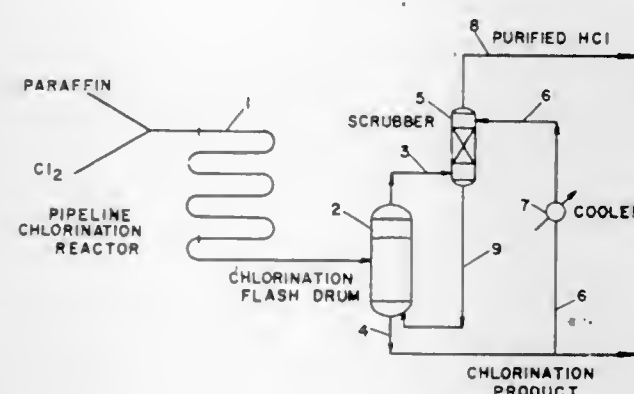
3,537,818 PURIFICATION OF HYDROGEN CHLORIDE PRODUCED BY THE CHLORINATION OF PARAFFIN HYDROCARBONS

John C. Jubin, Jr., Wallingford, and Matthew L. Becker, Philadelphia, Pa., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1968, Ser. No. 769,484

Int. Cl. C01b 7/08

U.S. Cl. 23—154

1 Claim



The hydrogen chloride gas produced as a by-product in the chlorination of paraffins is purified by scrubbing the gas with a portion of the chlorination product.

3,537,819 MANUFACTURE OF PHOSPHORYL FLUORIDE AND DIFLUOROPHOSPHORIC ACID

Robert A. Wiesboeck, Atlanta, Ga., assignor, by mesne assignments, to United States Steel Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 566,197, July 19, 1966, and Ser. No. 624,188, Mar. 20, 1967. This application Sept. 8, 1967, Ser. No. 666,518

The portion of the term of the patent subsequent to Feb. 25, 1986, has been disclaimed

Int. Cl. C01b 25/10

U.S. Cl. 23—203

4 Claims

An alkali or alkaline earth fluorosulfonate is mixed with a metal phosphate and the mixture heated to 150–350° C. to liberate phosphoryl fluoride and difluorophosphoric acid and the products recovered.

3,537,820 METHOD OF AND APPARATUS FOR ANALYZING A CHEMICAL COMPOSITION

Henry P. Markant, Alliance, Ohio, Indravadan S. Shah, Forest Hills, N.Y., and Norbert Soltys, Alliance, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 14, 1966, Ser. No. 579,307

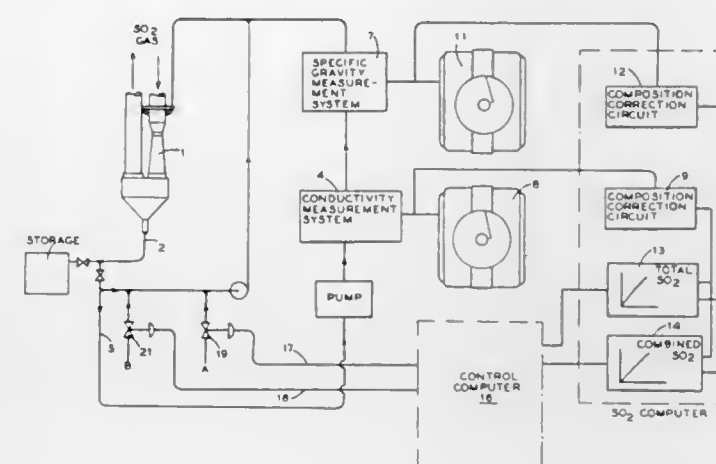
Int. Cl. G06f 15/46; G06g 7/58; G01n 27/10

U.S. Cl. 23—230

16 Claims

A control system for regulating the composition of a chemical fluid wherein simultaneous measurements of

at least two physical characteristics of the chemical fluid are converted to mathematical relationships and there-



after correlated to determine the composition preparatory to corrective changes to the fluid.

3,537,821 METHOD OF EXAMINING MIXTURES OF AMINO ACIDS BY CHROMATOGRAPHY

Jiri Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia

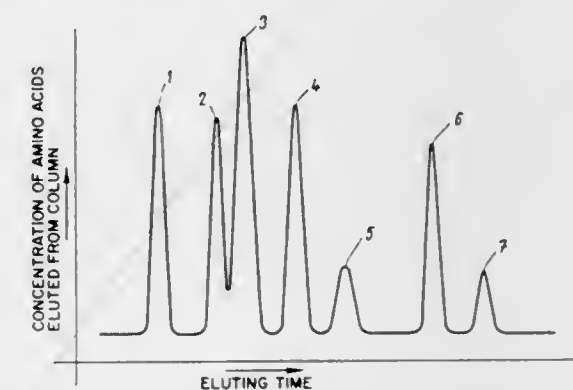
Filed Apr. 15, 1968, Ser. No. 721,497

Claims priority, application Czechoslovakia, Apr. 25, 1967, 3,002/67

Int. Cl. G01n 31/04

U.S. Cl. 23—230

8 Claims



A method of examining pairs of amino acids that are difficult to separate from each other in a chromatographic column, and of evaluating them in the resulting chromatogram. The chromatographic column is fed with an eluent which has been enriched with an adduct of organic solvents having an aliphatic chain therein and which has a boiling point higher than 100° centigrade. The eluent is supplied to the chromatographic column within a period which is either equal to or shorter than the elution time of one constituent of the particular amino acid pair being examined, and the start of the eluent-supplying period precedes the introduction of the specimen to be chromatographically evaluated or separated.

3,537,822 METHOD FOR THE DETERMINATION OF SERUM IRON AND TOTAL IRON BINDING CAPACITY

John A. O'Malley, Merchantville, N.J., Anne E. Hassan and Judith R. Shiley, Philadelphia, Pa., and Henry G. Traynor, Glenhead, N.Y., assignors to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

No Drawing. Filed Mar. 28, 1969, Ser. No. 811,590

Int. Cl. G01n 21/06, 21/20

U.S. Cl. 23—230

8 Claims

A relatively fast, simple, and accurate method for determining both serum iron concentration and total iron binding capacity of a single serum sample in a single test

tube, utilizing one color-developing agent, 2,4,6-tripyrindyl-s-triazine (TPTZ) for both tests. Ascorbic acid is used as the agent for reducing the iron to its ferrous state and, after the serum iron determination is made, a Tris buffer is used to combine the iron in its reduced state with the protein as the initial step of the iron binding capacity test.

3,537,823 GAS TESTING PROCESS FOR SMOG FORMING CONSTITUENTS

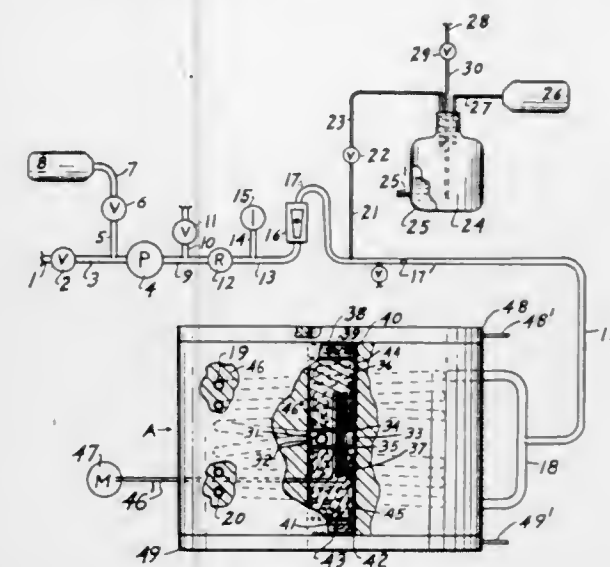
William B. Innes, 724 Kilbourne Drive, Upland, Calif. 91786

Continuation-in-part of application Ser. No. 538,503, Feb. 23, 1966. This application June 3, 1968, Ser. No. 748,109

Int. Cl. G01n 33/22, 31/00

U.S. Cl. 23—232

10 Claims



A process and device for sensing the quantity of smog forming hydrocarbons in a gas sample. The gas sample is passed through a reactive bed comprising supported and non-supported vanadia or chromia to induce exothermic oxidation of selected hydrocarbons. A temperature probe in the catalyst bed senses the temperature rise due to oxidation. The quantity of smog forming constituents can be determined directly from the temperature increase since it has been found under proper conditions that the chromia and vanadia induced oxidation produces a temperature rise which is linear with the amount of "smog producing" hydrocarbons and insensitive to other combustibles.

3,537,824 APPARATUS FOR RENDERING MATERIALS BY BATCH OR CONTINUOUS PROCESS SELECTIVELY

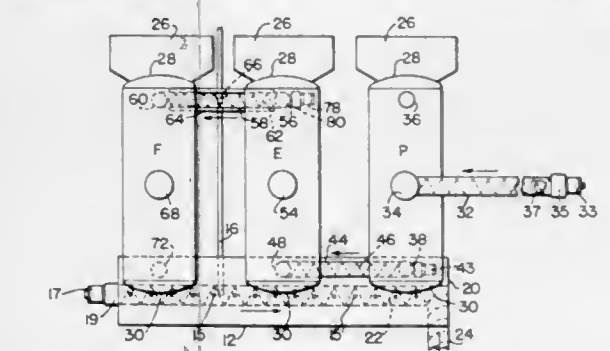
William C. Schmidt, Cincinnati, Ohio, assignor to Cincinnati Butchers Supply Company, Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 17, 1967, Ser. No. 631,366

Int. Cl. B01d 43/00; C11b 1/12; A23c 19/12

U.S. Cl. 23—280

17 Claims



The apparatus may be used alternatively, to render a fat or oil-bearing material by either the batch or the

continuous process. A pre-press transfer conveyor between the evaporator and the finisher shortens the rendering period and results in the production of end products of superior quality. Automatically operated transfer conveyors advance the renderable material through several stages of treatment when the apparatus is used for continuous processing, and the end products are automatically accumulated and stored while processing of additional material progresses. The same apparatus, unaltered, may be used in batch-rendering of materials having differing characteristics, without intermixing of successive batches. Floor space requirements of the apparatus are minimal.

3,537,825 AUTOCLAVE

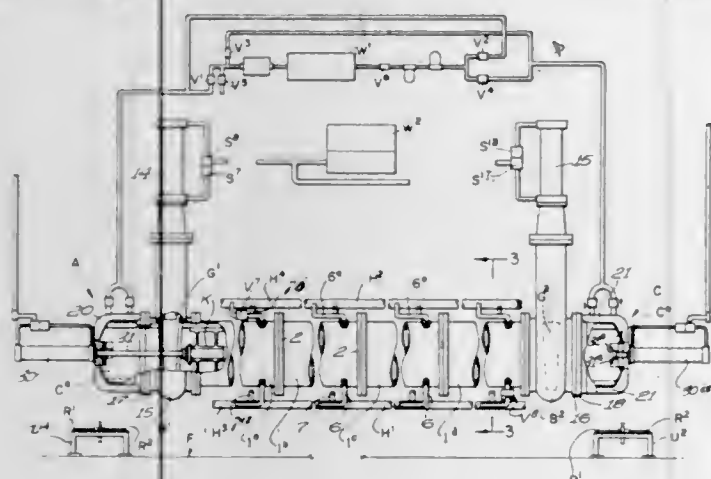
Jaroslav F. Adamik, Warren, R.I., assignor to Bristol Manufacturing Corporation, Bristol, R.I., a corporation of Rhode Island

Filed Jan. 6, 1967, Ser. No. 611,791

Int. Cl. B01j 3/02

U.S. Cl. 23—290

19 Claims



Apparatus for the treatment of material in a more or less continuous manner under automatically controlled conditions of time, temperature and pressure, for example, for the vulcanization of rubber, whose operative parts, including loading and unloading devices, are individually actuated by fluid pressure motors automatically controlled by a programming device, and an air-compressor, at times, transfers heated gaseous fluid from one chamber to another to avoid heat losses.

3,537,826 ALUMINUM MONOFLUORIDES AND ADDUCTS THEREOF

Edward E. Flagg and Donald L. Schmidt, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 3, 1967, Ser. No. 627,861

Int. Cl. C01f 7/50; C07f 5/06

U.S. Cl. 23—167

4 Claims

The present invention is to novel substituted monofluoroalanes and tetrahydrofuran adducts thereof. These compounds are prepared by reacting a di-substituted alane with an acidic fluoride source material at relatively low temperatures in a tetrahydrofuran medium. The compounds as recovered from the reaction media are of high purity.

**3,537,827
FLEXIBLE SUPERCONDUCTIVE LAMINATES**
Mark G. Benz, Burnt Hills, and Louis F. Coffin, Jr., Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed June 23, 1967, Ser. No. 648,469

Int. Cl. B32b 15/00

U.S. Cl. 29—194

3 Claims

An improved laminated superconductor is disclosed which comprises a superconductive layer bonded between

a layer of a non-magnetic, non-superconductive material which has a high yield strength, a relatively high modulus of elasticity and a layer of a non-superconductive material which has a relatively low modulus of elasticity and a



relatively low electrical resistance at the temperatures at which the superconductive layer is in the superconducting state. The conductor is more readily formed into coils because of the proportionate thicknesses of the non-superconductive layers than similar conductors.

3,537,828 COMPOSITE STAINLESS STEEL ARTICLE

John A. Henrickson, Bedford, and Nicholas Makrides, Cleveland Heights, Ohio, assignors to United States Steel Corporation, a corporation of Delaware

Filed Feb. 13, 1967, Ser. No. 615,745

Int. Cl. B32b 15/18

U.S. Cl. 29—196.1

1 Claim



A composite article containing a non-austenitic stainless steel core and a carbon steel cladding suitable for cutlery manufacture and a method of making the article. The method involves assembling a sandwich of the carbon steel cladding and stainless steel core, metallurgically bonding the cladding and core, working the assembly to gauge and grinding the edge to expose the stainless steel core.

**3,537,829
DEVICE FOR REDUCING THE CONTENT OF CARBON MONOXIDE IN THE EXHAUST GASES FROM AN INTERNAL COMBUSTION ENGINE**
Walter Ott, Wetzikon, Switzerland, assignor to Hivag Handels- und Industrie-Verwaltungs A.G., Vaduz, Liechtenstein

Filed May 15, 1967, Ser. No. 638,509

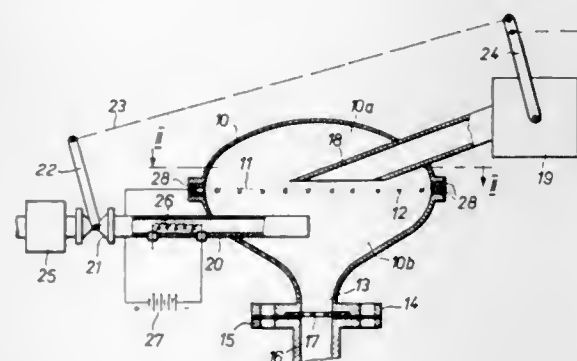
Claims priority, application Switzerland, May 24, 1966,

7,800/66

Int. Cl. B01f 5/00; F02m 23/04, 25/02

U.S. Cl. 48—180

12 Claims



A device disposed between a fuel-air mixture supply means and the intake of an internal combustion engine for causing more complete fuel combustion whereby the carbon monoxide content of the engine exhaust gases is reduced. The device includes a cyclone chamber hav-

ing a mesh screen member extending thereacross and dividing the chamber into first and second subchambers. A mixture intake communicates with the first subchamber and a mixture outlet communicates with the second subchamber. The mixture intake is positioned at an acute angle relative to the surface of the screen member and is additionally positioned substantially tangentially relative to the chamber whereby the fuel-air mixture supplied to the chamber undergoes a swirling motion.

3,537,830

APPARATUS FOR GRINDING

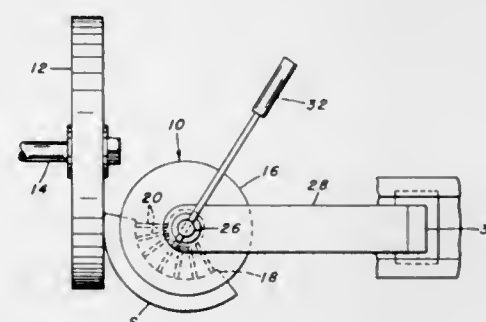
Albert Lee Ashlock, Eastview, Ky., assignor to Crucible Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Sept. 10, 1968, Ser. No. 758,869

Int. Cl. B24b 5/02

U.S. Cl. 51—96

2 Claims



This disclosure relates to a method and apparatus for surface grinding permanent magnet segments of arcuate configuration. The invention embodies a vacuum chuck adapted to receive and hold said segment in position for grinding. The chuck is adapted for selective positioning a distance from the flat grinding surface of a grinding wheel, and is further adapted to pivot about an axis parallel to the grinding wheel, whereby an exposed surface of the magnet segment is ground to the desired tolerance. The degree of surface removal effected during grinding is governed by the distance between the chuck axis and the grinding surface of the wheel.

3,537,831

GRINDING AND POLISHING MECHANISM

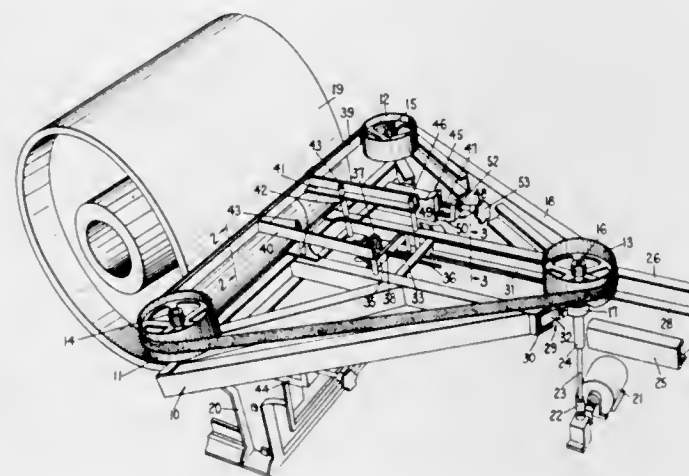
Allen K. Foster, Worcester, Mass., assignor to Hemphill Company, Hopedale, Mass., a corporation of Massachusetts

Filed Oct. 7, 1968, Ser. No. 765,450

Int. Cl. B24b 5/00, 21/02

U.S. Cl. 51—145

7 Claims



A mechanism for grinding and polishing the cylindrical surfaces of rotating cylindrical members by means of a

rotating endless belt which is adapted to be moved into contact with and traverse the full width of said cylindrical members.

3,537,832

QUICK-RELEASE GRINDING MACHINE COUPLING AND IMPROVED ABRADING DEVICE FOR USE THEREWITH

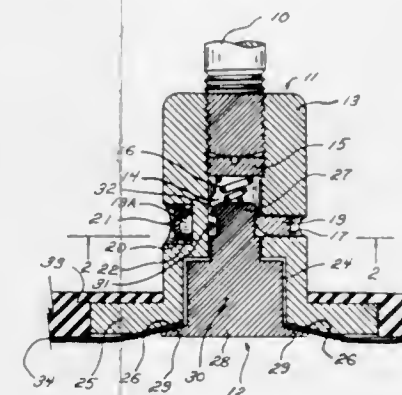
Robert L. Johnson, Whitman, Mass., assignor to Mercedes M. Johnson, Hanover, Mass.

Filed Sept. 20, 1968, Ser. No. 761,146

Int. Cl. B24d 17/00, 11/00

U.S. Cl. 51—376

7 Claims



A quick-release grinding machine coupling having a non-circular seat for quick releasably connecting an abrading device, having a complementary non-circular opening, to the shaft of a grinding machine.

3,537,833

METHOD FOR PRODUCING HOLLOW GLASS SPHERES

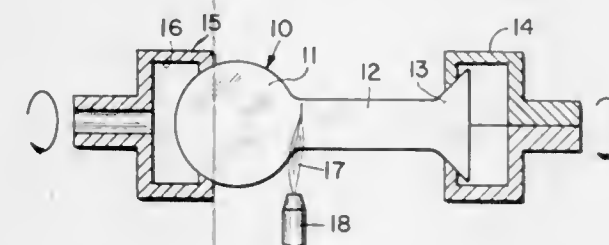
Mijo Albert Gossie, Corning, and William R. Wisner, Big Flats, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 18, 1968, Ser. No. 713,727

Int. Cl. C03b 19/10

U.S. Cl. 65—21

2 Claims



A method of making hollow glass spheres from hollow glass blanks including a partially spherical bulbar portion and an extending tubular portion connected with an opening between these portions. Said tubular portion is heated to the softening point temperature of the glass and is pulled away from said bulbar portion to cause the opening in the tubular portion to close and such tubular portion to finally separate from the bulbar portion. Vacuum is thereafter selectively applied to the bulbar portion at said point of separation from the tubular portion to draw on the bulbar portion at said point of separation and cause it to conform to the partially spherical shape of the remainder of the bulbar portion.

ERRATUM

For Class 65—59 see:
Patent No. 3,537,276

3,537,834

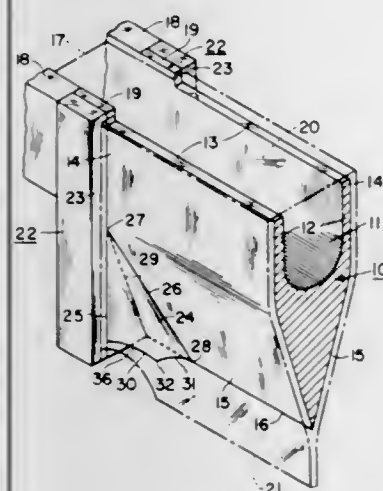
MAINTAINING SHEET GLASS WIDTH
Raphael A. Simon, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 539,903, Apr. 4, 1966. This application Aug. 7, 1968, Ser. No. 750,907

The portion of the term of the patent subsequent to June 24, 1986, has been disclaimed
Int. Cl. C03b 15/02

U.S. Cl. 65—199

6 Claims



In the formation of sheet glass by the overflow-down draw process, the width of usable sheet glass is maximized by downwardly flowing edge portions of the sheet over web-like members which project below the root of the forming member, with an arcuate portion thereof terminating in the vertical plane passing through the longitudinal axis of said root, to thin edge portions of the glass flow and maintain sheet width.

3,537,835

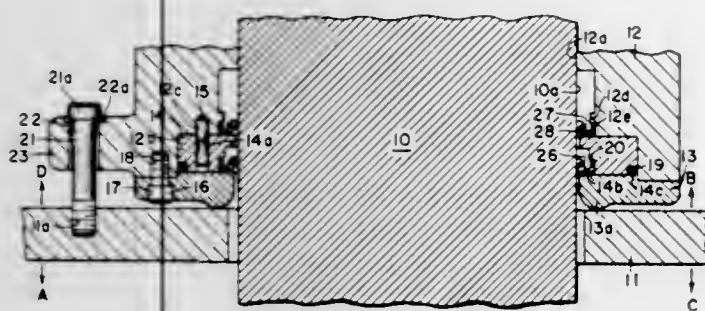
SLEEVE BEARING FOR ROTARY GLASSWARE MOLDING TABLE

Frederick A. Dahlman, Corning, and Willem Dykshoorn, Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed May 23, 1968, Ser. No. 731,436
Int. Cl. C03b 11/02

U.S. Cl. 65—246

8 Claims



A sleeve member closely or snugly surrounds a circular outer periphery of a vertically and upwardly extending column for rotation thereabout, the lower end of said sleeve member resting on the top surface of a horizontal table surrounding said column in a spaced relationship therefrom for rotation thereabout, said sleeve member having a lower rim of a generally semicircular configuration such that rocking or tilting motion of said table will not be imparted to such sleeve member in a manner such as to cause skew and resultant binding between the inner surface of the sleeve member and the outer periphery of

said column, said sleeve member and said table being loosely coupled with each other for rotation thereof in synchronism or coincidence with each other.

ERRATUM

For Class 65—324 see.
Patent No. 3,537,277

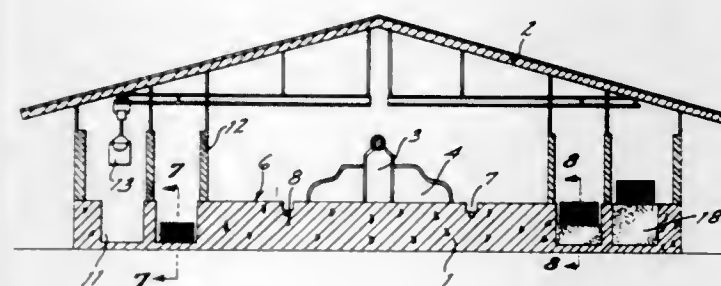
3,537,836

OXIDIZER FOR MAKING HUMUS

John C. Renfro, 48 Doheny Park Village, 34202 Del Obispo, Dana Point, Calif. 92629
Filed July 27, 1967, Ser. No. 656,479
Int. Cl. C05f 11/02

U.S. Cl. 71—24

2 Claims



In the manufacture of humus the various live soil microorganisms are required to have proper working conditions, which conditions are provided in the oxidizer structures. The oxidizer structures are foraminated to permit the respiration of the microorganisms. The oxidizer basket, therefore, must be ventilated and the pore spaces or holes must be kept in contact with the atmosphere.

3,537,837

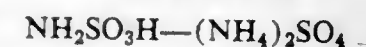
METHOD OF KILLING UNDESIRE PLANTS

Shu Mitsuya and Shin Fujisawa, Tokyo, Akira Hirose, Yokohama, and Yoshio Takazawa, Chigasaki, Japan, assignors to Mitsui Toatsu Chemicals Incorporated, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Apr. 6, 1967, Ser. No. 628,819
Int. Cl. A01n 5/00, 13/00

U.S. Cl. 71—65

6 Claims

Method for inhibiting the growth of undesirable plants comprising applying a sulfamic acid-ammonium sulfate double salt represented by the formula



to the above-ground portions of said plants and compositions therefor.

3,537,838

METHOD FOR STIMULATING PLANT GROWTH
Simion Oeriu and Ion Oeriu, Bucharest, Rumania, assignors to Ministerul Industrial Chimice, Bucharest, Rumania

No Drawing. Filed July 26, 1967, Ser. No. 656,059
Claims priority, application Rumania, July 26, 1966, 51,945

Int. Cl. A01n 21/02, 9/12

U.S. Cl. 71—77

9 Claims

The SH-groups set free in the plant organism, by enzymes processes, by the complex derivatives of cysteine and its homologues, such as the thiazolidine carboxylic acid, its salts and derivatives, stabilized and potentiated in their activity by magnesium and lithium sulphosalicylate, by vitamin PP, by electrolytes, etc., exert an influence upon the equilibrium of nucleic acids, upon protein synthesis and secretion of phytohormones, such as the

indolylacetic acid, causing the proportionate growth and development of the plants and bringing about richer harvests.

3,537,839

METHOD FOR CONTROLLING UNWANTED PLANT GROWTH WITH 1,2,4-OXADIAZINES

Gustav Steinbrunn, Schwegenheim, Pfalz, Adolf Fischer, Mutterstadt, Pfalz, and Albrecht Zschocke, Bad Duerkheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft Ludwigshafen (Rhine), Germany
No Drawing. Filed June 23, 1967, Ser. No. 648,239
Claims priority, application Germany, July 2, 1966, 1,670,100

Int. Cl. A01n 9/22

U.S. Cl. 71—92

6 Claims

1,2,4-oxadiazines and a method of controlling undesirable plants with said compounds.

3,537,840

SYNERGISTIC HERBICIDAL COMPOSITION OF SODIUM N-NAPHTHYL PHTHALAMIC ACID AND 4-(METHYLSULFONYL)-2,6-DINITRO-N,N-DIPROPYLANILINE

Joseph E. Barron, Shelton, Conn., Donald F. Fox, Morgantown, Ind., and Adam H. Soboleski and Ronald B. Ames, Naugatuck, Conn., assignors to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 7, 1967, Ser. No. 681,100
Int. Cl. A01n 9/02, 9/14, 9/20

U.S. Cl. 71—103

2 Claims

This invention relates to a new and improved synergistic herbicidal composition containing an admixture of N-aryl phthalamic acids and 4-(methylsulfonyl)-2,6-dinitro-N,N-substituted anilines. More specifically, the invention teaches the formulation containing the aforesaid chemicals in a complete single phase solution.

3,537,841

METHOD OF REDUCING IRON ORES TO PIG IRON

Eberhard Wendel, 18 Nussbaumstr., 565 Solingen-Auf der Hohe, Germany

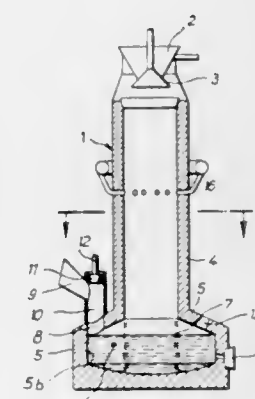
Filed Jan. 25, 1967, Ser. No. 611,624

Claims priority, application Germany, Oct. 21, 1966, W 42,632

Int. Cl. C21b 5/00

U.S. Cl. 75—42

10 Claims



A method of reducing iron ore to pig iron in a shaft furnace, which includes the steps of: introducing an excess quantity of carbon into the furnace portion above the bath of molten pig iron, and additionally introducing an excess quantity of carbon into the pig iron melt which in said furnace surrounds the lower portion of the iron skeleton in said furnace.

3,537,842

TREATMENT OF MOLTEN METAL

Michael Leslie Holland, Birmingham, England, assignor to Foseco International Limited, Birmingham, England, a British company

No Drawing. Filed Mar. 6, 1968, Ser. No. 710,780
Claims priority, application Great Britain, Mar. 17, 1967, 12,759/67

Int. Cl. C21c 7/02

U.S. Cl. 75—58

3 Claims

High-line content exothermic slags for desulphurisation and inclusion removal, and deoxidation of molten ferrous metals.

3,537,843

PROCESS FOR RECOVERING MERCURY FROM AN INACTIVE MERCURIC CHLORIDE/ACTIVE CARBON-CATALYST

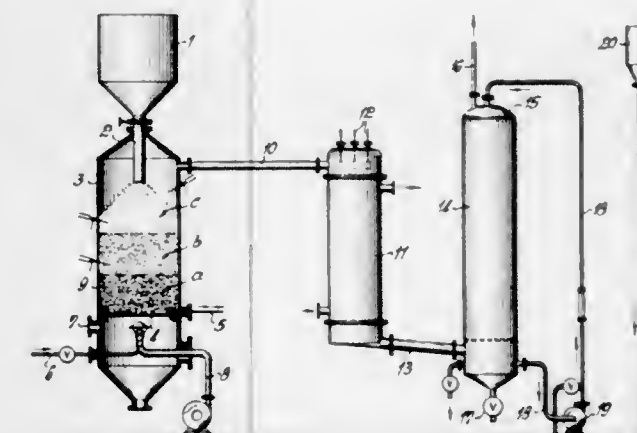
Armin Jacobowsky, Knapsack, near Cologne, Germany, assignor to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
Filed Apr. 2, 1968, Ser. No. 718,099

Claims priority, application Germany, Apr. 4, 1967, K 61,888

Int. Cl. C22b 43/00, 5/16; B01j 11/04

U.S. Cl. 75—81

3 Claims



Recovery of mercury from a contaminated inactive mercuric chloride/active carbon-catalyst comprising burning the active carbon with a deficiency of oxygen or air, expelling or subliming off, together with the combustion gases, a mixture of gaseous mercury, mercurous chloride and mercuric chloride, condensing the said gaseous mixture by cooling it, and, by adding a suitable reducing agent, reducing to mercury the mercurous chloride and mercuric chloride contained in the condensate.

3,537,844

PROCESS FOR PREPARING RARE EARTH METAL AND SILICON ALLOYS

Isidor S. Hirschhorn, West Orange, and Edward Klein, Cedar Grove, N.J., assignors to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 2, 1967, Ser. No. 671,939

Int. Cl. C22b 59/00

U.S. Cl. 75—84

7 Claims

Master alloys of rare earth metals and silicon are commonly prepared by reducing ores of the rare earth metals with metal silicides at elevated temperatures to obtain, after separation and solidification of the alloy, a cast master alloy product suitable for use in iron and steel making and the like. The inclusion in the molten alloy product of the reduction reaction of at least 15% by weight of metallic iron results in a master alloy which resists physical disintegration due to light impact and the disintegrating effect of reaction with moist air.

3,537,845 SEPARATION AND RECOVERY OF COBALT AND ZINC

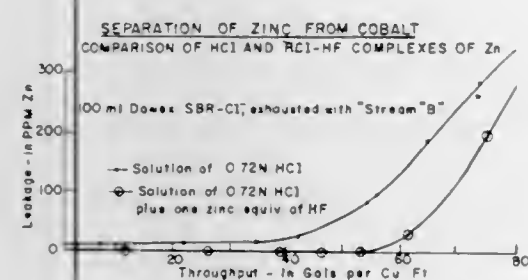
Alfred W. Oberhofer, Alsip, Ill., assignor, by mesne assignments, to The Dow Chemical Company, a corporation of Delaware

Filed Apr. 24, 1967, Ser. No. 633,153

Int. Cl. C01g 9/04; C22b 19/00

U.S. Cl. 75—120

3 Claims



A method of recovering catalyst components used in an oxo-alkylation process. In the process, cobalt and zinc catalysts are separated by converting zinc contained in a process stream to a complex anionic halide which is selectively sorbed on a strong base anion exchange resin. The complex anionic halide is formed by adding HCl and HF to the process streams. The zinc-free stream is placed in contact with a cation exchange resin in the H⁺ form to remove cobalt which is then recovered from the cation exchange resin.

3,537,846 WELDING WIRE AND WELDING STRIP FOR CLADDING STAINLESS LAYERS ON UNALLOYED AND LOW-ALLOYED STRUCTURAL STEELS AND FOR OTHER PURPOSES WHERE A STAINLESS FILLER MATERIAL WITH HIGH CHROMIUM AND NICKEL CONTENTS IS REQUIRED

Leif Evert Rick, Lars Olof Lennart Jansson, and Jan-Christer Henric Oveesson Carlen, Sandviken, Sweden, assignors to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden

No Drawing. Filed Oct. 16, 1967, Ser. No. 675,313

Claims priority, application Sweden, Oct. 21, 1966, 14,383/66

U.S. Cl. 75—128

8 Claims

A stainless chromium-nickel alloy composition for cladding a stainless layer on a structural steel article is characterized by high contents of chromium and nickel and by a very low content of carbon, the convention content of carbon having been replaced by a significant addition of nitrogen.

3,537,847 METHOD OF VAPOR PLATING

William Hotine, Albion, Calif., assignor to General Dynamics Corporation, a corporation of Delaware

Original application May 10, 1966, Ser. No. 548,888.

Divided and this application Oct. 22, 1968, Ser. No. 777,340

Int. Cl. G03g 13/00, 13/22

U.S. Cl. 96—13

3 Claims

A method for vapor plating by means of electrostatically controlled method utilizing an electroless plating solution to deposit a printed circuit on an insulating substrate by the use of a matrix comprising a sheet contain-

ing a plurality of apertures coated with a photoconductive layer which transfers electrostatically the desired image to the substrate.

3,537,848 PROCESS OF TREATING A XEROGRAPHIC GLASS BINDER PLATE AND PRODUCT

Richard L. Lane, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 420,170, Dec. 21, 1964, now Patent No. 3,397,982.
This application Oct. 20, 1967, Ser. No. 676,710

Int. Cl. G03g 5/04; C03c 21/00

U.S. Cl. 96—15

9 Claims

A method of improving the humidity stability of a xerographic glass binder plate having a photoconductive layer comprising an inorganic glass binder material having photoconductive particles dispersed throughout said binder, said method comprising exposing at least one surface of the photoconductive layer of said plate to heated vapors of a metal chloride, whereby a surface reaction occurs between said heated metal chloride gas and the glass photoconductive surface causing a chemical reaction characterized by a slight lightening in the color of the glass surface.

3,537,849 PHOTOGRAPHIC MULTICOLOR DIFFUSION TRANSFER PROCESS USING DYE DEVELOPERS AND ELEMENT

Richard W. Becker, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

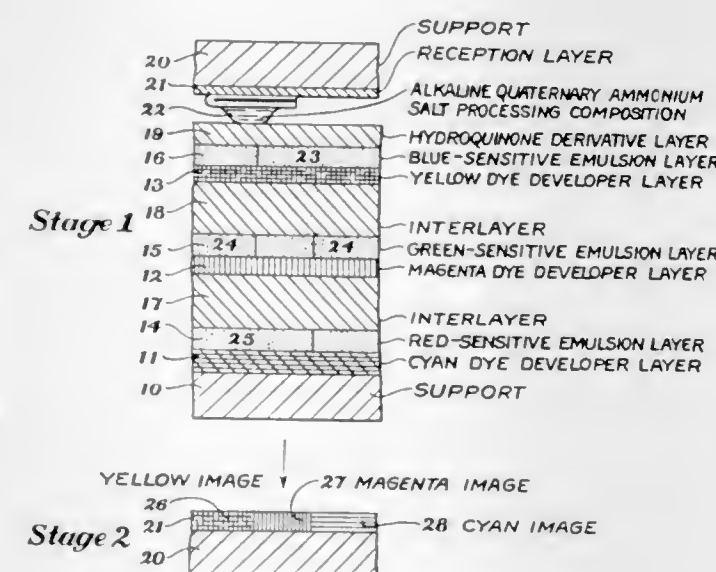
Continuation-in-part of application Ser. No. 368,490, May 9, 1964, which is a continuation-in-part of application Ser. No. 71,314, Nov. 23, 1960. This application Oct. 22, 1968, Ser. No. 776,849

The portion of the term of the patent subsequent to May 31, 1983, has been disclaimed

Int. Cl. G03c 7/00

U.S. Cl. 96—3

9 Claims



Photographic elements are described comprising a support having coated thereon red, green and blue image-forming units comprising, respectively, a red sensitive emulsion layer having an underlying, contiguous cyan dye developer layer; a green sensitive emulsion layer having an underlying contiguous magenta dye developer layer; and, a blue sensitive silver halide emulsion layer having an underlying contiguous yellow dye developer layer. The light-sensitive elements utilize gelatin interlayers on either

side of the dye forming unit therein which records the green light. Substantially colorless hydroquinones which are insoluble and diffusible in alkaline liquids, as well as onium compounds that are diffusible in alkaline liquids, are useful in the described dye developer system.

3,537,850 COLOR TRANSFER IMAGE-FORMING PROCESS UTILIZING COUPLER-DEVELOPERS WHOSE OXIDATION PRODUCTS CAN COUPLE INTERMOLECULARLY

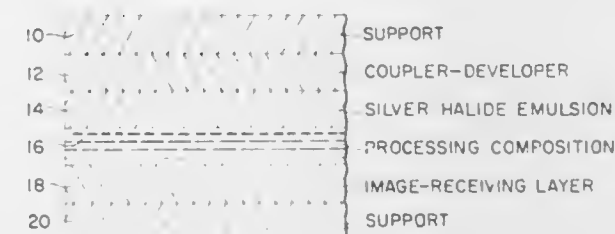
Myron S. Simon, Newton Center, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Continuation of application Ser. No. 598,870, Dec. 2, 1966. This application Oct. 13, 1969, Ser. No. 869,443

Int. Cl. G03c 5/54, 1/40

U.S. Cl. 96—29

25 Claims



Photographic processes for forming color images employing a coupler-developer, said coupler-developer being a compound which is both a color coupler and a silver halide developing agent and which is capable of providing an oxidation product that can couple intermolecularly but that cannot couple intramolecularly.

3,537,851 DIFFUSION TRANSFER PROCESSES AND PRODUCTS COMPRISING FORMATION OF A CYANINE DYE AT RECEIVING ELEMENT

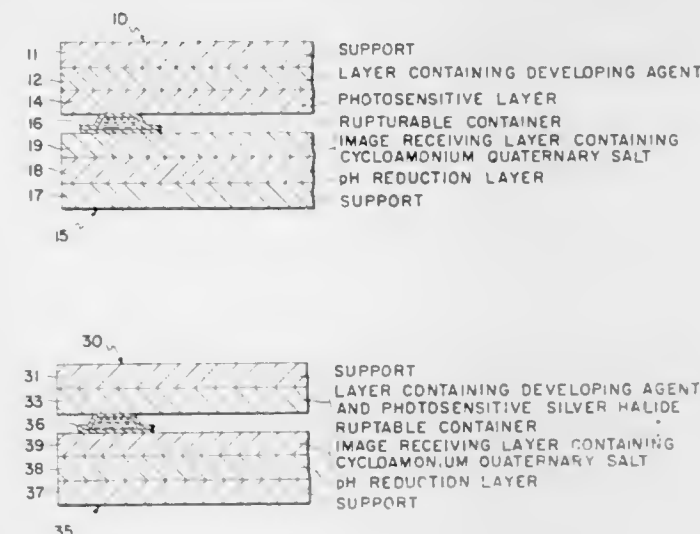
Stanley M. Bloom, Waban, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,549

Int. Cl. G03c 5/54, 1/58

U.S. Cl. 96—29

14 Claims



A novel image-forming system comprising forming an imagewise distribution of a polymeric dye by the oxidative coupling of an enamine moiety with an oxidized, hydroxyl containing silver halide developing radical, in a photosensitive element, and forming a transfer image by diffusion of unoxidized developing agent from the unexposed areas and reacting this unoxidized developing agent with a cycloammonium compound on the image-receiving layer.

880 O.G.—7

3,537,852 DIFFUSION TRANSFER PHOTOGRAPHIC PROCESSES AND COMPOSITIONS COMPRISING DIFFUSION TRANSFER DEVELOPERS WHOSE TERMINAL MOIETIES COUPLE OXIDATIVELY INTO POLYMERIC DYES

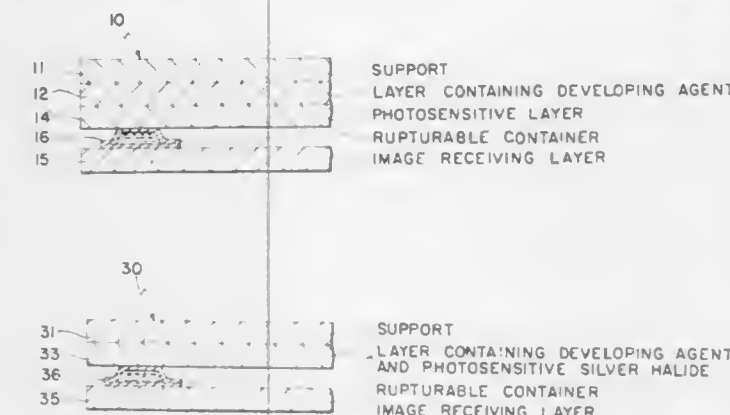
Stanley M. Bloom, Waban, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,548

Int. Cl. G03c 5/54, 7/30

U.S. Cl. 96—29

16 Claims



A novel image-forming system comprising forming an imagewise distribution of a polymeric dye by the oxidative coupling of an enamine moiety with an oxidized, hydroxyl containing silver halide developing radical in a photosensitive element, and forming a transfer image by diffusion of unoxidized developing agent from the unexposed areas and a second oxidative coupling on the image-receiving layer.

3,537,853 PROCESS OF FORMING PRINTING PLATES, INCLUDING THE STEP OF SUBJECTING THE MOUNTED TRANSPARENCY TO A SURFACE STATIC ELECTRICITY ELIMINATOR

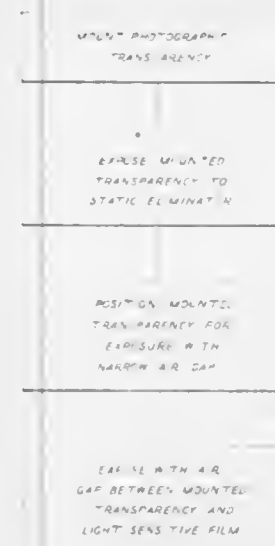
Forrest Ashton Wessells, Baltimore, and Donald P. Gush, Hyattsville, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Continuation-in-part of application Ser. No. 735,588, June 10, 1968, which is a continuation-in-part of application Ser. No. 707,299, Feb. 21, 1968. This application Oct. 4, 1968, Ser. No. 765,258

Int. Cl. G03c 5/00; G03f 1/02

U.S. Cl. 96—35.1

13 Claims



The disclosed invention is directed to a process of forming printing plates of a liquid photocurable composition and includes the step of exposing a mounted transparency to a surface static electricity eliminator prior to formation of a printing plate with actinic radiation projected through the mounted transparency positioned with an intermediate air space over a layer of liquid photocurable composition.

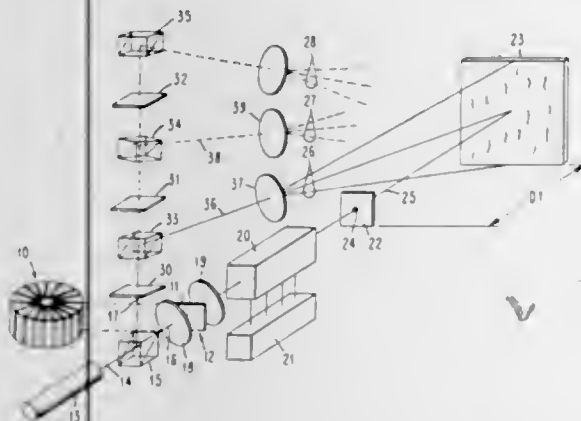
3,537,854

HOLOGRAPHIC METHOD FOR GENERATING MASKING PATTERNS

Allen W. Grobin, Jr., Poughkeepsie, Jerry L. Reynolds, Wappingers Falls, Rodman S. Schools, Poughkeepsie, and Glenn T. Sincerbox, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
 Filed May 15, 1968, Ser. No. 729,273
 Int. Cl. G02b 27/00; G03c 5/00

U.S. Cl. 96—36.2

8 Claims



Masking patterns, such as utilized in fabricating integrated circuits, are generated utilizing the techniques of interference photography. A composite mask is fabricated having patterns of all the circuit sub-sets necessary for a particular circuit stored as interference patterns. Individual beams of radiation corresponding to respective ones of the stored patterns selectively interrogate the mask in sequence to form images on a semiconductor material. After each such image formation the semiconductor material is processed to provide the pattern sub-set in the material.

3,537,855

PHOTOSENSITIVE SILVER FLUORIDE ELEMENT

Paul D. Lubin, Boston, and Joel M. Peisach, Hudson, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Oct. 5, 1966, Ser. No. 584,412

Int. Cl. G03c 1/78

U.S. Cl. 96—87

8 Claims

Photosensitive silver fluoride elements are prepared by the reaction of silver with boron trifluoride vapor under anhydrous conditions.

3,537,856

LIGHT-SENSITIVE PHOTOGRAPHIC COMPOSITION

Nobuo Soma and Junichi Nakazawa, Tokyo, Yoshio Sato, Kawasaki-shi, Hideo Nakao, Yokohama-shi, and Yoshino Kojima, Yoji Katayanagi, and Yoshimi Kuwabara, Tokyo, Japan, assignors to Sankyo Company Limited and Konishiroku Photo Industry Co., Ltd., both of Tokyo, Japan

No Drawing, Filed Aug. 22, 1966, Ser. No. 573,841

Claims priority, application Japan, Aug. 26, 1965,

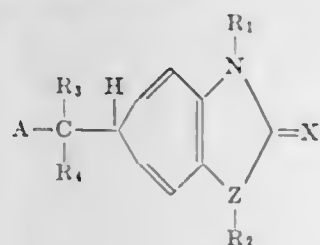
40/52,123

Int. Cl. G03c 1/72

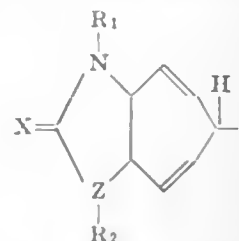
U.S. Cl. 96—90

11 Claims

A light-sensitive photographic composition comprises, as the light-sensitive component, an effective proportion of a compound of the formula



wherein A is a member of the group consisting of H and



X is a member of the group consisting of O, S, phenyl and phenyl substituted with lower alkyl; Z is a member of the group consisting of N, O, S and —N—Y, wherein Y is a member of the group consisting of lower alkyl, aryl and aralkyl; R₁ and R₂ alike or different, are each a member of the group consisting of straight and branched-chain lower alkyl, phenyl, phenylalkyl, substituted phenyl and substituted phenylalkyl with the phenyl radical substituted with a member of the group consisting of lower alkyl, lower alkoxy, halogen, amino, substituted amino, nitro, cyano, and alkoxy carbonyl; R₃ is a member of the group consisting of cyano, acyl and alkoxy carbonyl; and R₄ is a member of the group consisting of cyano, alkoxy carbonyl, nitro, acyl, carbamoyl and substituted carbamoyl.

3,537,857

PHOTOGRAPHIC MATERIAL FOR THE SILVER-DYE-BLEACH PROCESS

Karl-Heinz Freytag and Carl Taube, Leverkusen, Bernhard Seidel, Cologne, Mulheim, and Erich Böckly, Leverkusen, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing, Filed Apr. 11, 1967, Ser. No. 629,915

Claims priority, application Germany, May 4, 1966,

A 52,367

Int. Cl. G03c 1/10

U.S. Cl. 96—99

6 Claims

Certain sulfonated aminonaphthalene azo dyes which may have a hydroxy substituent on the naphthalene ring, are particularly suited for use as magenta dyes for silver-dye-bleach photography.

3,537,858

REVERSAL SILVER HALIDE EMULSIONS

Albert W. Wise, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing, Filed Feb. 13, 1967, Ser. No. 615,360

Int. Cl. G03c 1/28, 1/08

U.S. Cl. 96—107

18 Claims

Halogen accepting compounds, particularly merocyanine dyes are employed to improve the photographic speed of direct-positive silver halide emulsions. A still further increase in photographic speed is obtained when the halogen accepting compounds are used in combination with sulfonated organic compounds as described. The photographic silver halide grains present in the direct-positive emulsions comprise a central core of silver halide containing centers which promote the deposition of photolytic silver and an outer shell or covering for such core of a fogged silver halide.

3,537,859

PROTEIN FOOD PRODUCT AND PROCESS

Mokhtar M. Hamdy, Minneapolis, Minn., assignor to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware

No Drawing, Filed May 2, 1966, Ser. No. 547,393

Int. Cl. A23j 3/00

U.S. Cl. 99—17

7 Claims

Protein food products simulating bacon in texture and appearance are prepared by extruding a homogeneous

mixture of a defatted oil seed proteinaceous material (e.g., soy meal), fat, water, and flavoring at a temperature of 180°–280° F. under pressure into a region of lower temperature and pressure.

are blended into the bread dough at the time of kneading and are activated by vapor generated in the dough during baking.

3,537,860

PREPARATION OF DRIED WHEY

James G. Moore, Williamsville, and Edward B. Pinkel, Buffalo, N.Y., assignors to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

Filed Sept. 22, 1967, Ser. No. 669,877

Int. Cl. A23c 21/00

U.S. Cl. 99—57

4 Claims

Whey is dried by heating under vacuum to pre-concentrate without crystallization of the lactose in the hydroscopic beta anhydride form followed by cooling to crystallize lactose in the nonhygroscopic alpha hydrate form. The steps of concentrating and cooling to crystallize are repeated. Thereafter, the recooled whey is centrifuged and the resulting filtrate and filter cake are introduced into a drying zone. A partially dried portion of the solid material is removed from an intermediate portion of the drying zone and combined with the filtrate and filter cake being introduced into the drying zone.

3,537,861

PROCESS FOR DYEING POPCORN

Bernard J. Schwarzkopf, Lake View, Iowa, assignor, by mesne assignments, to National Oats Company, Inc., a corporation of Delaware

No Drawing, Filed Feb. 15, 1968, Ser. No. 705,605

Int. Cl. A23l 1/10

U.S. Cl. 99—83

3 Claims

Unpopped popcorn is dyed in edible or non-toxic liquid dyes and in various colors at a temperature promoting uniform application of dye to the kernels and the kernels drained, surface dried, and then subjected to counter-current heated air drying to remove dye and moisture for improving the quality of the dyed product.

3,537,862

PROCESS FOR PREPARING AN ALIMENTARY PASTE PRODUCT

Joseph J. Peters and Abraham R. Mishkin, Marysville, Ohio, assignors to Societe d'Assistance Technique pour Produits Nestle S.A., Lausanne, Switzerland, a corporation of Switzerland

Filed Feb. 1, 1967, Ser. No. 613,319

Int. Cl. A23l 1/16

U.S. Cl. 99—85

7 Claims

A process is provided for cooking shaped alimentary paste such as noodles, macaroni, etc. having a maximum wall thickness of 0.63 mm., by contacting the paste with steam. During such contact the paste is maintained in a moist condition. After cooking is completed the paste is dried.

3,537,863

METHOD OF MAKING GARLIC BREAD

Niclos M. Sinnott, P.O. Box 400, Eureka, Calif. 95501

No Drawing, Filed June 16, 1967, Ser. No. 646,462

Int. Cl. A21d 2/36, 13/00; A23l 1/26

U.S. Cl. 99—90

2 Claims

A method of making garlic bread in which the garlic flavor is preserved during baking. Dehydrated garlic chips

3,537,864

TENDERIZATION OF MEAT BY MARINATION AND REFRIGERATION

Stanley Magiera, Oak Forest Ave. and 66th St., Tinley Park, Ill.

No Drawing, Filed June 26, 1967, Ser. No. 648,942

Int. Cl. A23b 1/00, 1/06

U.S. Cl. 99—107

1 Claim

A marinating solution for tenderizing packaged frozen or fresh meat without loss of moisture, flavor or texture.

3,537,865

COCOA BUTTER SUBSTITUTE

George A. Daniels, James D. Johnston, and Gene C. Robinson, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing, Filed Oct. 31, 1967, Ser. No. 679,508

Int. Cl. A23d 5/00; A23g 1/00

U.S. Cl. 99—118

6 Claims

Mixtures of triglyceride esters which melt slightly above room temperature and have relatively narrow dilatometric melting ranges are described. These mixtures, which can be readily synthesized from readily available reactants, contain 2-stearoyldidecanoic, 1-stearoyldidecanoic, and optionally and preferably, one or more of 2-stearoyldioctanoic, 1-stearoyldioctanoic, and tridecanoic. The mixtures are useful in the manufacture of confections and the like.

3,537,866

METHOD OF PRODUCING A PACKAGED WHIPPED CREAM LAYER CAKE

Berthold L. Weller and Andrew Wolf, Deerfield, and Harold M. Rich, Northbrook, Ill., assignors to Kitchens of Sara Lee, Inc., a corporation of Maryland

Continuation-in-part of application Ser. No. 559,583,

June 22, 1966. This application July 14, 1967, Ser.

No. 653,473

Int. Cl. A21d 13/08

U.S. Cl. 99—180

4 Claims

The present invention is directed to a method of producing a whipped cream layer cake within an open-ended container which serves as a form of mold for the building and frosting of the cake therein. A layer of cake is placed within the container followed by a layer of whipped cream and a second layer of cake. The second cake layer is then pressed down to extrude a portion of the whipped cream from between the layers into the space provided between the cake sides and the container sidewall to cover the sides of the cake. Successive layers of whipped cream and cake are added followed by the requisite tamping action until a cake of the desired amount of layers is produced. A topping is then placed on the cake, after which the container is closed and the cake frozen.

3,537,867

ATMOSPHERIC STERILIZATION

George Glasser, Ossining, and Joseph Cseri, North Tarrytown, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing, Filed Jan. 23, 1968, Ser. No. 699,774

Int. Cl. A23b 7/00, 1/00

U.S. Cl. 99—186

7 Claims

Food is sterilized under ambient atmospheric condition by immersion in a polyhydric alcohol solution under con-

ditions which do not reduce moisture content below 45% and is then aerobically canned.

3,537,868

LOW EXPANSION CRYSTALLINE GLASS
Yoshio Kosaka, Tokyo, Japan, assignor to Kabushiki Kaisha Obara Kogaku Carasu, Kanagawa-ken, Japan
No Drawing. Filed July 25, 1968, Ser. No. 747,461
Claims priority, application Japan, July 27, 1967, 42/48,414

Int. Cl. C03c 3/22

U.S. Cl. 106—39

4 Claims

A low expansion crystalline glass is obtained by melting and forming glass consisting essentially of the following composition by weight and heat treating it: SiO_2 50.0–80.0%, Al_2O_3 10.0–35.0%, Li_2O 1.5–10.0%, Nb_2O_5 0–7.0%, Ta_2O_5 0–7.0%, TiO_2 0–10.0%, ZrO_2 0–5.0%, $(\text{Nb}_2\text{O}_5 + \text{Ta}_2\text{O}_5)$ 0.1–7.0%, $(\text{TiO}_2 + \text{ZrO}_2)$ 0.1–10.0%, $(\text{Nb}_2\text{O}_5 + \text{Ta}_2\text{O}_5 + \text{TiO}_2 + \text{ZrO}_2)$ 1.0–15.0%, $(\text{SiO}_2 + \text{Al}_2\text{O}_3 + \text{Li}_2\text{O} + \text{Nb}_2\text{O}_5 + \text{Ta}_2\text{O}_5 + \text{TiO}_2 + \text{ZrO}_2) > 90.0\%$.

3,537,869

ADDITIVE FOR CEMENTITIOUS MIXTURES
Wayne A. Proell, Box 209, Seymour, Ind. 47274
No Drawing. Filed Sept. 7, 1967, Ser. No. 665,963
Int. Cl. C04b 13/24

U.S. Cl. 106—95

16 Claims

An additive for cementitious mixtures capable, when used in quantities in the range from 0.1% to 3.0% by weight on the cement component of the mixture, of increasing the compressive strength of the hardened product by 25% to 125%. In its optimum form, the additive consists essentially of components selected from each of three groups of organic compounds: viz, Category 1, consisting of the partial fatty acid esters of glycerol, the partial fatty acid esters of sorbitan, the partial fatty acid esters of sorbitol, the ethoxylates of the partial fatty acid esters of sorbitan, the ethoxylates of the partial fatty acid esters of sorbitol and the partial fatty acid esters of choline glycerophosphates such as are termed lecithins; Category 2, consisting of the sulfates of the partial fatty acid esters of polyglycols, the sulfate salts of the partial fatty acid esters of polyglycols, the sulfates of the partial fatty alcohol ethers of polyglycols, the sulfate salts of the partial fatty alcohol ethers of polyglycols, the sulfates of the partial fatty acid esters of glycerol and the sulfate salts of the partial fatty acid esters of glycerol; and Category 3, consisting of the sulfonated condensation products of formaldehyde and a naphthalene, and the salts of the sulfonated condensation products of formaldehyde and a naphthalene. However, certain members of Category 1 are, to a degree, effective alone, or together with each other, or with a member from either of the other categories; while members of Categories 2 and 3 are ineffective alone or in any association which does not include a member of Category 1.

3,537,870

PROCESS FOR THE POSTTREATMENT OF TITANIUM DIOXIDE PIGMENT
Helmut Grohmann and Achim Kulling, Opladen, Germany, assignors to Titangesellschaft mbH, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 27, 1967, Ser. No. 678,545
Claims priority, application Germany, Feb. 3, 1967, T 33,144

Int. Cl. C09c 1/36

U.S. Cl. 106—300

7 Claims

This invention covers a process for the dry posttreatment of titanium dioxide pigments with inorganic oxidic compounds the coating process being carried out while the titanium dioxide pigment is suspended in a fluidized state.

3,537,871

IMITATION LEATHER
Tadayo Kaneko, N22-2, 2-13 Kirigaoka, Kita-ku, Tokyo, Japan

Filed Nov. 24, 1967, Ser. No. 685,689

Claims priority, application Japan, Nov. 25, 1966, 41/77,216

Int. Cl. B44d 1/32; D06m 3/08

U.S. Cl. 117—11

13 Claims



The imitation leather is composed of a non-woven base fabric of a mixture of collagen fiber and natural or synthetic fiber, and a coating film of amino acid resin adhering to the base fabric by means of an intermediate layer of resin binder.

3,537,872

THERMOGRAPHIC PROCESS
Yoshio Kojima, Masaaki Yoshioka, and Isamu Fushiki, Tokyo, Japan, and Toshimi Kishida, deceased, late of Tokyo, Japan, by Hisako Kishida, administrator, Tokyo, Japan; said Kojima, Yoshioka, and Fushiki assignors to Konishiroku Photo Industry Co., Ltd., Tokyo, Japan

No Drawing. Continuation-in-part of application Ser. No. 345,652, Feb. 18, 1964. This application Apr. 26, 1968, Ser. No. 724,685

Claims priority, application Japan, Feb. 26, 1963, 38/9,560; June 22, 1963, 38/32,520

Int. Cl. B44f 1/10

U.S. Cl. 117—1.7

12 Claims

A thermographic process in which finely powdered sulfur is exposed to infrared radiation while kept in a layer adjacent an original having an infrared-absorbing image area and a non-image area, until the image area of the original is brought to a high temperature so that the sulfur corresponding to its fuses and then allowing the image area to cool to below the melting point of the sulfur to form a latent image consisting of the fused sulfur in a supercooled state and then developing the latent image.

3,537,873

PROCESS FOR RENDERING VEGETATION FIRE RETARDANT

Edward R. Degginger, Convent Station, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 728,822, May 13, 1968. This application June 27, 1968, Ser. No. 740,452

Int. Cl. A01n 1/02; C09d 5/18

U.S. Cl. 117—3

9 Claims

Aqueous solutions containing from 0.5 to 5.0 weight percent water-soluble vinyl alcohol polymer, from 0.5 to 5.0 weight percent alkali metal borate, and preferably from 1.0 to 10.0 weight percent C_2 to C_6 polyol and at least 0.5 weight percent urea are effective fire retardants for combating fires, especially forest, brush and range fires.

3,537,874

PANEL WITH DECORATIVE SIMULATED INLAY AND PROCESS

David S. Ramey, Winston-Salem, N.C., assignor to Multicraft, Incorporated, Winston-Salem, N.C., a corporation of North Carolina

Filed Oct. 23, 1967, Ser. No. 677,311

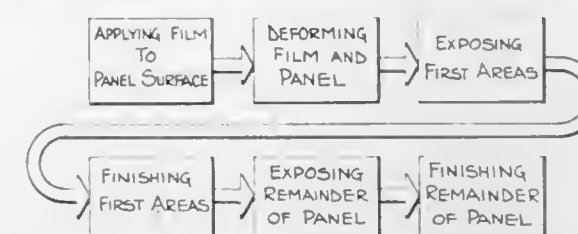
Int. Cl. B32b 31/20; B44c 1/24, 1/26

U.S. Cl. 117—5.5

17 Claims

A decorative panel, and process of producing the same, wherein a finish-receiving deformable substrate material, such as wood, has on a surface thereof a simulation of an inlay of a contrasting material. This inlay effect is ob-

tained by applying a protective film to the surface of the substrate material and then deforming the same along predetermined lines for obtaining an outline of the configuration of the inlay effect and then stripping the protective film from certain areas of the surface and there-



after subjecting the exposed areas to a finishing operation imparting a first characteristic appearance thereto after which the remaining protective film on the surface is removed and the surface is again subjected to a finishing operation imparting thereto a second characteristic appearance contrasting with the first.

3,537,875

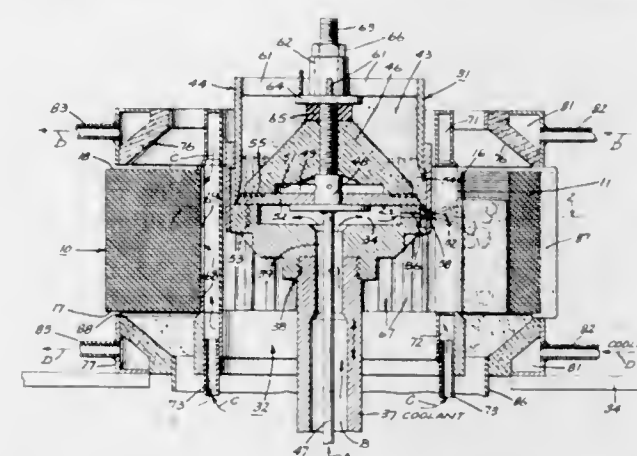
METHOD AND APPARATUS FOR APPLYING INSULATING MATERIAL ONTO ARTICLES OF MANUFACTURE

Robert O. Kerr, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 609,151, Jan. 13, 1967. This application Mar. 4, 1968, Ser. No. 715,465

Int. Cl. B05b 7/24; B44d 1/08, 1/094

U.S. Cl. 117—18

16 Claims



Method and apparatus especially adapted for applying a solid mass of electrical insulating material, capable of coalescing, onto selected and pre-heated walls of a number of slots having entrances at a peripheral surface (e.g., coil accommodating slots of a magnetic core). A plurality of separated material streams are directed from an applicator unit toward the entrances and a material controlling unit, having walls disposed between the peripheral surface and the applicator unit, maintaining these streams in a separated relation as the streams travel into the slots. The latter unit also tends to prevent material build-up on the peripheral surface between adjacent slot entrances. End faces of the slotted structure can also be coated by material forced out of the slot ends and into contact with material deflectors mounted next to the end faces.

3,537,876

PHOSPHORS FOR COLOR DISPLAY SYSTEMS
Samuel R. Shortes, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Original application May 28, 1965, Ser. No. 459,582, now Patent No. 3,408,223. Divided and this application May 13, 1968, Ser. No. 751,630

Int. Cl. H01j 31/20

U.S. Cl. 117—33.5

6 Claims

Disclosed is a viewing screen for use in a color display system, the screen being composed of two or more dif-

ferent phosphors each emitting light of a different color and at least one of the phosphors having a surface layer thereon which constitutes a partial barrier to electrons whereby phosphor particles having the surface layer requires an electron beam of a velocity greater than an uncoated phosphor in order to excite phosphor causing light to emit therefrom.

3,537,877

LOW TEMPERATURE METHOD FOR PRODUCING AMORPHOUS BORON-CARBON DEPOSITS

Robert Bruce Reeves, Phoenixville, and Joseph J. Gebhardt, Malvern, Pa., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 22, 1966, Ser. No. 603,781

Int. Cl. C01b 31/00, 35/00; C23c 11/00

U.S. Cl. 117—46

1 Claim

Amorphous boron-carbon is deposited, at very low absolute pressure, on a substrate heated to 700–900° C., from a reactant gas mixture of boron hydride and acetylene. Preferably, the substrate is a filament, the pressure is 5 mm. mercury, the temperature is 850° C., the boron hydride is diborane, and the reactant gas mixture also includes hydrogen.

3,537,878

ELECTROLESS PLATING PROCESS

Donald W. Baurand, Temple City, and Glenn O. Mallory, Jr., Inglewood, Calif., assignors, by mesne assignments, to Allied Research Products, Inc., Baltimore, Md., a corporation of Maryland

No Drawing. Continuation-in-part of application Ser. No. 481,944, Aug. 23, 1965. This application Apr. 14, 1969, Ser. No. 816,062

The portion of the term of the patent subsequent to Apr. 15, 1986, has been disclaimed
Int. Cl. B44d 1/092; C23c 3/02

U.S. Cl. 117—47

9 Claims

A process for plating non-conductive materials such as plastics by means of an electroless transition metal plating bath at a temperature below the deformation temperature of the non-conductive material to be plated. The process provides for the sensitizing of the material to be plated and thereafter immersing the sensitized material in a plating bath comprising an aqueous solution of a transition metal salt, a transition metal reducing agent, a ligand complexing agent and ammonium carbonate wherein the bath is maintained at a pH in the range of 7 to 11. The material to be plated is left in the bath until plating to the desired thickness has been accomplished and the plated material is thereafter removed.

3,537,879

METHOD OF COATING MAGNESIUM METAL TO PREVENT CORROSION

William Wilson, Jr., Upper Montclair, N.J., assignor, by mesne assignments, to Wilson Chemicals, Inc., Montclair, N.J., a corporation of New Jersey

Filed Jan. 19, 1967, Ser. No. 611,539

Int. Cl. B44d 1/36; B32b 15/08

U.S. Cl. 117—49

4 Claims



The corrosion of magnesium metal articles is prevented by applying a phenolic resin primer containing zinc chromate to the surface of the metal which, prior to the application of said resin primer, is cleaned in an alkaline bath.

3,537,880

HEAT-BONDABLE FIBERS

Joseph M. Kuzmak, Media, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Jan. 31, 1967, Ser. No. 612,809
Int. Cl. B44d 1/44; B32b 23/08

U.S. Cl. 117—62.1 3 Claims
Rayon fibers rendered heat-bondable by providing the same with an ultra-thin surface film of nylon by interfacial polymerization which involves applying onto preformed rayon staple fibers a solvent solution of orthophthaloyl chloride, isophthaloyl chloride and sebacoyl chloride and thereafter reacting such solvent solution with an aqueous solution of hexamethylenediamine.

3,537,881

LOW TEMPERATURE METHOD FOR IMPROVING THE BONDING OF VAPOR PLATED METALS

Frank R. Corwin, Bethlehem, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Continuation of application Ser. No. 463,631, June 14, 1965. This application Nov. 13, 1968, Ser. No. 775,555
Int. Cl. B44d 1/02; C23c 13/04

U.S. Cl. 117—71 9 Claims
A method of vapor plating the surface of a first metal with a second metal in which a third metal, which alloys with both of the first and second metals, first is partially diffused into the surface of the first metal at about room temperature and then the surface is exposed to a vapor containing the second metal while the surface is maintained at an elevated temperature which is sufficiently high that the second metal from the vapor diffuses into the third metal.

3,537,882

SILICIC HYDROCARBON COMPOSITES

John Bentley Wiggill, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 483,835, Aug. 30, 1965, which is a continuation-in-part of application Ser. No. 377,064, June 22, 1964, which in turn is a continuation-in-part of application Ser. No. 441,357, Mar. 19, 1965. This application Aug. 31, 1967, Ser. No. 664,631

The portion of the term of the patent subsequent to Feb. 11, 1986, has been disclaimed
Int. Cl. C03c 17/30, 25/02; B32b 17/04
U.S. Cl. 117—72 9 Claims
Composites comprising hydrocarbon polymers bonded to a silicic substrate through a copolymer containing polymerized ethylene units and units containing a hydrolyzable silane group, where the silane containing units are cross linked through Si—O—Si linkages to form a network.

3,537,883

FINISHED LEATHER SUBSTITUTE

Robert S. Shaw, Huntingdon Valley, and Bayard V. Tirrill, Warminster, Pa., assignors to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed July 11, 1968, Ser. No. 743,967
Int. Cl. B32b 27/08; D06n 3/08

U.S. Cl. 117—76 2 Claims
The present invention is concerned with a method and compositions for finishing, and especially for coating or prime-coating, of leather substitutes, especially those having a polyurethane or a mixture (or reaction product) of a vinyl resin and polyurethane in its exposed surface layer to be finished. The compositions applied as the base-coat on the substitute leather are aqueous in character and comprise (1) certain acid-containing vinyl addition polymers of acrylonitrile and certain acrylic esters and (2) a water-soluble aminoplast condensate.

3,537,884

REDUCTION OF STATIC ELECTRIFICATION OF POLYVINYL CHLORIDE

Harry Distler and Alfred Hauss, Ludwigshafen (Rhine), Heinz Pohlmann, Limburgerhof, Pfalz, and Bernd Stanger, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed June 20, 1967, Ser. No. 647,305
Claims priority, application Germany, June 29, 1966, 1,669,653
Int. Cl. B32b 27/30

U.S. Cl. 117—100 6 Claims
A process for reducing static electrification of polyvinyl chloride by treating polyvinyl chloride with alkylsulfonium salts in which two alkyl groups bear hydroxyl groups as substituents.

3,537,885

FOAMED ARTICLE AND METHOD FOR THE PREPARATION THEREOF

Eugene R. Moore and Masao Nakamura, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 609,564
Int. Cl. B44d 5/12

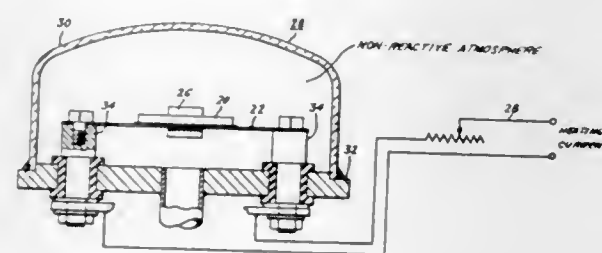
U.S. Cl. 117—106 11 Claims
Plastic foams are prepared from copolymers of styrene type monomers and maleic anhydride or citraconic anhydride and treated with ammonia to provide improved insulating value and chemical resistance.

3,537,886

FLASH EVAPORATION OF CORROSIVE MEDIA

Clair M. Rively, Rockaway, and Phillip A. Livera, Bloomfield, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Sept. 22, 1964, Ser. No. 398,274, now Patent No. 3,344,505. Divided and this application Apr. 13, 1967, Ser. No. 652,639
Int. Cl. C23c 13/12

U.S. Cl. 117—107 4 Claims



Method and apparatus for flash-evaporating aluminum onto a substrate wherein the aluminum to be evaporated is placed into a ceramic crucible which is bonded to a refractory metal member. The refractory metal member is self-resistance heated and is maintained under continuous tension to prevent buckling. The crucible has a depression therein to retain the aluminum and it is also provided with a plurality of grooves surrounding the depression to prevent aluminum from running onto the refractory metal strip.

3,537,887

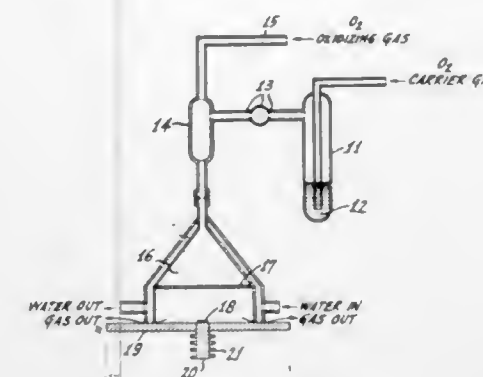
FIRE RETARDANT WOOD AND METHOD FOR THE PRODUCTION THEREOF

Clyde L. Blohm, Burbank, Calif., assignor to Flame-X-Control Corporation, Los Angeles, Calif., a corporation of California
No Drawing. Filed Mar. 27, 1967, Ser. No. 625,953
Int. Cl. B44d 1/26

U.S. Cl. 117—116 9 Claims
A weather resistant, fire retardant wood having substantially the same impact strength as the original wood,

said wood having a portion which has distributed there-through the reaction product of urea-phosphoric acid and cellulose, the cellulose being part of the wood. A method of producing such a fire retardant wood by impregnating wood in an aqueous solution of urea, phosphoric acid, and a volatile base at a relatively high pressure. The mole ratio of urea to phosphoric acid is from 2-6:1 and the pH of the aqueous solution is between 5 and 9. The impregnated wood is then placed in an enclosed container containing a water-immiscible organic liquid and the water contained in the wood and the organic liquid are distilled off. The preferable volatile base is ammonia while the preferred water-immiscible organic liquid is perchloroethylene.

the relatively cool gas mixture over the surface of the substrate to be coated, said substrate being heated to a



3,537,888

PROCESS AND COMPOSITION FOR METALLIZING CERAMICS

Raymond E. Schwyn, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed June 10, 1968, Ser. No. 735,549
Int. Cl. C04b 41/14; C23c 17/00

U.S. Cl. 117—123 7 Claims
A method of producing a metallized surface on ceramic bodies with a metallizing ink containing mullite ($3\text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2$). An example of such a metallizing ink is a composition containing 20 parts mullite, 80 parts molybdenum and 25 parts liquid vehicle.

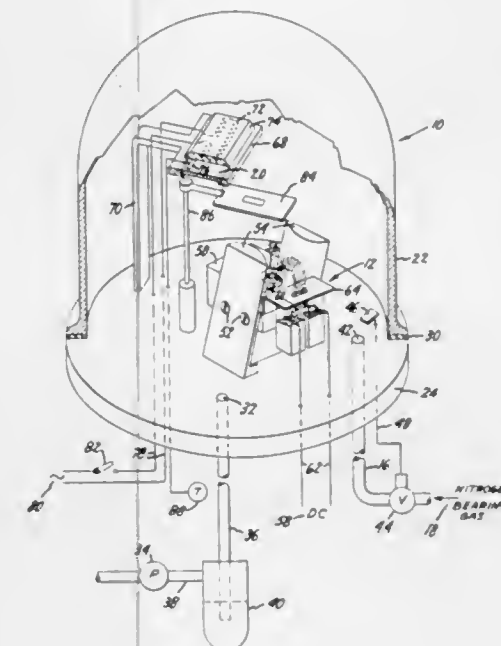
temperature of between about 450° C. and 525° C. and said substrate being in a moisture free atmosphere.

3,537,891

RESISTOR FILMS OF TRANSITION METAL NITRIDES AND METHOD OF FORMING

John R. Rairden III, Niskayuna, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 25, 1967, Ser. No. 670,091
Int. Cl. C23c 11/08, 11/14

U.S. Cl. 117—215 10 Claims



Resistor thin films of nitrides of the groups IV and V transition metals are formed by the reactive evaporation of the chosen transition metal in a nitrogen atmosphere between 5×10^{-5} to 10^{-3} torr. The substrate upon which the resistor film is deposited is preheated to a temperature of about 420° C. and the transition metal is deposited at a rate of approximately 100 Å. per minute atop the substrate. Upon completion of the deposition of the nitride resistor film to the desired thickness, evaporation of the metal is discontinued and the resistor film is heat treated at a temperature of approximately 400° C. for 8 minutes in a nitrogen environment greater than 0.5 torr to produce a resistor film having a zero (p.p.m./° C.) temperature coefficient of resistance between 25° C. and 125° C. Tantalum and niobium nitride resistor films formed by reactive evaporation have been found to be very abrasion resistant exhibiting no change in resistance after traversal of 10,000 revolutions with a carbonaceous spring biased contact while substantial variations in resistance were noted for both nickel-chrome and zirconium nitride films traversed by the identical contact.

3,537,890

CONDUCTIVE COATINGS OF TIN OXIDES

Donald Winston Roe, Leola, Pa., assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,324
Int. Cl. H01j 29/28; C23c 11/00; C03c 17/10

U.S. Cl. 117—211 10 Claims
A process for forming a transparent conductive coating of tin oxides comprising the steps of, passing dry oxygen gas at room temperature into a container having anhydrous liquid stannic chloride therein so as to essentially saturate the oxygen with stannic chloride vapor, mixing this gas stream with a relatively large volume of dry oxygen gas so as to form a diluted gas mixture, passing

3,537,892 METALLIZING COMPOSITION CONDUCTOR AND METHOD

Stephen A. Milkovich, Beacon, and Lewis F. Miller, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 29, 1966, Ser. No. 597,621

Int. Cl. B44d 1/18; C09d 5/24; H01b 1/02
U.S. Cl. 117—227 8 Claims

A conductive metallizing composition adapted to be deposited and fired at 725–900° C. on an insulating substrate to form a conductive element thereon comprises: a metal component comprising 60–70% gold, 10–20% platinum and 10–30% palladium; a vitreous frit component; and, a vehicle.

3,537,893 METHOD OF PRODUCING SURFACTANT-MODIFIED STARCH

Norbert Hauser, Oberndorf, Germany, and Kassian Greif, Altendorf, Switzerland, assignors to Neckar-Chemie Dr. Heinrich Kopp KG., Aistag, Germany

No Drawing, Filed Oct. 30, 1967, Ser. No. 679,187

Int. Cl. C131 1/08

U.S. Cl. 127—71 12 Claims

Modifying starch by forming a suspension thereof in an aqueous solution of a surfactant, heating said suspension to at least the swelling temperature of the starch, but below the gelatinization temperature thereof, so as to cause at least partial swelling of the same, and substantially separating the thus treated starch from said aqueous solution.

3,537,894 METHOD FOR CLEANING OVEN WALLS

Ralph Brewster Thompson, Oak Brook, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Illinois

No Drawing, Filed Oct. 8, 1968, Ser. No. 767,586

Int. Cl. C23g 5/00

U.S. Cl. 134—2 9 Claims

An oven wall cleaning composition having as the active cleaning agent a salt selected from the group consisting of sodium chlorate, sodium chlorite, sodium perchlorate, sodium nitrite and mixtures thereof, adapted to be spread over an oven wall surface that has become glazed with heat-produced fatty residues. Cleaning is effected by heating the treated surface to a sufficiently high temperature, above about 230° C., for a period of time sufficient to burn off the fatty residues and leave the surface substantially clean. The cleaning composition can be applied dry to a lower horizontal surface or can be dispersed in a carrier, such as a gel, with or without a surfactant, and applied by brushing, spraying, wiping or rubbing onto the wall surface. A hydrocolloid gel is suitable for containing the selected salt in solution or dispersion.

3,537,895 COPPER AND ALUMINUM PICKLING

Leslie E. Lancy, Ellwood City, Pa., assignor to Lancy Laboratories, Inc., Zelienople, Pa., a corporation of Pennsylvania

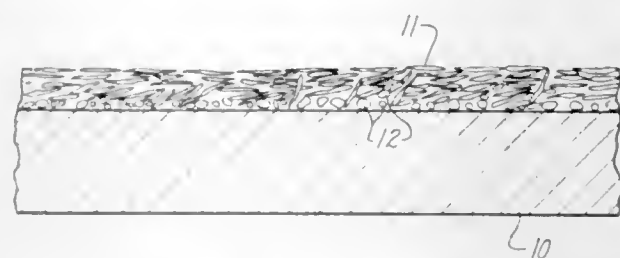
Continuation-in-part of application Ser. No. 451,278, Apr. 27, 1965. This application Sept. 19, 1967, Ser. No. 668,830

Int. Cl. C23g 1/02

U.S. Cl. 134—3 8 Claims

A cleaning or pickling solution and method for brightening copper or aluminum surface workpieces by removing metal oxides in the nature of copper oxides. In the aqueous processing or cleaning solution, use is made of an inorganic sulfuric or sulfamic acid or equivalent acid salt (sodium acid sulfate), of hydrogen peroxide,

and of an organic stabilizer compound containing at least two functional groups that are sterically unhindered by themselves and by other groups and that carry polar hydrogen atoms, with the organic compound employed



to restrain breakdown of the peroxide. For maximum brightness and for cleaning aluminum surface workpieces, a chelating compound or agent may also be used in the solution.

3,537,896 BENEFICIAL AFTER-TREATMENT OF WORKPIECES

Walter Nohse, Lippstadt, Westphalia, and Gunter Fischer, Kaarst, Rhineland, Germany, assignors to Lancy Laboratories, Inc., Zelienople, Pa., a corporation of Pennsylvania

No Drawing, Filed Sept. 23, 1968, Ser. No. 761,866

Int. Cl. B08b 7/04

U.S. Cl. 134—13 8 Claims

Workpieces being moved from a surface conditioning, treating zone or bath involving chromating or dichromating to provide a chromate conversion coating on zinc, cadmium, silver, aluminum or chromium, a pickle on magnesium, a chromate seal on aluminum, or a chromate film on copper or brass, or acid pickling or etching of copper and cuprous alloys, or acid plating, have the carried-over treatment liquid (drag-out) subjected to a valence reducing solution treatment prior to neutralization or removal of its toxic content in such a manner as to avoid damage to the metal surfaces or to a gel type film thereon containing both hexavalent and trivalent chromium. In addition to finally rendering any toxic carry-over innocuous, after-treatment desirably first reduces higher valence soluble metal compounds, such as those of chromium or copper compounds to facilitate later precipitating out and settling the metals. Hydrazine hydrate is used in the reducing, after-treating solution.

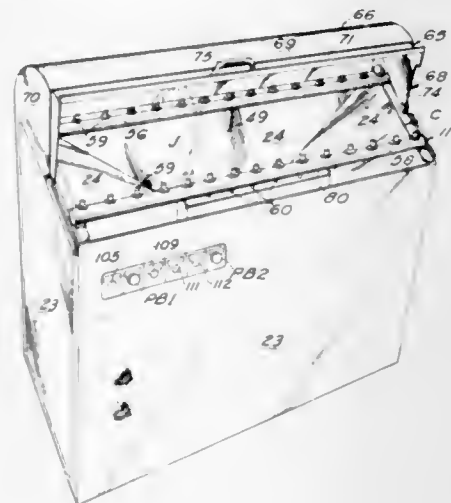
3,537,897 TUBING WASHER AND METHOD

Loring C. Kington, 3354 Black Oak Circle, Chattanooga, Tenn. 37415

Filed Mar. 13, 1967, Ser. No. 628,212

Int. Cl. B08b 9/02

U.S. Cl. 134—22 7 Claims



Method of and apparatus for cleaning residue from tubing used in liquid dispensing systems. The tubing is

cleaned by passing a cleaning solution through the tubing, subsequently rinsing the tubing and filling the tubing with a non-contaminating fluid to maintain the tubing in a cleaned condition. A manifold mounts the tubing, and a cleaning solution supply mechanism connected to the manifold selectively forces a cleaning solution through the tubing. A rinse solution supply mechanism connected to the manifold rinses the tubing by selectively forcing water therethrough, and a gas supply mechanism selectively fills the tubing with a non-contaminating gas to maintain the tubing in cleaned condition.

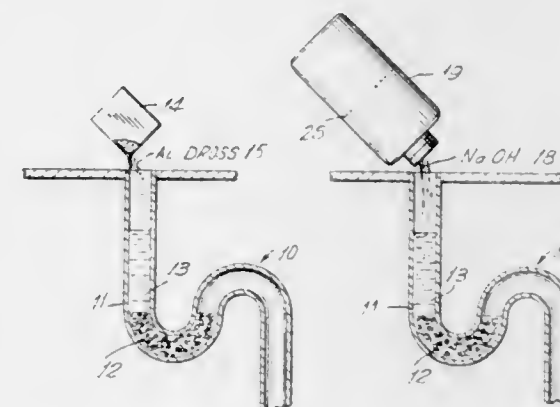
3,537,898 METHOD FOR UNCLOGGING CONDUITS

Jay W. Fidler, Port Chester, N.Y., assignor to Hercules Chemical Co., Inc., New York, N.Y., a corporation of New York

Filed Mar. 20, 1969, Ser. No. 808,917

Int. Cl. B08b 9/00

U.S. Cl. 134—22 10 Claims



An article and method for unclogging conduits such as drains, pipes, and the like. First, aluminum dross is charged into the conduit by being dropped onto the interior clogged area of the conduit, and thereafter a caustic solution, as for example a sodium hydroxide solution or a potassium hydroxide solution or a mixture of solutions thereof, is charged into the conduit by being dropped onto this interior clogged area of the conduit. The resulting reaction between the aluminum dross and caustic solution is exothermic and serves very effectively by the heat development to soften and/or dissolve the fatty or other matter, thereby unclogging the conduit. An oxidizer may if desired be incorporated as a powder or solution with respectively the dross or caustic solution for reacting with hydrogen as released when the dross and caustic are intermixed thereby minimizing a flammable hazard. The materials are successively applied in a single treatment from a package which includes at least a pair of units which are to be used in sequence, with one of the pairs of units comprising the aluminum dross and the other the caustic solution such as above mentioned.

3,537,899 CLEANING SIX-PACK CARRIERS AND SODA CASES

Raymond A. Yatuni, Westminster, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

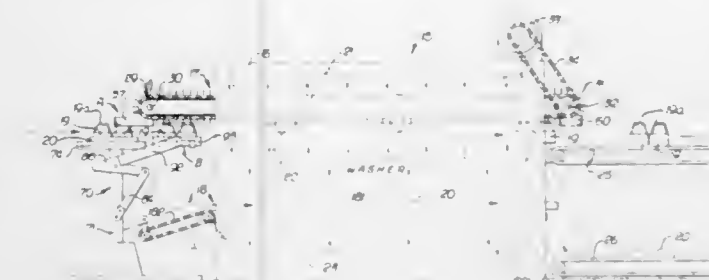
Filed Oct. 20, 1967, Ser. No. 676,910

Int. Cl. B08b 3/02, 9/08; B67c 1/00

U.S. Cl. 134—25 16 Claims

Washing of bottle carriers of the six-pack or eight-pack type and their cases, which are delivered empty to a washing station where the present method and apparatus operates generally to separate the carriers from the cases in advance of a tunnel-type washer, and to convey the

carriers and cases in separate paths through the washer for cleansing and subsequent recombination. More particularly, the invention provides for initial separation and disposition of the containers and cases by so associating upstanding carrier handles with an upper conveyor that the carriers are suspended during initial separation of each case, and the latter is separated by downward and preferably inverting movement onto a lower conveyor arrange-



ment. The overall performance is characterized by advancement of the carriers suspended from an upper conveyor in the washer, and simultaneous advancement of the separated cases on the lower conveyor within the washer, the progression being such that the washed output is in correspondence with the input and therefore reassembly of the cleansed containers may occur as an essentially continuous operation.

3,537,900 DEICING AIRCRAFT WINDSCREENS

Stuart Halbert, Melkridge Hall, near Haltwhistle, England, assignor to Kilfrost Limited, Haltwhistle, England, a British company

No Drawing, Filed Sept. 8, 1967, Ser. No. 666,486

Claims priority, application Great Britain, Sept. 16, 1966, 41,526/66

Int. Cl. B08b 3/04 4 Claims

A washing liquid for use on vehicle windscreens, in particular aircraft windscreens, which is highly effective as a deicer, and in removing salt and other deposits such as insect debris e.g. fly bodies which normally foul the windscreens. The new washing liquids are aqueous solutions of mono- and polyethers of polyalcohols.

3,537,901 TREATING METHOD FOR BUSHINGS

John C. Purdue, Toledo, Ohio, assignor to B & D Salvage, Inc., Portage, Ohio, a corporation of Ohio

No Drawing, Continuation of application Ser. No. 720,445, Apr. 11, 1968. This application Aug. 18, 1969, Ser. No. 859,497

Int. Cl. C23d 17/00; B08b 3/04 7 Claims

A method for conditioning prior to disassembly of a bushing, which bushing comprises a tubular elastomeric member radially compressed between a rigid metal core and a rigid coaxial metal sleeve. The bushing is immersed in a liquid bath of a plasticizer¹ maintained at a temperature from about 290° F. 525° F. The plasticizer is preferably one having low vapor pressure, high resistance to

¹ By definition adopted by the Council of the International Union of Pure and Applied Chemistry in 1951, a plasticizer is "a substance or material incorporated in a material (usually a plastic or an elastomer) to increase its flexibility, workability or distensibility. A plasticizer may reduce the melt viscosity, lower the temperature of a second order transition or lower the elastic modulus of the product." A "second order transition" refers to the change from an amorphous state to a plastic state. The "elastic modulus" of a material refers to the ratio of stress to strain in a material subjected to deformation. Usually, a plasticizer is an organic material in liquid or solid form; occasionally it is another plastic or elastomer.

migration in a polymer, and good stability to heat and light. The bushing is removed from the bath at a point when softening of the interfaces between the elastomeric member and the core and between the elastomeric member and the sleeve has occurred but while the interior of the elastomeric body is still substantially firm. The temperature of the bath is selected according to the identity of the plasticizer and the size of the bushing. Larger bushings require, in general, higher bath temperatures.

3,537,902

SEMI-SEALED TYPE STORAGE BATTERY

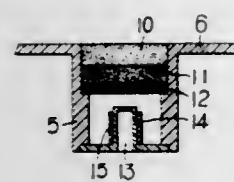
Kazuo Murata, Takatsuki, Japan, assignor to Yuasa Battery Company Limited, Osaka Prefecture, Japan
Filed Aug. 26, 1965, Ser. No. 482,743

Claims priority, application Japan, Oct. 29, 1964, 39/84,773

Int. Cl. H01m 1/06, 35/00

U.S. Cl. 136—6

3 Claims



A leak-proof battery is described having an exhaust port containing a microporous synthetic material in the container wall to permit the exhaust gases generated in the battery to escape but prevent escape of the electrolyte. Optionally, a valve which will open in response to internal gas pressure in the battery and an acid absorber may be located on the internal side of the microporous material to further prevent escape of electrolyte. A glass mat or other microporous material serves as a battery separator and also as an envelope surrounding all of the plates.

3,537,903

PRESSURE RELEASING FEED-THROUGH BATTERY TERMINAL

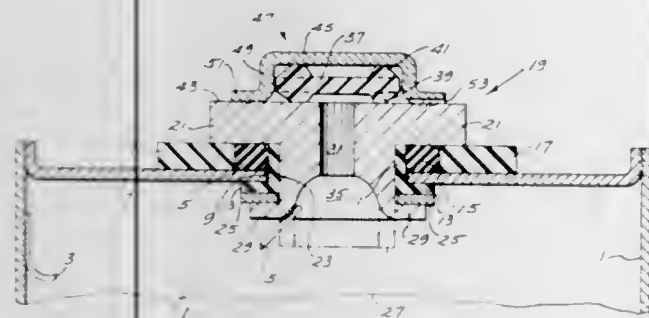
John A. Braun, Berkley, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 19, 1968, Ser. No. 785,189

Int. Cl. H01m 1/06, 31/00

U.S. Cl. 136—178

4 Claims



A hole through the conductive cover of a conductive battery casing has located therein an insulating sleeve. The sleeve extends outwardly from the cover and has an inside flange which engages the inside of the cover around the hole. An elastomeric O-ring is positioned on the outside of the cover around the extending sleeve. An insulating washer is located on the cover around the O-ring. An electrically conductive nipple has an outside flange

and a radially crimped inside flange engaging a washer located under said inside flange of the insulating sleeve. On the outside flange of the nipple is welded a relief valve assembly.

3,537,904

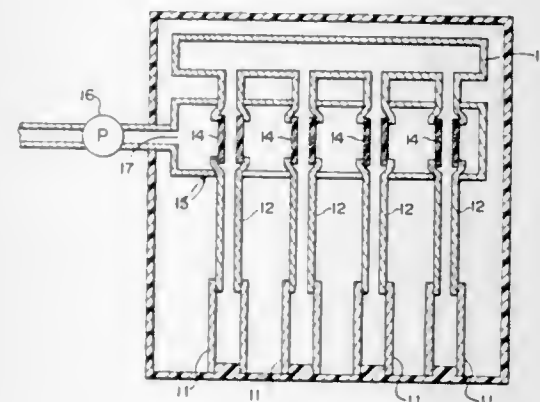
MEANS FOR PREVENTING INTERNAL CURRENTS IN A FUEL CELL

Seigo Matsuda, Wayland, and Bernard P. Sullivan, Somerville, Mass., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 694,764

Int. Cl. H01m 27/12

U.S. Cl. 136—86

1 Claim



Apparatus is disclosed for interrupting the electrolyte path from a common electrolyte tank to individual cells within a fuel cell stack. Interruption of the electrolyte path greatly reduces or eliminates internal currents by breaking the conducting path between the cells. Specifically, means are provided to create one or more gas bubbles in the electrolyte by methods such as electrolytic decomposition of the electrolyte.

3,537,905

FUEL CELL UNIT LIQUID ELECTROLYTE CONDITIONER AND METHOD

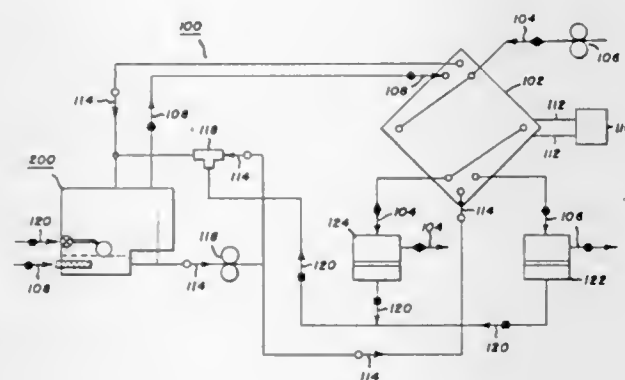
Charles W. Snyder, Jr., Beverly, Arnold D. Thumim, Brighton, and Albert C. Erickson, Wakefield, Mass., assignors to Gesellschaft für Elektrometallurgie m.b.H., Dusseldorf, Germany

Filed May 9, 1968, Ser. No. 727,873

Int. Cl. H01m 27/14, 31/00

U.S. Cl. 136—86

7 Claims



A storage tank for liquid electrolyte is provided which contains excess electrolyte during operation of a fuel cell and acts as a storage tank for electrolyte when the fuel cell is shut down. Steam is used to heat the electrolyte, and incoming fuel is bubbled through the electrolyte both to achieve humidification and heat transfer.

3,537,906

PROCESS FOR PRODUCING A FUEL CELL ELECTRODE

John F. Sindorf, West Allis, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
No Drawing. Filed Aug. 23, 1966, Ser. No. 574,315

Int. Cl. H01m 13/00

U.S. Cl. 136—120

6 Claims

A method of forming fuel cell electrodes having a uniform distribution of catalyst particles by dispersing electrically conductive particles in a liquid emulsion of thermoplastic resin to coat the particles with the resin. The coated particles are then precipitated and mixed with an aqueous solution of a surfactant which is vigorously agitated into a foamed mass. The coated particles are then separated from the foamed mass, and formed into a mat of uniformly distributed particles, which is compressed to form a cohesive fuel cell electrode.

3,537,907

BATTERY UNIT AND HEAT SINK THEREFOR

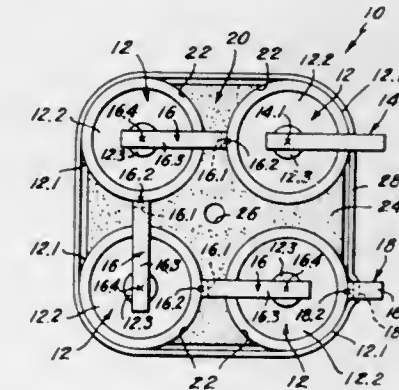
Arthur M. Wilson, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 16, 1968, Ser. No. 721,689

Int. Cl. H01m 1/02

U.S. Cl. 136—132

1 Claim



A rechargeable battery unit comprising a plurality of discrete battery cells electrically connected in series and enclosed in a casing is shown to incorporate a heat sink member of a selected metal having an electronically insulating surface layer thereon embodying an oxide of the metal. The heat sink member is of selected shape to conform to the configuration of the discrete battery cells for good heat-transfer therefrom and for securely locating the battery cells in spaced, electrically insulated relation to each other within the unit casing. Preferably, the heat sink has a central well for receiving temperature-sensing means.

3,537,908

COMPOSITE SEPARATOR MEANS FOR ELECTRO-CHEMICAL POWER SOURCES AND POWER SOURCES EMBODYING THEM

Jean Henri Doll, Aulnay-sous-Bois, and Henri Desire Druessne, La Courneuve, France, assignors to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France
Filed Feb. 21, 1968, Ser. No. 707,072

Claims priority, application France, Apr. 28, 1967, 104,551

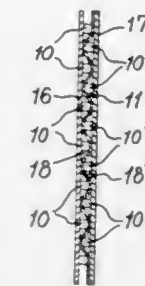
Int. Cl. H01m 3/04

U.S. Cl. 136—145

8 Claims

Composite separating means for electrodes of electrochemical power sources comprising sheets of separator material to which unit spacer elements of selected shapes and dimensions are permanently secured in selected patterns and method of preparing such means by severance

of individual spacer elements from sheets of spacer material and directly depositing and securing the severed elements of selected shapes to said separator sheets in prescribed patterns, and electrochemical power sources utilizing such composite separating means between adjacent electrodes to provide ready penetration of and storage of electrolyte between electrodes for operation of the power sources.



3,537,909

BATTERY HOLDER

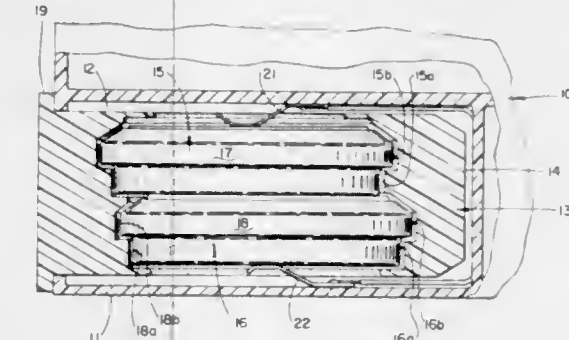
William H. Horton, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Jan. 11, 1968, Ser. No. 697,218

Int. Cl. H01m 1/04; G03b 19/04

U.S. Cl. 136—173

11 Claims



A holder for a plurality of electrical batteries has individual battery shaped cavities therein to receive and retain the batteries in operative relationship, the cavities being (1) staggered to prevent wrong-way insertion of the batteries, thus assuring correct polarity, and (2) dimensioned to allow sufficient clearance for ready insertion and removal of oversized and/or expanded batteries.

3,537,910

NUCLEAR REACTOR THERMOELECTRIC POWER PLANT

Raymond N. Zogran, Oxon Hill, Sterling J. Weems, Chevy Chase, and Herbert Estrada, Jr., Silver Spring, Md., and Julian C. Nichols, McLean, Va., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 2, 1967, Ser. No. 657,893

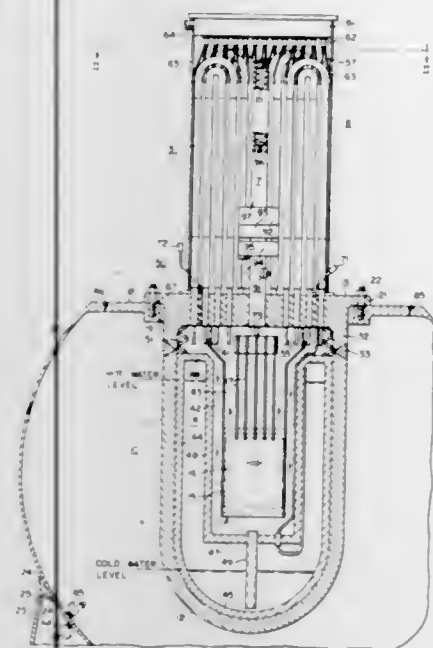
Int. Cl. G21h 1/10

U.S. Cl. 136—202

10 Claims

A nuclear reactor is coupled with a thermoelectric generator in a plant for underwater application. The plant is constructed for long-term unattended operation, and for positioning on the ocean floor near the location of the power consumer. Operation of the plant requires no moving parts after steady state conditions have been achieved. The arrangement consists essentially of an assembly of thermoelectric elements mounted on U-tubes

attached to the head of a reactor vessel. Primary coolant flows by natural circulation from the reactor core through



the inside of the U-tubes to supply heat to the thermoelectric elements.

3,537,911

THERMAL PROTECTION FOR INSTRUMENTS
William Christie Hynd, Liverpool, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain

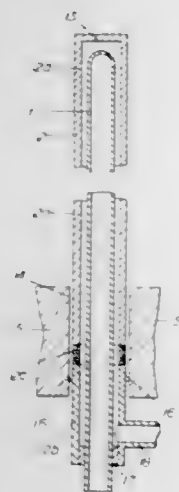
Filed Jan. 9, 1967, Ser. No. 608,029

Claims priority, application Great Britain, Jan. 18, 1966, 2,324/66

Int. Cl. H01v 1/00, 1/04

U.S. Cl. 136—242

7 Claims



A protective casing for an instrument, e.g., thermocouple, which is housed in a refractory tube, is a composite of a refractory part inert to molten material in which the instrument is immersed, and an oxidation resistant part for securing the casing in the container of the molten material.

3,537,912

METHOD OF GROWING CHALCOGENIDE PSEUDO-BINARY CRYSTALS OF UNIFORM COMPOSITION

Manuel Aven, Burnt Hills, and Henry H. Woodbury, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Mar. 20, 1968, Ser. No. 714,590

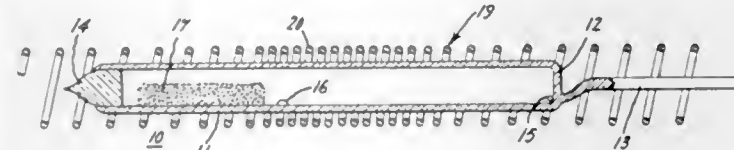
Int. Cl. B01j 17/30

U.S. Cl. 148—1.6

8 Claims

A method of growing single or near single crystals of pseudo-binary compounds of the chalcogenide type includes the growing of crystals in a sealed envelope with

a charge of the chalcogenide at a preselected temperature to cause volatilization thereof and condensation of the compound upon a seed crystal or growth therefrom maintained at a temperature only slightly cooler than the temperature of the charge. To prevent segregation of



the binary compound which is the most volatile of the individual binary compounds of the complex compound at one end of the envelope, a partial pressure of the anion of the most volatile binary compound is maintained within the closed envelope.

3,537,913

CYCLIC STRESSING FOR SUPPRESSION OF STRAIN AGING

Adam W. Klisowski, Wintersville, Ohio, assignor to National Steel Corporation, a corporation of Delaware

Filed Apr. 17, 1967, Ser. No. 631,438

Int. Cl. C21d 1/04, 7/00

U.S. Cl. 148—4

8 Claims

Improved flat rolled mild steel is produced by cyclical stressing below the endurance limit of the steel to mask yield point elongation and remove strain-aging characteristics. Stress ranges and number of cycles for steel in annealed condition, temper rolled and aged steel, and nonaged temper rolled steel are prescribed.

3,537,914

PASSIVATION OF THERMAL CONDUCTIVITY FILAMENTS

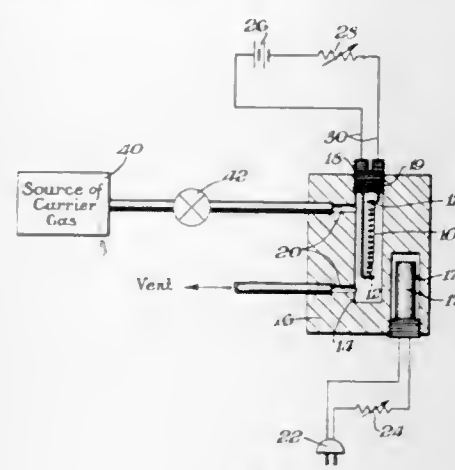
Edward W. Cieplinski and Samuel F. Spencer, Wilmington, Del., and William L. Illingsworth, Greenridge, Pa., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Jan. 19, 1968, Ser. No. 699,239

Int. Cl. C23f 7/02; H01c 7/04

U.S. Cl. 148—6.3

5 Claims



The tungsten-rhenium filament of a thermal conductivity detector is passivated by heating the detector block to 330° C., heating the filament to a somewhat higher temperature, purging the block cavity containing the filament with a carrier gas containing a mixture of an inert gas and oxygen, and maintaining said temperatures and purge gas flow for a period of time sufficient to coat at least the tungsten portion of the filament with an oxide coating. The effect of this passivation on the detector output signal of a gas chromatograph is to reduce tailing, baseline shifts, and other vagaries due to filament oxidation.

3,537,915

STRUCTURAL STEEL MEMBERS AND METHOD OF MAKING SAME

Gerhard Becker, Essen-Frintrop, Germany, assignor to Huttenwerk Oberhausen A.G., Oberhausen, Rhineland, Germany, a corporation of Germany

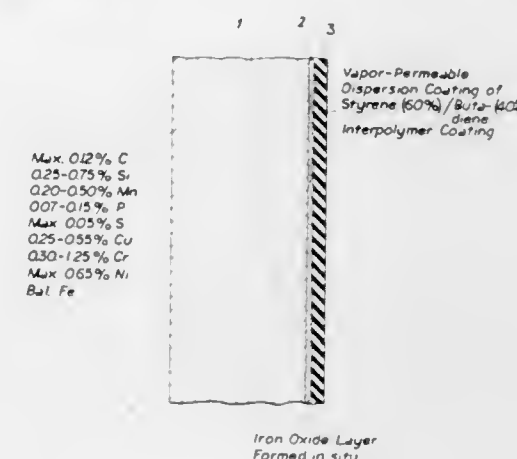
Filed Apr. 18, 1968, Ser. No. 722,391

Claims priority, application Germany, Apr. 20, 1967, H 62,494

Int. Cl. C23f 7/04, 5/00

U.S. Cl. 148—6.35

7 Claims



A process for producing structural steel members, e.g., steel sheets and profiles such as I-beams, H-beams and angle members, which consist of a rusting steel coated with a synthetic-resin surfacing layer of an interpolymer of butadiene and styrene, the steel being of the weather-resistant type and having generally the following composition: trace amounts to 0.12% carbon, 0.25 to 0.75% silicon, 0.20% to 0.50% manganese, 0.07% to 0.15% phosphorus, trace amounts to 0.05% sulphur, 0.25% to 0.55% copper, 0.30 to 1.25% chromium, trace amounts to 0.65% nickel, and the balance iron. The interpolymer or mixed polymer of styrene and butadiene contains about 60% styrene and 40% butadiene with a specific gravity of about 1.01. The polymeric material is applied to the steel body as a vapor-penetrable layer and the coated surface is weathered to form an oxide layer at the interface between the steel body and the polymeric layer.

ERRATUM

For Class 148—11.5 see:
Patent No. 3,537,493

3,537,916

METHOD OF REFINING ALLOYS

Roger David Butler, Kidlington, Ian Frederick Bowers, Heatherton, Freeland, and Cedric Charles Edward Colley, Wheatley, England, assignors to Pressed Steel Fisher Limited, Cowley, Oxford, England, a corporation of Great Britain

No Drawing. Filed Jan. 19, 1968, Ser. No. 699,024

Claims priority, application Great Britain, Jan. 25, 1967, 3,714/67; Mar. 8, 1967, 10,805/67

Int. Cl. C22f 1/10

U.S. Cl. 148—11.5

3 Claims

The structure of those eutectoid or near eutectoid alloys, such as zinc-aluminum, that retain a high temperature solid phase state after quenching from above the eutectoid temperature is refined by working the alloy in the solid phase high temperature state obtained after quenching from above the eutectoid temperature; accordingly, a zinc-aluminum eutectoid or near eutectoid alloy sheet having a refined structure is produced by continuously casting the alloy, quenching the continuously cast sheet and working prior to the transformation to the eutectoid or partly eutectoid state.

3,537,917

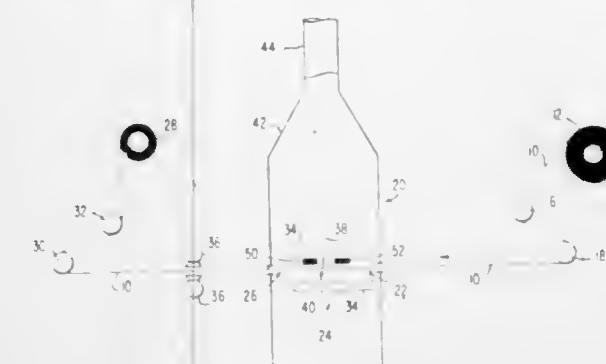
PROCESS FOR COORDINATED CLEANING AND FLOW BRIGHTENING OF TINPLATED STEEL
Edward P. Spencer, Steubenville, Ohio, Rex L. Landis, Weirton, W. Va., and Jon C. Williams, Steubenville, Ohio, assignors to National Steel Corporation, a corporation of Delaware

Filed Jan. 19, 1967, Ser. No. 610,428

Int. Cl. B44d 5/00; C21d 7/02, 9/52

U.S. Cl. 148—12.1

7 Claims



Method and apparatus for continuous strip processing of tinplated flat rolled steel, such as tinplated steel foil, which is simultaneously flow-brightened and cleaned of rolling lubricant by passing the product longitudinally through a heating zone in which the product is raised to a temperature sufficient to melt the tinplating and substantially simultaneously vaporize the rolling lubricant. The position of the melt line of the tin is defined by a cloud of evolving lubricant which is sensed by photocell detectors, or the like, to automatically control heating of the product to facilitate proper flow brightening. Coiling of light-gauge material is facilitated by blowers which maintain the product in the flat, fold-free configuration.

3,537,918

METHOD FOR PRODUCING CUBE-ON-FACE ORIENTED STRUCTURE IN A PLAIN CARBON IRON

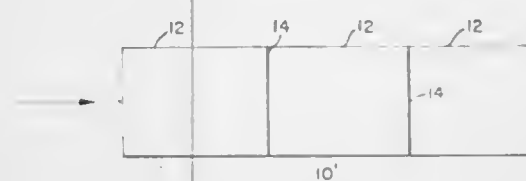
Thomas R. Mager, Murrysburg, and George W. Wiener, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 25, 1968, Ser. No. 724,061

Int. Cl. C21d 7/02

U.S. Cl. 148—120

11 Claims



A process is set forth for the production of cube-on-face oriented plain carbon iron which exhibits enhanced magnetic characteristics. Typical magnetic data are reported and a method for commercial production is disclosed.

3,537,919

METHOD OF FABRICATION OF GUNN EFFECT DEVICES

Charles A. Bittmann, Los Altos Hills, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed May 22, 1968, Ser. No. 731,107

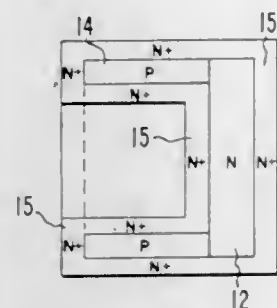
Int. Cl. H01l 7/36, 3/00, 7/00

U.S. Cl. 148—175

10 Claims

Structural strength is given to a thin layer of N-type Gunn effect material during processing by placing a rim of P-type material around the outer region of one face

of this layer. Degenerate N-type layers of Gunn effect material are then grown on the two exposed faces of



this layer to ensure good ohmic contacts to both faces of this layer.

3,537,920

PROCESS FOR THE PRODUCTION OF DIODES BY ELECTRIC PULSES

Jacques Le Carpentier, Urville Naqueville, France, assignor to C.I.T. Compagnie Industrielle des Telecommunications, Paris, France, a corporation of France
Filed Apr. 5, 1968, Ser. No. 719,024
Claims priority, application France, Apr. 18, 1967, 103,229
Int. Cl. H011 7/48

U.S. Cl. 148—179

7 Claims



Process for the production of semiconductor elements consisting in depositing on one of the faces of an N-type or P-type semiconductor substrate a layer of an insulating material in which there are formed apertures which may have the same or different dimensions, and then covering these apertures and the immediately adjacent area thereof with a doping material of opposite conductivity type to the substrate, the conductive areas thus formed being insulated from one another, and thereafter individually and successively subjecting the conductive areas to electric pulses.

3,537,921

SELECTIVE HYDROFLUORIC ACID ETCHING AND SUBSEQUENT PROCESSING

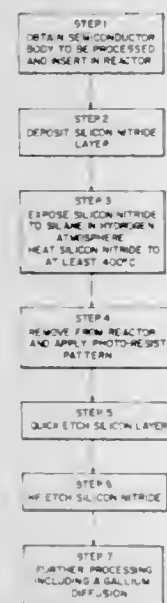
Bernard W. Boland, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Feb. 28, 1967, Ser. No. 624,643

Int. Cl. H011 7/50

U.S. Cl. 148—187

5 Claims



A process for selectively etching silicon nitride, chromium, ultra thin silicon dioxide, etc. layers using a thin layer

of silicon as a mask against hydrofluoric acid (HF) etchants. Then long diffusions, using indium, gallium, etc. are performed through a selectively etched silicon nitride mask into an underlying semiconductor without mask reprocessing cycles.

3,537,922

COMPOSITE PROPELLANT COMPOSITIONS CONTAINING DISSOLVED LITHIUM PERCHLORATE IN THE POLYMERIC BINDER

Lucius G. Gilman, Wakefield, and Robert I. Lait, Swampscott, Mass., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed July 2, 1962, Ser. No. 207,464
Int. Cl. C06d 5/00

U.S. Cl. 149—19

15 Claims

1. A composite solid propellant in which the discontinuous phase comprises energy-rich solids and the continuous phase is a solid solution of the polymer of an olefin containing a donor atom selected from the class consisting of O, S and N and an oxidant amount of lithium perchlorate in the same homogeneous phase.

3,537,923

BOOSTER IGNITION COMPOSITIONS FOR SMALL ARMS WEAPON CONTAINING BORON AND BORON COMPOSITIONS

Bert B. Gould, Alameda County, and Arthur T. Biehl and Robert Mainhardt, Contra Costa County, Calif., and William D. Barton, Panama, Panama, assignors to MB Associates, a corporation of California

No Drawing. Application Feb. 11, 1965, Ser. No. 435,780, which is a continuation-in-part of applications Ser. No. 61,017, Oct. 6, 1960, and Ser. No. 141,237, Sept. 20, 1961. Divided and this application Oct. 22, 1965, Ser. No. 515,512

Int. Cl. C06c 1/00

U.S. Cl. 149—22

1 Claim

The invention relates to improvements in a booster material for igniting substantially instantaneously the full length of a perforated rocket propellant. The booster comprises a mixture of 36% potassium nitrate and 64% of a mixture of aluminum in fine grains with an oxide of a chemically weaker metal as approximately 53% of the formula plus about 40% boron chlorate, 2% boron (90-92% pure), and 5% nitrocellulose binder.

3,537,924

PERCHLORATE PREPARATION

Joseph J. Byrne, Boston, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 2, 1962, Ser. No. 207,472

Int. Cl. C01b 11/18; C06c 1/02

U.S. Cl. 149—36

8 Claims

1. The method of preparing and handling hydrazine perchlorate as an anhydrous material which comprises metathesizing a salt of hydrazine with a metal perchlorate salt in an inert polar organic solvent, and maintaining such organic solvent associated with said hydrazine perchlorate during subsequent handling.

6. The method of preparing a lithium perchlorate/hydrazine perchlorate eutectic which comprises adding lithium perchlorate to a solution of hydrazine perchlorate in an inert polar organic solvent, in an amount calculated to supply from 1 to 2 moles of lithium perchlorate per mole of hydrazine perchlorate, and thereafter removing said solvent by evaporation to leave a residue comprising a eutectic of lithium perchlorate with hydrazine perchlorate selected from the 1:1 to 1:2 molar ratio eutectics.

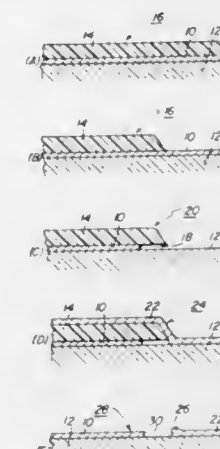
3,537,925

METHOD OF FORMING A FINE LINE APERTURED FILM

Arthur C. Chen, Niskayuna, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 14, 1967, Ser. No. 623,094
Int. Cl. C23f 1/02

U.S. Cl. 156—6

4 Claims



An apertured film having a line of narrow width, e.g., 3 microns, is produced by a process which includes the evaporation of a 2000 Å. thick film of tin upon a glass substrate, the coating of the tin film with a layer of photoresist, and the partial removal of the photoresist adjacent the desired location of the line aperture to expose a portion of the underlying tin film. The partially masked tin film then is etched in a dilute solution of hydrochloric acid and nitric acid for a period of one second to dissolve the exposed tin film and undercut the photoresist by a distance of 3 microns. After a second 2000 Å. thick layer of tin is deposited atop both the photoresist and partially uncovered substrate, the photoresist is softened by soaking the coated substrate in an organic solvent for approximately 3 minutes. The photoresist and that portion of the second layer of tin overlying the photoresist is subsequently removed by the low pressure spraying of the organic solvent upon the substrate thereby forming a fine line apertured film. When metal films having poor adhesion to the substrate are to be utilized to form the fine line apertured film, a seeding film such as nickel, tin or chromium is deposited upon the substrate prior to the deposition of the metal films forming the fine line apertured film to improve the adhesion of the apertured film to the substrate.

3,537,926

CHEMICAL BRIGHTENING OF IRON-CONTAINING SURFACES OF WORKPIECES

Guenter Fischer, Ellwood City, Pa., assignor to Lancy Laboratories, Inc., Zelienople, Pa., a corporation of Pennsylvania

No Drawing. Filed June 19, 1967, Ser. No. 647,215

Int. Cl. C23f 3/04

U.S. Cl. 156—21

17 Claims

An aqueous brightening solution is made up and employed for workpieces having iron-containing surfaces, such as of steel, malleable or cast iron, or iron-containing alloys. The solution basically contains hydrogen peroxide and ammonium bifluoride with a minor concentration of a mild inorganic or organic acid in solution to provide a more economical and practical removal of metal from the surface of objects as described, with the purpose of developing a reflective surface or an improved reflectivity of the surface. For further stability of the hydrogen per-

oxide an aromatic carboxylic acid may be used in the solution. Also, a wetting agent may be used in the solution to reduce its surface tension.

3,537,927

BONDING OF INSULATED WIRES TO FORM ELECTRICAL CABLES

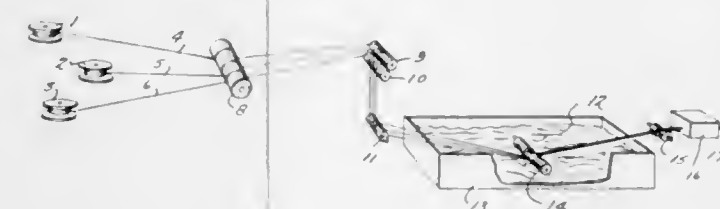
Robert W. Anderson, Burlington, and Alme Joseph Perreault, South Burlington, Vt., assignors to Havig Industries, Inc., Wilmington, Del., a corporation of Delaware

Filed July 2, 1968, Ser. No. 742,086

Int. Cl. H01b 13/16

U.S. Cl. 156—47

9 Claims



There is provided a process for forming bonded electrical cables by gathering continuous lengths of a plurality of plastic insulated wires into a substantially parallel adjacent spacial relationship and immersing the gathered wires into a heated liquid medium, which is maintained at a temperature sufficient to heat the plastic insulation to at least the lowest temperature at which bonding of the plastic insulation will occur. The heated wires are passed through a form of such dimensions that the wires are brought into a spacial relationship sufficient to at least partially press the outer portions of the plastic insulation of each wire with the other portions of the plastic insulation of adjacent wires, whereby bonding of the wires occurs.

3,537,928

PROCESS FOR PREPARING LAMINATED AND EMBOSSED ELASTIC FABRIC

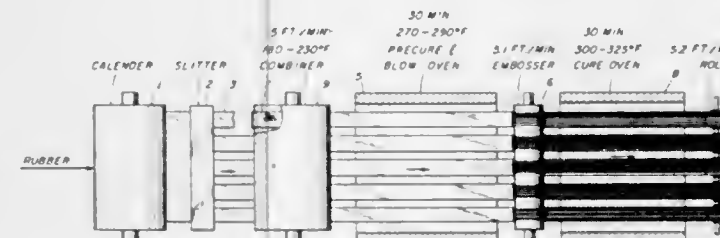
Ralph A. Maglio and Cyril N. Harper, Easthampton, Mass., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 17, 1967, Ser. No. 616,986

Int. Cl. B32b 5/18

U.S. Cl. 156—79

4 Claims



A sheet of partially cured but still plastic elastomer compounded with a blowing agent is softened and laminated onto textile fabrics; the laminate is then precured at a temperature sufficient to activate the blowing agent, producing cell tight elastomer. The laminate is then passed through embossing rolls, which emboss a design, usually lengthwise ridges, in the elastomer, cured at a higher temperature until the elastomer is completely cured and then packaged.

3,537,929

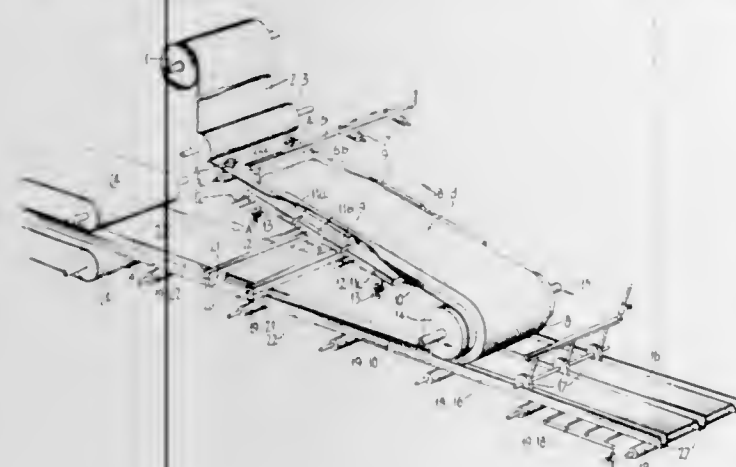
PROCESS FOR PRODUCING MOLDED SHAPE FOAM LAMINATES

Donald G. Keith, 32 Volitans Ave., Mount Eliza, Victoria, Australia, and David B. F. Strachan, 5 Garden Ave., Brighton, Victoria, Australia
Continuation of application Ser. No. 458,237, May 24, 1965. This application June 16, 1969, Ser. No. 838,003
Claims priority, application Australia, June 9, 1964, 45,541/64

Int. Cl. B29c 7/02; B32b 5/18

U.S. Cl. 156—79

26 Claims



A process for making foam laminates in which foam is deposited on a moving flexible skin, and when the foam ceases to flow inverting and impressing the foam against a second moving shaped skin, curing and bonding.

3,537,930

MANUFACTURE OF SCULPTURES

Doreen Anderson, 810 Forest Ave., Elgin, Ill. 60120
Filed Jan. 23, 1968, Ser. No. 704,211

Int. Cl. B29c 17/00; B44c 3/00; C23c 1/00

U.S. Cl. 156—214

3 Claims



The disclosure is a sculpture basically of paper having the form, shape and outward appearance of any selected figure or object including the body of a living person. Vinyl acetate sheeting or equivalent material is applied to the surface of the figure or object and manipulated and worked to impart thereto the form, shape and outward appearance thereof. Paper adhesive tape is then superimposed upon the surface of the sheeting and similarly manipulated and worked to cause it to take the form, shape and outward appearance of the figure or object imparted to the sheeting and thereby produce the sculpture.

3,537,931

PROCESS FOR BONDING PAPER AND A THERMOPLASTIC MATERIAL EMPLOYING ELECTRICAL DISCHARGE

John E. Campbell, Needham, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Aug. 1, 1967, Ser. No. 657,549

Int. Cl. B29c 19/02

U.S. Cl. 156—272

9 Claims

This invention relates to a process for the fabrication of a laminate which includes the steps of subjecting a first

sheet element to an electrical discharge and thereafter thermally sealing said sheet element in superposed relationship to a second sheet element, at least one of said sheet elements carrying a thermoplastic material on the contact surface thereof.

3,537,932

PROCESS FOR ADHERING RUBBER LAYER TO POLYESTER TEXTILE ARTICLE

Hans Schrode, Wuppertal-Elberfeld, Germany, assignor to Vereinigte Glanzstoff-Fabriken AG, Wuppertal-Elberfeld, Germany

No Drawing. Filed May 25, 1964, Ser. No. 370,120

Claims priority, application Germany, May 30, 1963, V 24,117

Int. Cl. B32b 7/10, 27/08

U.S. Cl. 156—310

4 Claims

Process for adhering a rubber layer to a fibrous polyester article by prefinishing the polyester, e.g. polyethylene terephthalate, with a thin flexible coating of synthetic resin such as an epoxy resin, applying an anhydrous phenol and an anhydrous aldehyde to at least one of the surfaces to be joined, and vulcanizing the polyester article to the rubber layer through application of heat to form a phenolaldehyde resin joining the two surfaces. This method can be used, for example, in the production of automobile tires where the polyester serves as the tire cord.

3,537,933

MULTIPLE LABEL DISPENSER

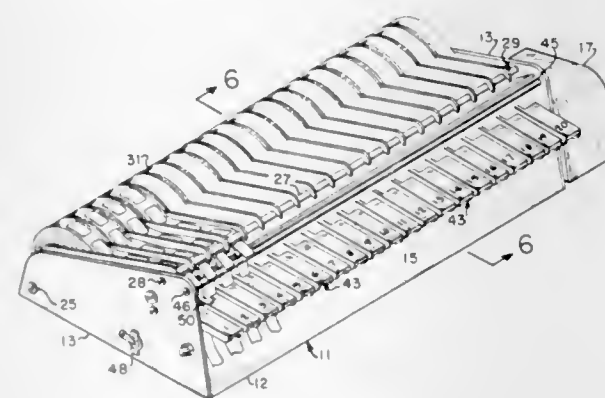
Clayton G. Severance, San Antonio, Tex., assignor to Fox-Stanley Photo Products, Inc., San Antonio, Tex., a corporation of Texas

Filed Apr. 18, 1967, Ser. No. 631,629

Int. Cl. B32b

U.S. Cl. 156—344

15 Claims



The drive roller of a label dispenser rotates continuously during and between advancements of label-bearing carriers, those carriers normally lie close to but are not advanced by said drive roller, and finger-actuated keys are selectively moved to press said carriers against said drive roller and thereby effect advancements of said carriers.

3,537,934

LABEL FEEDER WITH VARIABLE SPEED DRIVE

Karl Alan Münch, Neutraubling, Germany, assignor to Hermann Kronseder, Neutraubling, Germany

Filed Jan. 25, 1968, Ser. No. 700,578

Claims priority, application Germany, Feb. 11, 1967, 1,586,366; June 29, 1967, 1,586,368

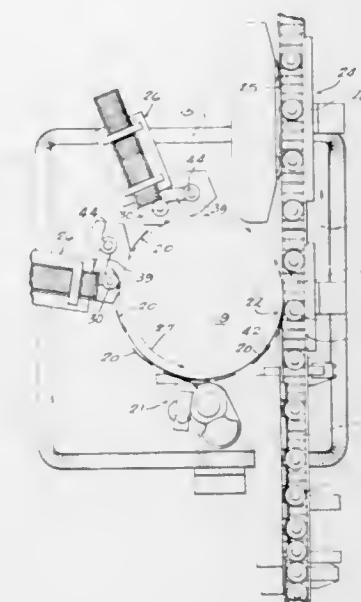
Int. Cl. B65c 9/12; B65h 3/10

U.S. Cl. 156—364

11 Claims

Label feeder in a high speed bottle labeling machine, the feeder being disposed between a relatively stationary

label magazine and a rapidly rotating labeling drum. The feeder comprises a label transfer roller with a transport mechanism to move it between the magazine and the drum and with a variable speed roller drive mechanism to turn the roller about its axis at relatively low speed



when its label retainer means is proximate the relatively stationary label magazine, and to turn the roller about its own axis at relatively high speed when its label retainer means is proximate the rapidly rotating labeling drum.

3,537,935

APPARATUS FOR MANUFACTURING A HEAT EXCHANGER COMPONENT FORMED WITH FLEXIBLE PLASTIC TUBES

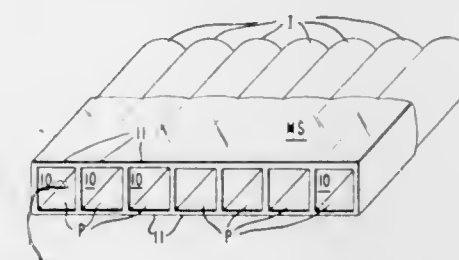
Michael Somerville Withers, Landenberg, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application July 31, 1967, Ser. No. 657,380, now Patent No. 3,435,895. Divided and this application Aug. 6, 1968, Ser. No. 750,557

Int. Cl. B32b 31/04, 1/08

U.S. Cl. 156—382

2 Claims



An assemblable component suitable for heat exchange, or heat transfer, comprising a plurality of elongated flexible plastic tubular elements arranged in a substantially flat laterally disposed single layer side-by-side array, said tubular elements of at least one portion of the component having their laterally adjacent portions physically united to each other to form a single integral molded structure extending transversely of said array, said molded structure having passageways of a particular transverse cross-section extending therethrough, each communicating with the interior of a tube element at least one end of the molded structure, the molded structure having a particular configuration to permit stacking or windup to produce multi-layer units. Also involved is an improved manufacturing arrangement for producing the simplified easily assemblable components.

3,537,936

TIRE FABRIC ALIGNMENT MECHANISM

Jean Leblond, Compiègne, France, assignor to Uniroyal Engelbert France S.A., Paris, France, a corporation of France

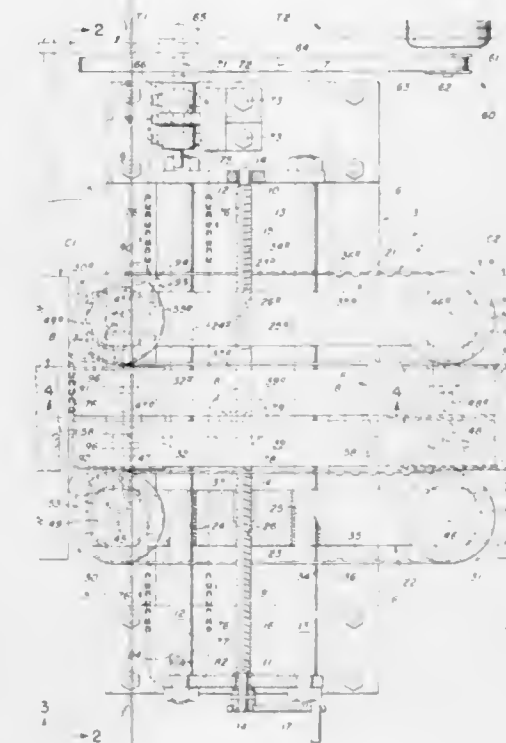
Filed June 7, 1967, Ser. No. 644,175

Claims priority, application France, Feb. 17, 1967, 95,536

Int. Cl. B29h 17/20; B65h 17/34

U.S. Cl. 156—405

2 Claims



A device for maintaining a length of tire building material along a predetermined course during movement of the material through the device, comprising a pair of endless belts forming a horizontal, moving support surface for supporting the material as it passes through the device, and a pair of driven endless belts forming vertical, horizontally spaced moving surfaces for contacting and guiding the side edges of the material as it passes through the device, each belt in each pair being movable toward and away from the other belt in each pair to accommodate passage of different widths of material through the device.

3,537,937

METHOD AND APPARATUS FOR FILAMENT WINDING PLANAR STRUCTURES

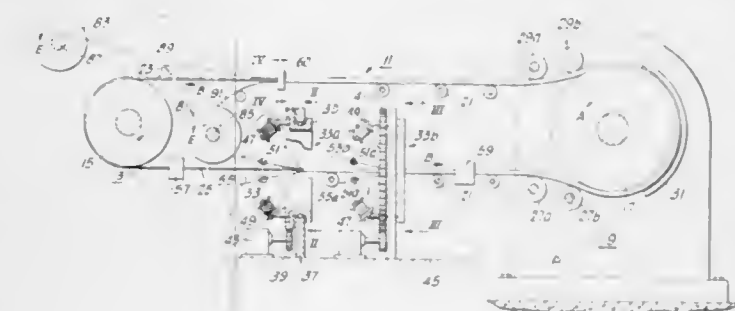
Jonas Medney, Oceanside, N.Y., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Dec. 15, 1966, Ser. No. 602,051

Int. Cl. B65h 81/00

U.S. Cl. 156—426

3 Claims



Longitudinally arranged filaments are applied to opposite surfaces of an endless flat metallic band and other filamentary rovings are helically wound thereover. The filamentary structure is resin impregnated just before the

band and structure pass through a resin curing apparatus wherein the resin is partially cured. Upon emerging from the curing apparatus, the resin and filamentary material along the edges of the band is removed and separate top and bottom filament wound resin sheets of continuous length are removed from the band and wound on spools.

3,537,938

APPARATUS FOR FABRICATING A LARGE CAPACITY CYLINDRICALLY SHAPED TANK OF FIBER REINFORCED RESIN

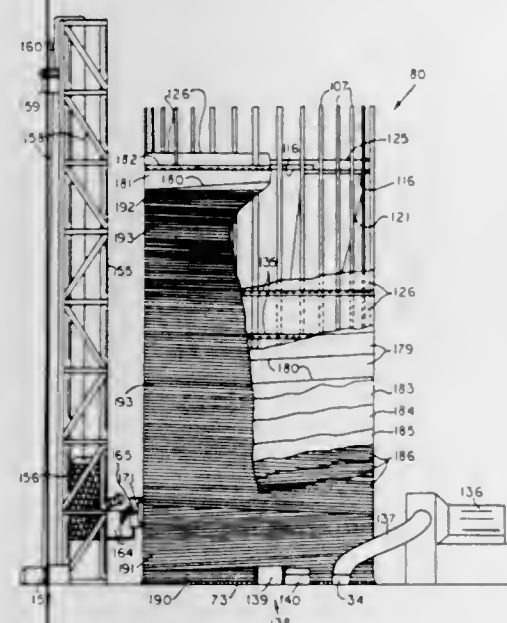
Harry R. Clements, Bonita, Calif., assignor to Rohr Corporation, Chula Vista, Calif., a corporation of Delaware

Original application Sept. 13, 1967, Ser. No. 667,399, now Patent No. 3,470,656, dated Oct. 7, 1969. Divided and this application Aug. 14, 1968, Ser. No. 761,386

Int. Cl. B65c 3/16

U.S. Cl. 156—446

3 Claims



A large capacity storage tank is manufactured on-site of glass reinforced resin, using portable equipment. A glass-resin layer, ultimately the bottom of the tank, is formed on a concrete base for the tank, and a steel framework cylindrical mandrel constructed on the glass-resin layer is rotated with the layer on an air bearing developed between the layer and concrete base. Resin wetted glass roving is wound on the rotating mandrel from an elevator which moves vertically at one side of the mandrel. When the cylindrical wall is complete and integrated with the bottom layer, they are settled on the base by cutting the air pressure to the air bearing. A membrane, applied to the top of the cylindrical wall, is dome-shaped by internal air pressure and sprayed with glass resin to form the tank cover while the tank is rotating.

3,537,939

SPLICING APPARATUS FOR CONTINUOUSLY ADVANCING WEBS

John H. Delaplaine, Novato, Calif., and Joseph F. Scott, Cherry Hill, N.J., assignors to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

Filed May 1, 1967, Ser. No. 635,201

Int. Cl. B65I 19/08, 19/16

U.S. Cl. 156—504

9 Claims

This disclosure sets forth preferred embodiments of an improvement in splicing the lead end of a web, as of paper, to the tail end of a previous web, to provide a continuously advancing web. A free rolling roller is disposed over the advancing previous web. The lead end of a new web is fed between the free rolling roller and the advancing previous web, and up and over the roller,

with the bottom side of the new lead end loosely held face-up. Adhesive is applied to this bottom side. At the proper instant the free rolling roller is caused to move



substantially faster than the speed of the previous web along the direction of the advancing previous web, lacing down, and adhering the new lead end to the old tail end.

3,537,940

TAPE SPLICER

Susumu Nagano, Yokosuka, Japan, assignor to Victor Company of Japan Limited, Yokohama, Japan

Filed Apr. 2, 1969, Ser. No. 812,588

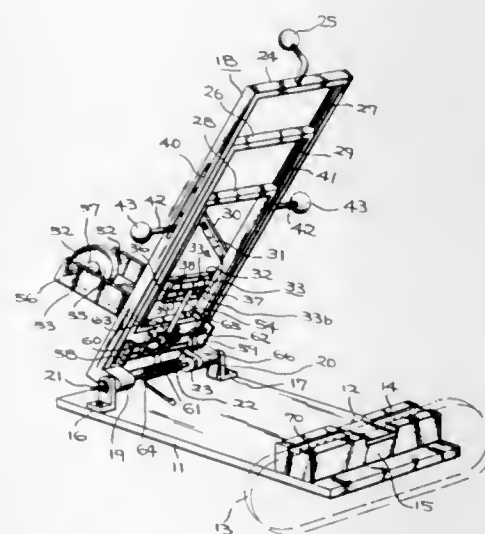
Claims priority, application Japan, Apr. 8, 1968,

43/22,879

Int. Cl. B31f 5/00; G03d 15/04; B65h 19/00

U.S. Cl. 156—505

15 Claims



A tape splicer which permits to carry out in one operation cutting of magnetic tape, attaching of splicing tape to both ends of the magnetic tape, and shaping of the splice in effecting splicing of the magnetic tape particularly in producing endless magnetic tape. The tape splicer comprises tape guide base provided with a cutter plate mounted on a base plate near one end thereof, a frame pivotally mounted at one end thereof on said base plate near the other end thereof in spacer apart relationship with said tape guide base so that the other end of said frame can be moved between an upper position, and a lower position, a cutter blade for cutting the magnetic tape shaping blade means for shaping the splicers which are mounted in said frame and adapted to be moved by suitable sliding means into a position corresponding to the position of said cutter plate, and feed means for supplying a desired length of splicing tape in conjunction with said suitable sliding means.

3,537,941

CAULKING STRIP APPLICATOR FOR CORRUGATED PANEL

Louis F. Miklos, Lake County, Ind.

(6151 Delaware St., Gary, Ind. 46409)

Filed Feb. 7, 1968, Ser. No. 703,711

Int. Cl. E04d 15/06

U.S. Cl. 156—577

7 Claims

An apparatus for applying caulking strip easily, rapidly and with uniform pressure to building panels having a corrugated surface, either in a longitudinal direction on

the valley or crest of a corrugation, or laterally over the crests and valleys of the corrugation to provide a seal between adjacent overlying panels forming the building wall. The apparatus comprises a sled device having runners adapted to slide longitudinally in the valley portion of the panel or straddling the crest portion thereof, and laterally across the crest portions of the panel. A spring loaded wheel assembly pivotally connects to the sled

molding strip. Pivotal mounting of the tape roll and the use of spacers with respect to the mounting arm are further improvements of the invention.

3,537,943

SINGLE FACER WITH HEATED BEARINGS

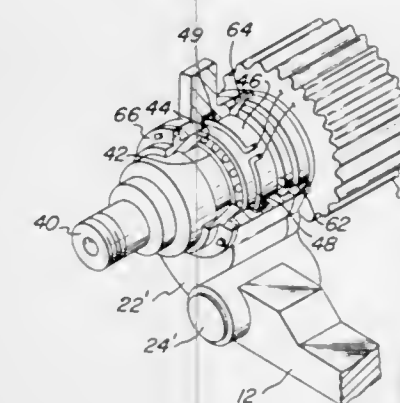
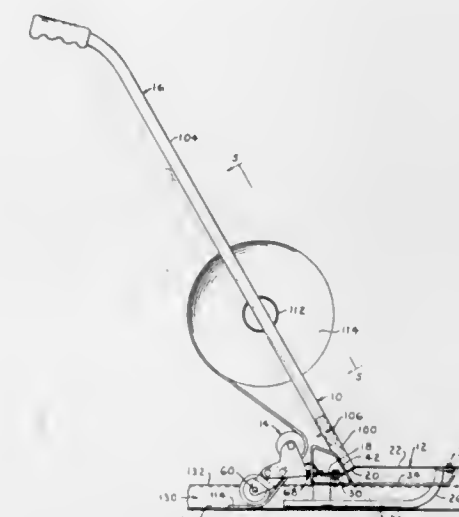
Henry W. Moser, Haddonfield, and Charles R. Norman, Willingboro, N.J., assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Jan. 15, 1969, Ser. No. 791,286

Int. Cl. B31f 1/26, 1/36; F16c 13/00

U.S. Cl. 156—594

8 Claims



device to pivotally follow the sled. An upright handle is connected to the sled device by which means the apparatus is manually moved across the panel; and means are provided on the handle to rotatably support a caulking strip roll which is payed out between the wheel and the panel to which the strip adheres with uniform thickness because the wheel is made to bear against the strip with uniform pressure.

A single facer corrugating machine is provided with bearings wherein the outer race of a dual race bearing is heated. The bearings may be utilized to support the journal of an internally heated corrugating roll or pressure roll on the single facer. By positively controlling the temperature of the bearing outer race, less vibration and important quality improvement of the manufactured corrugated paperboard are achieved.

3,537,942

MASKING TAPE APPLICATOR

George J. Kefalos, 645 E. Huston St.,

Barberton, Ohio 44203

Continuation-in-part of application Ser. No. 631,324,

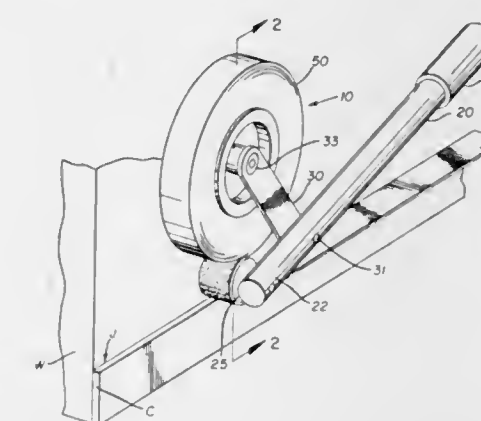
Apr. 17, 1967. This application Jan. 17, 1969, Ser.

No. 792,908

Int. Cl. B32b 31/10

U.S. Cl. 156—577

3 Claims



A masking tape applicator wherein variable widths of masking tape are provided in association with a relatively small diameter applicator roll with the structure being arranged so that one axial end of the applicator roll and the tape roll are aligned in coplanar relationship.

By this arrangement the edge of the applied tape is in alignment with the applicator roller so that the masking tape can be applied along an edge surface such as a

3,537,944

TRANSPARENT HEAT REFLECTING WINDOW HAVING RELATIVELY LOW INTERNAL VISUAL REFLECTION

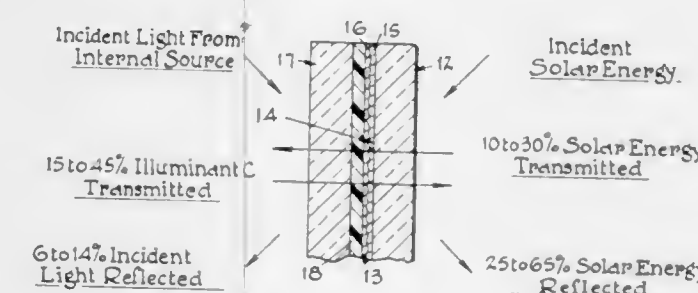
Albany D. Grubb, Maumee, and Charles M. Browne and Peter H. Berning, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Mar. 17, 1967, Ser. No. 623,978

Int. Cl. B32b 17/06; C03c 17/06; G02b 1/10

U.S. Cl. 161—4

12 Claims



Increasing the solar energy reflection from the outboard surface of a glazing unit without either significantly increasing the reflection of incident light from the inboard surface of the unit or detrimentally restricting the Illuminant C transmittance of the unit by first depositing a layer of copper metal on a surface of the unit and then oxidizing a portion of the copper layer to a critical degree such that the Illuminant C transmittance of the filmed surface is in the range of from 15 percent to 45 percent.

3,537,955 PICKUP ARRANGEMENT FOR PAPERMAKING MACHINE

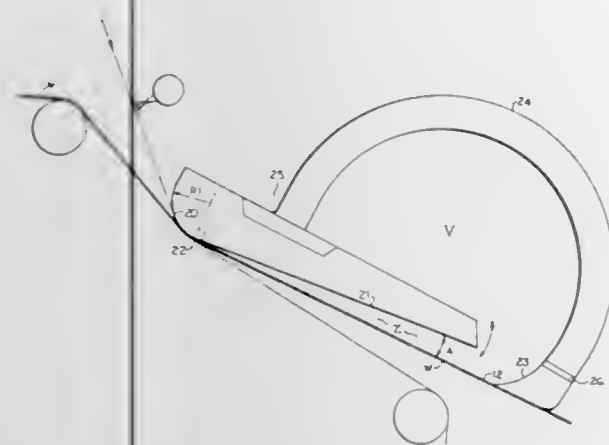
Leo A. Huerta, Turin, Italy, and Eugene S. Skinner, Esher, England, assignors to Beloit Corporation, Beloit, Wis., a corporation of Delaware

Filed Nov. 6, 1967, Ser. No. 680,903

Int. Cl. D21f 1/00

U.S. Cl. 162—306

7 Claims



A pickup arrangement for removing a web from a forming surface wherein an endless felt is urged against the forming surface by means of a guide member having a curved surface in contact with said felt and a substantially flat surface diverging away from said felt thereby creating a pressure differential across the felt.

ERRATUM

For Class 176—56 see:
Patent No. 3,537,420

3,537,956 PETRIE DISH

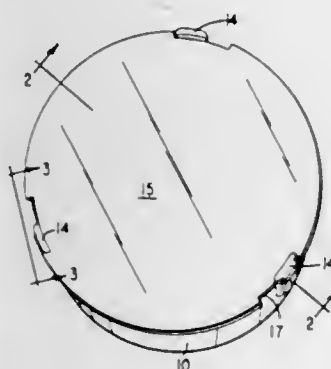
Joseph R. Falcone, 217 Cooper Lane, Dewitt, N.Y. 13214, and Anthony Falcone, Jr., 207 Oakridge Drive, Camillus, N.Y. 13031

Filed June 26, 1967, Ser. No. 648,746

Int. Cl. C12b 1/04

U.S. Cl. 195—139

3 Claims



A petrie dish, a container and closure disk, the container having upstanding lugs on the outer surface thereof terminating in circumferentially extending arms. The disk has notches in the periphery to permit application of the closure on the container side wall and, upon rotation, to move the peripheral marginal portion of the disk underneath said arms.

3,537,957 APPARATUS FOR THE IGNITION OF CHARGING GASES PRODUCED DURING THE CHARGING OF COKE OVENS

Hans Wagner, Kettwig, and Folkmar Schwarz and Heribert Wewers, Essen, Germany, assignors, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Sept. 4, 1968, Ser. No. 757,321

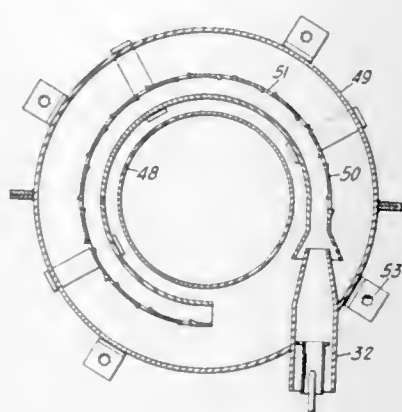
Claims priority, application Germany, Sept. 7, 1967,

1,671,326

Int. Cl. C10b 31/04

U.S. Cl. 202—263

10 Claims



The invention comprises a constantly lit pilot light and a gas burner in each exhaust line so that tar mist in the gases produced during charging of coke ovens is burned. The pilot light and burner are supplied with coke oven gas for fuel.

3,537,958 METHOD OF MANUFACTURING ETCHED METALLIC CHARM

Joseph B. Wrenn, 600 Fielding Ave., Gretna, La. 70053, and George J. Engle, 7030 Michael Place, Harahan, La. 70123

No Drawing. Filed Oct. 20, 1967, Ser. No. 676,717

Int. Cl. B44c 1/04; C23b 1/00; C23f 17/00

U.S. Cl. 204—18

3 Claims

A method of making a charm from a photograph by making a screened negative from the photograph, making a screened positive from the negative, exposing the positive on a photo-sensitized metallic plate to produce a negative image, etching the negative image on the printed plate, electroplating the etched plate, and darkening the etched portion of the plate.

3,537,959 ELECTROPLATING BATHS AND PROCESS FOR PRODUCING BRIGHT ZINC DEPOSITS

Joachim Korpiun and Hans Joachim Steeg, Geislingen an der Steige, Germany, assignors to Dr.-Ing. Max Schloetter, fuer Galvanotechnik, Geislingen an der Steige, Germany, a company of Germany

No Drawing. Filed May 22, 1967, Ser. No. 640,383

Claims priority, application Germany, May 26, 1966,

Sch 39,032

Int. Cl. C23b 5/12; 5/46

U.S. Cl. 204—55

21 Claims

Semi-bright to fully bright zinc deposits are produced by electroplating articles in an acid electroplating bath containing a non-complex zinc salt, if required, a conductivity increasing salt, and, as brightening and the throwing power increasing additives, a primary amine or polyamine, especially an aliphatic or aromatic amine having at least four carbon atoms in its molecule, and a water soluble condensation product of a naphthalene sulfonic

acid and formaldehyde. Dimethyl formamide may be added to the baths to prevent formation of precipitates therein.

Electroplating with such baths is preferably effected at a pH between about 2.5 and about 5.5, a temperature between about 10° C. and about 40° C., and a current density between about 0.5 amp./dm.² and about 5 amp./dm.².

The baths are able to replace the heretofore used alkaline electroplating zinc baths and are substantially free of the disadvantages of said baths, especially the difficulties encountered in waste disposal.

3,537,960 METHOD OF PRODUCING REINFORCEMENTS IN ELECTRO-DEPOSITS

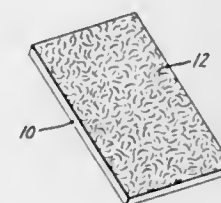
Charles H. Esola, Springfield, and Donald B. Kreitz, Allentown, Pa., assignors to General Electric Company, a corporation of New York

Filed Dec. 6, 1968, Ser. No. 781,862

Int. Cl. C23b 5/48

U.S. Cl. 204—16

6 Claims



Reinforcing fibers are held to mandrel by sticky organic coating upon it. Mandrel is then immersed in organic solvent plating bath with immediate application of high-density "strike" current to "tack" fibers to mandrel to retain them as bath solvents dissolve original coating on mandrel. After "tacking" operation has secured fibers, electroplating continues in usual manner.

3,537,961 PROCESS OF TREATING COPPER ORES

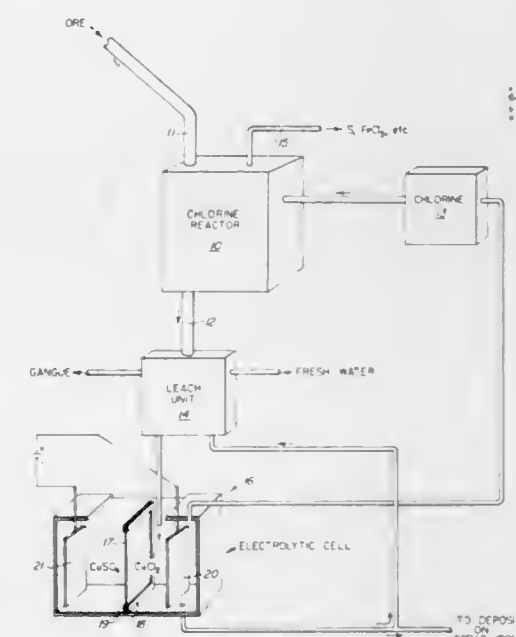
Merwin G. White and Donald M. White, Salt Lake City, Utah, assignors to Mutual Mining and Refining Ltd., Vancouver, British Columbia, Canada, a public corporation of British Columbia, Canada

Filed Dec. 18, 1967, Ser. No. 691,630

Int. Cl. C22d 1/16; C01b 7/02

U.S. Cl. 204—107

9 Claims



Copper bearing ore is chlorinated in a closed combustion furnace at between 350° C. and 600° C. to volatilize the sulfur and iron constituents and to yield a

water soluble copper chloride residue. The residue is leached with water and the copper chloride goes into solution. The solution is placed as an anolyte in an electrolytic cell that is divided by a cationic exchange membrane having copper sulfate as a catholyte, and copper is plated out at the cathode. The chloride decomposes to chlorine and is expelled at the anode, from where it can be recovered and recycled.

3,537,962 METHOD OF SELECTIVELY ETCHING SILICON

Jean Francois Kover, Paris, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France

Continuation-in-part of application Ser. No. 548,312,

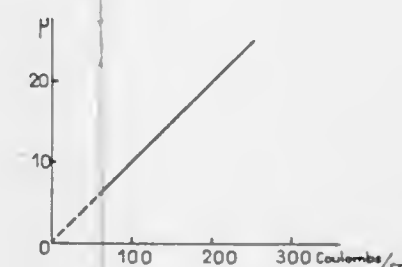
May 6, 1966. This application Sept. 3, 1968, Ser.

No. 756,848

Int. Cl. C23b 3/02

U.S. Cl. 204—141

8 Claims



The present disclosure is directed to a method of selectively etching silicon which comprises electrochemically dissolving silicon in an electrolyte comprising an organic solvent solution of a compound such as a halogen other than fluorine, or a halide other than fluorides, including mixtures of said halogens and halides, said silicon acting as the anode therein.

3,537,963 CATHODIC PROTECTION METHOD

Charles F. Schrieber, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 535,002, Mar. 17, 1966. This application Apr. 10, 1969, Ser. No. 815,222

Int. Cl. C23f 13/00

U.S. Cl. 204—148

6 Claims

The invention comprises a cathodic protection system, to protect a metal from corrosion, comprising an anode in direct contact with a sulfide-containing environment and in electrical contact with the metal to be protected; the anode consisting essentially of 0.01 to 0.3 weight percent Hg and at least 2 weight percent Zn, the balance being aluminum.

3,537,964 PHOTOCHEMICAL PROCESS FOR PREPARING ALICYCLIC OXIMES USING NITROSYLSULFURIC ACID

Shoichi Miwa, 27-70 Nakadai-3-chome, Itabashi-ku, Tokyo, Japan, and Shokichi Eiga, 27-6 Nakadai-3-chome, Itabashi-ku, Tokyo, Japan

No Drawing. Filed Jan. 23, 1968, Ser. No. 699,804

Claims priority, application Japan, Jan. 25, 1967,

42/4,588

Int. Cl. B01j 1/10; C07c 131/00

U.S. Cl. 204—162

2 Claims

A mixture of nitrosylsulfonic acid, sulfuric acid and hydrogen chloride is added to cycloalkane or a mixture of nitrosylsulfuric acid and sulfonic acid is added to cycloalkane saturated with hydrogen chloride, and then the resulting mixture is stirred to produce a homogeneous emulsion. The emulsion is exposed to light to take place

photochemical reaction, thereby alicyclic oxime is obtained. The nitrosylsulfuric acid in the mixture amounts 70-10% by weight based on $\text{NOHSO}_4 + \text{H}_2\text{SO}_4$, and the mixture further contains 2-25% by weight of water based on $\text{NOHSO}_4 + \text{H}_2\text{SO}_4 + \text{H}_2\text{O}$.

3,537,965

PROCESS FOR THE PRODUCTION OF UNSATURATED HYDROCARBONS

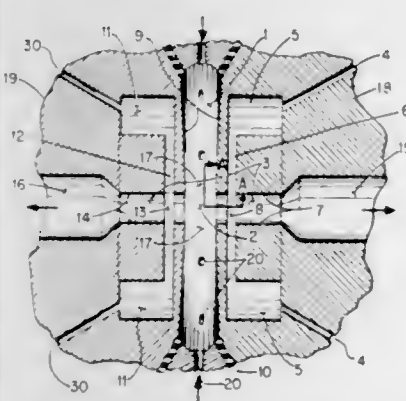
David P. Kuebler, La Porte, and John Edward Loeffler, Jr., Houston, Tex., assignors to Diamond Shamrock Corporation, Cleveland, Ohio, a corporation of Delaware

Continuation-in-part of application Ser. No. 542,682, Apr. 14, 1966. This application June 16, 1969, Ser. No. 853,231

Int. Cl. C07c 3/48

U.S. Cl. 204-171

4 Claims



In the preparation of unsaturated hydrocarbons in an electric arc reactor from a hydrocarbon feed, reactant gas enters and flows within electrode elements having opposed entrances and exits downstream therefrom. The arc discharge pattern penetrates through the electrodes; and, within the passage of at least one electrode element diluent gas at essentially ambient temperature is bled along a portion of such passage to form a sheath of diluent gas around the balance of the gas within the passage thereby enhancing unsaturated hydrocarbon production while reducing power requirements.

3,537,966

RADIATION TREATMENT OF MINE WASTE WATERS

Meyer Steinberg, Huntington Station, and Jacob Pruzansky, East Islip, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Nov. 3, 1967, Ser. No. 680,351 - Int. Cl. B01j 1/10

U.S. Cl. 204-157.1

3 Claims

A method of removing dissolved iron oxides from acidic aqueous solutions comprising exposing the aqueous solution to gamma irradiation while aerating and contacting the solution with calcium carbonate to induce precipitation of the contained iron oxides from the solution.

3,537,967

RADIATION STERILIZED, THIODIPROPIONIC ACID ESTER STABILIZED, PROPYLENE POLYMERS

Joseph M. Kelley, Westfield, and Paul J. Marinaccio, Tenafly, N.J., assignors to Dart Industries Inc., a corporation of Delaware

No Drawing. Filed July 29, 1966, Ser. No. 568,746

Int. Cl. B01j 1/10

U.S. Cl. 204-159.18

14 Claims

A radiation sterilized article having improved color manufactured from a polypropylene polymer with a sub-

stantial crystalline content which has up to one percent of an ester of thiodipropionic acid incorporated as a stabilizer.

3,537,968

SYNTHESIS OF 1,1,1-TRICHLOROETHANE USING IONIZING RADIATION

Thomas A. Chamberlin and Gerald L. Kochanny, Jr., Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 13, 1968, Ser. No. 759,774

Int. Cl. B01j 1/10; C07c 17/00

U.S. Cl. 204-163

7 Claims

1,1,1-trichloroethane is prepared by the selective chlorination at elevated temperatures of 1,1-dichloroethane by carbon tetrachloride using ionizing radiation.

3,537,969

ELECTRODEPOSITION PROCESS

Robert D. Jerabek, Glenshaw, and Joseph E. Plasynski, Arnold, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 10, 1967, Ser. No. 659,616

Int. Cl. B01k 5/02; C23b 13/00

U.S. Cl. 204-181

12 Claims

An improved electrodeposition process is provided by use of a coating composition in which the resinous vehicle is a partially esterified and neutralized adduct of a drying oil fatty acid and an anhydride of an ethylenically unsaturated dicarboxylic acid, formed by reacting the adduct with a polyol in the presence of water and an amine. The preferred polyols are methylolated phenols and resinous polyols, reacted with maleic anhydride adducts of drying oils or fatty acid esters of resinous polyols. The electrodeposition process using such vehicles provides hard, adherent coatings of highly desirable properties and is characterized by high throwing power.

3,537,970

PROCESS FOR ELECTRODEPOSITING A POLYAMIDE ACID

Fred F. Holub, Scotia, and Richard F. Gaertner, Rexford, N.Y., assignors to General Electric Company, a corporation of New York

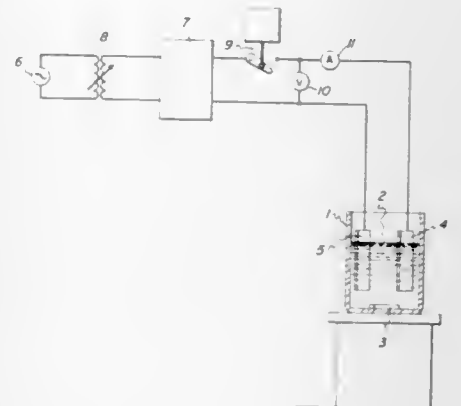
Original application May 5, 1966, Ser. No. 547,889, now Patent No. 3,448,068, dated June 3, 1969. Divided and this application Jan. 13, 1969, Ser. No. 810,884

The portion of the term of the patent subsequent to Apr. 21, 1987, has been disclaimed

Int. Cl. B01k 5/02; C23b 13/00

U.S. Cl. 204-181

4 Claims



A process is provided for effecting the deposition of a polyamide acid onto an electrically conducting substrate, where the polyamide acid is formed by allowing a dianhydride, such as a carbonyldiphthalic-carboxylic acid

dianhydride and a diamine, such as an arylendiamine to interact at ambient temperatures while dissolved in a phenol and water mixture.

3,537,971

APPARATUS FOR ELECTROPLATING A RIBBON

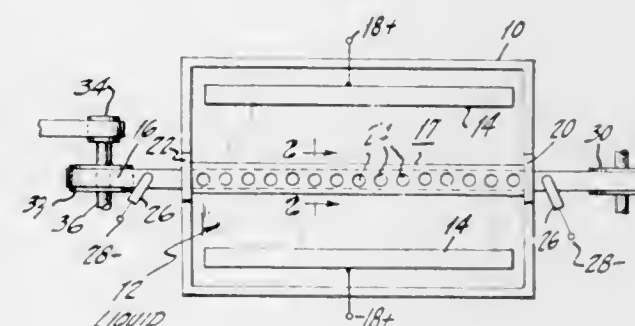
Ralph J. Green, Newark, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Aug. 7, 1967, Ser. No. 658,852

Int. Cl. B01k 3/04; C23b 5/68, 5/58

U.S. Cl. 204-211

9 Claims



When an attempt is made to electroplate a thin ribbon with a uniform thickness of plating material, it is found that the thickness of the plating material is greater at the lateral edges of the ribbon than at the sides of the ribbon. Means are provided to electroplate a ribbon with a uniform thickness of plating material.

3,537,972

THERMOGALVANIC CELLS

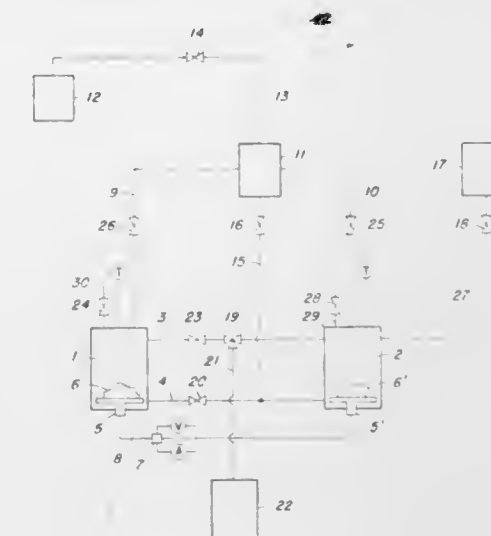
Edward F. De Crosta, 7 James St., Hudson, N.Y. 12534

Filed Jan. 4, 1967, Ser. No. 607,241

Int. Cl. B01k 3/00

U.S. Cl. 204-248

3 Claims



Thermogalvanic cells comprising two half cell units each containing an inert electrode, e.g., graphite the half cells being connected at their upper and lower portions by conduit means; cell adapted to dissolution of metals, e.g. stainless steel—in operation, electrode and metal to be treated charged to each half cell and heat applied to first half cell; continuous convection circulation of electrolyte as dissolution occurs.

3,537,973

SEQUENTIAL SPUTTERING WITH MOVABLE TARGETS

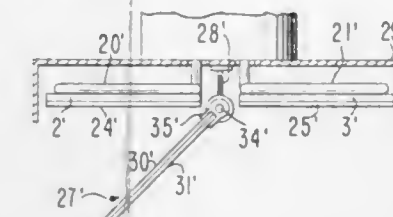
Lawrence F. Herte, Palo Alto, and Richard F. Laib, Sunnyvale, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Sept. 15, 1967, Ser. No. 668,107

Int. Cl. C23c 15/00

U.S. Cl. 204-298

4 Claims



Sequential deposition of two or more layers of sputtered material is made possible in sputtering apparatus employing peaked as well as plane parallel target electrodes by means of one or more movable, laminated, two layer targets. The two layer laminated target in which each layer is composed of different target material is pivotally supported on a shaft intermediate between two fixed target electrodes. In a first position, the laminated target is held against one of the fixed target electrodes exposing target material of a first composition for sputtering. After a predetermined time, the laminated target is positioned and held firmly against another of the fixed target electrodes exposing a second target material for sputtering. The targets are moved by a reversible drive motor which is mechanically coupled to a shaft supporting the laminated targets. The drive motor is provided with a holding circuit for firmly holding the laminated targets in position during sputtering.

3,537,974

ALKOXY-SUBSTITUTED AROMATIC ALDEHYDES AS CORROSION INHIBITORS

Zisis Andrew Foroulis, East Orange, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed July 2, 1968, Ser. No. 743,914

The portion of the term of the patent subsequent to July 1, 1986, has been disclaimed

Int. Cl. C23f 9/00, 11/00

U.S. Cl. 208-47

15 Claims

Corrosion of metals by aqueous acidic solutions in a non-oxidizing atmosphere is markedly inhibited by the presence of an alkoxy-substituted benzaldehyde. A particularly effective inhibitor of this type is p-anisic aldehyde. These inhibitors are useful in minimizing corrosion of chemical and petroleum process equipment handling hydrocarbon streams containing acidic gases and water vapor.

3,537,975

FLUID COKING WITH CRACKING OF MORE REFRACTORY LESS VOLATILE OIL IN THE TRANSFER LINE

Don E. Blaser, Dover, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Nov. 6, 1968, Ser. No. 773,724

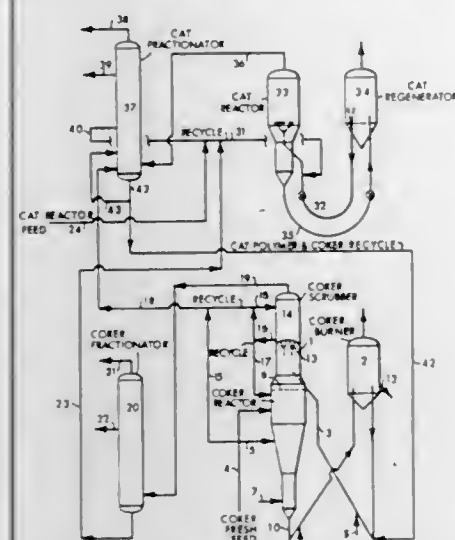
Int. Cl. C10g 37/00

U.S. Cl. 208-50

9 Claims

A combined fluid coking and cracking process in which a heavy oil is injected into the bottom of the cracking unit fractionator in order to reduce the residence time of the polymer from the cracking process in the tower so that the cut point of the combined polymer-heavy gas oil can be increased to a point where the bottoms from the fractionator are as volatile or less volatile than the normal coker feed and can therefore be passed to the hot coke transfer line from the coke burner to the coker reactor and cracked therein at a higher temperature than exists in the coker. A similar result can be obtained by

injecting any refractory oil which is more volatile than the coker feedstock into the coker scrubber to flash the more volatile portion of the feedstock overhead and



leave only the portion of the refractory oil which is less volatile than the coker feedstock as feed to the coker transfer line.

3,537,976

PROCESS FOR PREPARING BINDER PITCHES
Stephen H. Alexander, St. Louis, and Robert C. Butler, St. Charles, Mo., and William G. Juhl, Seabrook, Tex., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 477,960, Aug. 6, 1965. This application Sept. 30, 1968, Ser. No. 763,908

Int. Cl. C10g 37/02

U.S. Cl. 208—76

7 Claims

A process for the production of a petroleum-derived electrode binder pitch which comprises non-catalytically thermally cracking at a temperature of 1350 to 1550° F. a wide boiling range naturally-occurring petroleum condensate having an initial boiling point within the range of 20 to 150° F., at least 30% by weight boiling below 400° F. and a final boiling point in excess of 700° F., said condensate having an A.P.I. gravity of no less than 40 to 45 and containing 55 to 70% by weight paraffins, 20 to 30% by weight naphthenic hydrocarbons and 4 to 15% by weight aromatic hydrocarbons, under conditions such that the conversion of the petroleum condensate to C₃ and lighter hydrocarbons is greater than 45%, separating from the cracked products of said thermal cracking substantially all materials boiling below 500 to 575° F. to thereby produce a high-boiling cracked residue, subjecting said high-boiling cracked residue to a thermal soak at a temperature of 600 to 1000° F. and recovering a heavy aromatic oil as an overhead fraction from said thermal soak and a thermal residue as a bottoms fraction from said thermal soak, said thermal residue having a softening point of 185 to 215° F., a carbon to hydrogen atomic ratio of greater than 1.5 and a sulfur content of less than 0.5% by weight and possessing the properties of an electrode binder pitch.

3,537,977

REFINERY UTILIZING HYDROGEN PRODUCED FROM A PORTION OF THE FEED

Calvin S. Smith, Jr., El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 601,486, Dec. 13, 1966. This application July 8, 1968, Ser. No. 747,419

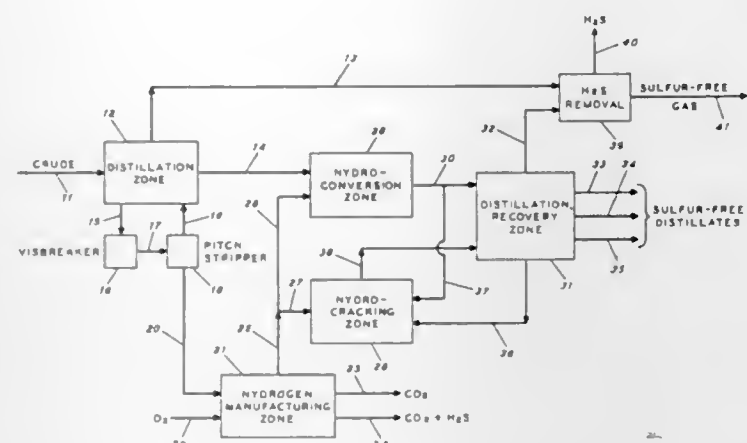
Int. Cl. C10g 23/00

U.S. Cl. 208—89

5 Claims

A high yield all-hydrocracking overall refinery process for converting sulfur-containing crude oil to substantially

sulfur-free distillate products wherein, for example, partial oxidation of a stripped visbreaker tar is used to provide the hydrogen requirements for a two-stage hydrocracker



3,537,978

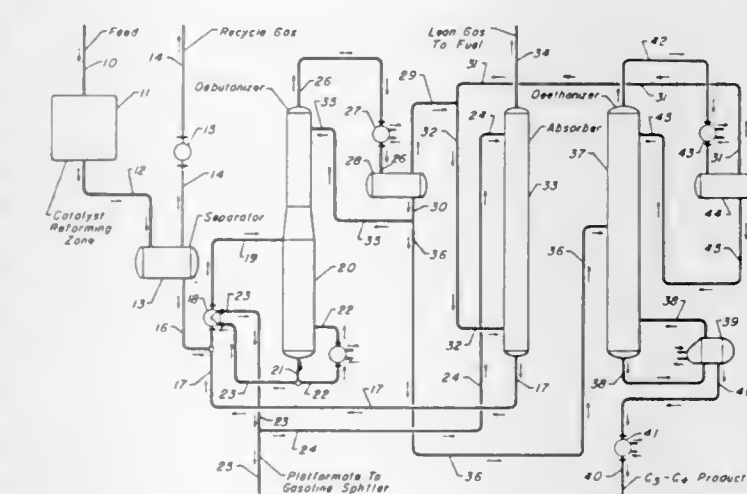
SEPARATION METHOD

William B. Borst, Jr., Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Dec. 27, 1968, Ser. No. 787,351

Int. Cl. C10g 5/04

U.S. Cl. 208—101

3 Claims



Method for separating the effluent from a catalytic reforming zone utilizing absorption and fractionation techniques. The inventive processing scheme permits high recovery of normally gaseous hydrocarbons as well as reformat. The deethanizer gaseous overhead is contacted with the debutanizer bottoms as a lean absorber oil.

3,537,979

METHOD FOR DISTILLATION

Angelo C. Coste, Chicago, and Peter N. Marshall, Mount Prospect, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Dec. 6, 1968, Ser. No. 781,886

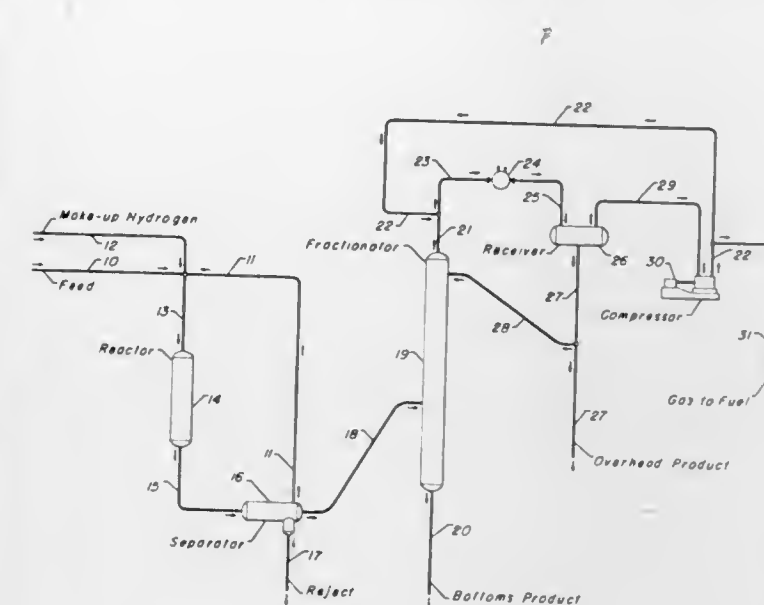
Int. Cl. C10g 7/00

U.S. Cl. 208—103

3 Claims

Method for distilling a multi-component mixture, such as the hydrocarbon effluent from a gas-oil hydrogenation

reaction zone, which utilizes a fractionating column operating in conjunction with overhead vapor compressing hydrocarbons, hydrocarbons suitable for gasoline blend-



means whereby a portion of the overhead gases is compressed and returned in admixture with the total overhead stream at a locus prior to the overhead condensing system.

3,537,980

REGENERATION AT LOW TEMPERATURES OF PLATINUM-RHENIUM REFORMING CATALYSTS
Harris E. Kluksdahl, San Rafael, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 729,079, May 14, 1968, which is a continuation-in-part of application Ser. No. 639,719, May 19, 1967, which in turn is a continuation-in-part of application Ser. No. 560,166, June 24, 1966. This application Mar. 12, 1969, Ser. No. 806,707

The portion of the term of the patent subsequent to Dec. 10, 1985, has been disclaimed
Int. Cl. B01j 11/02, 11/04, 11/80

U.S. Cl. 208—140

5 Claims

A catalyst comprising a rhenium component which has become deactivated due to exposure to a hydrocarbon feed under hydroconversion conditions is restored in activity by contacting the catalyst at a temperature of from 500 to 800° F. with a gas containing oxygen at a partial pressure of at least about 0.1 p.s.i.a. for a period of time of at least 0.1 hour. Preferably, the catalyst contains at least about 0.6 weight percent halide during at least part of the contact with the oxygen-containing gas.

3,537,981

METHOD FOR STABILIZING PYROLYSIS GASOLINE

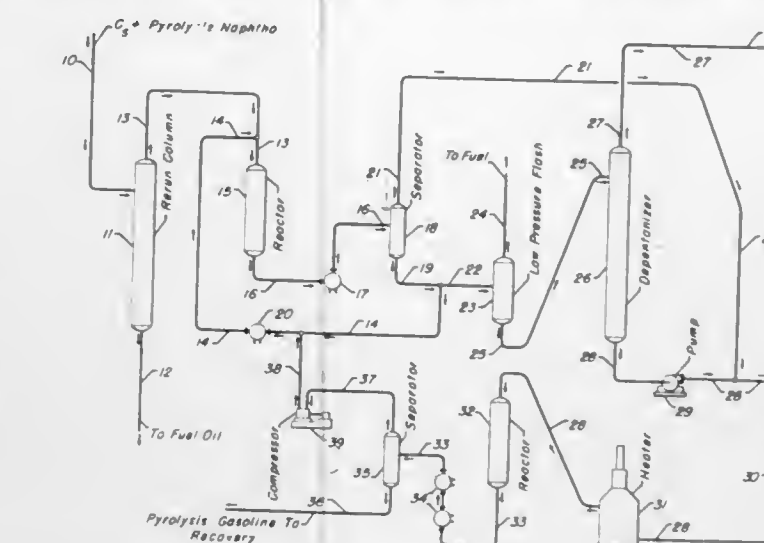
Robin J. Parker, Western Springs, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 684,173, Nov. 20, 1967. This application May 7, 1969, Ser. No. 822,537

The portion of the term of the patent subsequent to Sept. 30, 1986, has been disclaimed
Int. Cl. C10g 35/18, 35/08; C07g 5/06

U.S. Cl. 208—143

7 Claims

Method for stabilizing pyrolysis gasoline via a two-stage selective hydrogenation technique. The first stage utilizes a palladium catalyst and the second stage utilizes a nickel catalyst for desulfurization. The invention is uniquely applicable to feedstocks having a Diene Value



ing, and aromatic hydrocarbons may, if desired, be recovered as separate product streams.

3,537,982

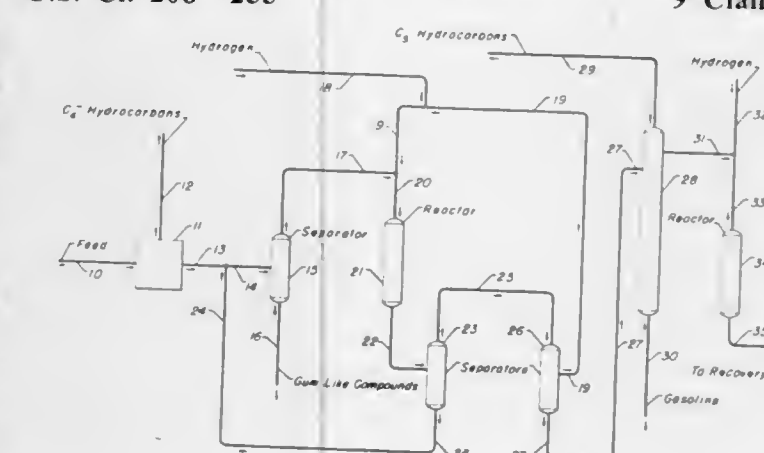
METHOD FOR HYDROGENATION

Robin J. Parker, Western Springs, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 646,707, June 6, 1967, now Patent No. 3,457,163, dated July 22, 1969. This application Apr. 28, 1969, Ser. No. 819,675

The portion of the term of the patent subsequent to July 22, 1986, has been disclaimed
Int. Cl. C07c 5/02; C10g 23/04

U.S. Cl. 208—255

9 Claims



Method for stabilizing pyrolysis gasoline via selective hydrogenation. Gum-like compounds, both pre-formed and subsequent-formed, are removed by distillation. The method separates pre-formed gum-like compounds prior to the first reaction zone and by judicious separation recycles a portion of the reactor effluent containing gum-like compounds formed in the reaction zone to a first separation zone for combining with the pre-formed gum-like compounds and the removal thereof from the system.

3,537,983

SEPARATION PROCESSES INVOLVING INCLUSION COMPOUNDS

Everett J. Fuller, Passaic Township, Morris County, Robert B. Long, Atlantic Highlands, and Norvell E. Wisdom, Jr., Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed July 1, 1968, Ser. No. 741,607

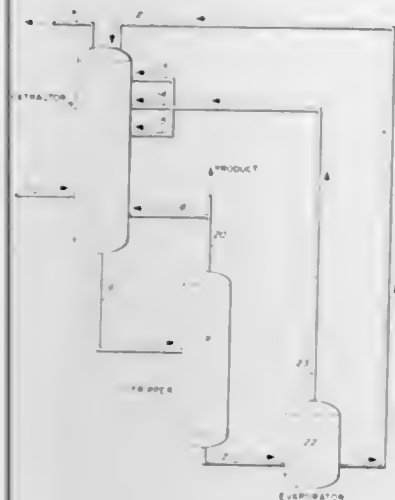
Int. Cl. C07b 21/00

U.S. Cl. 208—308

18 Claims

Separation processes, which utilize inclusion compounds, e.g., urea adducts, clathrates, etc., and involve the formation of insoluble complexes between a suitable

compound (host) and at least one constituent of a feed mixture (guest) are improved by the addition of a solvent, preferably having partial solvency for both host and guest and also permitting the formation, after complexing, of separate layers, i.e., one containing primarily



feed liquor depleted in guest, the other a slurry containing the solvent and a complex of host and guest slurried therein. The process makes countercurrent separation processes involving inclusion compounds practical and can be used in the dewaxing of petroleum oils.

3,537,984

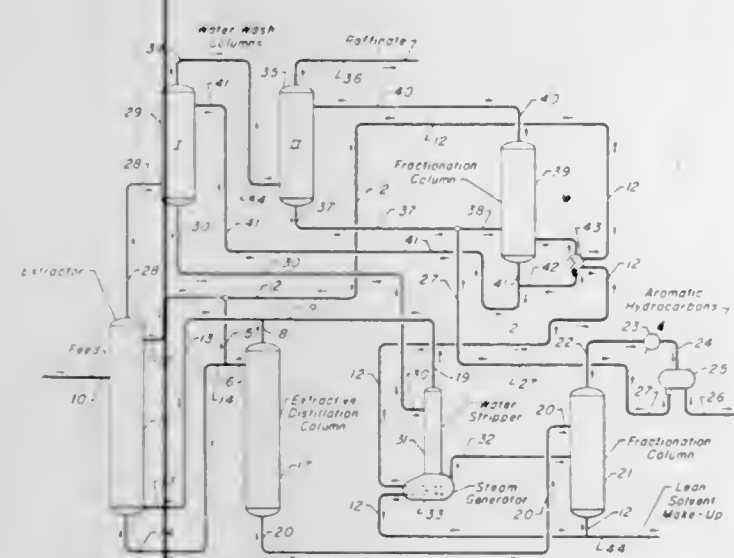
PROCESS FOR THE EXTRACTION AND RECOVERY OF AROMATIC HYDROCARBONS
Herbert Lyle Thompson, Park Ridge, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Dec. 5, 1968, Ser. No. 781,535

Int. Cl. C10g 21/28

U.S. Cl. 200—321

9 Claims



Process for the recovery of aromatic hydrocarbons utilizing the steps of solvent extraction, water washing of the raffinate phase, recovery and reuse of the wash water, and fractionation of the extract phase. Sulfolane is the preferred solvent and benzene is recovered as a preferred product stream.

3,537,985

FRACTIONATION PROCESS

Luther F. Mayhue, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 23, 1968, Ser. No. 786,082

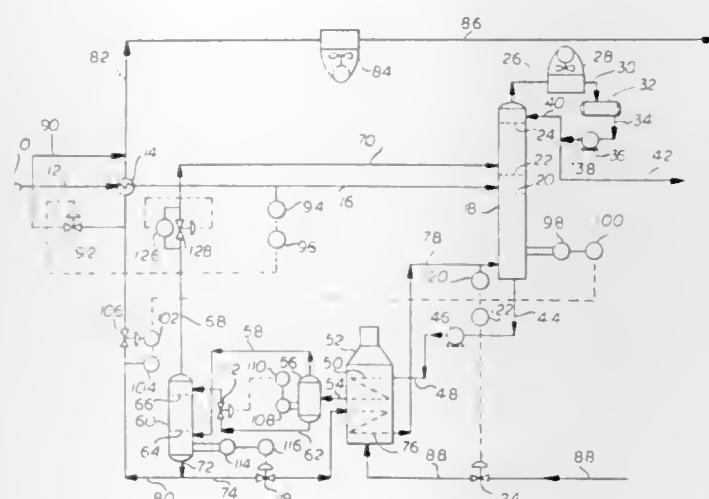
Int. Cl. C10g 7/00

U.S. Cl. 200—355

7 Claims

This process separates a wide-boiling range hydrocarbon such as a gasoline-gas oil mixture into a light gaso-

line component and a heavier gas oil component having a relatively high flash point without resorting to conventional steam stripping or system depressurization. The mixture is first charged to a primary fractionation zone, and the resulting heavier hydrocarbon portion is then further heated and flashed. The flashed vapors are then charged to the lower portion of a light ends separation zone for countercurrent contact with the residue of the



heavier hydrocarbon portion as reflux. The resulting light ends component is returned to the primary fractionation zone at a level above that at which the original gasoline-gas oil mixture was introduced. The products from the process comprise the finely-separated gasoline overhead from the primary fractionation zone and the heavy hydrocarbon component from the light ends separation zone, the latter having a relatively high flash point.

3,537,986

SILVER RECOVERY PROCESS

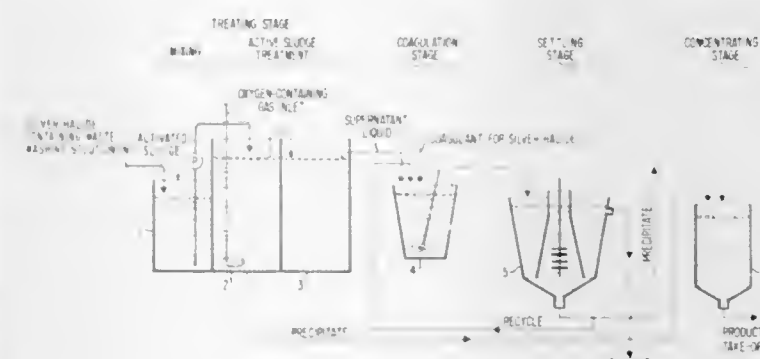
Kazuaki Watanabe, Tokyo, and Hideo Ono and Kinji Ushiyama and Noboru Shinkai, Kanagawa, Japan, assignors to Sumitomo Kikai Kogyo Kabushiki Kaisha, Tokyo, Japan, and Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

Filed Oct. 19, 1967, Ser. No. 676,535

Int. Cl. B01d 59/36, 15/06, 21/01

U.S. Cl. 210—15

12 Claims



A process for recovering silver values from waste solutions which contain silver halide and gelatin which comprises treating the silver halide-gelatin containing waste solution with active sludge, whereby organic materials, primarily gelatin, are aerobically oxidized and decomposed, silver halide is adsorbed on the sludges and precipitated with the formation of a supernatant liquid which contains any unprecipitated silver, and recovering the silver halide adsorbed on the active sludge and in the supernatant liquid.

3,537,987

METHOD OF FILTERING MOLTEN LIGHT METALS

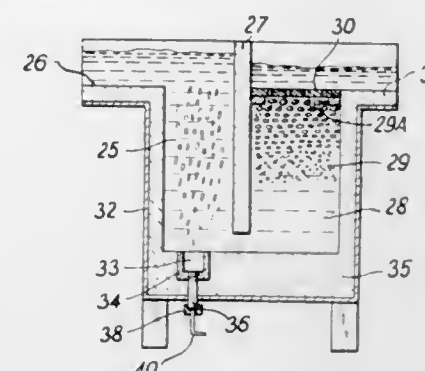
Arthur J. Copeland, Bellingham, Wash., assignor to Intalco Aluminum Corporation, Ferndale, Wash., a corporation of Delaware

Filed Aug. 28, 1969, Ser. No. 853,880

Int. Cl. B01d 23/14

U.S. Cl. 210—20

5 Claims



Molten light metal, such as aluminous metal, is cleaned of finely divided non-metallic solids by causing the molten metal to flow through a container having communicating upstream and downstream compartments with a floating filter bed of carbon granules in the downstream compartment by means of which bed the solids are removed. Preferably, the container also has means for removing entrained hydrogen gas.

3,537,988

HYPERFILTRATION METHOD OF REMOVING ORGANIC SOLUTE FROM AQUEOUS SOLUTIONS

Arthur E. Marcinkowsky, Charleston, W. Va., and James S. Johnson and Kurt A. Kraus, Oak Ridge, Tenn., and James R. Kuppers, Charlotte, N.C., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Feb. 7, 1968, Ser. No. 703,521

Int. Cl. B01d 13/00

U.S. Cl. 210—23

5 Claims

A method of removing organic solute from an aqueous solution comprising passing said solution over a dynamic hyperfiltration membrane under conditions whereby a portion of said solution is forced through said membrane, the portion passing through said membrane being depleted in said organic solute.

3,537,989

DEMINERALIZATION SYSTEM

George J. Crits, Havertown, Pa., assignor to Crane Co., Chicago, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 784,077,

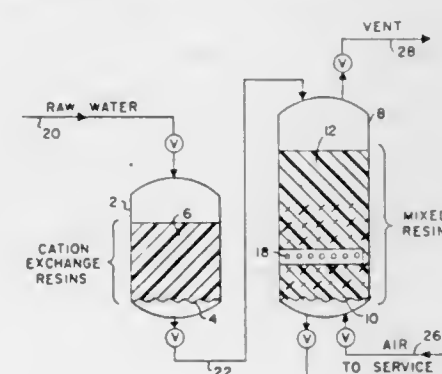
Dec. 16, 1968. This application Oct. 3, 1969, Ser.

No. 870,421

Int. Cl. B01d 15/06

U.S. Cl. 210—32

14 Claims



A high efficiency demineralization system involves passing raw water through weak and strong acidic cation exchange resins and thence through a mixed bed of weakly

and strongly basic anion exchange resins and a strongly acidic cation exchange resin. In rejuvenation the mixed bed is stratified to separate the cation exchange resin from the anion exchange resins and regenerant acid is passed first through the cation exchange resin previously in the mixed bed and thence through the cation exchange resins in the separate cation exchange unit. Regeneration of the anion exchange resins is effected by alkali which is isolated from the separated cation exchange resin.

3,537,990

METHOD FOR THE REMOVAL OF SUSPENDED MATTER IN WASTE WATER TREATMENT

John C. Eck, Convent, and William C. Zegel, Mendham, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed May 8, 1968, Ser. No. 727,685

Int. Cl. C02b 1/20

U.S. Cl. 210—54

8 Claims

A cationic, anionic or nonionic wax dispersion is effective at flocculating suspended organic or inorganic matter in water whereby said suspended matter is readily separated from the water.

These wax dispersions are formed by the emulsification of a natural or synthetic wax using a cationic, anionic or nonionic organic emulsifying agent.

3,537,991

DRILLING FLUIDS AND ADDITIVES THEREFOR

Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,579

Int. Cl. C10m 3/48, 3/34

U.S. Cl. 252—8.5

9 Claims

Drilling fluid additives consisting essentially of a first agent which is a heat-treated sulfoalkylated tannin in the form of its alkali metal or ammonium salt, and a second agent selected from the water-soluble compounds of chromium. Said additives are added to aqueous drilling fluids to reduce at least one of (a) the yield point or (b) the 10-minute gel of said drilling fluid.

3,537,992

DRILLING FLUID

Jack H. Kolaian, Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 25, 1967, Ser. No. 633,419

Int. Cl. C10m 3/14

U.S. Cl. 252—8.5

12 Claims

An aqueous drilling fluid dispersant and a method of drilling wells using said drilling fluid which contains a substituted benzoic acid compound as the dispersant, namely, 1,2,4-benzenetricarboxylic acid, the corresponding anhydride, 1,2,4,5-benzenetetracarboxylic acid, 4-hydroxy-1,3-benzenedicarboxylic acid, 2,4-dihydroxybenzenedicarboxylic acid, 2-hydroxy-4-ethoxybenzenedicarboxylic acid, and the corresponding alkali metal including ammonium salts of these acids.

3,537,993

DETERGENT COMPOSITIONS

Todd L. Coward and Thomas E. Darling, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed June 21, 1966, Ser. No. 559,126

Int. Cl. D06m 13/46; C11d 1/825, 1/835

U.S. Cl. 252—8.75

1 Claim

Detergent compositions, having both satisfactory detergent and fabric softening properties, consisting essentially of: (1) nonionic detergent; (2) detergent selected from the group consisting of certain zwitterionic, amine oxide and amide detergents, and mixtures thereof; (3) detergency builder; and, (4) fabric softener.

3,537,994

ORGANOPHILIC CLAY GREASES

Roy F. House, Houston, Tex., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed July 25, 1967, Ser. No. 655,739
Int. Cl. C10m 5/20

U.S. Cl. 252-13 14 Claims
Greases prepared from a lubricating oil vehicle, thickened with an organophilic clay, and optionally containing further additives of known types frequently lack thermal stability, suffering loss of consistency upon prolonged working at high temperatures. In accordance with the invention, this defect is overcome by the inclusion in such a grease of a modicum of tris(hydroxymethyl)amino methane, such as from 1/2 percent to 2 percent by total weight of grease. A particular use of the invention is in connection with organophilic clay greases containing in addition finely divided asbestos.

3,537,995

CORROSION-INHIBITED SILICONE GREASE

John H. Wright, Elnora, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Sept. 16, 1968, Ser. No. 762,319
Int. Cl. C10m 7/48

U.S. Cl. 252-18 4 Claims
The addition of a metal chromate or dichloromate to a silicone lubricating grease reduces galvanic corrosion during the lubrication of dissimilar metal surfaces which are separated by a lubricating film of the grease.

3,537,996

MANUFACTURE OF OVERBASED CALCIUM SULFONATE LUBRICATING OIL COMPOSITIONS

Edward H. Holst, Robert S. Edwards, and John E. May, Nederland, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 12, 1967, Ser. No. 689,804
Int. Cl. C10m 1/40

U.S. Cl. 252-33 7 Claims
A process for the preparation of a lubricating oil composition of overbased calcium hydrocarbon sulfonate of improved filterability and clarity comprising preparing a mixture consisting of an oil soluble calcium sulfonate, hydrated lime having a calcium carbonate content less than 1.5 wt. percent, treating said initial mixture with sufficient carbon dioxide to convert between about 50 and 83 wt. percent of said hydrated lime to calcium carbonate, filtering the resultant carbonated mixture and recovering from the filtrate said composition which is useful in supplying anticorrosive properties to lubricating oils employed in internal combustion engines.

3,537,997

METHYL ALKYL SILICONE GREASE COMPOSITION AND METHOD OF MAKING SAME

John H. Wright, Elnora, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Sept. 16, 1968, Ser. No. 762,322
Int. Cl. C10m 7/48

U.S. Cl. 252-42.1 5 Claims
A grease composition contains a polysiloxane, the organic substituents of which are primarily methyl radicals and C₆ to C₁₂ alkyl radicals, a thickener, optionally an amount of a polyether which is sufficient to cause the thickener to disperse into the polysiloxane, but insufficient to deleteriously affect the high temperature properties of the grease, and optionally a sufficient amount of a base to render the grease alkaline. The grease is made by heating together the polysiloxane, the polyether, the thickener and the base to a temperature of about 400-500° F., after

which the grease composition is cooled to room temperature, then milled. The grease composition is used in windshield wiper bearings and drive mechanisms, which are subject to oscillatory motion, often while being flooded with water.

3,537,998

BIS THIOPHOSPHORO CARBAMYL LUBRICATING OIL ANTIOXIDANTS

Warren Lowe, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed June 17, 1968, Ser. No. 737,389
Int. Cl. C10m 1/48, 1/34

U.S. Cl. 252-46.7 5 Claims
Bis phosphorodithio carbonyl derivatives of arylene diamines are prepared for use as ashless antioxidants and antiwear additives in lubricating oil compositions.

3,537,999

LUBRICANTS CONTAINING BENZOTHIADIAZOLE

Brian R. Kennedy, San Rafael, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Dec. 11, 1968, Ser. No. 783,142
Int. Cl. C10m 1/38, 3/32

U.S. Cl. 252-47.5 5 Claims
Lubricating oil compositions provided extreme pressure and wear-inhibiting properties by minor amounts of 1,2,3-benzothiadiazoles.

3,538,000

SILYL ESTERS OF TEREPHTHALIC ACID AS CORROSION INHIBITORS

Thomas V. Liston, Kentfield, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Nov. 22, 1967, Ser. No. 684,922
Int. Cl. C10m 1/50

U.S. Cl. 252-49.6 9 Claims
Silyl esters of terephthalic acid find use as corrosion inhibitors in combination with slightly basic or neutral ashless lubricating oil detergents.

3,538,001

SYNTHETIC LUBRICANTS AND POWER TRANSMISSION FLUIDS

Herbert Gotthel, Oberhausen-Sterkrade, Hans Felchtinger, Dinslaken, and Heinz Noeske, Oberhausen-Sterkrade Nord, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holten, Germany, a corporation of Germany
No Drawing. Original application July 8, 1965, Ser. No. 470,631. Divided and this application Nov. 20, 1968, Ser. No. 796,626
Claims priority, application Germany, July 10, 1964, R 38,336
Int. Cl. C10m 1/52

U.S. Cl. 252-49.6 18 Claims
A synthetic lubricant composition consisting essentially of at least 5 percent of a diorthosilicate of the formula



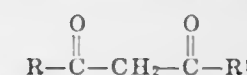
wherein A represents an alkylene radical having 2 to 24 carbon atoms, R represents a polyoxyalkyleneglycol ether radical having 1 to 4 ether oxygen atoms, R' represents alkyl having more than 3 carbon atoms, and n has a value from 0 to 4, admixed with at least one other liquid impregnate which is preferably a mineral lubricant, a dicarboxylic acid ester, a phosphoric acid ester or an organic silicon compound. The lubricant composition may further contain antioxidants or other conventional materials in conventional proportions.

3,538,002

MODIFIED FUNCTIONAL FLUIDS

Glenn R. Wilson, Dayton, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 517,484, Dec. 29, 1965. This application Nov. 20, 1968, Ser. No. 778,027
Int. Cl. C09k 3/00, 3/02; B01j 1/16

U.S. Cl. 252-75 6 Claims
Compositions of functional fluids having improved oxidation stability. The compositions comprise functional fluids such as synthetic esters, polyphenyl ethers, polyphenyl thioethers, polyphenyl ether thioethers and mixtures thereof in combination with a stabilizing amount of a chelate of a heavy metal of Groups I-IV and VII-VIII with a carbonyl compound of the following formula:



where R is a fluorinated alkyl radical of from 1-6 C atoms, R¹ is R, alkyl or alkoxy radicals of from 1-6 C atoms, or cyclic radicals containing conjugated ring unsaturation of up to 10 C atoms and including up to one hetero ring element where the hetero atoms are O, S or N.

3,538,003

BRAKE FLUIDS

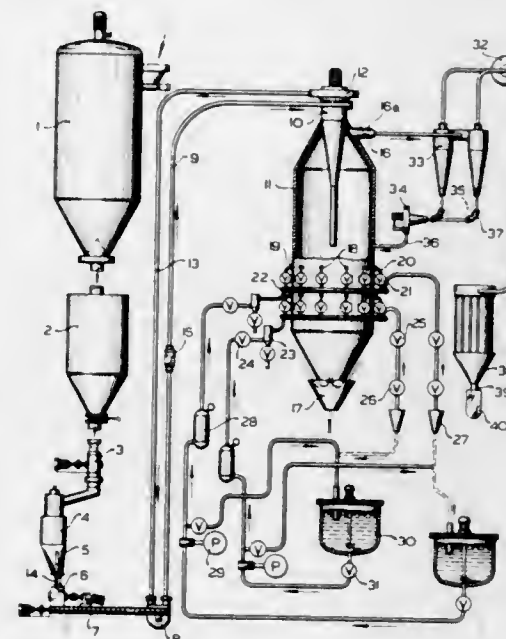
Jakob Lothar, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed July 18, 1967, Ser. No. 654,052
Claims priority, application Germany, July 27, 1966, 1,594,358
Int. Cl. C09k 3/00, 3/02; C10m 3/26

U.S. Cl. 252-77 2 Claims
A brake fluid which contains as essential component 10 to 95% by weight of α-methylglutarodinitrile.

3,538,004

PROCESS FOR THE MANUFACTURE OF DETERGENT COMPOSITIONS

Hellmut Gabler, Knapsack, near Cologne, Karl Merkenich, Hurth, near Cologne, Kurt Schwalm, Eckartsborn, and Gustav Grun, Lissberg, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
Filed Mar. 3, 1967, Ser. No. 620,533
Claims priority, application Germany, Mar. 9, 1966, K 58,667
Int. Cl. C11d 7/56, 3/075, 7/38
U.S. Cl. 252-99 13 Claims



Production of detergent compositions containing sodium tripolyphosphate with the aid of sodium tripolyphosphate

having a bulk density higher than 550 grams/liter and containing 20 to 100% phase-I, wherein pulverulent detergent components are mixed and the resulting mixture is sprayed thereafter with liquid or pasty detergent components, inside a turbulent air mixer.

3,538,005

DRY POWDER BLEACHING COMPOSITIONS

Bernard Weinstein and Herman L. Marder, Plainfield, N.J., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 26, 1967, Ser. No. 649,030
Int. Cl. C11d 7/54

U.S. Cl. 252-99 4 Claims
Dry powder or granular bleaching compositions comprising an alkali metal salt of dichloroisocyanuric acid or a complex thereof in combination with puffed borax. The compositions are particularly suited for use in clothes washing machines.

3,538,006

EMULSION CLEANER

Albert Benson, Fairlawn, N.J., and Gerhart M. Karg, Bronx, N.Y., assignors to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed July 27, 1966, Ser. No. 588,161
Int. Cl. C11d 3/066

U.S. Cl. 252-137 11 Claims
Stable emulsion cleaners comprising (a) water-immiscible organic solvent emulsified into (b) an approximately 5 to 18% aqueous solution of at least one water-soluble inorganic salt builder, said solution containing from 5 to 15% of a mono-alkyl benzene sulfonate in which not less than about 35% by weight of the alkyl contains from 8 to 10 carbon atoms, the volume ratio of (a) to (b) being in the range of about 1:1 to about 10:1.

3,538,007

PAINT STRIPPER FOR ALUMINUM AND MAGNESIUM SURFACES

Joseph Cooper and William J. Corbett, Cincinnati, Ohio, assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Dec. 4, 1967, Ser. No. 687,442
Int. Cl. C11d 7/08

U.S. Cl. 252-144 10 Claims
Paints are removed from surfaces of magnesium, aluminum, and their alloys with other metals without significant metal corrosion using a paint stripper comprising from 54 to 77 parts chlorinated liquid hydrocarbon solvent, from 1 to 4 parts of a carboxylic acid having from 1 to 4 carbons, from 1 to 6 parts of propargyl alcohol, from 0-2 parts nonionic wetting agent, from 0-15 parts liquid aromatic hydrocarbon solvents, from 0-6 parts coupling agent, from 0-30 parts of a phenol or alkyl substituted phenol, from 0-2 parts thickener and from 0-2 parts of an evaporation retarder.

3,538,008

CLEANING OF SEWERS AND DRAINS

Selwyn J. Ancel and Seymour Leavitt, Lincolnwood, Ill., assignors to Madison Chemical Corporation, Maywood, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 454,687, May 10, 1965. This application Sept. 13, 1968, Ser. No. 759,769
Int. Cl. C11d 7/14

U.S. Cl. 252-146 14 Claims
A sewer- and drain-cleaning composition, in flowable granular form, which contains, as essential ingredients,

a mixture of a major proportion of a strong mineral acid, notably sulfuric acid, and a minor proportion of a finely divided silica aerogel, and the cleaning of sewers and drains with such composition.

3,538,009

METHOD FOR REDUCING SKIN IRRITATION IN DETERGENT COMPOSITIONS

Ralph Kelly, Cincinnati, and Edmond Jean Ritter, Loveland, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 1, 1967, Ser. No. 613,095

Int. Cl. C11d 3/20, 1/08, 1/12

U.S. Cl. 252—152

12 Claims

The degree of skin irritation of detergent compositions is reduced by adding to the detergent composition small amounts of polymerized fatty acid or salt thereof, e.g. dimer acid.

3,538,010

LIQUID ION-EXCHANGER COMPOSITION CONTAINING BORON OXIDE AND AN ALKALI METAL OXIDE

Monte H. Rowell, 1520 Everett St., El Cerrito, Calif. 94530

No Drawing. Original application July 27, 1964, Ser. No. 385,519, now Patent No. 3,337,306, dated Aug. 22, 1967. Divided and this application July 17, 1967, Ser. No. 663,467

Int. Cl. B01j 1/04; C09k 3/00

U.S. Cl. 252—182

7 Claims

Liquid ion-exchanger composition adapted for use at temperatures ranging from 750° C. to 1400° C. Ion exchange between two liquid phases is accomplished by placing the ion-exchanger composition in contact with a fused salt with which it is immiscible, separating the two phases when the desired exchange of cations has taken place, and recovering the exchanged ions from the fused glass phase.

3,538,011

STABILIZED COMPOSITIONS CONTAINING ORGANIC PEROXIDES, AND METHODS FOR THE PRODUCTION THEREOF

Johannes Petrus van der Klaauw, Standdaarbuiten, Netherlands, assignor to N.V. Chefaro Maalschappij, Rotterdam, Netherlands, a corporation of the Netherlands

No Drawing. Filed Apr. 17, 1967, Ser. No. 631,158
Claims priority, application Netherlands, June 23, 1966, 6608705; Nov. 1, 1966, 6615380

Int. Cl. C07c 73/02; C08k 1/20

U.S. Cl. 252—186

8 Claims

An organic peroxide, for example, of the diacyl and alkylidene type, which is solid at room temperature and useful as a polymerization initiator, for example, in the curing of unsaturated polyester resin masses, is mixed with a substance, preferably acting as a plasticiser, and which is also solid at room temperature, inert with respect to the organic acid and soluble in polymerized polyester resin masses so as to reduce the explosiveness and shock-sensitivity of the organic peroxide in the resulting free-flowing powdery composition. The mixing may be effected by crystallizing the plasticiser from the molten state onto particles of the organic peroxide in a highly dilute suspension. Alternatively, the organic peroxide may be formed from organic and peroxide components in the presence of the plasticiser or in the presence of components which react to form the plasticiser so that production of the organic peroxide, or of the organic peroxide and the plasticiser, occurs simultaneously with the mixing operation.

3,538,012

SOLIDS CONTAINING ALKALI METAL HYDROXIDE HYDRATE AND ALKALI METAL BOROHYDRIDES

Dieter Goerrig, Lohmar, Siegburg, Germany
No Drawing. Filed Mar. 30, 1967, Ser. No. 626,929
Claims priority, application Germany, Apr. 2, 1966, G 46,496

Int. Cl. C01b 6/14; C09k 3/00

U.S. Cl. 252—188

7 Claims

A solid composition of 1 to 50 percent of an alkali metal borohydride in the form of crystals dispersed in a solid water-soluble matrix comprising an alkali metal hydroxide hydrate.

3,538,013

METHOD OF IMPROVING HALOPHOSPHATE PHOSPHOR BY TREATING THE PHOSPHOR WITH DIETHYLENETRIAMINE PENTAACETIC ACID

Eugene A. Graff, Cedar Grove, N.J., assignor to Westinghouse Electric Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 13, 1968, Ser. No. 752,157

Int. Cl. C09k 1/36

U.S. Cl. 252—301.4

7 Claims

Method of improving the light output and maintenance of calcium halophosphate phosphor. The fired phosphor is treated with diethylenetriamine pentaacetic acid (DTPA) during milling or during a separate washing. The DTPA complexes metals which have not been incorporated into the phosphor structure. The resulting DTPA treated phosphor exhibits superior initial lumen output as well as improved lumen maintenance.

3,538,014

METHOD PRECIPITATING ACTIVATED CALCIUM PHOSPHATE HALIDE PHOSPHOR

Anselm Wachtel, Parlin, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,938

Int. Cl. C09k 1/36

U.S. Cl. 252—301.4

12 Claims

A method for producing activated calcium phosphate-halide phosphor wherein the phosphor is precipitated directly from solution. The requisite phosphor constituents may be in separate solutions with an excess of phosphate over and above that required. When the solutions are mixed, the phosphor is precipitated therefrom. Alternatively, all constituents may be in one solution and precipitation effected by the addition of a precipitating agent.

3,538,015

LARGE PARTICLE SILICA SOLS AND METHOD OF PRODUCTION

Morris Mindick, Tyler, Tex., and Peter H. Vossos, Berwyn, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 475,243, July 27, 1965. This application Dec. 7, 1967, Ser. No. 688,676

Int. Cl. C01b 33/14; B01j 13/00

U.S. Cl. 252—313

5 Claims

Composition and preparation of silica sols containing nonaggregated, uniform, substantially spherical particles having a weight-average particle diameter greater than 100 millimicrons. In order to obtain the desired uniformity of particle size in the finished product, it is necessary that the heel sol employed in the process have a certain uniformity, the preferred minimum uniformity index for the heel sol being about 0.7.

3,538,016

WATER DISPERSIBLE HIGH-SENSITIVITY DEVELOPER

James S. Borucki, Chicago, Ill., assignor to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 26, 1966, Ser. No. 589,517

Int. Cl. G01n 33/00

U.S. Cl. 252—408

6 Claims

In the penetrant method of non-destructive testing for surface discontinuities wherein a developer serves to enhance a visible or fluorescent dye indication of a surface flaw or other discontinuity, the use of a water-wettable, finely divided clay having substantially no particles greater than about two microns in diameter and having a higher degree of brightness reflectness, a water-soluble, normally solid polyethylene glycol, a surfactant stable toward the other ingredients of the mixture and rendering the mixture readily dispersible in an aqueous liquid vehicle. In the method for use, such a developer is applied to a surface to which penetrant has previously been applied and from which the excess of the penetrant has been removed.

3,538,017

PROCESSING SPENT CATALYSTS

Giancarlo Aglietti, Pietro Baratella, and Luigi Lugo, Milan, Italy, assignors to Societa Italiana Resine S.p.A., Milan, Italy

No Drawing. Filed Oct. 16, 1967, Ser. No. 675,298

Claims priority, application Italy, Oct. 26, 1966, 29,292/66

Int. Cl. B01j 11/02

U.S. Cl. 252—415

2 Claims

An exhausted, solid catalyst containing iron and molybdenum oxides, employed for oxidizing methanol to formaldehyde, is processed to yield a molybdenum-containing solution usable for preparing a fresh catalyst. The exhausted catalyst is ground and calcined, the calcinate is treated with excess aqueous ammonia to solubilize the molybdenum content; the molybdenum-containing solution is then heated to evaporate part of the ammonia until the molar ratio NH_3/MoO_3 in the solution sinks to 0.9–1.1; this solution is used for preparing the fresh catalyst.

3,538,018

BINARY SUPPORT SYSTEM FOR FLUIDIZED CATALYSTS

Kurt Pilch and Heinrich Sperber, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 19, 1968, Ser. No. 745,953

Claims priority, application Germany, July 29, 1967, 1,642,934

Int. Cl. B01j 11/82

U.S. Cl. 252—435

9 Claims

An improved method of carrying out catalytic reactions in the presence of fluidized supported catalysts in the form of globules having cavities accessible from outside, the improvement consisting in the addition of carriers in the form of compact particles to the said supported catalysts. The method is suitable for example for the hydrogenation of aromatic nitro compounds and for the production of dinitriles from carboxylic acids and ammonia.

3,538,019

NICKEL PHOSPHATE-PROMOTED SUPPORTED NICKEL CATALYST

Robert J. Capik and Leon W. Wright, Wilmington, Del., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 7, 1968, Ser. No. 711,212

Int. Cl. B01j 11/74

U.S. Cl. 252—437

5 Claims

Catalysts which comprise finely divided metallic nickel and finely divided nickel phosphate supported on an inert

3,538,020

FLUID PURIFICATION DEVICE CONTAINING A CARTRIDGE OF POLYMER ENTRAPPED AGGREGATE PARTICLES

Donald Edward Heskett, Villa Park, and John Barthello Heskett, Lombard, Ill., assignors to The Kata Manufacturing and Filtering Co., Villa Park, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 490,802,

Sept. 28, 1965. This application Sept. 23, 1966, Ser. No. 581,507

Int. Cl. B01d 27/04; B01j 1/06, 1/22

U.S. Cl. 210—496

19 Claims

A generally porous fluid treating device characterized by a plurality of fluid treating aggregate particles such as, for example, ion exchange resin, activated charcoal, manganese greensand, sawdust and like materials bound together in a closely packed abutting relationship in a matrix formed of a resinous polymeric material formed from materials selected from the class consisting of polyether-based, polyester-based and polyamine-based compounds such as, for example, polyurethane, said matrix having been formed from a polymer mass characterized by relatively little bubble formation. The aggregate particles, though bound, have substantially their entire surface area freely exposed in a manner substantially the same as the distribution of said particles in a loose bed.

3,538,021

RESISTOR COMPOSITION

David E. Achey, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

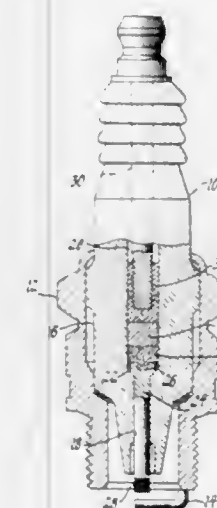
Continuation-in-part of application Ser. No. 670,178,

Sept. 25, 1967. This application May 7, 1968, Ser. No. 727,281.

Int. Cl. H01b 1/06; H01t 13/36

U.S. Cl. 252—506

10 Claims



An improved resistor composition for use in spark plugs and other electrical devices. The resistor composition contains glass, an inert filler material such as kyanite, carbon black and a water soluble, charrable carbonaceous polyhydroxy material such as sucrose. The resistance of the resistor composition after it has been placed in the spark

plug insulator centerbore and heated is substantially resistant to change when subjected to electrical aging or field use.

3,538,022

ELECTRICALLY CONDUCTIVE ZINC OXIDE

Robert S. Bowman, Pittsburgh, Pa., assignor to St. Joseph Lead Company, New York, N.Y., a corporation of New York

No Drawing. Filed July 28, 1967, Ser. No. 656,689

Int. Cl. H01b 1/06

U.S. Cl. 252—518

6 Claims

Normally nonconductive zinc oxide is converted into an electrically conductive form by heating the zinc oxide in a reducing atmosphere in admixture with a relatively small proportion of an oxide of aluminum, gallium or indium or a precursor thereof convertible into such oxide under the conditions of treatment.

3,538,023

ELECTRICALLY CONDUCTIVE ZINC OXIDE

Robert S. Bowman, Pittsburgh, Pa., assignor to St. Joseph Lead Company, New York, N.Y., a corporation of New York

No Drawing. Filed July 28, 1967, Ser. No. 656,705

Int. Cl. H01b 1/06

U.S. Cl. 252—518

6 Claims

Normally non-conductive zinc oxide is converted into an electrically conductive form by heating the zinc oxide in a non-oxidizing atmosphere in admixture with an oxide of germanium or tin or a precursor thereof convertible into such oxide under the conditions of treatment.

3,538,024

ACRYLIC-MODIFIED POLYALKYLENIMINE OR POLYALKYLENOLPOLYAMINE

Henry J. Dishburger and William P. Coker, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich.

No Drawing. Continuation-in-part of application Ser. No. 564,045, July 11, 1966. This application June 30, 1969, Ser. No. 837,957

Int. Cl. C08g 33/06, 33/08

U.S. Cl. 260—2

11 Claims

A polyalkylenimine or polyalkylenepolyamine is modified by an addition reaction with acrylic acids and their alkali metal derivatives at a plurality of the amine hydrogens in the polymers. The new compositions have utility as adhesion promoters.

3,538,025

PROCESS FOR THE PRODUCTION OF FOAMED REACTIVE LATICES

Douglas Roberts, Norbridge, Bosbury, near Ledbury, Peter Woodward, Redditch, and Glynn Rutter, Droitwich, England, assignors to Unroyal Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,033

Claims priority, application England, Feb. 23, 1966, 8,040/66

Int. Cl. C08d 3/02, 13/08; C08f 15/40

U.S. Cl. 260—2.5

12 Claims

Compounds of amphoteric Group II-B or IV-A metals (e.g., zinc oxide, ammonium zirconyl carbonate) are used to cure rubber latex foam in which the rubber is a copolymer containing 0.5–10% of a reactive monomer such as an unsaturated carboxylic acid, e.g., a butadiene-styrene-itaconic acid terpolymer. Starch may be present. The foam, in collapsed or uncollapsed form, may serve as a carpet backing.

3,538,026

PROCESS FOR PREPARING A STAIN-RESISTANT MOLDING COMPOSITION COMPRISING DRY BLENDING MELAMINE PER SE AND MELAMINE-FORMALDEHYDE MOLDING POWDER

Norman W. Standish, Shaker Heights, and Richard W. Yanik, North Randall, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 30, 1968, Ser. No. 788,022

Int. Cl. C08g 9/30, 51/18

U.S. Cl. 260—17.3

4 Claims

A stain-resistant melamine-formaldehyde molding composition and stain-resistant molded articles manufactured therefrom are prepared by dry-blending certain quantities of melamine into a conventional melamine-formaldehyde molding powder prior to the molding operation.

3,538,027

POLYURETHANE COATING COMPOSITIONS

Werner Stein, Erkrath-Unterbach, Joachim Barnstorf, Hilden, Rheinland, and Uwe Ploog, Dusseldorf, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf, Germany, a corporation of Germany

No Drawing. Filed Oct. 12, 1967, Ser. No. 674,732

Claims priority, application Germany, Oct. 21, 1966, H 60,824; Dec. 23, 1966, H 61,391

Int. Cl. C08g 22/08

U.S. Cl. 260—18

9 Claims

Novel compositions for preparing flexible polyurethane coatings having a high chemical and mechanical resistance comprised of a polyisocyanate and a hydroxyl containing component formed by addition of an alkylene oxide to the adduct of a phenol compound with an ester having at least two straight and/or branched unsaturated hydrocarbon chains of 10 to 48 carbon atoms.

3,538,028

VULCANIZATER OF COMPOSITIONS COMPRISING A FLUORINE-CONTAINING COPOLYMER AND SILICONE GUM

Coleman P. Morgan, Richboro, Pa., assignor to The Bendix Corporation, Sidney, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 313,448, Oct. 3, 1963. This application Oct. 22, 1964, Ser. No. 405,866

Int. Cl. C08f 37/02, 37/16, 45/08

U.S. Cl. 260—23

7 Claims

Inserts, connectors, and grommets of high compression set resistance are made by combining a thermosetting copolymer of vinyl fluoride and hexafluoropropylene with a thermoplastic copolymer of the same ingredients in the presence of a silicone gum. They can be vulcanized.

3,538,029

VINYLDENE CHLORIDE COPOLYMER COATING FOR ORGANIC FILM

Anthony Edward Gross, Richmond, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 21, 1967, Ser. No. 684,644

Int. Cl. B44d 1/24; C08f 29/14; C09d 7/02

U.S. Cl. 260—23

2 Claims

A heat-sealable coating composition for organic film, e.g., regenerated cellulose film, comprising as the essential ingredients in a volatile organic solvent (1) 100 parts by weight of a copolymer of vinylidene chloride and at least one ethylenically unsaturated monomer copolymerizable therewith, said copolymer containing at least 87% by weight of vinylidene chloride; (2) from 0.5 to 3.0 parts by weight of a diamide having the formula



where R is a divalent radical selected from the group consisting of methylene and ethylene, and R₁ is a monovalent radical selected from the group of alkyl and alkenyl radi-

cals having from 10 to 22 carbon atoms; (3) from 0.5 to 3.0 parts by weight of a paraffin hydrocarbon wax having a melting point above 55° C., and (4) from 0.2 to 2.0 part by weight of a solid particulate material having a particle size within the range of 0.5 to 10 microns. Optionally, the composition may include, as a release agent from 0.5 to 2.0 parts by weight of an alkali metal stearate.

3,538,030

VINYLDENE CHLORIDE COPOLYMER COATED ORGANIC POLYMERIC FILM

James Thomas Chamness, Richmond, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 2, 1968, Ser. No. 703,236

Int. Cl. C08f 45/00

U.S. Cl. 260—23

9 Claims

A heat-sealable coating composition for organic polymeric film, e.g., regenerated cellulose film, comprising as the essential ingredients in a volatile organic solvent (1) 100 parts by weight of a copolymer of vinylidene chloride and at least one other ethylenically unsaturated monomer copolymerizable therewith said copolymer containing at least 87% by weight of vinylidene chloride; (2) from 2 to 4 parts by weight of a naturally occurring ester wax having a melting point of at least 75° C. and a hardness value of at least 0.25 kg./mm.² at 60° C.; (3) from 0.5 to 3 parts by weight of sodium stearate; and (4) from 0.2 to 1.0 part by weight of a solid particulate material having a particle size in the range of 0.5 to 10 microns.

3,538,031

ADHESIVE COMPOSITIONS

Alvist V. Rice, Weatherford, Tex., assignor to The Smithers-Oasis Company, Kent, Ohio, a corporation of Ohio

No Drawing. Filed May 2, 1968, Ser. No. 726,223

Int. Cl. C08d 9/12

U.S. Cl. 260—27

5 Claims

Adhesive compositions for floral and general purpose applications comprising fluorinated solvents and solvent mixtures containing fluorinated solvents in combination with appropriate tackifiers, desirable additives and selected block copolymers bases which are unexpectedly soluble in such solvents.

3,538,032

WAX-AMINE CONTAINING TERPOLYMER COMPOSITIONS FOR ALUMINUM COATING

Thomas V. Liston, Kentfield, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed June 21, 1967, Ser. No. 647,610

Int. Cl. C08f 45/52

U.S. Cl. 260—28.5

5 Claims

Wax compositions for coating aluminum having a substantial portion of a terpolymer having at least about 55 mole percent ethylene, and the remainder being a 1-olefin of from 3 to 6 carbon atoms and an olefin of at least 5 carbon atoms having at least 1 amine nitrogen substituent, wherein the polymer has at least 0.05 weight percent amine nitrogen.

3,538,033

POLYOXYALKYLENE DERIVATIVES OF DIEPOXIDES

Noburo Hayashi, Kyozaaburo Tachibana, and Noboru Fujiwara, Wakayama-shi, Japan, assignors to Kao Soap Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 11, 1967, Ser. No. 659,863

Claims priority, application Japan, Aug. 19, 1966, 41/54,406

Int. Cl. C08g 23/10, 30/00

U.S. Cl. 260—29.2

12 Claims

New polyoxyalkylene compounds are provided having thickening properties and prepared by reacting a diepoxide

3,538,034

BAKING ENAMELS BASED ON AQUEOUS BINDER FORMULATIONS

Friedrich Gress and Werner Neumann, Ludwigshafen (Rhine), and Erwin Schmidt, Frankenthal, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 14, 1967, Ser. No. 660,187

Claims priority, application Germany, Aug. 18, 1966, 1,669,076

Int. Cl. C08g 51/24, 51/34

U.S. Cl. 260—29.3

8 Claims

Baking enamels compatible with water which contain mixtures of conventional water-compatible aminoplast and/or phenoplast and alkyd resin precondensates with special acetals boiling at from 100° to 300° C., particularly from 200 to 300° C., as flow improvers.

3,538,035

STABLE UREA-FORMALDEHYDE SOLUTIONS

George K. Cleek, Chester, and Bing T. Poon, Colonial Heights, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,048

Int. Cl. B22c 1/22; C08g 9/10

U.S. Cl. 260—29.4

6 Claims

A stable solution containing furfuryl alcohol which has been mixed with a partially polymerized urea-formaldehyde concentrate. The solution is produced by heating at a temperature in the range of 65–110° C. an aqueous nonpolymerized urea-formaldehyde concentrate until the viscosity increases to at least 400 centipoises. The resulting heated concentrate is mixed with furfuryl alcohol to produce a solution having a pH of 4 to 6.5.

3,538,036

CONCRETE COMPOSITION CONTAINING POLYMERIC ACRYLIC RESIN

Donald J. Peters, Baltimore, and Richard J. Frazier, Towson, Md., assignors to Harry T. Campbell Sons Corporation, Towson, Md., a corporation of Maryland

No Drawing. Filed Apr. 25, 1968, Ser. No. 724,232

Int. Cl. C04b 13/24; C08f 45/24

U.S. Cl. 260—29.6

8 Claims

A dry cement composition comprising 20–40 weight percent portland cement, 60–80 weight percent aggregate, 1.3–5.5 weight percent powdered emulsifiable copolymeric methylmethacrylate-ethylmethacrylate resin, 0.08–0.55 weight percent emulsifying agent and 0.08–0.55 weight percent setting accelerator.

3,538,037

STABILIZED POLYUREA ELASTOMER COMPOSITION

Hideo Matsushita, Itami, Mamoru Nitta, Toyonaka, and Kazuo Fukada, Takarazuka, Japan, assignors to The Toyo Rubber Industry Co., Ltd., Osaka, Japan

No Drawing. Continuation-in-part of application Ser. No. 377,101, June 22, 1964. This application Oct. 11, 1967, Ser. No. 674,665

Claims priority, application Japan, Aug. 23, 1963, 38/44,790

Int. Cl. C08g 51/34, 51/36, 51/56

U.S. Cl. 260—31.2

4 Claims

Novel solvent systems are provided consisting of a rhodanate and a ketone or ester compound. Also provided are storage-stable polymer solutions prepared by utilizing such solvent systems, and methods for preparing such solutions.

3,538,038

NON-CELLULAR POLYURETHANES AND METHOD FOR PREPARATION WITH ACTIVATED ALUMINA

Bernard Blanc and Gerard Repliquet, Martigues, and Camille Granger, Lavera, France, assignors to Naphtachimie, Paris, France

No Drawing. Filed Nov. 9, 1966, Ser. No. 592,994
Claims priority, application France, Nov. 24, 1965, 39,621

Int. Cl. C08g 51/04, 53/00

U.S. Cl. 260—37

5 Claims

The preparation of a non-cellular polyurethane formed by reaction of organic polyisocyanates and polyhydroxy compounds, with or without fillers, pigments and other adjuvants, in which activated alumina particles having a surface area greater than 300 square meters per gram, a size between 1–200 microns and an Na₂O content of less than 2000 parts per million are incorporated with the polyhydroxy compounds or fillers before combination with the polyisocyanates.

3,538,039

POWDERED HEAT-CURABLE COMPOSITIONS OF (1) AN EPOXY-AMINE ADDUCT, (2) AN ANHYDRIDE AND (3) AN IMIDAZOLE

William L. Lantz, Metuchen, and Joseph P. Manasia, Union, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,551

Int. Cl. C08g 51/04

U.S. Cl. 260—37

12 Claims

Heat-curable compositions which are stable at room temperature but cure in 1–5 minutes at 275–300° F. to form flexible products having excellent mechanical and electrical properties comprise (1) an adduct of a polyepoxide and an amine, (2) a polyfunctional anhydride and (3) an activator for the anhydride (imidazole compound).

3,538,040

FOUNDRY SAND COMPOSITIONS CONTAINING ROOM TEMPERATURE CURING RESIN

Frank S. Grazen, North Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed May 19, 1967, Ser. No. 639,664

Int. Cl. C08g 51/04; C08k 1/10

U.S. Cl. 260—37

12 Claims

A foundry sand composition which is capable of being cured at room temperature is prepared by mixing foundry sand with a composition comprised of (1) a resin prepared by reacting (a) a condensation product of a phenol and an aldehyde or ketone containing condensate units having reactive phenolic hydroxyl groups, and (b) a substance reactive with the phenolic hydroxyl groups such as a mono oxirane ring compound, an alkylene halohydrin or an alkylene carbonate, and (2) a solvent; and thereafter reacting an organic polyisocyanate with the resin-solvent mixture to provide a polyurethane resin binder. The resulting foundry sand composition readily cures at room temperature.

3,538,041

SIMULATED ANODIZED ALUMINUM COATING COMPOSITION

John J. Dyson, Janesville, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin

No Drawing. Continuation-in-part of application Ser. No. 435,040, Feb. 24, 1965. This application Mar. 1, 1968, Ser. No. 749,802

Int. Cl. C08g 51/14; C08f 45/14

U.S. Cl. 260—37

8 Claims

An inefficiently dyed aluminum hydrate lake is formed by hydrolyzing an aluminum salt, preferably aluminum chloride, with ammonium hydroxide in an aqueous me-

dium at a pH within the range of 5 to 12, preferably about 8, and adding a solution of a dye to the resulting hydrolyzed aluminum salt in the absence of laking aids to produce a translucent dyed aluminum hydrate lake wherein only a portion of the available hydrate sites are taken up by dye attachment. The resulting lake is separated, washed and dried and then ground to produce particles having a size within the range of 0.0001 to 0.002 inch in diameter. The lake particles are dispersed in a liquid resinous vehicle capable of hardening to a tough, abrasion-resistant, transparent film, the ratio of lake to vehicle being within the range of 1:1 to 1:20.

When this composition is applied to a bright reflective surface and the resinous vehicle hardened to form a film binding the inefficiently dyed lake particles to the surface, there is produced an article simulating an aluminum article having a colored anodized surface.

3,538,042

EPOXY RESIN MOULDING COMPOSITIONS CONTAINING PHENOLPHTHALEIN EPOXY RESIN

Ewald Forster, Binningen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 519,184, Jan. 7, 1966. This application July 18, 1969, Ser. No. 843,222

Int. Cl. C08g 51/02

U.S. Cl. 260—37

4 Claims

Moulding compositions of good electrical and mechanical properties and excellent shelf life are provided by epoxy resin compositions in which the epoxy resin component comprises the reaction product of an epihalohydrin with the condensation product of a phenol and a cyclic dicarboxylic acid anhydride together with a curing agent and a filler.

3,538,043

POLYMERIC ESTERS AND METHODS

Robert Johnston Herold, Akron, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 643,036, June 2, 1967. This application May 1, 1969, Ser. No. 821,126

Int. Cl. C08g 30/12, 51/04

U.S. Cl. 260—40

34 Claims

Polyesters and polythioesters of controllable configuration and molecular weight are prepared by copolymerization of cyclic ethers containing 2 or 3 carbon atoms in the ring and organic anhydrides in the presence of a catalyst of the double metal cyanide complex class. Products with properties unlike polyesters known heretofore containing the same acid and alcohol moieties are created, e.g., high molecular weight alkylene glycol maleate polyesters.

3,538,044

DIMERCAPTAN DERIVATIVES AS SYNERGISTS FOR POLYOLEFIN STABILIZATION

Bernard Buchholz, Blue Bell, and Murray Hauptschein, Glenside, Pa., assignors to Pennwalt Corporation, a corporation of Pennsylvania

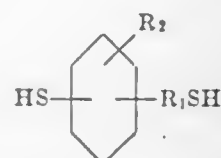
No Drawing. Filed Aug. 11, 1967, Ser. No. 659,864

Int. Cl. C08f 45/58, 45/60, 45/62

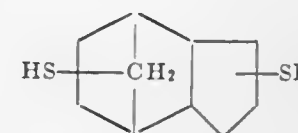
U.S. Cl. 260—45.75

8 Claims

Polyolefins containing as a stabilizer, a synergistic combination of a phenolic or amine antioxidant and a solid, metal mercaptide of a cycloaliphatic dimercaptan selected from the group of



where R₁ is an alkylene group of one to six carbon atoms and R₂ is H or lower alkyl and



3,538,045

THERMAL STABILIZATION OF POLYESTERS

Mary J. Stewart, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 30, 1967, Ser. No. 679,158

Int. Cl. C08g 31/30, 51/60

U.S. Cl. 260—45.9

5 Claims

A thermal stabilized polyester composition comprising a saturated linear polyester resin containing an additive selected from the group consisting of silicon isocyanate, phosphorous isocyanate, and phosphoryl isocyanate.

3,538,046

POLYURETHANES STABILIZED WITH PHENOLIC HYDRAZIDES

Harald Oertel, Odenthal-Globusch, Friedrich-Karl Rosendahl, Leverkusen, and Ulrich Ehler, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 30, 1967, Ser. No. 686,819

Claims priority, application Germany, Dec. 2, 1966, F 50,826

Int. Cl. C08g 51/60

U.S. Cl. 260—45.9

6 Claims

Polyurethanes stabilized with phenols having at least one tertiary alkyl group in the ortho position to the hydroxyl group and an N,N-dialkyl hydrazide or N,N-dialkyl semicarbazide group attached to the benzene ring via an aliphatic radical and a process for preparing same.

3,538,047

STABILIZED OLEFIN POLYMER COMPOSITIONS

Harry Braus, Springdale, and Jay R. Woltermann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

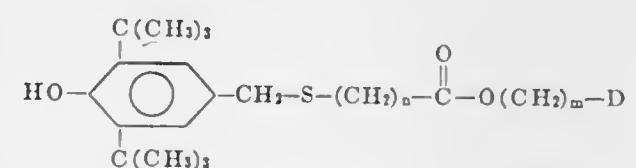
No Drawing. Original application Apr. 7, 1967, Ser. No. 629,121, now Patent No. 3,504,012, dated Mar. 31, 1970. Divided and this application Jan. 15, 1969, Ser. No. 823,201

Int. Cl. C08f 45/58

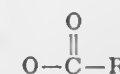
U.S. Cl. 260—45.85

3 Claims

Organic materials can be stabilized with a compound having the formula:



between 1 and 8; m is a positive integer between 2 and 10; n and m may be equal to each other or not; and D=OH, OR, or



where R is an alkyl group having from 1 to 22 carbon atoms.

3,538,048

POLYOLEFINS STABILIZED WITH BENZOPHENONE ESTERS OF PHOSPHOROUS ACID

George Wright Taylor and Derek Harold Wood, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

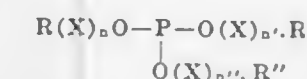
No Drawing. Continuation-in-part of application Ser. No. 539,623, Apr. 4, 1966. This application Mar. 21, 1969, Ser. No. 809,390

Int. Cl. C08f 45/58

U.S. Cl. 260—45.95

8 Claims

Stabilized polyolefin compositions incorporating 0.2–2.0% by weight of a phosphorous acid derivative having the structure,



wherein R represents a 2-hydroxybenzophenone radical R' and R'' represent a member selected from the class consisting of aryl and alkyl groups having 6–14 carbon atoms, X represents a member selected from the class consisting of alkylene and alkyleneoxy groups having up to 20 carbon atoms and n, n' and n'' are integers having the value 0–1. Optionally, the compositions also can contain an antioxidant which enhances stabilization by said phosphorous acid derivative.

3,538,049

SILOXANE COATING COMPOSITIONS

James W. Curry, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

No Drawing. Filed July 12, 1968, Ser. No. 744,302

Int. Cl. C08f 11/04

U.S. Cl. 260—46.5

6 Claims

Siloxane compositions produced by the process of reacting a mixture of (R₁)SiHCl₂, (R₂)(CH₂=CH)SiCl₂ and a third component selected from the group consisting of (R₃)(CH₃)₂SiCl₂ and (R₄)SiCl₃ and mixtures thereof with tert-butylalcohol in the presence of an organic solvent where, for example, R₁ and R₂ represent the methyl radical, R₃ and R₄ represent the normal octadecyl radical, the (R₁)SiHCl₂ and (R₂)(CH₂=CH)SiCl₂ are present in a 1:1 molar ratio and the third component is present in a concentration of about 20 mole percent.

A method of applying the siloxane compositions to articles to form a water-repellent coating includes the steps of distributing over the surface of the article a carrier liquid having one of the siloxane compositions disposed therein; evaporating the carrier liquid; and elevating the temperature of the article to cure the siloxane composition.

3,538,050

PROCESS FOR CURING EPOXY RESINS WITH NITRILLO TRIS(N-ACETAMIDES)

Raymond R. Hinderstinn, Lewiston, and Charles H. Ilardo, Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

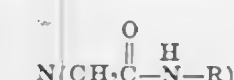
No Drawing. Filed June 28, 1968, Ser. No. 740,855

Int. Cl. C08g 30/14

U.S. Cl. 260—47

16 Claims

There is provided a process for curing epoxy resins which comprises heating a mixture of (1) an epoxy resin and (2) a compound of the formula



wherein R is a hydrogen atom or a hydrocarbon group containing from 1 to 11 carbon atoms, including alkyl, aryl, cycloalkyl and aminoalkyl. An amine can be employed to improve the process.

3,538,051

POST-ALKYLATED NOVOLAC RESINS WHEREIN THE ALKYLATING MATERIAL IS A MIXTURE OF C₃-C₁₃ CARBOCYCLIC COMPOUNDS

Harold P. Higginbottom, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 21, 1968, Ser. No. 738,769
Int. Cl. C08g 5/06, 5/18

U.S. Cl. 260—54

5 Claims

Novolac resins produced by first reacting a phenol with an aldehyde and then reacting the product novolac with specific C₃ through C₁₃ mixture of carbocyclic compounds. The product resins display improved water absorption, electrical, and mechanical properties.

3,538,052

POST-ALKYLATED NOVOLAC RESINS WHEREIN THE ALKYLATING MATERIAL IS A MIXTURE OF ARYLALKENES, ARYLCYCLOALKENES, DICYCLOPENTADIENES AND CYCLOPENTADIENE/ACYCLIC CONJUGATED DIENE CODIMERS

Harold P. Higginbottom, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 20, 1969, Ser. No. 809,025
Int. Cl. G08g 5/06, 5/18

U.S. Cl. 260—54

6 Claims

Novolac resins produced by first reacting a phenol with an aldehyde and then reacting the product novolac with a specific mixture of arylalkenes, arylcycloalkenes, dicyclopentadienes, and cyclopentadiene/acyclic conjugated diene codimers. The product resins display improved water absorption, electrical and mechanical properties when thermoset.

3,538,053

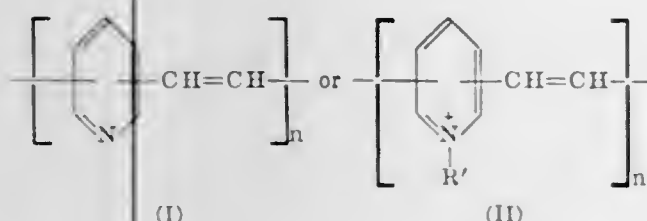
NUCLEAR ALKYLATED PYRIDINE ALDEHYDE POLYMERS AND CONDUCTIVE COMPOSITIONS THEREOF

Alan Rembaum, Altadena, and Stanley Singer, Pasadena, Calif., assignors to California Institute of Technology, Pasadena, Calif., a corporation of California
No Drawing. Filed Sept. 11, 1968, Ser. No. 759,220
Int. Cl. C08f 3/40, 5/00

U.S. Cl. 260—67

9 Claims

A thermally stable, relatively conductive polymer is disclosed. The polymer is synthesized by condensing in the presence of catalyst a 2-, 4-, or 6-nuclear alkylated 2-, 3-, or 4-pyridine aldehyde or quaternary derivatives thereof to form a polymer of the formulae:



where n is an integer greater than 2 and R' is aromatic or aliphatic. The pyridine groups are linked by olefinic groups between 2-4, 2-6, 2-3, 3-4, 3-6 or 4-6 positions.

The quaternary polymer (II) is also prepared by quaternizing the polymer of Formula I. Conductive compositions are prepared by dissolving the quaternary polymer and an organic charge transfer complexing agent such as TCNQ in a mutual solvent such as methanol.

3,538,054

LOW ADHESION SURFACE COATINGS OF A MELAMINE RESIN AND SUBSTITUTED FLUORENE SUCCINIC ACID-(9)

Hans-Werner Demmig and Kurt Rehnelt, Dusseldorf-Holthausen, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Mar. 12, 1968, Ser. No. 712,380
Claims priority, application Germany, Mar. 15, 1967, H 62,138

Int. Cl. C08g 37/32, 9/30
U.S. Cl. 260—67.6

2 Claims

Compositions for forming low adhesion surface coatings on cellulose-containing materials wherein the coating agent is a melamine-urea-lower alkyl aldehyde resin etherified with a lower alkyl polyol and an imide or diamide of fluorene succinic acid-(9) wherein the imide or amide nitrogen is directly bonded to a monovalent aliphatic or cycloaliphatic hydrocarbon radical of 5 to 22 carbon atoms.

3,538,055

POLYESTERURETHANE ADHESIVES

Louis T. Camilleri, North Bellmore, and Manfred H. Huebner, Lindhurst, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Nov. 29, 1967, Ser. No. 686,680
Int. Cl. C08g 22/10; C09d 3/48; B32b 27/40

U.S. Cl. 260—75

13 Claims

A superior heat activatable polyurethane adhesive is produced by reacting components comprising (1) a polyester of hexanediol, an aliphatic dicarboxylic acid, and preferably an aromatic dicarboxylic acid, (2) an aliphatic diol and (3) a diphenyl diisocyanate in a proportion to provide about 95 to about 105 percent of isocyanato groups for the total number of hydroxyl and carboxyl groups. The polyurethane adhesive has good heat stability in the molten state, a low activation temperature, and high tensile and tear properties. The adhesive is suitable for bonding a broad range of substrates such as polyvinyl chloride, nylon, ABS polymer, polyurethanes, steel, aluminum, copper and wood.

3,538,056

POLYAMIDES OF NAPHTHALENE DICARBOXYLIC ACIDS AND BRANCHED CHAIN DIAMINES

John R. Caldwell, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 433,493, Feb. 17, 1965. This application Feb. 20, 1968, Ser. No. 706,797

Int. Cl. C08g 20/00
U.S. Cl. 260—78

12 Claims

High melting, linear polyamides having high tensile moduli and useful as films, fibers, molded objects, and extruded objects are prepared from naphthalene dicarboxylic acids (for example, 1,4-; 1,5-; and 2,6-naphthalene dicarboxylic acids) and branched chain diamines (for example, 2-methyl-1,4-diaminobutane, and 2,2-dimethyl-1,5-pentanediamine).

3,538,057

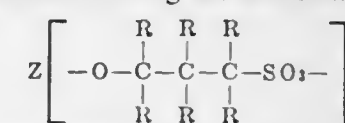
BASIC DYEABLE POLYESTER POLYMERS CONTAINING A METAL SALT OF A CYCLOALKYL SULFONATE

Lorin G. Lafoe, Fullerton, Calif., assignor to Fiber Industries, Inc., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 581,762, Sept. 26, 1966. This application Mar. 27, 1969, Ser. No. 811,223

Int. Cl. C08g 17/08; D06p 3/52; D06m 13/28
U.S. Cl. 260—75

5 Claims

A terephthalate polyester polymer of improved dyeability containing minor amounts of a metallized salt of an organic sulfonate having the formula:



wherein n is an integer of 1 and 2; when $n=1$, Z is a cycloalkyl radical, substituted derivative of said cycloalkyl radical wherein the substituent is hydroxy, alkyl or alkoxy; when $n=2$, Z is a cycloalkylene radical, substituted derivatives of said cycloalkylene radical wherein the substituents are hydroxy, alkyl or alkoxy; R, individually, is hydrogen or alkyl radical containing from 1 to 6 carbon atoms.

3,538,058

POLYESTERAMIDES

Isaac Goodman and Neville Robert Hurworth, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Original application Mar. 30, 1966, Ser. No. 538,545, now Patent No. 3,475,385, dated Oct. 28, 1969. Divided and this application July 26, 1968, Ser. No. 747,839

Claims priority, application Great Britain, Apr. 2, 1965, 14,106/65
Int. Cl. C08g 20/30

U.S. Cl. 260—78

11 Claims

Polyesteramides prepared from 6-oxycaproic acid, xylene diamine and adipic acid, said polymers being useful as unsupported films, fibers and moulded articles.

3,538,059

PROCESS FOR MAKING BETA-LACTAM POLYMERS

Claus Beermann, Neu-Isenburg, Erwin Schmidt, Frankfurt am Main, and Walter Rupp, Niederhofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Continuation-in-part of applications Ser. No. 518,988 and Ser. No. 519,016, Jan. 6, 1966. This application Nov. 13, 1968, Ser. No. 775,514

Claims priority, application Germany, Jan. 7, 1965, F 44,889, F 44,890

The portion of the term of the patent subsequent to Dec. 17, 1985, has been disclaimed

Int. Cl. C08g 20/10
U.S. Cl. 260—78

19 Claims

A process for making beta-lactam homopolymers and copolymers is disclosed which provides an improved control of the degree of polymerization and the distribution of molecular weight. In the case of the copolymers, it makes possible a statistical distribution of monomeric units with monomers having substantially different reaction rates. The beta-lactams used have a hydrogen atom at the nitrogen atom thereof and from 0 to 4 substituents on the alpha and/or beta carbon-atoms thereof. Polymerization may be effected at a temperature of -15° to 120° C. by anionic polymerization in a polymerization reaction mixture comprising a solution or dispersion of a basic catalyst in an inert solvent. The desired control is achieved by feeding the lactam monomer incrementally and slowly to the polymerization reaction mixture, i.e.,

at a rate substantially equal to the rate at which it reacts to form the polymer.

3,538,060

PROCESS FOR THE POLYMERIZATION OF LACTAMS IN ALKALINE MEDIUM

Siegfried Schaaf, Chur, Switzerland, and Peter S. Gaut, Leicester, England, assignors to Inventa A.G. fur Forschung und Patentverwertung, Zurich, Switzerland, a corporation of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 587,660, Oct. 19, 1966. This application Apr. 28, 1969, Ser. No. 820,009

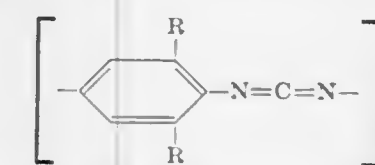
Claims priority, application Switzerland, Oct. 25, 1965, 14,784/65

Int. Cl. C08g 20/12
U.S. Cl. 260—78

7 Claims

An improved process is provided for producing substantially insoluble cross-linked and branched polymers having extremely high impact resistance.

Lactams having more than 6 ring members and mixtures thereof are polymerized in the presence of an alkaline polymerization catalyst and a cocatalyst, and at a temperature of substantially $100-270^{\circ}$ C. The cocatalyst has the recurring unit



wherein R is an alkyl having 1-4 carbon atoms and n is 3 to about 100.

3,538,061

PREPARATION OF POLYMERS AND COPOLYMERS OF VINYL CHLORIDE

Georgette Steinbach Van Gaver, Paris, and Yves Fagnoni, Saint-Auban, France, assignors to Produits Chimiques Pechiney-Saint-Gobain, Paris, France

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,065

Claims priority, application France, Feb. 23, 1966, 50,768

Int. Cl. C08f 3/30, 15/08
U.S. Cl. 260—78.5

6 Claims

Vinyl chloride is polymerized in suspension alone or with compatible monomers in the presence of alpha-halogenolauril peroxides as catalysts in a low temperature process.

3,538,062

POLYMERIZATION OF VINYL CHLORIDE IN MASS

Jean Claude Thomas and Michel Marbach, Lyon, and Francois M. Muller, Saint-Auban, France, assignors to Produits Chimiques Pechiney-Saint-Gobain, Paris, France

No Drawing. Filed Apr. 17, 1967, Ser. No. 631,155

Claims priority, application France, Apr. 22, 1966, 58,623

Int. Cl. C08f 3/30, 15/08
U.S. Cl. 260—78.5

5 Claims

Vinyl chloride based polymers are produced by polymerization in mass at temperatures between -40° C. and $+40^{\circ}$ C. with an alpha-halogenated diacyl peroxide having from 1 to 9 carbon atoms.

3,538,063

CURING OF POLYMERCAPTAN POLYMERS

Earl H. Sorg, Trenton, N.J., and Julian R. Panek, Newtown, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 16, 1967, Ser. No. 660,941

Int. Cl. C08g 23/00
U.S. Cl. 260—79

2 Claims

Polymercaptan-containing polymers are cured with lithium peroxide to yield vulcanizates having improved resistance to heat aging.

3,538,064

ACRYLIC ACID ESTERS OF HYDROXYMETHYL OXAZOLIDONES

Harold I. Yalowitz, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed June 4, 1965, Ser. No. 461,552
Int. Cl. C08f 3/62, 7/12

U.S. Cl. 260—88.3 6 Claims
Methods for preparing and polymerizing acrylic acid esters of hydroxymethyl oxazolidones and products thereof.

3,538,065

POSTHALOGENATED NITRILE POLYMERS

Russell K. Griffith, Chagrin Falls, John F. Jones, Cuyahoga Falls, and Harry R. Musser, Bedford, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 6, 1967, Ser. No. 620,597
Int. Cl. C08f 3/78

U.S. Cl. 260—88.7 7 Claims
Posthalogenated nitrile polymers such as postchlorinated polymethacrylonitrile which are of improved flame resistance, solvent resistance and processibility are provided by a posthalogenation process which includes catalytic activation.

3,538,066

POLYMERIZATION OF VINYL CHLORIDE

Georgette Steinbach Van Gaver, Paris, and Jean Claude Thomas and Michel Marbach, Lyon, France, assignors to Produits Chimiques Pechiney-Saint-Gobain, Paris, France
No Drawing. Filed Feb. 13, 1967, Ser. No. 615,334
Claims priority, application France, Feb. 23, 1966, 50,767

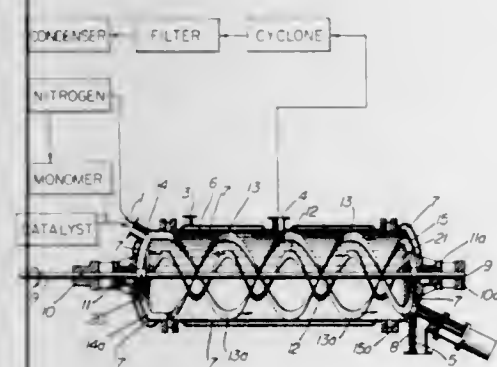
Int. Cl. C08f 3/30, 15/08 4 Claims
U.S. Cl. 260—85.5
Vinyl chloride is polymerized in mass in the presence of alpha-halogeno-lauroyl peroxide at temperatures between -5° C. and +35° C.

3,538,067

METHOD FOR THE POLYMERIZATION OF VINYL CHLORIDE IN MASS

Etienne Boghar, Madrid, Spain, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Continuation-in-part of applications Ser. No. 97,892, Feb. 27, 1961, and Ser. No. 520,805, Jan. 14, 1966. This application Feb. 8, 1967, Ser. No. 614,680
Claims priority, application France, Feb. 26, 1960, 819,762

Int. Cl. C08f 1/04, 1/10, 3/30 8 Claims
U.S. Cl. 260—92.8



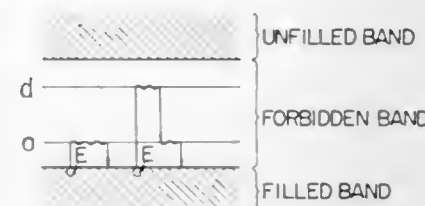
Polyvinyl chloride is produced in a permeable form of spherical grains free of pellicles.

3,538,068

POLYETHYLENE COMPOSITIONS CONTAINING A CHARGE-TRANSFER COMPLEX OF AN AROMATIC AMINE AND A HALOQUINONE

Minoru Morita and Misao Hanai, Yokohama-shi, Japan, assignors to Showa Densen Denran Kabushiki Kaisha (also known as Showa Electric Wire and Cable Co. Ltd.), Kawasaki-shi, Kanagawa-ken, Japan
Filed Apr. 8, 1969, Ser. No. 814,418

Claims priority, application Japan, Apr. 11, 1968, 43/24,251
Int. Cl. C08d 3/04, 5/00 11 Claims
U.S. Cl. 260—94.9



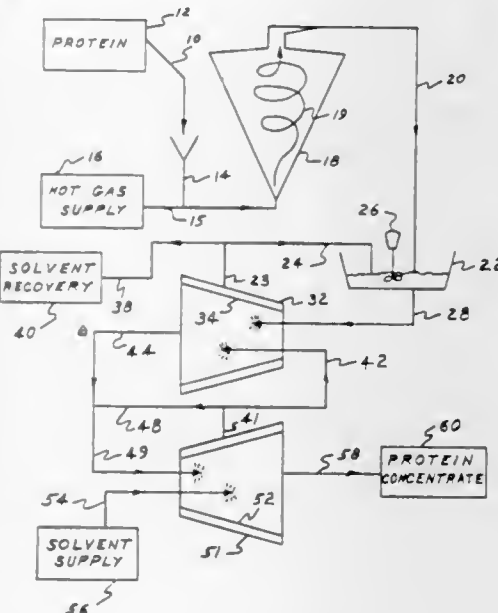
A polyethylene composition of a solid-phase polyethylene base and, as a voltage stabilizer, one or more charge-transfer complexes dispersed uniformly in the polyethylene base in a total quantity of 5 or fewer parts by weight with respect to 100 parts of the base, each charge-transfer complex having an aromatic amine of specific character as an electron donor and a haloquinone of specific character as an electron acceptor. Such a polyethylene composition has a substantially improved withstand-test voltage characteristic.

3,538,069

CONTINUOUS PROCESS FOR CONCENTRATING PROTEIN COMPRISING TREATING THE PROTEIN WITH A HEATED GAS FOLLOWED BY REMOVING SOLUBLES FROM THE PROTEIN BY MIXING WITH SOLVENT

Robert M. Henderson, Dalton, and William F. Habermann, Pittsfield, Mass., assignors to Beloit Corporation, Beloit, Wis., a corporation of Delaware
Continuation-in-part of application Ser. No. 815,980, Apr. 14, 1969, which is a continuation-in-part of application Ser. No. 656,742, July 28, 1967. This application June 9, 1969, Ser. No. 831,663

Int. Cl. A23j 1/00 7 Claims
U.S. Cl. 260—112



The invention relates to a process for removing soluble materials from substances containing protein. The process consists of first contacting the protein with a heated gas for sufficient time to sufficiently reduce the volatile material therein. Then the protein is mixed with a first solvent, having been recycled, and then they are separated. Next the protein is mixed with a quantity of second solvent, the second solvent having been obtained from the next succeeding zone, and then the protein is

removed from the second solvent. In the Nth zone, where N is an integer of at least one, the second solvent is fresh solvent.

3,538,070

PROTECTIVE GROUPS FOR THE HYDROXYL GROUP OF TYROSINE DURING PEPTIDE SYNTHESIS

Rolf Geiger, Frankfurt am Main, Georg Jäger, Raunheim am Main, and Walter Siedel, Bad Soden, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Feb. 27, 1968, Ser. No. 708,525
Claims priority, application Germany, Mar. 2, 1967, F 51,685; July 7, 1967, F 52,888

Int. Cl. C07c 101/00, 103/52, 125/04 2 Claims
U.S. Cl. 260—112.5
Peptide condensation reactions involving tyrosine-containing materials wherein the —OH group of the tyrosine is protected by an alkali-labile, acid- and hydrogenation-stable carbalkoxy, carbaralkoxy, or carbamyl (RNHCO—) group.

3,538,071

NITROGEN AND LIGNIN CONTAINING PRODUCTS AND PROCESS FOR OBTAINING THEM

Chung Sul Youn Kim, Sacramento, Calif., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia
No Drawing. Filed Apr. 11, 1967, Ser. No. 629,894

The portion of the term of the patent subsequent to Apr. 15, 1986, has been disclaimed
Int. Cl. C07g 1/00; C10m 1/38; B01f 17/50 22 Claims
U.S. Cl. 260—124
This invention pertains to the preparation and use thereof of a lignin derivative obtained by reacting and heating an oxidized lignin with an amine.

3,538,072

REACTION PRODUCT OF AROMATIC HYDROCARBONS AND THIONYL CHLORIDE IN THE PRESENCE OF METAL HALIDE FRIEDEL-CRAFTS CATALYSTS

Louis De Vries, Richmond, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed Dec. 11, 1967, Ser. No. 689,273

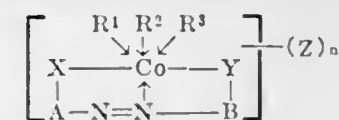
Int. Cl. C07g 17/00; C10m 1/38 11 Claims
U.S. Cl. 260—139
Compositions prepared by combining thionyl chloride, aromatic hydrocarbon and a Friedel-Crafts metal halide catalyst for times and at temperatures to provide reaction with the evolution of hydrogen chloride. The products find a variety of uses, particularly, the pentane soluble products finding particular use in lubricating oils as oxidation inhibitors.

3,538,073

COBALT CONTAINING AZO DYESTUFFS

Peter Albert Mack and Raymond Price, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Jan. 27, 1966, Ser. No. 523,290

Claims priority, application Great Britain, Feb. 2, 1965, 4,530/65
Int. Cl. C09b 45/00; D06p 1/02 5 Claims
U.S. Cl. 260—146
Metal-containing azo dyestuffs of the formula:



wherein A represents a substituted or unsubstituted phenylene or naphthylene radical carrying the —O— or —COO— group represented by X in ortho position to

the azo group, or A represents the residue of a nitrogen-containing heterocyclic compound in which X represents a nitrogen atom which forms part of the heterocyclic ring and which is either directly attached or which is attached to a carbon atom adjacent to the carbon atom carrying the azo group. B—Y— represents the residue of a coupling component which couples in ortho or vicinal position to a metallizable group. Y represents —O— or



wherein R is hydrogen, lower alkyl or phenyl. Z is an acyl radical containing a reactive group which is capable of forming a covalent chemical bond with hydroxy or amino groups present in textile materials and which is attached to an —NH— or



lower alkyl group which is itself attached to a carbon atom of an aryl ring present in A or B or which forms part of R¹, R² or R³. n represents 1, 2 or 3 and R¹, R² and R³ together form at least one molecule of a polydentate nitrogen-donor ligand, the coordinate bonds which link the said ligand to the cobalt atom being bonded to nitrogen atoms present in the said ligand, or when the said ligand is a bidentate nitrogen-donor ligand which only contains two nitrogen atoms capable of bonding with the cobalt atom then the third of R¹, R² and R³ represents a monodentate ligand.

3,538,074

BASIC MONO AZO DYESTUFFS

Gert Hegar, Schoenenbuch, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed May 17, 1967, Ser. No. 639,047
Claims priority, application Switzerland, May 27, 1966, 7,747/66; Feb. 21, 1967, 2,518/67

Int. Cl. C09b 29/36; D06p 1/02 10 Claims
U.S. Cl. 260—156
Basic azo dyestuffs of the benzeneazobenzene series with a dialkylamino group bound to the radical of the coupling component in para-position to the azo bridge and containing a tertiary or quaternary heterocyclic amine directly linked by its nitrogen atom to an alkyl carbon atom.

3,538,075

DISAZO DYES FROM BIS-p,p'-DIAMINO-ALKYLENE-DICARBOXYLIC ACID ANILIDES

Johannes Dehnert and Gerhard Gnad, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Nov. 29, 1967, Ser. No. 686,751
Claims priority, application Germany, Dec. 3, 1966, 1,544,418

Int. Cl. C09b 31/04; D06p 1/02 5 Claims
U.S. Cl. 260—184
Disazo dyes derived from bis-p,p'-diamino-alkylene-dicarboxylic acid anilides and p-substituted hydroxybenzenes. They are especially useful for dyeing polyesters, polyurethanes and polyamides.

3,538,076

ACYL DERIVATIVES OF ERYTHROMYCYLAMINE

Zrinka B. Tamburasev, Gabrijela Vazdar-Kobrehel, and Slobodan Djokic, Zagreb, Yugoslavia, assignors to Pliva, Pharmaceutical and Chemical Works, Zagreb, Yugoslavia
No Drawing. Filed July 16, 1968, Ser. No. 745,105
Claims priority, application Yugoslavia, Aug. 3, 1967, P 1,541/67

Int. Cl. C07c 47/18 16 Claims
U.S. Cl. 260—210
Antibiotic acyl derivatives of 9-amino-3-O-cladinomyl-5-O-desosaminyl-6,11,12-trihydroxy-2,4,6,8,10,12-hexa-

methylpentadecane-13-olide (erythromycylamine) and to the preparation thereof.

3,538,077

D-GLUCOFURANOSIDE ETHER-ESTERS

Alberto Rossi, Oberwil, Basel-Land, Switzerland, assignor to Ciba Corporation, Summit, N.J., a corporation of Delaware

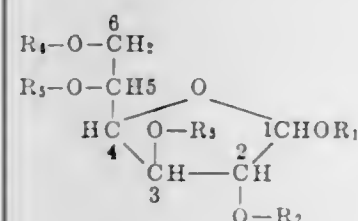
No Drawing. Filed Sept. 4, 1968, Ser. No. 757,500
Claims priority, application Switzerland, Sept. 26, 1967, 13,419/67; Apr. 25, 1968, 6,162/68

Int. Cl. C07c 47/18

U.S. Cl. 260—210

9 Claims

The invention concerns D-glucofuranosides of formula



wherein R₁ represents a lower alkyl residue, R₂ represents hydrogen or the acyl residue of an organic carboxylic acid, one of the groups R₃, R₄ and R₅ represents a benzyl residue which is substituted in the phenyl ring by a halogen atom or a lower alkyl group, and each of the others represents a benzyl residue which is optionally substituted in the phenyl ring, having antiinflammatory properties.

3,538,078

DIGOXIN ETHERS

Fritz Kaiser, Lampertheim, Wolfgang Schaumann and Kurt Stach, Mannheim-Waldhof, and Wolfgang Voigtlander, Viernheim am Kurpfalzplatz, Germany, assignors to Boehringer Mannheim Gesellschaft mit beschränkter Haftung, Mannheim-Waldhof, Germany, a corporation of Germany

No Drawing. Filed Sept. 12, 1968, Ser. No. 759,502
Claims priority, application Germany, Sept. 20, 1967, B 94,555; May 7, 1968, 1,768,372

Int. Cl. C07c 173/00

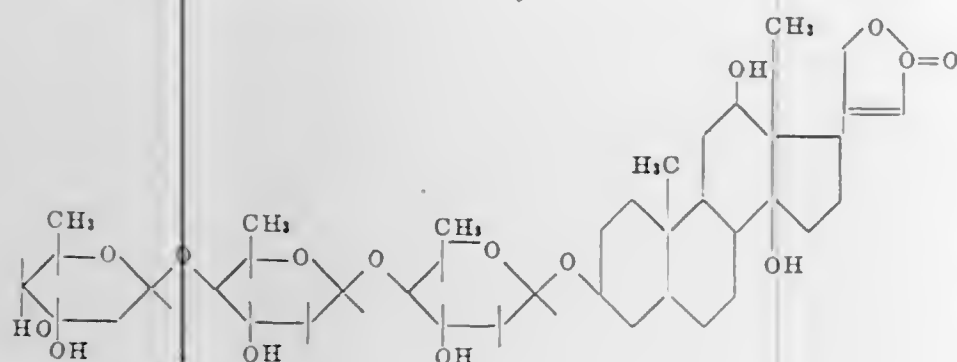
U.S. Cl. 260—210.5

9 Claims

Digoxin derivatives wherein one or two hydroxyl groups of the digitoxose moiety are etherified with alkyl groups containing 1 to 2 carbon atoms, which alkyl groups can be substituted by alkoxy groups containing 1 to 2 carbon atoms, wherein when only one of the hydroxyl groups is etherified, the second can be esterified with an acyl group containing up to 3 carbon atoms, which acyl group can be substituted by an alkoxy group containing 1 to 2 carbon atoms.

These digoxin derivatives are highly effective therapeutic agents and are suitable for oral administration in the treatment of cardiac insufficiency.

Digoxin has the formula:



3,538,079
METHOD FOR THE PREPARATION OF A WATER INSOLUBLE, BASIC DYEABLE, HEAT STABLE CELLULOSE DERIVATIVE

Bruce B. Allen, Mecklenburg, N.C., and Henry W. Steinmann, Sussex County, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 427,148, Jan. 21, 1965. This application May 14, 1968, Ser. No. 728,925

Int. Cl. C08b 3/00

U.S. Cl. 260—215

15 Claims

A process of producing a water insoluble, basic dyeable, heat stable cellulose derivative comprising reacting the cellulose derivative with o-sulfobenzoic anhydride in the presence of an acid catalyst.

3,538,080

1-AZIRIDINYL ALKYL PHOSPHORAMIDES

George E. Ham, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 22, 1966, Ser. No. 603,789

Int. Cl. C07f 9/56

U.S. Cl. 260—239

4 Claims

A process for preparing 1-aziridinyl alkyl phosphoramides from aziridinyl phosphoramides, (e.g., tris(1-aziridinyl)phosphine oxide), and an aziridine (e.g., ethylenimine) and novel bis and tris (1-aziridinyl alkyl) phosphoramides so produced. At least an equimolar amount of the aziridine is contacted with aziridinyl phosphoramide at a temperature between 50° and 250° C. under at least autogenous pressure for a time sufficient to allow the resulting reaction to go to completion. The bis and tris (1-aziridinyl alkyl) phosphoramides are particularly useful for curing acid (e.g., carboxylic) terminated polymers.

3,538,081

AZETIDINECARBONYL FLUORIDES AND OXAZIN-2-ONES

David C. England, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 8, 1967, Ser. No. 666,452

Int. Cl. C07d 25/02, 87/08

U.S. Cl. 260—239

8 Claims

Perfluoro substituted azetidinecarbonyl fluorides and oxazin-2-ones which are useful as solvents for fluorocarbon polymer and as surface treating agents for textiles are produced by heating a mixture of aliphatic isocyanate and perfluoromethacrylyl fluoride.

3,538,082

5-(2-AMINOPHENYL)-2,3-DIHYDRO-1H-BENZODIAZEPINE-7-SULFONAMIDES

Stanley C. Bell, Narberth, and Carl Gochman, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 9, 1967, Ser. No. 681,906

Int. Cl. C07d 53/06

U.S. Cl. 260—239

5 Claims

This invention is concerned with 5-(2-aminophenyl)-2,3-dihydro-1H-1,4-benzodiazepine-7-sulfonamides which

are pharmacologically active especially as central nervous system depressants.

3,538,083

SYNTHETIC METHOD FOR PREPARING PENICILLINS

Norman H. Grant, Wynnewood, Donald E. Clark, Norristown, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 19, 1967, Ser. No. 691,694

Int. Cl. C07d 99/16

U.S. Cl. 260—239.1

6 Claims

Process for preparing α-aminoacylamino penicillanic acids having antibiotic activity, by reacting 6-aminopenicillanic acid or a salt thereof with certain non-labile N-carboxy anhydrides in an organic solvent medium under reflux conditions and in the presence of an organic amine.

3,538,084

17-SPIRO-3'-DIAZIRIDINE STEROIDS OF THE ANDROSTANE AND ESTRANE SERIES

Poul Borrevang, Vanlose, and Peter Faarup, Soborg, Denmark, and Jorgen Hjort, Vancouver, British Columbia, Canada, assignors to Novo Terapeutisk Laboratorium A/S, Copenhagen, Denmark

No Drawing. Continuation-in-part of application Ser. No. 547,135, May 2, 1966. This application June 19, 1968, Ser. No. 741,152

Int. Cl. C07c 169/10, 173/10

U.S. Cl. 260—239.5

20 Claims

The new steroid compounds have a diazirine group or a diaziridine group in the 17-position of the steroid molecule. 17-spiro-3'-diaziridine steroids of the androstane and estrane series are prepared by treating the corresponding steroid having in the 17-position of the steroid molecule an imino group, or a group convertible to an imino group such as a keto group, with hydroxyl-amine-O-sulfonic acid in the presence of a basic-reacting agent, such as ammonia or an alkali metal hydroxide. 17-spiro-3'-diaziridine steroids are converted into the corresponding 17-spiro-3'-diaziridine compounds by treatment with an oxidizing agent and 17-spiro-3'-(1'(2')-substituted)-diaziridine steroids are prepared from 17-spiro-3-diazirine steroids by means of organo metallic reactants.

3,538,085

1-PHENYLSULFONYL-2-IMINO-IMIDAZOLIDINES AND HEXAHYDROPYRIMIDINES

Henri Dietrich, Arlesheim, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 624,195, Mar. 20, 1967. This application Oct. 23, 1968, Ser. No. 770,102

Claims priority, application Switzerland, Mar. 24, 1966, 4,280/66; Mar. 14, 1968, 3,881/68, 3,882/68

Int. Cl. A61k 27/00; C07d 49/34, 51/42

U.S. Cl. 260—239.9

15 Claims

1-phenylsulfonyl - 2-imino - imidazolidines and -hexahydropyrimidines, substituted at the heterocyclic ring and substituted or unsubstituted at the phenyl ring are prepared; these compounds and their pharmaceutically acceptable acid addition salts have hypoglycemic activity; pharmaceutical compositions comprising said compounds and methods of producing hypoglycemic effects in mammals are provided; an illustrative embodiment is 1-sulfanilyl-2-imino-3-butyl-imidazolidine.

3,538,086

4-OXO-4H-PYRIMIDO 2,1-b BENZOTHAZOLES

Mohan Damodaran Mair and Thomas George, Goregaon, Bombay, India, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

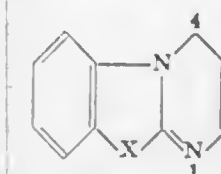
No Drawing. Filed Nov. 21, 1967, Ser. No. 684,624
Claims priority, application Switzerland, Nov. 29, 1966, 17,082/66; Oct. 19, 1967, 14,629/67

Int. Cl. A61k 27/00; C07d 91/52

U.S. Cl. 260—239.75

9 Claims

Benzheterocyclic compounds having the ring system of the formula:



X=oxygen or sulfur, these compounds being substituted in 3-position by a free or functionally converted carboxyl or an acyl group and in 4-position by an oxo, thiono or imino group, their oxides and salts of such compounds have pharmacological, particularly antiviral effects.

3,538,087

OXADIAZOLE DERIVATIVES

Franz Troxler, Bottmingen, and Adolf Lindenmann, Basel, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

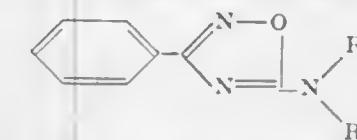
No Drawing. Filed Sept. 21, 1967, Ser. No. 669,371
Claims priority, application Switzerland, Sept. 23, 1965, 13,774; Apr. 11, 1967, 5,117

Int. Cl. C07d 85/52

U.S. Cl. 260—240

12 Claims

The present invention provides compounds of formula:



wherein either R₁ and R₂ together with the nitrogen atom are 4-(2-hydroxyethyl)-1-piperazinyl, or R₁ is lower alkyl of 1 to 4 carbon atoms, and R₂ is 1-methyl-4-piperidyl, 2-(1-methyl-2-piperidyl)-ethyl, or a radical of the formula —A—NR₃R₄, wherein A is straight or branched alkylene of 2 to 4 carbon atoms, R₃ is hydrogen or lower alkyl of 1 to 4 carbon atoms, and R₄ is lower alkyl of 1 to 4 carbon atoms or cycloalkyl of 3 to 7 carbon atoms or, when R₃ is lower alkyl of 1 to 4 carbon atoms, R₄ is also lower alkyl or alkynyl of 3 to 5 carbon atoms, and pharmaceutically acceptable salts thereof.

The compounds are indicated for use as analgesics/antiplostatics in the treatment of pain and inflammations of various origins.

3,538,088

TRIPHENYL TIN COMPOUNDS AS PESTICIDES

Valentin Hartmann, Bonn, Germany, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

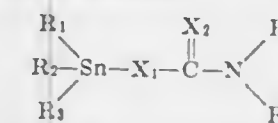
No Drawing. Filed July 28, 1967, Ser. No. 656,664
Claims priority, application Switzerland, July 28, 1966, 10,964/66

Int. Cl. C07d 103/00; C07f 7/22

U.S. Cl. 260—242

4 Claims

The present invention relates to preparations for combating molluscs, especially snails, and larvae of insects, especially of midges, containing as active substance a compound of the general formula



wherein R₁, R₂ and R₃ denote unsubstituted or substituted phenyl radicals, R₄ has the meaning of R₁-R₃ or denotes aliphatic or araliphatic residues, which may be interrupted by oxygen or sulfur, R₅ represents a hydrogen

atom or has the meaning of R_4 or forms together with R_4 and the nitrogen atom a heterocyclic ring, X_1 and X_2 stand for oxygen and/or sulfur, together with suitable carriers or other additives. Some of the active substances of the given formula are claimed.

3,538,089

5-NITRO-2-THIAZOLYL-OXAMIDES

Paul Schmidt, Therwil, and Max Wilhelm, Allschwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 529,199, Feb. 23, 1966. This application Nov. 21, 1967, Ser. No. 684,617

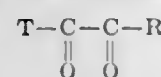
Claims priority, application Switzerland, Mar. 5, 1965, 3,088/65; Feb. 9, 1966, 1,810/66; Dec. 2, 1966, 17,269/66

Int. Cl. C07d 91/34

U.S. Cl. 260—243

13 Claims

New compounds of the formula



in which T stands for an optionally substituted 5-nitro-2-thiazolylamino radical and R for an optionally substituted amino group; e.g. the N-(5-nitro-2-thiazolyl)-oxamide. Used antiparasitary and antibacterial agents.

3,538,090

1-(4-TERTIARYAMINOPHENYL)-3-(PIPERAZINO)-PROPANOLS

George de Stevens, Woodland Park, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

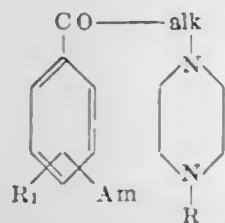
Continuation-in-part of application Ser. No. 584,350, Oct. 5, 1966. This application June 1, 1967, Ser. No. 642,718

Int. Cl. C07d 87/40

U.S. Cl. 260—247.5

2 Claims

3-(4-arylpiperazino)-aminopropiophenones, of the formula



alk=alkylene separating adjacent groups by 2 C

Am=tert. amino group

R=iso- or heterocyclic aryl

R_1 =H, alkyl, alkoxy, alkylmercapto, halogeno, CF_3 or NO_2 quaternaries and salts thereof are tranquilizers. Also included are the corresponding aminopropanols useful as intermediates for the preparation of the aminopropiophenones.

3,538,091

3-PIPERAZINO-4-TERTIARY AMINO-PROPIOPHENONES

George de Stevens, Summit, N.J., assignor to Ciba Corporation, Summit, N.J., a corporation of Delaware

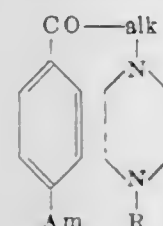
No Drawing. Continuation-in-part of application Ser. No. 642,718, June 1, 1967. This application Feb. 27, 1969, Ser. No. 803,068

Int. Cl. C07d 87/40

U.S. Cl. 260—247.5

3 Claims

3-(4-arylpiperazino)-aminopropiophenones, e.g. those of the formula



alk=alkylene separating adjacent groups by 2C

Am=tert. amino group

R=iso- or heterocyclic aryl quaternaries and salts thereof are tranquilizers.

3,538,092

DERIVATIVES OF N,N',N''-TRIS(3-MERCAPTO-PROPIONYL)-HEXAHYDRO-S-TRIAZINE

Martin Dexter, Briarcliff Manor, N.Y., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of New York

No Drawing. Filed Dec. 11, 1968, Ser. No. 783,103

Int. Cl. C07d 55/14

U.S. Cl. 260—248

6 Claims

The N,N',N''-tris(3-mercaptopropionyl)-hexahydro-s-triazine derivatives of this invention are useful as stabilizers of organic materials subject to oxidative deterioration. These compounds may be prepared by reacting triacryloyl hexahydro-s-triazine with an alkyl mercaptan in the presence of a basic catalyst.

3,538,093

TRIAZINE HERBICIDES

Paul James Mason, Chester, and Harry Edwards Ulmer, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Original application Sept. 13, 1968, Ser. No. 759,798, now Patent No. 3,494,759. Divided and this application Sept. 4, 1969, Ser. No. 872,798

Int. Cl. C07d 55/20

U.S. Cl. 260—249.8

3 Claims

2-chloro-4-alkylamino-6-(fluoro-2-hydroxyisopropylamino)-s-triazines are prepared by reacting 2-amino-4-chloro-6-alkylamino-s-triazine with an appropriately fluorinated acetone. The products are useful as herbicides.

3,538,094

PRODUCTION OF CYCLIC UREA DERIVATIVES

Harro Petersen, Frankenthal, Pfalz, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 16, 1967, Ser. No. 660,913 Claims priority, application Germany, Aug. 26, 1966, 1,670,136

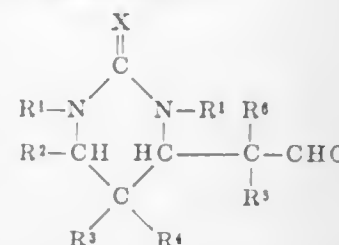
The portion of the term of the patent subsequent to Oct. 13, 1987, has been disclaimed

Int. Cl. C07d 51/18

U.S. Cl. 260—251

5 Claims

Compounds of the formula



wherein R^1 through R^6 are alkyl of 1 to 4 carbon atoms, R^2 can also be hydrogen, and X is oxygen or sulfur are useful as textile treating agents. The compounds are prepared by reacting the corresponding 4-oxy-2-pyrimidinone with an aldehyde, e.g., isobutyraldehyde, in the presence of a strong acid.

3,538,095

BROMINE-CONTAINING PIGMENT DYES OF THE PERINONE SERIES

Otto Christmann and Herbert Naarmann, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

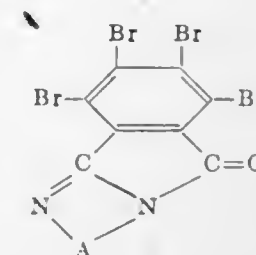
No Drawing. Filed Apr. 23, 1968, Ser. No. 723,563 Claims priority, application Germany, Apr. 25, 1967, 1,569,669

Int. Cl. C07d 51/48

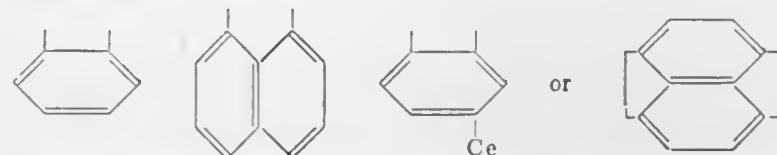
U.S. Cl. 260—251

2 Claims

Perinone dyes of the formula



wherein A represents a member from the group consisting of



are useful as flame retardant dyes in the mass coloration of styrene polymers.

3,538,096

PRODUCTION OF PROPYLENUREA ALDEHYDES

Harro Petersen, Frankenthal, Pfalz, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Sept. 7, 1967, Ser. No. 665,971 Claims priority, application Germany, Sept. 15, 1966, 1,670,157

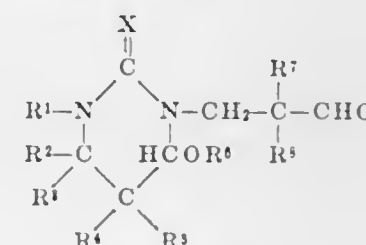
The portion of the term of the patent subsequent to Oct. 13, 1987, has been disclaimed

Int. Cl. C07d 51/18

U.S. Cl. 260—251

3 Claims

Compounds of the formula



wherein X is oxygen or sulfur, R^2 through R^8 are alkyl radicals, and R^2 through R^6 may also be hydrogen, R^1 is hydrogen, alkyl or alkylaldehyde are prepared by reacting the corresponding 3-methoxy derivative with an aldehyde, e.g., isobutyraldehyde, in the presence of a strong acid. The products are useful as textile treating agents.

3,538,097

SUBSTITUTED PIPERAZINO-BIS-BENZIMIDAZOLES HAVING ANTHELMINTIC AND BACTERIOSTATIC ACTIVITY

Heinz Loewe, Kelkheim, Taunus, Josef Urbanietz, Schwalbach, Taunus, and Georg Lämmler, Giessen, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

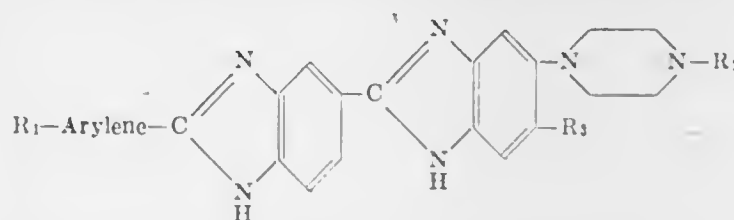
No Drawing. Filed Mar. 23, 1967, Ser. No. 625,329 Claims priority, application Germany, Apr. 1, 1966, F 48,833

Int. Cl. C07d 51/70

U.S. Cl. 260—268

8 Claims

Substituted piperazino-bis-benzimidazoles, having antihelmintic and bacteriostatic activity, of the formula



Methods for making these compounds.

3,538,098

PROCESS FOR THE PRODUCTION OF COUMARIN DERIVATIVES

Rudi Beyerle, Bruckhobel, Kreis Hanau, Adolf Stachel, Rolf-Eberhard Nitz, Klaus Resag, and Eckhard Schraven, Frankfurt am Main-Fechenheim, and Heinrich Ritter, Bornheim, Kreis Hanau, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany, a company of Germany

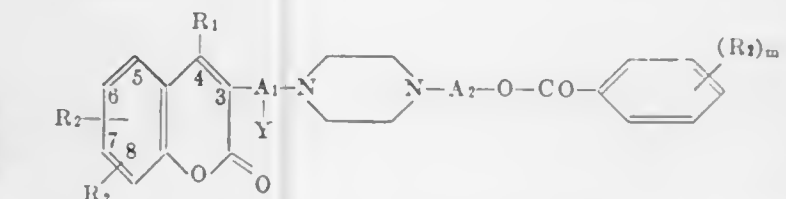
No Drawing. Filed Oct. 24, 1967, Ser. No. 677,724 Claims priority, application Germany, Nov. 12, 1966, C 40,572; Sept. 21, 1967, C 43,388; Sept. 26, 1967, C 43,426

Int. Cl. C07d 51/70

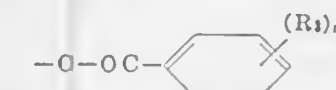
U.S. Cl. 260—268

9 Claims

This disclosure describes new and useful pharmaceutical products particularly useful as coronary dilators. They can be designated as coumarin derivatives having the formula



the radicals in each instance having the following significance: R_1 represents hydrogen, lower alkyl or phenyl, R_2 represents 6,7- or 7,8-positioned alkoxy, R_3 represents lower alkoxy having 1-4 carbon atoms, m represents the integer 1, 2 or 3, A_1 represents a straight or branched alkylene radical having 2-3 carbon atoms, A_2 represents straight or branched alkylene radicals having 2-4 carbon atoms hal represents a halogen atom, Y represents hydrogen, a hydroxyl group or the residue



and X represents hydrogen or a hydroxy group.

3,538,099

8-QUINOLYL- AND 8-QUINALDYL CARBAMATES

Otto Rohr, Neu-Allschwil, Hans-Rudolf Hitz, Muttens, and Ladislaus Pintér, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Continuation of application Ser. No. 550,170, May 16, 1966. This application Jan. 31, 1969, Ser. No. 798,251

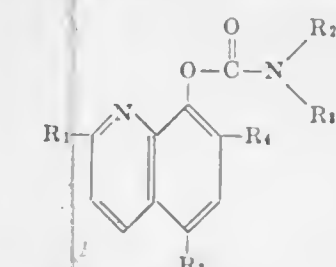
Claims priority, application Switzerland, May 17, 1965, 6,838/65

Int. Cl. C07d 33/50

U.S. Cl. 260—287

8 Claims

New pesticidal preparations are provided which contain as the active ingredient the compound of the formula



wherein R_1 represents hydrogen or methyl, R_2 represents hydrogen or lower alkyl containing 1 to 4 carbon atoms, R_3 represents lower alkyl containing 1 to 4 carbon atoms, chloroalkyl containing 1 to 4 carbon atoms or phenyl or phenyl substituted by $-\text{NO}_2$, halogen, $-\text{CF}_3$ or lower alkyl containing 1 to 4 carbon atoms, and R_4 and R_5 each represents hydrogen or halogen, or the salts of these compounds with acids. The new preparations contain one or more of the following additives: solvents, diluents, dispersants, wetting agents, adhesives and other pesticides.

The pesticidal preparations of this invention are espe-

cially effective against microorganisms, protozoa and harmful insects, acarides, nematodes, crabs and molluscs.

3,538,100

PROCESS FOR PREPARING HIGHLY CHLORINATED PYRIDINES

Eric Smith, Madison, Conn., assignor to Olin Corporation, a corporation of Virginia
No Drawing. Continuation-in-part of application Ser. No. 472,013, July 14, 1965. This application Mar. 15, 1968, Ser. No. 713,307

Int. Cl. C07d 31/26

U.S. Cl. 260—290 4 Claims
Pentachloropyridine and 2,3,5,6-tetrachloropyridine are provided by reacting 2,6-dichloropyridine in the liquid state with chlorine at a temperature of at least 180° C. in the presence of a catalytic amount of a metallic halide, iron or aluminum. These chlorinated pyridines are useful as herbicides and as chemical intermediates.

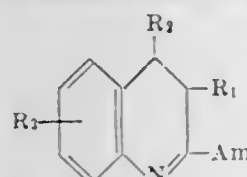
3,538,101

4-PHENOL DIHYDROQUINOLINES

Richard William James Carney, New Providence, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
Filed May 15, 1967, Ser. No. 638,593

Int. Cl. C07d 33/12

U.S. Cl. 260—289 2 Claims
2-amono-4-aryl-3,4-dihydroquinolines of the formula



Am=an amino or hydrazino group
R₁=H, aliphatic, araliphatic or aromatic radical
R₂=aromatic radical
R₃=H, alkyl, alkoxy, alkylmercapto, halogeno, CF₃, NO₂ or amino
acyl derivatives, quaternaries and salts thereof, such as the 2-dimethylamino-4-phenyl-6-chloro-3,4-dihydroquinoline, exhibit anti-inflammatory effects.

3,538,102

PROCESS FOR THE PREPARATION OF (-)-NORSCOPOLAMINE

Rolf Banholzer, Werner Schulz, and Karl Zeile, Ingelheim am Rhein, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany
No Drawing. Filed Mar. 10, 1969, Ser. No. 805,830
Claims priority, application Austria, Mar. 12, 1968, A 2,439/68

Int. Cl. C07d 43/06

U.S. Cl. 260—292 3 Claims
A process for the preparation of (-)-norscopolamine or a salt thereof from (-)-scopolamine or a salt thereof, which comprises demethylating (-)-scopolamine or a salt thereof in aqueous solution at a pH of 6 to 9 and a temperature of 0 to 60° C. with an alkali metal permanganate.

3,538,103

METHOD OF PRODUCING THE ALKALOID SECURININE

Vladimir Ilich Kogan and Valery Dmitrievich Gorbunov, Villar, Moskovskaya oblast, and Boleslav Kazimirovich Rostotsky, Moscow, U.S.S.R., assignors to Vsesojuzny nauchno-issledovatel'skiy institut lekarstvennykh rasteniy, Villar, Moskovskaya oblast, U.S.S.R.
No Drawing. Filed July 2, 1968, Ser. No. 741,889
Claims priority, application U.S.S.R., Aug. 29, 1967, 1,181,099

Int. Cl. C07d 99/04

U.S. Cl. 260—294.3 1 Claim
A method for extracting the alkaloid securinine from raw *Securingga suffruticosa* is presented.

3,538,104

PYRIDYL-2-IMIDAZOLONES

Norbert Gruenfeld, Bronx, and Enos C. Pesterfield, Jr., Briarcliff Manor, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed Feb. 28, 1969, Ser. No. 803,458
Int. Cl. C07d 31/44

U.S. Cl. 260—294.8 12 Claims
Substituted pyridyl-2-imidazolones and their acid addition salts which are analgesic, anti-inflammatory, and antipyretic agents. An illustrative embodiment is 1-methyl-5-(2-pyridyl)-2-imidazolone.

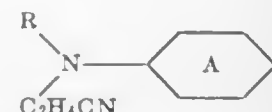
3,538,105

NOVEL TRIARYLMETHANE DYESTUFFS

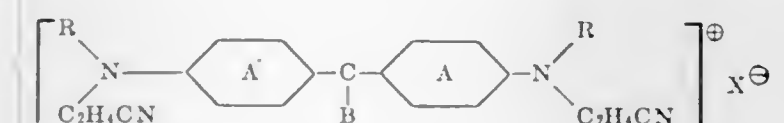
Wataru Yamaya and Sadao Fujino, Kitakyushu-shi, Japan, assignors to Mitsubishi Chemical Industries Limited, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Feb. 15, 1966, Ser. No. 527,497
Claims priority, application Japan, Feb. 26, 1965, 40/10,743

Int. Cl. C07d 31/46; C09f 11/14

U.S. Cl. 260—294.9 2 Claims
A compound having the formula



is reacted with a compound having the formula B—CHO to produce a leuco compound. The leuco compound is oxidized. The oxidation product is reacted with an acid to form a salt having the formula



wherein in the above formulas A is a benzene nucleus substituted by an alkyl group or an alkoxy group having 1-2 carbons; R is H lower alkyl or lower alkyl containing chloro, hydroxyl, methoxy or cyano substitution; B is benzene, substituted benzene, naphthalene or substituted naphthalene, and X⁻ is an anion.

3,538,106

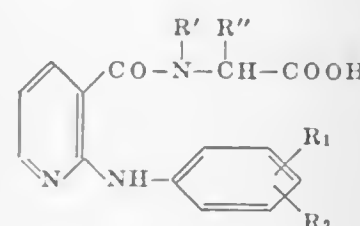
2-(TRIHALOGENOANILINO)-NICOTINURIC ACID, THE CORRESPONDING GLYCINATES AND DERIVATIVES THEREOF

Charles Hoffmann, Enghien-les-Bains, France, assignor to Societe Anonyme dite: Laboratoires U.P.S.A., Gennevilliers, Hauts-de-Seine, France, a company of France

No Drawing. Filed Jan. 10, 1969, Ser. No. 790,477
Claims priority, application Great Britain, Jan. 22, 1968, 3,273/68; July 10, 1968, 32,988/68

Int. Cl. C07d 31/36

U.S. Cl. 260—295.5 11 Claims
The invention provides the derivatives of nicotinuric acid of the formula:



and their pharmaceutically acceptable non-toxic salts, amides and esters, wherein R' represents a hydrogen atom or a lower alkyl radical, R'' a hydrogen atom, a lower alkyl radical or methylmercaptoethyl, and R₁ and R₂ may be identical or different and each represents a hydrogen or halogen atom or a lower alkyl, lower alkoxy or trihalogenomethyl radical, which are useful as anti-inflammation, antalgic and fibrinolytic agents.

3,538,107

ARYL-THIAZOLYL-ACETIC ACID DERIVATIVES

Walter Hepworth and Gilbert Joseph Stacey, Macclesfield, Cheshire, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Sept. 23, 1966, Ser. No. 581,452
Claims priority, application Great Britain, Oct. 7, 1965, 42,635/65; Apr. 21, 1966, 17,496/66; June 16, 1966, 26,862/66

Int. Cl. C07d 91/32

U.S. Cl. 260—302 4 Claims
Substituted α-(phenyl-thiazolyl) acetic acid derivatives and α-(chlorobenzyl-thiazolyl) acetic acid derivatives, processes for preparing these compounds, and pharmaceutical compositions containing the same. The compounds exhibit anti-inflammatory, analgesic and anti-pyretic activity, and they reduce the concentration of fibrinogen, cholesterol and/or triglycerides in blood.

3,538,108

WATER-SOLUBLE 2-SUBSTITUTED BENZ-IMIDAZOLE METHANESULFONIC ACID SALTS

Seemon H. Pines, Murray Hill, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 17, 1967, Ser. No. 661,223
Int. Cl. C07d 91/32

U.S. Cl. 260—302 3 Claims
Water-soluble, non-toxic methanesulfonic acid salts of 2-substituted benzimidazoles are prepared by reacting approximately equimolar amounts of the benzimidazole and methane sulfonic acid. It is contemplated that dosage units containing these benzimidazole methanesulfonate as the essential active ingredients will be administered in the treatment and control of helminthiasis.

3,538,109

2-BENZOTHAZOLINETHIONES

Adel F. Halasa, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of applications Ser. No. 473,498, and Ser. No. 473,501, July 20, 1965. This application July 25, 1967, Ser. No. 655,761

Int. Cl. C07d 91/18

U.S. Cl. 260—306.7 4 Claims
3-substituted 2-benzothiazolinethiones are made by reacting benzothiazoline-2-thione with a member of the class consisting of acrylic acid and derivatives thereof and certain olefins, ketones and nitroolefins.

3,538,110

PRODUCTION OF 4-METHYLOXAZOLE-5-CARBOXYLIC ESTERS

Werner Reif and Horst Koenig, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Oct. 24, 1967, Ser. No. 677,779
Claims priority, application Germany, Nov. 12, 1966, 1,670,165

Int. Cl. C07d 85/44

U.S. Cl. 260—307 4 Claims
Production of 4-methyloxazole-5-carboxylic esters by reacting α-chloroacetoacetic esters with formamide. The

products are intermediates, for example for the production of vitamin B₆.

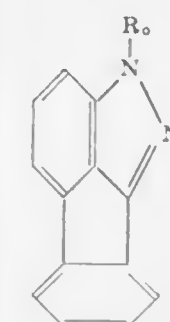
3,538,111

1-HYDROXYPROPYL H-INDENO [1,2,3-cd]INDAZOLE

Rene DeRidder, Brussels, Belgium, assignor to Manufacture de Produits Pharmaceutiques, A. Christiaens, S.A. Brussels, Belgium

No Drawing. Filed July 15, 1968, Ser. No. 744,685
Int. Cl. C07d 49/18

U.S. Cl. 260—310 2 Claims
Derivatives of 1H-indeno (1,2,3-cd) indazole, namely compounds of the formula



wherein R₀ is a mono- or di-hydroxyloweralkyl group are useful as anti-convulsants and anti-tussives.

3,538,112

TETRAHYDROCARBAZOLYL-LOWER-ALKYL-AMIDOXIMES AND -AMIDINES

Malcolm R. Bell, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 631,916, Apr. 19, 1967. This application Oct. 14, 1968, Ser. No. 767,465

Int. Cl. A61k 27/00; C07d 27/68

U.S. Cl. 260—315 8 Claims
New tetrahydrocarbazolyl-lower-alkylamidoximes and -amidines having useful hypotensive and monoamine oxidase inhibitory activities.

3,538,113

N-SUBSTITUTED PHTHALIMIDINES

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware

No Drawing. Filed Dec. 23, 1966, Ser. No. 604,173
Int. Cl. C07d 27/50

U.S. Cl. 260—325 6 Claims
There are prepared N-(β-aminoethyl)-phthalimidines, such as 2-(β-aminoethyl)-3-(p-chlorophenyl)phthalimidine, by reducing imidazo[2,1-a]isoindol-5-ones. The phthalimidines are useful as psychic energizers.

3,538,114

N-(SUBSTITUTED-PHENYL)-SUCCINIMIDES

Walter Himmele, Walldorf, and Adolf Fischer, Mutterstadt, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 2, 1967, Ser. No. 657,798
Claims priority, application Germany, Aug. 12, 1966, 1,542,835; June 21, 1967, 1,670,239

Int. Cl. C07d 27/10

U.S. Cl. 260—326.5 3 Claims
Substituted succinimides, in particular substituted phenyl succinimides, and a method of controlling unwanted plants with said succinimides.

3,538,115

EPOXIDIZED ACETALS Δ^3 -TETRAHYDROBENZ-ALDEHYDE AND POLYALCOHOLS

Hans Batzer, Arlesheim, Erwin Nikles, Basel, Otto Ernst, Pfeffingen, and Daniel Porret, Monthey, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a firm of Switzerland

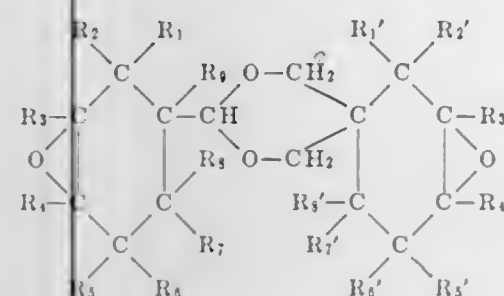
No Drawing. Filed July 21, 1959, Ser. No. 828,472
Claims priority, application Switzerland, July 23, 1958, 62,103/58; Oct. 20, 1958, 65,216/58

Int. Cl. C07d 15/04

U.S. Cl. 260—340.7

Diepoxides of the formula

6 Claims



wherein $R_1, R_1', R_2, R_2', R_3, R_3', R_4, R_4', R_5, R_5', R_6, R_6', R_7, R_7', R_8, R_8'$ and R_9 represent when taken individually, monovalent substituents, such as halogen atoms or aliphatic, cycloaliphatic, araliphatic or aromatic hydrocarbon radicals (and preferably lower alkyl radicals having 1 to 4 carbon atoms) or represent hydrogen atoms, or R_1 and R_5 taken together or R_1' and R_5' taken together, represent a divalent substituent, such as a methylene group. The diepoxides of this formula, as well as other diepoxides disclosed in the application, are useful for making epoxy resins.

3,538,116

PREPARATION OF ACETONE GLUCOSE

James P. Hicks, Galesburg, Robert E. Gramera, Golfview Hills, Hinsdale, and Hyman M. Molotsky, Chicago, Ill., assignors to CPC International Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 13, 1967, Ser. No. 615,307

Int. Cl. C07d 13/00

U.S. Cl. 260—340.9

8 Claims

Covers a method of preparing diacetone glucose. Particularly covers a process of making diacetone glucose under carefully controlled conditions via an acid-catalyzed reaction. Also covers a procedure for making monoacetone glucose from diacetone glucose through ion exchange techniques. In addition, cover a continuous method of synthesizing diacetone glucose, as well is concerned with synthesizing monoacetone glucose from glucose by proceeding through the intermediate diacetone glucose without isolation of the diacetone derivative.

3,538,117

2,3,4,4-TETRAHALOBICYCLO[3,2,1]OCTA-2,6-DIENES; 2,3,4,5-TETRAHALOBICYCLO[3,2,2]NONA-2,6-DIENES AND 2,3,4,4-TETRAHALO-8-OXABICYCLO[3,2,1]OCTA-2,6-DIENES AND PROCESS FOR MAKING SAME

Stephen W. Tobey, Sudbury, Mass., and David C. F. Law, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 7, 1968, Ser. No. 711,189

Int. Cl. C07d 7/10

U.S. Cl. 260—345.1

9 Claims

New 2,3,4,4-tetrahalobicyclo[3,2,1]octa-2,6-dienes; 2,3,4,4-tetrahalobicyclo[3,2,2]nona-2,6-dienes and 2,3,4,4-tetrahalo-8-oxabicyclo[3,2,1]octa-2,6-dienes, useful as bactericides and fungicides, and a new method for producing them which comprises reacting a tetrahalocyclopropane with either cyclopentadiene, cyclohexadiene or furan at a temperature of from 0° to 110° C. to obtain the

2,3,4,4-tetrahalobicyclo[3,2,1]octa-2,6-dienes; 2,3,4,4-tetrahalobicyclo[3,2,2]nona-2,6-dienes or the 2,3,4,4-tetrahalo-8-oxabicyclo[3,2,1]octa-2,6-dienes, respectively.

3,538,118

AMIDOMETHANODIOXOCINS

Chun-Shan Wang, Midland, and Henry E. Hennis, Coleman, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

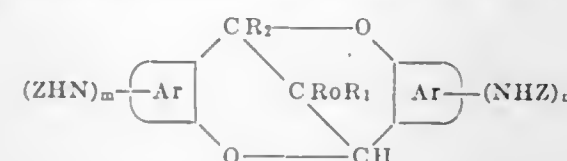
No Drawing. Filed Mar. 25, 1968, Ser. No. 715,489

Int. Cl. C07d 7/10

U.S. Cl. 260—345.2

12 Claims

Amidomethanodioxocins having the formula



where Ar is a homocyclic or heterocyclic substituted or unsubstituted aromatic ring; m and n independently are integers of from 0 to 2 inclusive; R_0 is H; R_1 is H, aryl or alkyl; R_0 and R_1 may together with the C to which they are attached form the cyclohexane ring; R_2 is H, aryl or alkyl and Z is acyl, are produced from their corresponding aminodioxocins by a process comprising contacting said aminodioxocins with an acid chloride, anhydride, or ester. These compounds have biological activity and are also useful in resin production.

3,538,119

CATALYTIC PROCESS FOR CONVERTING TOCOPHEROL TO TOCOPHERYL MONO SUCCINATE

Peter M. Grant, Penfield, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 26, 1967, Ser. No. 693,080

Int. Cl. C07d 7/22

U.S. Cl. 260—345.5

10 Claims

A process for producing tocopheryl mono succinate which comprises reacting tocopherol with succinic anhydride in the presence of an alkaline catalyst which is a salt of a weak acid and a strong base. Specific catalysts are sodium acetate, potassium acetate, potassium carbonate, sodium carbonate, calcium acetate, sodium bicarbonate, potassium succinate, and sodium succinate. The reaction temperature can be between 80° and 180° C. for a time between five minutes and four hours, and the catalyst can be present in an amount between .1 and 5% by weight based on the tocopherol-containing composition.

3,538,120

CYCLOPENTYL-ALKANOIC ACIDS

Neville Finch, Irvington, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

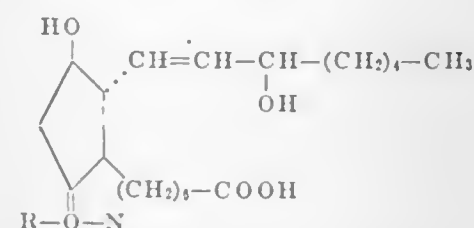
No Drawing. Filed May 22, 1967, Ser. No. 640,374

Int. Cl. C07d 7/04; C07c 61/32, 69/74

U.S. Cl. 260—345.8

6 Claims

The hydrolysis of oximes having the formula



$R=H$, alkyl, alkenyl, cycloalkyl, haloalkyl or aralkyl, the esters and/or salts thereof, yields the corresponding hypotensive ketone.

3,538,121

ISOCYANATES

Edward George Gazzard and James Nairn Greenshields, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 7, 1967, Ser. No. 651,661
Claims priority, application Great Britain, July 8, 1966, 30,818/66

Int. Cl. C07d 7/10

U.S. Cl. 260—345.8

4 Claims

Preparation of 2-isocyanatomethyl-3,4-dihydro-2H-pyran and 2,5-alkyl homologues by reaction of corresponding amine with phosgene and removal of hydrogen chloride with an acid acceptor.

Adducts of said isocyanates, polymers thereof and polymers containing regenerated isocyanate groups. Dimers and trimers of said isocyanates and products of addition of cyanic acid to said isocyanates.

3,538,122

CATALYTIC PRODUCTION OF MALEIC ANHYDRIDE

Wilhelm Friedrichsen and Hans Joachim Stephan, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Original application Feb. 24, 1966, Ser. No. 529,627. Divided and this application Mar. 12, 1969, Ser. No. 806,726

Claims priority, application Germany, Mar. 5, 1965, 1,292,649

Int. Cl. C07c 57/14

U.S. Cl. 260—346.8

6 Claims

Production of maleic anhydride by catalytic oxidation of benzene or olefinically unsaturated linear C_4 -hydrocarbons, the invention being directed to a specific catalyst containing 2–20% by weight of vanadium pentoxide, 1 to 20% by weight of tungsten trioxide, 1 to 25% by weight of phosphorous pentoxide and 50 to 95% by weight of titanium dioxide.

3,538,123

N,N-BIS(2-ETHOXYETHYL)EPOXYSTEARAMIDE AS A PRIMARY PLASTICIZER FOR VINYL-TYPE RESINS

Robert R. Mod, Frank C. Magne, and Evald L. Skau, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Dec. 16, 1966, Ser. No. 632,464. Divided and this application Apr. 10, 1969, Ser. No. 837,974

Int. Cl. C07d 1/20

U.S. Cl. 260—348

1 Claim

N,N-bis(2-ethoxyethyl)epoxystearamide, useful as a primary plasticizer for hydrophobic and hydrophilic resins, is provided. More specifically, it is a primary plasticizer for vinyl-type resins and is characterized by its great efficiency as a compatible plasticizer for polyvinyl chloride polymers and copolymers imparting low temperature properties and low volatility loss to the plasticized resin.

3,538,124

METHOD FOR THE PRODUCTION OF 3,4-EPOXY-2-METHYL-1-BUTENE

Ming Nan Sheng, Cherry Hill, N.J., and John G. Zajacek, Strafford, Pa., assignors to Atlantic Richfield Company, New York, N.Y., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 695,540, Dec. 6, 1967. This application May 23, 1969, Ser. No. 827,433

Int. Cl. C07d 1/12, 1/08

U.S. Cl. 260—348.5

4 Claims

Method for producing 3,4-epoxy-2-methyl-1-butene by epoxidizing isoprene utilizing an organic hydroperoxide and a molybdenum catalyst to produce a reaction product

containing the 3,4-epoxy-2-methyl-1-butene and the 3,4-epoxy-3-methyl-1-butene, extracting the reaction product with water, leaving an organic layer containing the desired 3,4-epoxy-2-methyl-1-butene compound.

3,538,125

PHOTOSENSITIZER

Walter H. Kornfeld, Scottsdale, Ariz., and Riley M. Sinder, Venice, Calif., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

No Drawing. Filed Nov. 13, 1967, Ser. No. 682,504

Int. Cl. C07d 109/00

U.S. Cl. 260—349

2 Claims

A new sensitizer for use in the preparation of light-sensitive compositions, including particularly photosensitized natural and synthetic resin compositions, useful in photographic, photolithographic, and photoresist processes. The compound 4,4'-diazidobenzophenone-p-carboxyphenylhydrazine is particularly suited as a sensitizer in the preparation of photoresist compositions for the fabrication of microminiaturized semiconductor devices and integrated circuits. The compound is prepared from 4,4'-diazidobenzophenone by condensation with p-carboxyphenylhydrazine.

3,538,126

ANTHRONE OXIME COMPOUNDS

Winthrop E. Lange, Needham, Mass., and Ernest J. Sasnor, Yonkers, and Alfred Halpern, Great Neck, N.Y., assignors, by mesne assignments, to Synergistics, a partnership consisting of Mortimer D. Sackler and Raymond D. Sackler, Yonkers, N.Y.

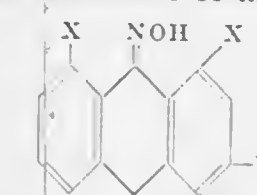
No Drawing. Filed July 3, 1968, Ser. No. 742,125

Int. Cl. C07c 131/00; C07f 3/06, 15/02

U.S. Cl. 260—351

17 Claims

Anthrone oxime derivatives of the general formula



wherein X is a hydrogen or a hydroxyl group and Y is either a hydrogen atom, a methyl group, a hydroxymethyl group or a carboxyl group, together with the metal salts of the respective carboxy compound. The method for the preparation of the aforesaid compounds and pharmaceutical compositions useful as peristaltic stimulants and methods for achieving a laxative effect are also described.

3,538,127

ANTHRAQUINONE DYES

Hans Rudolf Schwander, Riehen, Anton Zenhausern, Reinach, Basel-Land, and Peter Hindermann, Bottmingen, Basel-Land, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 645,514, June 12, 1967, now Patent No. 3,499,915, which is a continuation-in-part of application Ser. No. 514,692, Dec. 17, 1965, now Patent No. 3,431,285. This application Mar. 28, 1968, Ser. No. 716,978

Int. Cl. C09b 1/40

U.S. Cl. 260—372

6 Claims

1,4-diamino-anthraquinone dyes which are substituted at the amino nitrogen in 1-position by a secondary alkyl or by a cycloalkyl group, and which are substituted at the amino nitrogen in 4-position by a diaralkyl substituent the aryl moiety of which is substituted by $-SO_2H$ and a fiber-reactive grouping especially of the $-CCl=CH_2$ or $-CH_2Cl$ type, which fiber-reactive grouping is linked to the said aryl moiety via a $-CO-NH-CH_2-$ type (Einhorn) bridge; these dyestuffs being useful as substantive, and as far as they possess fiber-reactive groupings, as reactive polyamide dyes.

3,538,128

ANTHRAQUINONE DYES

Hans Rudolf Schwander, Riehen, Anton Zenhausern, Reinach, Basel-Land, and Peter Hindermann, Bottmingen, Basel-Land, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 645,514, June 12, 1967, now Patent No. 3,499,915, which is a continuation-in-part of application Ser. No. 514,692, Dec. 17, 1965, now Patent No. 3,431,285. This application Mar. 28, 1968, Ser. No. 716,996. Claims priority, application Switzerland, Dec. 22, 1964, 16,533/64; Dec. 23, 1964, 16,633/64

Int. Cl. C09b 1/40

U.S. Cl. 260—372 8 Claims
1,4-diamino-anthraquinone dyes which are substituted at the amino nitrogen in 1-position by a secondary alkyl or by a cycloalkyl group, and which are substituted at the amino nitrogen in 4-position by a mono-aryl substituent the aryl moiety of which is substituted by —SO₂H and a fiber-reactive grouping especially of the —CCl=CH₂ or —CH₂Cl type, which fiber-reactive grouping is linked to the said aryl moiety via a



type (Einhorn) bridge; these dyestuffs being useful as substantive, and as far as they possess fiber-reactive groupings, as reactive polyamide dyes.

3,538,129

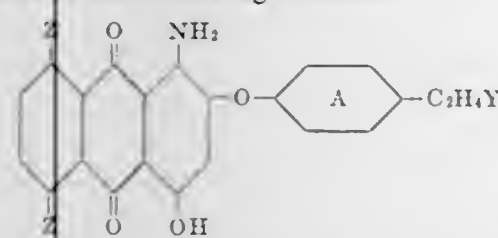
NEW DISPERSE ANTHRAQUINONE DYESTUFFS
Yosuke Sato and Noboru Kishi, Kitakyushu-shi, Japan, assignors to Mitsubishi Chemical Industries Limited, a corporation of Japan

No Drawing. Continuation-in-part of application Ser. No. 542,447, Apr. 14, 1966. This application Dec. 4, 1968, Ser. No. 781,249

Claims priority, application Japan, Apr. 17, 1965, 40/22,406

Int. Cl. C09b 1/54

U.S. Cl. 260—376 8 Claims
Dyestuffs of the following formula:



wherein A denotes a benzene nucleus which may have a substituent selected from the class consisting of chlorine atom and methyl group; Y denotes a cyano group of a group as indicated by the general formula —COR₁— in which R₁ is a hydroxy group, amino group, lower alkoxy group having one to four carbon atoms, or cyclohexyloxy group; at least one of the Z's being hydrogen and the other hydrogen or halogen, when both Z's are hydrogen, Y is a group other than cyano group. Such dyestuffs are particularly suited for dyeing polyester fibrous materials.

3,538,130

SUBSTITUTED METHYLENE STEROIDS AND THEIR PREPARATION

Colin Leslie Hewett, Gilbert Frederick Woods, and Robert Thomas Logan, Glasgow, Scotland, assignors to Organon Inc., West Orange, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 20, 1968, Ser. No. 753,887. Claims priority, application Great Britain, Aug. 25, 1967, 39,169/67; Sept. 1, 1967, 40,116/67

Int. Cl. C07c 169/30

U.S. Cl. 260—397.45 2 Claims
The present invention relates to novel 16,17-(substituted methylene)-11,20-oxygenated steroids of the pregnane series exerting strong glucocorticoid, anti-inflammatory, progestational, anti-uterotrophic, ovulation-inhibiting

and pregnancy-maintaining properties, and to a process for the preparation thereof.

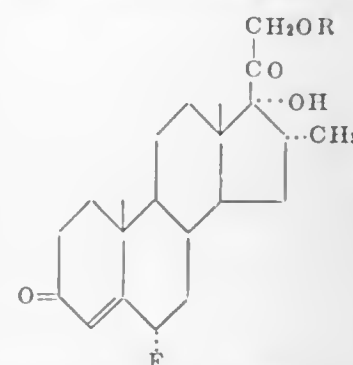
3,538,131

16α-METHYL-6α-FLUORO DERIVATIVES OF REICHSTEIN SUBSTANCE S

Howard J. Ringold, Carl Djerassi, and John Edwards, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama. No Drawing. Filed Jan. 27, 1959, Ser. No. 789,242. Claims priority, application Mexico, July 9, 1958, 51,522; Sept. 6, 1958, 52,051; Sept. 24, 1958, 52,202; Dec. 11, 1958, 53,047

Int. Cl. C07c 169/32

U.S. Cl. 260—397.47 8 Claims
1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms.

3,538,132

PRODUCTION OF SULFONIUM SALTS OF CARBOXYLIC ACIDS OR SULFONIC ACIDS

Harry Distler, Ludwigshafen (Rhine), Germany, assignor to Badisch Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 7, 1967, Ser. No. 688,696. Claims priority, application Germany, Dec. 13, 1966, 1,267,216; Apr. 28, 1967, 1,618,147

Int. Cl. C08h 9/02

U.S. Cl. 260—399 11 Claims
Production of sulfonium salts of carboxylic acids or sulfonic acids by reaction of thioethers having aliphatic, cycloaliphatic, araliphatic or aromatic radicals having up to twenty carbon atoms with alkylene oxides having two to four carbon atoms and carboxylic acids having one to twenty carbon atoms or organic sulfonic acids having an aliphatic, cycloaliphatic, araliphatic or aromatic radical having up to twenty carbon atoms, in about equivalent amounts, the reaction being carried out at temperatures of from 20° to 80° C. without using water. Sulfonium salts of carboxylic acids or sulfonic acids may be used as bactericides or textile assistants.

3,538,133

MOLECULAR COMPLEXES OF RUTHENIUM WITH HYDROGEN AND NITROGEN

Walter H. Knoth, Jr., Mendenhall, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 25, 1968, Ser. No. 762,640

Int. Cl. C07j 15/00; C07c 121/30

U.S. Cl. 260—429 9 Claims
Tris(triarylphosphine)ruthenium halohydride or dihalide complexes in which the aryl group is free of ortho-substituents can be reacted with an alkali metal borohydride to give complexes of the formula [Ar₃P]₃RuH₄. The hydride reacts reversibly with nitrogen to give compounds having the formula [Ar₃P]₃Ru(H₂)(N₂) which are useful as catalysts for the dimerization of acrylonitrile. The ruthenium-nitrogen complex can also be made by reduction with an aluminum trialkyl and reaction of the intermediate with nitrogen.

3,538,134

PRODUCTION OF CUPROUS CHLORIDE-ACETYLENE REACTION PRODUCT

Robert J. Tedeschi, Whitehouse Station, and George L. Moore, South Plainfield, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 19, 1967, Ser. No. 691,690

Int. Cl. C07f 1/08

U.S. Cl. 260—438.1 1 Claim
A complex of cuprous chloride and acetylene is prepared by reacting cuprous chloride with liquefied acetylene.

3,538,135

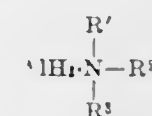
PROCESS FOR PREPARING STABILIZED FORMS OF TRIALKYNYL ALUMINUMS

Archie R. Young II, Montclair, and Robert Ehrlich, Morristown, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed June 15, 1964, Ser. No. 375,978

Int. Cl. C07f 5/06

U.S. Cl. 260—448 18 Claims
1. A process for preparing trialkynyl alane adducts, comprising contacting a trialkylamine alane reactant of the formula:



wherein R', R² and R³ are alkyl radicals, with an acetylenic reactant of the formula:



wherein R is an alkyl radical, until the evolution of hydrogen substantially ceases, and isolating the trialkynyl alane adducts contained therein.

3,538,136

INORGANIC ALUMINUM-OXYGEN-PHOSPHORUS BOND POLYMERS

Donald L. Schmidt and Edward E. Flagg, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 2, 1967, Ser. No. 613,413

Int. Cl. C07f 5/06

U.S. Cl. 260—448 12 Claims
This invention is concerned with novel inorganic polymers based on aluminum, oxygen and phosphorus wherein there is aluminum-oxygen-phosphorus bonding. The polymers are prepared by reacting an aluminum source material, e.g., an aluminum hydride or aluminum alkyl or corresponding partially halogen substituted aluminum alkyl reactant, with a phosphonic and/or phosphinic acid. The polymers are particularly suitable for use as surface coatings, heat shields, etc., in applications requiring heat stability at elevated temperatures in that these do not decompose or detrimentally degrade even at high temperatures.

3,538,137

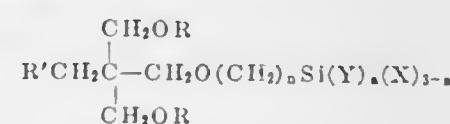
HYDROLYZABLE ORGANOSILANES DERIVED FROM SILICON HYDROGEN COMPOUNDS AND TRIMETHYLOL ALKANE DERIVATIVES

Richard V. Viventi, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Oct. 30, 1967, Ser. No. 679,155

Int. Cl. C07f 7/04, 7/18

U.S. Cl. 260—446.2 4 Claims
This invention relates to organosilicon compounds having the formula:



which are prepared by reacting a hydrolyzable silane containing a silicon hydrogen bond with an alkenyloxy derivative of a trimethylol alkane, where X is a hydrolyzable group, R is a member selected from the class consisting of hydrogen, alkenyl radicals of 2 to 4 carbon atoms, and trialkylsilyl radicals, R' is a member selected from the class consisting of hydrogen or methyl, Y is a monovalent hydrocarbon radical, a is a whole number equal to from 0 to 2, and n is a whole number from 2 to 4. These compositions are useful as glass fiber sizing agents.

3,538,138

SUBSTITUTED OXYETHYL THIOSULFONATES

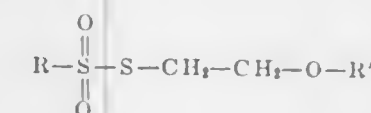
Joseph E. Dunbar, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 12, 1967, Ser. No. 674,770

The portion of the term of the patent subsequent to Aug. 22, 1984, has been disclaimed

Int. Cl. C07c 143/68

U.S. Cl. 260—453 5 Claims
Substituted oxyethyl thiosulfonates corresponding to the formula



in which R represents lower alkyl, naphthyl, substituted naphthyl, phenyl and substituted phenyl and R' represents lower alkyl, phenyl and substituted phenyl. The compounds are useful as antimicrobials and parasitocides.

3,538,139

IMIDO ESTER HYDROCHLORIDE AND AMIDINE HYDROCHLORIDE SYNTHESIS

Hugh J. Hagemeyer, Jr., and William J. Gammans, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 24, 1968, Ser. No. 747,345

Int. Cl. C07c 119/18, 119/19

U.S. Cl. 260—453 10 Claims
Process for preparing imido ester hydrochlorides and amidine hydrochlorides by contacting a nitrile, a lower alcohol and hydrogen chloride in the presence of particular solvents to form an imido ester hydrochloride solution and subsequently contacting the imido ester hydrochloride solution with ammonia to obtain the corresponding amidine hydrochloride. Imido ester hydrochlorides are well-known and valuable compounds, for example, as chemical intermediates for valuable chemical compounds such as amidine hydrochlorides. Amidine hydrochlorides are useful, for example, as intermediates in the production of coccidiostats.

3,538,140

PREPARATION OF NITRILES

Heinrich Goldschmid, Brig, and Theodor Pfammatter, Visp, Switzerland, assignors to Lonza Ltd., Gampel, Valais, Switzerland

No Drawing. Filed Mar. 18, 1968, Ser. No. 714,083

Claims priority, application Switzerland, Mar. 21, 1967, 4,015/67

Int. Cl. C07c 121/12, 121/22, 121/52

U.S. Cl. 260—465 6 Claims
Nitriles are prepared by reacting, in the absence of any solvent, an amide with a phosphoric dehydrating agent in the presence of an alkali metal salt and a catalytic amount of an organic nitrogen base.

tives for lube oils. The compounds are produced by the amidation of a primary or secondary aromatic amine with a 2,3-dihaloacryloyl halide.

3,538,154

PREPARATION OF [4-(2,2-DIACYLVINYL)PHENOXY]-ACETIC ACIDS

Edward J. Cragoe, Jr., and John B. Bicking, Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 1, 1967, Ser. No. 619,563

Int. Cl. C07c 65/20

U.S. Cl. 260—521

10 Claims

This invention relates to a method for the preparation of [4-(2,2-diacylvinyl)phenoxy]acetic acid products via the pyrolysis of the tertiary-butyl ester derivatives thereof in the presence of an acid. The products thus obtained are diuretic and saluretic agents which can be used in the treatment of conditions associated with electrolyte and fluid retention.

3,538,155

CYCLIC BORAPHOSPHONITRILE COMPOUNDS AND METHODS

Charles D. Schmulbach, Murphysboro, Ill., assignor, by mesne assignments, to Research Corporation, New York, N.Y., a non-profit corporation of New York

No Drawing. Filed Feb. 6, 1967, Ser. No. 613,987

Int. Cl. C07f 9/22; A01n 9/36

U.S. Cl. 260—543

14 Claims

Fungicidal cyclic boraphosphonitrile compounds and intermediate cyclic boraphosphonitrile halide salts and double salts are prepared by the reaction of a di- or trihalo boron compound with a quasiphosphonium halide.

3,538,156

CINNAMAMIDES

Herbert Schwartz, 127 N. State St., Vineland, N.J. 08360, and Joseph B. Skaptason, 12700 Prospect Ave., Kansas City, Mo. 64146

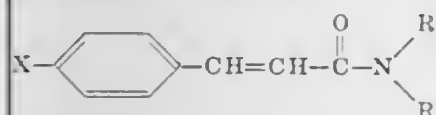
No Drawing. Filed July 24, 1967, Ser. No. 655,330

Int. Cl. C07c 103/30

U.S. Cl. 260—558

5 Claims

Novel cinnamamides of the formula



wherein R is selected from the group consisting of propyl and butyl and X is a halogen and their herbicidal use.

3,538,157

PROCESS FOR HYDROLYZING FLUORODIAZADIENES AND PRODUCTS THEREFROM

Paul H. Ogden, Oakdale Township, Washington County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Apr. 3, 1967, Ser. No. 627,609

Int. Cl. C07c 103/32

U.S. Cl. 260—561

10 Claims

This invention relates to a novel process for hydrolyzing fluorodiazadienes and to the novel perfluoroamide moiety-containing products produced therefrom.

3,538,158

β -CARBAMYL- β -HYDROXYETHYLAMINES

Bruno Sander and Friedrich Fuchs, Ludwigshafen (Rhine), Friedrich Becke, Heidelberg, and Reinhold Kohlaupt, Frankenthal, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Oct. 30, 1967, Ser. No. 679,247

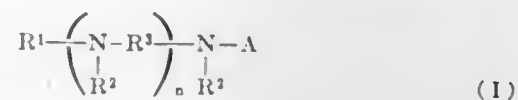
Claims priority, application Germany, Nov. 4, 1966, 1,543,378

Int. Cl. C07c 103/10

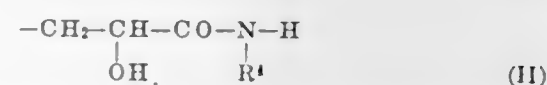
U.S. Cl. 260—561

5 Claims

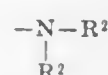
New β -carbamyl - β - hydroxyethylamines having the formula:



where A denotes the β -carbamyl- β -hydroxyethyl radical



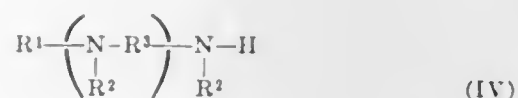
where R⁴ denotes hydrogen, or methylol or alkoxyethyl having up to six carbon atoms, R¹ (when n=zero) denotes hydrogen or hydroxyl or alkylol or



or R², or for any value of n above zero R¹ denotes R² which denotes A, hydrogen, or alkyl, alkylol or alkoxy-methyl having up to six carbon atoms, R³ denotes alkylene having two to twelve carbon atoms and n denotes zero or another integer, the molecule (I) containing at least two radicals A. The compounds (I) are prepared by reaction of a glycidic amide



with an amine



in which at least one of the radicals R¹ or R² denotes hydrogen. The new β -carbamyl- β -hydroxyethylamines (I) are strong complex-forming substances for heavy metal ions, particularly iron ions.

3,538,159

PROCESS FOR PREPARING DI-N-METHYLAMIDES FROM DIMETHYLAMINES

Louis Lloyd Duffy, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 12, 1968, Ser. No. 704,523

Claims priority, application Great Britain, Feb. 21, 1967, 8,262/67

Int. Cl. C07c 103/34

U.S. Cl. 260—561

10 Claims

A process in which di-N-methylamides are produced by reacting dimethylamine with an ester of formula RCOOR' in which R and R' are alkyl groups in a medium which comprises as a catalyst a strongly alkaline compound of an alkali metal and distilling the product to recover the di-N-methylamide in the presence of the hydroxide of the alkali metal.

3,538,160

PENTACYCLOOCTANEAMINES

George L. Dunn, Wayne, and John R. E. Heover, Glenside, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Application Jan. 6, 1966, Ser. No. 519,021, now Patent No. 3,418,368, dated Dec. 24, 1968, which is a continuation-in-part of application Ser. No. 424,775, Mar. 24, 1965. Divided and this application July 24, 1968, Ser. No. 747,127

Int. Cl. A61k 27/00; C07c 87/40

U.S. Cl. 260—563

4 Claims

Pentacyclo[4.2.0.0^{2,5}.0^{3,8}.0^{4,7}]octanes, pentacyclo[5.2.0.0^{2,5}.0^{3,8}.0^{4,7}]nonanes and pentacyclo[6.2.0.0^{2,5}.0^{3,8}.0^{4,7}]decans, substituted with an amino or amino group, are prepared from known simpler substances. The products are antiviral agents.

3,538,161

REDUCTIVE ALKYLATION OF AROMATIC AMINO COMPOUNDS UTILIZING PLATINUM METAL SELENIDES AND TELLURIDES AS CATALYSTS

Frederick S. Dovell, Naugatuck, Conn., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 20, 1967, Ser. No. 676,691

Int. Cl. C07c 85/08, 85/12

U.S. Cl. 260—576

4 Claims

Organic compounds having a nitro group are hydrogenated, those having nitro groups and amino groups are reductively alkylated, and organic disulfides are hydrogenolyzed in the presence of catalytic amounts of a platinum metal selenide or a platinum metal telluride.

3,538,162

REDUCTIVE ALKYLATION OF AROMATIC AMINO AND NITRO COMPOUNDS UTILIZING BASE METAL SELENIDES AND TELLURIDES AS CATALYSTS

Frederick S. Dovell, Naugatuck, Conn., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 20, 1967, Ser. No. 676,690

Int. Cl. C07c 85/08, 85/12

U.S. Cl. 260—576

6 Claims

Aromatic compounds having an amino or a nitro group are reductively alkylated with a ketone in the presence of a selenide or telluride of cobalt, nickel, molybdenum, or rhenium catalyst.

3,538,163

PREPARATION OF PRIMARY AMINES BY HYDROGENATION OF MONOCARBOXYLIC ACIDS IN THE PRESENCE OF AMMONIA

Horst Rutzen, Dusseldorf-Holthausen, and Hartwig Schutt, Dusseldorf-Benrath, Germany, assignors to Henkel & Cie GmbH, Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed Oct. 31, 1967, Ser. No. 679,520

Claims priority, application Germany, Dec. 7, 1966, H 61,208

Int. Cl. C07c 85/00, 85/02, 85/17

U.S. Cl. 260—583

5 Claims

A continuous process for the preparation of primary amines by hydrogenation of monocarboxylic acids in the presence of ammonia.

3,538,164

SYNTHESIS OF DIHYDROCARVONE

John C. Leffingwell, Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey

No Drawing. Filed Feb. 8, 1968, Ser. No. 703,873

Int. Cl. C07c 49/30

U.S. Cl. 260—587

2 Claims

Dihydrocarvone is obtained from limonene-1,2-epoxide

by treatment thereof with small amounts of perchloric acid.

3,538,165

CONTINUOUS OXIDATION OF AROMATIC COMPOUNDS

Samuel J. Kahn, Rutherford, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 1, 1968, Ser. No. 741,316

Int. Cl. C07c 47/54

U.S. Cl. 260—599

12 Claims

A continuous process for the oxidation of an aromatic compound with oxygen in a reaction zone in contact with a steam purge to continuously remove reaction products from said zone. Water is separated from the reaction products and preferably is reused as a source of steam for the purging. Additional aromatic compound to be oxidized is introduced continuously to the reaction zone.

3,538,166

HALOGENATED POLYPHENYL THIOETHERS AND METHOD FOR PREPARATION

John Robert Campbell, Tarkio, and Frank S. Clark, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 7, 1965, Ser. No. 512,206

Int. Cl. C07c 149/30, 149/34; C10m 3/32

U.S. Cl. 260—609

20 Claims

A process for the production of thioethers by reacting an alkali metal sulfide with a halogen substituted aromatic or heterocyclic compound in an amide solvent and to novel polyphenyl thioethers produced thereby. Such compounds have many uses, but are especially useful as functional fluids.

3,538,167

PREPARATION OF THIOL-ALLENE ADDUCTS

Karl Griesbaum, Elizabeth, and Alexis A. Oswald, Mountaintop, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 642,143, May 29, 1967, which is a division of application Ser. No. 368,345, May 18, 1964, now Patent No. 3,398,200. This application Aug. 9, 1968, Ser. No. 754,095

Int. Cl. C07c 149/10, 149/34

U.S. Cl. 260—609

10 Claims

Thiol adducts of allene, such as, for example, allyl p-chlorophenyl sulfide and 1,3-bis-p-chlorophenyl-mercaptopropane, their methods of preparation, and their use in pesticidal compositions which are especially useful nematocides. Such adducts are prepared by reacting a compound having the structural formula RSH with allene in the presence of a suitable catalyst such as ultraviolet light, gamma radiation, and a wide variety of peroxidic and azo compounds.

3,538,168

RESTORING OR PRESERVING METAL ALKOXIDES

Maurice M. Mitchell, Jr., Wallingford, Pa., assignor to Atlantic Richfield Company, New York, N.Y., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 640,557, May 23, 1967. This application June 2, 1969, Ser. No. 829,717

Int. Cl. C07c 29/24; C07f 1/00, 5/06

U.S. Cl. 260—632.5

12 Claims

Water contamination in alcoholic solutions of metal alkoxides can be prevented or removed by contacting the solution with a zeolitic material which selectively adsorbs the water and does not react with the metal alkoxide.

3,538,169

PROCESS FOR THE MANUFACTURE OF 2,2,3-TRICHLOROBUTANE

Herbert Bader, Hermulheim, near Cologne, Kurt Sennewald, Knapsack, near Cologne, and Helmut Reis, Hurth, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

No Drawing. Filed Mar. 20, 1967, Ser. No. 624,147

Claims priority, application Germany, Mar. 31, 1966, K 58,883

Int. Cl. C07c 17/08

U.S. Cl. 260—658 7 Claims

2,2,3-trichlorobutane is prepared by reacting 2,3-dichlorobutene-(2) at high temperatures and high pressures with hydrogen chloride.

3,538,170

PROCESS FOR PREPARING n-ALKYL CHLORIDES

Martin Barry Bochner, Vienna, W. Va., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Apr. 10, 1968, Ser. No. 720,363

Int. Cl. C07c 19/00

U.S. Cl. 260—652 10 Claims

The reaction of n-alkanols with phosphorus trichloride to form n-alkyl chlorides is conducted in the presence of dimethylformamide, as promoter, and the reactants and promoter are brought together in a particular order, whereby the yields and purity of the n-alkyl chloride product are enhanced.

3,538,171

PROCESS FOR THE ISOMERIZATION OF 5-VINYLBICYCLO[2.2.1]HEPT-2-ENE

Wolfgang Schneider, Brecksville, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 7, 1969, Ser. No. 814,178

Int. Cl. C07c 5/28

U.S. Cl. 260—666 14 Claims

5-vinylbicyclo[2.2.1]hept-2-enes heated in the presence of an organotitanium catalyst system are isomerized to 5-ethylidenebicyclo[2.2.1]hept-2-enes. The catalyst system of this invention consists of dicyclopentadienyl titanium dihalide and an organometallic compound or lithium aluminum hydride. The present catalyst system is highly efficient and capable of isomerizing the 5-vinylbicyclo[2.2.1]hept-2-enes within very short periods of time under the conditions of the present process. 5-ethylidenebicyclo[2.2.1]hept-2-enes are useful comonomers for polymerization with α -olefins such as ethylene and propylene.

3,538,172

CONTINUOUS PROCESS FOR THE PRODUCTION OF CYCLOOCTADIENE

Udo Hochmuth, Norbert Wilke, and Roland Streck, Marl, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Germany

Filed Oct. 3, 1969, Ser. No. 863,464

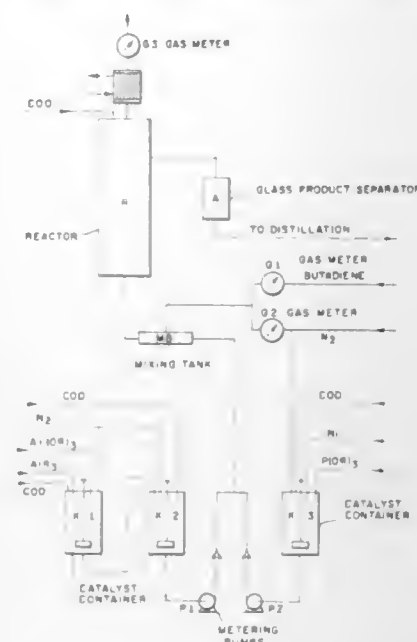
Claims priority, application Germany, Oct. 19, 1968, 1,804,017

Int. Cl. C07c 3/16, 3/20, 13/26

U.S. Cl. 260—666 8 Claims

An improvement in the process of reacting 1,3-butadiene in the presence of mixed catalysts of nickel com-

pounds reduced by means of an organoaluminum compound and modified by an organophosphite or phosphine to produce cyclooctadiene wherein diethylisopropoxy-



aluminum is employed as the organoaluminum compound and the process is carried out continuously at a temperature between about 60° C. and 180° C.

3,538,173

C₈-ALKYLAROMATIC ISOMERIZATION PROCESS

Charles V. Berger, Western Springs, and George R. Donaldson, Barrington, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 692,655, Dec. 22, 1967. This application May 5, 1969, Ser. No. 821,955

Int. Cl. C07c 5/24

U.S. Cl. 260—668 4 Claims

Ethylbenzene contained in a C₈-aromatic stream is effectively isomerized to xylene isomers by carefully controlling the C₈-naphthene content in said stream in an amount of about 2 wt. percent to about 9 wt. percent of the C₈-aromatics contained in said stream.

3,538,174

ISOMERIZATION OF C₈ ALKYL AROMATICS

John J. Brodbeck, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Jan. 30, 1969, Ser. No. 795,358

Int. Cl. C07c 5/24, 15/08

U.S. Cl. 260—668 6 Claims
C₈ alkyl aromatic hydrocarbons are isomerized under isomerization conditions and in the presence of hydrogen with a catalyst comprising a porous solid carrier containing from 0.01 to 3 weight percent of a platinum group component and from 0.001 to 5 weight percent of an iridium component.

3,538,175

HF ALKYLATION PROCESS

George L. Hervert, Downers Grove, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 11, 1968, Ser. No. 783,094

Int. Cl. C07c 3/52

U.S. Cl. 260—671 5 Claims

Formation of stable emulsions in a hydrogen fluoride catalyzed alkylation reaction are eliminated by utilizing hydrogen fluoride containing 0.2 to 3.0 weight percent water or by adding an equivalent amount of water to an emulsion, formed when operating with anhydrous hydrogen fluoride. This is particularly adaptable to the alkyla-

tion of a C₉-C₁₈ mono-olefin, in admixture with a C₉-C₁₈ n-paraffin, with benzene in preparing detergent alkylate.

3,538,176

PROCESS FOR THE PREPARATION OF AN ALKYLARYL COMPOUND

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 604,565, Dec. 27, 1966. This application June 17, 1969, Ser. No. 834,163

Int. Cl. C07c 3/00, 3/50

U.S. Cl. 260—671 11 Claims

A process for the preparation of an alkylaryl compound involving the dehydrogenation of a long-chain normal paraffin to produce the corresponding normal mono-olefin, and the use of the normal mono-olefin to alkylate an alkylatable aromatic, is improved by performing a condensation step on the effluent stream from the dehydrogenation step in order to remove therefrom undesired conjugated diolefins which are formed as a side-product in the dehydrogenation step. Points of improvement comprise: decrease in the rate of formation of a tar-like contaminant in the alkylation step, a decrease in the rate of deactivation in the alkylation catalyst utilized, a decrease in the amount of undesired side products formed in the alkylation step, and a substantial improvement in the yield of the desired alkylaryl compound.

3,538,177

PREPARATION OF HIGH MOLECULAR WEIGHT DIALKYL AROMATIC COMPOUNDS

Gene E. Nicks, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Sept. 25, 1968, Ser. No. 762,639

Int. Cl. C07c 3/00, 3/50; C10m 3/10

U.S. Cl. 260—672 14 Claims

This disclosure concerns the disproportionation of mono-C₈-C₁₈-alkyl aromatic compounds to di-C₈-C₁₈-alkyl aromatic compounds using HF-BF₃ as the catalyst. The aromatic moiety is phenyl, tolyl, xylol, or naphthyl. In a preferred aspect the disclosure concerns the disproportionation of monoalkylbenzenes to dialkylbenzenes, using HF-BF₃ as the catalyst. The alkyl group of the monoalkylbenzenes and each of the alkyl groups of the dialkylbenzenes contains at least 8 carbon atoms. Preferably, the monoalkylbenzenes subjected to disproportionation are present in a composition which contains tetrahydronaphthalenes. Use of the HF-BF₃ catalyst produces dialkylbenzenes with no significant increase in tetrahydronaphthalenes.

3,538,178

PROCESS FOR PREPARING DIALKYL BENZENE LUBRICANT COMPOSITION

Roy C. Sias, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Apr. 1, 1969, Ser. No. 812,373

Int. Cl. C07c 3/00, 3/50; C10m 3/10

U.S. Cl. 260—672 10 Claims

A process for preparing a di-n-alkylbenzene lubricant composition having improved pour point and low temperature viscosity properties is described. The process comprises disproportionation of mono-n-alkylbenzenes using a Friedel-Crafts catalyst (e.g., AlCl₃) in the presence of n-alkyl chlorides (R=C₈-C₁₈). Preferably, the mono-n-alkylbenzenes are pretreated with a Friedel-Crafts catalyst before disproportionation. The alkyl group of the monoalkylbenzenes and each of the alkyl groups of the dialkylbenzene contains from about 8 to about 18 carbon atoms. In order to concurrently produce a good

3,538,179

PURIFICATION OF ISOPRENE

William T. Nelson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 20, 1968, Ser. No. 777,475

Int. Cl. C07c 7/00, 23/00; C09g 29/06

U.S. Cl. 260—681.5 4 Claims

Purification of isoprene to remove cyclopentadiene with metal hypochlorites.

3,538,180

OLEFIN CONVERSION AND CATALYST THEREFOR

Robert E. Reusser, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 3, 1967, Ser. No. 627,652

Int. Cl. C07c 3/62

U.S. Cl. 260—683 9 Claims

Acyclic monoolefins are converted to other olefins having different molecular weights by contact with an olefin reaction catalyst active for disproportionating propylene into ethylene and butene comprising alumina promoted with a compound of molybdenum, tungsten or rhenium and further treated with a polyene having about 4-18 carbon atoms per molecule and containing 2 to about 9 double bonds.

3,538,181

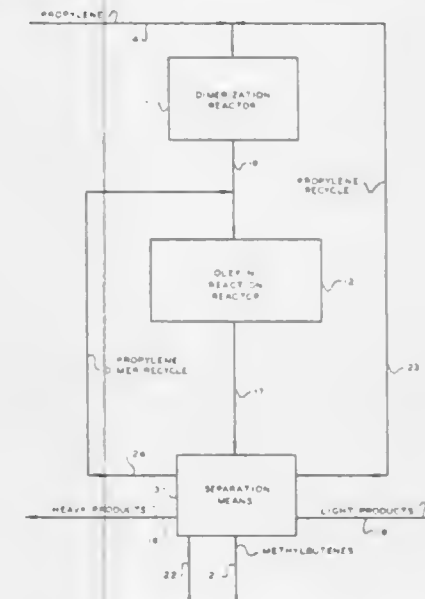
CONVERSION OF OLEFINS

Robert L. Banks, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 627,758

Int. Cl. C07c 3/62

U.S. Cl. 260—683 2 Claims



Propylene is converted to methylbutenes in a two step process comprising the dimerization of propylene and then the disproportionation of a mixture of propylene and its dimer.

3,538,182

ISOMERIZATION OF NEOHEXENE TO 2,3-DIMETHYLBUTENES WITH A MIXTURE OF ALUMINA AND MINERAL OIL

Samuel Kahn, Rutherford, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 583,961, Oct. 3, 1966. This application Dec. 27, 1968, Ser. No. 787,598

Int. Cl. C07c 5/24

U.S. Cl. 260—683.2 3 Claims

Preparation of 2,3-dimethylbutenes by isomerizing neo-hexene in the presence of a catalyst system containing an

inert fluid having a boiling point above about the isomerization temperature and alumina as the sole active isomerization catalyst.

3,538,183

ISOPARAFFIN-OLEFIN ALKYLATION UTILIZING AN ADMIXTURE OF ALKYLATING CATALYST WITH AN AROMATIC POLYCYCLIC COMPOUND
George L. Hervet, Downers Grove, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Dec. 16, 1968, Ser. No. 784,222
Int. Cl. C07c 3/54

U.S. Cl. 260—683.48

8 Claims

Alkylatable compounds are alkylated with an alkylating agent in contact with an alkylation catalyst and in the presence of an aromatic polycyclic compound. The presence of this aromatic compound improves alkylate quality, particularly when utilized in the hydrogen fluoride alkylation of isobutane and butene.

3,538,184

ADDUCTS OF POLYEPOXIDES AND ALKYL-SUBSTITUTED HEXAMETHYLENE DIAMINE
Alfred Heer, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Nov. 28, 1967, Ser. No. 686,335
Claims priority, application Switzerland, Dec. 2, 1966, 17,270/66
Int. Cl. C08g 45/00

U.S. Cl. 260—830

6 Claims

Process for the manufacture of new, solvent-free, liquid adducts of polyepoxides and polyamines, which are suitable for use as curing agents for epoxy resins, characterized in that (1) a polyglycidyl ether, which is liquid at room temperature, of a polyphenol or polyalcohol is reacted with (2) hexamethylenediamine or a hexamethylenediamine whose polymethylene chain is alkyl-substituted, in which the amino groups are linked with primary carbon atoms, at a ratio of 3 to 12, preferably using about 5 amine group equivalents of the diamine (2) for every 1 epoxide group equivalent of the polyglycidyl ether (1), in the absence of solvents, at an elevated temperature.

3,538,185

COATING COMPOSITIONS CONTAINING VINYL POLYMERS WITH PENDANT ALKYLENIMINE GROUP AND EPOXY RESINS

Lem Davis, Jr., and Paul A. Larson, Lake Jackson, and Russell T. McFadden, Freeport, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 10, 1967, Ser. No. 659,604
Int. Cl. C08g 45/04

U.S. Cl. 260—837

12 Claims

Epoxy resin coating having improved resistance to yellowing are prepared from a mixture of a polyepoxide resin and an amine hardening agent where the hardening agent is a vinyl copolymer containing pendant amino-ester groups. The hardening agent is readily prepared by reacting a vinyl copolymer containing pendant carboxylic acid groups with an alkenylimine or with certain N-substituted alkenylimines.

3,538,186

POLYESTER COATING MATERIALS
Lionel J. Payette, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,086
Int. Cl. C08g 37/16

U.S. Cl. 260—839

8 Claims

The flexibility, resistance to heat shock and abrasion, and the thermal life properties of polyesters derived from lower dialkyl esters of iso- and terephthalic acid, a glycol

and polyhydric alcohol having at least three hydroxyl groups are improved by the addition of phenol furfuraldehyde resin.

3,538,187

POLYESTER RESIN FROM A MIXTURE OF DIHYDRIC ALCOHOLS

Joseph Feltzin, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 4, 1969, Ser. No. 808,541
Int. Cl. C08f 21/00; C08g 17/10

U.S. Cl. 260—861

15 Claims

Polyester resins are prepared by esterification of a mixture of dihydric alcohols comprising an oxyalkylene ether of an alkylidene diphenol and a cyclo-alkanediol with a dibasic acid which comprises as a major fraction thereof an α,β -unsaturated dicarboxylic acid. The polyesters are copolymerizable with ethylenically unsaturated compounds capable of free radical polymerization.

3,538,188

POLYESTER RESIN COMPOSITION HAVING A THICKENING AGENT THEREIN

Frank Fekete and Melvin E. Baum, Monroeville, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed Aug. 7, 1967, Ser. No. 658,826
Int. Cl. C08f 21/02

U.S. Cl. 260—865

8 Claims

The viscosity of unsaturated polyester resins formed by dissolving the condensation polymers of unsaturated dicarboxylic acids and dihydric alcohols in ethylenically unsaturated copolymerizable monomers may be increased by adding a mixture of inorganic lithium and magnesium salts to the unsaturated polyester resin. A mixture of magnesium oxide and lithium chloride, yields particularly outstanding results. These salts initially inhibit the viscosity build-up during the first 24 hours which lengthens the pot-life. Unsaturated polyester resins having thickening agents therein are useful in precoating of glass fiber mats.

3,538,189

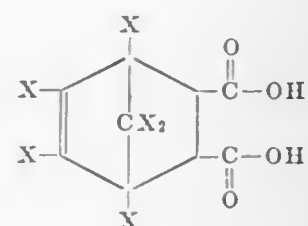
FIRE RETARDANT POLYESTERS FROM ACYLDI-PHOSPHONIC ACIDS AND POLYHALOBICYCLIC DIACIDS

James Keith Jacques, Walsall, Staffs, England, assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 470,256, July 7, 1965. This application June 19, 1969, Ser. No. 834,882
Claims priority, application Great Britain, Aug. 6, 1964, 32,081/64; Feb. 2, 1965, 4,520/65
Int. Cl. C08f 21/02

U.S. Cl. 260—869

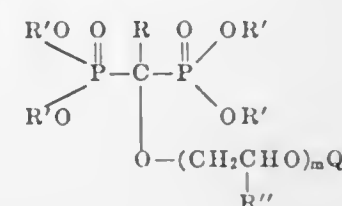
9 Claims

There is provided a fire retardant polyester of ingredients comprising (1) a polycarboxylic acid or anhydride, (2) a polyhydroxy alcohol, (3) a compound of the formula:

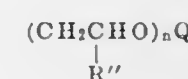


or the corresponding anhydride, wherein X is selected from the group consisting of fluorine, chlorine and bro-

mine, and (4) an organic phosphorus compound of the formula:



wherein R is selected from hydrocarbon and halo-substituted hydrocarbon groups; each R' is individually selected from the group consisting of hydrogen, R and



R'' is selected from the group consisting of hydrogen, methyl and halomethyl; n is 1 to 20; m is 0 to 20; each Q is individually selected from the group consisting of hydrogen, acyl and alkyl, provided that at least one OH group is present in the compound.

3,538,190

PROCESS FOR PREPARING IMPROVED PLASTIC COMPOSITIONS AND THE RESULTING PRODUCTS

Curtis L. Meredith, Robert E. Barrett, and William A. Bishop, Sr., Baton Rouge, La., assignors to Copolymer Rubber and Chemical Corporation, a corporation of Louisiana
No Drawing. Continuation-in-part of application Ser. No. 626,930, Mar. 30, 1967. This application Mar. 4, 1968, Ser. No. 709,902
Int. Cl. C08f 15/40

U.S. Cl. 260—878

22 Claims

Plastics having improved impact resistance are prepared by interpolymerizing a mixture including a rubbery polymer and an alkenyl aromatic monomer such as styrene, a vinyl or vinylidene halide such as vinyl chloride, an acrylic monomer such as acrylonitrile, and mixtures thereof in an organic solvent for the rubbery polymer and in the presence of a free radical catalyst. Novel impact resistant plastic compositions also are provided, in which the rubbery polymer content includes an interpolymer of ethylene, at least one alpha monoolefin containing 3-16 carbon atoms, and a 5-alkylidene-2-norbornene, such as 5-ethylidene-2-norbornene.

3,538,191

PROCESS FOR PREPARING IMPROVED PLASTIC COMPOSITIONS AND THE RESULTING PRODUCTS

Curtis L. Meredith, Robert E. Barrett, and William A. Bishop, Sr., Baton Rouge, La., assignors to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana
No Drawing. Filed Mar. 30, 1967, Ser. No. 626,930
Int. Cl. C08f 15/40

U.S. Cl. 260—878

20 Claims

Plastics having improved impact resistance are prepared by interpolymerizing a mixture including a rubbery polymer and an alkenyl aromatic monomer such as styrene, or a mixture thereof with an acrylic monomer such as acrylonitrile, in an organic solvent for the rubbery polymer and in the presence of a free radical catalyst. Novel impact resistant plastic compositions also are provided, in which the rubbery polymer content is an interpolymer of ethylene, at least one alpha monoolefin containing 3-16 carbon atoms, and a 5-alkylidene-2-norbornene such as 5-ethylidene-2-norbornene.

3,538,192

PREPARATION OF RUBBER MODIFIED PLASTICS
William A. Bishop, Sr., Baton Rouge, La., assignor to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana
No Drawing. Filed Apr. 10, 1967, Ser. No. 629,355
Int. Cl. C08f 29/12

U.S. Cl. 260—878

32 Claims

Plastics having improved impact resistance are prepared by interpolymerizing a rubbery interpolymer of a mixture of monoolefins and a polyene, such as a terpolymer of ethylene, propylene and 5-ethylidene-2-norbornene, and monomeric material including an alkenyl aromatic monomer such as styrene, or a mixture thereof with an acrylic monomer such as acrylonitrile, in the presence of a free radical initiator and a preformed polymer as a dispersing aid for the rubbery interpolymer. Improved dispersions of the normally insoluble rubbery interpolymer in a mixture of the alkenyl aromatic monomer and the acrylic monomer are also prepared.

3,538,193

RECOVERY OF POLYMERIC MATERIALS FROM ORGANIC REACTION MIXTURES

Curtis L. Meredith, Baton Rouge, La., assignor to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana
No Drawing. Filed Apr. 6, 1967, Ser. No. 628,822
Int. Cl. C08f 1/38

U.S. Cl. 260—878

15 Claims

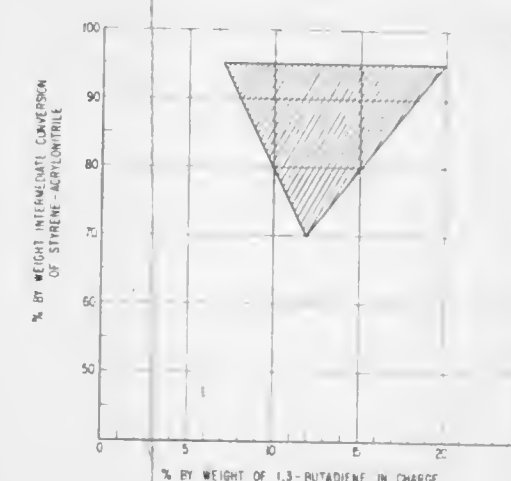
Rubber modified plastics are recovered from viscous organic solvent reaction mixtures by addition of lower alcohols, ketones and/or organic acids in an amount insufficient to cause coagulation of the solids content, and then flashing off the solvent. The viscosity of the reaction mixture is reduced markedly, thereby allowing it to be handled easily. The recovered product has improved physical properties and is more porous.

3,538,194

PREPARATION OF RUBBER MODIFIED PLASTICS
Robert E. Barrett, Baton Rouge, and Lawrence J. Regira, Donaldsonville, La., assignors to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana
Filed Mar. 20, 1967, Ser. No. 624,324
Int. Cl. C08f 19/08, 19/18

U.S. Cl. 260—879

10 Claims



Improved rubber modified plastics are prepared by a novel polymerization process in which an alkenyl aromatic monomer such as styrene and an acrylic monomer such as acrylonitrile are copolymerized in the presence of a free radical catalyst until 70-95% by weight of the monomers are converted to polymer, thereafter 7-20% by weight of a conjugated polyunsaturated monomer such as butadiene is added to the reaction mixture while it contains live catalyst, and the polymerization is continued.

3,538,195

BLOCK COPOLYMERS OF FIBER-FORMING ACRYLONITRILE POLYMERS AND POLYMERIC 2,2-DISUBSTITUTED PROPIOLACTONE

Charles King and Frederick Theodore Wallenberger, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Apr. 27, 1966, Ser. No. 545,545, now Patent No. 3,379,794, dated Apr. 23, 1968. Divided and this application Mar. 8, 1968, Ser. No. 711,485

Int. Cl. C08f 29/56

U.S. Cl. 260—898

7 Claims

This invention relates to new polymeric compositions derived from acrylonitrile which are block copolymers of a fiber-forming acrylonitrile polymer and a polymeric 2,2-disubstituted propiolactone. Fibers thereof exhibit enhanced recovery and improved modulus when hot and wet.

3,538,196

BIS(OXYPROPYLATED PENTAERYTHRITOL) OXYPROPYLATED PENTAERYTHRITOL PHOSPHONATE

Charles F. Baranaukas and Irving Gordon, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

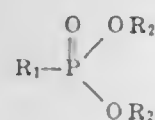
No Drawing. Filed Dec. 11, 1963, Ser. No. 329,858

Int. Cl. C07f 9/38; C07d 105/04; C08a 22/44

U.S. Cl. 260—953

1 Claim

A member of the group consisting of (1) a phosphonate having the formula



wherein R₁ is selected from the group consisting of hydroxy lower alkyl, hydroxy lower alkoxy lower alkyl and hydroxy poly lower alkoxy lower alkyl and R₂ is selected from the group consisting of hydroxy lower alkyl, hydroxy lower alkoxy lower alkyl and hydroxy poly lower alkoxy lower alkyl and (2) polymers of said phosphonate. The compounds are prepared by reacting one mole of a triorgano phosphite with three moles of a polyol and then reacting the product with an Arbuzov catalyst. The phosphonates are used to prepare foamed polyurethanes.

3,538,197

PRODUCTION OF PHOSPHORIC ACID DIALKYL ESTERS

Wolfgang Vilmeier, Bad Dürkheim, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 10, 1967, Ser. No. 652,039

Claims priority, application Germany, July 16, 1966, 1,272,283

Int. Cl. C07f 9/08; C08f 45/58

U.S. Cl. 260—975

4 Claims

Production of dialkyl phosphates by reacting alcohols with phosphorus oxychloride at a temperature of from -30° C. to +10° C. in the presence of a Lewis acid followed by hydrolysis of the tetraalkyl pyrophosphate to the dialkyl phosphate. The tetraalkyl pyrophosphates are insecticides, and the dialkyl phosphates are suitable for use as flame retardants, adhesion promoters for lacquers, as low-froth detergents or as pickling agents for metals.

3,538,198

PRODUCTION OF LENTICULAR SHEETS FOR INTEGRAL PHOTOGRAPHY

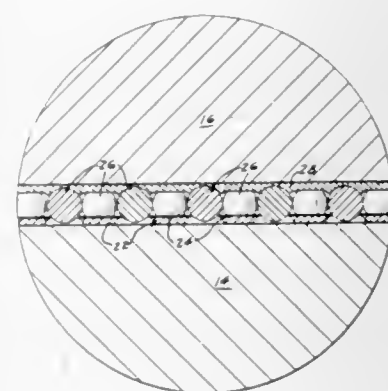
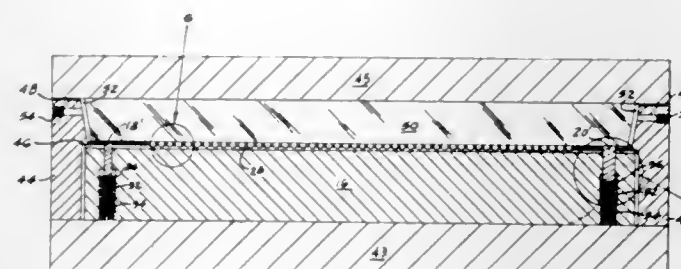
Roger Lannes de Montebello, 165 E. 66th St., New York, N.Y. 10021

Filed Dec. 4, 1967, Ser. No. 687,527

Int. Cl. B29d 11/00; G02b 27/00; B29c 1/02

U.S. Cl. 264—1

3 Claims



Apparatus and method are provided for accurately and efficiently producing lenticular sheets from transparent plastic resins for use in the practice of integral photography. A special molding procedure is provided for forming an original mold, and for using the mold to form lenticular sheets, preferably reinforced, for taking integral photographs, for converting pseudoscopic photographs into stereoscopic integral photographs, and for viewing integral photographs under special conditions.

3,538,199

CONTINUOUS PROCESS FOR THE PRODUCTION OF HEXAMETHYLENETETRAMINE

Samuel Weiss, River Edge, and David X. Klein, Upper Montclair, N.J., assignors to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Dec. 31, 1968, Ser. No. 788,338

Int. Cl. B01j 2/04

U.S. Cl. 264—6

10 Claims

Substantially anhydrous, free-flowing, granular hexamethylenetetramine is prepared by continuously introducing an aqueous solution of formaldehyde and gaseous ammonia into a reaction zone in which they are reacted at 50°–90° C. at a pH of 7.5 to 8.0 for a period of about 1 minute to 10 minutes, continuously withdrawing the aqueous solution of hexamethylenetetramine from the reaction zone and feeding it to a spray drier. The spray-dried product, which contains less than 1% of water, is then compacted and granulated.

3,538,200

METHOD FOR PRILLING MOLTEN SULFUR

Joe Roger Hite, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Dec. 26, 1968, Ser. No. 787,066

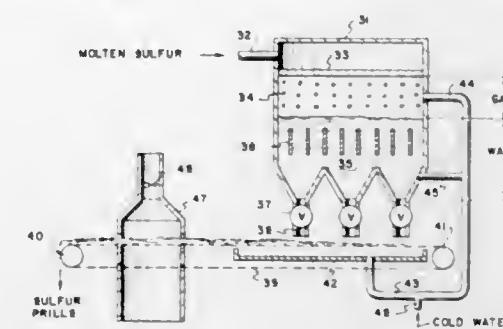
Int. Cl. B01j 2/04, 2/06

U.S. Cl. 264—13

5 Claims

A method for converting solid sulfur into substantially spherical particles by passing molten sulfur through a cooling medium and removing the molten sulfur from the

cooling medium in the form of partially cooled, substantially spherical sulfur particles before the particles lose



all their residual sensible heat. The partially cooled particles are dried using solely the residual sensible heat left therein.

3,538,201

METHOD OF EXTRUDING A FOAMED PLASTIC ARTICLE HAVING BREAKING LINES

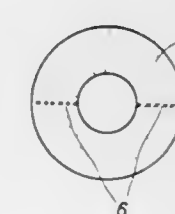
Hans Eberle, Ludwigshafen (Rhine), and Gerhard Wuttke, Neuhofen, Pfalz, Germany, assignors to Gruenzweig & Hartmann A.G., Ludwigshafen (Rhine), Germany

Original application Feb. 1, 1966, Ser. No. 524,224, now Patent No. 3,489,183, dated Jan. 13, 1970. Divided and this application Aug. 26, 1968, Ser. No. 755,140

Int. Cl. B29d 27/00

U.S. Cl. 264—41

4 Claims



A tubular body of plastic material which is of substantially homogenous composition and has at least one predetermined weakened zone along which the tubular body may be fractured.

This weakened zone comprises a substantially radially extending non-scored partition line which is made by separating and merging the body along the partition line during foaming and setting wherein the molecules on one side of this line have a lesser affinity to the contacting molecules on the other side of this line than to other molecules.

3,538,202

UTILIZING ALUMINUM MONO-ORTHOPHOSPHATE AS FUGITIVE BINDER IN MANUFACTURE OF SINTERED POROUS ALUMINA ARTICLES

Jean-Claude Bidard, Rueil-Malmaison, France, assignor to Commissariat à l'Energie Atomique, Paris, France

No Drawing. Continuation of application Ser. No. 718,187, Apr. 2, 1968. This application Dec. 11, 1969, Ser. No. 880,496

Claims priority, application France, Apr. 7, 1967, 101,917

Int. Cl. C04b 21/06, 33/12, 35/10

U.S. Cl. 264—44

1 Claim

An aqueous solution of aluminum mono-orthophosphate is used as a fugitive binder for alumina particles. Alumina, 5–15% of aluminum mono-orthophosphate, and 20–25% of a plasticizer are shaped by isostatic pressure, heated to 300–400° C. to polymerize the binder, and then sintered at 1600–1800° C. in an argon atmosphere containing 2–10% hydrogen to dissociate the aluminum phosphate and to reduce the P₂O₅ content of the sintered alumina body to less than 250 p.p.m.

3,538,203

PRODUCTION OF EXPANDABLE AND CELLULAR RESIN PRODUCTS

Robert H. Overcashier, Walnut Creek, Calif., and Arthur L. Fricke, Blacksburg, Va., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 376,200, June 18, 1964. This application July 10, 1968, Ser. No. 743,812

Int. Cl. B29d 27/00

U.S. Cl. 264—53

6 Claims

An improved continuous method is provided for introducing volatilizable blowing agent into thermoplastic polymer compositions which are to be extruded as foamable mixtures from a screw extruder. The method comprises compacting finely divided polymer composition particles into a moving mass of solid particles having a void fraction in the range from 0.6 to 0.2 and introducing the blowing agent as a liquid or as a fluid in high-density, supercritical state into a said compacted mass. In one embodiment, the blowing agent is introduced at a point or points in the extruder at which the polymer mass has been partially decompressed after having been first compressed to the above-stated extent.

3,538,204

EMBOSSED EFFECTS ON RESINOUS COMPOSITIONS

David Lynn Grubb, Donaghadee, Northern Ireland, and Thomas J. Wiggins, Brynmawr, Wales, assignors to Dunlop Semtex Limited, London, England

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,764

Claims priority, application Great Britain, Dec. 16, 1965, 53,541/65

Int. Cl. B29d 7/00

U.S. Cl. 264—54

6 Claims

1. A method of obtaining an expanded thermoplastic resinous material having an embossed effect on its surface, in which said resinous material is based on a polymer of vinyl chloride, which comprises applying to a selected portion of said resinous material in expansible form an unsaturated polymerizable ester of methacrylic acid and a peroxy cross-linking agent which will cross-link said ester on heating thereby reducing the thermoplasticity of said selected portion, and heating the treated material to cause it to expand whereby the surface of the portion of the material that has not been treated rises above the level of the surface of the treated portion to form an embossed effect.

3,538,205

METHOD OF PROVIDING IMPROVED LOSSY DIELECTRIC STRUCTURE FOR DISSIPATING ELECTRICAL MICROWAVE ENERGY

Louis E. Gates, Jr., Inglewood, and William E. Lent, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

No Drawing. Filed Oct. 14, 1966, Ser. No. 586,649

Int. Cl. C04b 35/10, 35/36

U.S. Cl. 264—61

5 Claims

A method of making a strong lossy dielectric ceramic for microwave attenuation and high power microwave loads wherein 100–300 mesh silicon carbide particles are encapsulated with an aqueous slurry of ball milled alumina particles having various organic and inorganic binders and modifiers contained therein. The encapsulated silicon carbide particles are then dried, granulated to a size between 28 mesh and 80 mesh, pressed to shape, heated to a temperature of 140° C. to 540° C., to burn out the organic materials, and then fired to about 1400° C. to bond the mixture into a dielectric ceramic.

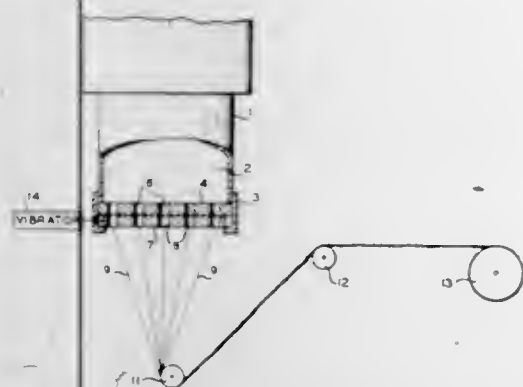
3,538,206

METHOD FOR FORMING FILAMENTS AND PRODUCT PRODUCED THEREBY

Paul D. Hann, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 27, 1966, Ser. No. 560,714
Int. Cl. D01d 5/20, 5/22

U.S. Cl. 264—70

4 Claims



The invention pertains to a method of producing filaments of varying cross-sectional area. The filaments are produced by extruding material through a spinnerette comprising a plurality of plates, at least one of which is vibrated.

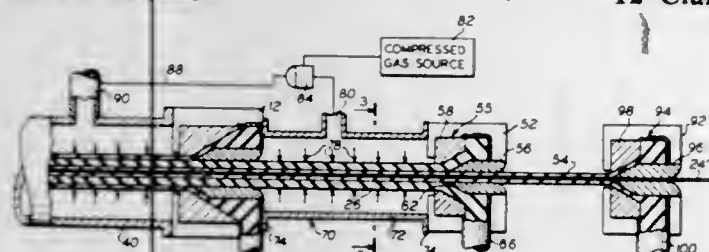
3,538,207

PRESSURE EQUALIZER FOR VULCANIZABLE ELASTOMERS FOR THREE LAYER EXTRUSION

Laurence John Toole, Little Silver, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed Dec. 30, 1966, Ser. No. 606,241
Int. Cl. B29c 25/00; B29f 3/10, 5/28

U.S. Cl. 264—89

12 Claims



When insulated electrical conductors are made by extruding a layer of insulation around a conductor and then extruding another layer, such as an insulation shielding layer, with the extruders in tandem and a vulcanizing chamber immediately beyond the final extruder, the steam pressure in the vulcanizing chamber causes swelling or "ballooning" of the insulation ahead of the entrance to the final extruder. The insulation is under high pressure as it comes from its own extrusion die and this invention maintains a high pressure on the hot insulation from the time it leaves its own extruder until it enters the final extruder tip where it is confined and can not swell. The pressure is maintained by a gas atmosphere around the insulation.

3,538,208

METHOD OF MAKING PEN WICKS OF A SYNTHETIC RESIN

Katsumi Ohtsuka, Funabashi, Japan, assignor to The Teikoku Hat Mfg. Co., Ltd., Hamamatsu, Shizuoka Prefecture, Japan
Filed May 24, 1968, Ser. No. 731,787
Claims priority, application Japan, Oct. 2, 1967, 42/63,217

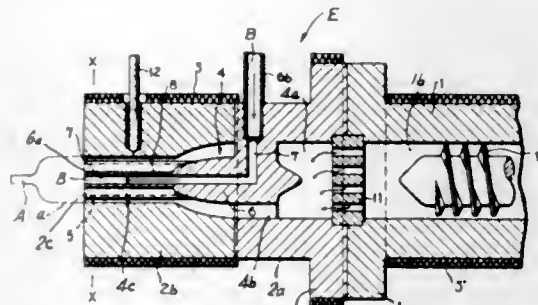
Int. Cl. B29c 17/10; B29f 3/00

U.S. Cl. 264—89

5 Claims

The method of making pen wicks from a synthetic resin comprising the steps of heating the synthetic resin

to a temperature between its thermal deformation and melting temperatures, extruding the resin in a tubular form having an outside diameter at least several times greater than the final diameter of the pen wick, forming longitudinally extending grooves in the interior and exterior surface of the tubular member as it is extruded, injecting a fluid into the interior of the tubular member as it is ex-



truded, stretching the tubular member while maintaining it between its thermal deformation and melting temperatures until it is reduced in diameter to the desired diameter of the pen wick, cutting the tubular member into desired lengths, shaping a conical end on one end of each length and cutting circumferential grooves in the opposite end of each cut length, and air curing the cut lengths.

3,538,209

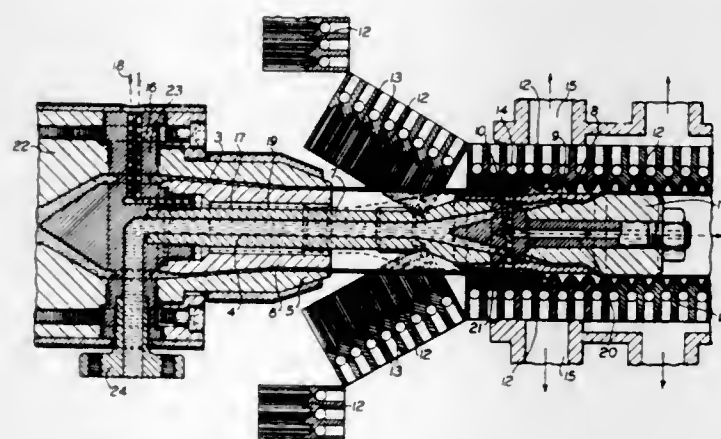
METHOD OF PRODUCING PLASTIC TUBING HAVING A CORRUGATED OUTER WALL

Wilhelm Hegler, Goethestrasse 2,
Bad Kissingen, Germany
Filed Oct. 19, 1967, Ser. No. 676,430
A 1,880/67

Claims priority, application Austria, Feb. 27, 1967,
Int. Cl. B29c 17/07, 17/10; B29d 23/03

U.S. Cl. 264—90

8 Claims



A method for producing a corrugated, double-walled plastic pipe or tube by extrusion and vacuum forming processes. Two separate tubular streams are simultaneously extruded from separate extruders and are concentrically disposed. The innermost tubular stream is maintained in a substantially smooth wall condition while the outermost tubular stream is disposed against longitudinally moving concentric transverse rib forming molds and formed against the molds with suction. The innermost tubular stream is then adhered to the inside surfaces of the formed corrugations of the outermost tubular stream. The extrusion rates of the streams are adjusted to maintain a constant thickness in the formed and ad-

hered tubes. A third tubular stream having a smooth wall configuration may be extruded and adhered to the outer surface of the corrugated tube if desired.

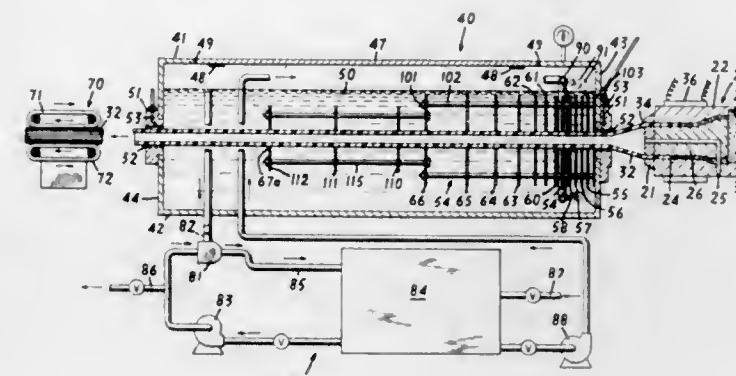
3,538,210

METHOD FOR FORMING PLASTIC TUBING

Charles Gatto, Farmingdale, N.Y., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed July 24, 1968, Ser. No. 747,370
Int. Cl. B29c 17/00, 25/00

U.S. Cl. 264—90

7 Claims



A method with which externally fluted plastic tubing is extruded and sized to have a circumferential dimension within predetermined limits, the extrudate on leaving the forming die being advanced submerged through a cooling water bath of predetermined controlled temperature and confined in a cooling chamber maintained under evacuated condition of predetermined level, rapid heat transfer to the cooling water from the extrudates serving to set the exterior surface of the extrudate. The temperature range in which the cooling water bath is maintained is of critical consideration in effecting proper dimensioning of the extrudate. Precise sizing of the extrudate is accurately controlled by passing the extrudate through a sizing die assembly wherein there is applied a constraining force to the extrudate outside surface at a succession of spaced longitudinal locations along the course of the advance of the extrudate, the constraining force being used to prevent enlargement beyond predetermined limit of the circumferential dimension of the extrudate by a pressure differential of a higher pressure at the interior of the extrudate than in the cooling water bath. Concurrently with the latter, the extrudate surface cools sufficiently to set and impart permanent controlled dimensional character thereto. The die assembly consists of a series of apertured plates, the apertures in which are specially shaped in accordance with the final shape to be given to the extrudate external surface and which are of predetermined dimension so as to correspondingly control with exacting accuracy the final circumferential dimension of the extrudate.

3,538,211

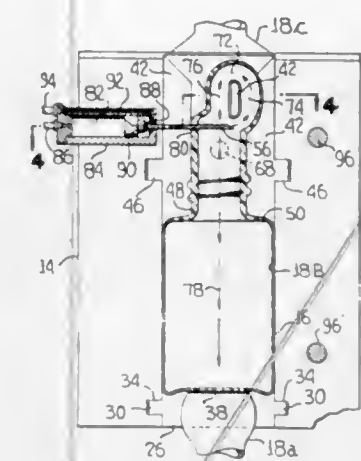
BOTTLE BLOWING PROCESS AND APPARATUS

Domas Adomaitis, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 18, 1966, Ser. No. 521,378
Int. Cl. B29c 17/04

U.S. Cl. 264—96

9 Claims

This disclosure relates to an improvement in a blow molding apparatus wherein a split mold is provided with opposing land portions and adjacent cavities whereby upon the closing of the split mold a portion of the parison adjacent one of a pair of opposite end portions is pinched to form a generally spherical or annular channel into which air is introduced by a blow needle, and the chan-



redirect the air toward the other end portion in a uniform stream to uniformly expand the parison.

ERRATUM

For Class 264—112 see:
Patent No. 3,537,700

3,538,212

AGGLOMERATED SILICA BODIES AND METHOD

Raymond Beau, Massy, and Jean Fourniguet, Paris, France, assignors to Produits Chimiques Pechiney-Saint-Gobain, Neuilly-sur-Seine, France
No Drawing. Filed Sept. 18, 1968, Ser. No. 760,714
Claims priority, application France, Sept. 20, 1967, 121,591

Int. Cl. C01b 33/16

U.S. Cl. 264—117

5 Claims

The production of agglomerated bodies of silica wherein a composition formed in whole or in part of silica hydrogen microballs is agglomerated and which includes the treatment of the microballs prior to agglomeration with an alkaline medium to increase the composite strength of the agglomerated bodies.

3,538,213

METHOD OF SPRAY FORMING DESTRUCTIBLE FORMS

Aime J. Robert, Kitchener, Ontario, Canada, assignor to Uniroyal, Inc., New York, N.Y.
Filed Dec. 20, 1967, Ser. No. 692,089
Claims priority, application Canada, Aug. 25, 1967, 998,704

Int. Cl. B29c 1/02; B28b 1/32

U.S. Cl. 264—225

17 Claims

The process of making readily destructible forms by spraying a slurry of plaster, binder, filler and solvent onto a heated mold surface whereby the plaster particles form, immediately adjacent to the mold surfaces, a predominantly plaster-binder layer backed by a predominantly filler-binder layer. The predominantly plaster-binder layer sets on contact with the heated mold surface so as to assume the contour thereof and together with the filler-binder backing layer forms a rigid, yet readily destructible, hollow form. An aqueous slurry is used wherein the binder is either polyvinyl alcohol or polyvinyl acetate and the filler is a pulp filler.

3,538,214

CONTROLLED RELEASE MEDICINAL TABLETS
Gerald P. Polli, Norristown, Clyde E. Shoop, Lansdale, and Wayne M. Grim, Chalfont, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of applications Ser. No. 586,623, Oct. 14, 1966, and Ser. No. 597,861, Nov. 30, 1966. This application Apr. 22, 1969, Ser. No. 818,395

Int. Cl. A61j 3/00, 3/10; A61k 9/00

U.S. Cl. 424—19

3 Claims

A tablet core containing a medicinal agent is coated with a film made up of a water-insoluble plastic and particles of a material which is chosen for its selective solubility or digestibility in gastro or intestinal fluids. The removal of the latter material by the intended gastro or intestinal fluids results in a membranous or dialytic film through which the medicinal agent slowly leaches out.

3,538,215

STABILIZED ANTIBIOTIC IN LIQUID RUMINANT FEED SUPPLEMENT

Frank M. Snyder, Omaha, Nebr., and Stephen L. Hallows, Lucerne, Colo., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 767,514, Oct. 14, 1968. This application June 13, 1969, Ser. No. 833,143

Int. Cl. A61k 21/00

U.S. Cl. 424—38

5 Claims

The stability of antibiotics in liquid ruminant feed supplements is improved by prior coating of the antibiotic with a liquid hydrocarbon wax. An oil-in-water emulsifier is incorporated in the coating to increase the effectiveness of the antibiotic in the rumen.

3,538,216

INJECTABLE COMPOSITIONS OF A DRUG SUSPENDED IN AN EMULSION

Herbert S. Polin, Veyrier, near Geneva, Geneva, Switzerland, assignor to Laboratoire de Recherche Physiques, S.A.R.L., Veyrier, Geneva, Switzerland

No Drawing. Filed Feb. 20, 1964, Ser. No. 346,106

Int. Cl. A61n 27/00

U.S. Cl. 424—79

15 Claims

Injectable compositions in which a drug is suspended in an emulsion, the drug being surrounded by a permeable membrane having ion exchange properties, such as that formed by polystyrene sulfonic-acid ion exchange material in sodium cation form, castor oil and extremely finely divided silica as a thixotropic agent.

3,538,217

PHENOLIC GERMICIDAL COMPOSITIONS

Norman Ellison Dewar and Said Ibrahim Razio, St. Louis, Mo., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation-in-part of application Ser. No. 738,854, June 21, 1968, now abandoned. This application Apr. 2, 1969, Ser. No. 812,876

Int. Cl. A61k 27/00

U.S. Cl. 424—173

9 Claims

Aqueous alkaline phenolic germicidal compositions are disclosed which contain a bactericidal phenolic component, and a solubilizing and stabilizing agent which is a sulfate of ethoxylated primary or secondary alcohol containing up to about 20 carbon atoms. Use of such sulfates provides excellent solubilization of the normally insoluble phenolic compounds at low agent to phenol weight ratios and excellent stabilization against precipitation and/or deactivation of the phenolic compounds.

3,538,218

PHARMACEUTICAL COMPOSITIONS OF QUININE POLYGALACTURONATE AND METHODS FOR THEIR USE

Mortimer D. Sackler, New York, and Alfred Halpern, Great Neck, N.Y., assignors to Synergistics, Yonkers, N.Y., a copartnership

No Drawing. Original application Aug. 8, 1966, Ser. No. 570,698, now Patent No. 3,452,022, dated June 24, 1969. Divided and this application Dec. 30, 1968, Ser. No. 805,922

Int. Cl. A61k 27/00

U.S. Cl. 424—180

14 Claims

Pharmaceutical compositions comprising quinine polygalacturonate and a pharmaceutically acceptable carrier therefore, and methods for the use of the same in the treatment of the malarial patient.

3,538,219

SUBSTANCES CONTAINED IN THE SEEDS OF ANNATTO AND IN THE KERNELS OF THE SEEDS OF SECUA, COOPERATE IN AN UNKNOWN FASHION IN THE PRODUCTION OF STABLE PHARMACOLOGICALLY ACTIVE COMPOSITIONS

Rose Dalmau Paret, 651 W. 171st St. N., New York, N.Y. 10032

No Drawing. Filed July 25, 1966, Ser. No. 567,783

Int. Cl. A61k 27/00

U.S. Cl. 424—195

2 Claims

Preparations from the kernels of the seeds of secua (*Fevillea cordifolia*, L.), a climbing plant from the forests of tropical America, have been known for centuries, preconized as possessing valuable therapeutic properties, and prescribed against various disease conditions, some of which are known to be infectious in character.

3,538,220

CONTROL OF NEMATODES WITH PHOSPHORODIAMIDOTHIOATES

George R. Haynes, Clyde W. McBeth, Kurt H. G. Pilgrim, and Lyle V. White, Modesto, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

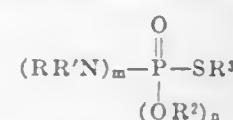
No Drawing. Original application Jan. 21, 1966, Ser. No. 522,046, now Patent No. 3,454,682, dated July 8, 1969. Divided and this application Mar. 5, 1969, Ser. No. 821,541

Int. Cl. A01n 9/36

U.S. Cl. 424—220

4 Claims

Nematocidal phosphoroamidothioates of the formula:



wherein R, R¹, and R² each independently represents a group of 1 to 12 carbon atoms selected from alkyl, alkenyl, chloroalkyl, or bromoalkyl; R³=R, R¹, R², cycloalkyl and alkynyl of up to 12 carbon atoms; m=2 when n=0 and m=1 when n=1, are described. Some of these compounds are novel.

3,538,221

PESTICIDAL PREPARATION CONTAINING AROMATIC PHOSPHORIC OR PHOSPHONIC ACID ESTERS

Ernst Beriger, Allschwil, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Original application Nov. 16, 1965, Ser. No. 508,157. Divided and this application Dec. 26, 1968, Ser. No. 798,559

Claims priority, application Switzerland, Nov. 20, 1964, 14,977/64

Int. Cl. A01n 9/36

U.S. Cl. 424—225

6 Claims

This invention relates to methods and pesticidal prep-

aration for treating plants to protect them from pests such as insects and fungi.

3,538,222

TEMPERATURE REDUCING COMPOSITIONS AND METHODS EMPLOYING 1,3-OXAZOLIDIN-2-ONES

Julius G. Shukys, Chatham, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 29, 1967, Ser. No. 694,359

Int. Cl. A61k 27/00

U.S. Cl. 424—272

6 Claims

This application relates to compositions containing 4,5,5-trimethyl-4-hydroxy-1,3-oxazolidin-2-one, 4,5,5-trimethyl-4-hydroxy-3-hydroxyethyl-1,3-oxazolidin-2-one or 4,5,5-trimethyl-4-hydroxy-3-N-morpholinoethyl-1,3-oxazolidin-2-one and a pharmaceutically acceptable carrier for use in lowering the body temperature of warm-blooded mammals and to the method of using such compositions to lower the body temperature.

3,538,223

β-(3-INDOLYLMETHYL)-BUTYRIC ACID LACTONE COMPOSITIONS

Daniel Frederick Dickel, Berkeley Heights, and George deStevens, Summit, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 31, 1967, Ser. No. 642,310

Int. Cl. A01n 9/22

U.S. Cl. 424—274

2 Claims

β-(N-aminoalkyl-2-methyl-3-indolylmethyl)-γ-dimethylbutyric acid lactones or salts thereof, in conjunction or admixture with pharmaceutical excipients, increase the contractile force of the heart.

3,538,224

COMPOSITION FOR TREATING HUMAN MENTAL DISORDERS

Carl E. Nelson, Ambler, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 6, 1969, Ser. No. 789,413

Int. Cl. A61u 27/00

U.S. Cl. 424—275

7 Claims

Human mental disorders involving depression are treated by the oral administration of a pharmaceutical composition consisting of a combination of protriptyline and chloroprothixene.

3,538,225

CONTROL OF ANIMAL DISEASE USING CERTAIN 2,3-DIHYDRO-5-CARBOXAMIDO-6-METHYL-1,4-OXATHIINS

Mitchell D. Dudarevitch, Cheshire, and Bogislav von Schmeling, Hamden, Conn., and Marshall Kulka, Guelph, Ontario, Canada, assignors to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Filed June 27, 1966, Ser. No. 560,902

The portion of the term of the patent subsequent to May 3, 1983, has been disclaimed and dedicated to the Public

Int. Cl. A01n 9/12; A61k 27/00

U.S. Cl. 424—276

8 Claims

Ringworm or similar fungus disease of the skin in animals is controlled by administration (e.g., topical, oral) of certain N-substituted 2,3-dihydro-5-carboxamido-6-methyl-1,4-oxathiins, such as 2,3-dihydro-5-n-hexylcarboxamido-6-methyl-1,4-oxathiin.

3,538,226

METHOD OF DESTROYING PLANT FUNGI

Toshiaki Ozaki and Sigeo Yamamoto, Toyonaka-shi, Toshiyuki Wakatsuki, Kyoto, Akira Fujinami and Fukashi Horiuchi, Takarazuka-shi, and Yoshihiko Nishizawa, Nara-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Sept. 18, 1967, Ser. No. 668,691

Claims priority, application Japan, Sept. 22, 1966,

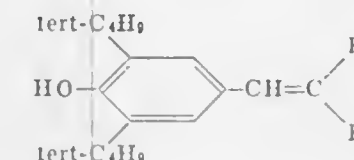
41/62,770

Int. Cl. A01n 9/20

U.S. Cl. 424—304

11 Claims

A fungicidal composition comprising as an active ingredient a fungicidally effective amount of a compound of the formula:



wherein R₁ is hydrogen atom, cyano or a group represented by —COOR₃ or —COR₄; and R₂ is cyano, nitro or a group represented by —COOR₃ or —COR₄, where R₃ is hydrogen atom or a lower alkyl; and R₄ is a lower alkyl group and an inert carrier. This composition is useful for preventing agricultural plant diseases, in particular rice blight.

3,538,227

TRICYCLIC PHENOXY-ACID AND ESTER HYPOCHOLESTEROLEMIC COMPOSITIONS

William Laszlo Bencze, New Providence, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

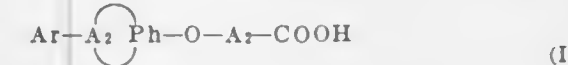
No Drawing. Filed Jan. 30, 1967, Ser. No. 612,345

Int. Cl. A61k 27/00

U.S. Cl. 424—317

2 Claims

Tricyclic phenoxy-acids of the formula I



A₁, A₂=alkylene or alkenylene

Ph=1,2-phenylene

Ar=monocyclic aryl

and their functional derivatives, particularly the 2-(1-phenyl-1,2,3,4-tetrahydro-6-naphthoxy) - isobutyric acid, are hypocholesterolemic agents.

3,538,228

PHARMACEUTICAL PREPARATIONS COMPRISING SULPHUR-CONTAINING AMINO-COMPOUNDS FOR THE TREATMENT OF DEPRESSIVE CONDITIONS AND METHODS THEREFOR

Mohan Damodaran Nair, Bombay, India, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 640,477, May 23, 1967. This application June 10, 1968, Ser. No. 735,584

Claims priority, application Switzerland, June 3, 1966, 8,085/66

Int. Cl. A61k 27/00

U.S. Cl. 424—325

12 Claims

Pharmaceutical preparations for the treatment of depressive conditions comprise an effective amount of a compound of the formula

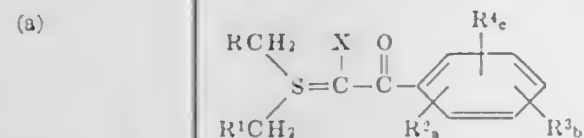


in which Ph represents a substituted phenyl group and Alk is an alkylene separating S and N by at least 2 carbon atoms, and salts thereof.

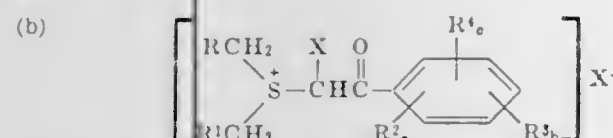
3,538,229
FUNGICIDAL COMPOSITION AND METHOD CONTAINING α -HALOSULFONIUM YLIDS AND α -HALOSULFONIUM SALTS
 Kenneth Wayne Ratts, Creve Coeur, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
 No Drawing. Original application May 11, 1966, Ser. No. 549,162, now Patent No. 3,415,883, dated Dec. 10, 1968. Divided and this application May 31, 1968, Ser. No. 748,888

Int. Cl. A01n 9/12

U.S. Cl. 424—331 4 Claims
 A fungicidal composition and method containing α -halosulfonium compounds which are represented by a formula selected from the group consisting of



and



wherein R and R¹ are each selected from the group consisting of hydrogen, alkyl of not more than 12 carbon

atoms and haloalkyl of not more than 12 carbon atoms containing 1, 2 or 3 halogen atoms, X is halogen (Cl, Br and I), R² is selected from the group consisting of halogen (Cl, Br, F and I) and alkyl of not more than 4 carbon atoms, R³ is selected from the group consisting of NO₂ and alkoxy of not more than 4 carbon atoms, R⁴ is phenyl, a is an integer from 0 to 5 inclusive, b is an integer from 0 to 2 inclusive and c is an integer from 0 to 1.

3,538,230
ORAL COMPOSITIONS CONTAINING SILICA XEROGELS AS CLEANING AND POLISHING AGENTS

Morton Pader, Englewood, and Wilfried Wiesner, West Paterson, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
 Continuation-in-part of application Ser. No. 598,908, Dec. 5, 1966. This application Mar. 28, 1969, Ser. No. 811,345

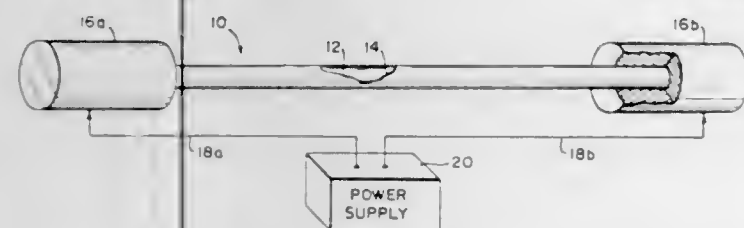
Int. Cl. A61r 7/16

U.S. Cl. 424—50 10 Claims
 A dentifrice composition containing as the essential polishing and cleansing ingredient a synthetic, amorphous, porous silica xerogel having an average particle diameter in the range from about 2 to about 20 microns, and preferably in the range from about 3 to about 15 microns in a cosmetically acceptable amount sufficient to give the dentifrice a dentin abrasion value of at least about 15 units.

ELECTRICAL

3,538,231
OXIDATION RESISTANT HIGH TEMPERATURE STRUCTURES
 Terry F. Newkirk and Marc S. Newkirk, Lynnfield, Mass., assignors to International Materials, Lynnfield, Mass.
 Filed Mar. 25, 1969, Ser. No. 810,318
 Int. Cl. H05b 3/66

U.S. Cl. 13—25 24 Claims



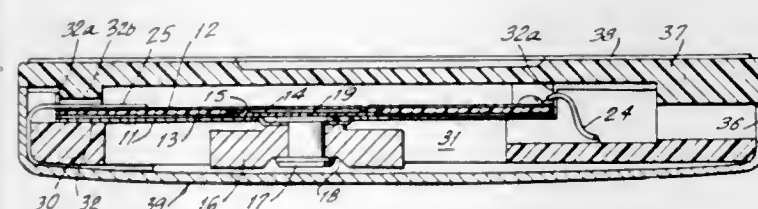
A structure such as a crucible or heating element which operates at very high temperatures in air without atmospheric corrosion has a core member made of tungsten, graphite, carbon or molybdenum. A protective coating covers the core member and is composed of aluminum, preferably also tungsten and a low-melting, nonreactive metal from the group consisting of indium, tin, and gallium.

At the operating temperatures of the structure, the coating remains in a partially liquid state forming a continuous protective film on the core member for an extended period.

3,538,232
MUSICAL INSTRUMENT AND PIEZOELECTRIC PICKUP WITH DIAPHRAGMS AND INERTIAL MASS
 Joseph S. Bachtig, Mahopac, William F. Knauert, Yonkers, and Julius Sternfeld, Tarrytown, N.Y., assignors to Sonotone Corporation, Elmsford, N.Y., a corporation of New York
 Filed Aug. 12, 1968, Ser. No. 751,830
 Int. Cl. G10d 5/00

U.S. Cl. 84—1.14 10 Claims
 An inertia type pickup device for utilization in conjunction with a musical instrument, such as a guitar. The

pickup device is of the piezoelectric type and includes a piezoelectric element centrally retained between a pair of diaphragms. The diaphragms have their peripheries supported by the rigid housing of the device. A weight is attached to the center of one of the diaphragms to increase the mass inertia of the transducer system. When



subjected to a vibration input the peripheries of the diaphragms move relative to their centers, causing flexure of the piezoelectric element and production of electrical signals corresponding to the mechanical vibrations. The device may be simply attached to the musical instrument by a double-faced adhesive member.

3,538,233
ELECTRIC BASS GUITAR AND ELASTOMERIC BRIDGE THEREFOR

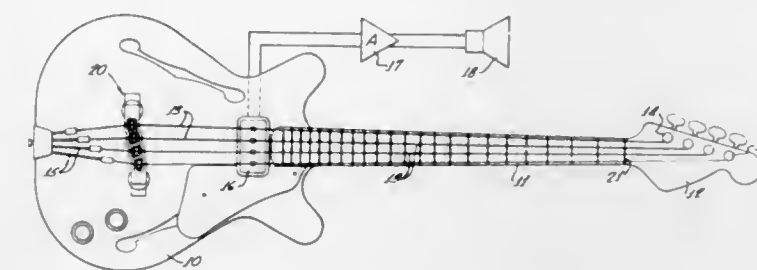
George Stanley Compton, Newport Beach, and Grover G. Fields, Stanton, Calif., assignors to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Filed Nov. 14, 1967, Ser. No. 682,930

Int. Cl. G10d 3/04, 5/00

U.S. Cl. 84—1.16 24 Claims
 An electric bass guitar in which the string-engaging portions of the bridge are formed of an elastomeric material such as rubber. Adjustable mounting means are provided for the elastomeric material and incorporate auxiliary

bridge portions so related to the elastomeric material that only a certain amount of compression of the latter is possible, despite aging and other effects, the elastomeric material remaining operative to provide muting action.

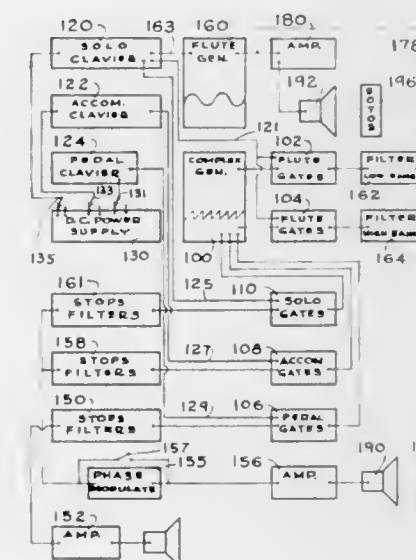


sible, despite aging and other effects, the elastomeric material remaining operative to provide muting action.

3,538,234
ELECTRONIC MUSICAL INSTRUMENT PLURAL TONE GENERATOR SYSTEM WITH CHORUS EFFECTS

Richard H. Peterson, Oaklawn, Ill.
 (11601 S. Mayfield, Worth, Ill. 60482)
 Filed May 8, 1967, Ser. No. 636,810
 Int. Cl. G10h 1/02, 5/00

U.S. Cl. 84—1.24 10 Claims



A first, full-range tone generator operates in parallel with a second, short-range generator which includes only those frequencies at which the sensitivity of the human ear to ensemble or chorus effects is substantial. A first amplifying and transducing channel is associated with signals from the short-range generator and from those portions of the full-range generator above and below the short-range generator frequencies. A second amplifying and transducing channel is associated with signals from the full range generator only. A pair of sound transducers may be rotated at the same or different speeds.

3,538,235
METHOD OF MAKING TELECOMMUNICATIONS CABLES

Ilse Arendt, Peter Wappler, Werner Götze, and Peter Schmidt, Berlin, Germany, assignors to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany

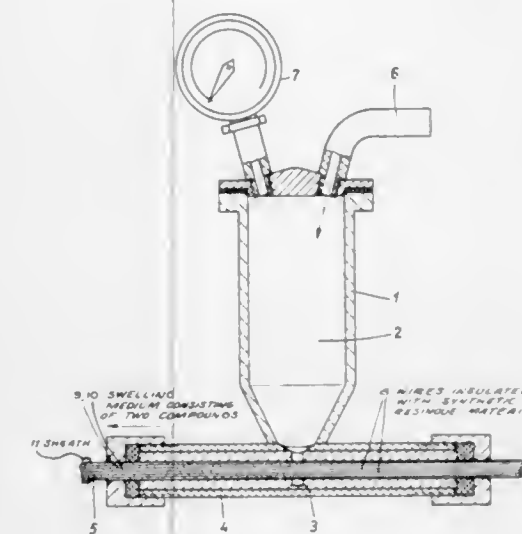
Filed Nov. 26, 1968, Ser. No. 779,062

Claims priority, application Germany, Nov. 27, 1967, 1,690,095

Int. Cl. H01b 7/28

U.S. Cl. 174—23 3 Claims
 Described is a telecommunications cable comprising a cable core of wires insulated with synthetic resinous material, and a sheath surrounding said core. A powdered mix-

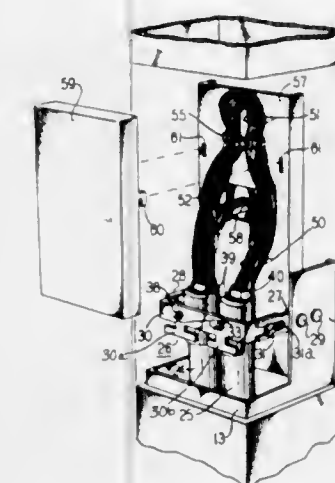
ture is disposed in the space between the wires of the core and is loosely packed over the full length of the cable. This mixture has a first component capable on contact with moisture of rapidly swelling into a viscous material inhibiting axial penetration of moisture along the cable, and a second component which on contact with moisture over



a period of time longer than that required for the conversion of said first component into said viscous material, expands to many times its original volume and/or is converted by swelling into a material having a substantially higher viscosity than that of the viscous material into which said first component is converted.

3,538,236
PEDESTAL CLOSURES FOR BURIED TELEPHONE PLANT
 Robert G. Baumgartner, Baltimore, Md., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
 Filed June 6, 1969, Ser. No. 831,086
 Int. Cl. H02g 9/02

U.S. Cl. 174—38 7 Claims



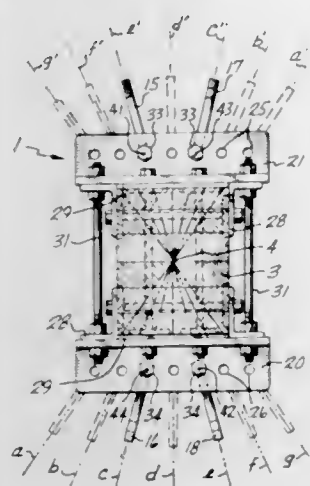
This specification discloses a pedestal-type telephone cable closure consisting of a base and an upper housing of like cross section. The base is mounted on a channel which is driven into the ground separately. The cables are led in through the base bottom and supported on a bonding clamp that also contacts the cable's metallic shield. A center partition in the upper housing physically segregates the pairs to which service wire splices will be made.

3,538,237

UNIVERSAL GUY ATTACHMENT DEVICE
 Edmund E. Hockaway, St. Paul, Minn., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
 Filed Feb. 4, 1969, Ser. No. 796,414
 Int. Cl. H02g 7/20

U.S. Cl. 174-43

6 Claims



Disclosed is a universal hardware device which is secured to the upper end of rectangular cross-sectioned electric utility poles. The dead ends of the electric energy transmission cable and the guy wires are attached to connector members forming part of the device. Each connector is mounted for pivotal movement about a vertical axis. A supporting structure provides a number of pivot points for the connector member so that a broad range of changes in the cable running angle can be accommodated by the same device by changing the pivot location of the connector member yet the forces applied to the pole through the pivot points for the connectors by the guys and electric cables pass through the center axis of the pole.

3,538,238

FLEXIBLE GUIDE PIPE FOR UNDERWATER DRILLING

Jacques Delatour, Paris, Remi Reynard, Montesson, and Michel Chatard, Chatou, France, assignors to Institut Francais du Pétrole des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France
 Filed June 28, 1968, Ser. No. 741,138
 Claims priority, application France, June 29, 1967, 112,552

Int. Cl. H01b 7/00; E21b 7/12

U.S. Cl. 174-47

7 Claims



A flexible pipe permanently connects a submerged well head with a surface installation and is used both for guid-

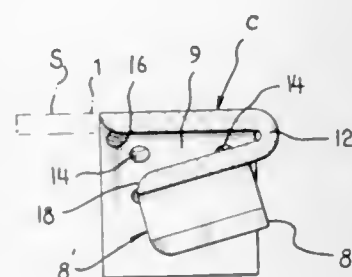
ing the lowering of the drill bit and for conveying the flushing fluid. This pipe which may include conductors for remote control is constituted by the combination of an internal armoring formed by the helical winding of a strip with interlocking convolutions and of an external sleeve tightly surrounding this armoring.

3,538,239

GROUNDING WIRE CONNECTOR
 Floyd Harold Renshaw, Jr., Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
 Filed Dec. 26, 1968, Ser. No. 787,140
 Int. Cl. H02g 15/08

U.S. Cl. 174-75

7 Claims



An electrical connector for connecting the outer conductive braid of shielded wire or coaxial cable to grounding wire means is disclosed. The connector has inner ferrule means disposed within outer ferrule means. The conductive braid and grounding wire are disposed in a space between the ferrule means whereafter the connector is crimped there onto. The center conductor and insulation of the shielded wire or coaxial cable continue unbroken through the connector to an associate electrical element. The pre-crimped configuration of the connector enables the connector to be easily positioned along the braid.

3,538,240

TERMINAL DEVICE

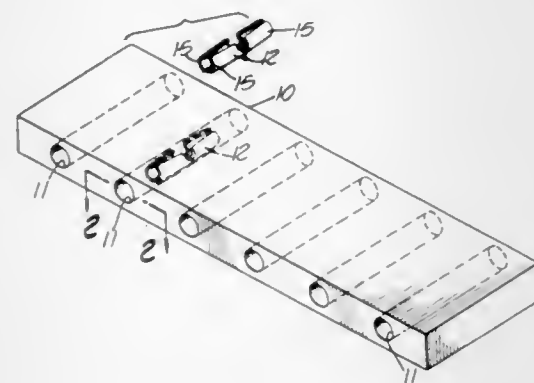
Hugh Paul Sherlock, Palo Alto, Calif., assignor to Raychem Corporation, Menlo Park, Calif., a corporation of California

Filed Aug. 12, 1968, Ser. No. 751,965

Int. Cl. H02g 15/08

U.S. Cl. 174-88

6 Claims



A terminal device comprising a strip of heat shrinkable plastic material having a plurality of passageways through which a pair of conductor terminating pins are inserted. Once all of the pins have been properly located, the strip is shrunk down around them to firmly secure them in place and to establish good electrical contact between the pins and the socket contact.

3,538,241

ARRANGEMENT FOR CAPACITIVE CONTROL OF THE VOLTAGE DISTRIBUTION ON ELECTRICAL INSULATORS

Asgaut T. Rein, Trondheim, Norway, assignor to Elektrisitetsforsyningens Forskningsinstitutt, Trondheim, Norway

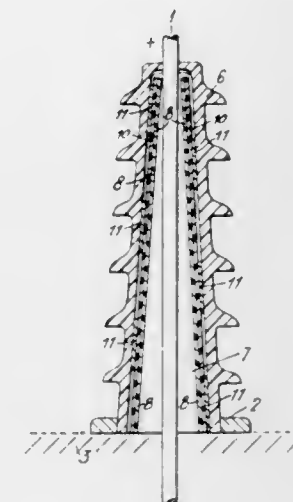
Filed Oct. 14, 1968, Ser. No. 767,432

Claims priority, application Norway, Oct. 18, 1967, 170,184

Int. Cl. H01b 17/28; H02g 15/02

U.S. Cl. 174-143

6 Claims



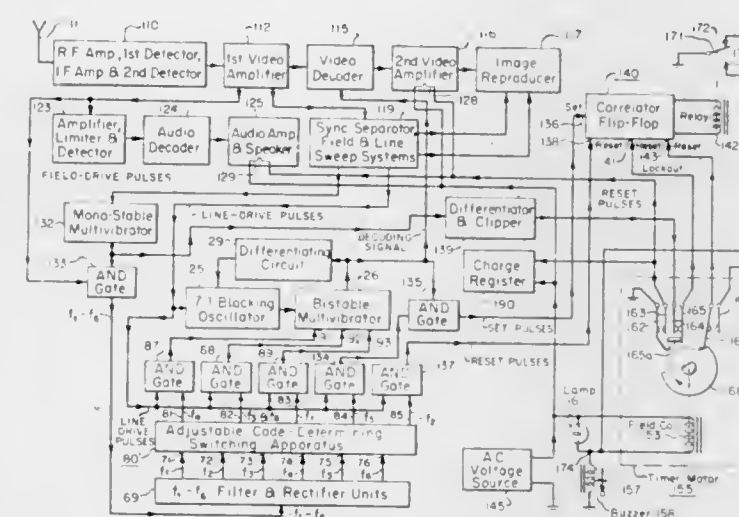
An insulation tape having spaced electrode strips thereon is wound along a supporting insulation member between terminals of a high potential source to provide a series connection of capacitors for voltage distribution.

3,538,242

SUBSCRIBER COMMUNICATION SYSTEM
 Charles F. Hepner, Chicago, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
 Filed Jan. 3, 1966, Ser. No. 518,191
 Int. Cl. H04n 1/32

U.S. Cl. 178-5.1

12 Claims



As a prerequisite to the utilization of a received intelligence signal in a subscriber receiver, an adjustable apparatus must be positioned by the subscriber to a predetermined required adjustment. Correlation testing circuitry performs a series of time spaced correlation tests to determine if the adjustable apparatus has in fact been properly positioned to the required adjustment. When a number of such tests indicate a condition of correct correlation between the required adjustment and the actual adjustment of the apparatus at the time, enabling circuitry is rendered operable to enable the receiver to utilize (i.e., intelligibly reproduce) the intelligence signal. In addition,

after it has been positively established that correct correlation prevails, the correlation testing circuitry is effectively made inoperative to immunize the receiver against noise, airplane flutter, etc., which may otherwise cause the testing circuitry to disable the receiver.

3,538,243

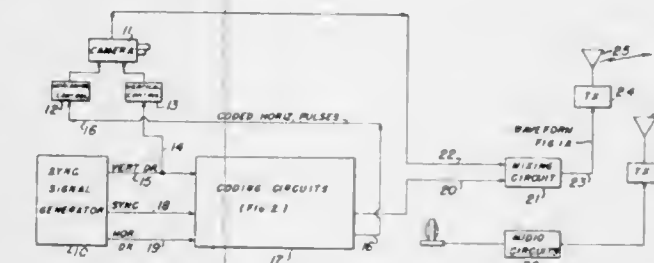
SUBSCRIPTION TELEVISION SYSTEM

William J. Shanahan, Whitestone, Richard F. Vetter, Huntington Station, and Edward I. Sacks, Briarcliff Manor, N.Y., assignors to Skiatron Electronics & Television Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 418,642, Mar. 25, 1954. This application Sept. 23, 1965, Ser. No. 494,295
 Int. Cl. H04n 7/16

U.S. Cl. 178-5.1

31 Claims



A system and technique for transmitting scrambled television pictures, preferably with record cards employed at the receiver for effecting the unscrambling of the video signals. Code information relating to the scrambled information is transmitted with the composite video and synchronizing signals and is decoded by a matrix of which the record card makes up a part to produce normal video signals for reproduction/code circuits utilizing delay lines for altering the received video signals to conform to a prearranged plan, and the use of a master code whereby the coding may be subdivided as by days, or weeks or the like to provide additional protection are also disclosed.

3,538,244

IDENTIFICATION CIRCUIT FOR PHASE ALTERNATING LINE SYSTEM OPERATION OF COLOR VIDEO TAPE RECORDERS

Peter Swift Carnt, Herrliberg, Zurich, and Theodore Ernest Bart, Zurich, Switzerland, assignors to RCA Corporation, a corporation of Delaware

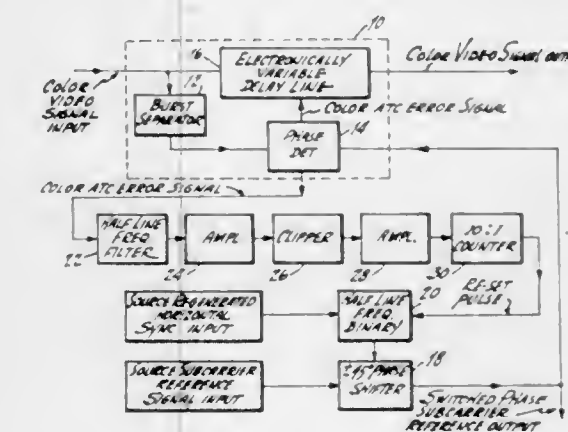
Filed Oct. 19, 1967, Ser. No. 676,479

Claims priority, application Great Britain, Jan. 27, 1967, 4,210/67

Int. Cl. H04n 9/46

U.S. Cl. 178-5.4

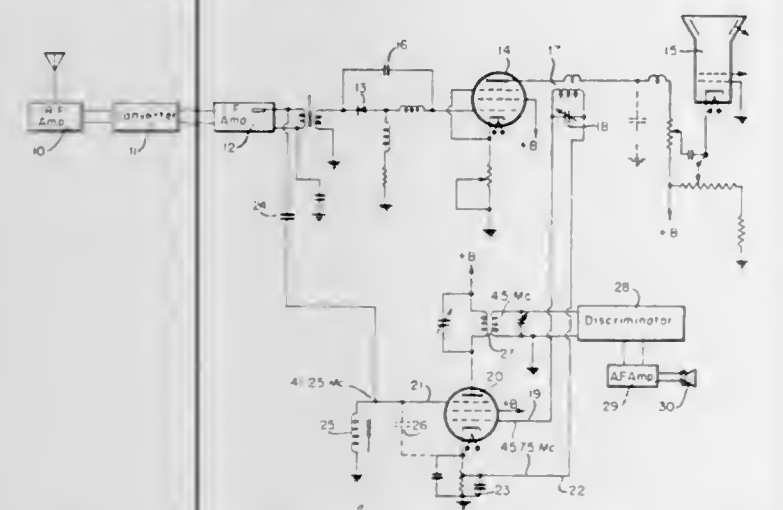
6 Claims



A system in a color television signal recorder for sensing when the ATC mode of operation is incorrect due to out of phase switching of a reference subcarrier wave. Means are provided to reliably detect the incorrect ATC operating mode and to provide a signal to reset and there-

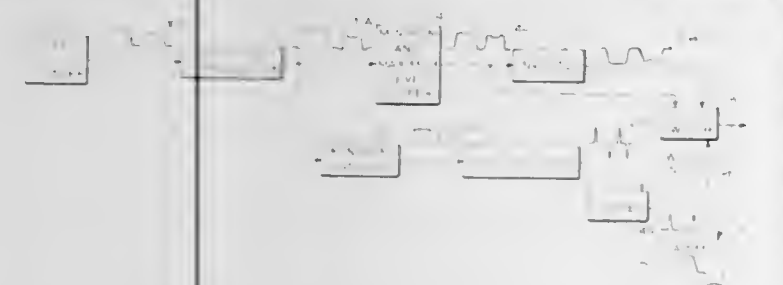
by correct the phase switching of the reference subcarrier wave.

3,538,245
INTERCARRIER TELEVISION SYSTEMS WITH CANCELLATION OF AMPLITUDE MODULATION IN THE INTERCARRIER SOUND SIGNAL
Louis W. Parker, 2040 N. Dixie Highway, Fort Lauderdale, Fla. 33305
Filed July 24, 1968, Ser. No. 747,332
Int. Cl. H04n 5/62
U.S. Cl. 178—5.8



In an intercarrier system, the separated picture and sound I.F. carriers are applied respectively to different control electrodes of a mixer stage, which control electrodes are operated in a non-linear fashion; and the F.M. sound carrier is then taken from the mixer stage by a tuned circuit and fed to a discriminator.

3,538,246
BANDWIDTH REDUCTION TECHNIQUE FOR ANALOG SIGNALS
Albert Macovski, Palo Alto, and James R. Woodbury, Los Altos, Calif., assignors, by mesne assignments, to Southern Pacific Transportation Company, San Francisco, Calif., a corporation of Delaware
Filed May 22, 1968, Ser. No. 731,162
Int. Cl. H04b 1/66; H04n 1/40
U.S. Cl. 178—6

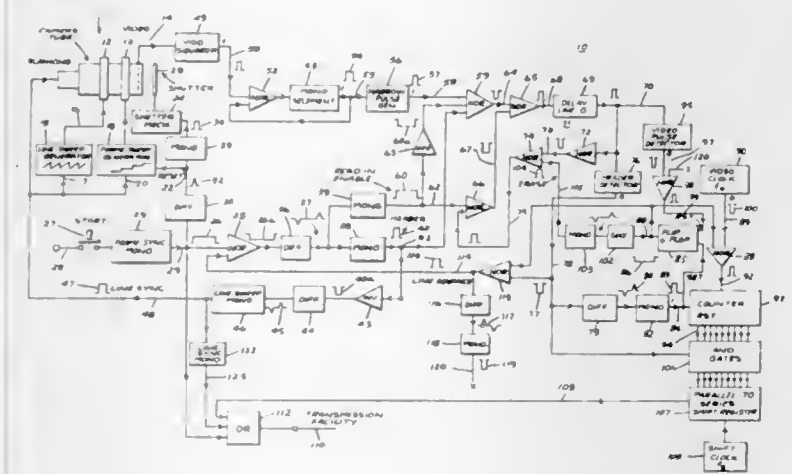


A modified duobinary encoding technique is employed for reduction in bandwidth. However, instead of only digital information being conveyed, the transmitted signals are permitted to vary in amplitude so that analog information is provided.

3,538,247
TIME-BANDWIDTH REDUCTION SYSTEM AND METHOD FOR TELEVISION
Robert V. Quinlan, Ho-Ho-Kus, N.J., and Edward S. Smierciak, Fort Wayne, Ind., assignors to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,654
Int. Cl. H04n 7/10
U.S. Cl. 178—7.1

A time-bandwidth reduction system and method for the television transmission of still, two-color images. The

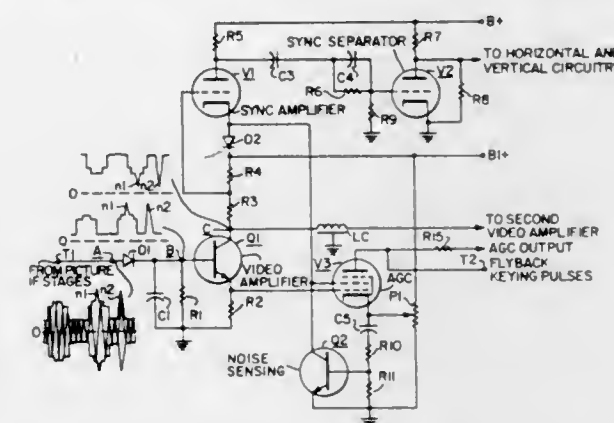
optical image to be transmitted is scanned in conventional fashion, but one line at a time, by a conventional camera tube, thereby providing a one-line video signal; scanning of the next line is not begun until all of the information in the previous line has been processed and transmitted. A synchronizing signal is inserted at the start of each one-line video signal, which is then inserted into and recirculated through a delay line thereby to provide a succession of delayed one-line video signals each having a synchronizing signal at its start. Circuitry is provided to detect the synchronizing signal in each delayed one-line video signal and to initiate a pulse counting operation in response thereto, and circuitry is provided to detect the first occurrence of a video signal having a predetermined level, such as black, in each delayed one-line video signal and to terminate the counting operation in response thereto, the pulse count therefore indicating the location in the respective one-line video signal of the first such video signal. This pulse count is converted to a digitally encoded signal for transmission. Meanwhile, the detected first video signal in each delayed one-line video signal is erased prior to the next recirculation of the one-line video signal through the delay line so that the second such video signal becomes the first video signal in the next successive delayed one-line video signal, the location-detection, digital encoding and erasing process then being successively repeated until the delayed one-line video signal contains no



video signals having the predetermined level, for example, the delayed one-line video signal is all white. The absence of such a video signal in the delayed one-line video signal is sensed and the scan of the next line by the camera tube is initiated. Thus, for each successive delayed one-line video signal, the first video element, such as black, appearing after the respective delayed synchronizing signal is detected, its position information transmitted, and it is then erased so that on the next recirculation of the delayed one-line video signal through the delay line, the next successive video element is detected, its position information transmitted, and it is erased, and so on, until all of the video elements have been processed out of the line of scanned information.

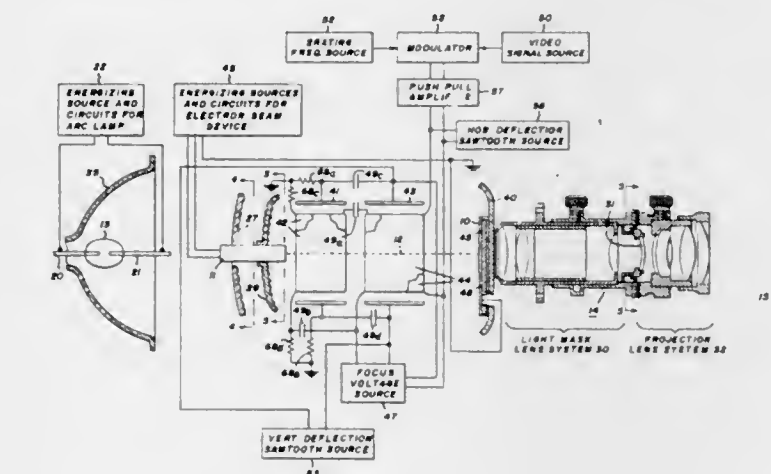
At the receiving station, each digitally encoded transmitted signal is decoded to provide a corresponding pulse count. A line sweep and a pulse counting operation is initiated in response to each decoding operation. The line sweep is interrupted and a video element, such as black, stored in response to detection of coincidence between the decoded pulse count and the pulse count resulting from the pulse counting operation. The line sweep remains stationary until the next video element position is received and decoded, at which time the sweep is resumed until the next coincidence is detected, at which point the sweep is again stopped and another video element stored. Display of the received information may be by means of a conventional signal-to-image storage display tube.

3,538,248
IMPULSE NOISE IMMUNE CIRCUITRY
Richard G. Popovich, Middletown, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 19, 1967, Ser. No. 647,053
Int. Cl. H04n 5/52
U.S. Cl. 178—7.3



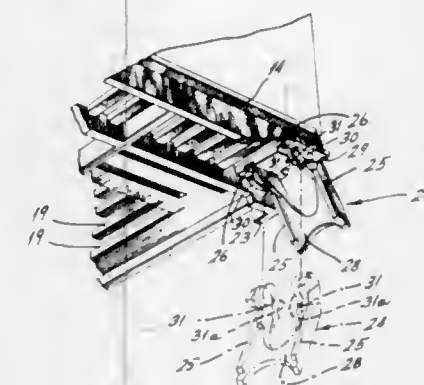
The present disclosure relates to a noise immune sync separating and automatic gain control system for use in a television receiver receiving television signals including video and synchronizing information and subject to noise impulses of excessive amplitude. In the noise immune system the television is detected and applied to a video amplifier to provide a output having a predetermined polarity. This output is supplied to a sync amplifier for providing an amplified output of a proper polarity to activate a sync separating stage to separate the synchronizing information from the composite television signal. The automatic gain control stage is supplied by signals having a polarity to which the sync separating stage is responsive. A noise circuit is employed including a switching device which is responsive to excessive amplitude noise impulses to cause the sync amplifier to be driven heavily into conduction and provide an output to which the sync separator is non-responsive and also rendering the automatic gain control stage non-responsive to the noise impulses.

3,538,249
DEFORMABLE MEDIUM PROJECTION APPARATUS
Michael Graser, Jr., Fayetteville, and Henry J. Vanderlaan, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 5, 1965, Ser. No. 493,139
Int. Cl. H04n 5/74
U.S. Cl. 178—7.5



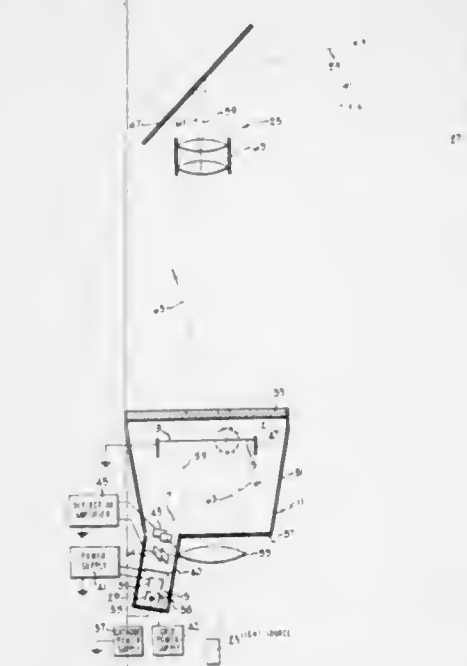
The guard bands in the schlieren optics in a light valve projector are made variable to provide improved brightness and resolution without comprising the blocking function thereof.

3,538,250
PORTABLE TELEVISION RECEIVER CABINET STRUCTURE HAVING ADJUSTABLE LEGS
William D. Franklin, Sr., and Alex Kozlow, Philadelphia, Pa., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 10, 1968, Ser. No. 743,687
Int. Cl. A47b 81/06; H04n 5/64; H05k 5/00
U.S. Cl. 178—7.9



A portable cabinet is provided with a pair of pivotally adjustable and removable support members which aid in positioning the cabinet at certain desired angles. When the support members are affixed to the forward base corners of the cabinet and rotated to their extended position, the cabinet is tilted slightly backward when disposed upon a horizontal support, and when similarly affixed to the rearward base corners, the cabinet is tilted forward. Alternatively, the support members may be rotated to a non-extended position to level the cabinet.

3,538,251
LIQUID FILM DISPLAY METHOD AND APPARATUS
Eli C. Gear, San Diego, Calif., assignor, by mesne assignments, to Stromberg Datagraphics Inc., San Diego, Calif., a corporation of Delaware
Filed June 9, 1967, Ser. No. 644,837
Int. Cl. H01j 29/89; H04n 3/16; G02f 1/30
U.S. Cl. 178—7.87



The embodiments illustrated include a thin dielectric membrane upon one surface of which is disposed a relatively even layer or film of liquid. An electron beam modulated by the intelligence to be displayed is directed at the membrane on the side opposite the liquid film to thereby disturb its surface contour in a manner and at a location determined by the intensity and point of impact

of the electron beam. Light rays directed at the film are dispersed by the disturbed contour of the film while unaffected light rays are projected on a screen.

3,538,252

START PULSE RECEIVING CIRCUIT

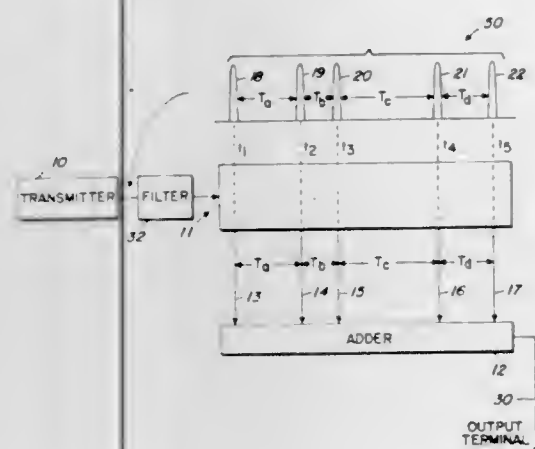
William J. Melvin, Costa Mesa, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Jan. 23, 1967, Ser. No. 610,894

Int. Cl. H04L 15/00; H04b 1/00, 1/10

U.S. Cl. 178-68

4 Claims



The start pulse code comprises a train of N pulses time spaced apart so that no single time spacing or combination of adjacent time spacing is equal to any other single time spacing or combination of adjacent time spacings. Receiving said pulse train is a delay line having N taps spaced therealong at time delayed intervals which taps coincide with the pulses of said start pulse train at one, and only one, point in time as said pulse train propagates therethrough. A voltage adder adds the outputs on said taps at said one point in time to produce a single, large start pulse.

3,538,253

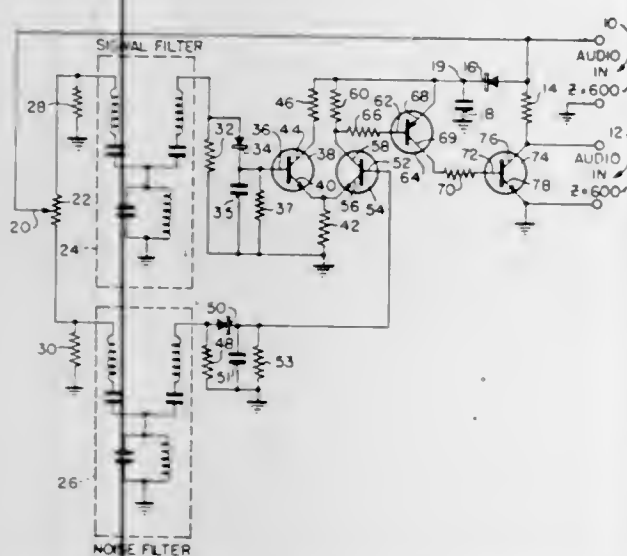
SIGNAL POWERED SIGNAL-TO-NOISE SQUELCH
Edward C. Braun, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Oct. 16, 1967, Ser. No. 675,656

Int. Cl. H04b 1/10, 1/06

U.S. Cl. 179-1

7 Claims



A transistorized squelch circuit which is signal powered serves to shunt the audio signal when the noise level exceeds a predetermined relationship to signal. A portion of the audio signal is rectified and supplies the power for each of the transistors which are used in the circuit. The

remainder of the audio signal is applied through a ratio determining resistor to a signal filter tuned to pass approximately 2200 c.p.s. The output to each filter is approximately 500 c.p.s. and a noise filter tuned to pass applied to a difference amplifier which produces a voltage drop when the output from the 2200-cycle noise filter exceeds the output from the 500-cycle signal filter. The output from the difference amplifier closes an electronic switch to shunt the audio output.

3,538,254

AUTOMATIC SOUND SYSTEM WITH A PLURALITY OF MICROPHONES

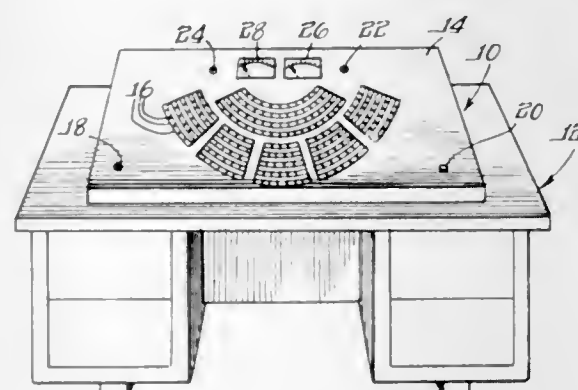
Robert F. Ancha, Arlington Heights, Ill. (% Ancha Electronics Inc., 7055 W. Higgins Ave., Chicago, Ill. 60656)

Filed July 30, 1968, Ser. No. 748,810

Int. Cl. H04r 27/00

U.S. Cl. 179-1

5 Claims



A sound system comprises a source of direct current power and a first and a second plurality of electrical conductors arranged respectively as the columns and rows of a rectangular matrix. These two sets of electrical conductors are connectible respectively to the positive and negative terminals of the power source, and the sound system of the invention further comprises a number of microphone and switching circuits which are adapted to be installed individually at the seats of an auditorium arrangement. Each of the microphone and switching circuits includes a control relay having a coil connected to one of the first set of conductors and to one of the second set of conductors that forms a matrix junction with the first conductor. A microphone is connectible to a loudspeaker arrangement through contacts of the control relay, and the sound system further comprises an information circuit that is connected between the power source and the control relay for use in selectively completing and breaking circuits from the microphone to the loudspeaker arrangement.

3,538,255

ARRANGEMENT FOR REMOTE CONTROL OVER THE TELEPHONE NETWORK

Ivan W. Grundin, Upplandsgat. 17, Stockholm, Sweden; and Gustaf Uno Tingl6f, Nykroppsg. 19; and Hilding Tolly Hjelm, Sockerbagarvagen 15, both of Farsta, Sweden

Filed Dec. 12, 1967, Ser. No. 689,963

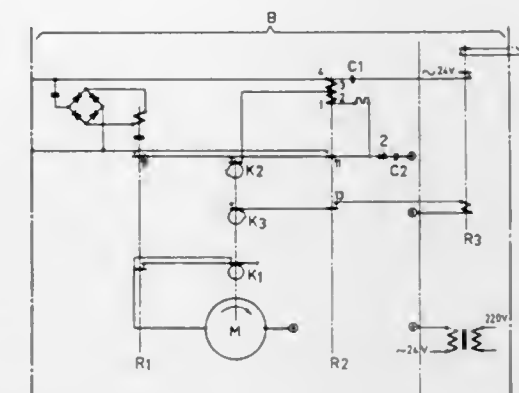
Int. Cl. H04m 11/00

U.S. Cl. 179-2

8 Claims

A system is controlled from a remote point by ringing a telephone in communication with a device for controlling the system. Three cams are rotated in unison as soon as the telephone rings each cam corresponding to three subsequent time periods, the first and second periods being of a predetermined length such as 60 sec. each, the third of the periods having an optional length and effec-

tive to actuate the control equipment device to turn on the system provided the caller holds the handset off the tele-



phone cradle at least until the beginning of the third period.

3,538,256

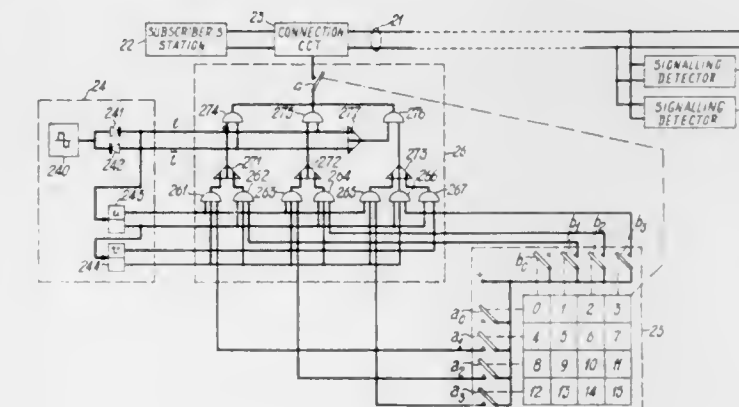
KEYBOARD SIGNALLING SYSTEM

Pierre M. Lucas, 20 Rue Tariel, Issy-les-Moulineaux, France
Filed Dec. 2, 1968, Ser. No. 780,536
Claims priority, application France, Dec. 8, 1967, 131,606

Int. Cl. H04m 11/06

U.S. Cl. 179-2

3 Claims



KEY	VALUE	KEY	VALUE	KEY	VALUE	KEY	VALUE
0000	0	0001	1	0010	2	0011	3
0100	4	0101	5	0110	6	0111	7
1000	8	1001	9	1010	10	1011	11
1100	12	1101	13	1110	14	1111	15

A signalling system for a communication circuit, employing sequences of pulses chosen from a series of binary signals of positive and negative amplitude, and comprising a transmitter, including a keyboard with a plurality of keys arranged in rows and columns, each key of which when depressed causes the closing of a row switch, of a column switch and a common switch, an oscillator supplying alternating positive and negative pulses for controlling a chain of flip-flops arranged as frequency dividers, and a set of gates selectively transmitting the

said positive and negative pulses to a transmission line through the aid common switch, under the control of the aid flip-flops and of the said row and column switches, the arrangement being such that a sequence of pulses consisting of an identification signal and a signal characteristic of the key depressed can be transmitted. The receiver comprises an oscillator having a frequency multiple of that of the above said oscillator, a plurality of flip-flops, a binary counter, a set of gates, a shift register, a detector of identification signals and devices for transmitting the said characteristic signals following on said identification signals to logical systems for controlling the connections effected through the said circuit.

3,538,257

EVENT-RESPONSIVE TELEPHONE SIGNAL DEVICE

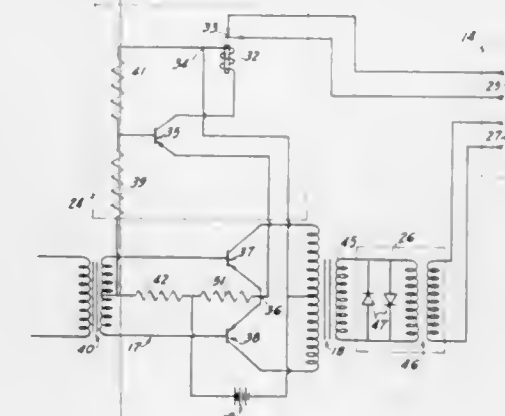
Thomas G. Wright, Jr., 40 Peachtree Valley Road, Apt. H-7, Atlanta, Ga. 30309; Robert D. Trammell, Jr., Rte. 1, Box 90, Suwanee, Ga. 30174; and Cyril F. Bell III, 300 Chester St., Marietta, Ga. 30060

Filed Oct. 31, 1967, Ser. No. 679,324

Int. Cl. H04m 11/04

U.S. Cl. 179-5

8 Claims



What is disclosed herein is a signal device for providing a message at a telephone located at a particular location in response to the occurrence of an event at a location remote from the particular location. As disclosed herein, the signal device includes a conventional tape recorder, an input unit by which programmed series of pulses and a verbal message are recorded on the magnetic tape of the tape recorder, and an output unit by which the programmed series of pulses and the verbal message on the magnetic tape of the tape recorder are fed to a convention telephone coupler to pulse a telephone circuit for the number of a particular telephone and to provide the verbal message at the particular telephone. The input unit includes an oscillator and a mixer for selectively providing the output of the oscillator or the output of a microphone to the recording jack of the tape recorder. The output unit includes a pulse generator responsive to voltage pulses in the circuit of the audio amplifier in the tape recorder when the amplifier is overdriven and a matching unit for matching the output impedance of the audio amplifier in the tape recorder to the input impedance of the telephone coupler.

3,538,258

TIME MEASURING AND COUNTING APPARATUS

Walter Zuckerman, 15622 Royal Ridge Road, Sherman Oaks, Calif. 91403
Filed Apr. 3, 1968, Ser. No. 718,528

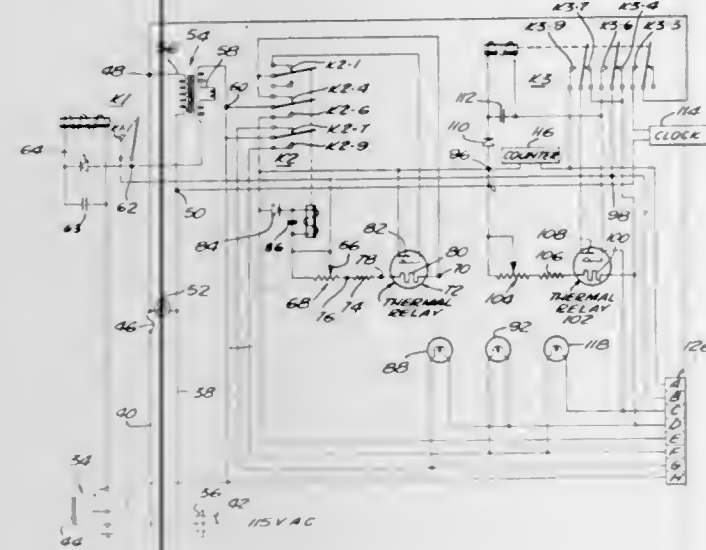
Int. Cl. H04m 15/18

U.S. Cl. 179-7.1

13 Claims

An apparatus for monitoring the usage of a telephone line comprising, in combination with a "line in use" lamp; a monitor unit, a sensor unit, and a remote control unit.

The sensor unit includes a light transducer which, in response to light energy emitted by the "line in use" lamp, activates the monitor unit when a telephone call is initiated. The monitor unit includes time delay and holding relay circuits for providing adjustable time delays to simulate the time required for dialing a call, and for the call to be answered after the dialing has been completed. At the end of the delay periods, the elapsed time of the



use of the line is automatically registered by a clock device having a digital readout display. Also after the end of the delay periods, the call is counted by a counter device having a digital readout display. A remote control unit is electrically connected to the monitor unit, and the remote control unit incorporates manually actuated control circuits by means of which a remotely located operator, when available, may control the start of the elapsed time recording period.

3,538,259

PHASE ADJUSTING ARRANGEMENT FOR FM STEREO RECEIVER

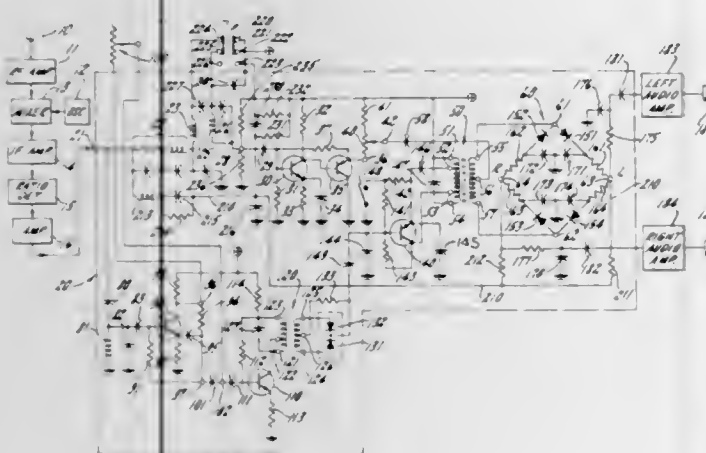
Rodman S. Brahman, Berrien Springs, Mich., assignor to Heath Company, St. Joseph, Mich., a corporation of Delaware

Filed Nov. 16, 1967, Ser. No. 683,725

Int. Cl. H04h 5/00

U.S. Cl. 179-15

1 Claim



An FM stereo receiver for receiving a multiplex signal in which the L-R signal is modulated on a subcarrier, the receiver having a detector and demultiplexing circuit with means for adding a locally generated reference wave, adjustable in phase, to the subcarrier signal from the

detector stage and with means for temporarily shifting the signal 90° so that the reference wave may be adjusted to proper phase by listening for a null condition.

3,538,260

DIAL CONTROLLED REMOTE-TO-LOCAL EXCHANGE REPEATER FOR A PRIVATE EXCHANGE

Johannes M. Brouwer, Hilversum, Netherlands, assignor to U.S. Phillips Corporation, New York, N.Y., a corporation of Delaware

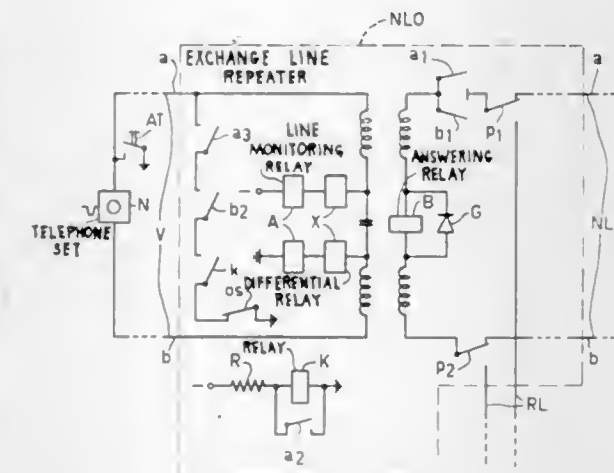
Filed Aug. 31, 1967, Ser. No. 664,802

Claims priority, application Netherlands, Sept. 7, 1966, 6612569

Int. Cl. H04m 3/42

U.S. Cl. 179-16

5 Claims



A private automatic branch exchange employs an additional relay in order to enable a "call-back" connection to be established in response to a dialling pulse as well as operation of a grounding key. The call-back connection transfers a telephone set from external exchange lines to the local exchange lines.

3,538,261

MULTIPLE PARTY CONNECTION

Gerhard Merz, Rommelshausen, Germany, assignor to International Standard Electric Corporation

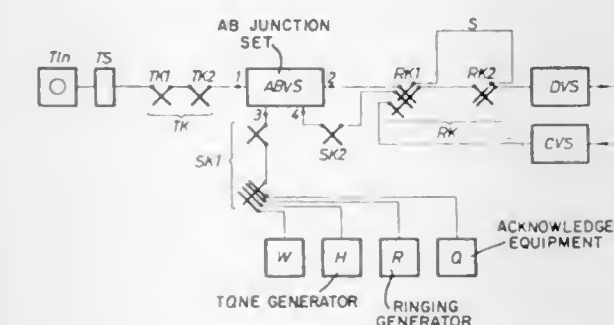
Filed Nov. 21, 1966, Ser. No. 595,719

Claims priority, application Germany, Nov. 27, 1965, St 24,696

Int. Cl. H04m 3/56

U.S. Cl. 179-18

3 Claims



The dual station line appearances previously used in connecting multiple parties is replaced in this system by using two way junction means between the subscriber switching grid and the subsequent directional switching grid. The two way junction means is also connected through an auxiliary switching grid to the directional switching grid. A pre-wired connection within the multi-stage directional switching grid is used for the connection to the third party back through the two way junction means.

3,538,262

CIRCUIT ARRANGEMENT TO FORWARD DIAL INFORMATION IN EXCHANGE SYSTEMS WITH DIRECT DISTANCE DIALLING OF TELECOMMUNICATION, PARTICULARLY TELEPHONE SYSTEMS

Lorenz Gasser, Stuttgart, and Dieter Schadewald, Merkingen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

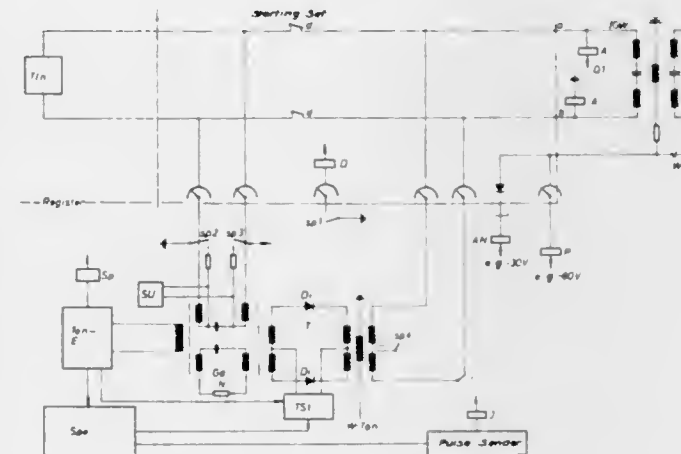
Filed Aug. 18, 1967, Ser. No. 661,638

Claims priority, application Germany, Aug. 23, 1966, St 25,788

Int. Cl. H04m 3/02

U.S. Cl. 179-18

7 Claims



In telephone systems in which, besides the conventional dial-switch telephone sets, also audio-frequency key dialling telephone sets are connected, a dial pulse receiving device (register) is connected, which register, if the calling subscriber has a telephone set with a dial switch, is switched off at the first pulse. If the subscriber has a key-dialling telephone set (frequency code) the register is held operative and the DC-loop leading to the first selector stage is split into two partial loops. The telephone set of the subscriber is powered from the register.

3,538,263

REPERTORY DIALER

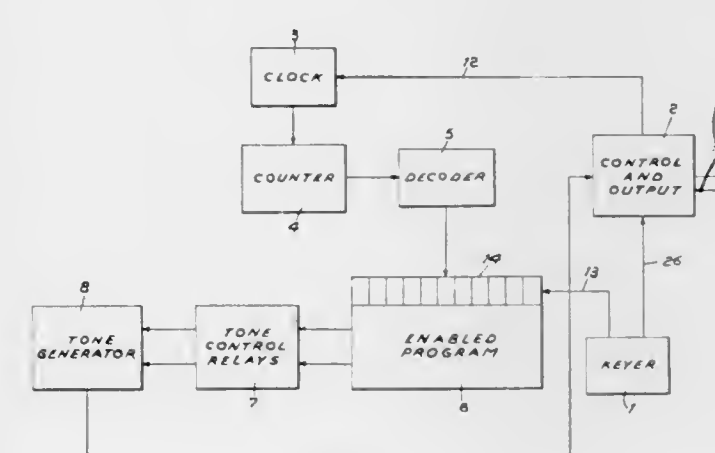
Anthony M. Midis, Montclair, and Peter N. Konidaris, Hillsdale, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Feb. 7, 1967, Ser. No. 614,511

Int. Cl. H04m 1/45

U.S. Cl. 179-90

9 Claims



An automatic dialer of a plurality of multidigit addresses in which the activation of one key automatically dials a multidigit address by generating sequential pulses which are fed to a plurality matrix each of which in turn control a pair of tone generators for transmitting a sequence of address tones to a communication line.

3,538,264

ANNUNCIATOR SYSTEM WITH DIGITAL MEANS FOR SELECTING INDIVIDUAL MESSAGE ELEMENTS FOR THE SYNTHESIS OF AN AUDIO MESSAGE

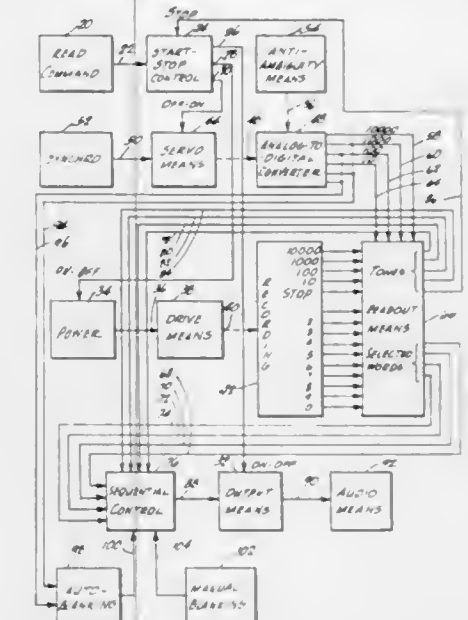
William D. Van Dyke, Palos Verdes Estates, Calif., assignor to McDonnell Douglas Corporation, a corporation of Maryland

Filed Apr. 8, 1968, Ser. No. 719,322

Int. Cl. G08b 3/00, 21/00; G11b 23/18

U.S. Cl. 179-100.2

10 Claims



Annunciator system including recording and playback means having a plurality of channels containing respective groups of message elements recorded therein, converter means for providing a multiple order digital number representation which is variable according to a changeable parameter as aircraft altitude, each digit identifying a corresponding channel according to the digit value and the digit order identifying a corresponding message element of the group recorded in the channel, and electively operable means controlled according to such digital number for forming an unambiguous composite audio message from the identified channels and message elements. Manually settable means further produce automatic readouts at selected altitudes.

3,538,265

INSTANT REPLAY SYSTEM FOR RADIOS AND THE LIKE

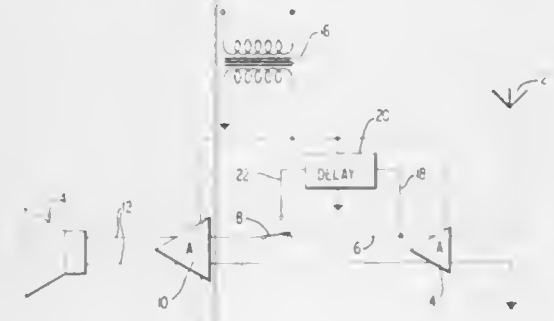
Miner S. Keeler II, 2525 Indian Trail SE., Grand Rapids, Mich. 49508

Filed Feb. 1, 1968, Ser. No. 702,271

Int. Cl. G11b 5/48, 31/00; H04b 1/20

U.S. Cl. 179-100.11

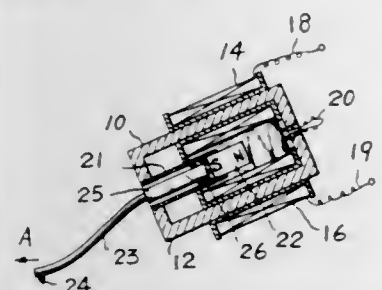
5 Claims



This disclosure relates to a radio or television system wherein reproduced portions can be repeated or replayed so that desirable excerpts can be reheard or reseen and/or so that commercials can be eradicated and replaced with more interesting subject matter. The system employs a delayed signal means such as a continuous tape with recording, reproducing, and erasing heads, and a switch

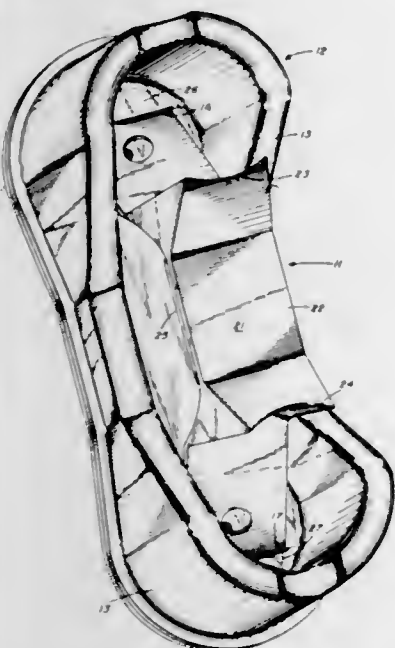
which delivers a signal to visual and/or aural reproduction equipment from either the delay circuit or directly from the signal input to the system.

3,538,266
MAGNETIC PICKUP WITH INDUCING MAGNET AXIALLY ALIGNED WITH THE ARMATURE
 Masanobu Cho, Tokyo, Japan, assignor to Micro Seiki Company, Limited, Tokyo, Japan
 Filed July 16, 1968, Ser. No. 745,177
 Claims priority, application Japan, Oct. 6, 1967, 42/64,074
 Int. Cl. H04r 11/12
 U.S. Cl. 179—100.41 9 Claims



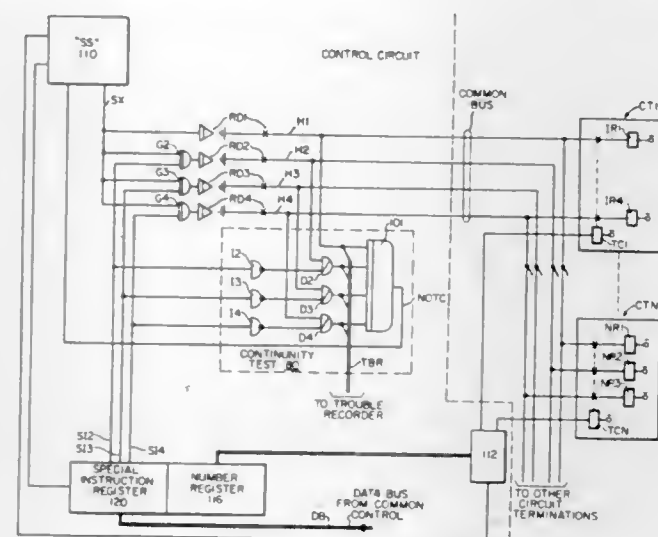
A phonograph pickup cartridge having a permanent magnet spaced a predetermined distance from an armature and disposed with the magnetic poles of the magnet being on the extended axis of the armature. The magnet magnetically energizes the armature so that coils of an electromagnetic circuit may generate therein an output signal voltage according to the oscillation of the armature. The magnet also operates to attract the armature so that the traction forces on the armature produced while tracking a record by the friction between a stylus and the record is effectively minimized or is cancelled.

3,538,267
CRADLE FOR MAINTAINING A TELEPHONE HANDSET IN AN INVERTED POSITION
 David T. Ross, Los Angeles, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
 Filed June 12, 1968, Ser. No. 736,397
 Int. Cl. H04m 1/06
 U.S. Cl. 179—146 7 Claims



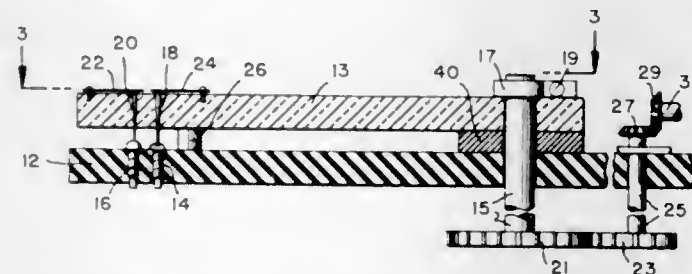
This invention consists of a cradle for supporting a telephone handset in an inverted position. The cradle comprises a contoured body member and a flexible retainer which together form two recesses. The recesses are shaped so as to positively hold the mouth and ear pieces of the telephone handset when it is placed in the cradle. The handset may be released from the cradle by pressing in the flexible retainer.

3,538,268
CONTINUITY FAULT DETECTION
 Alfred S. Cochran, Elmhurst, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
 Filed May 9, 1968, Ser. No. 728,006
 Int. Cl. H04m 3/24
 U.S. Cl. 179—175.25 6 Claims



Apparatus for checking the continuity of selected ones of a plurality of leads in a common bus extending from a marker to terminating circuits, such as line, trunk and junctor circuits in a communication switching system. This bus from the marker is connected to a particular terminating circuit during the extension of a call there-through. In this process the terminating circuit is connected, via relay contacts, to only selected ones of the common bus leads. Some of these leads are used in every connection to the terminating circuit, while others are used only on occasion. Prior to processing, the leads are tested for proper connections to the terminating circuit. The checking circuit consists of a coincidence gate having input connections directly to the common bus leads which have connections to every circuit termination, and input connections via detector gates to the common bus leads which do not have connections to every circuit termination. Each detector gate is also provided with other input connections from the marker, and is normally enabled by one of these inputs. To check for lead continuity, detector gates associated with leads which are to be used are inhibited, but are enabled by the continuity signal on the respective common bus lead. The coincidence gate, in response to the detector gate outputs and the common bus lead conditions, generates a signal indicative of continuity or lack of continuity.

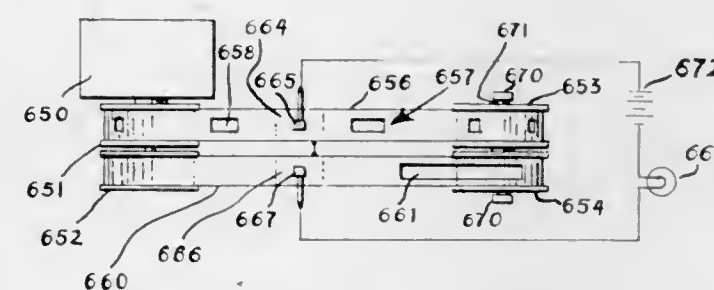
3,538,269
SCANNING SWITCH
 Ernest T. Long, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
 Filed July 30, 1968, Ser. No. 748,838
 Int. Cl. H01h 19/58
 U.S. Cl. 200—11 7 Claims



A mechanical switch is provided which connects to a plurality of channels simultaneously. The switch comprises a rotary arm carrying a plurality of contacts and

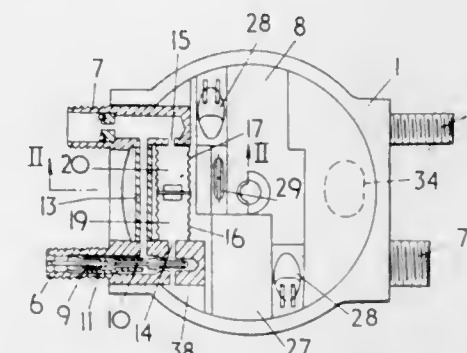
a base plate comprising a double circle of fixed contacts. One of the contacts on the rotary arm mates with a contact of the outer circle on the plate and the remaining contacts on the arm mate with contacts on the inner circle. As the arm is moved by one contact increments, an attached mechanical counter indicates the position.

3,538,270
PHOTOGRAPHIC PROGRAM TIMER
 Werner W. Buechner, 4407 Gladding Court, Midland, Mich. 48640
 Continuation-in-part of application Ser. No. 530,244, Feb. 14, 1966. This application Jan. 23, 1967, Ser. No. 621,382
 Int. Cl. H01h 43/08
 U.S. Cl. 200—46 12 Claims



A program timer for the consecutive timing of a sequence of process steps, which comprises a pair of cooperating contacts as part of a primary circuit. A track of perforations or conductors alternating with insulating areas is drawn at a predetermined rate between the contacts, resulting in the alternating energization and de-energization of the primary circuit at predetermined time intervals, the exact points of time of the change in the state of energization of the primary circuit being the begin and the end of each of the steps of the process sequence.

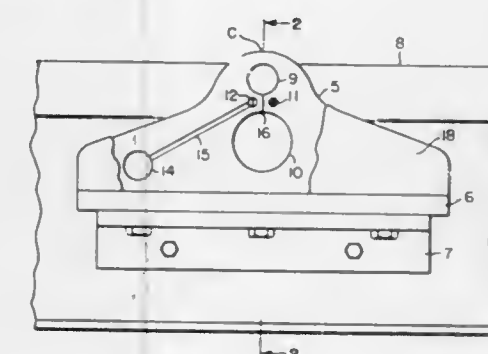
3,538,271
TIRE PRESSURE INDICATOR WITH MERCURY SWITCHES HAVING VERTICALLY SPACED CONTACTS
 Alexander Mirsky, 12 Montagu Mansions, York St., London W. 1, England
 Filed Sept. 12, 1967, Ser. No. 667,235
 Claims priority, application Great Britain, Sept. 15, 1966, 41,334/66
 Int. Cl. H01h 35/24
 U.S. Cl. 200—61.25 7 Claims



Pressure indicator for a tire or other rotary component operatively associated with an electrical circuit which provides a signal according to the pressure. The indicator includes at least two centrifugal liquid conductor switches, such as mercury switches, located off the axis about which the tire rotates and spaced about said axis. When the axis is horizontal the switch contacts in the switches are not closed by the liquid electrical conductor until the tire rotates at a given predetermined speed. Once the contacts are closed on reaching the predetermined speed,

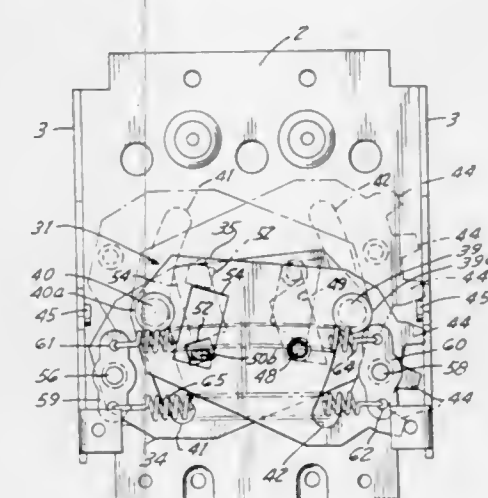
the electrical circuit is energized. Means are provided for keeping the switches open when the axis of the tire is vertical and stationary. A second immiscible liquid can be included with the liquid electrical conductor for damping the movement of same.

3,538,272
DETECTOR OF VEHICLE PRESENCE AND PASSAGE
 Henry Sibley, Adams Basin, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York
 Filed Sept. 10, 1968, Ser. No. 758,765
 Int. Cl. H01h 3/16
 U.S. Cl. 200—61.41 3 Claims



This mechanical vehicle detector comprises a rubber block located in the roadway or adjacent a track rail in a position to be depressed by each passing wheel. The resilient rubber block has two adjacent cavities, one cavity located above the other cavity, with said two cavities connected by a slit. A reed contact is located in the block on the side of the slit and a permanent magnet is located in the block on the other side of the slit. The permanent magnet causes the reed contacts to be normally operated. The depression of the rubber block by a passing wheel causes the slit to be widened into a substantial slot so as to provide greater separation between the permanent magnet and the reed contacts which are then released.

3,538,273
VISIBLE BLADE LOAD BREAK SWITCH
 Clark L. Oster, Cedar Rapids, Iowa, assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
 Filed Dec. 6, 1967, Ser. No. 688,447
 Int. Cl. H01h 13/28
 U.S. Cl. 200—67 11 Claims



The present switch is a visible blade type load break switch which is normally driven to open and closed positions, respectively, with a snap action by a dead-center

spring mechanism operable by manipulation of an operating handle. The snap action mechanism is arranged so that in the event of failure of its springs it can be driven positively and directly by the handle to close the switch and to open the switch fully so that the blades are disposed outwardly beyond the arc stack of the switch.

The dead-center mechanism comprises two dead-center plates, juxtaposed face to face, which swing about offset parallel pivots, one plate being movable initially by the operating handle and, in turn, driving a pin for operating a blade-carrying cross bar, the pin, in turn, also driving the other plate. Dead-center springs are connected to the plates for driving them to fully open and close the switch, selectively, with a snap action when one of the plates has been moved by an operating handle beyond a predetermined position. The mechanism is so arranged that it provides a positive drive of the plates directly by the handle for effecting the positive drive of the blades to fully open or fully closed position, selectively, by the handle in event of the failure of the springs.

The movable blades are arranged so that they can be snapped into installed position in a movable cross bar and can readily be detached therefrom while the cross bar is installed in the housing. The cross bar itself is readily removable from the housing for replacement.

The switch mechanism is enclosed in an insulating housing which when supported on its supporting frame is in overlying, protecting and concealing relation to the mechanism.

The parts are devised so that the switch can be converted for right hand or left hand operation by simply repositioning the handle and dead-center plates.

The switch is adapted to be used unfused, or fused with various combinations of fuses of different lengths and diameters, as desired.

3,538,274

PNEUMATIC MEASURING SYSTEM INCLUDING A PNEUMOELECTRIC RELAY

Ernst Alfred Gfeller, Zurich, Switzerland, assignor, by mesne assignments, to Saia AG, Murten, Switzerland, a Swiss corporation

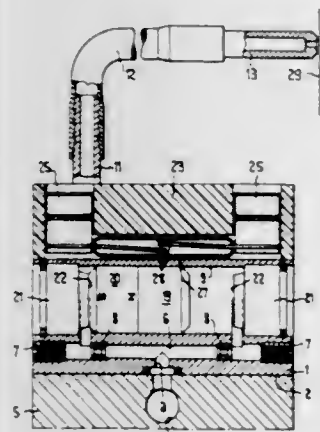
Filed Feb. 27, 1967, Ser. No. 618,784

Claims priority, application Switzerland, Mar. 4, 1966, 3,188/66

Int. Cl. H01h 35/38

U.S. Cl. 200—82

14 Claims



A pneumatic measuring system including a pneumoelectric relay having a pressure-controlled member, such as a piston freely displaceable in a symmetrical pneumatic cylinder having fluid inlet passages at each end, and means on said member for control of an electric switch without contacting it.

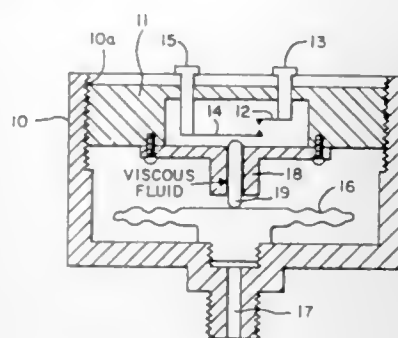
3,538,275 NONVIBRATORY ELECTRIC SWITCH Sanford I. Greene, Hempstead, N.Y., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware

Filed Oct. 14, 1968, Ser. No. 767,162

Int. Cl. H01h 35/32

U.S. Cl. 200—83

5 Claims



A nonvibratory electric switch comprises a fixed contact element, a movable contact element in the form of a resilient leaf spring fixed at one end and engageable with the fixed contact element at its other end but normally in circuit-open position. A member for actuating the movable contact element to circuit-closing position is in the form of a fluid pressure-responsive device subject to vibration. A guide is interposed between the pressure-responsive device and the movable contact element and includes a guide surface in the form of a cylindrical bore extending therethrough. An actuating element in the form of a pin loosely fitting in the bore normally engages, but is movable independently of, the actuating member. A viscous fluid fills the space between the bore and the actuating pin and is effective to damp vibrations of the latter, whereby the switch contact elements are effectively isolated from vibratory movements of the actuating member.

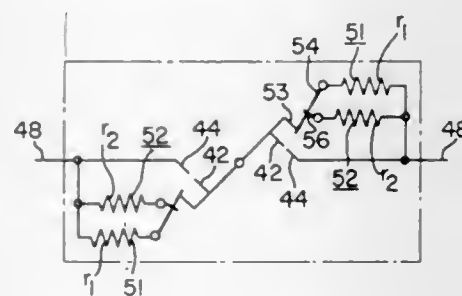
3,538,276 HIGH-VOLTAGE CIRCUIT BREAKER HAVING TWO-STEP CLOSING RESISTANCE Winthrop M. Leeds, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 24, 1967, Ser. No. 685,572

Int. Cl. H01h 9/42

U.S. Cl. 200—144

9 Claims



A high-voltage circuit breaker has a two-step closing resistance whereby during the closing or reclosing operation one resistance value is picked up and, by the closing of resistance contacts, a second resistor assembly is put in parallel electrically with the first inserted resistor assembly to thereby reduce the value of inserted resistance. In the fully closed-circuit position of the interrupter, the main contacts are in engagement and both resistor assemblies are shorted out. Preferably, the resistances have particular values in terms of the surge impedance of the line being connected.

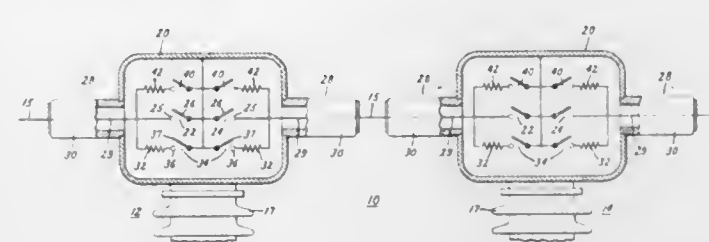
3,538,277 HIGH VOLTAGE CIRCUIT BREAKER WITH RESISTANCE MEANS Virgel E. Phillips, Springfield, Pa., assignor to General Electric Company, a corporation of New York

Filed June 13, 1968, Ser. No. 736,702

Int. Cl. H01h 9/42

U.S. Cl. 200—144

11 Claims



A high voltage electric circuit breaker in which resistance is preinserted in parallel with the breaker's contacts during a closing operation in order to reduce the severity of the voltage surge produced by closing. During the closing operation and while the contacts are still disengaged, a first value of resistance is connected in parallel with the contacts, after which this value of resistance is reduced; and thereafter the contacts are engaged.

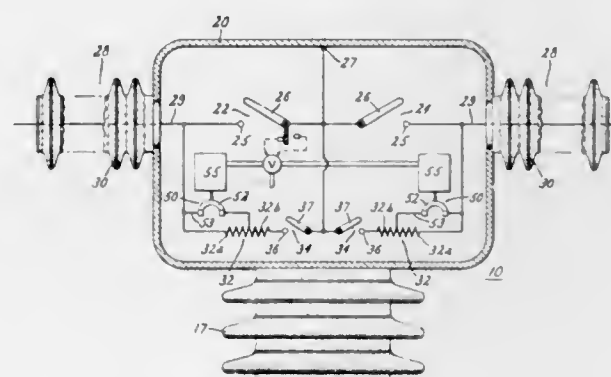
3,538,278 HIGH VOLTAGE ELECTRIC CIRCUIT BREAKER William H. Rathbun, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed June 13, 1968, Ser. No. 736,704

Int. Cl. H01h 9/42

U.S. Cl. 200—144

7 Claims



A high voltage electric circuit breaker in which the same voltage-controlling resistors parallel the main contacts of the breaker during both the initial part of an opening operation and the final part of a closing operation. Auxiliary switch means is provided for reducing the effective resistance of the resistors when the breaker is open and before connection of the resistors in parallel with the main contacts during the closing operation, whereby smaller effective values of resistance parallel said contacts during the final part of closing than during the initial part of opening.

3,538,279 BLOWOUT MAGNET STRUCTURE FOR AIR-BREAK CIRCUIT INTERRUPTER Samuel A. Bottonari, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 11, 1967, Ser. No. 652,526

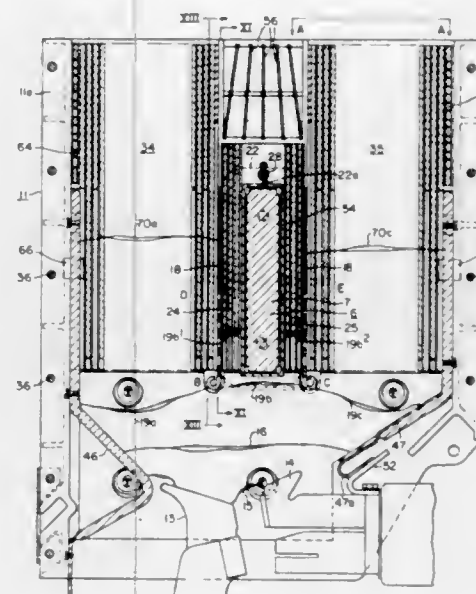
Int. Cl. H01h 9/44, 33/18

U.S. Cl. 200—147

8 Claims

An H-type magnetic blowout structure is provided for an air-break circuit interrupter including front and rear arcing horns and interrupting stacks interposed there-

tween, with a pair of center arcing horns having connections to a pair of blowout coils. The two center arcing horns are provided with venting means comprising a plurality of spaced apertures, which lead into transfer stack interposed between the center arcing horns and the core of the magnet structure. Additionally, the center arcing horns have V-shaped lower arc entrance slots, and a horizontal cut providing a space at the coil-terminal con-



nection to compel the transferred current to flow more effectively upwardly along the center arcing horns. Venting means is provided on the rear side of the two center arcing horns so that a preionization condition is provided in the main interrupting stacks to facilitate a favorable space break-down and upward movement of the two main body portions of the arc in these regions.

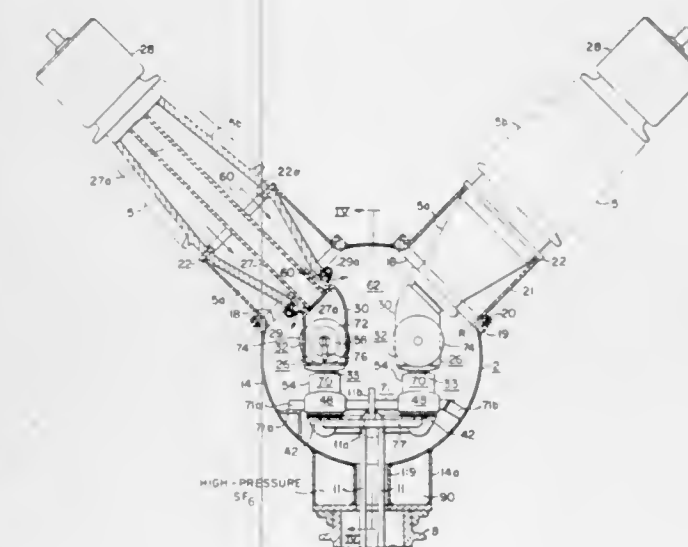
3,538,280 DOUBLE-BREAK CIRCUIT INTERRUPTER WITH STATIONARY BUSWORK STRUCTURE GUIDING A U-SHAPED MOVABLE CONDUCTING BRIDGE Charles F. Cromer, Trafford, and Charles B. Wolf, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 2, 1966, Ser. No. 598,807

Int. Cl. H01h 33/80

U.S. Cl. 200—148

7 Claims



A double-break high voltage circuit interrupter is provided having tank means into which extends a pair of terminal bushings, each of which supports an exhaust

chamber at the interior end thereof. A first stationary contact means is supported by and electrically connected to each of the exhaust chambers. A second stationary contact means cooperates, but is spaced from, each of the first stationary contact means and a relatively light-weight movable bridging contacts electrically interconnects each of the first and second stationary contact means in the closed circuit position of the interrupter.

According to a further feature of the invention, relatively stationary bus work and supporting structure fixedly secures the pair of laterally spaced second stationary contact means into fixed position, and preferably, the bus work and supporting structure is attached to the inner walls of the tank structure to constitute a heat sink. A guide portion on the movable U-shaped conducting bridge is guided in its reciprocal movement by the stationary bus-work structure.

3,538,281

COMPRESSED-GAS CIRCUIT INTERRUPTER WITH CYLINDRICAL HIGH PRESSURE TANK SUPPORTING A SPHERICAL EXHAUST TANK

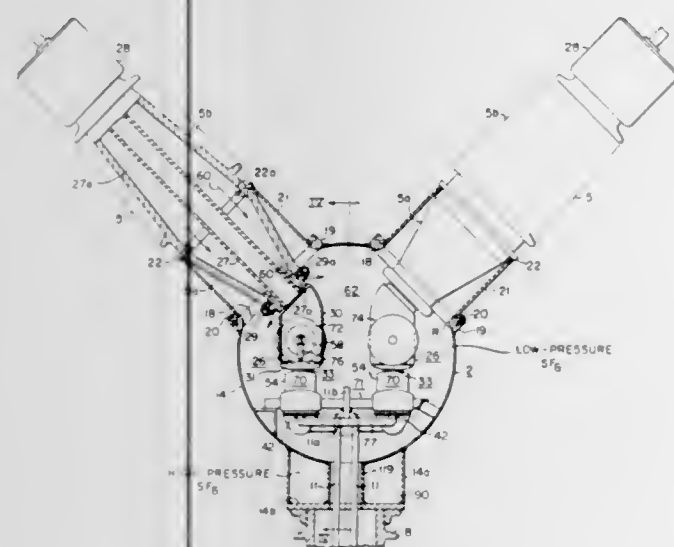
Winthrop M. Leeds and Albert P. Strom, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 2, 1966, Ser. No. 598,856

Int. Cl. H01h 33/80

U.S. Cl. 200—148

7 Claims



A high-voltage compressed-gas type of circuit interrupter is provided having a spherical exhaust tank at line potential solely supported by a cylindrical high-pressure gas reservoir. An upstanding insulating column supports the two tanks up in the air. The spherical exhaust tank may have circular openings therein to accommodate pre-machined mounting flanges, the latter supporting a pair of series terminal bushings, which project into the interior of the spherical exhaust tank carrying stationary contact assemblies at their interior ends. Cylindrical terminal bushing supports with smoothed inner ends may be welded into the circular openings for accommodating the terminal bushings, whereby the electrical gradient is improved adjacent the weld seams.

The high-pressure gas reservoir may have a heavy flat closure plate at its lower end resting upon the upstanding insulating column, or the high-pressure gas reservoir may have domed upper and lower closure plates. One of the domed closure plates may be the same piece as burned out of the lower end of the spherical exhaust tank.

3,538,282 FLUID-BLAST CIRCUIT INTERRUPTERS WITH EXHAUST VALVES RESPONSIVE SOLELY TO THE PRESSURE GENERATED BY AN ARC OF EXCESSIVE MAGNITUDE

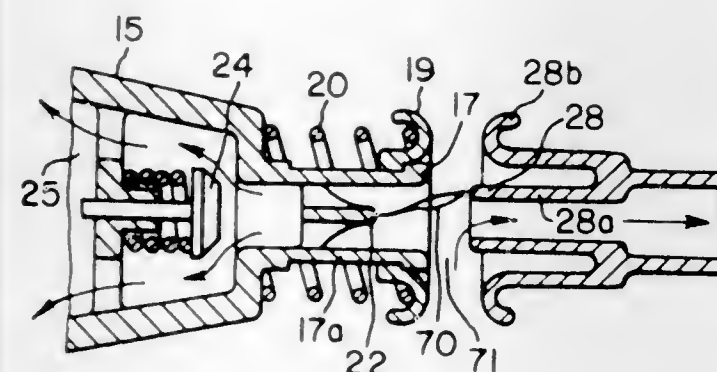
Winthrop M. Leeds, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 29, 1966, Ser. No. 597,690

Int. Cl. H01h 33/70

U.S. Cl. 200—148

9 Claims



A fluid-blast circuit interrupter is provided having a pair of separable cooperable venting contacts, one of which having an overpressure exhaust valve controlling the venting of the fluid flow therethrough, and disposed in close proximity to the arcing region. Means are provided to send a flow of fluid through the other venting contact, either by a cavitation device, or by means of a piston-and-cylinder arrangement. Dependent upon the magnitude of the current being interrupted, the arcing pressure is positively controlled, and upon attaining a certain predetermined pressure level, effects the opening of the overpressure exhaust valve controlling the flow of fluid through said one contact, to thereby intensify the interrupting action by obtaining a controlled flow of fluid through both separated contacts.

The exhaust valve is solely responsive to the pressure value generated within the arcing region, but this pressure value will not be great enough unless an excessive current of a predetermined value is interrupted.

Electrostatic shields are provided, encircling the separable contacts, to control the electrical field between the separated contacts so as to minimize the possibility of restriking of the arc between the contacts during the opening operation. Also, magnetic means may be employed to effect an elongation of the established arc to thereby intensify the arcing pressure established thereat.

3,538,283 METHOD AND DEVICE FOR THE DEIONIZATION OF THE ELECTRIC ARC ZONE BETWEEN THE CONTACTS OF AN OILBREAK-SWITCH

Nicolaie Gheorghiu, Bucharest, Rumania, assignor to Intreprinderea Pentru Rationalizarea si Modernizarea Instalatiilor Energetice, Bucharest, Rumania

Filed May 3, 1968, Ser. No. 726,361

Claims priority, application Rumania, July 14, 1967, 54,251, Dec. 20, 1967, 55,381

Int. Cl. H01h 33/68

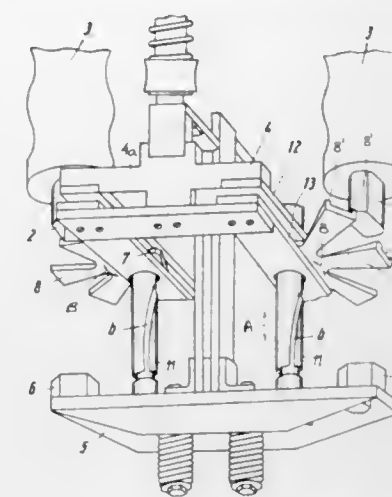
U.S. Cl. 200—150

5 Claims

A system for quenching the circuit-breaking arc of an oil-filled switch in which a plurality of oil-entraining members are successively swept through the arc zone in

step with the movement of the displaceable contact to subdivide the arc, entrain fresh quantities of oil into the

changeover member with movable lateral rods there-through has at least two stabilized angular positions and at least two portions each bearing an indication of the operating position opposite the transparent window. The



zone and sweep ionized products and ionization or decomposition products from the gap.

3,538,284 RANDOM SELECTED SWITCH ACTUATOR DEVICE

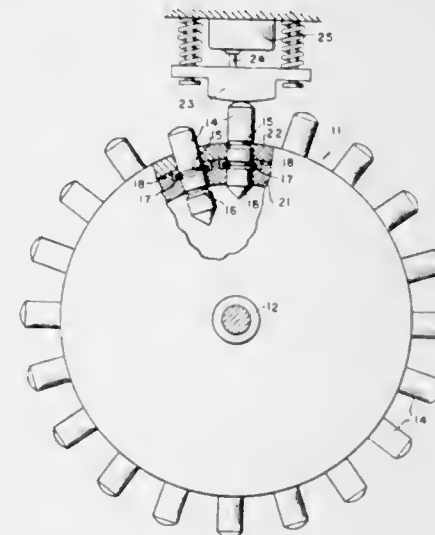
Lewis R. Alexander, Streamwood, and Isadore Gortman, Morton Grove, Ill., assignors, by mesne assignments to the United States of America as represented by the Secretary of the Navy

Filed July 25, 1968, Ser. No. 747,516

Int. Cl. H01h 3/42

U.S. Cl. 200—153

1 Claim



A switch actuating device having a plurality of actuating fingers slidably movable in a rotatable drum, each said finger having first and second undercuts on the periphery thereof, and a plurality of locking rings in said rotatable drum for engaging said undercuts whereby each said finger can be selectively positioned in either an extended or a retracted position.

3,538,285 ROCKER CONTROL FOR CIRCUIT BREAKER WITH INDICATION OF POSITION

Joseph Narcisse Orts, Stains, France, assignor to La Telemecanique Electrique, Nanterre, Hauts-de-Seine, France, a joint-stock company of France

Filed Dec. 10, 1968, Ser. No. 782,679

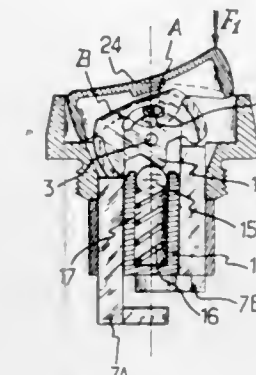
Claims priority, application France, Dec. 15, 1967, 132,586

Int. Cl. H01h 3/02, 9/16

U.S. Cl. 200—167

5 Claims

A rocker control for a circuit breaker with a movable indication of the operative position and having an opaque shell with a central transparent window in a control member above a rotary changeover member. The rotary



window maintains a central location for either indication and movement of parts by having the axis of rotation of the control member above and adjacent to the axis of rotation of the changeover member.

3,538,286 CIRCUIT INTERRUPTER SUPPORT MEANS

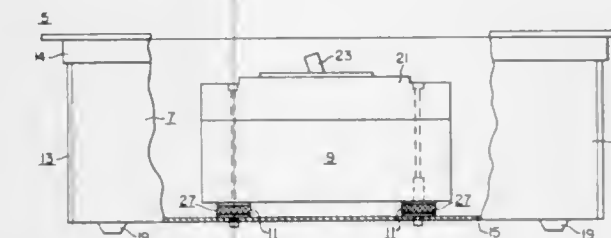
Joseph M. Michaelson, Jr., Beaver, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 30, 1968, Ser. No. 787,651

Int. Cl. H01h 9/02

U.S. Cl. 200—168

10 Claims



An enclosed circuit interrupter comprises an enclosure and improved support means supporting the circuit interrupter in the enclosure. The support means, which facilitates mounting of the circuit interrupter within the enclosure, can be used to mount a plurality of different sizes of circuit interrupters within the enclosure.

3,538,287 CIRCUIT INTERRUPTER WITH IMPROVED CONTACT MEANS, ARC-BOX STRUCTURE AND TERMINAL MEANS

Stephen A. Mrenna, Beaver, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 31, 1968, Ser. No. 733,604

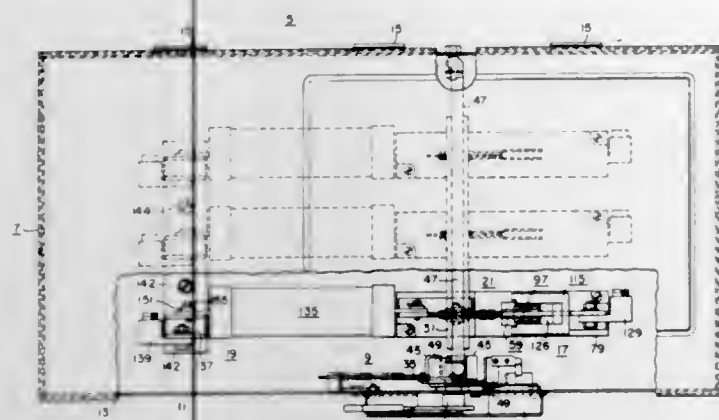
Int. Cl. H01h 1/50, 9/30

U.S. Cl. 200—170

9 Claims

A circuit interrupter comprises an improved contact structure and arc-box. The contact structure, which is a compact and simplified structure providing a plurality of contact points in the closed position, is constructed such that the width-wise dimension thereof is kept reduced. The improved arc-box is supported on the stationary contact structure in a novel manner, and the width-wise dimension of the combination of the arc-box and sta-

tionary contact structure is kept reduced. The invention also comprises improved terminal means for connecting



a blade-type conductor, such as a fuse blade, to a terminal plate.

3,538,288

CABLE SEVERING BY ELECTRO-THERMAL MEANS

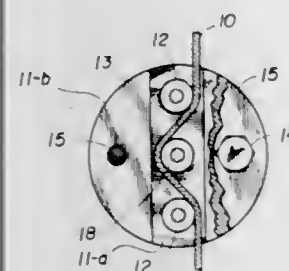
William L. Freeman, Roy, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed May 27, 1968, Ser. No. 732,347

Int. Cl. B23k 11/22

U.S. Cl. 219—68

8 Claims



A device for releasing or separating a cable under tension by electrically heating a portion thereof within an insulating body. Electrical energy is supplied to a pair of terminals in the body from an external source and thence to a portion of the cable contacting the terminals. The cable thereby becomes heated and eventually separates as a result.

3,538,289

APPARATUS FOR AND METHOD OF ELECTRO-EROSION MACHINING

Ronald G. Burnet and Robert L. Simpkins, Detroit, Mich., assignors to Minimation, Inc., Detroit, Mich., a corporation of Michigan

Filed June 22, 1964, Ser. No. 377,019

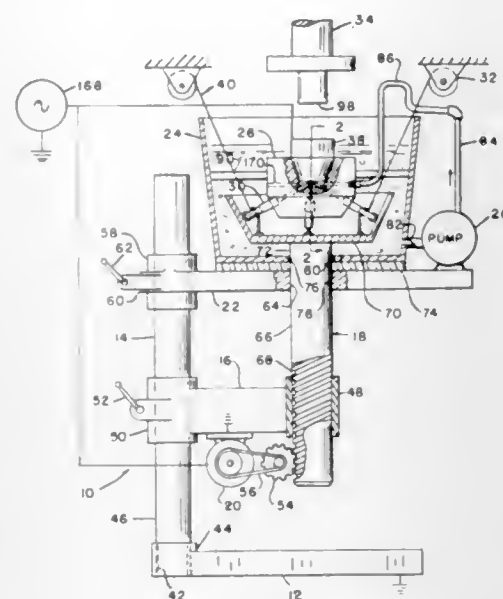
Int. Cl. B23p 1/08

U.S. Cl. 219—69

14 Claims

Structure for machining small diameter openings in a fuel nozzle or the like wherein the openings diverge radially comprising means for supporting a plurality of wire electrodes adjacent a workpiece in radially converging positions including guide means for moving the electrodes radially toward the workpiece on movement of a single camming structure axially of the workpiece and means for providing electric energy between the electrodes and workpiece and for maintaining a predeter-

mined space between the electrodes and workpiece on movement of the camming structure axially of the work-



piece. Means are provided in conjunction with the guide means for indexing the wire electrodes after each machining operation.

3,538,290

APPARATUS FOR ELECTRO-EROSION MACHINING

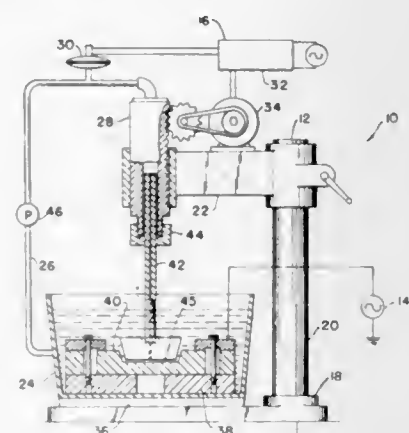
Thomas J. O'Connor, 100 Morgan Road, Ann Arbor, Mich. 48104

Filed Apr. 18, 1967, Ser. No. 631,809

Int. Cl. B23p 1/14

U.S. Cl. 219—69

2 Claims



Electrical machining apparatus including servo feed mechanism responsive to fluid pressure between the electrode and workpiece for maintaining a predetermined space between the electrode and workpiece including improved hydraulic feed apparatus for moving the electrode and workpiece relative to each other and fluid bypass structure for maintaining a predetermined fluid pressure between the electrode and workpiece.

3,538,291

ELECTRO-EROSION MACHINERY

Gordon V. Smith, Highnam, England, assignor to Sparatron Limited, Gloucester, England a British company

Filed Aug. 9, 1968, Ser. No. 751,408

Claims priority, application Great Britain, Aug. 23, 1967, 38,788/67

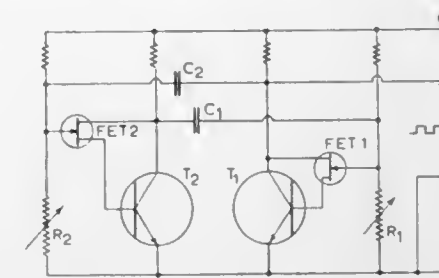
Int. Cl. B23p 1/08

U.S. Cl. 219—69

5 Claims

Electro-erosion apparatus wherein pulsed discharges are generated by a multi-vibrator circuit incorporating a pair of transistors, the collector of each transistor

being cross-coupled by means of a capacitance with the base of the other transistor and an adjustable resistance between the conductors and, when the level reaches a pre-



being associated with each transistor, the resistance being coupled to the base electrode of the associated transistor by an impedance buffer.

3,538,292

APPARATUS FOR SEVERING CIRCUIT PATTERNS ON AND FORMING CONDUCTIVE CONNECTIONS THROUGH A CIRCUIT BOARD

John D. Helms and Herbert L. Brown, Jr., Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

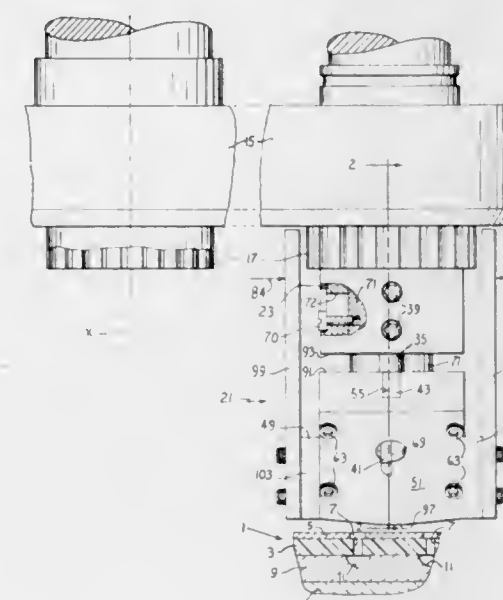
Original application Mar. 8, 1967, Ser. No. 621,552.

Divided and this application Jan. 13, 1969, Ser. No. 804,040

Int. Cl. B23k 9/12, 11/00

U.S. Cl. 219—78

11 Claims



Portions of a circuit pattern on one face of a printed circuit board are removed by a lancing tool to segment the pattern. Another coordinated tool pulls an end part of a conductive ribbon from a supply, drives one end of this part through a hole in the circuit board, then disconnects said part from the ribbon supply, and thereafter welds the other end of the disconnected part to a segment of the circuit pattern. This process is useful for forming through connections between layers of circuitry of a multi-layer circuit board.

3,538,293

APPARATUS FOR WELDING CONDUCTORS SEPARATED BY THERMOPLASTIC INSULATION

Robert Procacino, Haddon Heights, N.J., assignor to Elco Corporation, Willow Grove, Pa., a corporation of Delaware

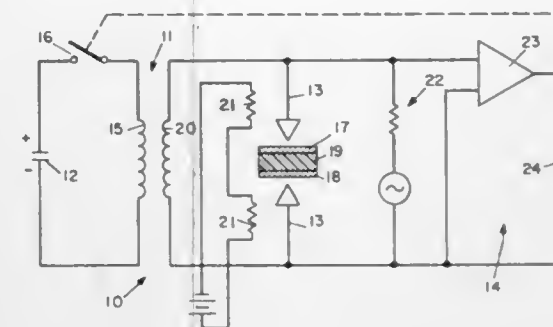
Continuation of application Ser. No. 582,631, Sept. 28, 1966. This application Dec. 10, 1968, Ser. No. 785,037

Int. Cl. B23k 9/10

U.S. Cl. 219—86

5 Claims

In apparatus for welding together a pair of conductors separated by thermoplastic insulation, welding control



determined value, causes an amplifier to change state and drive a relay that causes the flow of welding current to commence.

3,538,294

WELDING DEVICE

Edward Dicks, % Atty. B. D. Ward, 204 Park, Long Beach, Calif. 90803, and William C. Babcock, 2732 Walker Lee Drive, Los Alamitos, Calif. 90720

Continuation of application Ser. No. 546,738, May 2, 1966. This application Nov. 12, 1968, Ser. No. 775,588

Int. Cl. B23k 11/02

U.S. Cl. 219—89

1 Claim



A welding device in which a metallic first electrode supporting member is slidably mounted for longitudinal movement in a cylindrical housing, with the member being at all times in pressure contact with the housing, and with the magnitude of the pressure contact increasing after the member has moved to dispose the first electrode in engagement with a workpiece that is also in engagement with a second electrode which is fixedly spaced relative to the housing. During a welding cycle electrical current is continuously supplied to said housing and second electrode. Due to the increased pressure contact during the welding cycle the internal electrical resistance of the device is held at a minimum, and a minimum heating of the device occurs as a result thereof.

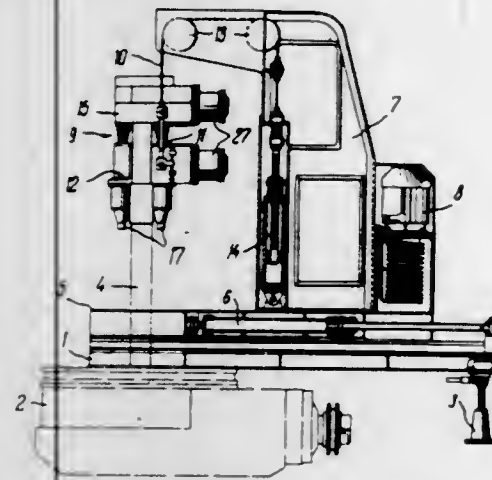
3,538,295 PLANT FOR RESISTANCE BUTT-WELDING OF PIPES

Boris Evgenievich Paton, Ul. Kotsjubinskogo 9, kv. 21; Vladimir Konstantinovich Lebedev, Ul. Engelsa 25, kv. 12; Vasily Alexeevich Sakharov, Bulvar Likhacheva 3, kv. 64; Boris Afanasievich Galyan, Ul. Rozy Ljuxemburg 15, kv. 9; Vladimir Ivanovich Tishura, Ul. Nikolaya Gaitseva 6, kv. 7; Stanislav Adgamovich Mansurov, Ul. Gorkogo 62, kv. 6; and Anatoly Dmitrievich Ignatov, Ul. Zhdanovskogo 55, kv. 15, all of Kiev, U.S.S.R.
Filed Mar. 1, 1967, Ser. No. 619,720

Int. Cl. B23k 11/02

U.S. Cl. 219—101

7 Claims



A welding device by use of which successive lengths of pipe of a string of pipe in a well may be secured together in lieu of the present unions. The device comprises two clamps mounted in alignment that can be moved toward and away from each other in the axial direction of the pipes, each clamp holding the end of a pipe in alignment coaxial with the other pipe end. The electric current for welding the pipe ends passes to the pipes through the clamps. In use, when the welding current has heated the metal of the pipe ends the two clamps are moved toward each other by hydraulic force to complete the weld. The two clamps and other components of the device are formed as a unit that is suspended by a flexible element from a support that is mounted for movement away from the pipe as the pipe is lowered into the well so it will not be in the way of the well drilling or other operations. The flexibility of the element supporting the device precludes the possibility of misalignment between the two lengths of pipe.

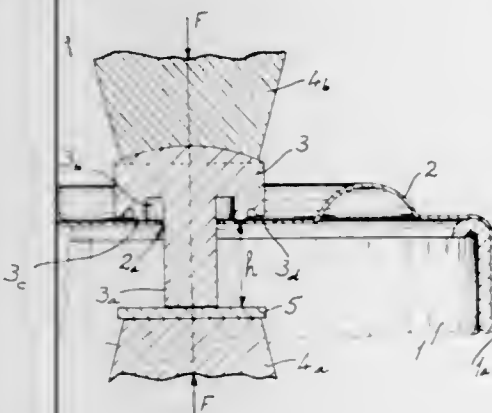
**3,538,296
TIGHT MOTION TRANSMITTING SYSTEM
THROUGH A THIN METAL MEMBRANE**
Jean Jullien-Davin, Valence, France, assignor to Crouzet, Paris, France, a French company
Filed July 29, 1968, Ser. No. 748,435

Claims priority, application France, July 31, 1967, 116,392

Int. Cl. B23k 11/02

U.S. Cl. 219—105

3 Claims



Tight motion transmitting device through a thin metal membrane comprising a metal transmitting motion mem-

ber passing across an aperture in the inflexion area of the membrane, wherein said transmitting motion member is a body of revolution substantially cylindrical the diameter of which is notably greater than the diameter of the membrane aperture and showing, in the crossing area of said membrane a circular cut enclosing the bordering area of the said aperture the bordering area of which is drowned into the constitutive metal of the transmitting organ.

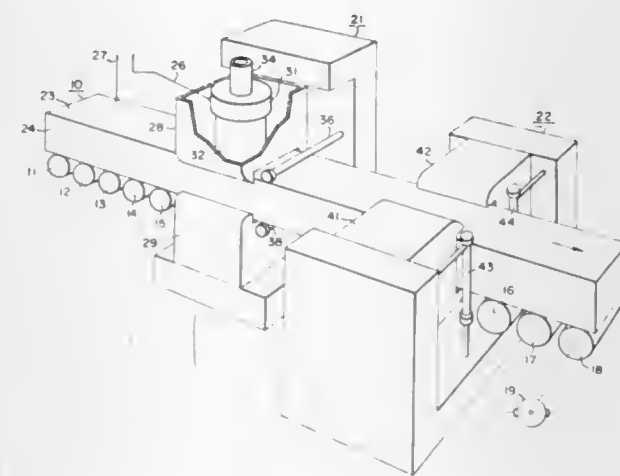
3,538,297 APPARATUS FOR REMOVING DEFECTS FROM SLABS AND BLOOMS OF STEEL AND OTHER METALS

Daniel A. Maniero, Monroeville, and George A. Kemeny and Armin M. Bruning, Franklin Township, Export, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 439,832, Mar. 15, 1965. This application Apr. 15, 1969, Ser. No. 817,283

Int. Cl. B23k 7/06

U.S. Cl. 219—121

15 Claims



One or more electric arcs take place from fluid cooled arcing surfaces at fixed positions along the path of movement of a slab which is to have defects removed therefrom, and magnetic fields generated in the electrodes cause the arcs to move substantially continuously in repetitive paths over the arcing surfaces and over the surfaces of the slab. The repetition rate of movement of the arcs is sufficiently large and the rate of movement of the slab is sufficiently small whereby the arc spot occurs at substantially every point on the slab surface. Additionally, means is provided for quickly cooling successive portions of the surface of the slab after said portions have been heated by the electric arc or arcs. In some embodiments all surfaces of the slab are heated during linear movement of the slab in one direction; in another embodiment, two surfaces of a slab generally rectangular in cross section are heated while the slab moves in one direction, the slab is thereafter turned over and moved back in the opposite direction during which later movement the other two surfaces of the slab are heated.

3,538,298 METHOD FOR BALANCING ROTATING OBJECTS WITH LASER RADIATION

David K. Duston, Schenectady, N.Y., and Charles W. Clapp, Lynn, Mass., assignors to General Electric Company, a corporation of New York

Filed July 17, 1968, Ser. No. 745,548

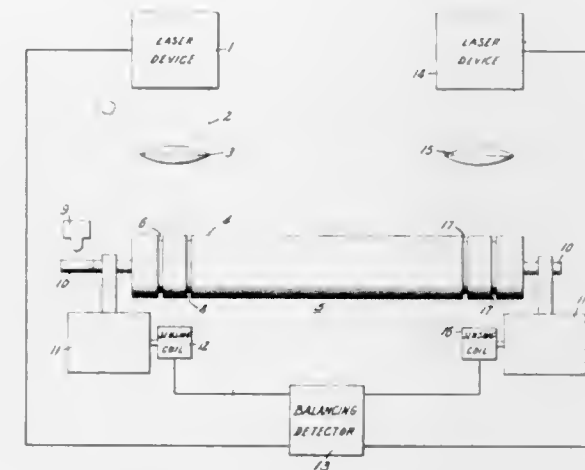
Int. Cl. B23k 27/00

U.S. Cl. 219—121

5 Claims

A rotating object with rotational imbalance is irradiated with pulses of radiation emitted by a laser. The pulses of radiation are focused on a portion of the object surface

which is defined by the intersection of the region causing the imbalance and the area between a pair of annular grooves. The radiation vaporizes, ablates, or otherwise



removes material and leaves a smooth crater-like depression between the grooves without a recast deposit, thus balancing the rotating object.

3,538,299 CONSTANT ARC LENGTH WELDING SYSTEM INSENSITIVE TO CURRENT CHANGES

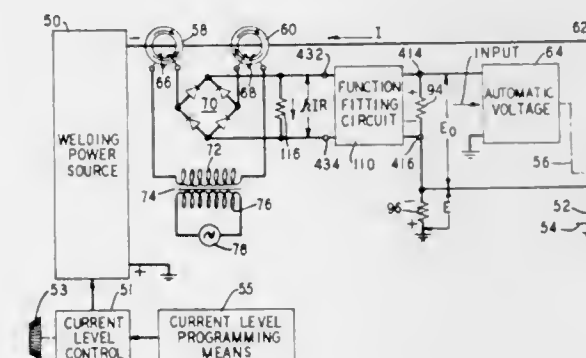
Evans H. Daggett, Murray Hill, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 562,015, June 30, 1966. This application Mar. 20, 1969, Ser. No. 808,826

Int. Cl. B23k 9/10

U.S. Cl. 219—124

12 Claims



The arc length of an electric arc welding system is maintained constant while the system operates at any desired current level and while deliberate changes are made in the current level either manually or in response to programming. Motive means for varying the spacing between the arc electrode and the workpiece are controlled by differential action of two control signals. One control signal is developed by arc voltage sensing means and the other by arc current sensing means. The two control signals are so proportioned that, for constant arc length, the voltage difference between the control signals is constant, regardless of variations in the arc current. Any change in arc length alters the control signal in such sense as to cause the arc length to be corrected to maintain the arc length constant.

3,538,300 METHOD OF MECHANIZED ELECTRIC ARC WELDING AND BUILDING UP OF METALS AND ALLOYS AND A WELDING HEAD FOR ACCOMPLISHING SAME

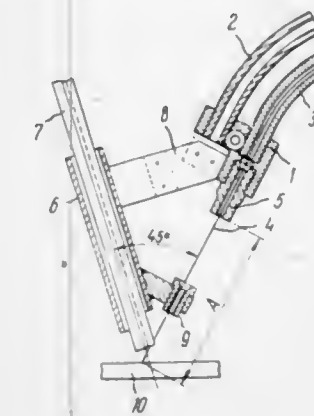
Vadim Valentinovich Bazhenov, Ulitsa Sharikopodshipnikovsya 2, kv. 132, Moscow, U.S.S.R.; Gennady Nikolaevich Larin, Ul. Pervomaiskaya 25, kv. 4, Dolgoprudny, Moskovskaya, U.S.S.R.; and Mikhail Fedorovich Khrobastov, Simonovskiy val 17, kv. 21, Moscow, U.S.S.R.

Filed Mar. 22, 1967, Ser. No. 625,095

Int. Cl. B23k 9/00

U.S. Cl. 219—130

9 Claims



Electric arc welding is achieved by feeding a welding wire from a welding head towards a workpiece while applying welding current to the wire to produce an arc between the free end of the wire and the workpiece, the head having a guide in which a solid rod constituted of electrode coating material is freely received so that the rod rests on the wire in the region of the arc so that the lower end of the rod is continuously melted and fed with the wire to the workpiece. The guide supports the rod at an acute angle with respect to the wire and the rod is formed with a longitudinal groove in which the wire is received so that as the rod is melted the remaining solid part of the rod continuously descends.

3,538,301 GAS SHIELD, NON-CONSUMABLE-ELECTRODE PULSE ARC WELDING

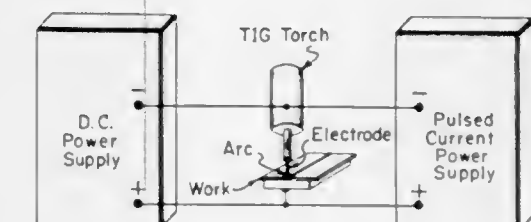
Robert S. Bray, Cheshire, and Luis J. Lozano, Southington, Conn., assignors to Anaconda American Brass Company, a corporation of Connecticut

Filed Mar. 10, 1967, Ser. No. 622,868

Int. Cl. B23k 9/10

U.S. Cl. 219—137

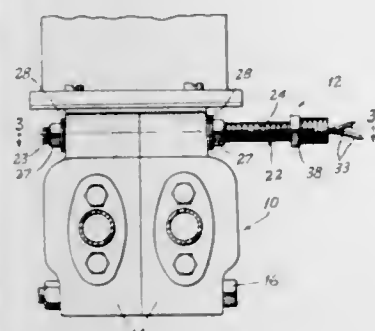
10 Claims



In arc welding the abutting edges of two brass strips, two power sources are used in conjunction with non-consumable electrodes shielded by an inert-gas atmosphere. One power source principally supplies a D.C., straight polarity, background current sufficient to maintain an arc between the electrode and the work; the second power source, connected in parallel with the first, supplies a superimposed, pulsed D.C. current sufficient to fuse the metal and effect the weld. The joint consists of a series of overlapping beads which appear on both the observe and

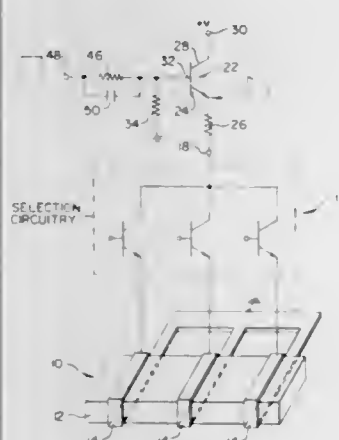
the reverse surfaces of the weld as a series of regularly-spaced ripples.

3,538,302
HEATING UNIT FOR INDUSTRIAL INSTRUMENTS
Elden L. Volling, East Alton, Ill., assignor to O'Brien Corporation, St. Louis, Mo., a corporation of Missouri
Filed July 17, 1968, Ser. No. 745,555
Int. Cl. H05b 1/00
U.S. Cl. 219-201 3 Claims



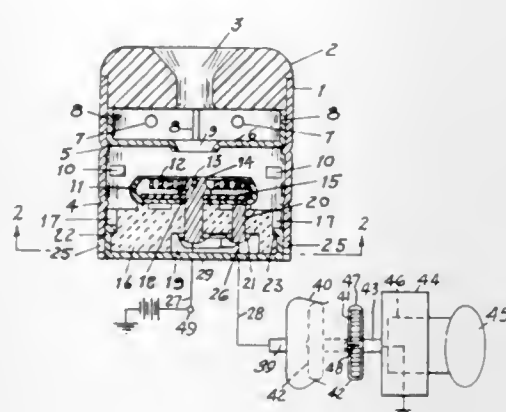
An automatically controlled electrical heating unit for industrial instruments, such as a pneumatic or electronic flow differential pressure transmitter, comprising a first elongated externally threaded stud having a deep well therein adapted to replace a selected nut and bolt holding together the casing of the instrument, an electric cartridge heater within the stud well, compression washers and nuts for maintaining the stud in place in casing securing relation, a second identical elongated externally threaded stud for replacing a second selected casing nut and bolt of the instrument, a temperature switch in the well of the second stud, compression washers and securing nuts for the second stud, and electrical wiring interconnecting the cartridge heater and the temperature switch providing automatic energization or deenergization of the heater upon the instrument body temperature falling below or rising above a predetermined level.

3,538,303
METHOD OF EXTENDING THE LIFETIME OF THERMAL PRINTING ELEMENTS
John O. Percival, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Feb. 24, 1969, Ser. No. 801,262
Int. Cl. G03g 13/20; H05b 1/00
U.S. Cl. 219-216 1 Claim



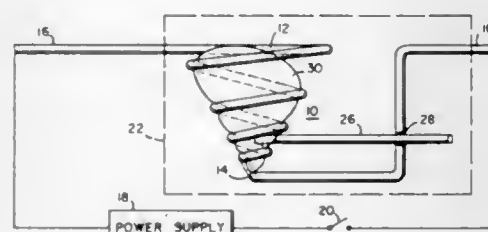
A method of extending the lifetime of thermal printing elements having a negative temperature coefficient of resistivity by employing a driving voltage pulse of a particular waveshape is disclosed.

3,538,304
AUTOMATIC CIGARETTE LIGHTER
Jones Burnett Edwards, 200 West Blvd., Apt. 4, Charlotte, N.C. 28203
Filed June 26, 1968, Ser. No. 740,375
Int. Cl. E23g 7/24
U.S. Cl. 219-264 10 Claims



The combination of a conventional pop-out electric cigarette lighter connected in series electrical circuit with a specially designed automatic cigarette lighter, and the subcombination automatic lighter, the principal feature being the cooperative use of the thermostatic latch (or switch) of the pop-out lighter to control energization and de-energization of both the igniting coil of the automatic lighter and the heating coil of the conventional pop-out lighter.

3,538,305
ALLOY DETERRING SHUNT FOR CONICAL TUNGSTEN EVAPORATION SOURCES
Howard L. Grant, Forest Heights, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 16, 1969, Ser. No. 825,373
Int. Cl. F22b 1/30
U.S. Cl. 219-272 4 Claims

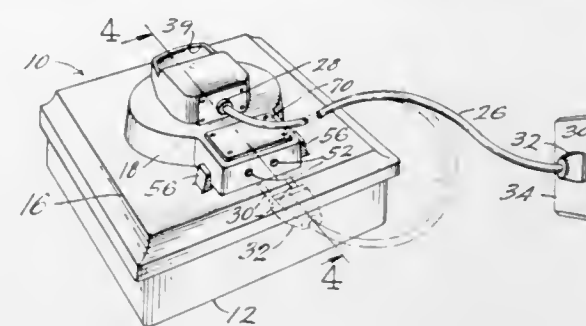


An evaporation source heating element for use in a vacuum deposition chamber including a conical tungsten wire coil adapted to hold the material to be deposited, and a tungsten wire current shunt path for reducing the current flowing through the tapered end of the conical basket thereby preventing alloy formation.

3,538,306
VAPORIZER
Albert D. Brunell, Somerset, Pa., assignor, by mesne assignments, to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,500
Int. Cl. H05b 3/60
U.S. Cl. 219-295 11 Claims

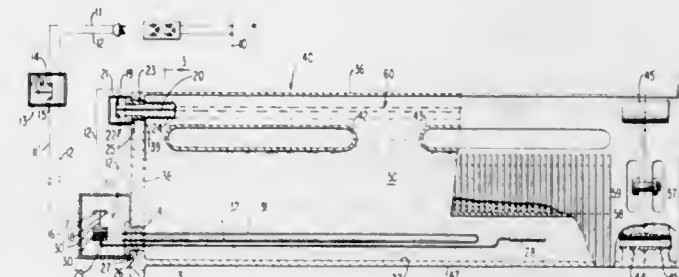
A safety device for an electric steam vaporizer having a liquid reservoir base with a removable top. A lock holding the top and base together is disengaged when a electric

plug for the vaporizer or a key adjacent the plug is of the spark gap is approximately the distance across inserted through an opening in the top. When the top is the widest set of apertures. The single spark is used to



removed from the base, the plug or key is locked in the opening until the top is repositioned on the base.

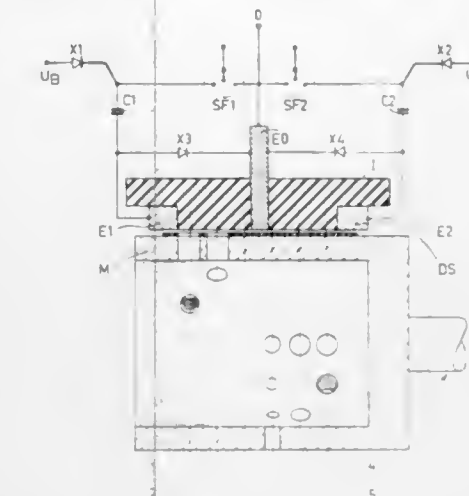
3,538,307
ELECTRIC BASEBOARD HEATER
Nelson Birdwell, Frackville, Pa., assignor to Custom Electric Mfg. & Dist. Co., Inc., Frackville, Pa., a corporation of Pennsylvania
Filed Sept. 3, 1968, Ser. No. 757,003
Int. Cl. F24d 13/04; H05b 1/02
U.S. Cl. 219-341 3 Claims



A residential heating system employing a series of baseboard radiator units connected end-to-end by press-fitted connectors in a series array about the walls of a room. All units but the unit at one end of the array comprise a standard commercial cast iron baseboard unit having an interior heat-transfer liquid circulation chamber. Each unit has a smooth front and a finned back over which fins room air circulates by convection. The one end unit is modified to have an enlarged fluid receiving chamber in which is mounted an electric heating element and is provided with temperature and pressure control switches in circuit with the heating element to prevent build-up of excessive temperature and pressure in the system. The chambers are at least two-thirds but less than nine-tenths filled with a heat-transfer liquid, such as diethylene glycol, and are connected by upper and lower fluid conduits for convective circulation of the heat transfer liquid therebetween.

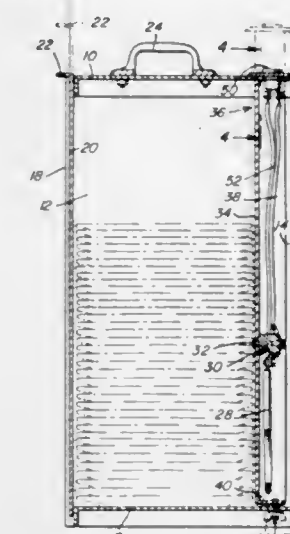
3,538,308
PUNCHING DEVICE COMPRISING MATRICES HAVING APERTURE COMBINATIONS
Siegfried Schmidt, Hamburg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 3, 1968, Ser. No. 757,020
Claims priority, application Germany, Sept. 7, 1967, P 42,954
Int. Cl. H05b 7/18
U.S. Cl. 219-384 6 Claims

A spark discharge device for punching perforations in a carrier where a matrix containing several sets of apertures is positioned adjacent a spark gap so that one set of the apertures is aligned with the spark gap. The length



selectively punch one or more perforations simultaneously in the carrier when the carrier is placed between the matrix and the spark gap.

3,538,309
PORTABLE PLATE HEATER AND CARRIER
Bill R. Welker, 1816 Darbyshire Drive, Defiance, Ohio 43512
Filed Oct. 29, 1968, Ser. No. 771,421
Int. Cl. F27d 11/02
U.S. Cl. 219-386 8 Claims

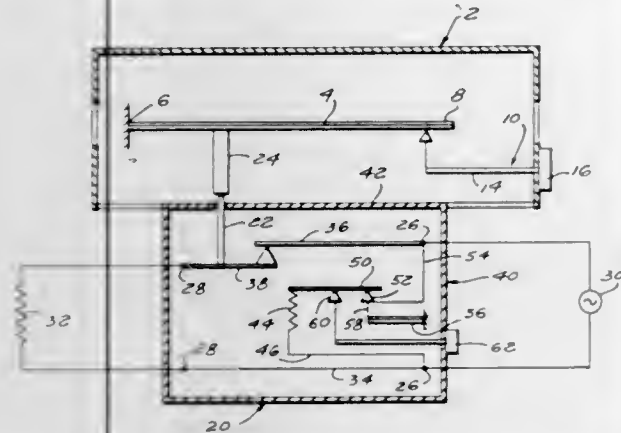


A portable plate heater and carrier interiorly constructed to store, transport and pre-heat banquet or dinner plates preparatory to serving hot food therein. It comprises a cabinet-like container or case. The container space is divided by a vertical partition and defines a main compartment for the stacked plates and an auxiliary compartment for the heating means. These carriers can be employed individually or in coordinating group relationship and have electrical cords of suitable length with male plugs on either one or both ends.

3,538,310
DROOP-PREVENTION IN THERMOSTAT-CONTROLLED SWITCHING SYSTEM
Joseph K. Moyer and Robert N. Levinn, Catskill, N.Y., assignors to American Thermostat Corporation, South Cairo, N.Y., a corporation of New York
Filed May 16, 1967, Ser. No. 638,919
Int. Cl. H05b 1/02
U.S. Cl. 219-511 16 Claims

In a system comprising a temperature-sensing means designed to be exposed to an external temperature condition and to actuate a switch or other current-control means in accordance therewith, and in which the switch

is in thermal transfer relation to the temperature-sensing means so that the heat developed by said switch will affect the operation of the temperature sensing means, thereby tending to cause it to operate at different values of external temperature depending upon the degree to which heat



is produced in the switch; a temperature-controlled heater is operatively associated with the switch so as to maintain the latter at a predetermined elevated temperature, thereby to cause the thermal effect of the switch on the temperature-sensing means to be substantially constant over a given range of operating conditions.

3,538,311

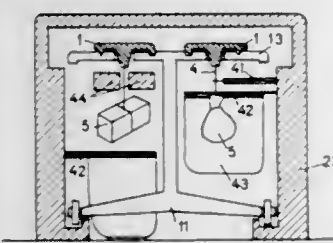
METHOD AND APPARATUS FOR THE AUTOMATIC ACCOUNTING OF PURCHASED ITEMS
Robert Weidmann, Uster, Switzerland, assignor to Zellweger Ltd., Uster, Switzerland
Filed Nov. 23, 1966, Ser. No. 596,693

Claims priority, application Switzerland, Nov. 24, 1965, 16,363/65

Int. Cl. G06k 7/08, 19/06

U.S. Cl. 235—61.11

8 Claims



A support device for carrying items of sale, which device is marked with magnetic elements in a binary fashion indicative of the sales price of the item. There is also disclosed herein a rack capable of carrying the items of sale by the support devices with keying slots provided to insure a particular orientation of the devices on the rack. There is also disclosed an accounting arrangement including a pair of reading heads for reading the pattern of the magnetic elements on each support device and processing circuitry for determining the price represented by each pattern of magnetic elements and for addition of all of the prices received in connection with a single rack.

3,538,312

ORTHOGONAL FIBER-OPTICAL SCANNER
Rudolf Genähr, Bad Kreuznach, Germany, assignor to Jose Schaefer Feinwerktechnik G.m.b.H. Optische Werke, Bad Kreuznach, Germany, a corporation of Germany
Filed Mar. 8, 1967, Ser. No. 621,600

Claims priority, application Germany, Mar. 11, 1966, Sch 38,643

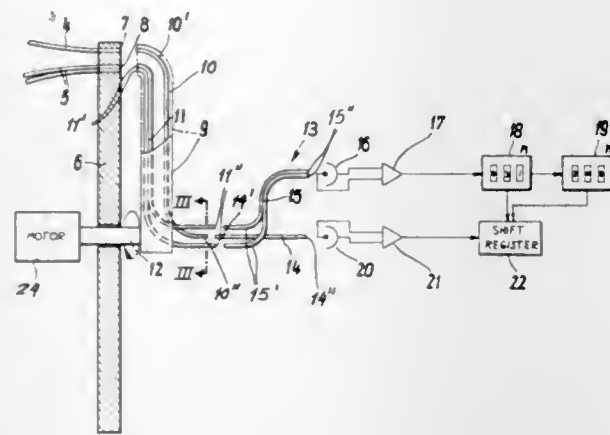
Int. Cl. G02b 5/16

U.S. Cl. 235—92

7 Claims

Device for registering in orthogonal co-ordinates the position of one or more luminous points on a surface, comprising an orthogonal array of input ends of a bundle

of light-conductive filaments divided into n columns and m rows. The opposite or output ends of the filament bundle are sequentially disposed along the periphery of a circular disk, with the filaments from successive rows occupying successive arcs along the circle. A fiber-optical scanner rotates around the center of the circle and picks up timing pulses from pinpoint light sources placed next to the out-



put ends of the filaments on the disk; any illuminated filament gives rise to a trigger pulse which is sensed by the scanner together with or just after an associated timing pulse and actuates a register to store or display the reading of two counters—one for the number m of rows, the other for the number n of timing pulses in a row—which are stepped by the timing pulses as the scanner rotates.

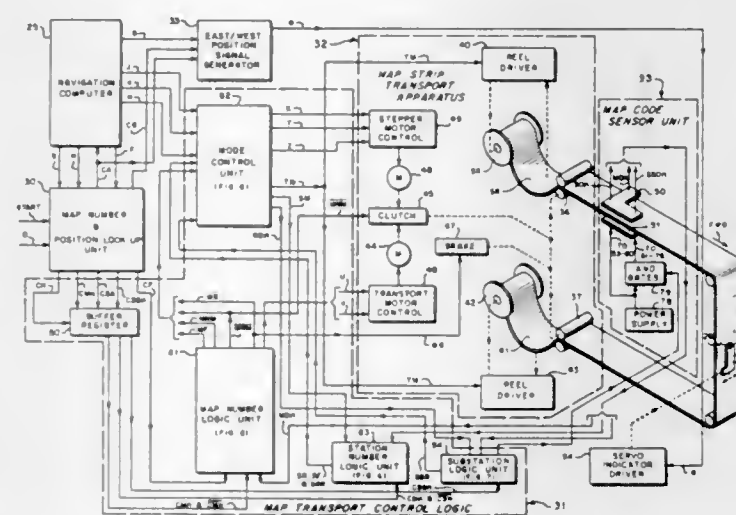
3,538,313

CODED STRIP POSITIONING APPARATUS
Terry Thomas, Abington, Eric A. Alfonsi, Wyncote, Frank J. Alessandro, Upper Darby, Gunther G. Gaebler, Andalusia, and John M. K. Bergey, Doylestown, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 15, 1968, Ser. No. 729,283

Int. Cl. G06f 15/48; G09b 29/10

U.S. Cl. 235—150.27

26 Claims



Computer controlled apparatus for registering in accordance with the instant geographical latitude and longitude of an aircraft position a predetermined portion along its length of a strip of coded, end-to-end linked maps drawn to variable scales with a transversely movable ground track indicator and thereafter for moving the strip and the indicator in accordance with the changes

respectively in latitude and longitude of the aircraft position. The apparatus includes a data look-up unit responsive to longitude and latitude signals from a navigation computer for providing signals representing a predetermined map and a predetermined transverse segment located along the length of that map. Logic circuitry responds to the look-up unit signals for causing, at first, a transport motor to drive the strip until the selected map number is photoelectrically detected and, thereafter, a stepper motor to drive the strip at a lower rate of speed for detection of station and substation areas. The stepper motor is then caused to drive the strip in accordance with the rate of change in latitude of the aircraft position, and the indicator is moved transversely of the strip in accordance with changes in longitude for indicating the ground track of the aircraft.

3,538,314

SYSTEM OF CONVERSION AND COMPUTING CIRCUITS BASED ON THE CONSTANT-SUM UNIMODULAR P-ADIC NUMBER

Ryota Suekane, Tokyo, Japan, assignor to Agency of Industrial Science & Technology, Chiyoda-ku, Tokyo, Japan

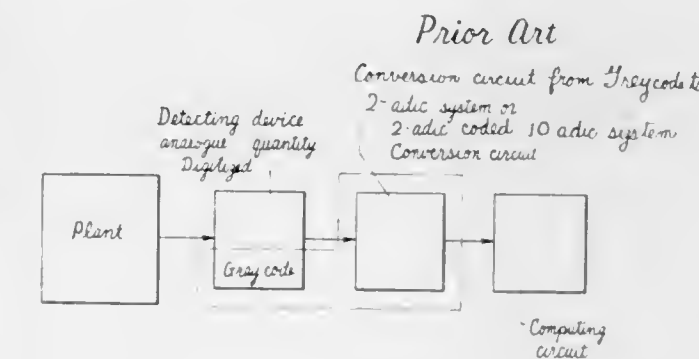
Continuation-in-part of application Ser. No. 449,714, Apr. 21, 1965. This application Apr. 22, 1969, Ser. No. 818,224

Claims priority, application Japan, Apr. 27, 1964, 39/23,611

Int. Cl. G06f 11/10; H03k 13/34

U.S. Cl. 235—153

5 Claims



The present invention relates to a system containing circuits for converting a conventional p-adic number to a novel constant-sum unimodular p-adic number, circuits for converting a constant-sum unimodular p-adic number to an ordinary p-adic number and circuits for the addition of constant-sum unimodular p-adic numbers, thereby enabling the integration of the adder and checker.

3,538,315

NUMERICAL CONTROL SYSTEM
Johann F. Reuteler, Elmwood, Conn., assignor to Pratt & Whitney Inc., West Hartford, Conn., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,214

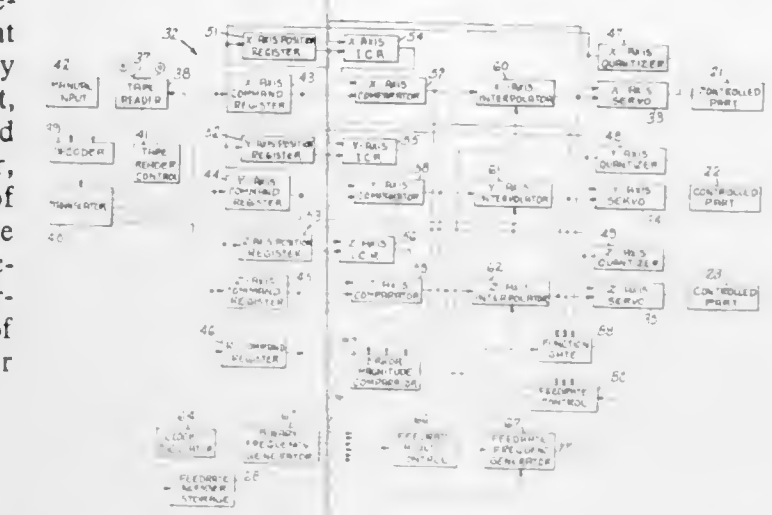
Int. Cl. G06f 15/46; G05f 19/22

U.S. Cl. 235—151.11

32 Claims

A numerical control system for simultaneously moving a plurality of parts, each with respect to a given axis so as to define a desired path of movement between an existing point and a commanded point. To synchronize the relative velocities of the parts, distinct pulse trains are generated having repetition rates determined by existing position errors with respect to each axis with all related to the same quantity, and having a number of pulses proportional to the distance to be traveled along each axis. The existing position errors are detected at a rate pro-

portional to a programmed feedrate. The programmed feedrate is further modified by the production of pulses



of each train to provide velocity and deceleration control of the parts.

3,538,316

TOLERANCE COMPUTER

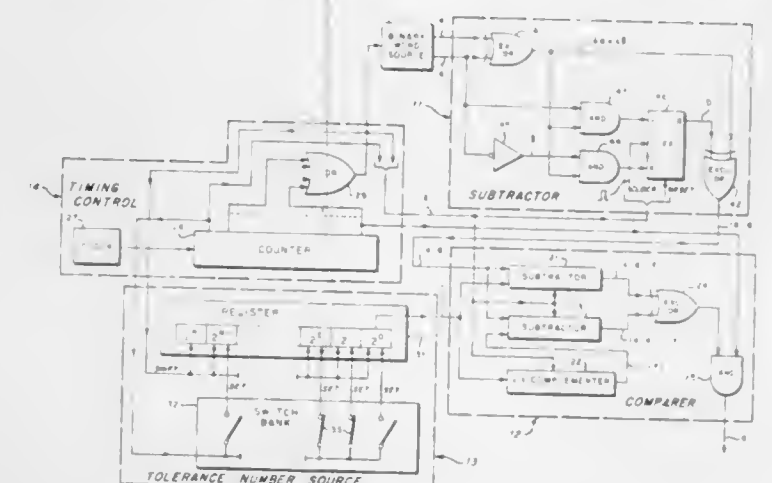
William G. Barrett and Richard C. Rowland, Bountiful, Utah, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 21, 1969, Ser. No. 817,944

Int. Cl. G05b 1/01; G06f 7/02

U.S. Cl. 235—177

10 Claims



A tolerance computer for ascertaining whether the difference between first and second serial binary numbers is no greater than a predetermined tolerance including a serial subtractor for obtaining the difference between the two binary numbers, a source for providing a tolerance number in serial binary form and a comparer in three embodiments for providing an output signal during the last bit time indicative that the first number is within the predetermined tolerance relative to the second number.

3,538,317

SYSTEM FOR INTEGRATING AN ELECTRICAL SIGNAL TO PROVIDE A CONTINUOUS OUTPUT

Yoshio Fukuda, Osaka, Japan, assignor to Shimadzu Seisakusho Ltd., Nakagyo-ku, Kyoto, Japan, a corporation of Japan

Filed June 7, 1967, Ser. No. 644,193

Claims priority, application Japan, June 9, 1966, 41/37,202

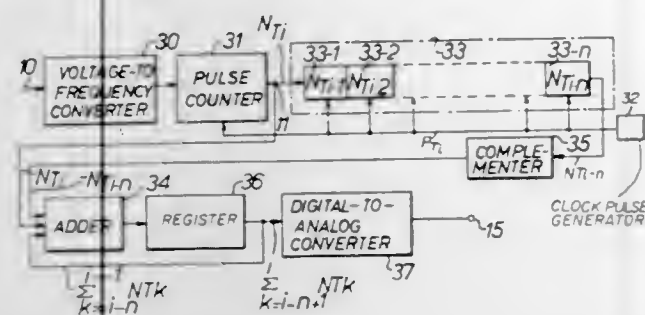
Int. Cl. G06g 7/18; H03k 13/00

U.S. Cl. 235—183

1 Claim

A system for integrating an electrical signal wherein a unipolar electrical signal is delayed for a predetermined period of time and the difference between the input

signal and the delayed signal is integrated to provide a continuous output. The system processes the signal



through a voltage to frequency converter, a pulse counter, a complementer, an adder, a register and finally a digital-to-analog converter.

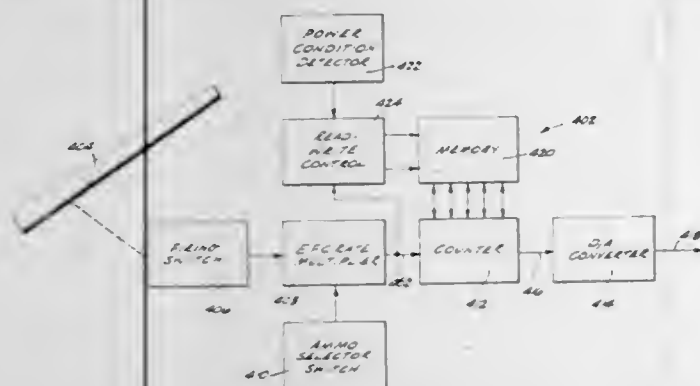
3,538,318

WEAR WEIGHTING FUNCTION GENERATOR FOR THE DETERMINATION OF THE PROPER AIMING OF A GUN

Roy G. Clutterbuck and Roger H. Edelson, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 21, 1968, Ser. No. 754,441
Int. Cl. B06g 7/80

U.S. Cl. 235—193

8 Claims



In determination of the proper aiming of a gun, the effects of wear in the gun tube caused by previous rounds must be considered. A firing sensor connected to the gun firing mechanism signals gun firing. An ammunition selector multiplies this gun firing signal by any selected one of a plurality of gun tube wear factors, depending upon the type of ammunition fired, to result in a gun tube wear factor for that particular round. These factors are totalized so that a counter carries the total wear factor accumulated since the gun tube was new. The counted total is stored in a non-volatile memory. The memory is preferably a ferrite core memory or the like, and the counter is a multibit solid-state counter. The counter output signal is connected to a digital-to-analog converter, the signal of which corresponds to gun tube wear since the gun tube was new, and is employed as a correction factor in the gun fire control computer.

3,538,319

ELECTRONIC FUNCTION GENERATION AND MULTIPLICATION

Robert M. Howe, Villars-sur-Ollon, Switzerland, assignor to Applied Dynamics, Inc., Ann Arbor, Mich., a corporation of Michigan

Filed Mar. 20, 1968, Ser. No. 719,290

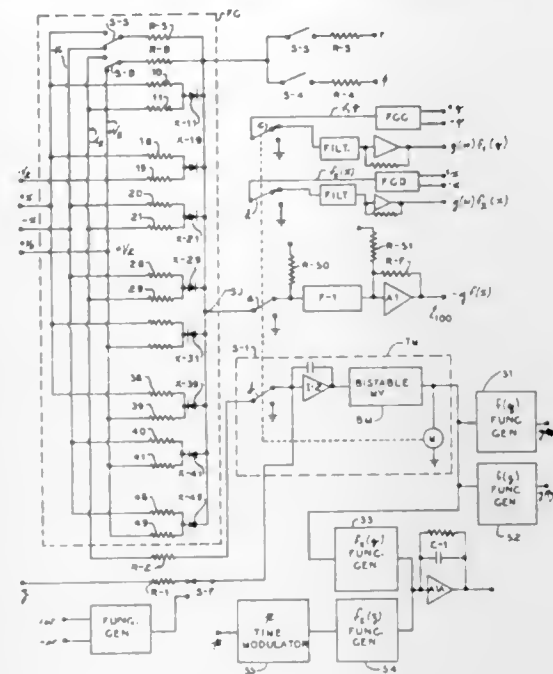
Int. Cl. G06g 7/16, 7/26

U.S. Cl. 235—194

45 Claims

Provision of economical all-electronic multiplying function generator apparatus by time-modulating a diode function generator output current or other function generator output in accordance with a multiplier variable

and then filtering and amplifying the modulated current, the use of a plurality of such multiplying function generators to electronically generate functions of two, three



3,538,320

INTEGRATED CIRCUIT ELECTRONIC ANALOG DIVIDER WITH FIELD EFFECT TRANSISTOR THEREIN

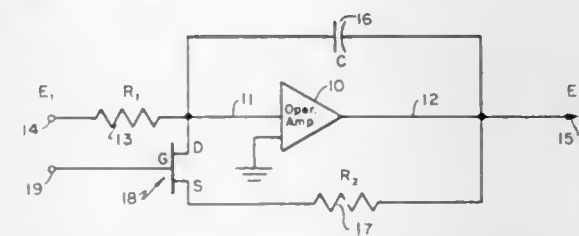
Arnolds Jansons, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 3, 1968, Ser. No. 764,806

Int. Cl. G06g 7/16

U.S. Cl. 235—196

3 Claims



An electronic analog divider circuit having an operational amplifier with an output filtering capacitor and a feedback with a field effect transistor therein to produce a voltage representative of a quotient on the output of the operational amplifier from a variable voltage representative of a dividend applied as an input to the operational amplifier and the duty ratio of a variable divisor voltage applied to the gate terminal of the field effect transistor. A field effect transistor can be used also in the input to the operational amplifier to produce multiplication of the variable input voltage and this product then divided by the divisor duty ratio variable voltage to produce a quotient voltage.

3,538,321

MULTIPLE LIGHT TRANSMISSION FROM A SINGLE LIGHT SOURCE

Bruce Cameron Longenecker and Joseph Richard Keller, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Apr. 18, 1967, Ser. No. 631,697

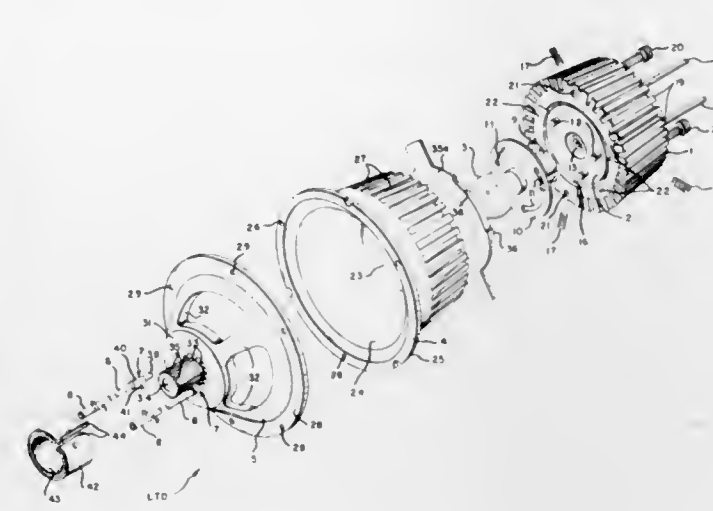
Int. Cl. F21

U.S. Cl. 240—1

11 Claims

A light source for providing a uniform area and intensity of light from a reflective member onto ends of light-conducting members carried in a mounting member

adjacent the reflective member. A light bulb providing ever-changing color filters onto an irregular reflecting the light is axially adjustable relative to the reflective mem- surface moving differentially with respect to the changing



ber to provide an optimum uniform area and intensity of light.

3,538,322

POLARIZED LIGHT DISPLAY

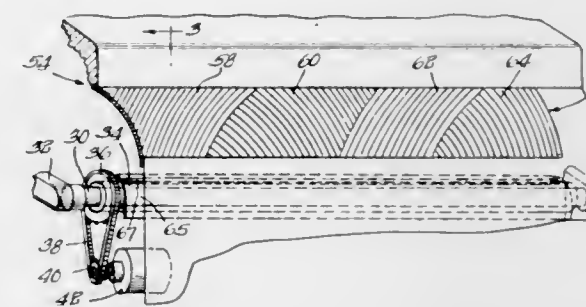
Alvan Donald Arsem, Clarence, N.Y., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Delaware

Filed May 29, 1968, Ser. No. 733,138

Int. Cl. G02b 27/28

U.S. Cl. 240—9.5

4 Claims



A display panel is provided with a plurality of areas having different polarized patterns thereon. A rotating polarized light source with the plane of polarization rotating illuminates the display panel, either by reflected or by transmitted light. The visual appearance of the display panel changes as the polarization of the light impinged upon a display panel changes.

3,538,323

DECORATIVE LIGHT SOURCE

Robert M. Ziegler, 202 Walnut Ave., Arcadia, Calif. 91006

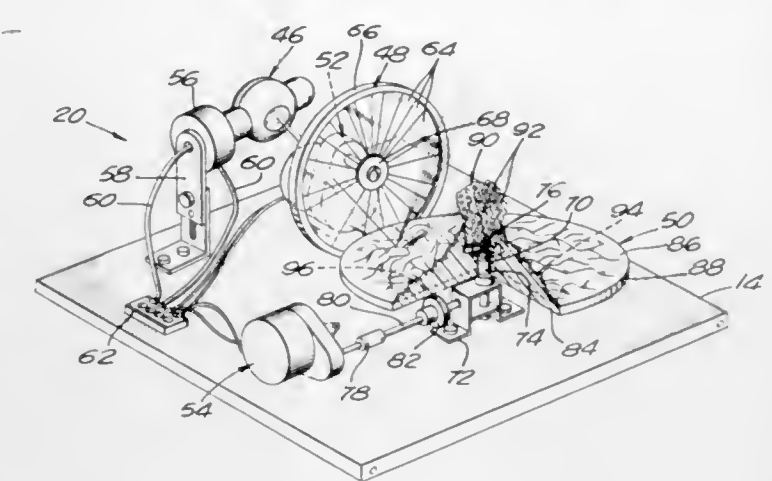
Continuation of application Ser. No. 557,033, June 13, 1966. This application July 16, 1969, Ser. No. 846,637

Int. Cl. F21p 3/00

U.S. Cl. 240—10.1

5 Claims

A lighting system operating to provide an ever-changing nonrepeating pattern of multicolored images on either flat, curved or surfaces of revolution formed of translucent material. The variegated colored lighting provided by the system is usable in innumerable ways to produce artistic, decorative and illuminating effects. A concentrated beam from a strong light source passes through



filter and effective to disperse and scatter the colored rays onto a surface or surfaces intended to be decorated or illuminated.

3,538,324

VARIABLE BEAM SPOTLAMP

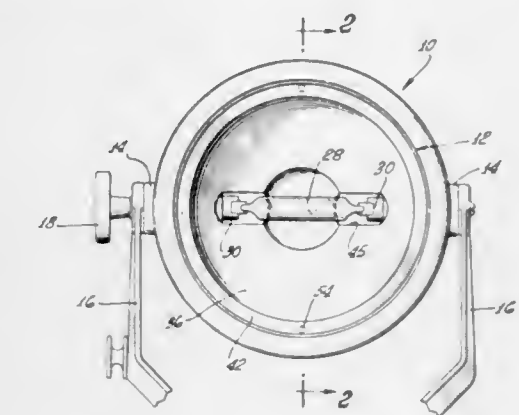
Maxey A. Hankins, Encino, Calif., assignor to Mole-Richardson Co., Hollywood, Calif., a corporation of California

Filed Sept. 29, 1966, Ser. No. 582,892

Int. Cl. F21v 7/00

U.S. Cl. 240—44.1

6 Claims



A variable spotlamp embodying a double-ended, high intensity bulb, such as a double-ended quartz bulb, fixedly mounted transversely in the lamp housing in a pair of diametrically opposed sockets. Beam adjustment is accomplished by axial movement of a generally cup-shaped reflector in the housing. The reflector has diametrically opposed, elongated slots therein through which the ends of the bulb extend for engagement in the sockets. These slots allow movement of the reflector from a rearwardmost "flood" position to a forwardmost "spot" position.

3,538,325

PERFORMANCE LEVEL CONTROL OF VEHICLES FROM A CENTRAL OFFICE

Willis R. Smith, Vincent P. Kovalcik, and Glenn O. Ferm, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed May 16, 1968, Ser. No. 729,603

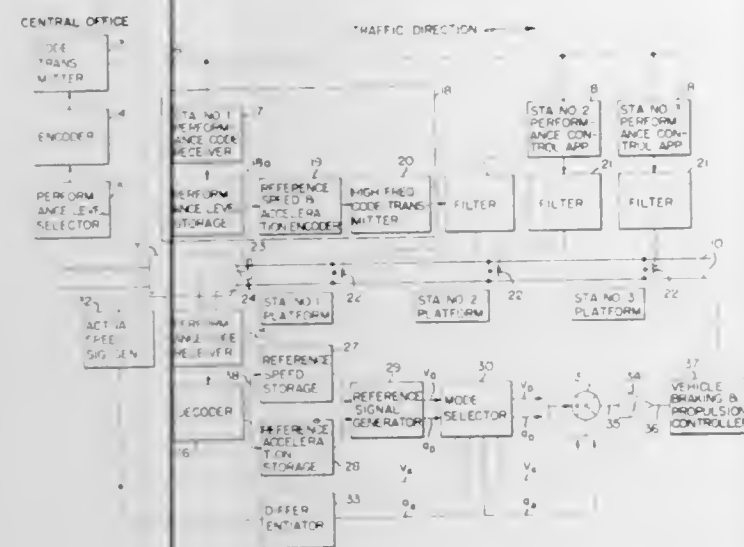
Int. Cl. B60l 21/10

U.S. Cl. 246—63

5 Claims

A system is provided for code communication of performance level controls from a central office to a plurality of remotely spaced stations along a right of way such as would be provided for rapid transit vehicles. The stations all receive the same codes from the central office, and storage means is provided at each station for storing

the performance level last communicated to that station. In accordance with this storage at each station, desired reference speed and acceleration level codes are transmitted to vehicles in the area adjoining that station to govern both the speed and rate of acceleration for opera-



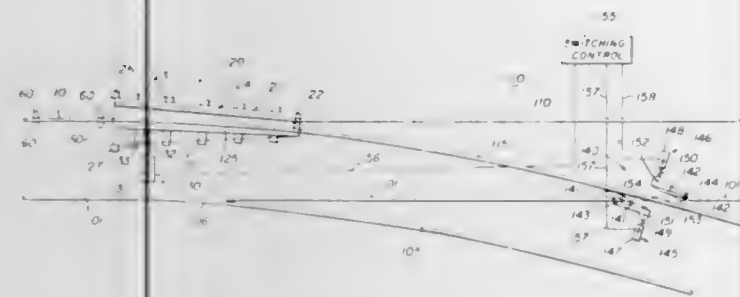
tion of such vehicles between stations. The codes transmitted to the vehicles from the several stations for a given performance level designated at the central office can vary relative to each other because of different distances between stations within which it is desired to make time of vehicle operation performance adjustments.

3,538,326 SWITCHING SYSTEM FOR WIDE GAUGE RAILWAY TRACK

Glen L. Nodhardt, Deerfield, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed May 8, 1968, Ser. No. 727,600
Int. Cl. E01b 7/00

U.S. Cl. 246—415

26 Claims



There is disclosed a rail track system having a gauge of at least about ten feet for supporting a railway car of the type having truck structure including a guide bogie supported on a load wheel engaging the top of a guide rail and a pair of guide wheels engaging the opposite sides of the guide rail and including a follower bogie supported on a load wheel engaging the top of a support rail; in the track system, a main guide rail and a main support rail form a main railway track, there being breaks in the main rails, and an intersecting railway track including an intersecting guide rail extending through the break in the main support rail and terminating at the break in the main guide rail and an intersecting support rail joined to the main support rail; switch structure is provided in the two breaks so that the railway car can move in an uninterrupted manner on the main railway track across the breaks or can move between the main railway track and the intersecting railway track across the breaks therein.

3,538,327 FIXED GEOMETRY TEST SOURCE ASSEMBLY FOR GAS FLOW PROPORTIONAL COUNTERS

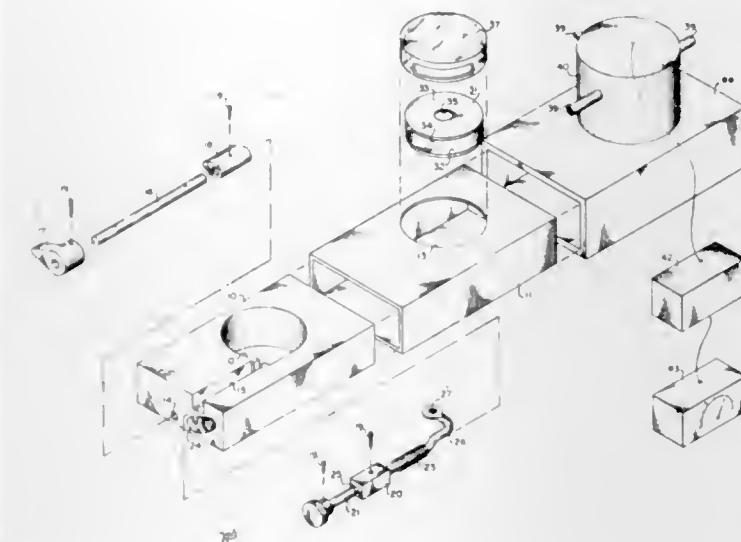
Richard L. Robinson, Jr., Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 29 1967, Ser. No. 686,438

Int. Cl. G01n 23/12

U.S. Cl. 250—43.5

7 Claims



This invention is directed to an assembly which will enable a radioactive test source to be exposed for detection of a radioactive gas or for low energy counting in a gas flow proportional counter without altering any operating parameters of the test chamber such as volume, pressure, temperature, composition of the filling and surface area within the chamber.

3,538,328 SCINTILLATION-TYPE ION DETECTOR EMPLOYING A SECONDARY EMITTER TARGET SURROUNDING THE ION PATH

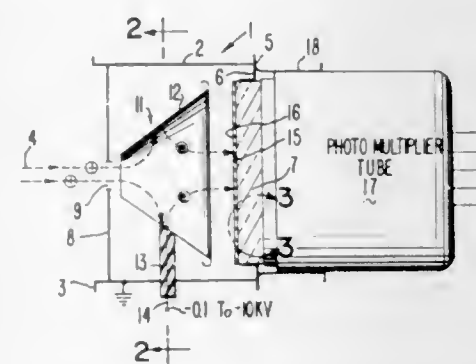
Yale E. Strausser, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Mar. 4, 1968, Ser. No. 710,382

Int. Cl. G01t 1/20

U.S. Cl. 250—71.5

3 Claims



A scintillation-type ion detector is disclosed. The detector includes an evacuable envelope structure containing a secondary emitter target electrode structure having a bore therethrough which is preferably of conical shape. The inside surface of the bore is bombarded by the ions to be detected and is made of a material that emits secondary electrons on being bombarded by ions. The secondary electron emission from the walls of the bore is focused onto a scintillator disposed facing the exit end of the bore to give an optical photon output which is transmitted through a window to a photo multiplier.

3,538,329 SIGNAL CORRECTION SYSTEM FOR WELL LOGGING INSTRUMENT HAVING SHORT AND LONG-SPACED RADIOACTIVITY DETECTORS AND A BORE HOLE CALIPER

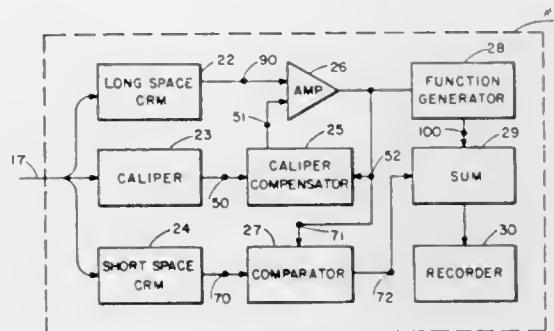
Francis J. Niven, Jr., Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Nov. 21, 1967, Ser. No. 684,849

Int. Cl. G01v 5/00

U.S. Cl. 250—83.3

11 Claims



A well logging instrument having a gamma ray source, a short-spaced radioactivity detector, a long-spaced radioactivity detector, and a bore hole caliper is coupled through a logging cable to the surface electronics.

The surface electronics includes a pair of counting rate meter circuits having closed loop control over the base line shift to lessen the effects of noise signals. The surface electronics also includes a bore hole compensation circuit, a function generator circuit, and a signal comparison circuit functionally interconnected with the pair of counting rate meter circuits to provide compensation for the effects of mudcake and bore hole non-uniformity upon the logging of the density of the formations surrounding a bore hole.

3,538,330 BOREHOLE FLUID-INFLATABLE RADIOACTIVITY LOGGING TOOL AND METHOD

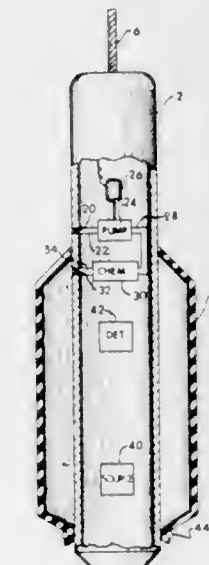
Arthur H. Youmans, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 503,117

Int. Cl. G01t 1/20; G01v 5/00

U.S. Cl. 250—83.6

3 Claims



The disclosure is of a method and apparatus for radioactivity well logging wherein an instrument with an inflatable bag about at least a portion thereof is disposed

in a borehole at a pre-selected depth. Thereafter, the bag is filled with borehole fluid after such fluid is processed in a chemical cell to alter the neutron capturing power of the fluid. With the bag filled in this manner, the instrument is raised while logging the earth formations surrounding the borehole. One apparatus disclosed for carrying out this method has a chemical cell connected into a valve-controlled channel so that borehole fluid is passed through the chemical cell to fill the bag.

3,538,331 ANODE HEAT CONTENT CALCULATOR FOR X-RAY TUBE

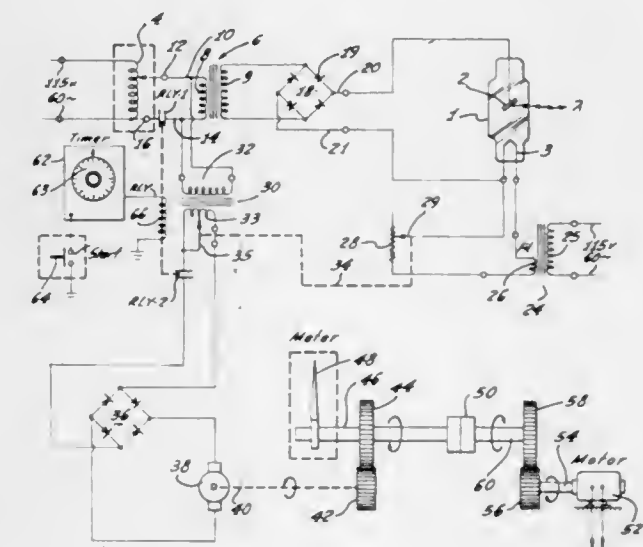
James R. Craig, Glenview, Ill., assignor to Litton Medical Products, Inc., Des Plaines, Ill., a corporation of Delaware

Filed July 16, 1968, Ser. No. 745,179

Int. Cl. H05g 1/00

U.S. Cl. 250—93

3 Claims



An X-ray apparatus heat content calculator for preventing thermal runaway. A calibrated meter is provided to indicate the remaining heat content in the X-ray tube. The meter indicator is suitably controlled to indicate the decreasing amount of thermal heat units which can be safely generated within the X-ray apparatus by a first means that responds substantially to the product of anode voltage, tube current, and the duration of energization of the X-ray tube. At other times, the meter pointer is slowly driven in an opposed direction at a speed proportional to the thermal discharge of the X-ray tube which suitably represents the increase in thermal capacity.

3,538,332 FLAME SCANNER WITH HEAD MEANS INCORPORATING MECHANICAL SHUTTER CHECKING DEVICE

Lyman F. Gilbert, Somers, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 27, 1967, Ser. No. 693,923

Int. Cl. G21f 5/00

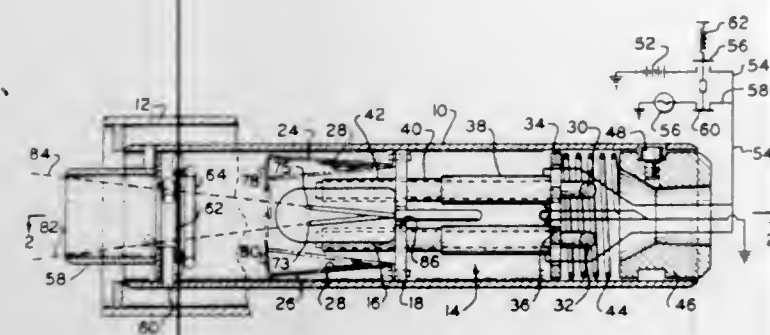
U.S. Cl. 250—105

9 Claims

A head assembly for flame scanners utilizing sensing tubes, such as glow discharge tubes and Geiger Mueller tubes, which sense the presence of flame and through an electrical circuit provide an indication of the presence or absence of flame. Mounted within the head is a mechani-

cal shutter mechanism, that is electro-magnetically actuated, to shield or blank off the tube from a flame peri-

photometric signal having high frequency components exhibiting power proportional to the degree of image



odically or when desired, thereby effectively testing the flame scanner tube and circuit for malfunctions.

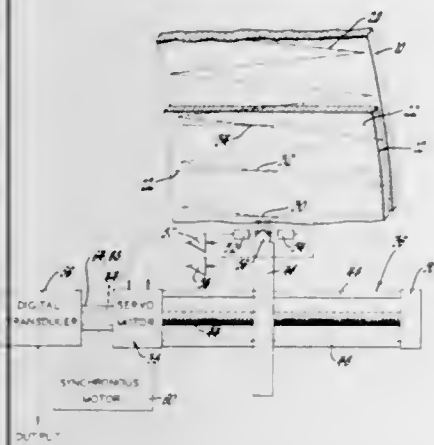
3,538,333 ELECTRO-OPTICAL DISPLACEMENT AMPLIFIER

Lyle H. Dorow, Milwaukee, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 4, 1968, Ser. No. 695,693
Int. Cl. G01b 7/30; G01c 22/00

U.S. Cl. 250-201

3 Claims



An electro-optical displacement amplifier is disclosed which includes a pair of coaxially mounted cylinders of transparent material having inner opaque surfaces with scribed lines thereon which cooperate to form a plurality of light passages movable axially in response to an angular input displacement to one of the cylinders. A light sensitive servosystem is provided for sensing radiant energy passing through the cylinders and track the axial movement and also to scan the multiple light passages to average out transfer errors between the angular input displacement and the axial movement of any particular light passage. The angular output displacement of the servosystem provides a highly accurate amplification of the angular input displacement.

**3,538,334
AUTOMATIC FOCUSING DEVICE WITH A
PHOTOSENSITIVE ERROR DETECTOR**
Philip A. Shaffer, Jr., Pasadena, Calif., assignor to Hycon Mfg. Company, Monrovia, Calif.
Filed Jan. 24, 1968, Ser. No. 700,302
Int. Cl. G01j 1/20; H01j 39/12

U.S. Cl. 250-201

14 Claims

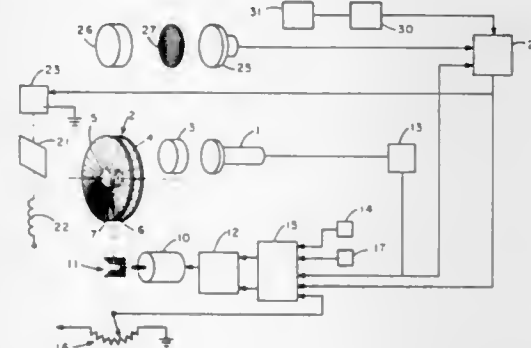
An automatic focusing device for combination with an optical system. A stippled disk is positioned in the optical path of an image, and the position of the disk is cyclically varied about a predetermined position to generate a

focus. The high frequency content of the signal, appropriately transduced, is evaluated for determining errors in image focus.

**3,538,335
LIGHT INTENSITY CONTROLLER FOR
PHOTOSENSITIVE PICKUP TUBES**
Charles N. Tartanian, New Hartford, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 27, 1968, Ser. No. 779,355
Int. Cl. G01j 1/40; G03b 7/08

U.S. Cl. 250-201

6 Claims

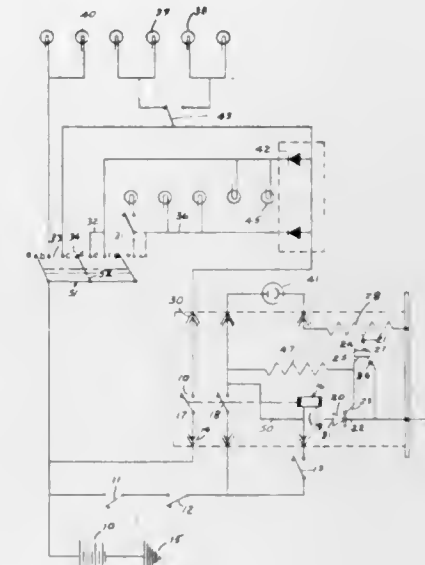


An automatic light control system is operable in a NORMAL mode to provide constant image sensor photosurface illumination when scene brightness is below a predetermined level and operable in an OVEREXPOSURE mode to protect the image sensor from possible damage when scene brightness is above a predetermined level. Two illumination control means are disposed in cascade before an image sensor. One means is a continuously variable light compensating device driven by a DC servomotor. The second means is an optical shutter driven by a shutter actuator. Error sensing circuits provide drive signals for the motor and actuator. In the NORMAL mode, an error sensing circuit compares a single-valued analog control signal related to intensity of image sensor photosurface illumination with a first reference DC signal related to desired photosurface illumination level. In the OVEREXPOSURE mode, an error sensing circuit compares a DC analog control signal proportional to servomotor displacement with a second reference signal related to near-zero photosurface illumination. A bistable logic switching circuit responsive to a predetermined level of scene brightness selectively connects the appropriate control and reference signals to the error sensing circuit. The predetermined level may, for example, be that of direct sunlight or reflected sunlight from a white surface.

**3,538,336
PHOTOELECTRIC HEADLIGHT SWITCH RESPON-
SIVE TO AMBIENT SIGHT**
Albert Niedzielski, 802 Michigan Blvd.,
Erie, Pa. 16505
Filed Dec. 4, 1967, Ser. No. 687,751
Int. Cl. H01j 39/12

U.S. Cl. 250-214

3 Claims

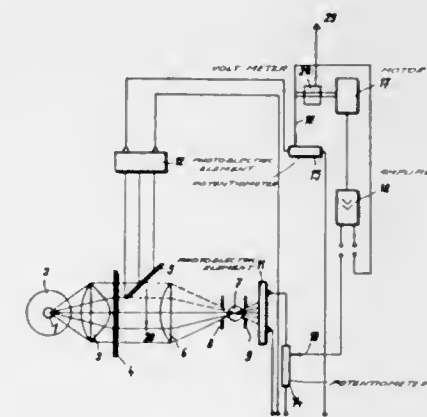


The circuit disclosed is intended to turn the headlights on an automobile on and off by means of a photocell actuated by the ambient light. The sensitivity of the photocell is controlled by a potentiometer and the photocell causes a flow of electricity through the electro-magnetic solenoid of a relay which turns on the lights.

**3,538,337
PHOTOMETRIC DEVICE WITH PHOTOCELL
COMPENSATING MEANS**
Jiri Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia
Filed July 6, 1967, Ser. No. 651,449
Int. Cl. G01n 21/16

U.S. Cl. 250-218

4 Claims

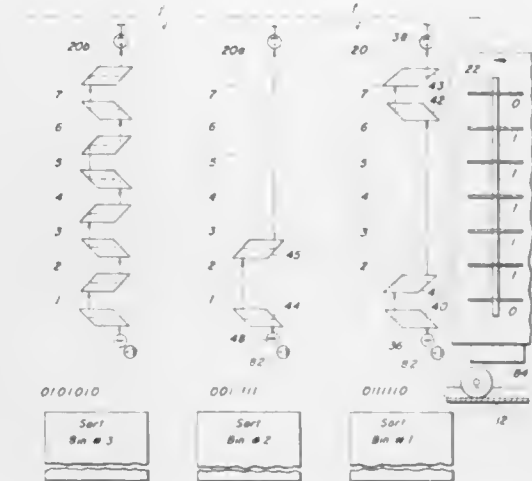


A photometric aggregate for analyzing the contents of a cuvette by illumination by a light from a single source, the said light is converted into a beam of parallel rays and split by a reflecting element, the split beams are fully utilized by a main photoelectric sensor and a reference photoelectric sensor, the main photoelectric sensor receives a light beam emerging from the cuvette while the reference photoelectric sensor receives a direct light beam, an electric circuit associated with each sensor, the voltage difference of the output of the two circuits is used to drive a balancing motor adapted to move the slider of a potentiometer included in the circuit of the reference photoelectric sensor to cancel out said voltage difference.

**3,538,338
OPTICAL CODE APPARATUS FOR SORTING
APPLICATIONS UTILIZING UNIQUE CIR-
CUITOUS LIGHT PATH AND SETABLE
VANES**
Jacob Rabinow, Bethesda, Md., assignor to Control Data Corporation, Rockville, Md.
Filed June 4, 1968, Ser. No. 734,447
Int. Cl. B07c 5/342; G01n 21/30; G06m 7/00

U.S. Cl. 250-219

7 Claims



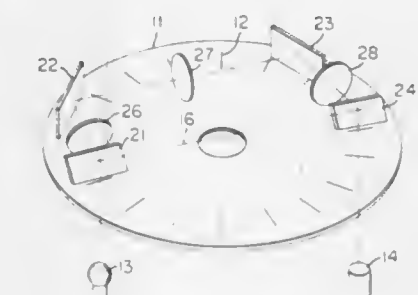
A sorting conveyor code system having an optical code device for each sort destination. The optical code is established by prisms in a light path between a lamp and a photocell, which deflect the light beam so that portions occupy positions along the lamp-photocell optical axis and other portions occupy positions parallel to and laterally offset from the optical axis. The respective positions correspond to binary 1 and 0 of a binary number. The places of the binary number are established by the spaces between prism positions which the light beam portions span.

Movable code devices made of light blocking vanes adjustable to one of two binary positions, interrogate the optical codes as they escort the articles to be sorted. An escort code matches an optical code when its light beam is not interrupted by any of the vanes, i.e. when the binary positions of the vanes are identical to the binary positions of the portions of the light beam thereby allowing the beam to impinge on the photocell.

**3,538,339
ECCENTRICITY CANCELLING OPTICAL
TACHOMETER**
Herman A. Ferrier, Jr., San Jose, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Aug. 2, 1967, Ser. No. 657,924
Int. Cl. G01d 5/30; H02k 27/20

U.S. Cl. 250-230

3 Claims



An optical-disc tachometer is arranged to correct for possible eccentricity in the mounting of the disc. Light is directed through the marked portion of the disc at a first point, and the image of the marks is collected on the opposite side of the disc, reversed with mirrors, and then reflected back through the disc at a second point 180°

from the first. A photocell at the second point views the actual marks at that point, and also the superimposed reversed image, which appears to rotate in an opposite direction. The photocell emits a signal varying as the actual marks and the image marks come into and out of phase registration, the signal having twice the frequency that could be obtained from the marks alone, and being accurately related to the rotational speed of the disc even if the disc is somewhat eccentrically mounted.

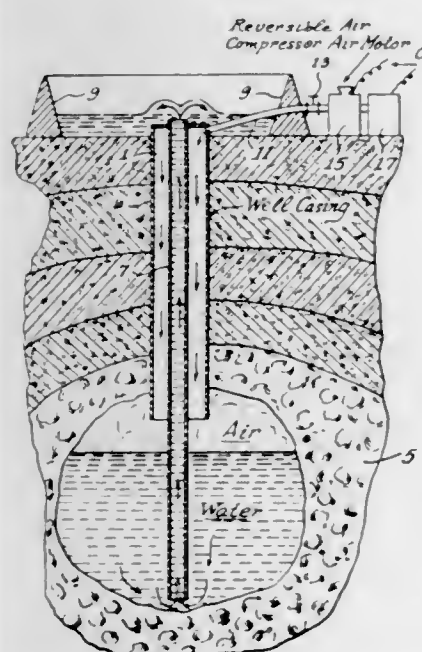
3,538,340

METHOD AND APPARATUS FOR GENERATING POWER

William J. Lang, Mundelein, Ill.
(623 Dawes, Libertyville, Ill. 60048)
Filed Mar. 20, 1968, Ser. No. 714,730
Int. Cl. H02k 7/18

U.S. Cl. 290—52

2 Claims



Energy is stored during low load requirements of a power generating plant by using the excess power available to compress gas such as air and injecting it under high pressure into a subterranean salt or other gas impermeable cavity or reservoir. The cavity is in communication with a water reservoir at the surface of the ground so that the hydrostatic head of the reservoir is imposed on the gas in the cavity. When load requirements are high, gas is withdrawn from the subterranean cavity under the hydrostatic head of the water pressure and used to operate an air motor or other auxiliary prime mover which in turn drives generating equipment. The gas reservoir is maintained under substantially constant pressure.

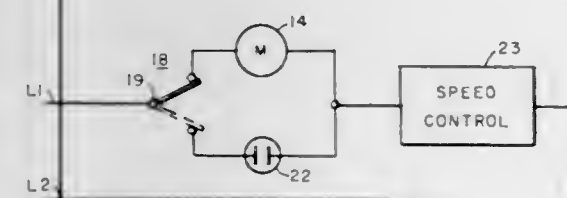
3,538,341

APPLIANCE WITH VARIABLE SPEED CONTROL

Edmund G. Pankow, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 20, 1968, Ser. No. 777,365
Int. Cl. H02j 3/14

U.S. Cl. 307—38

4 Claims



A variable power source and selector switch associated therewith. The power source forms an integral part of an appliance, for example, a cooking range, having an

automatic stirrer energized by the variable power source. The appliance is also provided with an electrical outlet for other appliances such as drills, hand mixers and blenders. The selector switch serves to selectively establish an electrical circuit between the variable power source and the motor forming a part of the automatic stirrer or the electrical outlet.

3,538,342

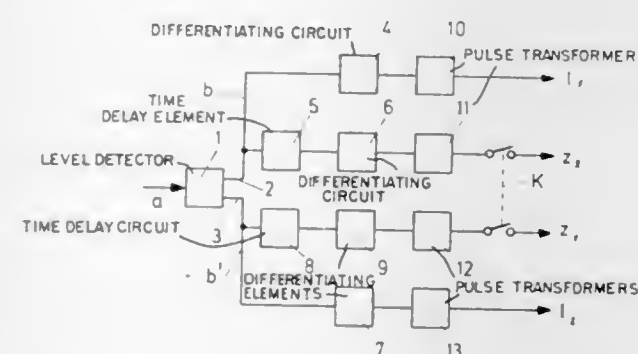
DEVICE FOR CONTROLLING AN INVERTER

Arne Jensen, Havnbjerg, Als, and Tom Kastrup Petersen, Nordborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Aug. 28, 1968, Ser. No. 755,878
Claims priority, application Germany, Aug. 29, 1967, D 53,957

Int. Cl. H02m 7/52

U.S. Cl. 307—106

5 Claims



In a pulse generator for a power converter, an input waveform is fed to a differential amplifier serving as a zero detector which has two outputs of opposite phase. Each output is differentiated and used as blocking pulses; each output is also delayed and then differentiated and used as firing pulses. The firing and blocking pulses overlap each other.

3,538,343

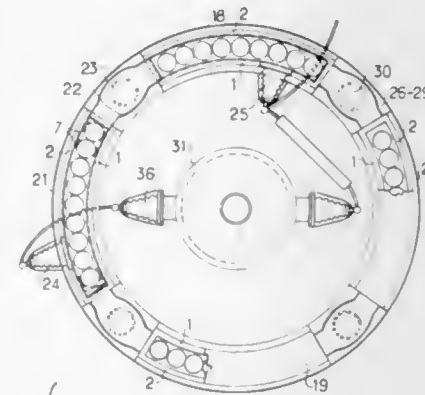
SURGE GENERATOR

Spartacus Barbini, Chaville, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France
Filed Sept. 19, 1968, Ser. No. 760,853
Claims priority, application France, Sept. 20, 1967, 121,673

Int. Cl. H02m 3/18

U.S. Cl. 307—110

11 Claims



Bank of capacitors formed by a plurality of capacitor elements, each capacitor element being characterized by the fact that it consists of an assemblage of a plurality of detachable elemental capacitors of substantially cylindrical form, of which electrodes are connected to one or more metal contacts disposed on the outside metal surface of the capacitor substantially on either side of the said capacitor, the said elemental capacitors being disposed with the aid of resilient contacts between two parallel

metal plates forming the electrodes of the element, said capacitor elements being also combined to form capacitor rings which may be stacked into columns. A surge generator with a spark gap is placed within a column of a stack of the bank of capacitors.

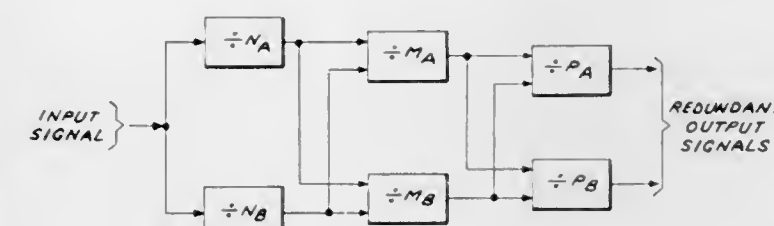
3,538,344

SYNCHRONIZED STARTING OF REDUNDANT DIGITAL DIVIDERS

Gabor Schlusser, Tenafly, N.J., assignor to International Telephone & Telegraph Corporation, Nutley, N.J., a corporation of Delaware
Filed May 3, 1968, Ser. No. 726,299
Int. Cl. G06f 11/08

U.S. Cl. 307—219

10 Claims



An automatic starting arrangement for redundant digital dividers in which each divider can start when its opposite unit is not operating and is caused to start in synchronism when its opposite divider unit is operating.

3,538,345

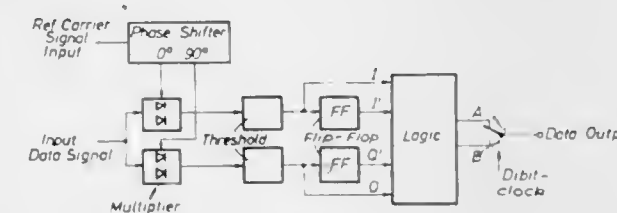
PHASE DEMODULATOR CIRCUITS

Albert Norz, Stuttgart-Zuffenhausen, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1967, Ser. No. 689,954
Claims priority, application Germany, Dec. 17, 1966, St 26,258

Int. Cl. H03k 5/20

U.S. Cl. 307—232

4 Claims



A phase demodulator wherein the received data signal to be demodulated is multiplied by a reference carrier and by the reference carrier shifted by 90°. The reference carrier is derived from the received data signal. Simplified digital switching and logic circuitry is used to provide pulses sequenced in accordance with the phase shifts.

ERRATUM

For Class 307—235 see:
Patent No. 3,537,757

3,538,346

GATED THRESHOLD AMPLIFIER

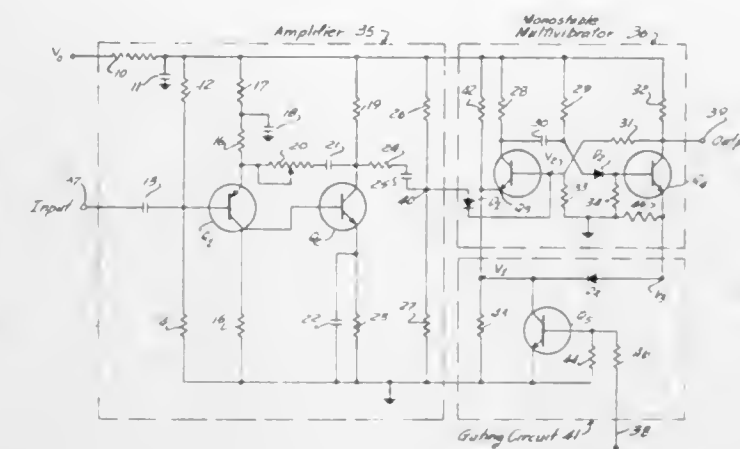
Richard Smith Hughes, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 3, 1967, Ser. No. 680,436
Int. Cl. H03k 3/26, 5/20

U.S. Cl. 307—235

2 Claims

A variable gain amplifier connected in series with a

gated monostable multivibrator, wherein the multivibrator will operate to change states only if a gating circuit is



properly biased and the output of the amplifier exceeds the trigger level of the multivibrator.

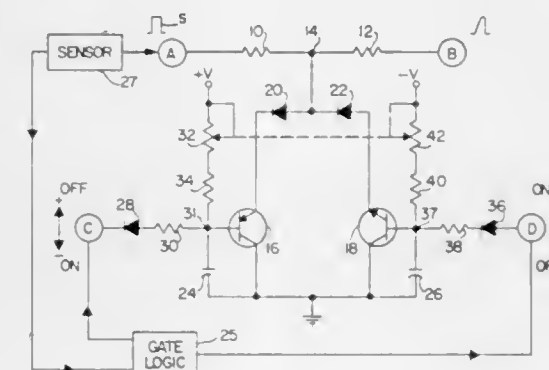
3,538,347

EXPANDABLE CLAMP CIRCUIT

Gaines T. Spotts, Staunton, Va., assignor to General Electric Company, a corporation of New York
Filed Apr. 20, 1967, Ser. No. 638,172
Int. Cl. H03k 5/08

U.S. Cl. 307—237

11 Claims



A circuit for limiting the rate of rise of a voltage pulse after an initial clamp to a minimal value. Two transistors in parallel provide a clamp to ground for voltage pulses of either polarity which serve as the transistor power supply. A normally charged capacitor at the base of each transistor is allowed to discharge as the clamp is released, the discharge determining the rate of rise of the voltage pulse.

3,538,348

SENSE-WRITE CIRCUITS FOR COUPLING CURRENT MODE LOGIC CIRCUITS TO SATURATING TYPE MEMORY CELLS

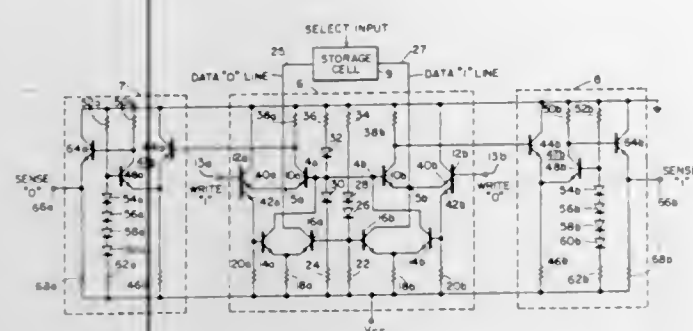
Durrell Wayne Hillis, Phoenix, Ariz., and Donald Edward Murray, Geneva, Switzerland, assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 10, 1967, Ser. No. 652,228
Int. Cl. H03k 5/20

U.S. Cl. 307—238

6 Claims

A sense-write circuit for memories having first and second biasing transistors emitter coupled to first and second write transistors respectively at data-input data-output points. A pair of emitter coupled current switches are connected respectively to the data-input and data-output points and are further coupled to the write transistors.

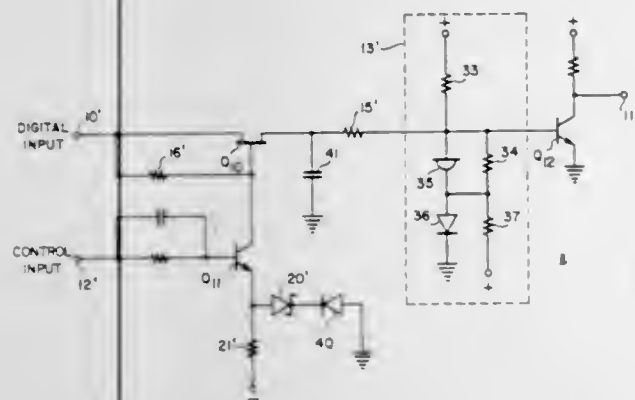
These current switches control the potential at the data points in response to signals applied to the write transistors.



sistors. The voltage imbalance at the data points is sufficient in magnitude to change the conductive state of a saturated memory cell.

3,538,349 TRANSISTOR SWITCH

Leland B. Smith, Whittier, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Continuation of application Ser. No. 537,994, Mar. 28, 1966. This application Oct. 27, 1969, Ser. No. 869,947
Int. Cl. H03k 17/00, 17/66
U.S. Cl. 307—238 2 Claims



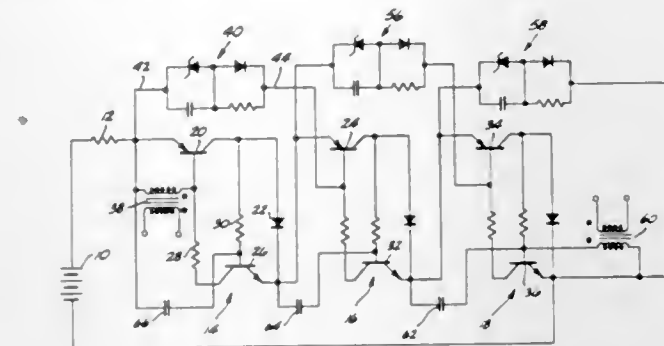
An asynchronous sample and hold circuit including a bilateral current conducting switch for continuously coupling a bilinear digital input signal to a current driven bistable device to continuously sample the bilinear digital signal and means for opening the bilateral conducting switch at selected time intervals to disconnect the bilinear digital input signal from the bistable circuit whereby the bistable circuit stores or holds the last digital input signal sampled.

3,538,350 CAPACITIVE VOLTAGE DISTRIBUTION NETWORK FOR SERIES CONNECTED TRANSISTOR SWITCHES

Joe V. Stover, Fullerton, and George Sloan, Anaheim, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Continuation-in-part of applications Ser. No. 554,028, May 31, 1966, and Ser. No. 595,083, Nov. 17, 1966. This application Oct. 26, 1967, Ser. No. 678,293
Int. Cl. H03k 17/00
U.S. Cl. 307—255 9 Claims

When series connected transistor switches are connected across a source of voltage which is higher than the standoff voltage of any one of the series connected transistor switches, it is necessary to distribute the voltage across the switches during transitional and off states. The voltage change across a switch is measured by a capacitor

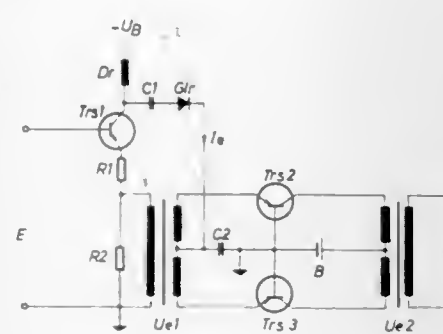
parallel thereacross and connected to the base of the succeeding transistor switch so that as the voltage rises across the first switch, the second one is driven off. Such a capacitor is parallel across each transistor switch in the series. Additional protection is furnished by a Zener diode paralleled across each transistor switch so that the Zener



breaks down and conducts before the voltage across the transistor switch exceeds its tolerable standoff voltage. The Zener is also connected to the base of the succeeding switch to drive the succeeding switch towards its non-conductive state. The series connected transistors can be turned on or off by appropriately pulsing the base of one or more transistor switches.

3,538,351 CIRCUIT ARRANGEMENT FOR AN AMPLITUDE EXPANDOR IN THE ELECTRIC TELECOMMUNICATION ENGINEERING

Wolfgang Deitze, Stuttgart-Zuffenhausen, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 531,288, Apr. 2, 1966. This application Nov. 10, 1969, Ser. No. 871,544
Claims priority, application Germany, Mar. 10, 1965, St 23,478
Int. Cl. H03f 1/08, 1/30
U.S. Cl. 307—264 3 Claims



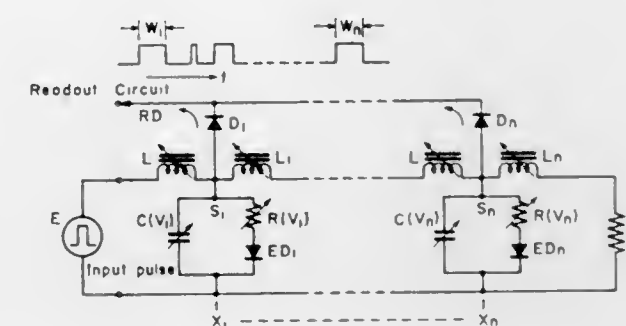
An amplitude expander is formed by a transistor stage coupling to an amplifier stage. The transistor stage responds to received signals to provide an input signal from its emitter, and a control signal from its collector. The input signal is applied to the emitter circuits of the amplifier stage and the control signal is rectified and applied to the base of amplifier stage. The amplifier stage then provides the expanded signal.

3,538,352 VARIABLE IMPEDANCE ACTIVE PULSE TRANSMISSION SYSTEM

Jun-Ichi Nishizawa, Sendai, Japan, assignor to Semiconductor Research Foundation, Kawauchi, Sendai, Japan
Filed Oct. 3, 1968, Ser. No. 766,033
Int. Cl. H03k 1/18
U.S. Cl. 307—265 9 Claims

A plurality of recurring T-shaped L-C-R networks are disposed at predetermined different locations and elec-

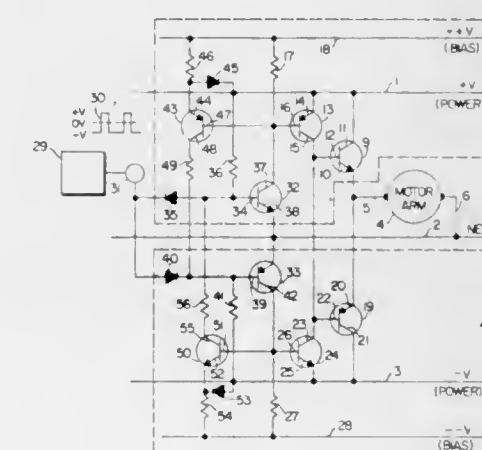
trically connected in cascade with no reflection. Each network comprises a series element including a pair of serially connected inductors and a shunt element including a variable capacitance or inductance element and an Esaki diode connected in parallel to the element. The variable element responds to an applied signal to change in impedance and the Esaki diode responds to a scanning pulse to have a negative resistance less than the output



impedance of the associated network to provide a width modulated pulse. These pulses are successively read out from the respective network to provide a series of signals successively arranged with respect to time and originating from the spatially distributed signals applied to the respective variable impedance element. Similarly a series of signals successively arranged with respect to time may be converted to a series of spatially distributed signals.

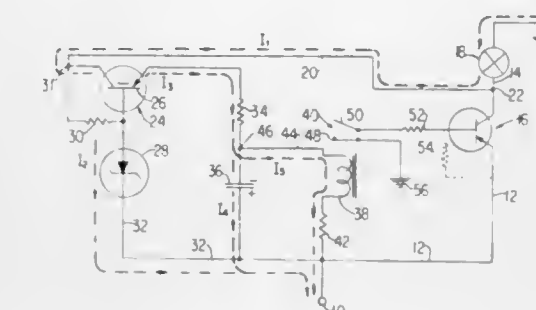
3,538,353 SWITCHING CIRCUIT

William A. Hanger, Churchville, Va., assignor to General Electric Company, a corporation of New York
Filed Oct. 13, 1967, Ser. No. 675,131
Int. Cl. H03k 17/66
U.S. Cl. 307—255 4 Claims



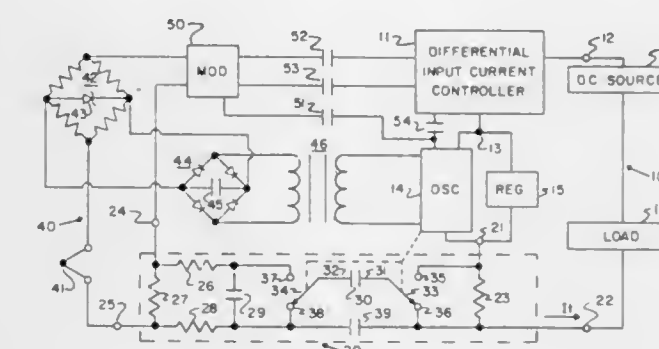
A circuit having a first portion for applying a first polarity voltage to a load and a second portion for applying a second, opposite polarity voltage to the load. Each portion includes a transistor switch which when rendered conductive in response to the change in voltage level of an input signal allows application to the load of the voltage associated with that stage. Each stage also includes a transistor connected so as to be responsive to the conduction of the transistor switch in that stage and also connected so as to prevent the turning on of the transistor switch in the other stage until the transistor switch in the former stage is nonconductive.

3,538,354
ELECTRIC FLASHER CIRCUIT
Adam L. Keller, Michigan City, Ind., assignor, by mesne assignments, to Meridian Industries, Inc., Southfield, Mich., a corporation of Delaware
Filed May 2, 1967, Ser. No. 635,614
Int. Cl. H03k 17/26
U.S. Cl. 307—293 12 Claims



A flasher system for use in lamp flashing circuits, the system using a transistor and reed switch in conjunction with a timing circuit for controlling the flashing operation.

3,538,355
CURRENT TRANSMITTER RESPONSIVE TO A D.C. ISOLATED VOLTAGE SIGNAL
Earl A. Grindheim, Richfield, and Charles E. Goetzinger, Bloomington, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed May 27, 1968, Ser. No. 732,208
Int. Cl. G01k 7/02
U.S. Cl. 307—310 9 Claims

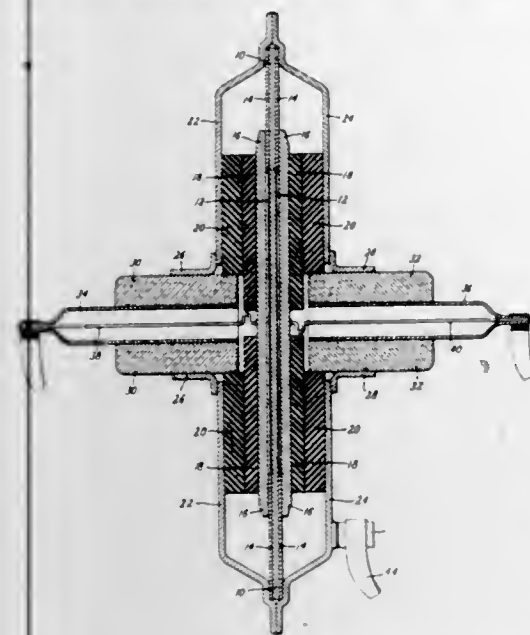


A circuit energized with direct current which is controlled by the circuit to be proportional to a low level voltage signal. The voltage signal source is D.C. isolated from those portions of the circuit which are D.C. connected to the power source and load.

3,538,356
ENERGY CONVERTER
Gerald C. Huth, Rosemont, Pa., assignor to General Electric Company, a corporation of New York
Filed Jan. 8, 1968, Ser. No. 696,201
Int. Cl. G21h 1/00
U.S. Cl. 310—3 1 Claim

Source of low energy (e.g. 60 kv.) electrons is placed adjacent to deep diffused layer forming semiconductor junction. Electrons drift through junction, delivering energy to outside load. Specific embodiment: Promethium 147

delivers electrons into 2-mil gallium-diffused layer in 6-mil silicon crystal having very thin (e.g. 1 micron) gold



contact on gallium layer, vacuum evaporated manganese or aluminum on other side.

3,538,357 FLUID CIRCULATING APPARATUS FOR RECIPROCATING MACHINES

Maurice Barthalon, 78 Avenue Henri Martin,
Paris, France

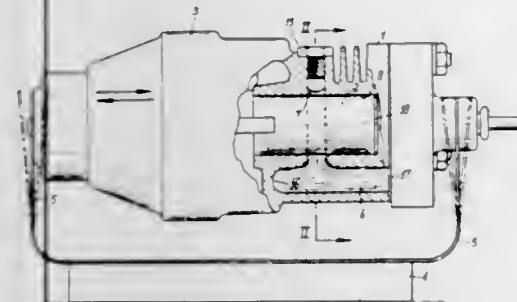
Filed Jan. 2, 1969, Ser. No. 788,595

Claims priority, application France, Jan. 12, 1968,
135,740

Int. Cl. H02r 9/19

U.S. Cl. 310—16

13 Claims



Machine having reciprocating movement comprising a base, a stator mounted on this base, a reciprocating movement assembly lodged in this stator and having reciprocating movement with respect to the latter, and a device for circulating within the machine a fluid, more particularly a liquid. The machine is characterized in that said device comprises a chamber having a delivery orifice for the fluid and means for causing the fluid to move by inertia, said means comprising a surface belonging to said chamber, movable with respect to the base, and arranged so as to cause the fluid to pass from the chamber to another region of the machine.

3,538,358 OSCILLATING ARMATURE MOTOR

Kurt Baurle, Schramberg-Sulgen, Black Forest, Germany, assignor to Kuno Moser GmbH, Unterkirchach, Black Forest, Germany

Filed Oct. 18, 1968, Ser. No. 768,736

Claims priority, application Germany, Nov. 13, 1967,
1,613,320, M 60,587

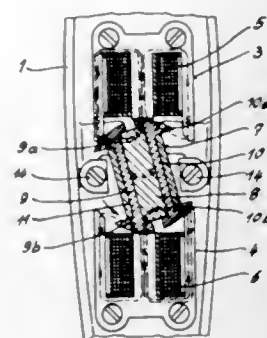
Int. Cl. H02k 33/12

U.S. Cl. 310—29

5 Claims

An oscillating armature motor, particularly for driving a reciprocating working element in a machine, such as a hair-cutting machine, comprises an electromagnet system

energizable by an alternating current, and an oscillatable armature carrying a permanent magnet having poles co-operating with the poles of the electromagnet system to oscillate the armature in synchronism with the periodicity of the alternating current energizing the electromagnet system. The electromagnet system includes two electro-



magnets each having a magnetic structure including a center leg and two outer legs, with the energizing winding being on the center leg. The two outer legs have the same instantaneous polarity and this polarity is the opposite of the polarity of the center leg. With respect to the two electromagnets, the instantaneous polarities are the reverse of each other.

3,538,359 OSCILLATING MOTOR STRUCTURE

Karl-Heinz Barowski, Frankfurt am Main, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany

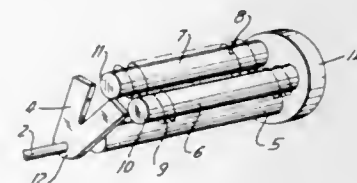
Filed May 1, 1969, Ser. No. 821,035

Claims priority, application Germany, May 2, 1968,
1,757,384

Int. Cl. H02k 33/02

U.S. Cl. 310—29

14 Claims



An electric toothbrush of which the handle accommodates at least one bar magnet and at least one electromagnet. When the circuit of the electromagnet is completed, the electromagnet produces an alternating magnetic field which causes oscillation of an armature secured to the drive which carries the bristles.

3,538,360 HYSTERESIS MOTOR

Joseph Ludemann and Heinz Heilmann, Oldenburg, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt, Germany

Filed Oct. 21, 1968, Ser. No. 769,308

Claims priority, application Germany, Oct. 20, 1967,
1,638,418; Nov. 30, 1967, 1,638,429

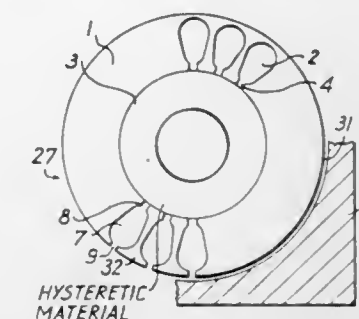
Int. Cl. H02k 37/00

U.S. Cl. 310—46

14 Claims

A hysteresis motor having an improved rotor formed from a lamination packet of conventional dynamo sheet iron and a yoke formed at least from some hysteretic material. The lamination packet, which is adjacent to or faces the motor air-gap, is provided with grooves for

receiving a squirrel cage. A number of different embodiments of the grooves in the lamination packet, and of the yoke are disclosed. For example, the grooves may be magnetically opened in a direction facing the air-gap or



the yoke, while the yoke may be formed entirely of hysteretic material or by providing rods of hysteretic material within arcuate cut-outs formed in the dynamo sheet iron laminations.

3,538,361 ALTERNATOR WITH BI-DIRECTIONAL COOLING MEANS

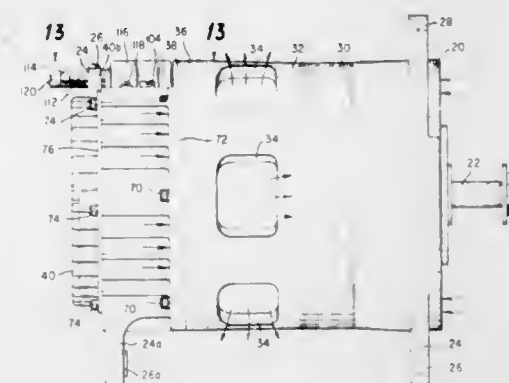
Donn W. Hilterbrick, Clarence A. Haut, and Chester C. Quantz, Bay City, Mich., assignors to Eltra Corporation, Toledo, Ohio

Filed Aug. 9, 1968, Ser. No. 751,584

Int. Cl. H02k 11/00

U.S. Cl. 310—68

7 Claims



A dynamo-electric machine, more particularly an alternator for use with automotive vehicles for providing direct-current electric power for charging batteries and the like. The subject device includes rectifiers for converting three phase alternating current to direct current and static regulating devices for controlling the output are mounted in the alternator to provide a power supply system adapted to be mounted in the automotive vehicle or the like to be connected into its electrical circuits.

3,538,362 DIODE-RECTIFIED ALTERNATING CURRENT GENERATOR HAVING A BUILT-IN TRANSISTOR VOLTAGE REGULATOR

Robert A. Cheetham, Anderson, Arza D. Heiny, Carmel, and Billy R. Jones and Robert W. Ward, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 13, 1968, Ser. No. 783,523

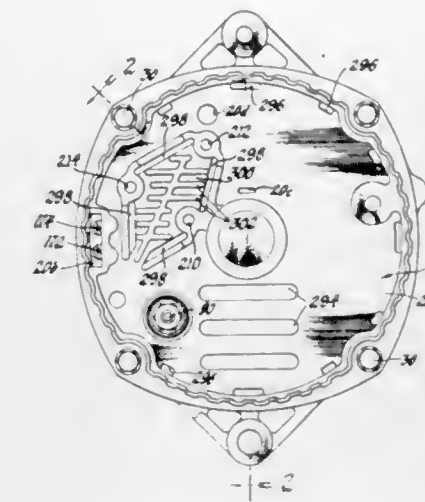
Int. Cl. H02k 11/00

U.S. Cl. 310—68

12 Claims

A diode-rectified alternating current generator is disclosed which has a semiconductor voltage regulator of the transistor type located within the end frame of the generator. The generator has a polyphase stator winding connected with a three-phase full-wave bridge rectifier unit that is mounted within the end frame of the generator. The end frame carries a transistor voltage regulator and a brushholder which are located within the end frame of

the generator and which are secured in a stacked assembly to one inner wall of the end frame. The voltage regulator and brushholder have electrically conductive parts which engage each other when the brushholder and transistor regulator are fixed to the end frame for forming electrical



connections between the field of the generator and the voltage regulator. A diode assembly is provided which consists of three diodes and three terminals of this assembly are mounted to terminal studs of the bridge rectifier unit and one terminal of the diode assembly is connected with the voltage regulator.

3,538,363 ELECTRIC DRIVE TO BE EMPLOYED IN A DRILLING RIG

David Isaakovich Maryanovsky, 11 Parkovaya 44, korpus 1, kv. 8, Moscow, U.S.S.R.; Solomon Yakovlevich Kagan, Moskovsky prospekt 96, kv. 71, Kharkov, U.S.S.R.; Dzandar Avsimakhovich Takoov, Volzhsky prospekt 39, kv. 45; Vasily Vissarionovich Pekhviashvili, Ulitsa Krasnoarmeiskaya 19; and Valentin Lavrovich Trifonov, Ulitsa Aerodromnaya 28, kv. 24, all of Kuibyshev, U.S.S.R.

Filed Sept. 26, 1968, Ser. No. 762,939

Int. Cl. H02k 49/04

U.S. Cl. 310—98

1 Claim



An electric drive for a drilling rig winch has a flywheel connected rigidly to an inductor of an electromagnetic clutch, there being an armature accommodated within the inductor to impart rotation to a hoisting shaft of the winch. At least two arc stators surround the flywheel and are operatively associated therewith to start the same as a common rotor. Thus the flywheel serves both as a rotor and as an inertia member.

3,538,364

ROTARY ELECTRICAL MACHINE OF DIRECT OR ALTERNATING CURRENT TYPE

Jacques René Favereau, Montmorency, France, assignor to Compagnie Electro-Mecanique, Paris, France, a body corporate of France

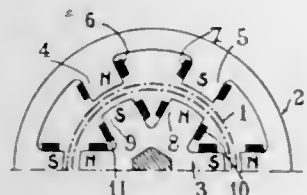
Filed Jan. 13, 1969, Ser. No. 790,782

Claims priority, application France, Jan. 30, 1968, 137,938

Int. Cl. H02k 23/64

U.S. Cl. 310—158

11 Claims



A rotary electric machine of the direct or alternating current type comprises a fixed primary in the form of a pair of concentrically arranged inner and outer stator elements and between which the secondary in the form of a cylindrical rotor having a winding thereon is mounted for rotation. Each of the stator elements is provided with a series of the same number of salient poles alternating in polarity and the poles of the two stator elements are in axial and radial alignment and are of opposite polarity so that a north pole of the outer stator element faces a south pole of the inner stator element, and vice versa around the pole series.

3,538,365

COMMUTATOR HAVING DISC-SHAPED BASE

Ludwig Reinsacker, Rommelshausen, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany

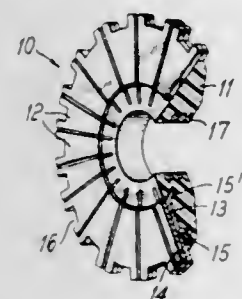
Filed Aug. 21, 1967, Ser. No. 662,097

Claims priority, application Germany, Sept. 1, 1966, B 88,725

Int. Cl. H01r 39/06

U.S. Cl. 310—237

2 Claims



A disc-shaped member of insulating material has a major surface. A plurality of commutator lamellas overlie this major surface and are arranged thereon circumferentially spaced from each other. Each of the lamellas comprises a steel segment which overlies the major surface and is at least partially embedded in the insulating material, and a copper segment which overlies the steel segment and is rigid therewith.

3,538,366

FLUID COOLED ELECTROMAGNETIC STRUCTURE FOR TRAVELING WAVE TUBES

Hans Glien, Munich, Paul Meyerer, Ottobrunn, and Franz Weinzierl, and Herbert Sarnecki, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Nov. 20, 1968, Ser. No. 777,288

Claims priority, application Germany, Nov. 28, 1967, 1,541,991

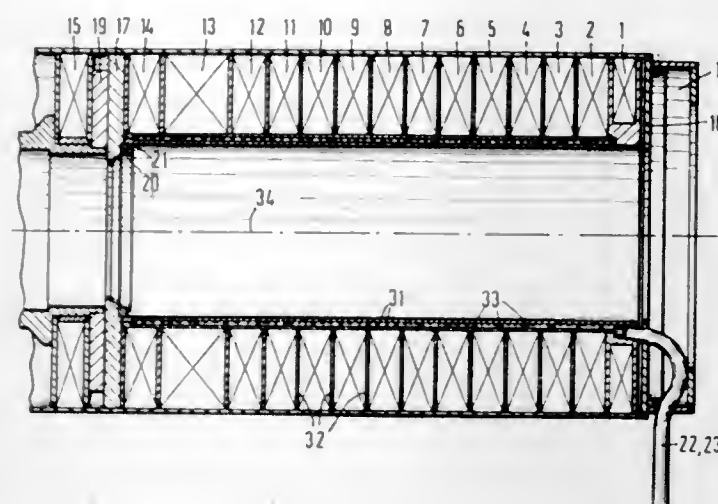
Int. Cl. H01f 27/10; H01j 7/26

U.S. Cl. 313—24

6 Claims

An arrangement for the bundled guidance of an electron beam in a traveling wave tube having at least one fluid cooled magnetic coil, in which the latter is divided

into a plurality of individual coil sections disposed on a tubularly shaped double-walled carrier body, on which are also disposed cooling fins which are interposed be-



tween respective pairs of adjacent coil sections, with inlet and outlet connections being provided for effecting the passage of coolant between the double-wall of the carrier body.

3,538,367

DEMOUNTABLE SUPPORT FOR A TRAVELING WAVE TUBE AND ITS FIELD MAGNET

Herbert Sarnecki, Munich, and Werner Schmidt, Neubiberg, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

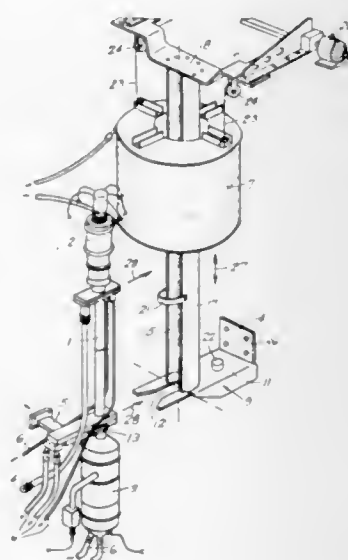
Filed Dec. 18, 1968, Ser. No. 784,692

Claims priority, application Germany, Dec. 19, 1967, 1,541,993

Int. Cl. H01j 25/34, 25/42

U.S. Cl. 313—49

7 Claims



A frame for a high performance traveling wave tube removably supported coaxially of a liquid-cooled magnetic coil may include a bracket supporting the tube and having a slot formed therein positively positioning the tube, and means for raising and lowering the coil relative to both the frame and the tube to facilitate removing the tube to effect repair or replacement thereof. In one embodiment, the coil raising and lowering means may include an elongated guide member extending upwardly from the support bracket and coaxially of the coil and a motorized block and tackle means for axially moving the coil. In another embodiment the raising and lowering means may include a platform engaging an underneath end surface of the coil and supported at diagonally opposite corner portions by fluid operated moving means.

3,538,368

ELECTRON GUN STRUCTURE EMPLOYING A UNITARY CYLINDER HOUSING

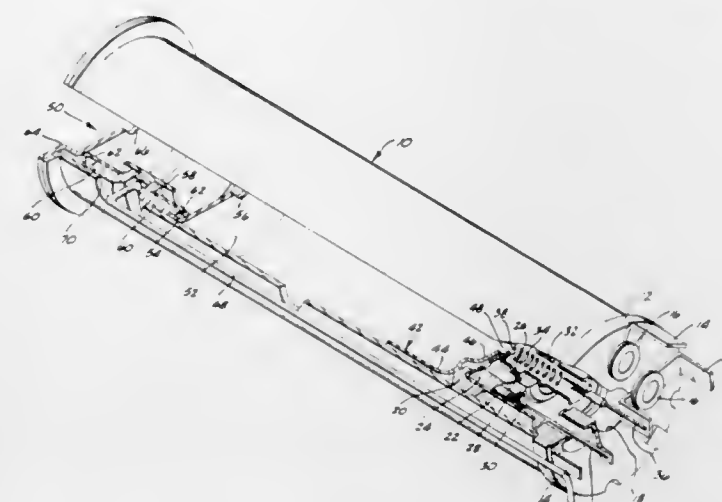
Frederick G. Oess, Oceanside, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Jan. 2, 1968, Ser. No. 695,066

Int. Cl. H01j 1/88; H07j 19/42, 29/00

U.S. Cl. 313—82

1 Claim



An electron gun is disclosed which utilizes a single external elongated metallic cylinder which is closed at the cathode end by a ceramic block and at the focus end by a final aperture dish. Internally of the cylinder the electrode structure and cathode is carried by the inner cylinder wall and the entire focus structure is carried by the internal cylinder wall at the opposed end thereof. The internal structure reinforces the supporting cylinder.

3,538,369

IONIZATION CHAMBER HAVING AN AIR EQUIVALENT WALL OF BERYLLIUM ALLOY

Georges Betchen, Maisons-Alfort, Henri Joffre, Bourg-la-Reine, and José Mallen-Herrero, Paris, France, assignors to Commissariat a l'Energie Atomique, Paris, France

No Drawing. Continuation of application Ser. No. 590,535, Oct. 31, 1966. This application May 5, 1969, Ser. No. 822,060

Claims priority, application France, Nov. 16, 1965, 38,657

Int. Cl. H01j 39/28; G01t 1/14

U.S. Cl. 313—93

7 Claims

An ionization chamber is disclosed in which a gaseous atmosphere of air is employed. The outer chamber wall is formed of an alloy of beryllium. The wall is air equivalent and of such a thickness as to absorb substantially the same amount of radiation as does the tissue which protects the crystalline lens of the human eye.

3,538,370

STRAIGHT TYPE FLUORESCENT LAMP HAVING IMPROVED LIGHT OUTPUT AND EXHIBITING REDUCED BLACKENING

Tsunekazu Hashimoto, Tokyo, Akira Someya, Yokohama-shi, and Teizo Hanada, Saitama-ken, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Aug. 27, 1968, Ser. No. 755,579

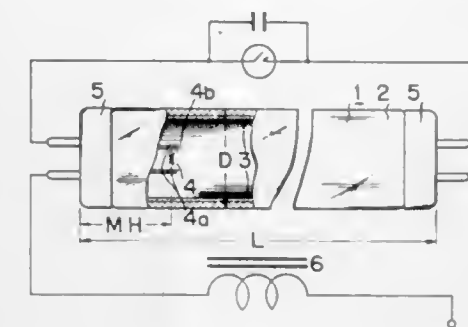
Int. Cl. H01j 1/62, 63/04

U.S. Cl. 313—109

8 Claims

In a straight type fluorescent lamp of a rated wattage of 20 w., 30 w., 40 w. or 65 w. having the total length of about 590 mm. to 1,500 mm. and exchangeable with conventional lamps including sealed glass tubes of 38 mm. outer diameter, the pressure of the sealed rare gas is selected to a value ranging from 0.5 mm. Hg to 3.2 mm. Hg, preferably from 0.5 mm. Hg to 2.5 mm. Hg for a tube outer diameter of 29 mm., from 0.5 mm. Hg to 2.8

mm. Hg for tube outer diameters ranging from 29 mm. to 32 mm., and 0.5 mm. Hg to 3.2 mm. Hg for tube outer diameters ranging from 32 mm. to 35 mm. to increase the total lumen output and the diameter of the



tungsten wire of the sealed coil electrode is selected to a value ranging from 12.0 mg. to 14.0 mg. ("mg." represents the weight in milligram of 200 mm. of said tungsten wire) for a rated wattage of 20 w., from 14.5 mg. to 17.0 mg. for 30 w., from 17.0 mg. to 19.5 mg. for 40 w., and from 52.0 mg. to 67.0 mg. for 65 w. to decrease the blackening phenomenon.

3,538,371

GLOW DISCHARGE DISPLAY DEVICE WITH SUPPRESSOR PLATE

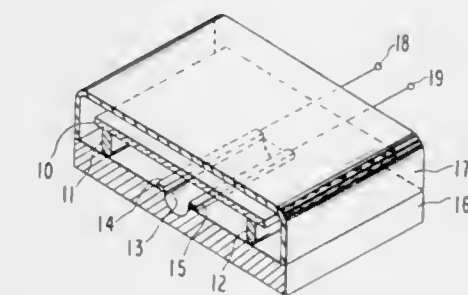
William I. Lehrer, Los Altos, and Dennis C. DeFevere, Palo Alto, Calif., assignors to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed June 4, 1968, Ser. No. 734,266

Int. Cl. H01j 17/38

U.S. Cl. 313—109.5

9 Claims



A suppressor plate, positioned a selected distance above cavities placed in a substrate, limits the glow discharge of an inert gas stored between the plate and the substrate to regions within and above the cavities, independent of the size, shape, and spacing of the electrodes on both sides of each cavity.

3,538,372

WIDE GAP DISCHARGE SPARK PLUG

Kunio Terao, Yokosuka-shi, Japan, assignor of fifty percent to Okamura Manufacturing Company Limited, Yokohama, Japan

Filed Jan. 8, 1968, Ser. No. 696,385

Int. Cl. H01t 13/32, 13/52

U.S. Cl. 313—131

5 Claims

A wide gap spark plug for generating a strong spark across a gap of two or three times the width of the gap on a conventional type of spark plug without loss of electrostatic energy for generating the sparks. A strong spark across a wide gap as provided by the spark plug of this

invention has the ignition energy sufficient to ignite a mixture of fuel and air in a most efficient proportion



to provide improved combustion for greater economy and to decrease air pollution.

3,538,373

ELECTRIC INCANDESCENT LAMP CONTAINING A REACTIVE CARRIER GAS WHICH COMPRISES HYDROGEN AND BROMINE AND/OR CHLORINE AND HYDROGEN

Petrus Cornelis van der Linden and Riksterus Auguste Johannes Maria Meijer, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Co., Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 3, 1968, Ser. No. 695,396

Claims priority, application Netherlands, Jan. 4, 1967, 6700099; Dec. 8, 1967, 6716682

Int. Cl. H01k 1/20, 1/50

U.S. Cl. 313—178

3 Claims



An incandescent lamp employing a tungsten filament surrounded by a light pervious envelope which is filled with hydrogen halide or brominated or chlorinated hydrocarbons which maintain a transport cycle between the tungsten filament and the envelope. The filament is supported by molybdenum lead-in conductors which are covered with a protective carbon film as are any other exposed metal parts which reach temperatures of 400° C.

3,538,374

TUBULAR INCANDESCENT LAMP HAVING COILED FILAMENT WITH VARIED-PITCH SEGMENTS

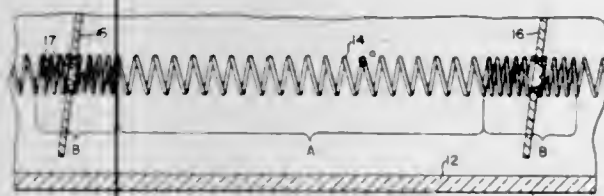
Raymond M. Kane, Florham Park, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 18, 1967, Ser. No. 661,588

Int. Cl. H01k 1/14, 1/24, 1/50

U.S. Cl. 313—273

10 Claims



The filament coil of a T3 or similar lamp is suspended within the envelope by spaced disc or wire supports that are

anchored to short segments of the filament having a pitch which permits the supports to be clamped between or wrapped around the coil turns. The main segments of the filament are wound at a different pitch which provides the desired filament length and voltage and wattage ratings, and varies the radiant output per unit of lamp length, if desired.

3,538,375

VAPOR FED LIQUID-METAL CATHODE

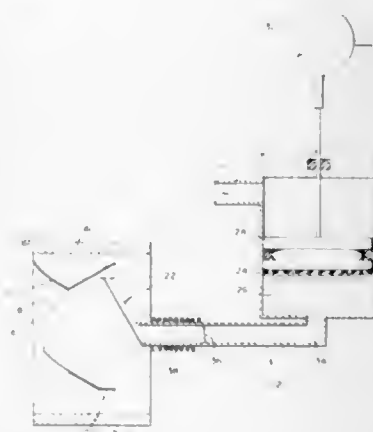
Wilfried O. Eckhardt, Malibu, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Apr. 11, 1968, Ser. No. 720,694

Int. Cl. H01j 1/12

U.S. Cl. 313—346

11 Claims



A liquid-metal arc cathode is fed with metal vapor. The cathode has a wall which forms a transient condensation surface. Temperatures and pressures are maintained so that transient condensation occurs on these surfaces to permit an arc to run upon the transiently condensed liquid metal.

3,538,376

ARC CURRENT STABILIZATION BY CONTROL OF ELECTRODE FEED SPEED

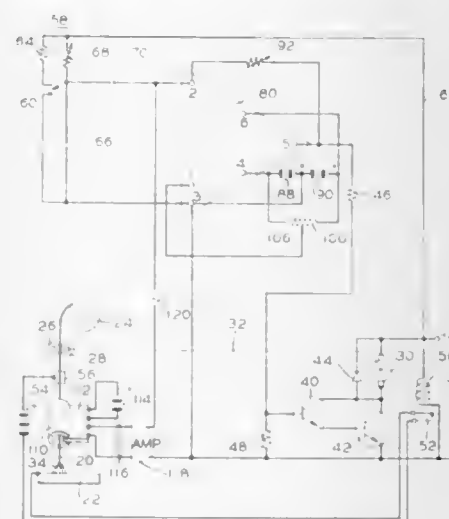
John C. Parker, Ramsey, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 3, 1967, Ser. No. 620,460

Int. Cl. B23k 9/12

U.S. Cl. 314—69

7 Claims



Sensed variations in the arc current are utilized to correspondingly vary the duration of pulses in a train of pulses of substantially uniform amplitude and frequency, which pulses are used to drive an electrode feed motor at a speed which is proportional at any given frequency to pulse length, to stabilize the feed speed and the resulting arc current, and to permit a run-in start-up of a welding operation.

3,538,377

TRAVELING WAVE AMPLIFIER HAVING AN UPSTREAM WAVE REFLECTIVE GAIN CONTROL ELEMENT

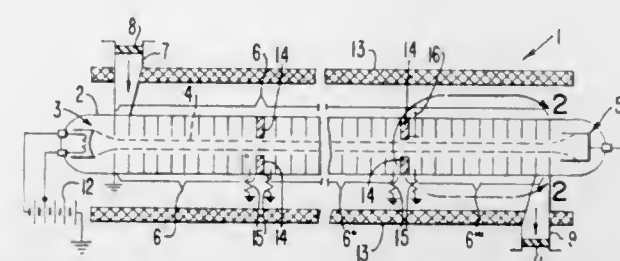
Kenneth W. Slocum, Ben Lomond, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Apr. 22, 1968, Ser. No. 723,042

Int. Cl. H01j 25/34

U.S. Cl. 315—3.6

5 Claims



A traveling wave tube amplifier is disclosed. The amplifier includes an electron gun for forming and projecting a stream of electrons over an elongated beam path to a beam collector electrode. A coupled cavity slow wave circuit is arranged along the electron beam path for electromagnetic interaction with the beam to produce an amplified output signal at the downstream end of the circuit. The circuit is made up of a number of severed slow wave circuit portions. The downstream severed circuit portion includes a plurality of coupled cavity sections with the downstream cavity section being coupled via a waveguide and wave permeable window to a suitable load for extracting the output signal. The upstream cavity of the output section is coupled to a resistive load to form a non-wave reflective resistive termination for absorbing backward traveling waves reaching the upstream end of the circuit. A wave reflective discontinuity, forming a gain control element, is disposed in the upstream cavity for reflecting a portion of a backward traveling wave on the slow wave circuit back along the circuit in the forward direction for controlling the gain of the tube. The gain control element preferably includes a conductive rod positioned substantially at the interaction gap of the upstream cavity, whereby gain fluctuations may be canceled over a relatively wide band of frequencies.

3,538,378

ELECTRICAL CIRCUIT APPARATUS FOR DETECTING WHEN THE CURRENT WHICH NORMALLY PRODUCES AN ARC BETWEEN ELECTRODES TAKES A DIFFERENT PATH

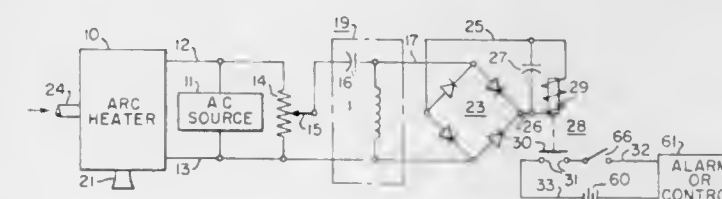
George A. Kemeny and Armin M. Bruning, Export, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 13, 1967, Ser. No. 645,669

Int. Cl. H01j 7/24; H05b 31/26

U.S. Cl. 315—111

27 Claims



In an arc heater the arc current normally produces an arc between electrodes. However, the arc current may suddenly take a path through deposited carbon or some other conductive material deposited on the wall or heat shield of the arc chamber resulting in an electrically conductive path between the arc heater electrodes. As a result the arc goes out. Furthermore, due to the failure of electrical insulation, the arc current may take a path through the arc heater structure. Electrical circuit means is provided, electrically connected across the electrodes and across the

source of potential producing and sustaining the arc, for detecting the absence of high frequency voltage variations which are normally present while the arc is taking place between electrodes. These high frequency arc voltage variations occur whether the arc is sustained by direct or alternating current. We rectify the high frequency components and utilize the signal obtained by rectification to operate a warning relay or other warning device which may shut off the current when the high frequency component is absent. Where direct current sustains the arc we also provide relay circuit opening or warning means which operates when the high frequency voltage component stops. Where an alternating current source produces the arc, we employ a filter which substantially eliminates the power frequency.

3,538,379

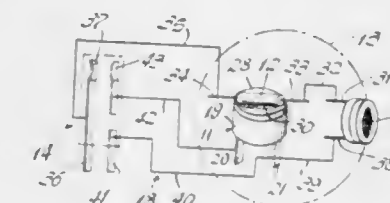
PHOTO-ELECTRIC LIGHT-ACTIVATED SWITCH APPARATUS

Irving Berlin, 14 Aldo Trail, Trumbull, Conn. 06611
Continuation-in-part of application Ser. No. 407,028, Oct. 20, 1964. This application May 6, 1968, Ser. No. 726,803

Int. Cl. H05b 39/02; H01h 71/02

U.S. Cl. 315—159

2 Claims



A light-sensitive lamp control circuit, comprising a sealed bimetal disc type thermostat having a resistor type heater adhered to the heat-conducting cover thereof. The resistor is connected in series with a light-sensitive cell of the resistor type. The bimetallic disc when cold is normally domed close to the heater and cover, and upon an elevation in temperature it snaps to a shape further removed from the resistor, opening the electric circuit which supplies the lamp with current. In another embodiment, the disc is domed away from the heater when cold.

3,538,380

ELECTROLUMINESCENT DISPLAY UNIT INCLUDING DISCHARGE PATH

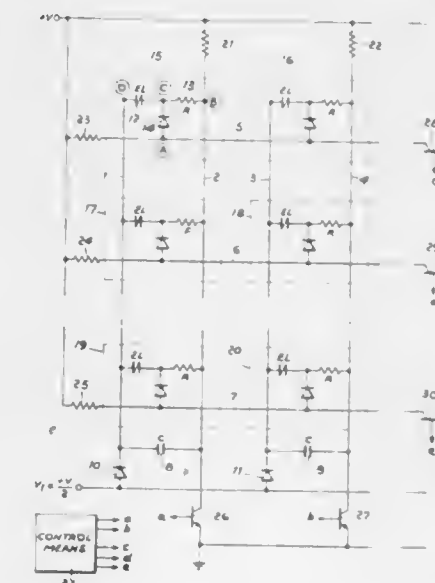
Burton A. Babb, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Nov. 15, 1967, Ser. No. 685,240

Int. Cl. H05b 37/00, 39/00

U.S. Cl. 315—169

13 Claims

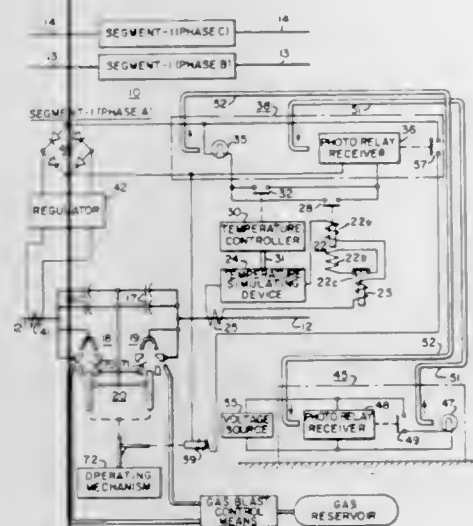


An electroluminescent display system utilizing D.C. voltage sources and simple switching apparatus to apply

an A.C. excitation voltage to selected ones of an array of electroluminescent cells. Each cell is provided with its own discharge path.

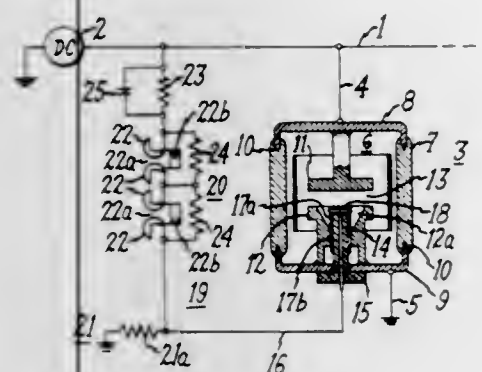
3,538,381 OVERLOAD PROTECTION REPLICA RELAY DEVICE

William H. Cuttino and James N. Santilli, Bloomington, Ind., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 25, 1967, Ser. No. 670,085
Int. Cl. H02h 1/04, 5/06, 7/16
U.S. Cl. 317—12 5 Claims



A protective system for series capacitor installations including overvoltage and overcurrent protection for the capacitors. The overcurrent protection includes instantaneous and inverse time delay relays for effecting closure of a bypass switch in response to relatively high overcurrents and a replica relay for effecting closure of the bypass switch in response to lower overcurrents which can be permitted for longer periods of time. The replica relay consists of a temperature simulating device having a thermal and radiating characteristics equivalent to those of the capacitor to reproduce the capacitor temperature, with a heater for heating the simulating device from the line current and a temperature sensor in the simulating device to control the bypass switch.

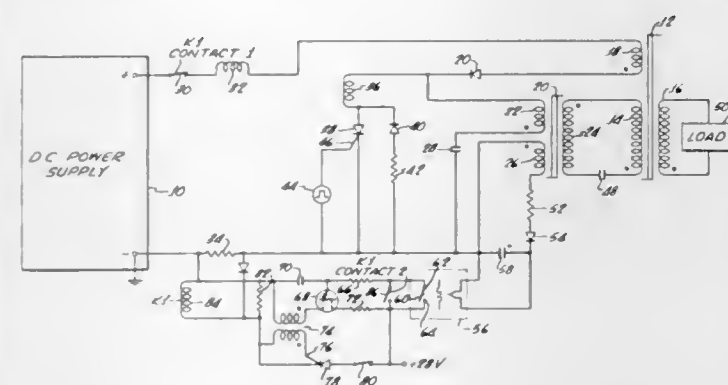
3,538,382
TRIGGERED VACUUM GAP OVERVOLTAGE
PROTECTIVE DEVICE
Sidney R. Smith, Jr., Myrtle Beach, S.C., assignor to General Electric Company, a corporation of New York
Filed Jan. 19, 1968, Ser. No. 699,120
Int. Cl. H02h 1/04, 3/22, 9/06
U.S. Cl. 317—16 22 Claims



A triggered vacuum gap device having a triggering circuit that includes among its desirable characteristics; a very low time lag, reliably stable operation, long maintenance free life, and the ability to operate with system

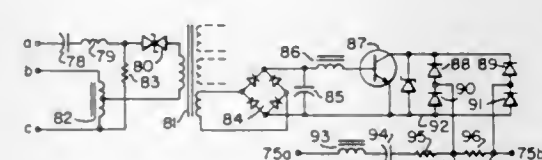
power rather than requiring a secondary source of power. In one form, the triggering circuit includes a secondary gap electrically connected in series with a voltage dropping resistor across a line voltage that is applied to the main high voltage vacuum gap of the device. The voltage dropping resistor is connected in parallel with the triggering gap of the device to cause it to spark over when the secondary gap breaks down and allows current to flow through the resistor thereby developing a sparkover voltage across the gap.

3,538,383
MAGNETIC PULSE GENERATOR
PROTECTIVE DEVICE
Robert L. Ritter, Mission Viejo, and Ronald E. Hendries, Buena Park, Calif., assignors to Crescent Technology Corporation, a corporation of California
Filed Feb. 2, 1968, Ser. No. 702,702
Int. Cl. H02h 1/04, 3/12, 7/04
U.S. Cl. 317—22 11 Claims



In a magnetic pulse generator having a charged pulse forming network, which transfers energy to a load, when a saturable transformer, connected in a series loop with the pulse forming network, becomes saturated; a protective device including a tertiary winding on the saturable transformer is provided whereby a shorted or open load—preventing transfer of the energy to the load and instead resulting in the charge on the pulse forming network discharging around the loop and reversing itself on the pulse forming network—is indicated by an induced voltage on the tertiary winding and wherein a switching means responsive to this induced voltage deactuates the pulse generator.

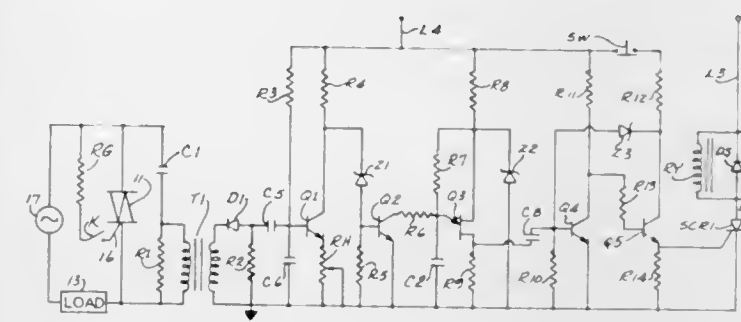
3,538,384
PRODUCT RESPONSIVE RELAY WITH A
VARIABLE-Q FILTER
John M. Crockett, Hannon, Ontario, Canada, assignor to Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada
Filed Aug. 28, 1967, Ser. No. 663,715
Claims priority, application Canada, Oct. 22, 1966, 973,810
Int. Cl. H02h 1/04, 3/28
U.S. Cl. 317—27 4 Claims



This disclosure relates to a line protecting relay network which is energized through two input circuits each of which resonate at the line frequency. A ring modulator is provided to render the output sensitive to the phase difference of the signals applied to the two input circuits. The two input signals may be energized by two quantities derived from the line to be protected and the net

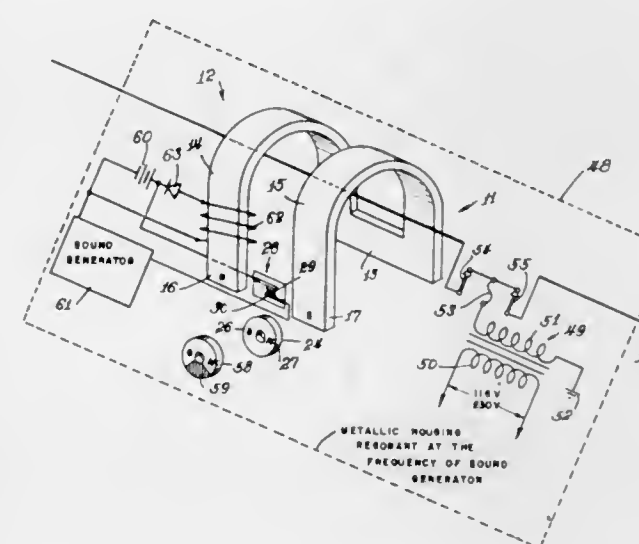
result used to control the operations of a control circuit of a circuit breaker.

3,538,385
APPARATUS FOR PROTECTING
SEMICONDUCTOR DEVICES
Robert E. Obenhaus, South Easton, and Lyle E. McBride, Jr., Norton, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 8, 1968, Ser. No. 743,155
Int. Cl. H02h 7/14
U.S. Cl. 317—33 19 Claims



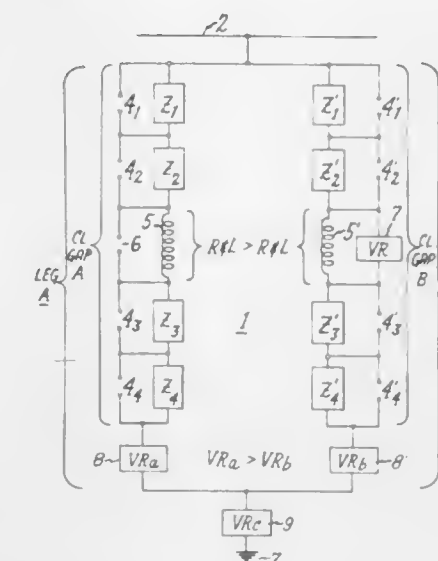
The apparatus disclosed herein measures the instantaneous temperature of gated semiconductor current switching devices by monitoring the gate current level required to turn on or render conductive the current switching device. If the level of gate current required falls below a preselected threshold, indicating overheating of the device, the device can be protected by deenergization before the gate circuit loses control of the device.

3,538,386
SYSTEM EMPLOYING MAGNETIC SWITCH
MEANS RESPONSIVE TO ALTERNATING
CURRENT FLOW IN A CONDUCTOR
Edmund O. Schweltzer, Jr., 1002 Dundee Road, Northbrook, Ill. 60062
Filed June 7, 1968, Ser. No. 735,423
Int. Cl. H02h 1/00; H01h 9/00
U.S. Cl. 317—58 17 Claims



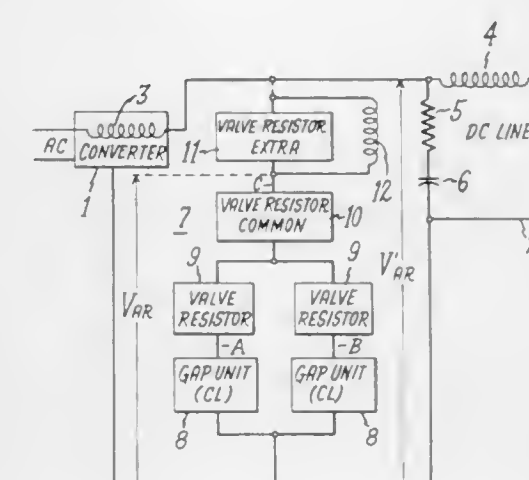
A reed type magnetic switch is responsive to reduction in a unidirectional magnetic field caused by predetermined alternating current flow in a conductor to operate a relay or frequency generator enclosed in a metallic housing, also enclosing a transformer, and having a resonant frequency the same as that of the generator for signalling externally of the housing that such flow of alternating current in the conductor has occurred.

3,538,387
FLIP-FLOP LIGHTNING ARRESTER WITH
IMPROVED MEANS FOR PREVENTING
PARALLEL OPERATION
Stanley A. Miske, Jr., Pittsfield, Eugene C. Sakshaug, Lanesborough, and James S. Kresge, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Sept. 16, 1968, Ser. No. 762,301
Int. Cl. H01t 1/00, 3/00, 5/00
U.S. Cl. 317—61 20 Claims



A flip-flop lightning arrester in which a magnetic arc blow-out coil of a current limiting gap assembly of one of a number of electrical parallel flip-flop legs is shunted by a valve resistor and a coil of the current limiting gap assembly of another leg is shunted by a gap. The coil that is shunted by a valve resistor may have a lower impedance than the coil that is shunted by a gap. The lower impedance may be produced by lower inductance or lower resistance or both. Alternatively, or additionally, the legs may also include unequal series valve resistance and in the additional case the lower series valve resistance is in the leg whose current limiting gap assembly coil is shunted by a valve resistor.

3,538,388
VOLTAGE SURGE DIVERTER
Stanley A. Miske, Jr., and James S. Kresge, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York
Filed Sept. 16, 1968, Ser. No. 762,265
Int. Cl. H02h 3/22, 7/24, 9/06
U.S. Cl. 317—68 5 Claims



3,538,389 SUBELEMENT FOR ELECTRONIC CIRCUIT BOARD

Norman R. Levesque and Donald E. Harper, both of
652 E. 97th St., Apt. 3, Inglewood, Calif. 90301
Filed Feb. 24, 1969, Ser. No. 801,542
Int. Cl. H05k 1/16, 7/06
U.S. Cl. 317—101

9 Claims

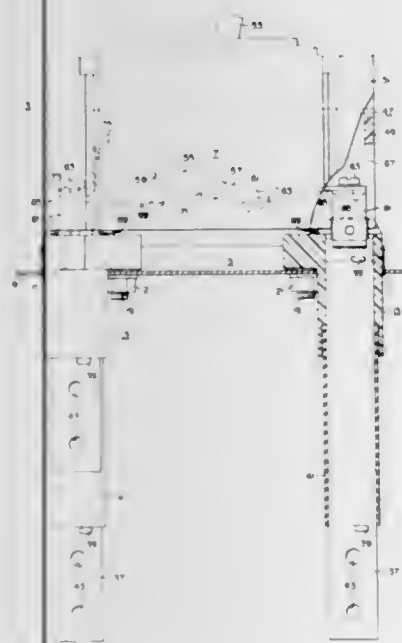


A subelement is provided for an electronic circuit board, and which also has application in the field of fluidics and other areas. The subelement of the invention is in the form of a thin epoxy or plastic strip, having a basic circuit formed thereon by printed circuit techniques. In the practice of the present invention, complete electronic circuits are formed by mounting the individual subelements of selected types on a larger circuit board and in a selected pattern. The circuitry on the subelements may then be interconnected by circuit components, wire jumpers, or conductive tape, or by any other appropriate means. To assist in the mounting of the subelements, the thin strips may be backed with a pressure sensitive or other type of adhesive, so that the subelements may be quickly and easily attached to the supporting board.

3,538,390 CIRCUIT BREAKER AND BUS CONDUCTOR COMBINATION

Nick Yorgin, Ambridge, and Robert H. Flick, Beaver, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 13, 1967, Ser. No. 682,357
Int. Cl. H02b 1/04
U.S. Cl. 317—112

14 Claims

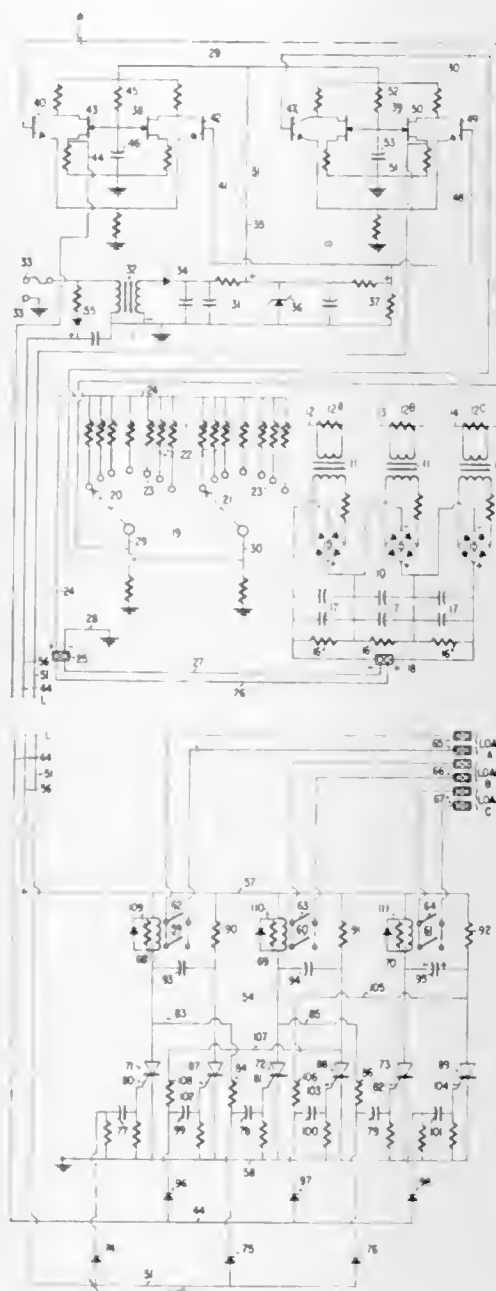


An improved circuit breaker and bus conductor combination is convertible to provide either a quick-detachable type connection or a bolt-on type connection. An improved insulating support block is constructed to support either of two different sized bus conductors in two different orientations.

3,538,391 ELECTRICAL LOAD CONTROL SYSTEMS

John T. Bensley, Skaneateles, and Harry E. Wyman, Kenmore, N.Y., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed June 28, 1968, Ser. No. 741,108
Int. Cl. H01h 47/14
U.S. Cl. 317—139

5 Claims

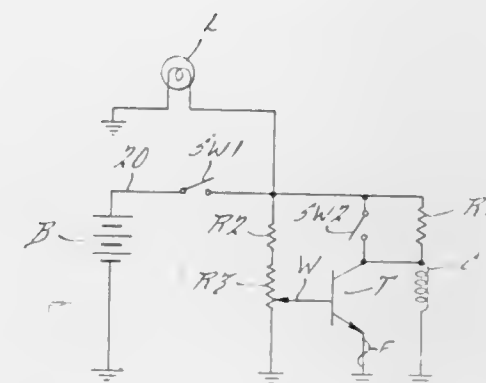


This disclosure relates to a solid-state system for automatically switching on and off dispensable electrical loads on a predetermined priority basis so that the total instantaneous power demand is held close to but does not exceed a predetermined maximum value. The system establishes a regulated reference voltage which has a scaled value representative of the selected maximum demand, a high signal voltage which, to the same scale, is representative of the actual instantaneous demand, a low signal voltage which varies with but has a predetermined value different than the high signal voltage. Two solid-state voltage comparators are used to provide respectively a first output triggering pulse train when the high signal voltage is above the reference voltage and a second output pulse train when the low signal voltage is below the reference voltage. The first pulse train triggers a group of silicon controlled rectifiers (SCR's) into conduction in a predetermined sequence. The second pulse train triggers another group of SCR's into conduction in a predetermined sequence. One group of SCR's are used to sequentially energize load control relays and the other group of SCR's are used to sequentially deenergize the load control relays in reverse sequence. No rotary or stepping switches of any kind are employed in the sequencing control.

3,538,392 CONTROL SYSTEM FOR ELECTRIC BRAKES

Thomas F. Carmichael, Drayton Plains, Charles F. Bosley, Clawson, and Joseph R. Papp, Birmingham, Mich., assignors to Syncro Corporation, Oxford, Mich., a corporation of Michigan
Filed July 8, 1968, Ser. No. 743,123
Int. Cl. H01h 47/32
U.S. Cl. 317—148.5

12 Claims

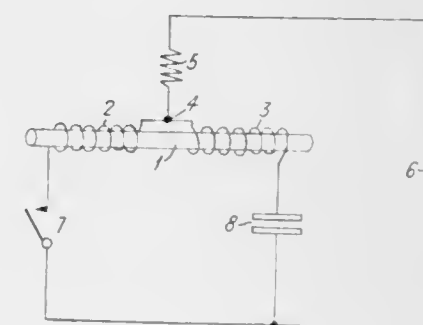


A solid state control system for electric brakes in which the current to the brakes is controlled generally by a solid state element located in parallel relationship to the brake coils.

3,538,393 SWITCHING CIRCUIT

Basil Bernard Foster, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 9, 1969, Ser. No. 840,362
Claims priority, application Great Britain, July 18, 1968, 34,168/68
Int. Cl. H01l 47/02
U.S. Cl. 317—151

4 Claims



A circuit is provided to speed-up the opening and closing of relay contacts. The circuit automatically assures that the "hold" current will not be excessive. The circuit includes a capacitor permanently wired across a voltage source to serve as a secondary source, or sink, for current so that magnetic fields in a relay may be more quickly established and extinguished.

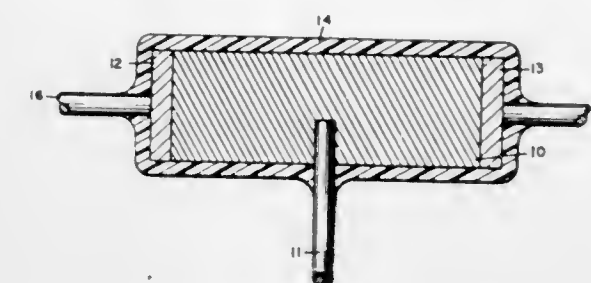
3,538,394 MULTITERMINAL ENCAPSULATED RESISTANCE- CAPACITANCE DEVICE

Pierre L. Bourgault, Etobicoke, Ontario, and Joost Bataillon, Toronto, Ontario, Canada, assignors to Johnson Matthey and Mallory, Ltd., Toronto, Ontario, Canada, a corporation
Original application Nov. 27, 1964, Ser. No. 414,223, now Patent No. 3,371,295, dated Feb. 27, 1968. Divided and this application Aug. 21, 1967, Ser. No. 670,000
The portion of the term of the patent subsequent to Sept. 13, 1983, has been disclaimed
Int. Cl. H01g 9/14
U.S. Cl. 317—230

6 Claims

The present invention relates to a distributed resistance-capacitance means. The resistance-capacitance device in-

cludes an elongated anode of film forming metal e.g. tantalum having a dielectric film formed thereon and a solid electrolyte layer formed thereon by conversion of manganese nitrate. The anode has one cathode contact attached to each longitudinal extremity of the anode. A

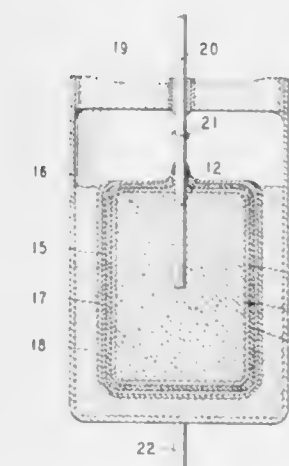


cathode lead is attached to each of the cathode contacts. An anode riser is attached to the anode, the location of which is not critical. The anode and the plurality of cathodes are encapsulated by an insulating means.

3,538,395 SOLID ELECTROLYTE CAPACITOR AND METHOD FOR MAKING SAME

James E. Riley, Greenville, S.C., assignor to Union Carbide Corporation, a corporation of New York
Filed Mar. 12, 1968, Ser. No. 712,414
Int. Cl. H01g 9/00, 13/00
U.S. Cl. 317—230

18 Claims



A solid electrolytic capacitor and method for the production thereof comprising a porous anode body formed of sintered particles of an anodizable metal, a dielectric oxide film formed on the exposed surfaces of said particles, an electrolyte layer of manganese dioxide covering the dielectric oxide film in the pores and on the surface of the anode body, and an additional solid composite coating covering the electrolyte layer on the surface of the body, said composite coating comprising solid manganese dioxide particles bonded together and to the electrolyte layer by converted in situ manganese dioxide reaction product from the pyrolysis of the manganous nitrate content of a slurry applied to the surface of the body and comprising the solid manganese dioxide particles suspended in manganous nitrate solution. The solid composite coating forms a mechanically strong, adherent, electrically conductive coating which protects the dielectric oxide film from damage due to stresses resulting from physical abuse, thermal cycling, other high mechanical and electrical stress conditions to which the capacitor is subjected.

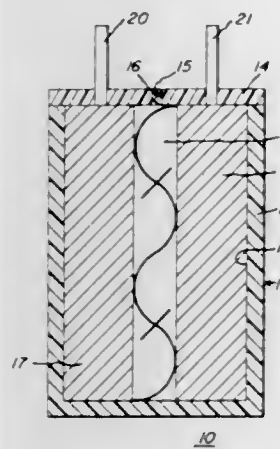
3,538,396

COULOMETER WITH AT LEAST ONE ELECTRODE CONTAINING AN EXCESS OF CADMIUM HYDROXIDE

William N. Carson, Jr., Schenectady, and Randall N. King, Johnstown, N.Y., assignors to General Electric Company, a corporation of New York
 Filed Feb. 24, 1969, Ser. No. 801,516
 Int. Cl. H01g 9/00

U.S. Cl. 317—231

2 Claims



A coulometer has a closed container including an alkaline electrolyte and a pair of spaced apart, reversible electrodes in contact with the electrolyte. Each of the electrodes consists of an inert support, active material on the support, and an electrically conductive lead. One of the electrodes has active material of metallic cadmium in an amount equivalent to the predetermined coulometric capacity of the coulometer, and active material of cadmium hydroxide in an amount of at least 100% of the metallic cadmium. The other electrode has active material in an amount equivalent to the amount of the metallic cadmium and cadmium hydroxide of the first electrode.

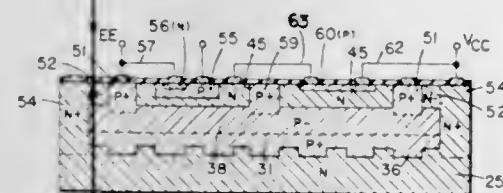
3,538,397

DISTRIBUTED SEMICONDUCTOR POWER SUPPLIES AND DECOUPLING CAPACITOR THEREFOR

Stanley P. Davis, Cupertino, Calif., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
 Filed May 9, 1967, Ser. No. 637,144
 Int. Cl. H01l 11/00

U.S. Cl. 317—235

6 Claims



A monolithic semiconductor structure and method of making same and in which structure supply voltages are distributed through adjacent P and N type layers to surface regions of the structure. These voltages are available for integrated circuits and other devices which are constructed in the surface regions of the structure. Good capacitive decoupling is provided between the P and N layers used to distribute voltages and a relatively high capacitive reactance at the surface region prevents AC short circuits at high frequencies.

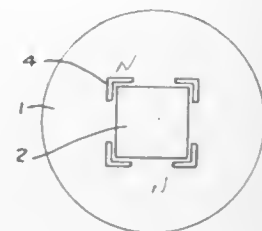
3,538,398

SEMICONDUCTOR ELEMENT WITH IMPROVED GUARD REGION

Gerald Whiting, London, England, assignor to Westinghouse Brake and Signal Company, Limited, London, England
 Filed Dec. 4, 1967, Ser. No. 687,662
 Claims priority, application Great Britain, Jan. 26, 1967, 3,879/67
 Int. Cl. H01l 5/00

U.S. Cl. 317—235

1 Claim



A semiconductor element having a first region of a first type of conductivity and a second region of an opposite type of conductivity, which regions define therebetween a first P-N junction terminating peripherally in a surface of the element, is provided with an additional region of the first type of conductivity which forms a guard junction. The guard region is segmented and is located adjacent portions of the P-N junction at which, but for the presence of the guard region, the element would be most susceptible to surface breakdown.

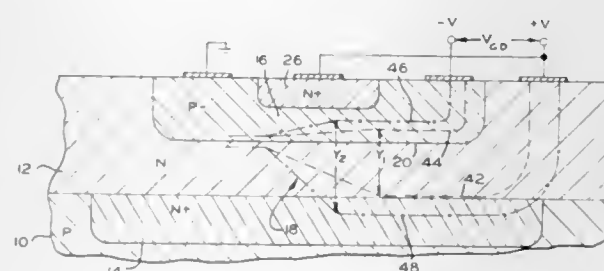
3,538,399

PN JUNCTION GATED FIELD EFFECT TRANSISTOR HAVING BURIED LAYER OF LOW RESISTIVITY

Heber J. Bresee, Aloha, and George R. Wilson, Beaverton, Oreg., assignors to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
 Filed May 15, 1968, Ser. No. 729,175
 Int. Cl. H01l 11/14

U.S. Cl. 317—235

9 Claims



A PN junction gated field effect transistor is described employing a buried layer of lower resistivity semiconductor material selectively diffused beneath the bottom gate region of an epitaxial layer provided under the channel of such transistor. The buried layer prevents low current carrier concentration in the epitaxial layer of such gate from limiting the spread in thickness of the depletion region surrounding the PN junction between the channel and the bottom gate at high voltages. The resulting field effect transistor has higher output resistance and lower series gate resistance due to such buried layer. A monolithic integrated circuit including bipolar transistors and such field effect transistors may be provided with such a buried layer in both types of transistors.

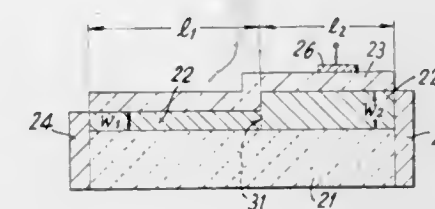
3,538,400

SEMICONDUCTOR GUNN EFFECT SWITCHING ELEMENT

Hisayoshi Yanai, Toshiaki Ikoma, Takayuki Sugeta, Yasuo Matsukura, and Kuniichi Ohta, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan
 Filed July 30, 1968, Ser. No. 748,719
 Claims priority, application Japan, July 31, 1967, 42/49,213
 Int. Cl. H01l 11/00

U.S. Cl. 317—235

5 Claims



A bulk effect semiconductor device is described. The semiconductor crystal is selectively chosen to be capable of exhibiting the Gunn effect and is further chosen in such manner as to shape or resistivity that upon the application of a biasing voltage, a low electric field portion and a high electric field portion is formed with the high field being chosen to exceed the high field domain sustaining level without exceeding the level for establishing steady Gunn effect oscillations and the low electric field has a level below that necessary to sustain a high field domain. A triggering electrode is capacitively coupled to the low electric field portion of the semiconductor crystal. An output electrode is also capacitively coupled to the crystal in one embodiment to the high electric field portion thereof and in another embodiment to the low electric field portion of the crystal.

Several crystal shapes and types are described.

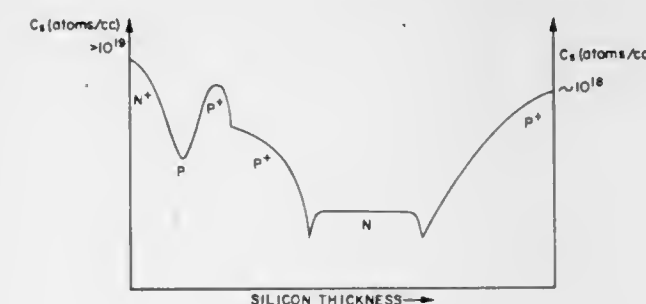
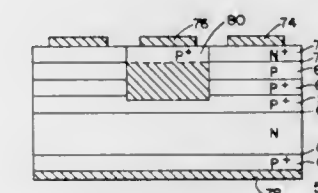
3,538,401

DRIFT FIELD THYRISTOR

Chang K. Chu, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
 Filed Apr. 11, 1968, Ser. No. 720,667
 Int. Cl. H01l 11/10

U.S. Cl. 317—235

23 Claims



Epitaxial growth techniques are employed to manufacture a variety of drift field thyristors which exhibit the desirable properties of both all diffused and alloy-diffused

thyristor devices. One, or more, epitaxial layers of a particular type conductivity is applied to a processed body of semiconductor material to retard the electron flow in a forward direction while accelerating the electron flow in the reverse direction. Two epitaxial layers of the same type, but different levels of impurity concentration may be grown on a body of semiconductor material to create a retarded electrical field. Additionally, the epitaxial layers may be applied in various combinations to the same wafer to achieve different end results.

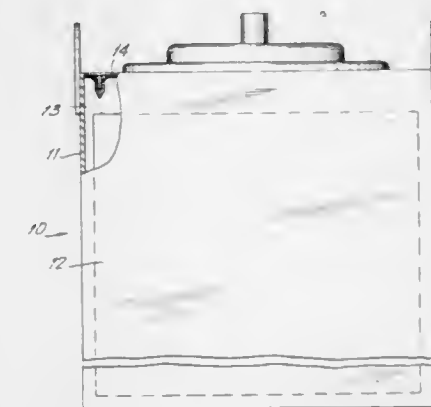
3,538,402

HIGH VOLTAGE ENERGY CAPACITOR

William Kameron, New Bedford, Mass., assignor to Aero-vox Corporation, New Bedford, Mass., a corporation of Massachusetts
 Filed Nov. 18, 1968, Ser. No. 776,674
 Int. Cl. H01g 1/00

U.S. Cl. 317—242

2 Claims



A high voltage oil filled capacitor has a pressure relief valve in the housing. The valve automatically closes when excess pressure has been vented.

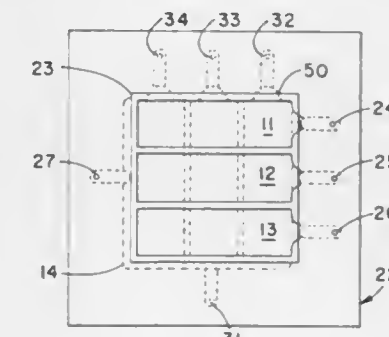
3,538,403

PARTICLE-SENSING MATRIX

Sammy F. Carollo, Irving, Tex., assignor to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware
 Filed Apr. 21, 1969, Ser. No. 818,039
 Int. Cl. H01g 7/00

U.S. Cl. 317—246

4 Claims



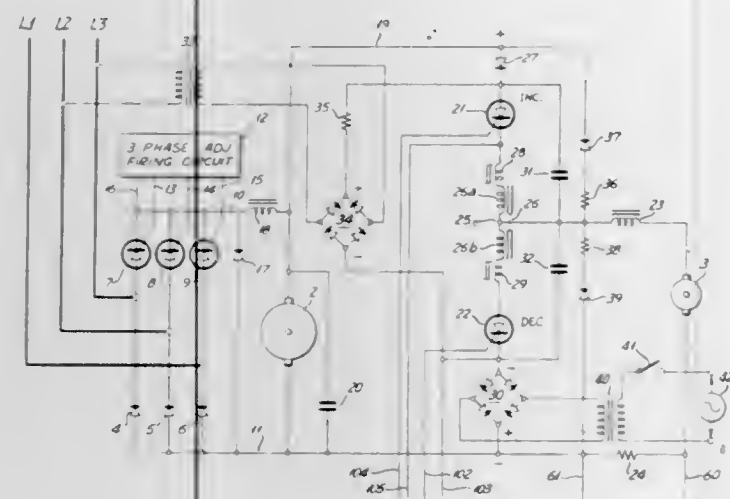
A matrix of thin-film sensors for the detection of hypervelocity particles which penetrate the matrix has two sets of capacitive strips disposed parallel to each other but with the strips of each set aligned perpendicularly to the strips of the other set such that a grid of sensors is formed.

3,538,404
TORQUE REGULATING PULSE MODE D.C. MOTOR CONTROL USING THE MOTOR IN THE REGENERATING OR MOTORING MODES
 Robert L. Risberg, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Oct. 26, 1967, Ser. No. 678,250
 Int. Cl. B65h 77/00

U.S. Cl. 318—6

5 Claims



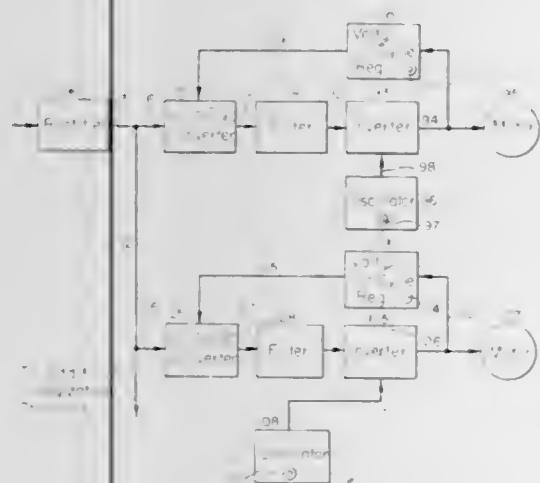
An electric motor and control system for tension control which includes a main D.C. motor and rectifier power supply therefor, a D.C. drag motor for a supply reel and a torque regulating control for the drag motor including pulse mode current control and means for feeding current regenerated by the drag motor back into the power supply for the main motor.

3,538,405
PARALLEL ENERGIZATION CHANNELS WITH DC-TO-DC CONVERTER IN EACH CHANNEL
 Jay R. Borden, Santa Ana, Calif., Lucien J. Boutin, Alexandria, Va., and Everett R. Geis, Orange, and Stanley Krauthamer, Monterey Park, Calif., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware

Filed Feb. 26, 1968, Ser. No. 708,376
 Int. Cl. H02j 1/10; H02p 7/68

U.S. Cl. 318—67

2 Claims



A common D-C supply bus receives energy from a D-C input circuit, and passes the D-C energy over the bus to a plurality of energization channels. Each channel includes a DC-to-DC converter, at least one of which

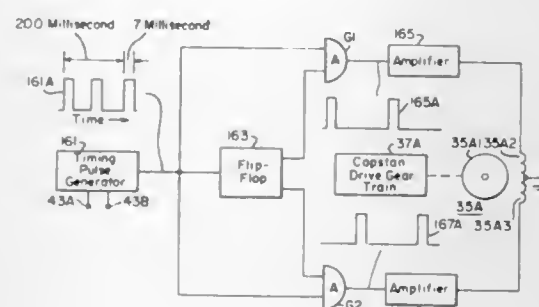
is connected to pass D-C energy both in one direction through a filter to a load, and in the opposite direction from the filter back to the D-C bus.

3,538,406
BATTERY-POWERED RECORDER
 Carl J. Snyder, Raleigh, N.C., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 20, 1967, Ser. No. 617,117
 Int. Cl. H02k 37/00

U.S. Cl. 318—138

1 Claim



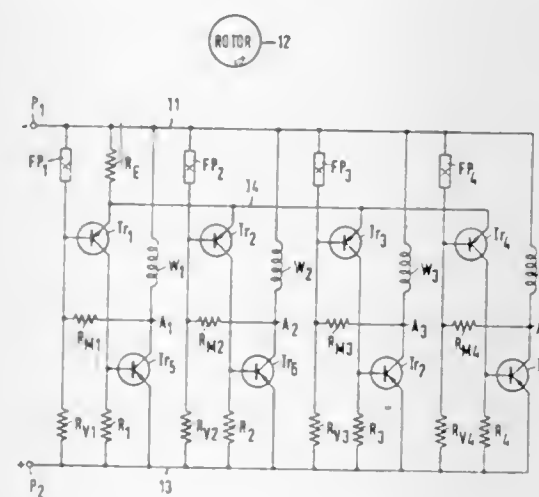
A recorder employs a step motor for advancing a recording medium. The step motor is supplied with electric pulses of short duration controlled by a timing-pulse generator.

3,538,407
COMMUTATING CIRCUIT FOR A COMMUTATOR-LESS DC MINIATURE MOTOR
 Jürgen Wenk, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed Dec. 11, 1968, Ser. No. 782,902
 Claims priority, application Germany, Dec. 15, 1967, 1,613,440

Int. Cl. H02k 29/00
 U.S. Cl. 318—138

5 Claims



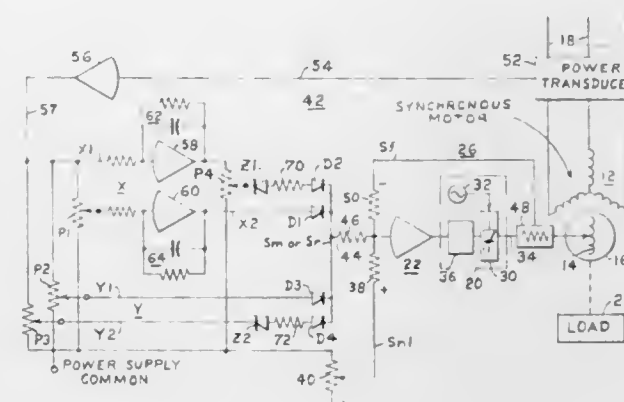
The base electrode of each of a plurality of power transistors is coupled to a common point in the connection between a galvanomagnetic resistor and a resistor of a corresponding one of a plurality of series circuit arrangements connected between the positive and negative polarity terminals of a source of DC voltage. Each base electrode is connected to each common point via a corresponding one of a plurality of transistors. Each of a plurality of stator windings of the motor is connected in series circuit arrangement with the emitter-collector path of a corresponding one of the power transistors between the terminals of the voltage source. A positive feedback resistor is connected between the collector electrode of each power transistor and the base electrode of a corresponding one of the transistors.

3,538,408
SYNCHRONOUS MOTOR TORQUE COMPENSATOR CONTROL
 Robert S. Peterson, Amherst, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 1, 1968, Ser. No. 764,091
 Int. Cl. H02p 7/36

U.S. Cl. 318—174

12 Claims



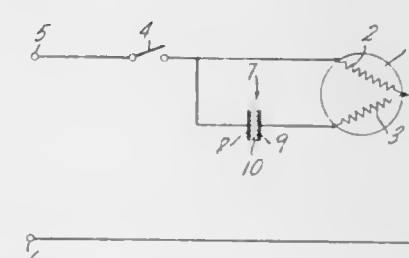
A torque compensator control system for a synchronous motor wherein a controllable field current supply source responds to signals representing motoring load and regenerating loads to increase the field excitation with increase of motor load, the system having a threshold point for both negative and positive loads above which the field excitation slope characteristics are further increased.

3,538,409
STARTING ARRANGEMENT FOR A SINGLE-PHASE ASYNCHRONOUS MOTOR
 Arne F. Enemark, Sønderborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Filed Aug. 16, 1968, Ser. No. 753,223
 Claims priority, application Germany, Aug. 19, 1967, D 53,894

Int. Cl. H02p 1/44
 U.S. Cl. 318—220

15 Claims



A starting arrangement for a single-phase induction motor having a capacitor of varying capacitance in series with the starting winding of the motor to effectively take out of circuit the starting winding after a selected starting period. The capacitor has a temperature-responsive dielectric that causes the capacitor to change in capacitance.

3,538,410
STARTING CONTROL FOR ELECTRIC MOTOR
 Oscar L. Welker, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois

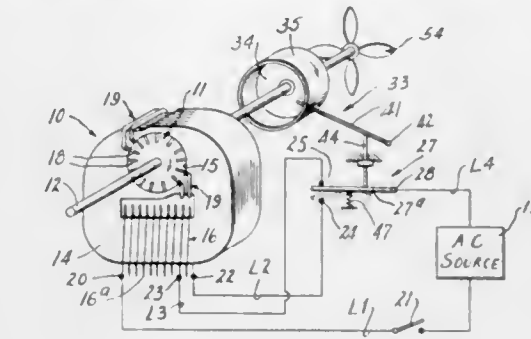
Filed Jan. 26, 1968, Ser. No. 700,895
 Int. Cl. H02p 1/44

U.S. Cl. 318—221

15 Claims

A shaded-pole electric motor of basically conventional form including a rotor and a stator carrying the primary winding and the shading means, combined with a starting

control including a tap for applying the source voltage selectively to all or part of the winding through a two-position switch. In the first form, the switch is operated by a centrifugal speed sensor comprising a disk magnet on the output shaft, a nonmagnetic drag cup telescoped over the magnet and journaled on the shaft, an operating lever abutting against the cup and adapted to be rocked about its fulcrum by the cup, and the spring-loaded button of the switch, the button abutting against the lever between its ends. For adjustment of the motor speed at which the drag cup actuates the switch, the lever is ad-



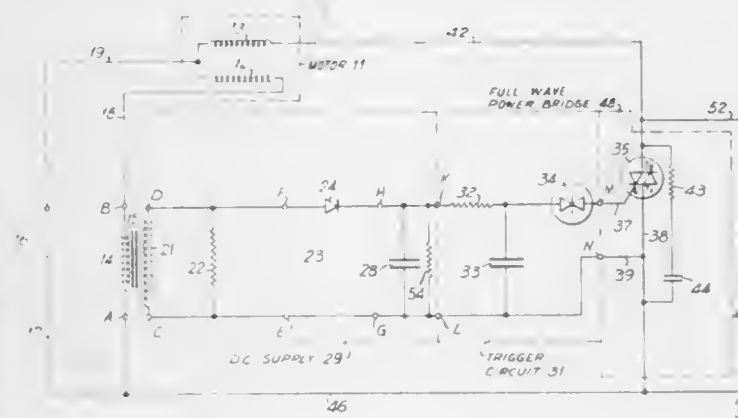
justable longitudinally relative to the cup to vary its effective length. A second operator uses an auxiliary coil placed in slots in the stator adjacent to the air gap such that its axis is in quadrature with the axis of the main field flux of the motor to produce a voltage signal indicative of the motor speed, the signal being applied to the gate of a silicon-controlled rectifier which is triggered at a selected speed to energize a relay coil and operate the switch. In each case, the motor starts with excessive current and high torque, and then is shifted to normal running conditions after a selected speed is attained.

3,538,411
STARTING SWITCH CIRCUIT FOR SINGLE PHASE ELECTRIC MOTORS
 Gilbert Knauer, 1855 E. 12th St., Brooklyn, N.Y. 11229; Julius Knauer, 94 Woods Road, North Babylon, N.Y. 11703; and Joseph Knauer, 1217 E. 98th St., Brooklyn, N.Y. 11219

Continuation-in-part of application Ser. No. 650,331, June 30, 1967. This application Oct. 10, 1969, Ser. No. 865,425

U.S. Cl. 318—221

8 Claims

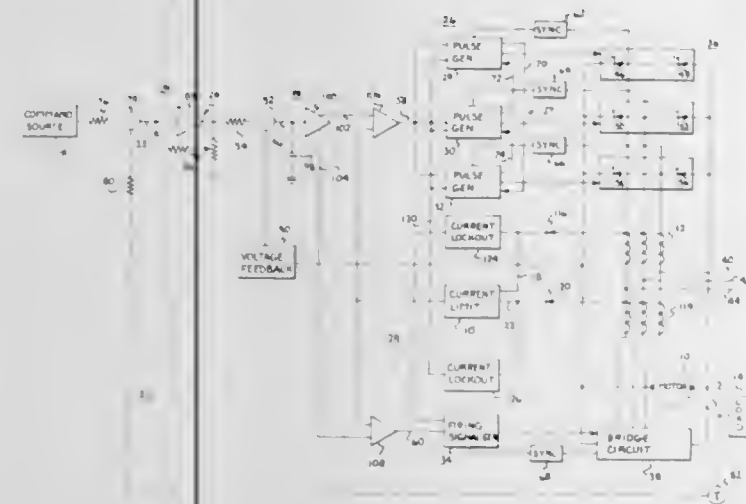


A pulse producing circuit including a relaxation oscillator type trigger circuit is coupled between a source of AC voltage and the gate electrode of a Triac. The pulse producing circuit derives from the current through the main winding of a motor and applies to the gate electrode of the Triac a DC pulse having a magnitude which is sufficient to switch the Triac to its conductive condition each time the pulse is applied to the gate electrodes as long as the current through the main winding and the pulse are above determined magnitudes. The magnitude

or amplitude levels of the pulse remains constant as the current through the main winding increases although the frequency of the pulses increases with increased current. The magnitude of the current through the main winding and the magnitude of the pulse fall below the corresponding determined amplitudes when the speed of the electric motor increases above a determined speed. The Triac couples the starting winding of the motor to the source of AC voltage so that it connects the starting winding to the AC source when it is in conductive condition and it disconnects the starting winding from the AC source when it is in nonconductive condition.

3,538,412 MOTOR CONTROL SYSTEM WITH THREE PHASE CONVERSION

Carlton E. Graf and Henry J. Havlicek, Erie, Pa., assignors to General Electric Company, a corporation of New York
Continuation of application Ser. No. 676,778, Oct. 20, 1967. This application May 5, 1969, Ser. No. 824,732
Int. Cl. H02p 5/12
U.S. Cl. 318—345 16 Claims



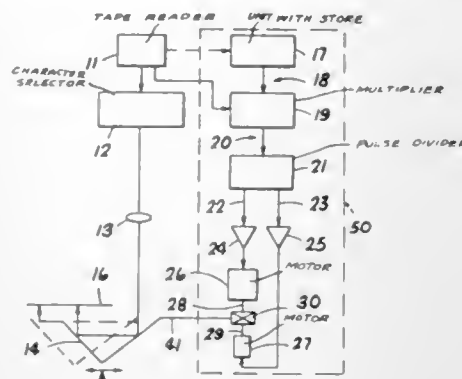
A regenerative, reversible motor control system in which a direct-current drive motor is energized by a phase controlled power amplifier having controlled rectifiers which are connected to a three phase alternating-current source. Each of the controlled rectifiers is fired by a train of pulses which begins at the phase angle at which this controlled rectifier is to be fired and lasts until a selected one of the other of the controlled rectifiers is fired, approximately 120 electrical degrees later. In the three-phase, full-wave bridge circuit shown, each pair of controlled rectifiers connected to one line of the source is fired by a single pulse generator. When one of this pair of controlled rectifiers is being fired, the pulse generator cannot provide firing pulses for the other, thus protecting against any more than a 60° phase advance during any half-cycle of the source voltage.

3,538,413 STEPPED DRIVEN DIFFERENTIALLY GEARED MOTOR SYSTEM

Howard Raymond Baylis, East Grinstead, and Josef Maria Herbert Tiefenthal, Reigate, England, assignors to The Monotype Corporation Limited, London, England, a British company
Filed Apr. 4, 1967, Ser. No. 628,362
Claims priority, application Great Britain, Apr. 7, 1966, 15,645/66
Int. Cl. G05b 19/18
U.S. Cl. 318—685 4 Claims

In photocopying apparatus a number of pulses corresponding to required movement along a line is divided by a set number, the quotient number of pulses passing to

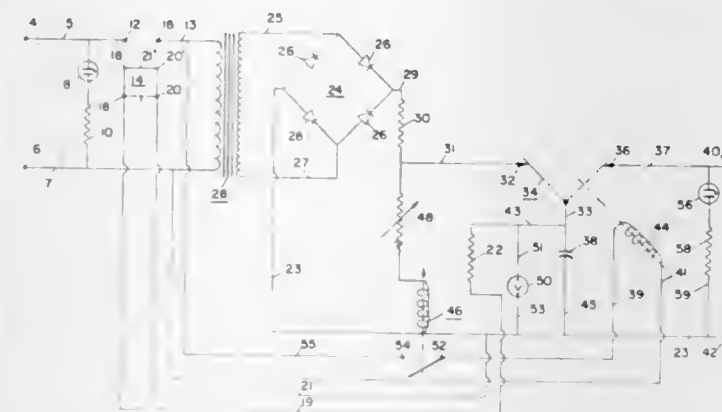
one stepping motor (26) and the remainder number of pulses passing to another stepping motor (27). The output shaft of each motor (28) and (29) rotates through a discrete angle corresponding to the number of pulses passed



to that motor, and the outputs of the motors both move a common output (41), no pulse passed to one motor (26) producing a larger movement of the common output than one pulse passed to the other motor (27).

3,538,414 CAPACITOR-DISCHARGE DEVICE FOR BLASTING

Florian B. Janoski, Havertown, Pa., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
Filed July 1, 1968, Ser. No. 741,402
Int. Cl. H02m 3/00
U.S. Cl. 320—1 11 Claims



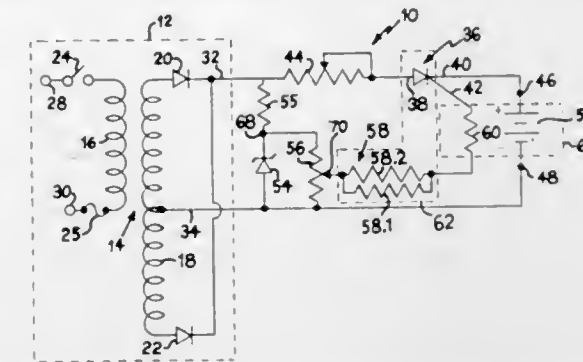
A capacitor-discharge blasting device is disclosed having a capacitor drain means connected for limiting the voltage across the capacitance to a negligible level during periods of non-use. The present capacitor-discharge blasting device preferably includes the capacitor drain means in combination with a capacitor capable of delivering an energy output of between about 210 to about 400 watt-seconds of energy over a relatively short period of time, and a voltage sensing switch for releasing energy from the capacitor when the required level of energy output is available. The output energy although sufficient to initiate up to about 150 blasting caps disposed in a parallel circuit is insufficient to cause malfunction by internal arcing of as few as one electric blasting cap disposed in the parallel circuit.

3,538,415 FAST BATTERY CHARGER

Arthur M. Wilson, Plainville, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation of application Ser. No. 631,402, Apr. 17, 1967. This application Oct. 17, 1969, Ser. No. 866,110
Int. Cl. H02j 7/04, 7/16
U.S. Cl. 320—32 7 Claims

A fast and safe battery charger capable of charging a battery in less than one hour comprises a charging circuit having a controlled rectifier in series with a power

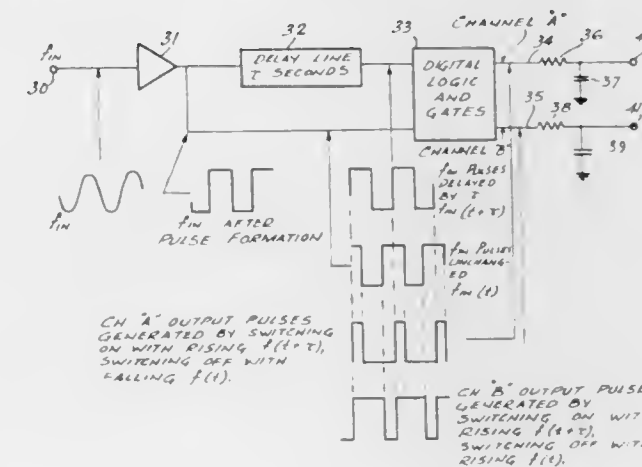
source and a battery to be charged, a control circuit regulating the controlled rectifier in response to control circuit voltage, the control circuit including temperature responsive resistance means so that voltages in the control circuit vary with battery charge condition and with



ambient and battery temperatures, and Zener diode means limiting control circuit voltage for interrupting battery charging if the battery becomes overheated and for automatically terminating charging when the battery is brought to fully charged condition.

3,538,416 HIGH RESOLUTION FREQUENCY TO VOLTAGE CONVERTER

Ralph C. Baker, 22 Mayo Ave., Ottawa 12, Ontario, Canada; Douglas N. Davis, 740 Springland Drive, Ottawa, Ontario, Canada; Leon Bronstein, 5772 Blossom, Cote St. Luc, Quebec, Canada; and John A. Lowe, 3605 McCarthy, St. Laurent, Quebec, Canada
Filed Oct. 8, 1968, Ser. No. 765,901
Int. Cl. H02m 7/00
U.S. Cl. 321—6 6 Claims



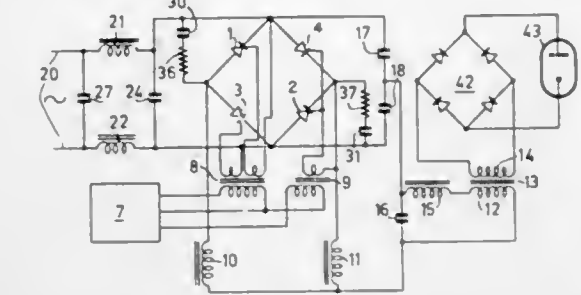
A frequency to voltage converter capable of covering a wide frequency range, for example from 100 to 350 kHz. with a resolution of 0.05 Hz. without introducing transients into the output of the frequency to voltage converter and without loss of resolution. A pair of interlocking frequency/voltage ramps are generated and switching circuits are provided to prevent the ramps from reacting the upper or lower limit and introducing a large transient in the output.

3,538,417 BRIDGE TYPE FREQUENCY CONVERTER

Engbert Bernard Gerard Nijhof, and Wilhelmus Bernardus Rosink, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 5, 1968, Ser. No. 710,548
Claims priority, application Netherlands, Mar. 22, 1967, 6704215
Int. Cl. H02m 7/00, 5/30
U.S. Cl. 321—6 10 Claims

A frequency converter comprising a plurality of controlled rectifiers connected to form a bridge circuit including at least 2 DC circuits each comprising 2 rectifiers

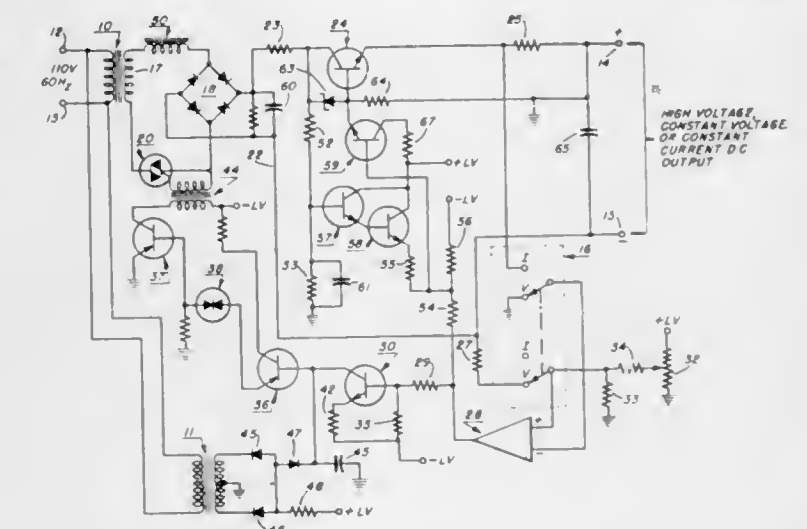
serially connected with the same polarity. The bridge output terminals are connected to one end of an output circuit via first and second coils. The other end of the output circuit is connected to a neutral point of the AC supply voltage for the bridge circuit. The output circuit



and each coil form a series circuit tuned to a frequency that is higher than the desired output frequency, which in turn is higher than the AC supply frequency. The bridge rectifiers are triggered to alternately control all the rectifiers connected to one coil and then all the rectifiers connected to the other coil.

3,538,418 SWITCHING-MODE VOLTAGE AND CURRENT REGULATOR

Robert W. Allington, Lincoln, Nebr., assignor to Instrumentation Specialties Company, Lincoln, Nebr., a corporation of Nebraska
Filed Oct. 29, 1968, Ser. No. 771,514
Int. Cl. H02m 7/00
U.S. Cl. 321—18 12 Claims



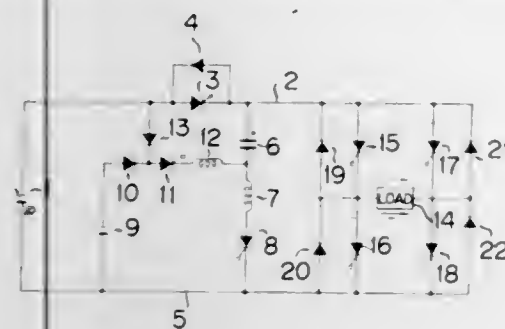
An alternating current input to direct current output power supply incorporating a switching-mode pre-regulator and a post-regulator for providing a constant voltage or a constant current output, said pre-regulator and post-regulator being simultaneously controlled by means of negative feedback derived from the output circuitry. The post-regulator, which may be a dynamic low-pass filter, may otherwise be controlled solely by negative feedback from the output circuitry, or with additional feedback from the switching-mode pre-regulator.

3,538,419 INVERTER DEVICE

Nagataka Seki and Akio Hirata, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Mar. 20, 1969, Ser. No. 808,792
Claims priority, application Japan, Mar. 25, 1968, 43/19,091; Mar. 28, 1968, 43/19,959; Mar. 11, 1969, 44/18,192
Int. Cl. H02m 7/52
U.S. Cl. 321—45 15 Claims

A self-excitation type inverter device wherein the commutation circuit comprises a first thyristor serially connected between a current inverting circuit consisting of a

plurality of main thyristors so arranged as to supply an alternatively inverted electric current to a load circuit and one terminal of a D.C. power source, a diode connected across the first thyristor in inverse parallel relationship, a series circuit comprising a second thyristor disposed



in the forward direction of the first thyristor, a first reactor and condenser and connected parallel to the first thyristor, and a second reactor and a third thyristor serially connected between the contact point of the condenser with the first reactor and the other terminal of the D.C. power source.

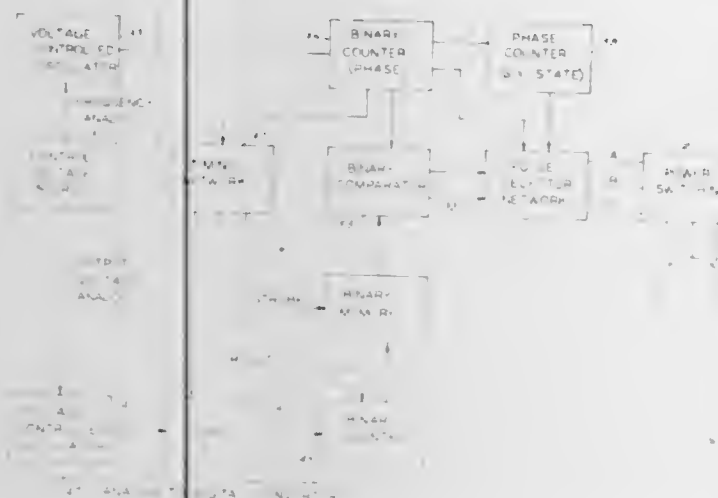
3,538,420 INVERTER

Frank N. Klein, Kenosha, Wis., assignor to Eaton Yale and Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 9, 1968, Ser. No. 782,114
Int. Cl. H02m 7/52, 1/12; H02p 5/38

U.S. Cl. 321-5

12 Claims



The inverter disclosed operates in a switching mode and provides A.C. power at a preselectable frequency and at a preselectable voltage by generating a notched waveform in which the widths of the notches may be varied to vary the average energy content of the overall waveform. The variable switching points or edges of the notches are shifted incrementally under the control of digital circuitry.

3,538,421 TEMPERATURE STABILIZED VOLTAGE REGULATOR

Jack Charles Young, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 2, 1967, Ser. No. 657,962

Int. Cl. H02j 7/10; H02p 9/30

U.S. Cl. 322-28

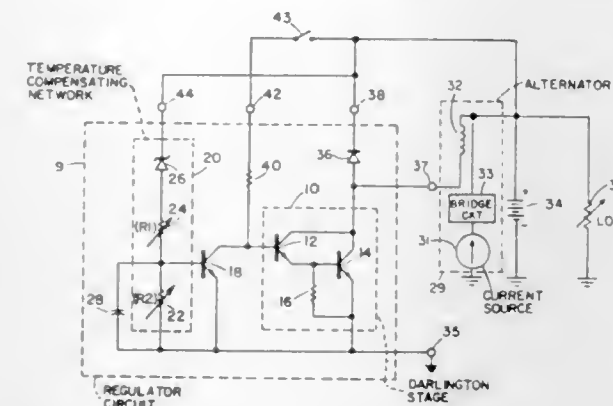
13 Claims

A DC voltage regulator featuring temperature compensation and includes a resistance network connected in series with a reverse breakdown diode to form a temperature compensating network for the regulator. The regula-

tor further includes an input transistor connected to the temperature compensating network, and the regulated voltage V_{REG} is approximately proportional to

$$\Delta T \left[\frac{\alpha}{A} + \gamma \right]$$

where α is the temperature coefficient of resistance of the



input transistor, K is a constant equal to the voltage division of the resistance network, γ is the temperature coefficient of resistance of the breakdown diode and ΔT is the change in ambient temperature at the regulator.

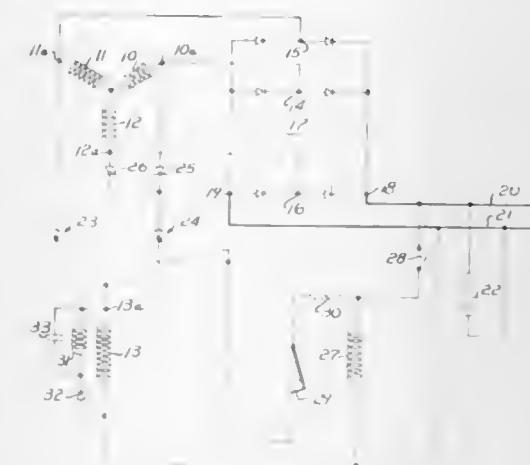
3,538,422 R.F. TRANSIENT SUPPRESSION FOR GENERATING MACHINE

Edward Gadd, Cleveland, Ohio, assignor to Victoreen Leece Neville, Inc., a corporation of Ohio
Filed May 20, 1968, Ser. No. 730,483

Int. Cl. H02k 11/00

U.S. Cl. 322-58

5 Claims



A parallel L-C circuit, including an R.F. choke coil and a capacitor, is connected in series with the field discharge rectifier for the field winding of an alternator on an automotive vehicle to suppress radio frequency transients caused by the abrupt de-energization of the alternator field winding.

3,538,423 CIRCUIT ARRANGEMENT FOR THE INDEPENDENT CONTROL OF THE OUTPUT VOLTAGE AND OUTPUT CURRENT INTENSITY FOR A REGULATOR

Zdzislaw Goleniewski, Warsaw, Poland, assignor to Zjednoczone Zaklady Elektronicznej Aparatury Pomiarowej, Warsaw el Bialobreska, Poland

Filed Nov. 27, 1967, Ser. No. 685,759

Claims priority, application Poland, Nov. 29, 1966,

P 117,642

Int. Cl. G05f 1/50

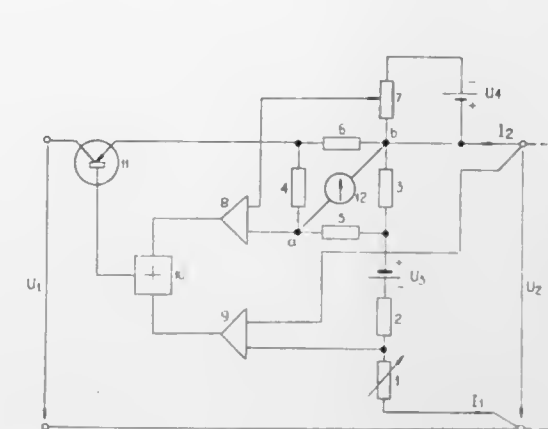
U.S. Cl. 323-4

4 Claims

A regularly circuit for independently controlling output voltage and output current: the output voltage is com-

pared with a standard voltage and the difference is supplied to a differential amplifier; output current is compared with a standard and supplied to a second differential

tion eliminates any undesirable gain loss and phase shifting due to resistance in the input circuits of the differentially coupled transistor pair.



3,538,424 VOLTAGE REGULATOR WITH CONTINUOUSLY VARIABLE DC REFERENCE

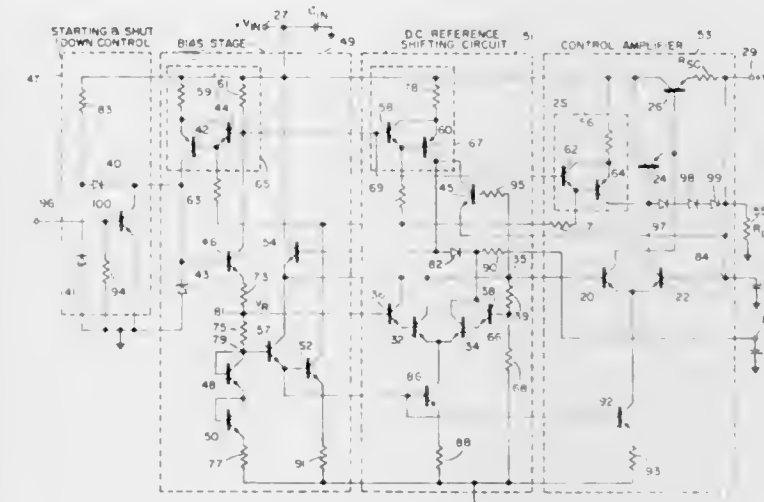
Thomas M. Frederiksen, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Jan. 29, 1968, Ser. No. 701,235

Int. Cl. G05f 1/56, 1/58

U.S. Cl. 323-22

16 Claims



A monolithic voltage regulator having a high current capability, a constant low output impedance from DC to several hundred kilocycles, and a high ripple reduction factor. The regulator has excellent transient response; it provides a wide range of regulated output voltage and has a low temperature drift. The voltage regulator includes an input differential amplifier stage having a pair of transistors coupled to a current sink (a current source passing current to ground), and one of the transistors in the pair is connected through a current gain stage to an output terminal. A DC reference shifting circuit is connected to the input of one transistor in the pair and provides a reference voltage to the differential amplifier stage which has been translated to provide the required voltage level at the output terminal. The output terminal is connected directly to the input of the other transistor in the pair in order to achieve a unity feedback factor to provide excellent constant loop performance independent of the output voltage. The direct coupled feedback connec-

3,538,425 ELECTRICAL WELL-LOGGING PROBE HAVING REDOX-REVERSIBLE AND REDOX-NONREVER- SIBLE ELECTRODES

Italo Veneziani, Via Castiglione 20, Bologna, Italy

Filed Jan. 18, 1968, Ser. No. 698,920

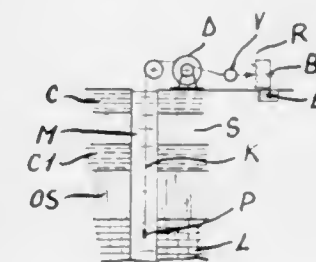
Claims priority, application Italy, Jan. 21, 1967,

6,740/67; Sept. 5, 1967, 7,272/67

Int. Cl. G01v 9/00, 3/18

U.S. Cl. 324-1

1 Claim



A multielectrode probe for the electrical well logging of earth formations by sensing the redox potential arising in a mud filled borehole. The probe is formed by a substantially rigid elongated body, to which at least one redox potential measuring electrode and one reference electrode are secured, the said electrodes being individually connected to distinct conductors of the probe-running cable. The probe is made up by a plurality of interconnected body sections, each designed to perform distinct functions, as for instance electrode holder sections, spacing and weight sections, and the like. The said sections may be easily assembled together so as to compose a probe which is the most suitable for the different measurements required during the logging operation.

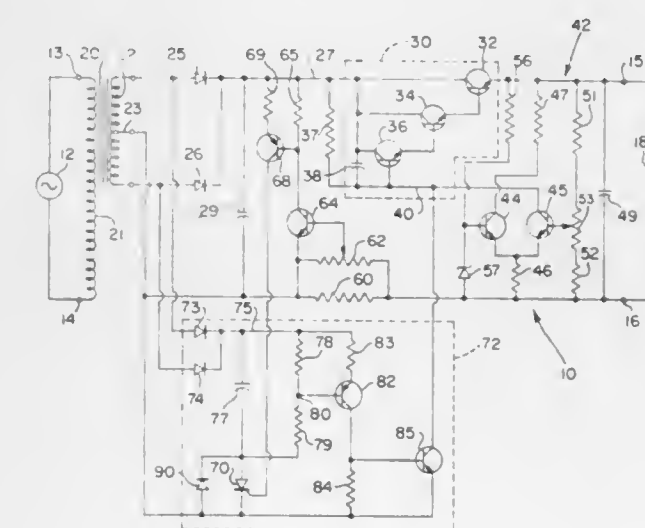
3,538,426 SERIES REGULATOR WITH CURRENT LIMITER

Robert E. Jones, Wesleyville, Pa., assignor to Elgin Electronics Incorporated, Erie, Pa., a corporation of Ohio
Filed Feb. 6, 1968, Ser. No. 703,460

Int. Cl. G05f 1/58, 1/64

U.S. Cl. 323-9

6 Claims



A voltage regulator having a series transistor regulator element responsive in normal operation to a conventional

differential amplifier control stage and under overcurrent conditions to a control override stage. The latter includes a resistor in series connection with the output circuit for generating a trigger signal for an SCR in an RC timing circuit arrangement which overrides the differential amplifier control stage for a predetermined interval to prevent output current. At the end of the interval normal operation is automatically resumed and a recycling of the action of the override stage will occur so long as the overcurrent condition persists.

3,538,427

ALTERNATING CURRENT CONSTANT RMS VOLTAGE REGULATOR

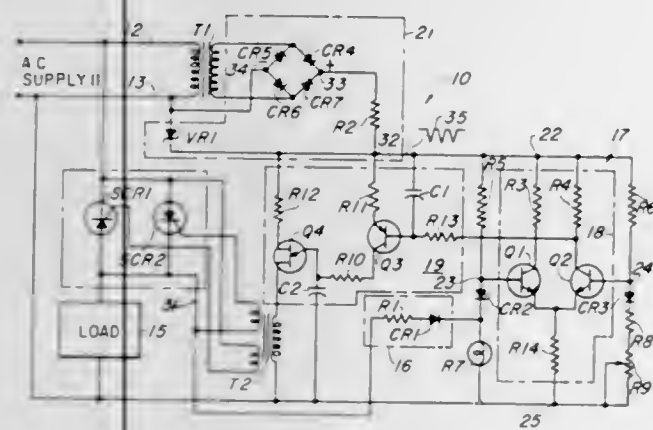
Norman Ottendorf, Algonquin, Ill., assignor to Microdyne, Inc., Rolling Meadows, Ill., a corporation of Illinois

Filed May 13, 1968, Ser. No. 728,421

Int. Cl. G05f 1/44

U.S. Cl. 323—24

8 Claims



An A.C. line voltage regulator for supplying a constant RMS voltage to a load from a varying supply, including a signal controlled rectifier power gate connecting the load to the supply and a control gate for intermittently applying the output of the power gate to an incandescent lamp or other sensing element having a high thermal coefficient of resistance. The sensing element is connected in a bridge circuit; a differential amplifier senses changes in the resistance of the sensing element during time intervals in which the sensing element is not energized from the power gate. The output signal from the differential amplifier controls the firing angle of the power gate and maintains the RMS voltage to the load constant.

ERRATUM

For Class 324—1 see:
Patent No. 3,538,425

3,538,428

SUPPORTING SYSTEM FOR MAINTAINING A PAIR OF DEVICES IN A PREDETERMINED ANGULAR RELATIONSHIP WITH ONE ANOTHER

Anthony Rene Barringer, Willowdale, Ontario, Canada, assignor to Barringer Research Limited, Rexdale, Ontario, Canada, a corporation

Filed Aug. 1, 1967, Ser. No. 657,617

Claims priority, application Great Britain, Aug. 2, 1966, 34,568/66

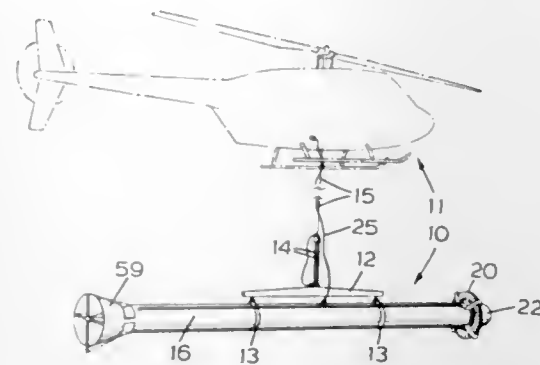
Int. Cl. G01v 3/16

U.S. Cl. 324—4

7 Claims

A supporting system especially for maintaining transmitting and receiving coils of an airborne electromagnetic prospecting system in precise null coupling with each

other. The transmitting coil is fixed to one end of an elongated supporting tube, and the receiving coil is supported by a gimbal inside the tube at the opposite end. Two pairs of mutually orthogonal taut wires extend di-



agonally inside the tube from the gimbal to a bracket fixed to the tube near the transmitting coil. By optimizing the spacing of the wires, it has been found that noise voltages induced in the receiving coil due to deformation of the tube can be reduced drastically.

3,538,429

COIL ASSEMBLY FOR NUCLEAR MAGNETISM WELL LOGGING

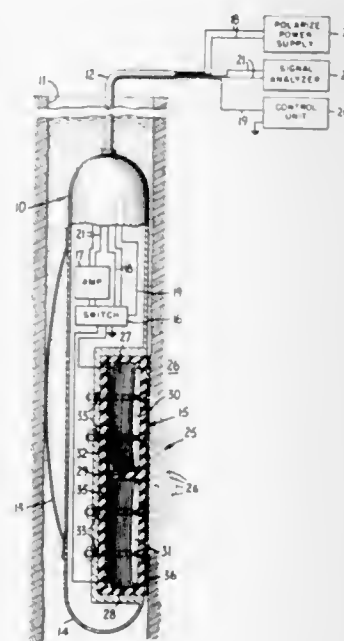
John H. Baker, Jr., Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Dec. 1, 1966, Ser. No. 598,369

Int. Cl. G01n 27/78

U.S. Cl. 324—5

7 Claims



An instrument for nuclear magnetism logging, according to the exemplary embodiments, comprises a housing which can be lowered into a well bore and a coil assembly carried by the housing and arranged to be urged into engagement with the well bore wall. The coil assembly includes at least two coils mounted on an elongated non-magnetic, vertically disposed support member with their axes extending substantially perpendicular to the well bore wall and spaced vertically from each other. The coils are electrically connected to each other in series, and they are connected and wound such that currents of the same phase induced in them tend to be cancelled.

3,538,430

DEVICE FOR DETECTING ORE BODIES BY MEASURING UNSTABLE ELECTROMAGNETIC FIELDS EXCITED BY MAGNETIC FIELD PULSES

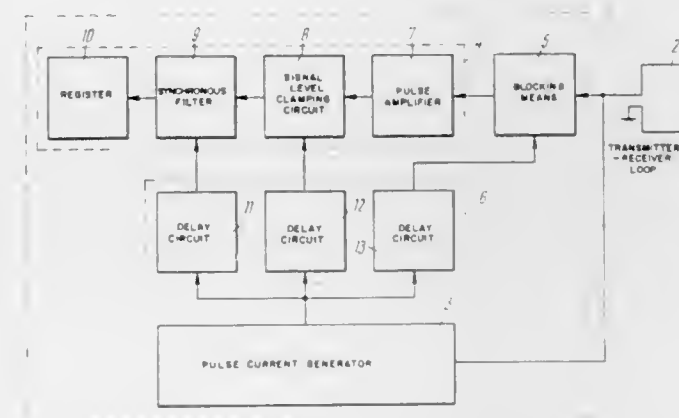
Jury Ivanovich Bulgakov, Vsevolozhsky rayon, pos. Steklenny 35, kv. 23, Leningradskaya obl., U.S.S.R.; Alexandr Borisovich Velikin, Ananievskaya ul. 9, kv. 77; Georgy Osipovich Grigoriev, Ul. Sicezhinskaya 23, kv. 1; and Anatoly Mikhailovich Polikarpov, Vasilievsky ostrov. 15 linia 72, kv. 48, all of Leningrad, U.S.S.R.

Filed May 18, 1967, Ser. No. 639,580

Int. Cl. G01v 3/12

U.S. Cl. 324—6

3 Claims



A device for inductive electrical prospecting by the method of transient processes, intended for detecting ore bodies, characterized by high electrical conductivity, comprising a current pulse generator, transmitter-receiver loop, blocking device, pulse amplifier, memory cell, synchronous gate and register, as well as an attachment for measuring the transient characteristics of the loop self-impedance (the ratio between the EMF values in the loop at pre-set moments to the exciting current in the same loop). This device allows to suppress considerably the slowly fluctuating electromagnetic noises and to increase the measuring channel sensitivity when using one loop for exciting the primary field and reception of the secondary fields by utilizing a special blocking means at the amplifier input and a memory circuit at the output of the amplifier.

3,538,431

GEOPHYSICAL PROSPECTING WITH SUBSURFACE PROPAGATED ELECTROMAGNETIC WAVES

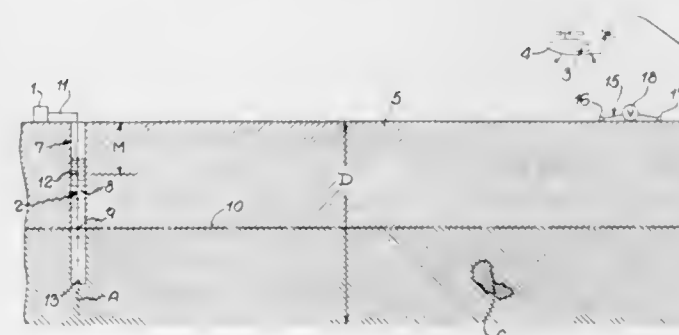
Calvin K. Moss, North Salt Lake City, Utah, assignor to American Smelting and Refining Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 26, 1968, Ser. No. 762,815

Int. Cl. G01v 3/12

U.S. Cl. 324—6

6 Claims



Geophysical prospecting by transmitting electromagnetic waves from an electric dipole antenna disposed wholly and substantially vertically in a drill hole, the transmitted waves possessing sufficient energy to produce at the earth surface in the area to be prospected a

primary electromagnetic field having a detectable horizontal electrical component, moving a receiver for receiving electromagnetic waves having a frequency in the range of the transmitted waves to a plurality of points in an area to be prospected and measuring the electromagnetic field produced at said points by the electromagnetic waves received by the receiver.

3,538,432

DIRECT READING ELECTROLYTIC CONDUCTIVITY ANALYZER

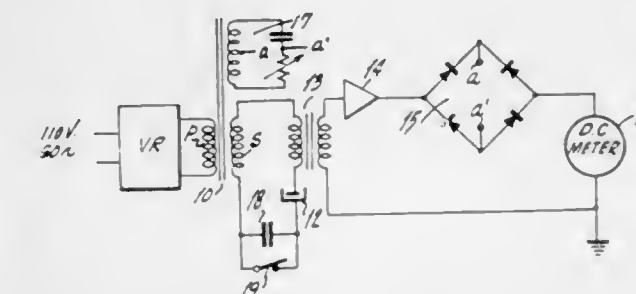
Charles R. Schmidt, Pequannock, N.J., assignor to Beckman Instruments, Incorporated, Fullerton, Calif., a corporation of California

Filed June 24, 1968, Ser. No. 739,237

Int. Cl. G01m 27/42

U.S. Cl. 324—30

5 Claims



An electrolytic conductivity measuring instrument in the form of a direct reading conductivity analyzer for measuring solution conductance in which means are provided for rapidly determining the condition of the electrical conductivity cell in the instrument. The cell condition can be determined electrically at the instrument without the physical removal of the cell and subsequent inspection. An embodiment of the invention enables compensation of the meter reading for the self-polarization of the cell over a range of conductivity cell conditions.

3,538,433

APPARATUS FOR DISCRIMINATING BETWEEN INSIDE AND OUTSIDE DEFECTS USING A COMBINED LEAKAGE FIELD AND EDDY CURRENT TEST SYSTEM

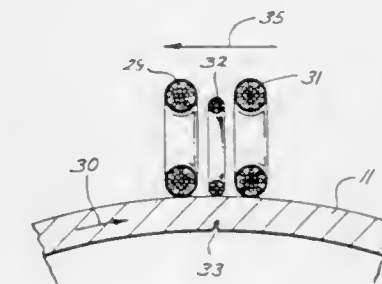
Fenton M. Wood, Sugarland, and Alfred E. Crouch, Houston, Tex., assignors to American Machine & Foundry Co., New York, N.Y., a corporation of New Jersey

Continuation-in-part of application Ser. No. 292,630, July 3, 1963. This application July 15, 1968, Ser. No. 752,092

Int. Cl. G01r 33/12

U.S. Cl. 324—37

1 Claim



This invention includes non-destructive methods and apparatus for detecting flaws in the wall of a magnetized steel pipe and the like. A detector assembly composed of a pair of closely spaced apart eddy current sensing coils are arranged to scan one surface of the pipe, and a flux leakage coil is arranged between the eddy current

coils, whereby all three coils simultaneously scan the same discrete portion of the pipe confronted by the coils. Alternatively, an eddy current coil may be disposed between two flux leakage coils.

3,538,434

METHOD FOR DETECTING ONE OF HEAVY WATER AND ORDINARY WATER IN THE PRESENCE OF THE OTHER OF HEAVY WATER AND ORDINARY WATER

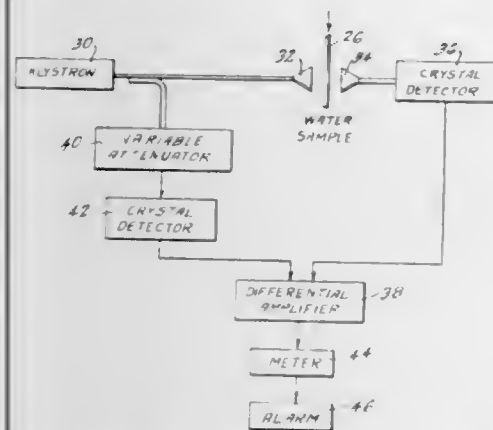
Donald P. Brown, Richland, George F. Garlick, Kennewick, and Newell S. Porter, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed June 9, 1967, Ser. No. 645,580

Int. Cl. G01r 27/04

U.S. Cl. 324—58.5

5 Claims



A method for detecting one of heavy water and ordinary water in the presence of the other of heavy water and ordinary water wherein a microwave signal generated at a frequency responsive to the differential polarization-attenuation characteristics of the heavy water and ordinary water is transmitted through the said other of heavy water and ordinary water and then detected. The generated microwave signal is also attenuated and the amplitudes of the attenuated microwave signal and transmitted detected microwave signal are compared.

3,538,435

METHOD AND APPARATUS FOR AUTOMATICALLY MEASURING THE LENGTH OF A LONG MOVING OBJECT BY SENSING STATIC ELECTRIC CHARGES

Susumu Ihara, Nara, Masaki Ohmori, Nishinomiya-shi, Isamu Sameshima, Tokyo, and Hidetaka Yamagami, Kawasaki-shi, Japan, assignors to Kasuga Electric Manufacturing Company Limited, Tokyo, Japan, a company of Japan, and Sumitomo Electric Industries Ltd., Osaka, Japan, a company of Japan

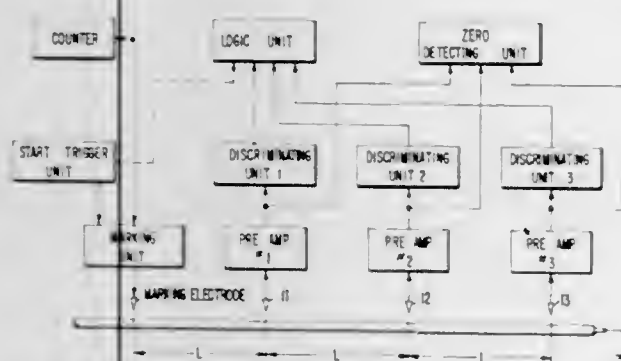
Filed July 22, 1968, Ser. No. 746,548

Claims priority, application Japan, July 21, 1967, 42/46,647

Int. Cl. G01n 27/00

U.S. Cl. 324—71

6 Claims



Method of automatically measuring the length of long moving objects with non-conducting surfaces. An electric charge mark is placed on the insulating material and

is sensed at preset distances away as it passes a plurality of sensing stations. The outputs of the different stations are compared to prevent erroneous reading of noise as the mark. The time interval between marks is compared with previous time intervals to exclude obvious noise. Counting the number of marks detected yields the length of cable.

3,538,436

DEVICE FOR DETERMINING THE ENERGIZATION STATE OF THE CENTER CONDUCTOR OF A SHIELDED CABLE BY SENSING A VOLTAGE DROP IN THE SEMICONDUCTOR SHEATH OF THE CABLE

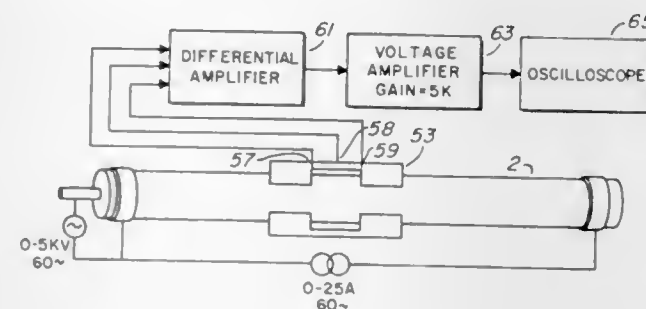
Walter L. Weeks, West Lafayette, Ind., John I. Smith, Morristown, N.J., Laurence L. Sheets, Salem, N.H., and Benton J. McClure, West Lafayette, Ind., assignors to Purdue Research Foundation

Filed June 12, 1967, Ser. No. 645,349

Int. Cl. G01r 31/02

U.S. Cl. 324—72.5

4 Claims



A device and process for determining whether a shielded cable contains an energized conductor. The device senses a voltage drop in the semiconducting sheath of the shielded cable to positively indicate energization of the center conductor.

3,538,437

APPARATUS FOR MEASUREMENT AND ANALYSIS OF VOLTAGE WAVES INCLUDING SHORT DURATION TRANSIENTS

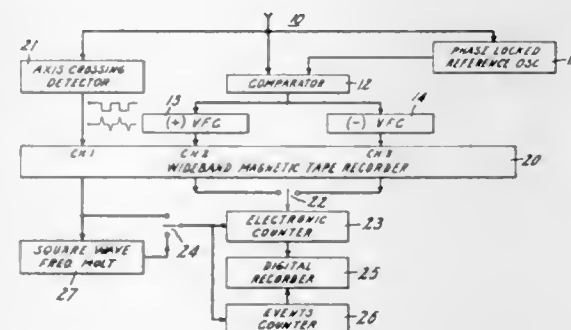
Sheldon C. Richardson, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Sept. 26, 1968, Ser. No. 762,796

Int. Cl. G01r 23/16

U.S. Cl. 324—77

16 Claims



An electrical apparatus for measuring and analyzing voltage waves such as 60 cycle power system voltage includes electrical components for generating electrical pulses wherein the number of pulses is directly proportional to the average value of a difference voltage indicative of voltage deviation during a predetermined time interval of a monitored voltage wave from a reference voltage wave representing the ideal conditions of the

monitored wave. The pulses are recorded on a tape recorder and subsequently reproduced and counted by an electronic counter gated to count during alternate fundamental frequency half cycle intervals of the monitored voltage. A digital recorder displays the output of the counter. The counter can also be gated at higher frequencies to obtain higher sampling rates during intervals of abnormal conditions of the monitored wave for analyzing fractions of the fundamental frequency half cycle intervals of the wave to thereby obtain a more accurate analysis of the deviations from the ideal wave shape.

3,538,438

TRANSISTOR BETA TEST AND DISPLAY CIRCUIT

William Pai Yen Mao, Southfield, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed July 21, 1967, Ser. No. 655,041

Int. Cl. G01r 31/22

U.S. Cl. 324—158

4 Claims



An electronic circuit is disclosed for testing the DC common emitter current gain of a transistor at a constant collector to emitter voltage and providing an oscilloscope display of the current gain over a wide range of emitter currents. In this circuit, a saw-tooth shape current pulse is applied to the emitter of the transistor under test and to the base through an operational amplifier. The emitter and base currents are then monitored and converted to logarithmic functions by semiconductor elements. These two logarithmic functions are subtracted to perform a division of the two currents and the resulting voltage which indicates the log ($I_E/I_B + 1$) is applied to the vertical input of the oscilloscope. At the same time, the logarithm of emitter current is applied to the horizontal input of the oscilloscope.

3,538,439

METHOD FOR MEASURING THE AMPLITUDE OF ANY POINT ON REPETITIVE CYCLES OF A HIGH FREQUENCY WAVEFORM

William E. Bray and Leslie L. Jasper, Houston, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 7, 1965, Ser. No. 512,142

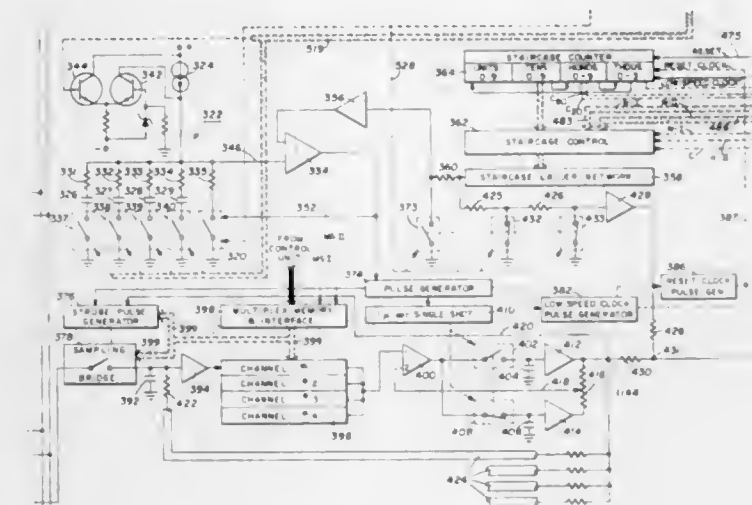
Int. Cl. G01n 23/16; G05g 1/52; G06g 7/14

U.S. Cl. 324—77

30 Claims

A system for automatically making substantially any static or dynamic test on a multilead integrated circuit. The system includes a test station having a plurality of D.C. bias supplies, a plurality of pulse generators for producing repetitive pulse waveforms, a socket for receiving the integrated circuit, switch means for selectively connecting any D.C. bias supply and/or any pulse generator to any lead or leads of the integrated circuit, and

sensing means for selectively connecting any lead of the integrated circuit to either a static measuring unit or a dynamic measuring unit. The dynamic measuring unit makes either time or amplitude measurements on the signal at any lead of the integrated circuit and produces a pulse train and a count data signal which are collectively representative of the magnitude of the time or amplitude measurement. The static measuring unit makes either static voltage or current measurements on the signal at any selected lead of the integrated circuit and produces a



pulse train signal the frequency of which is representative of the magnitude of the measurement. A data readout system counts the pulses either from the dynamic measuring unit during the count data signal, or the pulses from the static measuring unit during a predetermined reference time period to indicate the results of the measurement. A programmable control means automatically operates the total system to make substantially any selected amplitude, time, voltage or current measurement on the signal occurring at or between substantially any lead or leads of the integrated circuit.

3,538,440

VOLTAGE DETECTOR FOR SHIELDED CONDUCTOR PROVIDING SUBSTANTIALLY CONSTANT OUTPUT VOLTAGE OVER WIDE RANGE OF INPUT VOLTAGE

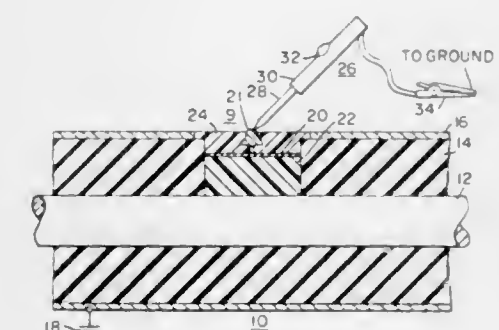
Dudley L. Galloway, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 30, 1968, Ser. No. 756,638

Int. Cl. G01r 19/16

U.S. Cl. 324—133

11 Claims



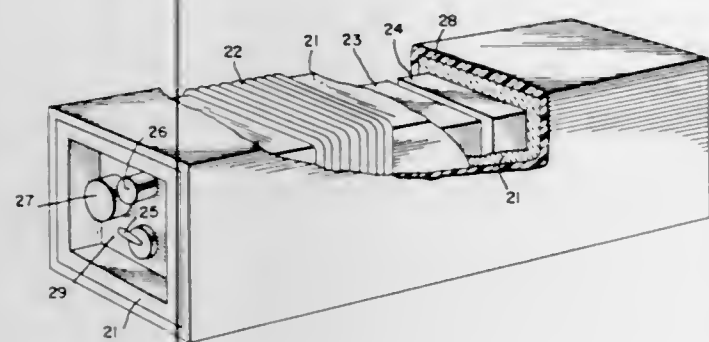
A voltage detector for detecting the presence of voltage on a conductor, which provides a substantially constant voltage at a probe test point, over a wide range of conductor voltage.

3,538,441

ANTENNA HAVING A RECEIVER THEREIN
Takashi Tanaka, Osaka-fu, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
Filed Feb. 23, 1967, Ser. No. 618,103
Claims priority, application Japan, Feb. 24, 1966, 41/17,062; Mar. 28, 1966, 41/19,498
Int. Cl. H04b 1/18

U.S. Cl. 325-365

5 Claims



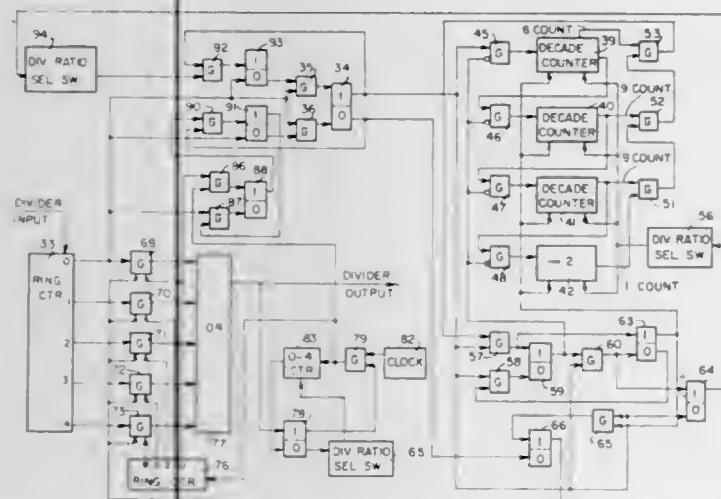
An antenna and receiver assembly comprising a core of a magnetic material having a winding thereon and having a hollow interior, and electronic and/or mechanical components constituting at least part of a receiver for electromagnetic waves, such as radio waves, are positioned in the hollow interior and coupled to the winding which serves as the antenna for the receiver. A part or the whole of the remainder of the hollow interior is filled with an insulating adhesive material in order to provide support and strength to the hollow core of magnetic material.

3,538,442

HIGH SPEED DIGITAL DIVIDER
Frank J. Arkell, Glenview, and Joseph P. Moran, Chicago, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 8, 1967, Ser. No. 659,164
Int. Cl. H03k 29/00

U.S. Cl. 328-39

10 Claims



A continuously operating high speed counter having a plurality of outputs reducing the frequency of an incoming signal. A low speed counter circuit coupled to the high speed counter counts from a preset starting number to a terminal number. Upon reaching the terminal number the low speed counter acts to select a desired output of the high speed counter and develops an output signal when the high speed counter reaches the stage coupled to the outputs selected. The selection is made so that the ratio between the frequency of the signal and the input signal is a particular value. This ratio can be varied by varying the preset conditions of the divider.

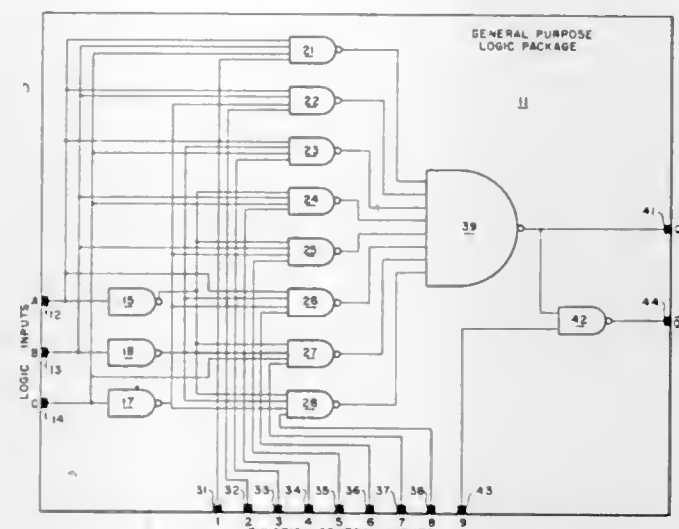
3,538,443

GENERAL PURPOSE LOGIC PACKAGE
Byrl D. Tague, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed June 11, 1968, Ser. No. 736,211
Int. Cl. H03k 19/00, 19/36

U.S. Cl. 328-92

3 Claims



A composite logic module providing a general purpose logic building block for digital computer circuitry entirely comprised of a plurality of internally committed NAND logic gating circuits.

3,538,444

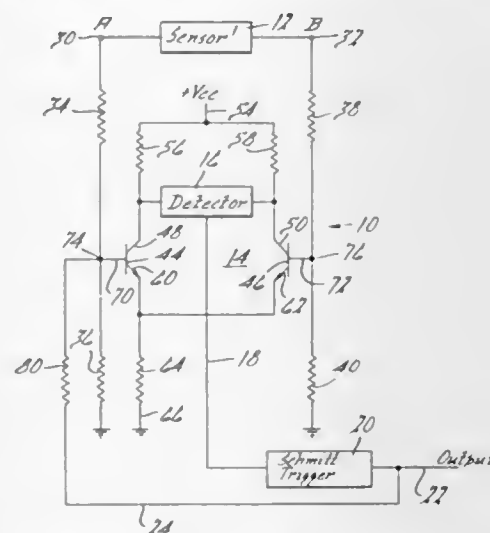
ANALOG TO DIGITAL SIGNAL CONVERTING SYSTEM HAVING A HYSTERESIS CREATING FEEDBACK LOOP

Richard H. Adlhoeh, Jackson, Mich., assignor to Mechanical Products, Inc., Jackson, Mich., a corporation of Delaware

Filed May 4, 1967, Ser. No. 636,178
Int. Cl. G06g 7/14; H03b 3/02; H05k 5/20

U.S. Cl. 328-146

1 Claim



A condition sensing network which includes a sensing device developing a differential voltage in accordance with a particular condition to be sensed, this differential voltage being impressed on a differential amplifier type of circuit to produce an output which varies in magnitude in accordance with the differential voltage. The output of the differential amplifier is sensed by a detector circuit and the detector circuit impresses the sensed signal on a voltage responsive circuit, as for example a Schmitt trigger, which changes its conductive state when a particular threshold voltage is reached.

The circuit further includes a feedback loop to vary the effect of the differential voltage on the differential amplifier. The feedback loop is connected to the input section of the differential amplifier such that, once the threshold voltage has been reached and the state of the Schmitt trigger is switched, the feedback signal changes

the bias of the differential amplifier to further increase the effect of the differential voltage being fed to the differential amplifier from the sensor. In this way the effect of the difference signal being fed from the sensor to the differential amplifier is increased by an amount which varies in accordance with the condition of the feedback loop and the circuit parameters thereof.

3,538,445

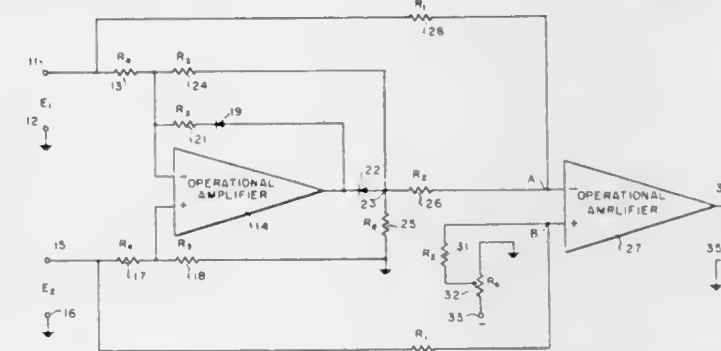
DIFFERENTIAL TWO-WAY COMPARATOR
Robert W. Brennen, Wylie, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 14, 1968, Ser. No. 775,746

Int. Cl. G06g 7/14

U.S. Cl. 328-147

4 Claims



A differential comparator circuit for monitoring the relative magnitudes of two variable input signals and providing a negative output potential so long as the absolute value of the algebraic difference between the two input signals remains below an adjustable predetermined value, then switching to a positive output potential when the absolute value of this difference exceeds the preset level. The first stage of the two-stage comparator circuit is comprised of an operational amplifier with feedback, a pair of semiconductor diodes, and various resistances, which provide differential input means with half wave rectification to a second stage differential comparator comprised of a second, switching operational amplifier without feedback, a source of adjustable reference potential, and various resistance means. The output potential of the second operational amplifier remains negative until the absolute difference between the two input signals exceeds the predetermined value, causing it to switch to a positive potential.

3,538,446

0-180° PHASE SHIFTER EMPLOYING TANDEM MULTIPLICATION AND DIVISION STAGES

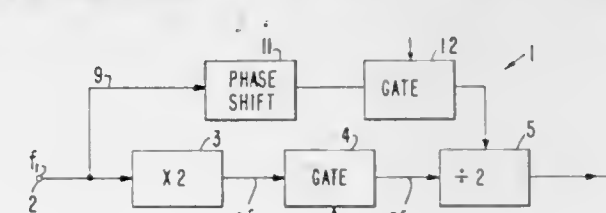
Thomas C. Leonard, Topsfield, Mass., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Dec. 21, 1967, Ser. No. 692,455

Int. Cl. H03b 3/04

U.S. Cl. 328-155

7 Claims



A 0-180° phase shifter (bi-phase modulator) is disclosed. The phase shifter includes a multiplication stage for multiplying the input signal by n to produce an n -times output. The n -times output is then fed to a divider stage for division by n to derive an output having the same frequency as the original signal. The divider circuit is capable of operating in two modes of operation having a relative phase shift of 180° therebetween. A control net-

work is provided for shifting the mode of operation of the divider network between the two possible modes to produce a 180° phase shift in the output of the divider. Thus, an output is provided which can be shifted by 180° in variable accordance with a control signal. In a preferred embodiment, the control circuit includes a pickup for picking up a portion of the input signal to the phase shifter and shifting the phase of the input signal by a substantial amount and feeding the phase shifted signal into the divider network. When the phase shifted control signal as applied to the divider is greater than the energy in the existing operating mode it swamps the existing mode and causes the output of the divider to shift to the second mode. A gate or variable attenuator circuit is preferably provided between the multiplier and divider stages for selectively attenuating or interrupting the output of the multiplier, whereby the phase shifted control signal more easily swamps the operating mode of the divider to shift to the alternative control mode.

3,538,447

MULTIPLE STAGE DIRECT AND CROSS-COUPLED AMPLIFIER

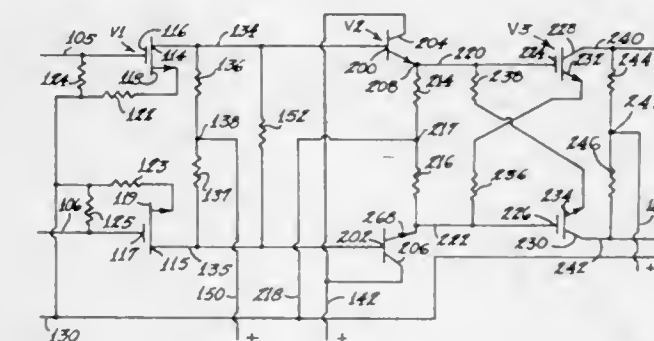
William Z. Johnson, 2900 Douglas Drive N., Apt. 337, Minneapolis, Minn. 55422; assignor to said Johnson, New Brighton, Minn.

Filed Oct. 17, 1968, Ser. No. 768,460

Int. Cl. H03f 3/26

U.S. Cl. 330-15

8 Claims



An electronic amplifying apparatus which includes three stages of multi-element electric conducting valves connected in push-pull configuration. The first stage is directly coupled to the second stage which has a low impedance output. The third stage is directly coupled to the second stage and includes a cross-coupling connection between the second and third stages to give improved push-pull characteristics.

3,538,448

GAIN CONTROLLED AMPLIFIER

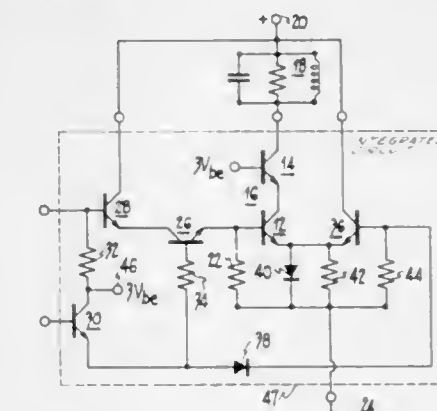
Jack R. Harford, Three Bridges, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Jan. 17, 1968, Ser. No. 698,505

Int. Cl. H03g 3/30

U.S. Cl. 330-29

6 Claims



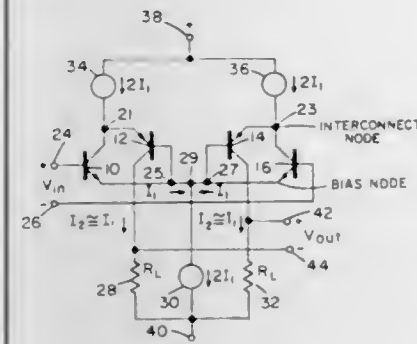
A gain controlled transistor amplifier circuit provides an initial rapid gain reduction by increased emitter de-

generation and a subsequent slower gain reduction by a combination of increased emitter degeneration and increased series attenuation of the applied signal.

3,538,449 LATERAL PNP-NPN COMPOSITE MONOLITHIC DIFFERENTIAL AMPLIFIER

James E. Solomon, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Nov. 22, 1968, Ser. No. 778,056

Int. Cl. H03f 3/18, 3/68
U.S. Cl. 330—30 15 Claims

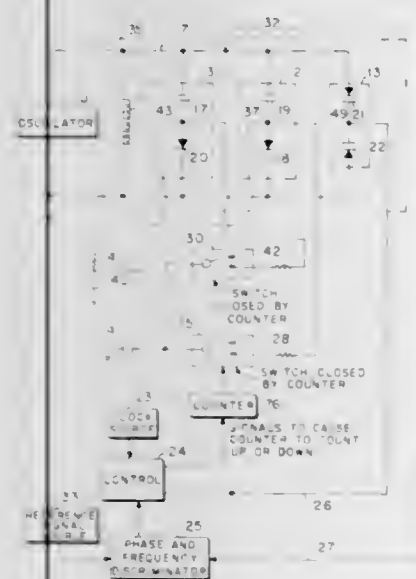


Disclosed is a differential amplifier adapted for monolithic integrated circuit fabrication which includes a pair of input PNP transistors connected to a pair of output lateral PNP transistors. The lateral PNP transistors clamp the collector voltage of the input PNP transistors so that the input PNP transistors may be fabricated to have a high current gain and thus require very low input currents. At the same time, the output currents from the output lateral PNP transistors are made independent of PNP common-emitter current gain (beta), and the frequency response of the complete amplifier is improved over other prior art approaches.

3,538,450 PHASE LOCKED LOOP WITH DIGITAL CAPACITOR AND VARACTOR TUNED OSCILLATOR

John J. Andrea, Marion, and Roger C. DeBloois and Noel E. Hogue, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Nov. 4, 1968, Ser. No. 772,895
Int. Cl. H03b 3/04
U.S. Cl. 331—10 24 Claims



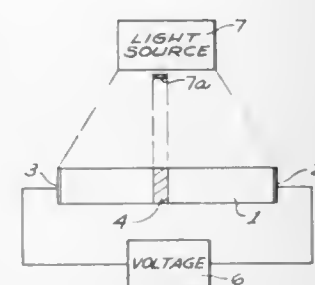
A closed loop structure, including a frequency-phase discriminator and a reference signal source for tuning an oscillator and comprising means of digitally selecting one or more of a bank of fixed capacitors having values which

increase in binary order. A binary counter, responsive to the output of a clock pulse source counts up or down in accordance with the discriminator output to control a switch which in turn adds or subtracts discrete increments of capacitance from said bank of capacitors into the oscillator circuit. The amount of capacitance in the oscillator circuit is determined directly by the count of said counter.

3,538,451 LIGHT CONTROLLED VARIABLE FREQUENCY GUNN EFFECT OSCILLATOR

William H. Haydl, Tarzana, Calif., assignor to North American Rockwell Corporation
Filed May 2, 1968, Ser. No. 726,005

Int. Cl. H03b 7/00
U.S. Cl. 331—66 8 Claims

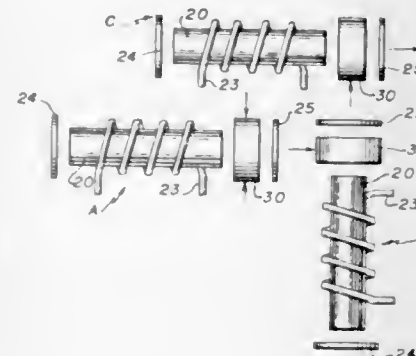


A method and apparatus are described for generating microwaves by utilizing the Gunn effect in crystalline solids, e.g., GaAs, to produce an oscillating current having a variable frequency. The variable frequency is obtained by controlling the illumination intensity along one surface of the photoconducting semiconductor so as to generate a shadow or other difference in the illumination level. In this manner at the point of illumination difference a high field domain is nucleated. By selectively positioning this point the microwave frequency may be varied.

3,538,452 LASER SWITCHING DEVICE

Glenn M. Burgwald, Mountain View, and Norman A. Peppers, San Carlos, Calif., assignors to Optics Technology, Inc., Palo Alto, Calif.

Filed Apr. 12, 1965, Ser. No. 447,454
Int. Cl. H01s 3/10
U.S. Cl. 331—94.5 5 Claims



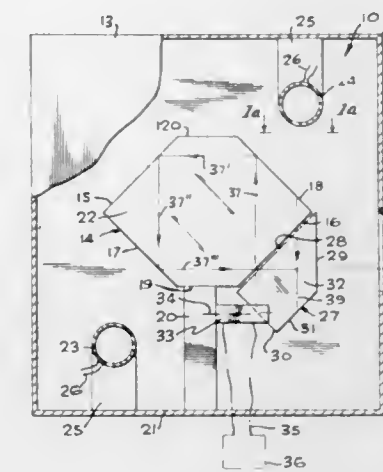
A variety of laser switching devices for producing laser pulses and for use in optical computer circuits. A light-absorbing material is combined with the lasing medium in the laser cavity, the light-absorbing material having a light-absorbing first condition operative to substantially inhibit lasing action in the lasing medium and a light transmissive substantially non-absorbing second condition passive to lasing action in the lasing medium. The light-absorbing material is adapted to change to the second condition when energized by light of a predetermined intensity level. The invention is applied to fiber optics.

3,538,453 FRUSTRATED TOTAL INTERNAL REFLECTION LASER SYSTEM

Wendell S. Miller, 1341 Comstock Ave., Los Angeles, Calif. 90024

Continuation of application Ser. No. 490,769, Sept. 10, 1965, which is a continuation of application Ser. No. 217,103, Aug. 15, 1962. This application Nov. 28, 1966, Ser. No. 604,516

Int. Cl. H01s 3/00
U.S. Cl. 331—94.5 5 Claims



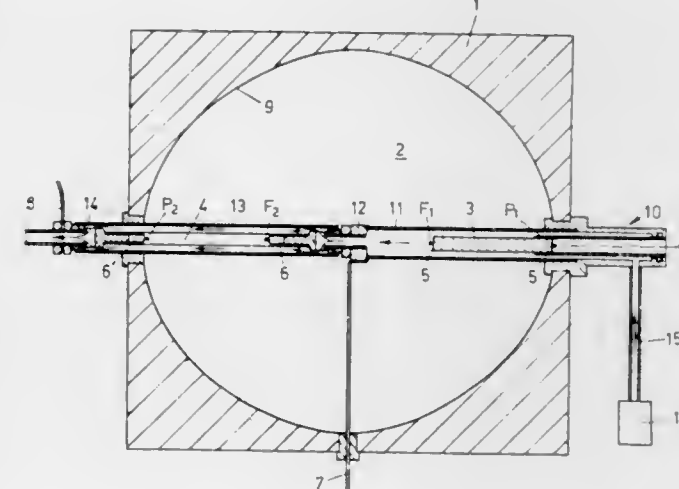
A laser within which stimulated emission is reflected by a series of surfaces along a closed path, and having a frustrating element located adjacent one of those surfaces and relatively movable to convert the device between a first condition in which that surface is totally internally reflective to direct the radiation along the closed path for rapid build-up, and a second condition in which the frustrating element moves close enough to the adjacent surface to frustrate its internally reflective characteristic and discharge the radiation therethrough to the exterior of the laser.

3,538,454 LASER EXCITATION

Robert Siegenthaler, Bern, Switzerland, assignor to Institut für angewandte Physik der Universität Bern, Bern, Switzerland

Filed Aug. 29, 1967, Ser. No. 664,199
Claims priority, application Switzerland, Sept. 7, 1966, 12,931/66

Int. Cl. H01s 3/04
U.S. Cl. 331—94.5 1 Claim

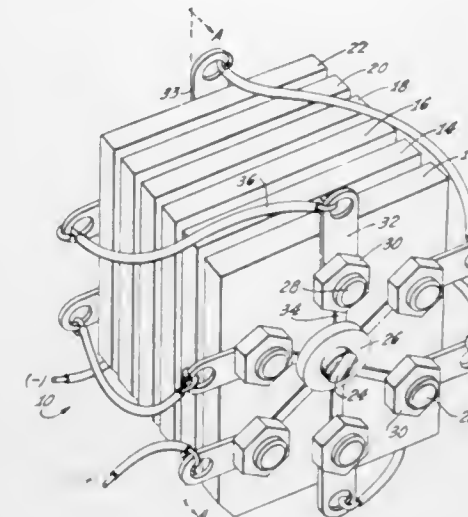


Process and apparatus for exciting a laser. The rays furnished by the light source are conducted through a solution that absorbs the shorter wave rays thereof and emits longer wave rays. The apparatus has a transparent conduit for a cooling liquid, and the aforesaid solution is used as the coolant.

3,538,455 LASER APPARATUS

Gerald C. Florio, Montclair, N.J., assignor to Litton Precision Products, Inc., San Carlos, Calif., a corporation of Delaware

Filed Nov. 24, 1967, Ser. No. 685,409
Int. Cl. H01s 3/00
U.S. Cl. 331—94.5 9 Claims

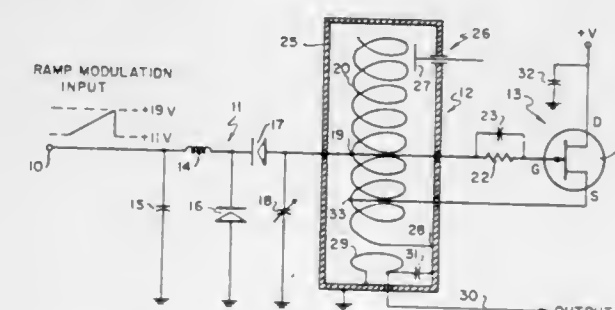


A generator of coherent light or laser is provided which includes a plurality of spaced stacked sheets or wafers of electrical insulating thermally conductive material having a central passage through each, and a rod of laser material is inserted in the passage formed by such stack of sheets. On one side of each sheet is affixed a plurality of discrete light emitting diodes spaced about the central passage. A plurality of separate conductive paths are provided on each sheet, each of which extends from a corresponding one of the diodes on one side of the sheet through an opening in the wafer to an underlying position on the other side of the sheet beneath that corresponding diode. The sheets are aligned so that one end of the diodes on one sheet abuts the corresponding one of the conductive paths on the adjacent sheet and the sheets are sandwiched together. Thus, each diode in each sheet is connected electrically in series with the corresponding aligned diodes in the other sheets to form columns of series connected diodes and the thermally conductive electrically insulating sheets serve as cooling fins. Additionally, a washer or nonconductive and infrared light reflective material is sandwiched between wafers to space the wafers and reflect any outwardly traveling light back toward the laser rod.

3,538,456 HELIX CAVITY VOLTAGE CONTROLLED OSCILLATOR

John J. Contus, Inglewood, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 2, 1969, Ser. No. 789,085
Int. Cl. H03b 5/18; H03c 3/20
U.S. Cl. 331—101 5 Claims



A precision frequency voltage controlled oscillator having a cavity contained floating helix coil with taps thereon connected to a field effect semiconductor device

and to a voltage sensitive capacitor diode network with a variable voltage input to produce voltage oscillations having exceptionally high center frequency stability and high "Q" with a linear frequency response over a frequency range.

3,538,457 SUPERCONDUCTING OSCILLATOR OR INVERTER

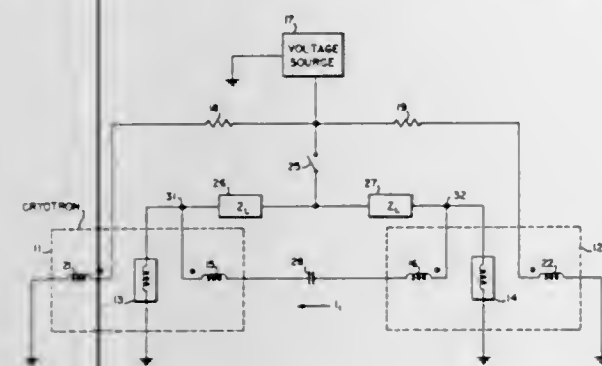
Donald J. Hanrahan, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 16, 1968, Ser. No. 760,043

Int. Cl. H03k 3/38

U.S. Cl. 331—107

6 Claims



A superconducting astable multivibrator wherein two cryotron devices are used as the switching elements therein. The gate winding of each cryotron is alternately rendered superconductive by the current passing through their respective control windings which is approximately sinusoidally varied by an L-C-R underdamped oscillating circuit.

3,538,458 DC TO AC CONVERTER CONTROL CIRCUIT PRODUCING VARIABLE PULSE WIDTH AND REVERSIBLE PHASE AC

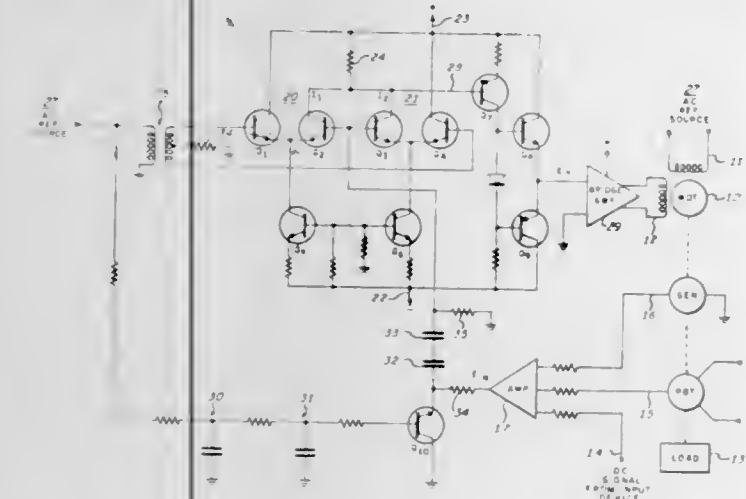
Arnold D. Lawson, Phoenix, Ariz., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed June 21, 1968, Ser. No. 738,989

Int. Cl. H03k 7/08; H02p 7/28

U.S. Cl. 332—9

5 Claims



A control circuit including a pair of differential amplifiers with a common output having a first input on each amplifier connected to a modulated DC control signal and a second input connected to one of two 180° phase displaced AC potentials which are derived from an AC reference potential. The AC reference potential is delayed 90° in-phase and applied to an electronic chopper to modulate the DC control signal. The common output is an AC signal having a pulse width and phase related to the amplitude and phase respectively of the DC control signal. The output AC signal is applied to the control winding of an AC servomotor.

3,538,459 THIN FILM Y-JUNCTION CIRCULATOR HAVING SIGNIFICANT SHUNT CAPACITANCE ASSOCI- ATED WITH EACH CENTER CONDUCTOR

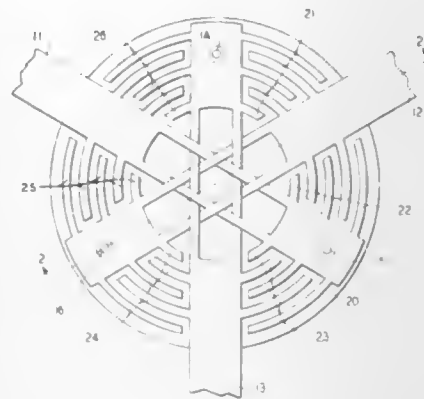
Reinhard H. Knerr, Allentown, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Feb. 3, 1969, Ser. No. 795,907

Int. Cl. H01p 1/32, 5/12

U.S. Cl. 333—1.1

7 Claims



A new form of Y-junction circulator adapted to photolithographic construction techniques. Integral forms of split conductors and shunt resonating capacitors reduce the overall size of the lumped element circulator and extend its range of applicability into higher regions of the microwave spectrum.

3,538,460 HIGH POWER ELECTRONICALLY TUNABLE MICROWAVE FILTER COMPOSED OF NON- RESONANT FILTER SUBUNITS IN SERIES

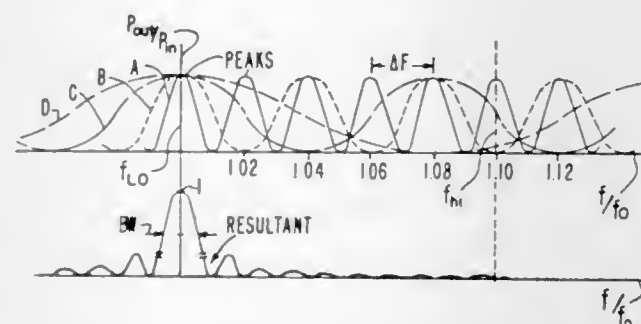
John L. Putz, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Oct. 9, 1967, Ser. No. 673,596

Int. Cl. H01p 5/14; H03j 3/18

U.S. Cl. 333—11

7 Claims



An electronically tunable high power filter is realized without the utilization of resonant circuit elements by cascading a plurality of directional dual channel filter subunits together in a manner such that the individual periodic responses of the subunits combine to give a single narrow transmission peak at the desired frequency while the undesired or spurious peaks in the response characteristic are suppressed. By controlled shifting of the response peaks of the individual filter subunits, the pass band frequency can be electronically shifted anywhere within the filter design operating band.

Each filter subunit includes an input and output port coupled together via a pair of waveguide transmission channels having unequal electrical lengths which are coupled together at their respective ends by directional couplers. One of the individual waveguide channels in

each pair is provided with means for varying the waveguide channel phase velocity to provide the filter with an electronically tunable response characteristic within the design band of the filter.

3,538,461 BROADBAND WAVE GUIDE WATERLOAD OF THE TYPE EMPLOYING A QUARTER WAVE WINDOW TRANSFORMER

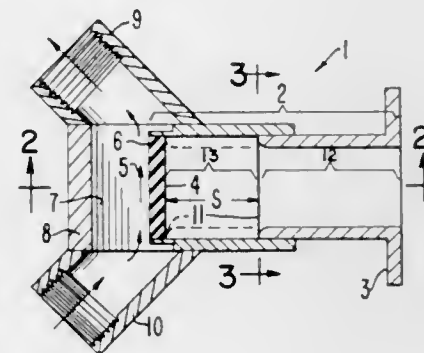
Floyd O. Johnson, Mountain View, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed May 22, 1968, Ser. No. 731,240

Int. Cl. H01p 1/26; H03h 7/38

U.S. Cl. 333—22

3 Claims



A broadband waveguide waterload is described. The waveguide waterload includes a section waveguide to be connected at one end to a source of microwave energy to be absorbed and sealed off at its other end by means of a microwave window member sealed across the end of the waveguide to provide a liquid impervious barrier thereacross. The closed end of the waveguide "looks" into a stream of dielectric lossy liquid coolant for absorbing microwave energy passing through the window from the source. The window member is made approximately an integral number of quarter electrical wavelengths thick to provide a quarter wave impedance transformer for matching the impedance of the waveguide to the impedance of the dielectric coolant. The waveguide includes an abrupt waveguide transition from a first section of the waveguide having a certain cross sectional dimension to a second section of the waveguide having a larger cross sectional dimension and the window member is sealed across the larger section of waveguide. The abrupt waveguide transition produces a wave reflective discontinuity for cancelling the wave reflection from the mismatch between the window member and the stream of dielectric coolant. Its wave reflection has a dispersive characteristic similar to that of the wave reflection from the window member such that a broadband waveguide load results. The abrupt waveguide transition is located with the range 0.375λg to 0.625λg from the face of the window member, where n is any integer value including zero and λg the guide wavelength within the waveguide.

3,538,462 LINEAR ACTIVE TWO-PORT NETWORK WHEREIN NONLINEAR IMPEDANCE CHARACTERISTIC AT ONE PORT IS REFLECTED THROUGH PRE- DETERMINED ANGLE AT SECOND PORT

Leon O. Chua, West Lafayette, Ind., assignor to Purdue Research Foundation

Filed May 27, 1968, Ser. No. 732,127

Int. Cl. H03h 7/00

U.S. Cl. 333—24

12 Claims

A linear active 2-port network element for synthesizing nonlinear network components with arbitrarily prescribed

characteristics. The elements, by themselves or in combination, can be utilized for a variety of applications,

TWO-PORT PARAMETERS OF REFLECTORS AND THEIR REALIZATIONS

	R-REFLECTOR	L-REFLECTOR	C-REFLECTOR
SYMBOL			
BASIC REALIZATIONS FOR 0° < θ < 90°	$R_1 = R \cos \theta$ $R_2 = R \sin \theta$ $R_3 = R \cos 2\theta$ $R_4 = R \sin 2\theta$	$L_1 = L \cos \theta$ $L_2 = L \sin \theta$ $L_3 = L \cos 2\theta$ $L_4 = L \sin 2\theta$	$C_1 = C \cos \theta$ $C_2 = C \sin \theta$ $C_3 = C \cos 2\theta$ $C_4 = C \sin 2\theta$

and are particularly useful in integrated circuitry technology. The element included herein is the reflector.

3,538,463 MICROWAVE FILTER

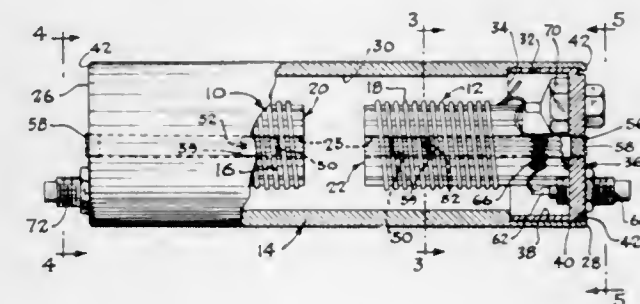
John J. Pagan, Boulder, Colo., assignor to A.R.F. Products, Inc., Raton, N. Mex., a corporation of Illinois

Filed Nov. 22, 1966, Ser. No. 596,169

Int. Cl. H03h 7/08

U.S. Cl. 333—73

10 Claims



This disclosure sets forth a microwave filter which employs a first resonator coupled to a second resonator. The first and second resonators are disposed within a common electrically conducting shell which forms the outer conductor for both resonators. Each resonator has an inner conductor in the form of a helical coil, and the capacity between the two resonator coils capacitively couples the resonators. The microwave filter has an input terminal which is electrically coupled through means controlling the degree of coupling to the one inner conductor, and an output terminal which is coupled through a second means for controlling the degree of coupling to the other inner conductor. A filter to eliminate odd harmonics is incorporated in at least one of the coupling means. Each resonator is provided with a fine frequency tuning control.

3,538,464 MULTIPLE PIN CONNECTOR HAVING FERRITE CORE STACKED CAPACITOR FILTER

James J. Walsh, Erie, Pa., assignor to Erie Technological Products, Inc., Erie, Pa., a corporation of Pennsylvania

Continuation-in-part of applications Ser. No. 306,406 and Ser. No. 306,407, both filed Aug. 20, 1963, now Patent Nos. 3,275,954 and 3,275,953, which is a continuation of applications Ser. No. 578,577, Sept. 12, 1966, and Ser. No. 805,099, Feb. 18, 1969, both now abandoned. This application Oct. 13, 1969, Ser. No. 870,001

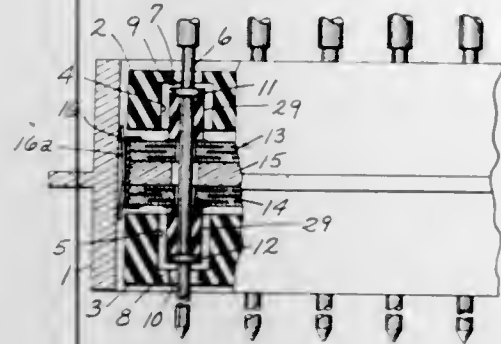
Int. Cl. H01h 7/14; H01g 5/01

U.S. Cl. 333—79

12 Claims

A filter for connectors and the like having a multiple capacitor laminate having a plurality of holes for feed

through conductors such as wires or pins. The holes extend through live capacitor electrodes which are respectively associated with each conductor and which are in capacity relation to a ground electrode embedded in the

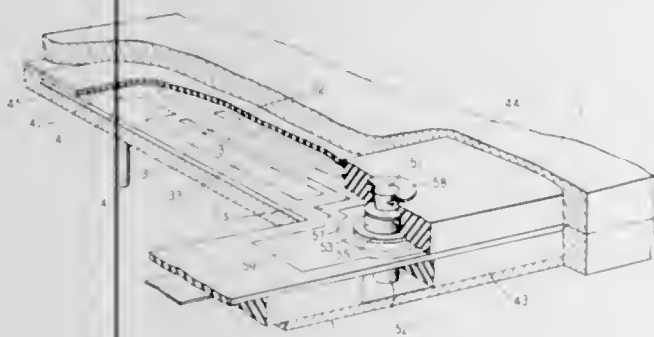


3,538,465

STRIP TRANSMISSION LINE DIODE SWITCH
William H. Manning, Jr., Winston-Salem, and Eugene J. Theriot, Greensboro, N.C., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Jan. 21, 1969, Ser. No. 792,568
Int. Cl. H01p 1/10, 3/08

U.S. Cl. 333-97

8 Claims



Two PIN diodes are connected in parallel between the center conductor and the ground plane of a strip transmission line. Radio frequency connection to the center conductor is through a series capacitor. Bias for switching the diodes is introduced through a band reject filter (quarter-wave line with open-circuited, quarter-wave stubs at its ends) in series with a radio frequency inductive stub. The capacitor and filter parts are all in strip line configuration. In forward bias, the diode inductances resonate with the series capacitance to short the transmission line. Reverse bias puts the inductive stub in anti-resonance with the diode capacitances to remove the short.

3,538,466

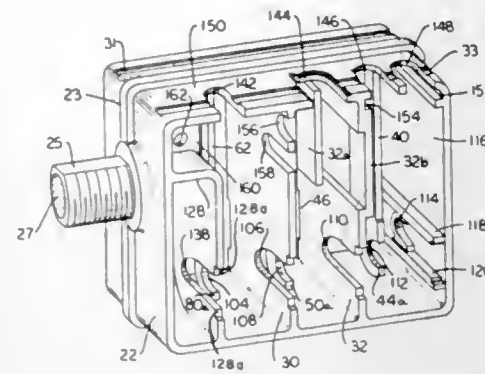
TELEVISION TUNER CAST HOUSING WITH INTEGRALLY CAST TRANSMISSION LINES
Robert D. Brand, Lawrence, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed Nov. 14, 1968, Ser. No. 775,738
Int. Cl. H03j 3/24; H04n 5/64

U.S. Cl. 334-43

11 Claims

A UHF tuner of unitary die cast construction includes a cast housing having a cavity with integrally cast dividing members dividing the cradle cavity into three compartments. Cast transmission line conductors are formed

integral with the housing and are suspended at one end from the housing in the housing cavity. Each cast trans-



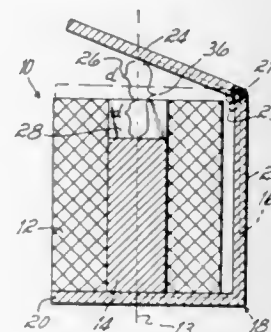
mission line conductor is terminated by an integral cast stator plate of a variable tuning capacitor.

3,538,467

MAGNETIC CIRCUIT DEVICE EMBODYING THERMOMAGNETIC CIRCUIT ELEMENT
William H. Middendorf, Fort Mitchell, Ky., assignor to Wadsworth Electric Manufacturing Company, Inc., Covington, Ky., a corporation of Kentucky
Filed Oct. 17, 1968, Ser. No. 768,348
Int. Cl. H01h 37/58

U.S. Cl. 335-146

22 Claims



A thermomagnetic device having a magnetic circuit including structure defining a high permeability magnetic path, a gap, a member movable in the gap in response to variations in the magnetic flux in the gap, a thermomagnetic element in the magnetic circuit having a permeability characterized by a sharp transition within a narrow temperature range, and a winding flux-linked to the magnetic circuit for producing a flux in the gap which changes substantially, to thereby shift the movable member, in response to changes in temperature of the element through the transition range.

3,538,468

FLEXIBLE DEVICE FOR DEFLECTING CHARGED PARTICLES
Hyota Fujita and Kazuhiro Ueda, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan
Filed Apr. 14, 1969, Ser. No. 815,617
Claims priority, application Japan, Apr. 16, 1968, 43/25,401

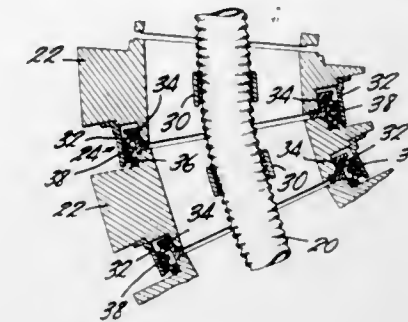
Int. Cl. H01f 7/00
U.S. Cl. 335-212

5 Claims

A flexible beam conduit extends centrally through several juxtaposed ring-shaped magnets having opposed main faces tilted toward each other with ball bearing type supports interposed between the magnets. One pair of opposed non-magnetic retainers are fixed respectively to

pole pieces of each magnet to sandwich the conduit between them to maintain its predetermined position relative to the pole pieces. Selected ones of the magnets are

sufficiently large so as to operate at low saturation, and positioned to form an electrostatic image of the winding with respect to an imaginary cylinder formed by the



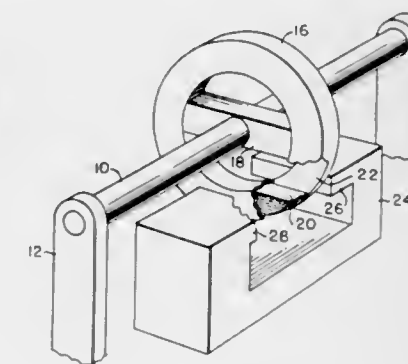
suitably rotated with respect to the adjacent magnets to curve the conduit into any desired curvature while establishing a field for moving a beam of charged particles along the curved axis of the conduit.

3,538,469

VISCOUS DAMPER USING MAGNETIC FERROFLUID
Rudolph Litte, Lincoln, and Leo Beltracchi, Andover, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 669,952
Int. Cl. H01f 1/00, 7/00

U.S. Cl. 335-219

9 Claims



A ferrofluid is contained and hermetically sealed within a rotatably mounted annular chamber, and is captured and held by a magnetic field. In one embodiment the magnetic field is stationary, and the viscous shear forces established by the surfaces of the annular chamber and the stationary captured fluid cause damping of the rotation or oscillation of the surface. In a second embodiment the magnetic field which captures the ferrofluid is rotating and causes the magnetic fluid to rotate. The viscous shear forces between the surfaces of the annular chamber and the rotating captured fluid produce rotation of the chamber.

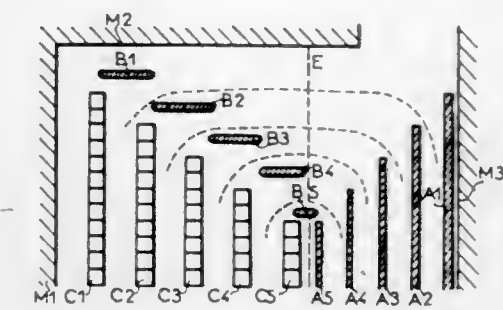
3,538,470

HIGH TENSION ELECTRICAL INDUCTIVE APPARATUS
Bernard Crugnola, Tresserve, France, assignor to Alstom Savolsienne, Saint Ouen, France, a corporation of France
Filed Mar. 11, 1969, Ser. No. 806,075
Claims priority, application France, Mar. 12, 1968, 2,805

Int. Cl. H01f 15/04, 15/14
U.S. Cl. 336-69

6 Claims

Concentric layers of high tension windings of inductive apparatus, such as transformers, are surrounded on the outside of the concentric layers with a plurality of magnetic, metallic armatures at high permeability material,



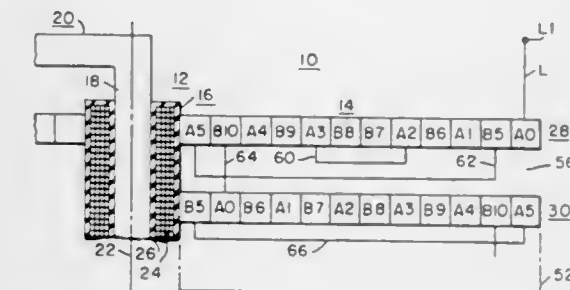
concentric layers of the windings, in order to provide for equal potential surfaces and uniformity of distribution of electrostatic field.

3,538,471

INTERLEAVED, HIGH SERIES CAPACITANCE COILS
Robert I. Van Nice, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1969, Ser. No. 820,470
Int. Cl. H01f 15/14

U.S. Cl. 336-70

6 Claims



An electrical transformer of the core-form type which includes a plurality of electrically connected pancake coils of the singly interleaved, high series capacitance type. Each of the pancake coils have a plurality of conductor turns formed of first and second radially interleaved coil sections which are interconnected to provide a single series path through each pancake coil, which traverses the pancake coil build twice in the same radial direction. In at least one of the pancake coils, the relative radial sequence of the first and second coil sections is reversed at a predetermined point in the coil build, which when applied to a pancake coil having an odd number of turns makes the coil react to a surge potential similar to a pancake coil having an even number of turns, and when applied to a pancake coil having an even number of turns makes the coil react to a surge potential similar to one having an odd number of turns.

3,538,472

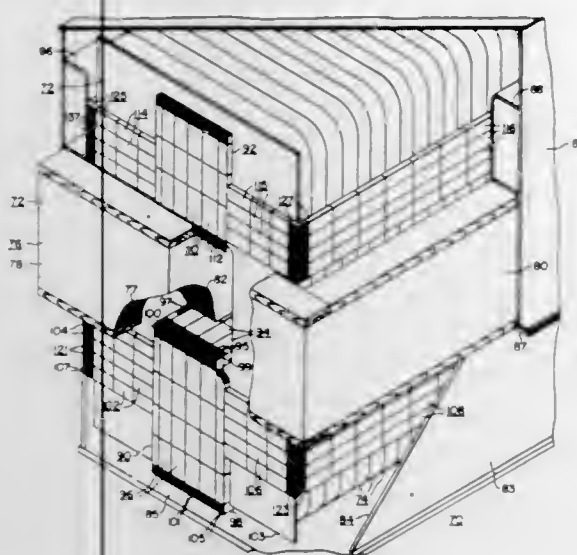
MAGNETIC SHIELDING FOR ELECTRICAL TRANSFORMER
Clifford J. Bell and Harold R. Moore, Muncie, Ind., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 9, 1969, Ser. No. 814,633
Int. Cl. H01f 15/04

U.S. Cl. 336-84

9 Claims

An electrical transformer of the shell-form type in which the support members for maintaining the coils in assembled relation with the magnetic core are formed of

a plurality of bundles of stacked magnetic laminations, which also perform the function of providing low re-



luctance magnetic circuits for the leakage flux of the transformer.

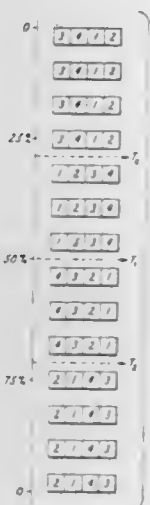
3,538,473

STRANDED WINDING FOR HIGH CURRENT ELECTRIC APPARATUS

George E. Leibinger, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed May 17, 1968, Ser. No. 730,169
Int. Cl. H01f 27/28

U.S. Cl. 336—187

6 Claims



This application discloses high current winding for electric induction apparatus in which the strands of a multi-strand conductor are transposed at axially spaced points along the winding in any of several known transposition sequences. In order to more accurately equalize the volts per turn of each strand, the axial spacing between transposition points is such that the median point of transposition in each half of the winding is closer to the midpoint than to the adjacent end of the winding.

3,538,474

TRANSFORMER CORE

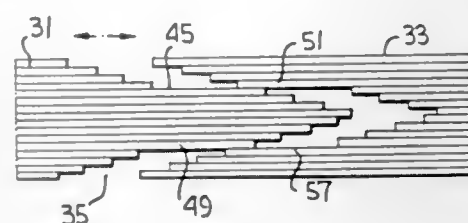
Willy Olsen, Mount Vernon, Ill., assignor to Olsen Magnetic, Inc., Mount Vernon, Ill., a corporation of Illinois
Filed Dec. 11, 1968, Ser. No. 783,066
Int. Cl. H01f 27/24

U.S. Cl. 336—212

16 Claims

Assembly of a C-type cut transformer core is facilitated by arranging the laminations in a plurality of groups

of laminations and offsetting the ends of adjacent laminations forming each group of the core, the offset being



substantially uniform except for predetermined pairs of adjacent laminations in each group which are offset from three to ten times the uniform offset.

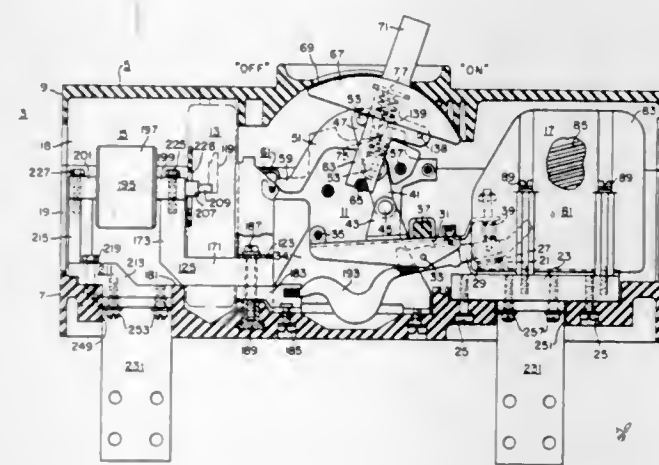
3,538,475

CIRCUIT BREAKER WITH CURRENT LIMITING FUSE MEANS

Albert R. Cellerini, Beaver, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 20, 1966, Ser. No. 603,251
Int. Cl. H01h 85/50

U.S. Cl. 337—7

5 Claims



An improved circuit breaker of the type comprising an enclosed trip device and a fuse unit supported on a pair of generally L-shaped conductors in proximity to the trip device. The fuse unit comprises fuse plunger means extending into the trip device enclosure to operate the trip bar of the trip device when the fuse blows.

3,538,476

LOW-VOLTAGE ELECTRIC CIRCUIT-BREAKER

René Auchapt, Paris, and Gérard Michel René Jullien, Bagnolet, France, assignors to L'Équipement Général Electrique "Egelec," Paris, France
Filed Apr. 30, 1969, Ser. No. 820,504
Claims priority, application France, Oct. 2, 1968, 168,411

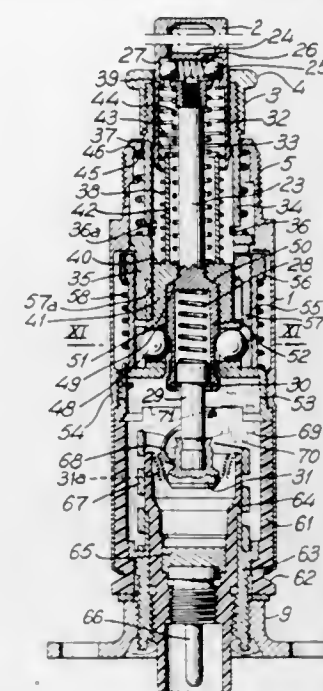
Int. Cl. H01h 71/16

U.S. Cl. 337—62

10 Claims

A circuit-breaker the contacts of which are held together against a countering device urging them into the open position and which includes a travelling-contact operating rod formed with a shoulder having a sloping operative surface, at least one pair of diametrically opposed balls capable of cooperating with said shoulder and, surrounding said balls, a balanced rotary latch formed with a retaining surface for the balls, which hold the circuit-breaker in the make condition, and with notches for receiving said balls clear of said shoulder,

in the break position, said latch including actuating means operated by a trip-out factor sensing element against



elastic countering means urging the same into the make position.

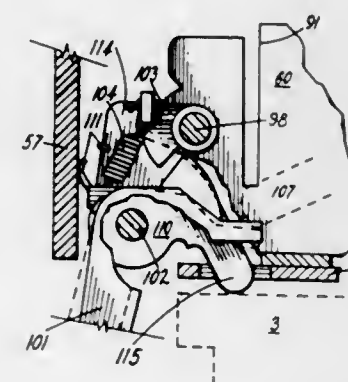
3,538,477

LEVER MEANS, BETWEEN PROTECTION MEANS AND SWITCH CONTACTS, FOR PREVENTING RESETTING OF OPERATING MECHANISM IF CONTACTS ARE WELDED SHUT

Robert E. Walters, Bayside, and Gerd C. Boysen, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Original application Sept. 20, 1965, Ser. No. 488,548, now Patent No. 3,430,014, dated Feb. 25, 1969. Divided and this application Aug. 2, 1968, Ser. No. 749,751
Int. Cl. H01h 71/62, 71/14

U.S. Cl. 337—74

3 Claims



Mechanism for an electric switch which includes a lever transmitting motion between switch protection means and movable contacts of the switch. The electric switch also includes lock means which respond to the position of the removable contacts in order to permit motion of the lever in response to selected positions of the movable contacts.

3,538,478

MOTOR PROTECTOR AND METHOD OF MAKING THE SAME

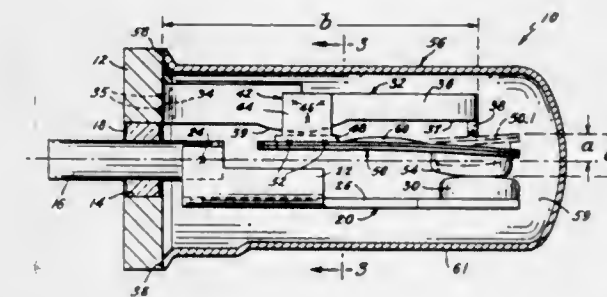
John R. D'Entremont, Foxboro, and Leith B. Young, Attleboro, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 12, 1968, Ser. No. 720,980
Int. Cl. H01h 61/013, 61/04

U.S. Cl. 337—89

6 Claims

A hermetically-sealed, pressure-resistant motor protector is shown to comprise a header plate having a terminal post attached thereto in insulated relation to the

plate, a cup-shaped body having its rim sealed to the header plate, a rigid angle-shaped heater element, a rigid angle-shaped contact arm having a fixed contact thereon, and a thermally-responsive snap-acting member having a movable contact at one end and having an angle-shaped support welded to the opposite end of the snap-acting member. These protector components are secured together by welding to provide a circuit from the header plate through the heater and snap-acting member with its movable contact to the fixed contact and from the fixed contact through the contact arm to the terminal post. The snap-acting member is adapted to move in response to heat generated by the heater element to open this circuit when an overload current occurs in the circuit. Each of the angle-shaped components has a first portion disposed in a selected plane and has an angularly disposed portion



welded to an adjacent component. In this way, any collapse of the component materials which occurs during welding does not alter the disposition of the first portion of the respective component in its desired plane. This permits the components to be accurately assembled and secured together to provide an accurate motor protector. Preferably the angle-shaped support component has one flange welded to the thermally-responsive snap-acting member before the member is deformed to provide the member with its thermal response characteristics. Subsequent welding of the other flange of the support to an adjacent component permits accurate mounting of the snap-acting member in the motor protector without subjecting the snap-acting member to welding forces and temperatures which might alter its thermal response characteristics.

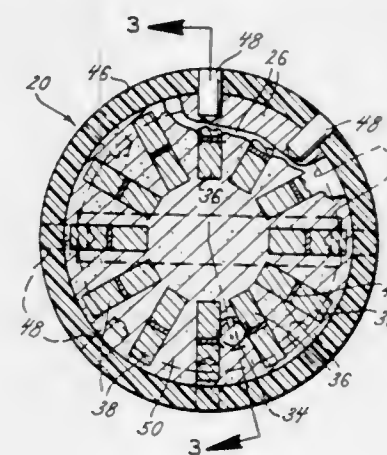
3,538,479

PROTECTOR FOR ELECTRIC CIRCUITS

Aloysius J. Fister, St. Louis, Mo., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed June 11, 1968, Ser. No. 736,117
Int. Cl. H01h 85/12, 85/14

U.S. Cl. 337—166

27 Claims



Elongated, relatively-massive, heat-resistant, electrically-insulating, heat-conducting blocks are disposed in heat-transferring engagement with major portions of the lengths of surfaces of the fusible element of an electric fuse that

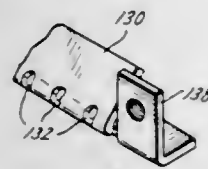
is used to protect an electric circuit, to which two hundred or more volts are applied; and those blocks are long enough and are so located that they directly engage all of the "weak spots" of that fusible element plus the greater-width portions of that fusible element which are contiguous to those "weak spots." Those elongated, relatively-massive, heat-resistant, electrically-insulating, heat-conducting blocks materially increase the current-carrying capacity of that electric fuse while enabling that electric fuse to continue to have substantially the same current-limiting capability.

3,538,480

PROTECTORS FOR ELECTRIC CIRCUITS
Angelo Urani, St. Louis, Mo., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed June 26, 1968, Ser. No. 740,116
Int. Cl. H01h 85/60

U.S. Cl. 337—187

9 Claims



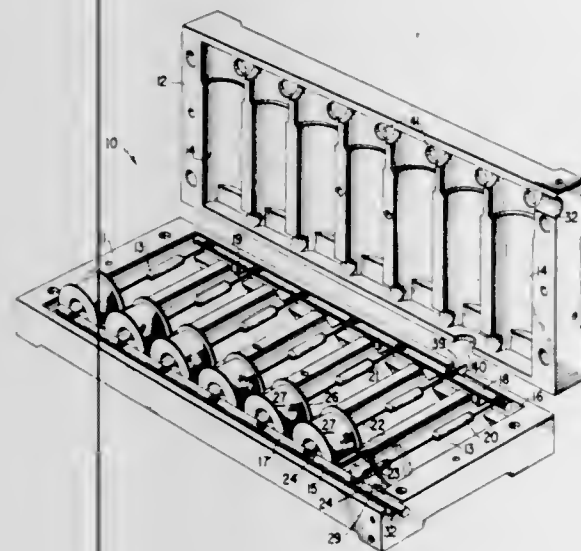
A stiff support of conductive material has a plurality of openings therein to accommodate terminals of juxtaposed fuse holders; and those terminals are electrically bonded within those openings to enable that support to electrically interconnect, as well as to physically support, these fuse holders.

3,538,481

EXTERNALLY SWITCHED VARIABLE ATTENUATORS
Maurice M. Fernando, New Haven, Conn., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 9, 1968, Ser. No. 782,313
Int. Cl. H01c 1/15

U.S. Cl. 338—201

3 Claims



An externally switched variable attenuator having low residual reactance for A.C. frequencies up to 1 mHz. is disclosed. An electrically-conductive cast housing is split along a transverse plane to form a base and a removable cover which, when assembled, provide a plurality of independent parallel-spaced internal cylindrical cavities. A pair of internal parallel ducts are positioned transversely of said cavities, one duct at each of the collective common ends of said cavities and intersect said cavities for

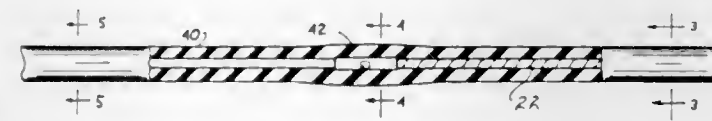
communication therewith. A continuous rigid conducting bus is supported in each duct and insulated from the housing. A resistor and a reed switch connected in series circuit relation are supported in axially spaced relation and coaxially within each cavity by rigid conductors secured to each of said busses. A cylindrical winding is associated with each reed switch for magnetic actuation thereof. Each winding is secured in spaced coaxial relation with each reed switch by an insulated coil form which is held clamped within an enlarged end portion of each cavity.

3,538,482
HEATING WIRE

Richard Paul Dugger, South Bend, Ind., assignor to Ristance Corporation, Bremen, Ind., a corporation of Indiana
Filed Nov. 5, 1968, Ser. No. 773,496
Int. Cl. H01c 3/00; H05b 3/56

U.S. Cl. 338—214

3 Claims



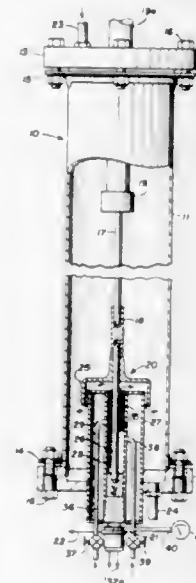
A heating wire structure having a flexible core of non-conducting material, a resistance wire wound on the core, and an electrically conducting cold wire connected to the core and resistance wire by a connector clamping the end of the resistance wire and core and the cold end wire together. The resistance wire and cold end wire are enclosed by a continuous insulating layer of a substantially constant diameter through its length.

3,538,483

ELECTRICAL COUPLING DEVICE
Lawrence D. Dyer, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 12, 1968, Ser. No. 783,376
Int. Cl. H01r 41/00

U.S. Cl. 339—9

11 Claims

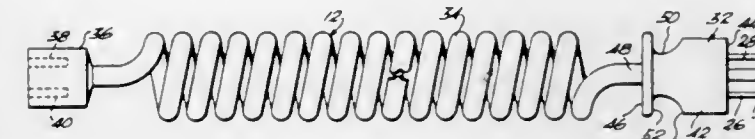


An electrical coupling device which is particularly adapted to maintain contact between an electrical lead and an electrical resistance filament and allow movable but substantially frictionless contact during the expansion and contraction of the filament wherein the electrical lead floats in an electrically conductive molten or liquid metal body. A gas shield means is operatively associated with said lead.

3,538,484
CONDUCTOR AND KEEPER MEANS
Anthony P. Fassafume, 13845 SW. 73rd Court, Miami, Fla. 33155
Filed July 30, 1968, Ser. No. 748,671
Int. Cl. H01r 13/54

U.S. Cl. 339—28

6 Claims



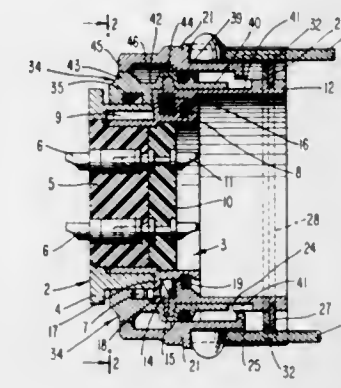
A conductor for use in connecting a portable television set to a wall outlet including a main length of insulated wire in normal helical form and yieldable in response to forces extending the normal length of the coil and at all times tending to contract the conductor to the helical form which includes a plug at one end to connect to a wall outlet and a socket at the other end to connect to a television set and keeper means to interconnect the plug to the escutcheon plate.

3,538,485
COUPLING DEVICE

Walter F. Hennessey, Jr., Sidney, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Aug. 29, 1967, Ser. No. 664,172
Int. Cl. H01r 13/62, 23/00

U.S. Cl. 339—45

18 Claims



A bayonet-type coupling device for mechanically connecting mating parts of electrical connectors or the like comprising an annularly segmented nut mounted on one of said parts for limited, resiliently-resisted axial movement relative thereto and having helical grooves cooperable with projecting lugs on the other of said parts, whereby said parts may be coupled by rotation of the nut and uncoupled by reverse rotation of the nut or by relative axial movement of said parts irrespective of the angular position of the nut relative to said parts.

3,538,486
CONNECTOR DEVICE WITH CLAMPING CONTACT MEANS

Bernard Edward Shlesinger, Jr., Annandale, Va., assignor to AMP Incorporated, Harrisburg, Pa.
Continuation-in-part of application Ser. No. 405,158, Oct. 20, 1964. This application May 25, 1967, Ser. No. 641,177

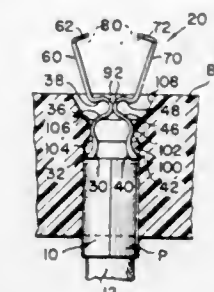
Int. Cl. H01r 9/16

U.S. Cl. 339—74

35 Claims

A connector device is disclosed for connecting electrical circuit paths which features an insulating block having contact receiving holes therein of a special geometry op-

erable to engage surfaces of a mating contact plug inserted therein to cause such plug to operate in a clamp-



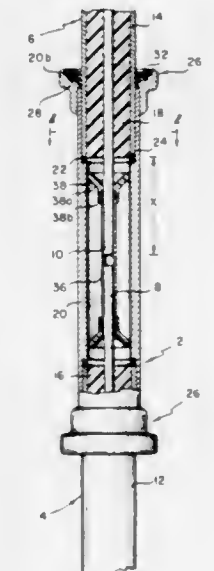
ing engagement with a contact pin mounted in such device.

3,538,487

COAXIAL CABLE CONNECTION MEANS
Charles W. Lanham, Jr., Silver Spring, Md., assignor to Entron, Inc., Silver Spring, Md., a corporation of Delaware
Filed Sept. 17, 1968, Ser. No. 760,252
Int. Cl. H01r 13/58, 17/18

U.S. Cl. 339—95

13 Claims



Connector means adapted for connection with at least one coaxial cable having an inner conductor that extends a given distance beyond a spacer insulation layer and an outer conductor, characterized by the provision of a conductive tubular body having at one end a bore for receiving a cable end, non-conductive adhesive means curable to permanently bond said cable end to said body, retaining means for preventing withdrawal of the cable end from the body during the curing of the adhesive, and means electrically connecting said body with said outer conductor. In one embodiment the connector means comprises a splice for electrically connecting the ends of a pair of cables, and according to another embodiment, the connector means comprises a terminator for connecting a load impedance between the free ends of the conductors.

3,538,488
CONTACT MEMBER

Carl A. Damm, Upper Black Eddy, Albert C. Eichmann, Huntingdon Valley, and William J. Halpern, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Original application Apr. 8, 1968, Ser. No. 719,629.
Divided and this application May 20, 1969, Ser. No. 826,147

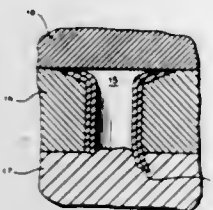
Int. Cl. H01r 3/06

U.S. Cl. 339—95

6 Claims

An electrical connector including a flexible armored sheath having an insulated conductor threaded through and electrically connected between a plug unit and a breech cap which is adapted for applying a firing

signal to a pyrotechnic cartridge and which has flanged spring pins formed to function both as ground contacts and as spent cartridge extracting means. A braided sheath encircles the armored sheath and is mechanically connected at one end to the breech cap and at the other end



through a turnbuckle-like sheath stretching assembly to the plug unit. The stretching assembly enables the braided sheath to be longitudinally stretched so that it tightly grips the armor sheath and forms therewith a more rigid conduit.

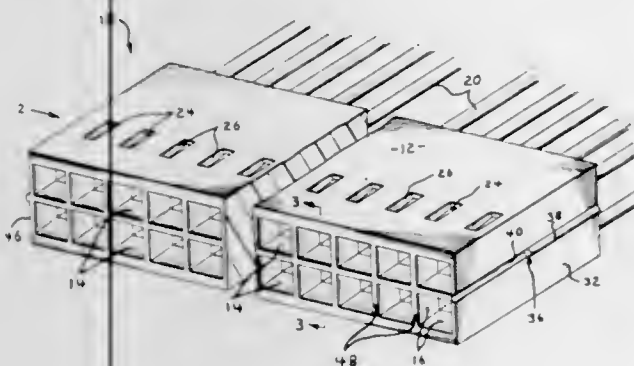
3,538,489 CONNECTOR BLOCK

Benny Morris Bennett, Harrisburg, and Linn Stephen Lightner, Camp Hill, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Nov. 19, 1968, Ser. No. 777,004
Int. Cl. H01r 9/00

U.S. Cl. 339-198

9 Claims



An electrical connector comprising a connector block having a plurality of electrical contacts therein and having keying means for permitting stacking of the connectors without interruption of contact spacing and for preventing improper stacking of the connectors. Windows are disposed along opposite faces of the connector for facilitating removal of the contacts from the connector block.

3,538,490 BATTERY TERMINAL CONNECTORS

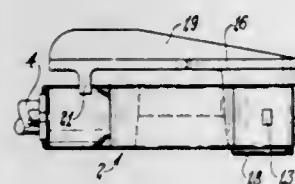
Cyril E. Juggins, Sandringham, Victoria, Australia, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 20, 1968, Ser. No. 754,071
Claims priority, application Australia, Aug. 25, 1967, 26,403/67

Int. Cl. H01r 13/16

U.S. Cl. 339-226

2 Claims



A battery terminal connector of split resilient ring like formation having a pair of opposed jaws and an associated lever member provided with a stud fitting between the

opposed jaws and being of such cross sectional formation that swinging movement of the lever spreads and holds the jaws open for fitting the connector to or removing it from a battery terminal post.

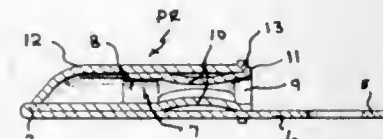
3,538,491 PIN RECEPTACLE AND CARRIER MEMBER THEREFOR

Bruce Cameron Longenecker and Armand Rene de Lyon, Harrisburg, and Lex Donald Kensinger, Middletown, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed July 15, 1968, Ser. No. 744,779
Int. Cl. H01r 13/12

U.S. Cl. 339-256

12 Claims



An integral pin receptacle comprises a seamed barrel member having a necked-down end and an extension extending inwardly from the necked-down end which is formed into a spring contact member enclosed within the barrel member and provided with spring members extending substantially parallel to an insertion axis from adjacent an open end of the barrel member and inwardly along the barrel member. The pin receptacles are carried in spaced relationship in a carrier member for connection with conductor members of an electrical component.

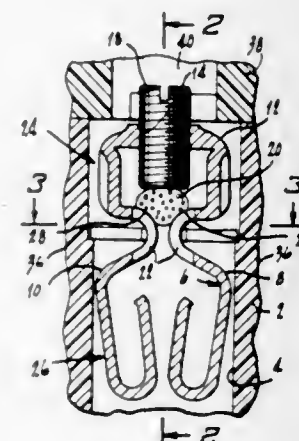
3,538,492 HEAVY DUTY RECEPTACLE AND BLADE ASSEMBLY

John M. Genovese, Trenton, N.J., assignor to Circle F Industries, Inc., Trenton, N.J., a corporation of New Jersey

Filed Apr. 19, 1968, Ser. No. 722,629
Int. Cl. H01r 13/12

U.S. Cl. 339-258

6 Claims



A receptacle and blade assembly particularly adapted for use with the heavy duty connectors employed on stoves, dryers, domestic heating circuits and the like. The blade is a one piece element designed to cooperate with means within the receptacle to establish a conductor holding portion which is so isolated from a connector receiving portion of the blade that the effectiveness of the electrical connection between a conductor and the blade will not be impaired by reason of flexing of the connector receiving portion of the blade.

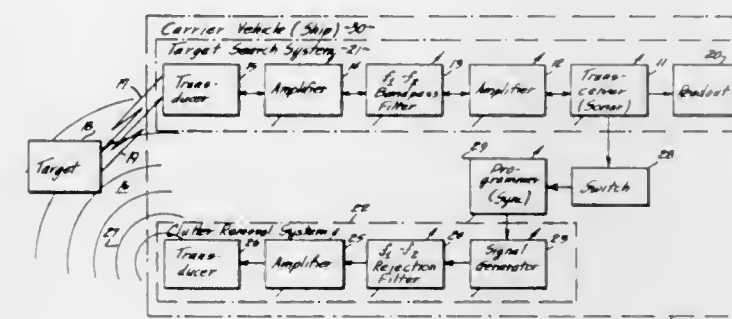
3,538,493 SONAR SYSTEM

Edward L. Pipkin, Julius C. Wicke, Jr., and Garrett G. Salsman, Panama City, Fla., assignors to the United States of America as represented by the Secretary of the Navy

Filed May 22, 1969, Ser. No. 826,967
Int. Cl. G01s 9/66

U.S. Cl. 340-3

11 Claims



In the subject invention, a sonar is combined with a suitable signal generator in such manner that predetermined noise signals are broadcast prior to, simultaneously with, or shortly after the broadcast and reception of echo-search signals, so as to effect clearance of the subaqueous search volume of most biological types of acoustical energy scatterers and/or absorbers.

3,538,494 ACOUSTIC CONVERSION APPARATUS

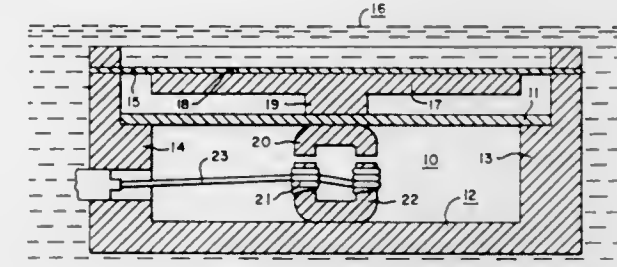
David J. Erickson, Brockton, Mass., assignor to Hazeltine Research Inc., a corporation of Illinois

Filed Nov. 26, 1968, Ser. No. 779,170

Int. Cl. H04r 7/08

U.S. Cl. 340-12

14 Claims



Disclosed are compact, light-weight transducers usable for converting acoustic power. One such transducer supplies acoustic power at low frequencies to water that provides an acoustic load having a substantial reactive component (X_L) resulting from the effective mass (M_L) of the water. The transducer includes a vibratile bar and a piston mounted within a waterproof housing and adjusted to form, together with the effective mass (M_L) of the water, an oscillatory system of prescribed resonant frequency. Magnetic drive circuitry vibrates the bar at the resonant frequency and acoustic power is supplied to the water at that frequency by the radiating face of a piston which is coupled to the water via a compliant rubber section of the housing. Other embodiments are also covered.

3,538,495 ELEVATOR HALL LANTERN OPERATION

Danilo Santini, Cape Coral, Fla., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

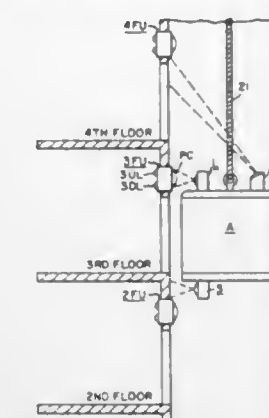
Filed Feb. 1, 1967, Ser. No. 613,330
Int. Cl. B66b 3/00

U.S. Cl. 340-19

4 Claims

An apparatus utilizing visible light beams transmitted from an elevator car to initiate operation of hall lanterns

located adjacent to the elevator entranceway at each floor. The lanterns indicate the direction in which a car which



will stop or has stopped at a particular floor will depart that floor.

3,538,496 AUTOMATIC VEHICLE SIGNAL SYSTEM

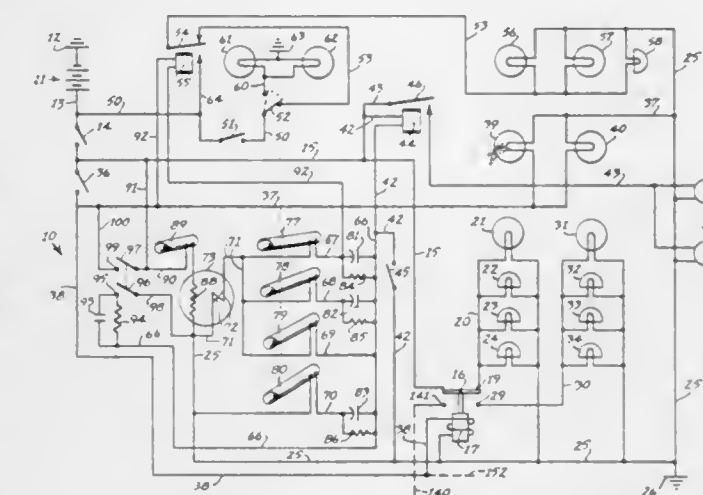
William H. Bumpous, 100 S. Bellevue Drive, Nashville, Tenn. 37205

Filed Oct. 24, 1967, Ser. No. 677,606

Int. Cl. B60q 1/44

U.S. Cl. 340-71

21 Claims



An electrical circuit for a motor vehicle including a plurality of electrical signals, an inertial starting switch, a time delay mechanism and one or more inertial signal switches to energize the signals for brief periods of time to indicate different operational conditions of the vehicle, including different degrees of deceleration.

3,538,497 MATRIX DECODER FOR CONVOLUTIONALLY ENCODED DATA

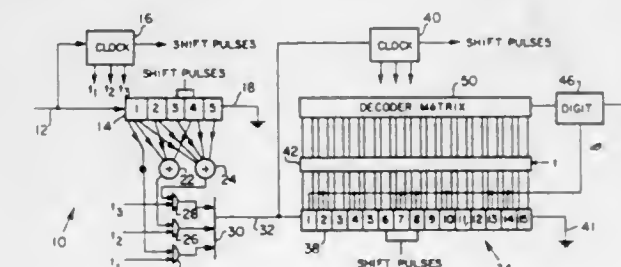
Samuel T. Harmon, Ann Arbor, Mich., assignor to Data-max Corporation, Ann Arbor, Mich., a corporation of Michigan

Filed May 29, 1967, Ser. No. 642,118

Int. Cl. H04q 3/02; H04l 1/10; G08c 25/00

U.S. Cl. 340-146.1

16 Claims



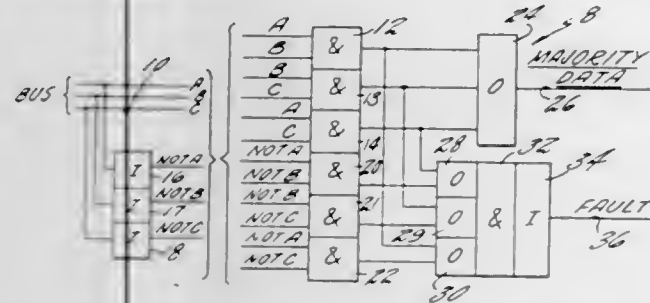
A binary coded digital message is encoded into convolutional form and provided to a receiver over a transmission line. The receiver, or decoder, contains a code tree dictionary of possible messages arranged in matrix

form and the incoming message is compared simultaneously with each of the possible messages. The correlations of the incoming message with each of the possible messages contained in the dictionary matrix are compared in order to form an estimate of the first digit of the message based on the best correlation achieved. Depending upon this estimate, one of two possible numerical manipulations is performed on the incoming message and the result is then treated as a new message and the operation is repeated to estimate the next digit of the message.

3,538,498

MAJORITY DATA SELECTING AND FAULT INDICATING

John E. Games, Granby, and Henry Bartman, East Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 10, 1968, Ser. No. 758,878
Int. Cl. H04L 1/06; G08c 25/00; H04b 3/46
U.S. Cl. 340—146.1 3 Claims

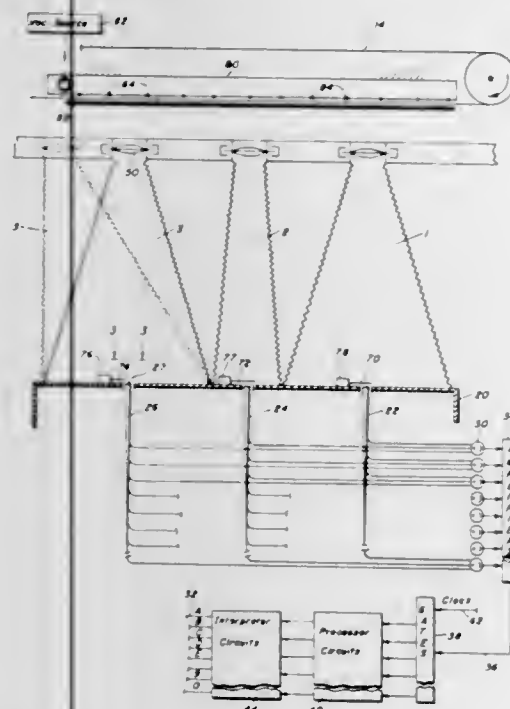


A triple redundant data bus is majority tested for at least two out of three signals in agreement. In addition, a fault is indicated if less than three of the signals agree. For signals based on analog information the digital data is converted to PWM before majority testing, and means are provided to ignore the small amount of error within the resolution of the system.

3,538,499

OPTICAL READING MACHINE

Jacob Rabinow, Bethesda, and Leonard F. Glaeser, Jr., Rockville, Md., assignors to Control Data Corporation, Rockville, Md.
Filed July 7, 1967, Ser. No. 651,904
Int. Cl. G06k 9/12
U.S. Cl. 340—146.3 5 Claims



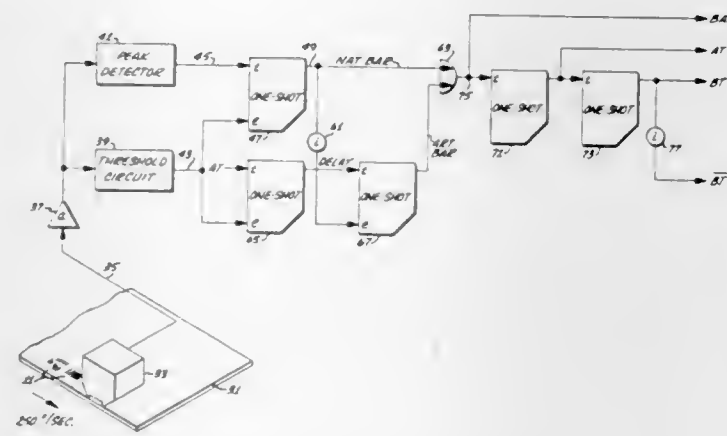
An optical reading machine using a single photosensitive scanner and more than one optical system for optically coupling parts of a document while being transported, with the photosensitive portion of the scanner.

Specific parts of the document are preselected for reading by positioning the optical systems as necessary to examine parallel lines of print successively in a single pass of the document, even though the lines may be printed above each other on the document. Light interference on the photosensitive portion of the scanner which would originate from the separate optical inputs from the several optical systems, is avoided by operating shutters under program control so that only one optical system is optically transmissive at a time.

3,538,500

SYMBOL READING SYSTEM

Leland J. Hanchett, Jr., and Richard E. Milford, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York
Filed Dec. 12, 1968, Ser. No. 783,385
Int. Cl. G06r 9/18
U.S. Cl. 340—146.3 8 Claims

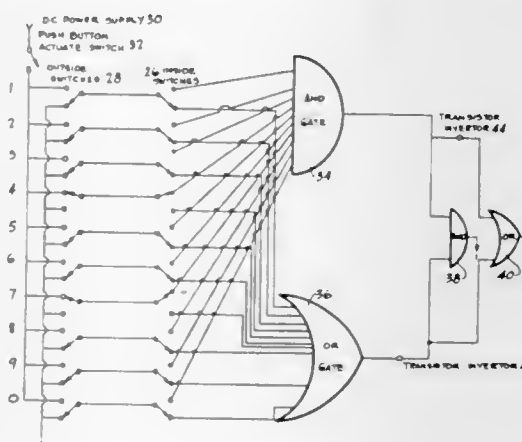


A system is disclosed for reading symbols, each symbol formed of a predetermined number of marks coded to form a series of narrow and wide spaces between the marks. The symbols are scanned by a transducer to provide a series of time spaced pulses, each pulse representing a scanned mark. The system also compensates for extraneous material between the marks of the symbol.

3,538,501

ELECTRONIC LOCK HAVING SWITCH CONTROLLED AND GATES

Thomas R. Nance, 3003 Avenida Codorniz, Santa Fe, N. Mex. 87501
Filed June 13, 1968, Ser. No. 736,843
Int. Cl. H04q 3/02
U.S. Cl. 340—164 5 Claims



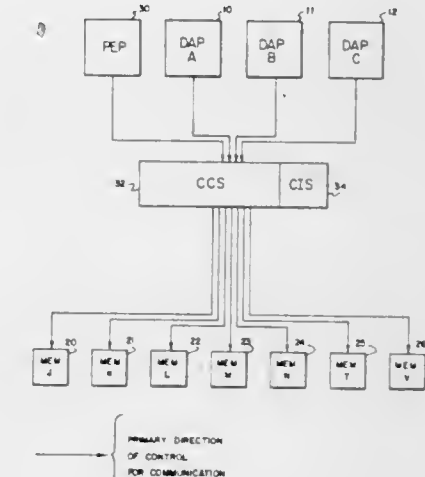
An electronic system for locking and unlocking locks utilizing a first set of manually set switches to determine a code or combination and a second set of switches which

must be set in accordance with the code before the lock is unlocked. The system functions automatically but the code can be selected or changed quickly and easily as desired.

3,538,502

MULTIWORD STORAGE ACCESS CONTROL APPARATUS FOR A DATA PROCESSING SYSTEM

Steven F. Aranyi, Woburn, Mass., Jesse P. Barlow, Reseda, and Richard Barton, Santa Monica, Calif., Laszlo Leslie Rakoczi, Phoenix, Ariz., and Mark A. Torfeh, Tarzana, Calif., assignors to General Electric Company, a corporation of New York
Continuation of application Ser. No. 508,168, Nov. 16, 1965. This application May 20, 1966, Ser. No. 551,657
Int. Cl. G06f 13/08
U.S. Cl. 340—172.5 11 Claims

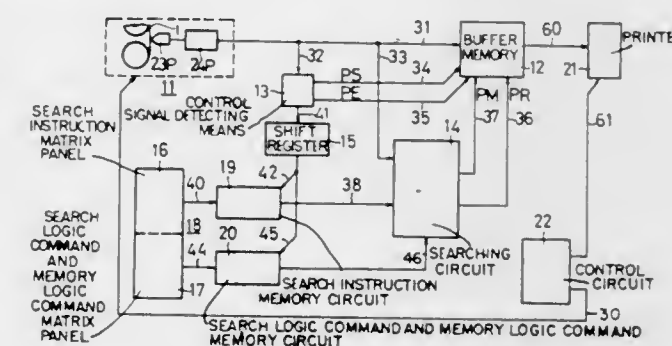


A data processing system is disclosed in which in response to a single instruction, a plurality of data words are transferred in rapid succession between a processor and a data storage member. To delimit the end of the transmission of one data word and to eliminate transient signals from the transmission member over which the data words are transmitted, the transmission member is momentarily disabled, after the transmission of each data word.

3,538,503

MAGNETIC INFORMATION RETRIEVAL SYSTEM

Takujji Jitsukawa, Yasuo Ikeda, Yoshiharu Harada, and Yasunori Murayama, Tokyo, Japan, assignors, by mesne assignments, to Research Development Corporation of Japan, Tokyo, Japan
Filed Sept. 14, 1967, Ser. No. 667,704
Claims priority, application Japan, Sept. 30, 1966, 41/64,663
Int. Cl. G11c 15/00
U.S. Cl. 340—172.5 3 Claims



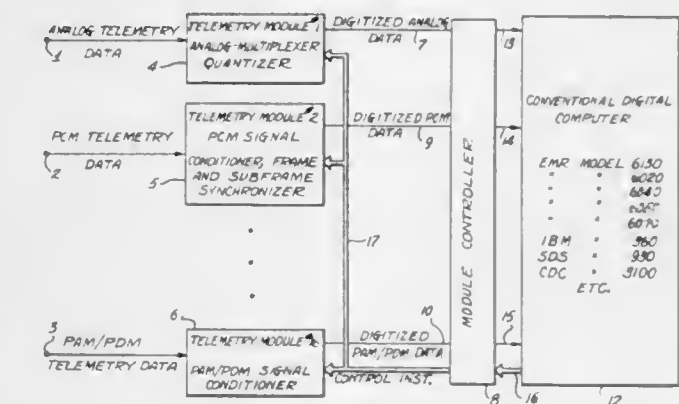
This specification discloses a system adapted to retrieve desired information from a magnetic tape having infor-

mation segments column-sequentially recorded thereon, in accordance with a search instruction. The information segments are digitally column-sequentially recorded on the magnetic tape, each of such information segments being composed of a data portion and a comment portion. The search instruction is effected on a matrix panel constructed in the form of a row-column array corresponding to the row-column array of each data portion on the magnetic tape. The relation between the search instruction and data of the data portion on the magnetic tape are column-sequentially searched by a searching circuit. Such search is effected in accordance with one or more of seven different search logic commands, which include "coincidence," "exclusive of coincidence," "part," "inclusion," "common possession," "non-common possession" and "passage." Such search logic commands are effected on a search logic command matrix panel having a column array corresponding to that of said search instruction matrix panel adapted to provide the search instruction. Thus, when one or more given search logic commands are satisfied by the relation between the data of the data portions of the respective information segments on the magnetic tape and the search instruction, the comments of said information segments are column-sequentially printed.

3,538,504

COMPUTER CONTROLLED PERIPHERAL PROCESSING DEVICES FOR A TELEMETRY SYSTEM

Roy F. Higginbotham, Sarasota, Fla., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 698,000
Claims priority, application Great Britain, Jan. 30, 1967, 4,444/67
Int. Cl. G06f 9/18, 15/16
U.S. Cl. 340—172.5 8 Claims



A telemetry system including a plurality of telemetry signal processing modules, each having means for processing coded data, logic circuits and switches. Each module has switches for manually programming the module to perform a plurality of specific data processing functions. Each module also has means for receiving programs from a conventional digital computer, and a selector for determining the program source. Indicator lights continually display the status of programs stored in each module. The computer can be supplied with conventional software programs for addressing and instructing each module on the functions it is to perform at any point during a telemetry data processing cycle. The system configuration can be established, changed or stopped under complete control of the software program, although manual modifications can also be made at any time. The computer receives all prepared data from the modules being used and then processes the data in a conventional manner.

3,538,505

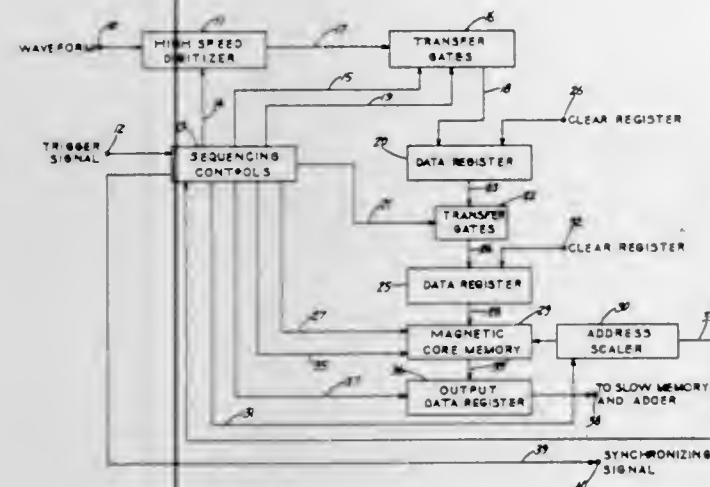
WAVEFORM MEASURING SYSTEM AND METHOD
Robert W. Schumann, Madison, Wis., assignor to Fabri-
Tek Instruments, Inc., Madison, Wis., a corporation of
Wisconsin

Filed May 1, 1968, Ser. No. 725,876

Int. Cl. G06f 3/05; G11c 9/00

U.S. Cl. 340—172.5

6 Claims



A measuring system for analog input waveforms having a digitizer, the output of which is connected to a first data register which can store at least two words from the digitizer. The first data register is connected to a second data register which can also store at least two digitizer output words. The second data register is connected to a memory. When two words from the digitizer have been stored in the first register, they are transferred to the second register and thence to the memory in a single write cycle. Thus, the digitizer output can continue into the first register during the time it takes to transfer two words from the second register into the memory. An output register can be used to take the data from the memory one word at a time into a slow memory and adder such as a signal averager.

3,538,506

SUPER-REGENERATIVE OSCILLATOR TARGET DETECTION SYSTEM

Wallace F. Wiley, Jr., Prairie Village, Kans., assignor to Bonzer Inc., Shawnee, Kans., a corporation of Kansas

Filed Sept. 10, 1968, Ser. No. 758,784

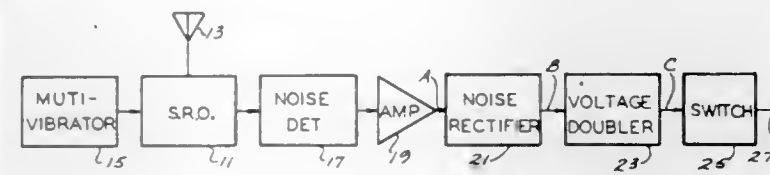
Int. Cl. G01s 9/02, 9/04

U.S. Cl. 343—7

14 Claims

The radar apparatus disclosed herein employs a super-regenerative oscillator for detecting the presence of a

target at a predetermined range or distance. By periodically varying the bias signal applied to the oscillator, its squeg rate is varied between a first squeg rate corresponding to the predetermined range and a second squeg rate which is half the first squeg rate. A target at the



predetermined range is indicated when the random noise generated by the oscillator exhibits substantial amplitude variation in synchronism with the periodical variation of the squeg rate. The use of the two squeg rates prevents ambiguity in the indication.

3,538,507

SUPER-REGENERATIVE TARGET DETECTION SYSTEM

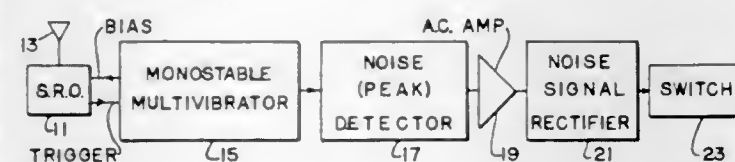
Wallace F. Wiley, Jr., Prairie Village, Kans., assignor to Bonzer Inc., Shawnee, Kans., a corporation of Kansas

Filed Oct. 31, 1968, Ser. No. 772,171

Int. Cl. F42c 11/00; G01s 9/04

U.S. Cl. 343—7.5

10 Claims



The radar apparatus disclosed herein employs a super-regenerative oscillator for detecting the presence of a target at a preselected range or distance. The operation of the oscillator is controlled by a monostable multivibrator switching circuit having two states, one being stable and the other being unstable. The oscillator and the multivibrator are interconnected in such a way that the proportion of time during which the multivibrator remains in its stable state varies as a function of the actual squeg rate of the oscillator. As the presence of the target at the predetermined range causes the squeg-rate of the oscillator to stabilize, a reduction in the random variation in the aforesaid proportion of time is indicative of the presence of the target.

DESIGNS

NOVEMBER 3, 1970

219,095

FLUSH LIFT RING

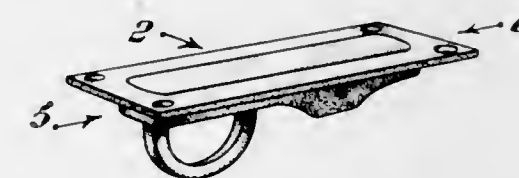
Donald H. Allen, Jr., 1427 S. Pacific Ave.,
San Pedro, Calif. 90731

Filed June 23, 1969, Ser. No. 17,800

Term of patent 14 years

Int. Cl. D8—03

U.S. Cl. D8—108



219,096

BOTTLE

Francisco Mauri-Closa, Barcelona, Spain, assignor to Sopec, S.A., Barcelona, Spain

Filed Mar. 12, 1969, Ser. No. 16,194

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—2



219,097

BOTTLE

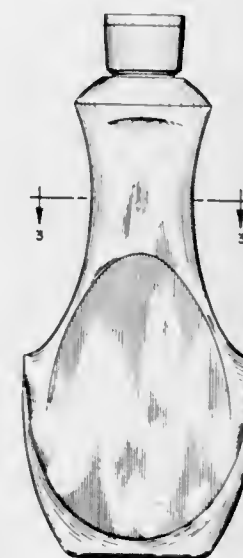
Everett C. Beeman, Wallingford, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Nov. 17, 1969, Ser. No. 20,135

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—63



219,098

BOTTLE OR SIMILAR ARTICLE

David G. Hills, West Road R.F.D.,
Collinsville, Conn. 06022

Filed July 22, 1969, Ser. No. 18,330

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—100



219,099

BOTTLE

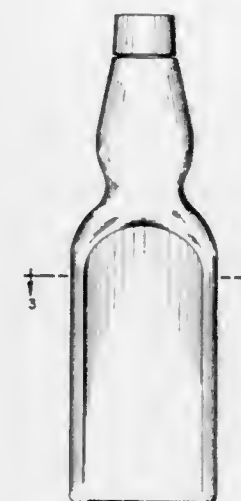
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Nov. 17, 1969, Ser. No. 20,136

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—111



219,100

BOX FOR CANDY OR THE LIKE

Amilcare Dogliotti, Alba, Italy, assignor to P. Ferrero & C. S.p.A., Alba, Italy, an Italian joint-stock company

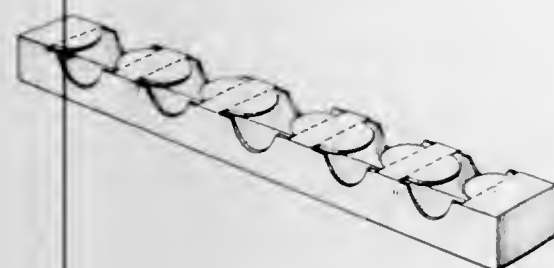
Filed Oct. 22, 1968, Ser. No. 14,106

Claims priority, application Italy July 8, 1968

Term of patent 7 years

Int. Cl. D9—04

U.S. Cl. D9—184



219,101

POWERED INVALID CART

Bert J. Goletski, Culver City, Calif., assignor to Everest & Jennings, Inc., Los Angeles, Calif., a corporation of California

Filed Jan. 17, 1969, Ser. No. 15,386

Term of patent 7 years

Int. Cl. D6—01

U.S. Cl. D15—1



219,102

BABY WALKER

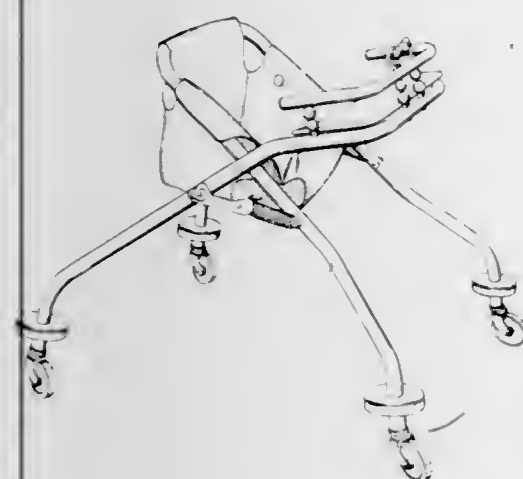
Louis E. Shamie, 630 Ave. V, Brooklyn, N.Y. 11223

Filed Dec. 4, 1969, Ser. No. 20,361

Term of patent 14 years

Int. Cl. D6—01

U.S. Cl. D15—1



219,103

OIL FILTER

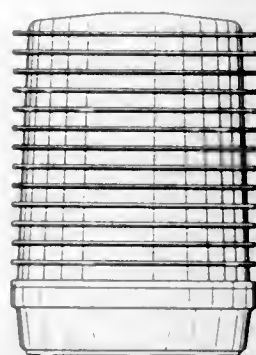
Rolland W. Dexter, San Diego, Calif., assignor to Auto-Life Products, Inc., San Diego, Calif.

Filed June 19, 1969, Ser. No. 17,774

Term of patent 14 years

Int. Cl. D23—01

U.S. Cl. D23—4



219,104

EDITING CONSOLE

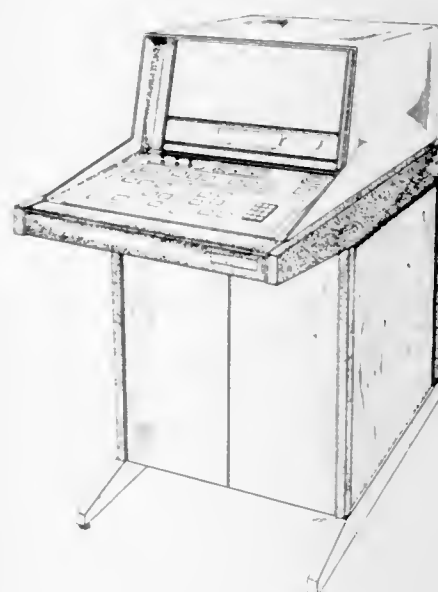
Jack R. Goodrich, Newark, Darrell S. Staley, Santa Clara, and Robert W. Bornschlegel, Mountain View, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Mar. 24, 1969, Ser. No. 16,422

Term of patent 14 years

Int. Cl. D14—02

U.S. Cl. D26—5



219,105

LOUDSPEAKER ENCLOSURE

Naoki Tominaga, Osaka, Japan, assignor to Sanyo Electric Co., Ltd., Osaka, Japan

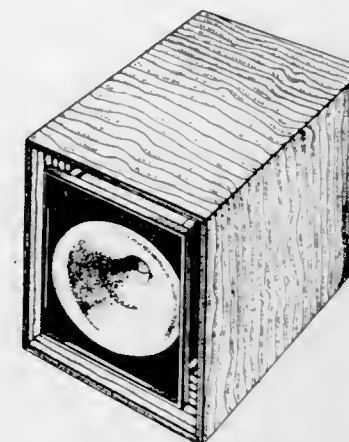
Filed Feb. 5, 1969, Ser. No. 15,631

Claims priority, application Japan Aug. 23, 1968

Term of patent 7 years

Int. Cl. D14—01

U.S. Cl. D26—14



219,106

ANTENNA BALUN

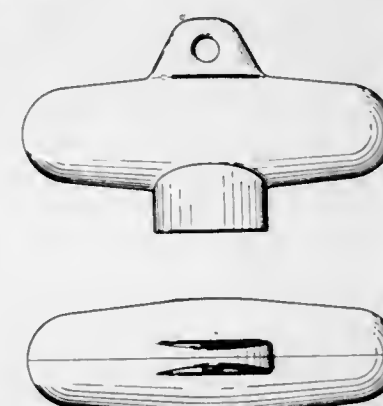
Oliver Watson Greene, Box 423, Wakefield, R.I. 02880

Filed Mar. 18, 1969, Ser. No. 16,312

Term of patent 7 years

Int. Cl. D14—99

U.S. Cl. D26—14



219,107

ROTARY HEAD ASSEMBLY FOR TAPE RECORDERS AND THE LIKE

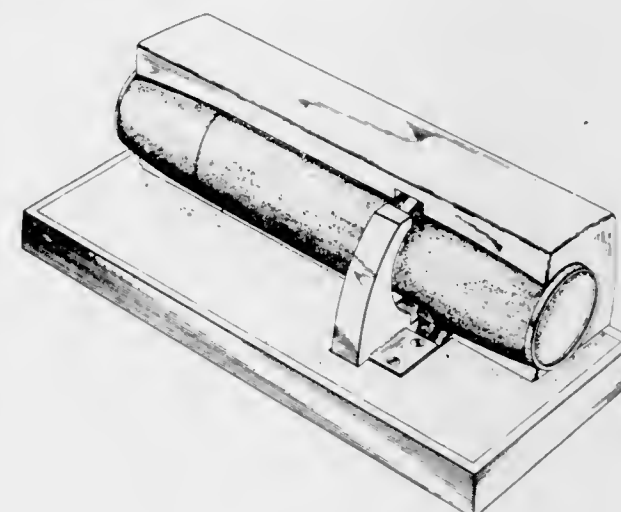
Jack R. Goodrich, Newark, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Mar. 24, 1969, Ser. No. 16,417

Term of patent 14 years

Int. Cl. D14—01

U.S. Cl. D26—14



219,108

ROTATABLE MAGAZINE TABLE

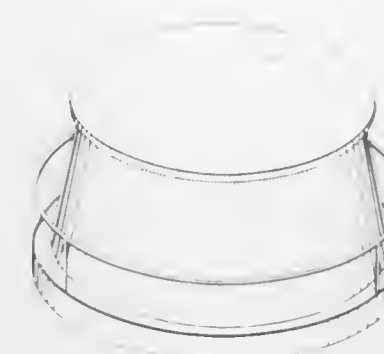
Gregory R. Lange, 1247 Diana Ave., Anaheim, Calif. 92805

Filed Nov. 12, 1968, Ser. No. 14,404

Term of patent 14 years

Int. Cl. D6—01

U.S. Cl. D33—14



219,109

CLOCK HOUSING

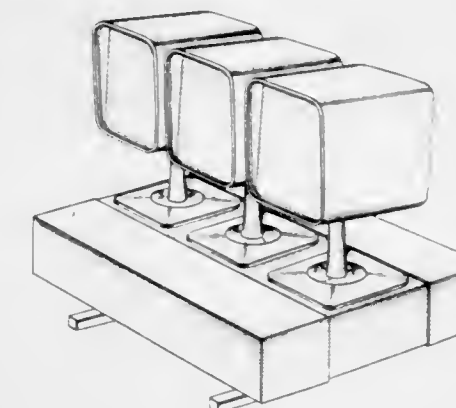
Richard K. Thomas, Elk Grove Village, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Delaware

Filed Dec. 4, 1969, Ser. No. 20,356

Term of patent 14 years

Int. Cl. D10—01

U.S. Cl. D42—7



219,110

MIXER

Petrus Joannes Stut, Draethen, Netherlands, assignor to U.S. Philips Corporation

Filed Dec. 29, 1969, Ser. No. 20,694

Claims priority, application Switzerland July 8, 1969

Term of patent 14 years

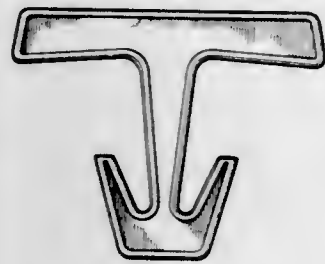
Int. Cl. D7—05

U.S. Cl. D44—1



219,111
LIFTER FOR ROASTING SLING
 Morris W. Moen, 628 9th Ave.,
 Two Harbors, Minn. 55616
 Filed June 30, 1969, Ser. No. 17,962
 Term of patent 14 years
 Int. Cl. D7—99

U.S. Cl. D4—29



219,112
CIGARETTE LIGHTER
 Frank H. Stephens, Jr., Dunwoody, Ga., assignor to
 Scripto, Inc.
 Filed Mar. 6, 1969, Ser. No. 16,081
 Term of patent 14 years
 Int. Cl. D27—05

U.S. Cl. D48—27



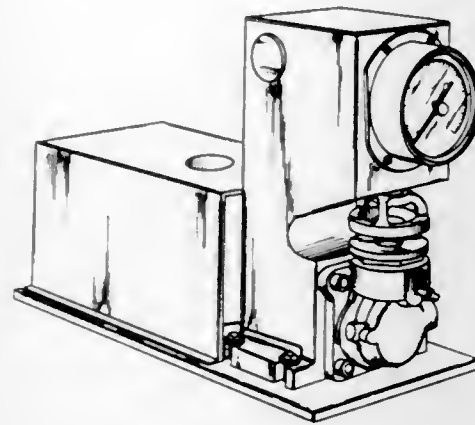
219,113
HAND-HELD LITTER-COLLECTING DEVICE
 John H. Coult, 1 Leland Road, Natick, Mass. 01760
 Filed Nov. 24, 1969, Ser. No. 20,240
 Term of patent 14 years
 Int. Cl. D15—07

U.S. Cl. D49—13



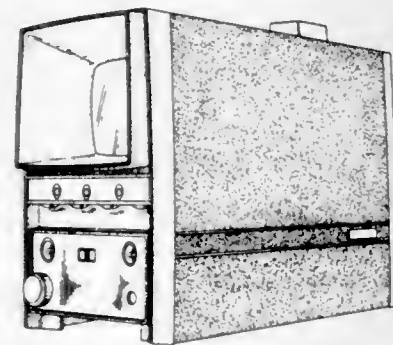
219,114
BURST TESTER, OR SIMILAR ARTICLE
 Fred Schlegel, Wheeling, Ill., assignor to E. J. Cady
 Company, Chicago, Ill., a corporation of Illinois
 Filed Sept. 2, 1969, Ser. No. 18,960
 Term of patent 14 years
 Int. Cl. D10—08, 99

U.S. Cl. D52—6



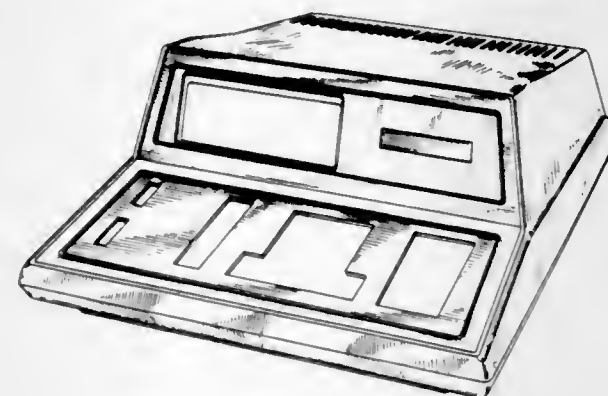
219,115
TELEVISION CAMERA
 Donald E. Leman, Rosemont, Ill., assignor to Ampex
 Corporation, Redwood City, Calif., a corporation of
 California
 Filed Jan. 2, 1970, Ser. No. 20,743
 Term of patent 14 years
 Int. Cl. D16—02

U.S. Cl. D61—1



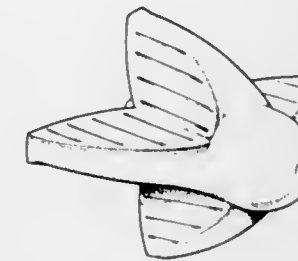
219,116
**CASING FOR A CALCULATING MACHINE OR
 SIMILAR ARTICLE**
 Myron Beitler, West Orange, and Jeffrey M. Chambers,
 Willingboro, N.J., assignors to Litton Business Systems,
 Inc., Orange, N.J., a corporation of New York
 Filed Oct. 13, 1969, Ser. No. 19,543
 Term of patent 14 years
 Int. Cl. D18—01

U.S. Cl. D64—11



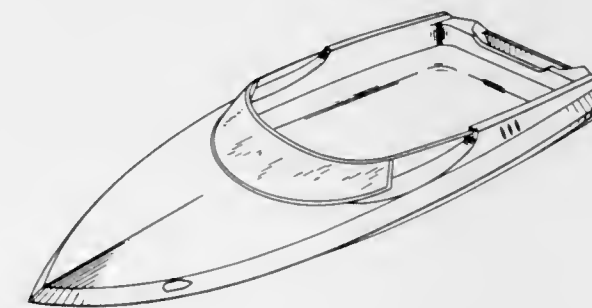
219,117
DELTA WING BALLOON
 Domina C. Jalbert, 425 Wavecrest Court,
 Boca Raton, Fla. 33432
 Filed Aug. 25, 1969, Ser. No. 18,835
 Term of patent 14 years
 Int. Cl. D12—06

U.S. Cl. D71—1



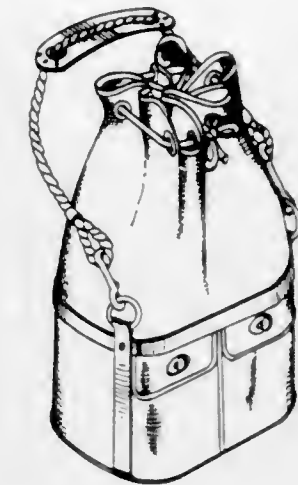
219,118
BOAT
 Ken R. Baker, 661 Cascade Drive 94087, and Ronald
 Plecia, 10740 Ridgeview Ave. 95127, both of Santa
 Clara, Calif.
 Filed Oct. 17, 1969, Ser. No. 19,596
 Term of patent 14 years
 Int. Cl. D12—06

U.S. Cl. D71—1



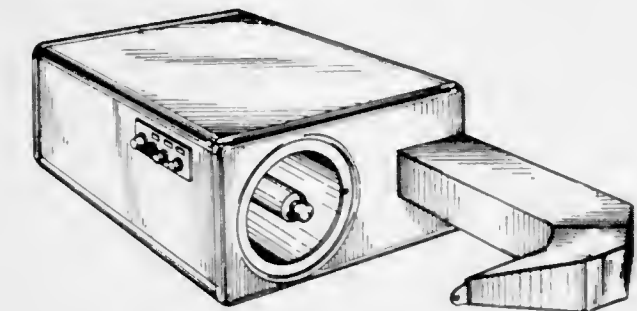
219,119
SOFT LUGGAGE
 Leslie Marshall, 15 Pine St., Woodmere, N.Y. 11598
 Filed Nov. 25, 1969, Ser. No. 20,277
 Term of patent 14 years
 Int. Cl. D3—01

U.S. Cl. D87—5



219,120
**WINDING MACHINE FOR PRODUCING
 ROVING PACKAGES**
 Harald E. Karlson, Santa Monica, Calif., assignor to
 Goldsworthy Engineering, Inc., a corporation of Dela-
 ware
 Filed Dec. 30, 1968, Ser. No. 15,188
 Term of patent 14 years
 Int. Cl. D15—08

U.S. Cl. D92—15



LIST OF PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 3D DAY OF NOVEMBER, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Abbott, Earl: *See—*
Lickliter, Robert Paul, Abbott, Earl, and Reeves, John F., 3,537,217.
Lickliter, Robert P., Abbott, Earl, and Reeves, John F., 3,537,222.
Achey, David E., to General Motors Corporation. Resistor composition. 3,538,021, Cl. 252-506.
Adamik, Jaroslav F., to Bristol Manufacturing Corporation. Autoclave. 3,537,825, Cl. 23-290.
Adcock, Gerald L. Bit assembly for bottom hold impact drilling tool. 3,537,539, Cl. 175-413.
Adelman, Philip. Garden fence and wall. 3,537,687, Cl. 256-19.
Adlhoch, Richard H., to Mechanical Products, Inc. Analog to digital signal converting system having a hysteresis creating feedback loop. 3,538,444, Cl. 328-146.
Adomaitis, Domas, to Continental Can Company, Inc. Bottle blowing process and apparatus. 3,538,211, Cl. 264-96.
Advalloy, Inc.: *See—*
St. Clair, Michael J., and Keady, William L., 3,537,175.
Aeroquip Corporation: *See—*
Evans, Bryce B., 3,537,476.
Evans, Bryce B., and Crissy, Charles F., 3,537,478.
Fournier, Paul J. E., 3,537,152.
Aerostructures, Inc.: *See—*
Le Clair, Richard D., and Himmelsbach, Clyde, 3,537,323.
Aerotron, Inc.: *See—*
Scott, William W., 3,537,349.
Scott, William W., 3,537,350.
Aerovox Corporation: *See—*
Kameron, William, 3,538,402.
Aetna Bearing Company: *See—*
Scheifele, Hudson B., 3,537,766.
Agency of Industrial Science & Technology: *See—*
Suekane, Ryota, 3,538,314.
Agfa-Gevaert Aktiengesellschaft: *See—*
Engelsmann, Dieter, and Schroder, Rolf, 3,537,366.
Freytag, Karl-Heinz, Taube, Carl, Seidel, Bernhard, and Bockly, Erich, 3,537,857.
Kiper, Gerd, and Fauth, Gunter, 3,537,375.
Aglietti, Giancarlo, Baratella, Pietro, and Lugo, Luigi, to Societa Italiana Resine S.p.A. Processing spent catalysts. 3,538,017, Cl. 252-415.
Air Preheater Company, Inc., The: *See—*
Paddock, David A., and Kemp, Carol B., 3,537,165.
Air Reduction Company, Incorporated: *See—*
Daggett, Evans H., 3,538,299.
Parker, John C., 3,538,376.
Shukys, Julius G., 3,538,222.
Tedeschi, Robert J., and Moore, George L., 3,538,134.
Aktiengesellschaft: *See—*
Steinbrunn, Gustav, Fischer, Adolf, and Zschocke, Albrecht, 3,537,839.
Alamance Industries, Inc.: *See—*
Shields, Harper, 3,537,278.
Alburn, Harvey E.: *See—*
Grant, Norman H., Clark, Donald E., and Alburn, Harvey E., 3,538,083.
Alco Controls Corporation: *See—*
Tilney, Ralph B., 3,537,274.
Alessandro, Frank J.: *See—*
Thomas, Terry, Alfonsi, Eric A., Alessandro, Frank J., Gaebler, Gunther G., and Bergey, John M. K., 3,538,313.
Alexander, Lewis R., and Gortman, Isadore, to United States of America, Navy, mesne. Random selected switch actuator device. 3,538,284, Cl. 200-153.
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Alfonsi, Eric A.: *See—*
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Harnsberger, Bobby G., to Texaco Inc. Sand consolidation method. 3,537,522, Cl. 166-295.

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- Lang, William J. Method and apparatus for generating power. 3,538,340, Cl. 290-52.
- Lange, Klaus P., Molnar, Stefan, and Ziemann, Joachim Hans, to Linde Aktiengesellschaft. Cryosurgical appliance. 3,537,458, Cl. 128-303.1
- Lange, Winthrop E., Sasmor, Ernest J., and Halpern, Alfred, to Synergistics, a co-partnership consisting of Sackler, Mortimer D., and Sackler, Raymond D., mesne. Anthrone oxime compounds. 3,538,126, Cl. 260-351.
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- Leach, John M. Article handling conveyors. 3,537,569, Cl. 198-127.
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Rick, Leif Evert, Jansson, Lars Olof Lennart, and Carlen, Jan-Christer Henric Oveesson, to Sandvikens Jernverks Aktiebolag. Welding wire and welding strip for cladding stainless layers on unalloyed and low-alloyed structural steels and for other purposes where a stainless filler material with high chromium and nickel contents is required. 3,537,846, Cl. 75-128.

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- Schmuck, Peter, to Hilti Aktiengesellschaft. Detachable fastening device for clamping drilling depth stop on drill or the like having a gripping handle. 3,537,336, Cl. 77-7.
- Schmubach, Charles D., to Research Corporation, mesne. Cyclic boraphosphonite compounds and methods. 3,538,155, Cl. 260-543.
- Schnabel, Herbert: See—
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- Schneider, Jean-Claude, to Ch. Tissot & Cie. Day-date watch. 3,537,255, Cl. 58-58.
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- Schneider, Wolfgang, to Goodrich, B. F., Company. Process for the isomerization of 5-vinylbicyclo [2.2.1] hept-2-ene. 3,538,171, Cl. 260-666.
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- Schrieber, Charles F., to Dow Chemical Company. The Cathodic protection method. 3,537,963, Cl. 204-148.
- Schrode, Hans, to Vereinigte Glanzstoff-Fabriken AG. Process for adhering rubber layer to polyester textile article. 3,537,932, Cl. 156-310.
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- Schwander, Hans Rudolf, Zenhausen, Anton, and Hindermann, Peter, to Geigy, J. R., A.G. Anthraquinone dyes. 3,538,128, Cl. 260-372.
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- Schwartz, Bernard: See—
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- Schwarzer, Gerhard: See—
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- Schwertfeger, Owen J., and Johnson, Roy A., to Seeburg Corporation. The Resetting arrangement for movably mounted supply containers. 3,537,614, Cl. 221-187.
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3,537,361	3,537,931	3,537,469	3,537,222	3,538,408	3,537,572
3,538,273	3,537,951	3,537,634	3,537,231	3,538,411	3,537,580
3,538,450	3,537,952	3,537,976	3,537,256	3,538,437	3,537,613
3,537,181	3,538,051	3,538,145	3,537,269	3,538,485	3,537,642
3,537,351	3,538,052	3,538,166	37 : 3,537,271	3,537,271	3,537,681
3,537,357	3,538,069	3,538,217	3,537,300	3,537,185	3,537,696
3,537,637	3,538,117	3,538,229	3,537,319	3,537,278	3,537,723
3,537,714	3,538,126	3,538,470	3,537,327	3,537,279	3,537,745
3,538,506	3,538,231	3,538,480	3,537,330	3,537,280	3,537,794
3,538,507	3,538,278	31 : 3,537,501	3,537,334	3,537,350	3,537,808
3,537,179	3,538,385	3,538,215	3,537,338	3,537,355	3,537,812
3,537,241	3,538,387	3,538,418	3,537,339	3,537,374	3,537,818
3,537,242	3,538,388	33 : 3,537,165	3,537,358	3,537,813	3,537,877
3,537,273	3,538,402	3,537,708	3,537,367	3,537,874	3,537,880
3,537,362	3,538,415	34 : 3,537,108	3,537,374	3,537,890	3,537,895
3,537,475	3,538,446	3,537,117	3,537,376	3,538,079	3,537,918
3,537,511	3,538,469	3,537,135	3,537,378	3,538,164	3,537,926
3,537,562	3,538,473	3,537,151	3,537,386	3,538,304	3,537,935
3,537,564	3,538,478	3,537,190	3,537,387	3,538,406	3,537,955
3,537,618	3,538,494	3,537,199	3,537,410	3,538,465	3,537,960
3,537,724	3,538,502	3,537,230	3,537,430	3,537,969	3,537,989
3,537,830	26 : 3,537,131	3,537,232	3,537,442	3,537,201	3,538,022
3,538,467	3,537,138	3,537,276	3,537,444	3,537,204	3,538,023
22 : 3,537,219	3,537,152	3,537,315	3,537,445	3,537,293	3,538,028
3,537,414	3,537,157	3,537,324	3,537,457	3,537,341	3,538,044
3,537,490	3,537,166	3,537,392	3,537,462	3,537,345	3,538,045
3,537,579	3,537,207	3,537,402	3,537,481	3,537,347	3,538,082
3,537,865	3,537,219	3,537,413	3,537,483	3,537,349	3,538,133
3,537,958	3,537,221	3,537,446	3,537,452	3,537,356	3,538,146
3,538,123	3,537,239	3,537,472	3,537,468	3,537,369	3,538,153
3,538,190	3,537,252	3,537,477	3,537,576	3,537,486	3,538,154
3,538,191	3,537,264	3,537,485	3,537,576	3,537,500	3,538,160
3,538,192	3,537,325	3,537,671	3,537,586	3,537,503	3,538,168
3,538,193	3,537,342	3,537,678	3,537,588	3,537,504	3,538,188
3,538,194	3,537,381	3,537,688	3,537,605	3,537,543	3,538,224
23 : 3,537,119	3,537,390	3,537,705	3,537,606	3,537,567	3,538,239
24 : 3,537,309	3,537,405	3,537,726	3,537,617	3,537,615	3,538,250
3,537,396	3,537,433	3,537,761	3,537,635	3,537,621	3,538,276
3,537,409	3,537,436	3,537,776	3,537,664	3,537,641	3,538,277
3,537,467	3,537,478	3,537,781	3,537,669	3,537,659	3,538,281
3,537,476	3,537,479	3,537,811	3,537,675	3,537,667	3,538,282
3,537,485	3,537,489	3,537,822	3,537,689	3,537,707	3,538,286
3,537,514	3,537,553	3,537,844	3,537,703	3,537,712	3,538,287
3,537,551	3,537,558	3,537,879	3,537,739	3,537,774	3,538,297
3,537,632	3,537,568	3,537,886	3,537,755	3,537,775	3,538,306
3,537,692	3,537,560	3,537,943	3,537,771	3,537,777	3,538,307
3,537,719	3,537,566	3,537,967	3,537,772	3,537,790	3,538,313
3,537,782	3,537,596	3,537,971	3,537,774	3,537,803	3,538,321
3,537,853	3,537,619	3,537,974	3,537,775	3,537,828	3,538,336
3,537,910	3,537,624	3,537,975	3,537,777	3,537,862	3,538,356
3,538,036	3,537,627	3,537,990	3,537,779	3,537,901	3,538,378
3,538,236	3,537,666	3,538,005	3,537,788	3,537,913	3,538,401
3,538,265	3,537,674	3,538,013	3,537,805	3,537,917	3,538,412
3,538,305	3,537,686	3,538,039	3,537,807	3,537,944	3,538,426
3,538,338	3,537,701	3,538,047	3,537,827	3,537,993	3,538,440
3,538,387	3,537,715	3,538,063	3,537,834	3,538,002	3,538,459
3,538,499	3,537,716	3,538,090	3,537,835	3,538,007	3,538,464
25 : 3,537,132	3,537,725	3,538,091	3,537,848	3,538,026	3,538,471

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

48 : 3,537,310	48 : 3,537,684	48 : 3,538,185	50 : 3,537,961	53 : 3,537,163	55 : 3,537,380
3,537,412	3,537,729	3,538,292	3,538,316	3,537,301	3,537,419
3,537,423	3,537,876	3,538,329	51 : 3,537,187	3,537,355	3,537,484
3,537,434	3,537,897	3,538,330	3,537,198	3,537,363	3,537,556
3,537,438	3,537,933	3,538,403	3,537,291	3,537,548	3,537,645
3,537,518	3,537,963	3,538,429	3,537,389	3,537,987	3,537,663
3,537,519	3,537,965	3,538,439	3,537,565	3,538,404	3,537,720
3,537,521	3,537,983	3,538,445	3,537,695	3,538,434	3,537,770
3,537,522	3,537,992	3,538,483	3,538,029	54 : 3,537,706	3,537,792
3,537,524	3,537,994	49 : 3,537,451	3,538,030	3,537,988	3,537,906
3,537,527	3,537,996	3,537,589	3,538,035	3,538,170	3,537,954
3,537,528	3,538,015	3,537,625	3,538,093	55 : 3,537,129	3,538,041
3,537,537	3,538,024	3,537,743	3,538,347	3,537,259	3,538,333
3,537,597	3,538,031	3,538,288	3,538,353	3,537,326	3,538,420
3,537,598	3,538,049	3,538,431	3,538,457	3,537,340	3,538,477
3,537,668	3,538,080	50 : 3,537,394	3,538,486	3,537,343	3,538,505
3,537,683	3,538,139	3,537,927	52 : 3,538,295	3,537,365	57 : 3,537,235

Design Patents

6 : 219,095	6 : 219,107	9 : 219,097	13 : 219,112	25 : 219,113	36 : 219,102
219,101	219,108	219,098	17 : 219,109	27 : 219,111	219,119
219,103	219,118	219,099	219,114	34 : 219,116	44 : 219,106
219,104	219,120	12 : 219,117	219,115		



TRADEMARKS NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancellation will be proceeded with as in the case of default.

Panati Jewelry Co., Inc., New York, N.Y., Reg. No. 801,558, Canc. No. 9,587.
Antajan Industries, Limited, San Francisco, Calif., Reg. No. 512,629, Canc. No. 9,632.
Service Corporation of America, Los Angeles, Calif., Reg. No. 850,789, Canc. No. 9,666.

JOHN H. SCHNEIDER,
Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 54,041 (HERSHEY'S), Hershey Chocolate Corporation, Chocolate, cocoa, sweet chocolate, milk chocolate coatings, chocolate liquors, and chocolate powder; Reg. No. 165,217 (HERSHEY'S MILK CHOCOLATE KISSES), same, Chocolates; Reg. No. 165,248 (HERSHEY'S KISSES), same, Solid chocolates; Reg. No. 222,759 (HERSHEY'S), Hershey Corporation, Sugar; Reg. No. 584,788 (HERSHEY'S SEMI-SWEET), Hershey Chocolate Corporation, Solid chocolate used for eating, cooking and baking; Reg. No. 611,521, (HERSHEY-ETS),

same, Candy coated chocolate; Reg. No. 863,592 (HERSHEY'S), Hershey Foods Corporation, Semi-sweet chocolate, cocoa, sweet chocolate, milk chocolate, both with and without nuts or cereals, chocolate coatings, chocolate liquors, milk chocolate fudge, butterscotch topping, chocolate mint fudge topping, chocolate peanut butter topping, instant cocoa mixes, cocoa butter, chocolate flavored syrups, candy, milk chocolate covered almond marshmallow cups, and milk chocolate covered nutrolls; Reg. No. 863,607 (HERSHEY'S KISSES), same, Candy kisses; Reg. No. 864,621 (HERSHEY'S MILK CHOCOLATE KISSES AND DESIGN), same, Milk chocolate kisses, filed Mar. 12, 1970, D.C., S.D. Fla. (Miami), Doc. 70-319-C-JE, *Hershey Foods Corp. v. National Distributors of Miami, Inc.*

Reg. No. 125,531. (See Reg. No. 358,781.)

Reg. No. 165,247. (See Reg. No. 54,041.)

Reg. No. 165,248. (See Reg. No. 54,041.)

Reg. No. 165,783. (See 3,205,863.)

Reg. No. 222,759. (See 3,205,863.)

Reg. No. 235,741. (See 3,205,863.)

Reg. No. 297,913. (See 3,205,863.)

Reg. No. 300,965. (See 3,205,863.)

Reg. No. 358,781 (SAFARI), Abercrombie & Fitch Company, Men's jackets, coats, trousers, breeches, shorts for outer wear, caps, hats and helmets, and women's coats, skirts for outer wear, trousers, breeches and hats; Reg. No. 125,531 (SAFARI MILLS), same, Cotton piece goods, knitted, netted and textile

CONDITION OF TRADEMARK APPLICATIONS AS OF SEPTEMBER 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 21,999
Date of oldest new application..... July 2, 1969
Date of oldest amended application (filing date)..... January 28, 1966

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISION, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....		12-9-69	1-9-68
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....		11-13-69	1-28-66
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36, 44.....		2-2-70	1-18-68
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....		7-2-69	5-12-66
Renewals (All Classes).....		7-27-70
Sec. 12(c) Publications (All Classes).....		7-27-70

Applications filed during the month of September 1970—2,586

Registrations Issued 315—No. 901,651 to No. 901,965
Renewals Issued 120

THE TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

fabrics; **Reg. No. 652,098** (SAFARI), same, Men's and women's shirts, shoes, belts, fishing vests, wading jackets, and men's swim trunks; **Reg. No. 703,279**, same, Woven cloth sporting goods apparel such as pants, shirts, skirts, dresses, shorts, sweaters, jackets, coats, raincoats, gloves, scarfs, ties, hats, socks, and underwear, filed Jan. 29, 1970, D.C., S.D.N.Y., Doc. 70-377, *Abercrombie & Fitch Co. v. Hunting World, Incorp.*

Reg. No. 504,581. (See 3,205,863.)

Reg. No. 514,520. (See 3,205,863.)

Reg. No. 510,116 (TORQOMETER), Snap-on Tools Corporation, Hand wrenches and hand tools for tightening machine parts, fasteners, such as nut screws and the like, filed Oct. 10, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2104, *Snap-On Tools Corporation v. Sydney Himmelstein et al.* Order, plaintiff's motion for summary judgment denied and motion of the defendants for summary judgment granted, Mar. 11, 1970.

Reg. No. 584,788. (See Reg. No. 54,401.)

Reg. No. 614,521. (See Reg. No. 54,401.)

Reg. No. 617,131 (VOLKSWAGEN), Volkswagenwerk, GmbH, Vehicles—namely, automobiles and trucks, aircraft, boats, and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 631,649** (VW IN CIRCLE), same; **Reg. No. 653,695** (VW), same; **Reg. No. 790,621** (VOLKSWAGEN), same, automobiles and trucks, aircraft, and boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 790,959** (VW AND DESIGN), same; **Reg. No. 791,311** (VW), same; **Reg. No. 804,869** (VW AND DESIGN), same, Repair and reconditioning of motor vehicles, aircraft and boats; **Reg. No. 808,381** (VOLKSWAGEN), same, Vehicles—namely, automobiles and trucks, aircraft, and boats; and parts and accessories for automobiles and trucks, aircraft and boats—namely, radiators, direction indicators, windshield wipers, shock absorbers, brakes and baggage racks; **Reg. No. 815,632** (VW), same, Repair reconditioning and replacement of motors and accessories and parts thereof, and repair and reconditioning of motor vehicles, aircraft, and boats; **Reg. No. 819,297** (VOLKSWAGEN), same, filed Feb. 12, 1970, D.C. Conn. (Hartford), Doc. 13705, *Volkswagenwerk Aktiengesellschaft v. Timothy Moriarty, doing business*

as Moriarty's Chevron Service. Final judgment stipulated in favor of plaintiff, Sept. 4, 1970.

Reg. No. 631,649. (See Reg. No. 617,131.)

Reg. No. 639,379. (See 3,205,863.)

Reg. No. 652,098. (See Reg. No. 358,781.)

Reg. No. 653,695. (See Reg. No. 617,131.)

Reg. No. 703,279. (See Reg. No. 358,781.)

Reg. No. 768,118 (NEC), N-E-C Radios, Inc., Radios (Class 21); Tape-recorders (Class 36), filed June 30, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c1364, *Nippon Electric Company v. N-E-C Radios, Inc., Matija Aboric.* Cause is dismissed without prejudice, May 18, 1970.

Reg. No. 790,621. (See Reg. No. 617,131.)

Reg. No. 790,959. (See Reg. No. 617,131.)

Reg. No. 791,311. (See Reg. No. 617,131.)

Reg. No. 801,869. (See Reg. No. 617,131.)

Reg. No. 808,381. (See Reg. No. 617,131.)

Reg. No. 815,632. (See Reg. No. 617,131.)

Reg. No. 819,297. (See Reg. No. 617,131.)

Reg. No. 833,700 (SUNSET STRINGS), Synthetic Plastics Company, Grooved phonograph records, filed Apr. 30, 1968 D.C.N.J. (Newark), Doc. 409-68, *Liberty Records, Inc. v. Synthetic Plastics Company.* Consent judgment cancelling trademark 833,700 and dismissing complaint and counterclaim. July 7, 1970.

Reg. No. 863,592. (See Reg. No. 54,041.)

Reg. No. 863,607. (See Reg. No. 54,041.)

Reg. No. 861,621. (See Reg. No. 54,041.)

3,205,863, N. K. Rhodes, WRITING INSTRUMENT; **Reg. No. 165,783** (PARKER), The Parker Pen Company, Fountain pens and mechanical pencils; **Reg. No. 255,741**, same, Desk set (Desk stands and holders), for pens and pencils; **Reg. No. 510,520**, same, Writing ink; **Reg. No. 297,913** (EVERSHARP), Eversharp, Inc., Fountain pens; **Reg. No. 300,965**, same, Writing ink; **Reg. No. 505,581**, same, Fountain pens and mechanical pencils; **Reg. No. 639,379**, same Ball pens and ball pen ink cartridges, filed Apr. 2, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c594, *The Parker Pen Company v. Fisher Pen Company.* By agreement order suit dismissed without prejudice, June 2, 1970.

MARKS PUBLISHED FOR OPPOSITION

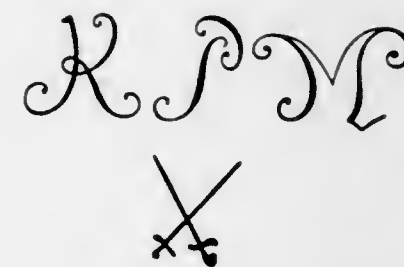
SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 252,502. VEB Staatliche Porzellan-Manufaktur Meissen, SN 286,918. Alexandre Dumas, Courbevoie, Hauts-de-Seine, Meissen, Germany. Filed Aug. 16, 1966. France. Filed Dec. 14, 1967.



Owner of French Reg. No. 463,180, dated Mar. 22, 1957 (Seine); Natl. Inst. No. 87,513.

Class 30—Crockery, Earthenware, and Porcelain

For Porcelain and Porcelain Goods of All Kinds—Namely, Dinnerware Made of Porcelain, Porcelain Cups and Saucers, Porcelain Trays, Porcelain Urns and Vases, Porcelain Flowerpots, and Porcelain Centerpieces (Int. Cl. 21).

Class 50—Merchandise Not Otherwise Classified

For Porcelain Statuettes and Ornamental Figurines of All Kinds—Namely, Figurines, Figurines Used for Chess Sets, Ornamental Animals and Birds, Busts, and Ornamental Dolls (Int. Cl. 21).

First use 1720; in commerce 1789.

SN 276,204. Cl. Lageman G.m.b.H., Aachen, Germany. Filed July 18, 1967.

Class 12—Construction Materials

For Waterproof Caulking Compounds in Paste Form (Int. Cl. 17).

Class 16—Protective and Decorative Coatings

For Waterproof Rubber Coatings, in Liquid, Paste, and Sheet Form (Int. Cl. 2).

SN 292,148. ELF Union, Societe Anonyme, Paris, France. Filed Feb. 28, 1968.



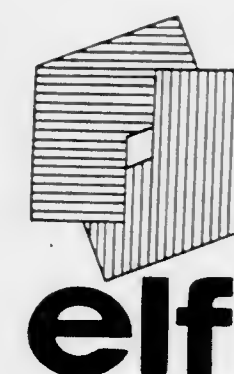
The meaning of the German words "Siegetauben-Präparate" is "victorious pigeon preparations." Owner of German Reg. No. 804,439, dated May 21, 1964.

Class 18—Medicines and Pharmaceutical Preparations

For Medicines and Pharmaceutical Preparations for Birds (Int. Cl. 5).

Class 46—Foods and Ingredients of Foods

For Food and Food Additives for Birds (Int. Cl. 31).



Priority claimed under Sec. 44(d) on French Reg. No. 729,617, dated Oct. 17, 1967. The drawing is filed for the colors blue and red.

Class 6—Chemicals and Chemical Compositions

For Petrochemicals for Use in the Production of Detergents, Resins, Plasticizers, Emulsifiers, Plastics, Textiles, Polyester Fibers, and Solvents (Int. Cl. 1).

Class 10—Fertilizers

For Petrochemical fertilizers (Int. Cl. 1).

Class 15—Oils and Greases

For Lubricants, Oils, and Greases (Int. Cl. 4).

SN 299,784. Pan Geo Atlas Corporation, Houston, Tex. Filed June 5, 1968.

PGAC

Class 100—Miscellaneous

For Electrical Well Services—Namely, Well Logging and Surveying, Radioactive Surveying, Temperature Surveying, and Evaluation of Earth Formations (Int. Cl. 42).

Class 103—Construction and Repair

For Well Perforating and Wire Line Services—Namely, the Installation of Plugs and Packers, Installation of Dump Ballers, and Caliper, Completion and Cutting Services (Int. Cl. 37).

First use October 1950.

SN 299,785. Pan Geo Atlas Corporation, Houston, Tex. Filed June 5, 1968.



The drawing is lined for the color red, but no claim is made to color.

Class 100—Miscellaneous

For Electrical Well Services—Namely, Well Logging and Surveying, Radioactive Surveying, Temperature Surveying, and Evaluation of Earth Formations (Int. Cl. 42).

Class 103—Construction and Repair

For Well Perforating and Wire Line Services—Namely, the Installation of Plugs and Packers, Installation of Dump Ballers, and Caliper, Completion and Cutting Services (Int. Cl. 37).

First use October 1950.

SN 318,695. Dürndlkönigin GmbH, Munich, Germany. Filed Feb. 10, 1969.



Priority claimed under Sec. 44(d) on German applications filed Aug. 8, 1968 and Dec. 12, 1968; Reg. Nos. 867,991, dated Apr. 9, 1970 and 864,125, dated Dec. 12, 1969.

Class 39—Clothing

For Folk Costumes (Int. Cl. 25).
First use 1931; in commerce 1954.

Class 51—Cosmetics and Toilet Preparations

For Perfumes, Eau de Cologne, Body and Face Powders, Face and Skin Creams, Skin Oils and Bath Oils (Int. Cl. 3).
First use 1947; in commerce December 1968.

SN 319,760. Meister Brau, Inc., Chicago, Ill., assignee of Jero Products Company, Chicago, Ill. Filed Feb. 24, 1969.

JERO'S

Owner of Reg. No. SS4,219.

Class 45—Soft Drinks and Carbonated Waters

For Non-Alcoholic Mixes for Cocktails and Mixed Drinks, Non-Alcoholic Preparation for Producing a Froth in Alcoholic Cocktails, Bar Crystals To Be Used in Making Lemonade and Mixed Drinks (Int. Cl. 32).
First use 1933.

Class 46—Foods and Ingredients of Foods

For Sugar, and Bar Crystals To Be Used in Baking, Cooking, and in the Making of Desserts and Ice Cream (Int. Cl. 30).
First use 1939.

Class 49—Distilled Alcoholic Liquors

For Alcoholic Bitters (Int. Cl. 33).
First use 1941.

SN 327,683. Gerald Ernest Sadler, d.b.a. Gerald E. Sadler, Middlesborough, England. Filed May 19, 1969.



Owner of British Reg. No. BS72,043, dated Nov. 19, 1964.

Class 51—Cosmetics and Toilet Preparations

For Perfumes, Cologne, Toilet Water, Shaving Lotion, Hair Dressing, Talcum Powder, and Lotions and Creams for Cleansing and Conditioning Faces, Hands, and Body (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap and Hair Shampoo (Int. Cl. 3).

SN 328,497. Pathway Products Corporation, Verona, N.J. Filed May 28, 1969.



Class 4—Abrasives and Polishing Materials

For Floor Polishing and Protecting Preparation (Int. Cl. 3).

Class 52—Detergents and Soaps

For Aluminum Cleaning Preparation (Int. Cl. 3).
First use Aug. 29, 1967.

SN 329,505. Pacific Vegetable Oil Corporation, San Francisco, Calif. Filed June 9, 1969.

OLEINATE

Class 6—Chemicals and Chemical Compositions

For Oleic Oil for Use as an Ingredient of Cosmetics (Int. Cl. 4).
First use as early as Jan. 1, 1968.

Class 46—Foods and Ingredients of Foods

For Edible Oleic Oils (Int. Cl. 29).
First use May 11, 1966.

SN 330,871. Bercy Industries, Inc., Venice, Calif. Filed June 25, 1969.

by Bercy

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Overnight Bags (Int. Cl. 18).

Class 32—Furniture and Upholstery

For Portable Make-Up Mirrors (Int. Cl. 20).
First use Apr. 17, 1969.

SN 330,929. Hoodfoam Industries, Inc., Marblehead, Mass., by change of name from Hood Molded Foam Company, Inc., Marblehead, Mass. Filed June 25, 1969.

HOODFOAM

Class 19—Vehicles

For Unupholstered Seat and Back Cushions, Arm Rests, and Panel Padding for Motor Vehicles (Int. Cl. 12).

Class 32—Furniture and Upholstery

For Unupholstered Seat and Back Cushions, Arm Rests, Chairs, Mattresses, Pillows, Stools, Davenport, and Sofas (Int. Cl. 20).

First use Mar. 10, 1969.

SN 347,853. Textron Inc., Providence, R.I. Filed Jan. 7, 1970.



Owner of Reg. Nos. 767,029 and 644,435.

Class 2—Receptacles

For Auxiliary Gas Tanks and Spark Plug Containers (Int. Cl. 7).
First use as early as May 1966.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Saddle Bags for Snowmobiles (Int. Cl. 18).
First use as early as May 26, 1969.

Class 19—Vehicles

For Racing Cars and Fitted Protective Covers for Snowmobiles (Int. Cl. 12).
First use as early as May 1968.

Class 22—Games, Toys, and Sporting Goods

For Sleds for Amusement and Sporting Purposes (Int. Cl. 28).
First use as early as May 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Internal Combustion Engines and Mufflers (Int. Cl. 7).
First use as early as May 1968.

Class 39—Clothing

For Cold Weather Clothing—Namely, Coveralls; Insulated Jackets, Hoods, Pants, Boots, and Underwear; Mittens; Gloves; Sweaters; One-Piece Snowmobile Suits; and Safety Helmets (Int. Cl. 25).
First use as early as May 1964.

SN 354,755. Fence City, Inc., East Amherst, N.Y. Filed Feb. 11, 1970.

FENCE CITY

No claim is made to the term "Fence," apart from the mark as shown.

Class 12—Construction Materials

For Wooden Fences (Int. Cl. 19).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Metal Fences (Int. Cl. 6).

First use on or about Jan. 15, 1968.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 321,125. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Mar. 10, 1969.

BRUSHLON

For Synthetic Fibers Embedded in a Resinous Backing and Sold in the Form of Sheets, Discs, Strips or Continuous Rolls, for General Use in the Industrial Arts (Int. Cl. 22).
First use Jan. 28, 1969.

SN 321,126. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Mar. 10, 1969.



For Synthetic Fibers Embedded in a Resinous Backing and Sold in the Form of Sheets, Discs, Strips or Continuous Rolls, for General Use in the Industrial Arts (Int. Cl. 22).
First use Jan. 28, 1969.

SN 328,424. Great Lakes Mink Association, Kenosha, Wis. Filed May 27, 1969.

GREAT LAKES MINK ASSOCIATION

Applicant disclaims the term "Mink Association" apart from the mark as shown. Owner of Reg. No. 742,161. For Mink Fur Pelts (Int. Cl. 18). First use Mar. 1, 1942.

SN 328,815. Chapman Industries Inc., Avondale, Pa. Filed June 2, 1969.

FEPON

For Heat Shrinkable Plastic Tubing for General Use in the Industrial Arts (Int. Cl. 17). First use February 1968.

SN 330,304. Solar Control Products Corp., Allston, Mass. Filed June 17, 1969.

TRANSOLUPE

For Heat-Reflecting, Light-Transmitting Plastic and Plastic Laminate Sheet Materials for Application to Windows, Skylights, Transparent Doors, One-Way Observation Windows, and in the Manufacture of Roller-Type Window Shades, Venetian Blinds, and Vertical Strip Blinds (Int. Cl. 17). First use at least as early as May 1, 1969.

SN 335,763. The Lackawanna Leather Co., Hackettstown, N.J. Filed Aug. 20, 1969.

MASSAGED MASTERPIECE

Applicant disclaims the exclusive use of the word "Massaged" apart from the mark as shown. Owner of Reg. No. 784,612.

For Leather (Int. Cl. 18). First use May 27, 1969.

SN 341,467. Husky Briquetting, Inc., Cody, Wyo. Filed Oct. 20, 1969.

GRILL KING

Applicant disclaims any right to the exclusive use of the portion "Grill" of the trademark. For Barbecue Briquets (Int. Cl. 4). First use June 18, 1969.

SN 353,253. Excel-Mineral Company, Inc., d.b.a. Excel-Mineral Co., Los Angeles, Calif. Filed Mar. 6, 1970.

MR TOM

For Granular Fluid-Absorbent Material Primarily Used as a Pet Litter and Also Used as a Plant Mulch and as an Oil and Grease Absorbent (Int. Cl. 31). First use Nov. 29, 1963.

SN 357,274. DeKalb Agresearch, Inc., DeKalb, Ill. Filed Apr. 20, 1970.

DEKALB

Owner of Reg. Nos. 508,117, 866,993, and others. For Chickens, Baby Chicks, Pullets, and Cockerels; and Grain Seed—Namely, Alfalfa, Sorghum and Hybrids of Sorghum; Sorghum-Sudangrass Hybrids; Wheat and Hybrids of Wheat, Corn and Hybrids of Corn (Int. Cl. 31). First use February 1940.

Class 2 — Receptacles

SN 363,109. Tower Products, Inc., Wheeling, Ill. Filed June 18, 1970.

CLEERPEEL

For Plastic Pouches (Int. Cl. 20). First use May 18, 1970.

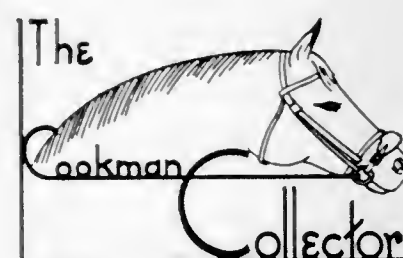
SN 366,456. Mattel, Inc., Hawthorne, Calif. Filed July 28, 1970.

HOT WHEELS

Owner of Reg. Nos. 843,156, 884,563, and 888,727. For Lunch Kits and Vacuum Bottles (Int. Cl. 21). First use Jan. 5, 1970.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 322,973. Deborah L. Cookman, Lahaska, Pa. Filed Mar. 27, 1969.



Applicant disclaims the representation of the bridle and parts, apart from the mark as shown. For Pressure Distributing Nose Band Attachments for Bridles (Int. Cl. 18). First use Mar. 13, 1969.

SN 339,601. Sirco International Corp., Mt. Vernon, N.Y. Filed Oct. 2, 1969.

ADORNABLES

For Purses (Int. Cl. 18). First use Sept. 1, 1969.

SN 340,027. H. Margolin & Co., Inc., New York, N.Y. Filed Oct. 7, 1969.

NAKED LEATHER

Applicant disclaims the word "Leather" apart from the mark as shown.

For Ladies' Handbags (Int. Cl. 18). First use May 1, 1969.

SN 341,856. Sirco International Corporation, Mt. Vernon, N.Y. Filed Oct. 27, 1969.

THE EVERYTHING BAG

No claim is made to the word "Bag" apart from the mark as shown.

For Handbags (Int. Cl. 18). First use Oct. 1, 1969.

SN 347,122. Sirco International Corp., Mt. Vernon, N.Y. Filed Dec. 24, 1969.

TIGHT-WAD

For Wallets (Int. Cl. 18). First use Nov. 3, 1969.

SN 353,986. Helen Hilton Bryant, Gastonia, N.C. Filed Mar. 13, 1970.

BACK BREAKER

For Luggage, Knapsacks and Attaché Cases (Int. Cl. 18). First use Feb. 5, 1970.

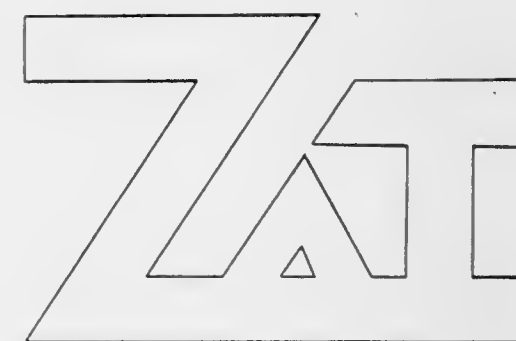
Class 4 — Abrasives and Polishing Materials

SN 339,553. Clevepak Corporation, Cleveland, Ohio. Filed Oct. 2, 1969.

NOLAP

For Abrasive Bands, Sleeves, and Belts (Int. Cl. 3). First use at least as early as 1932.

SN 355,647. Joseph A. Hallahan, d.b.a. Zat Products Co., Cherry Valley, Mass. Filed Apr. 1, 1970.



The mark consists of a fanciful representation of the Letters "ZAT."

For Automobile, Truck, Bus and Motorcycle Polish and Glaze (Int. Cl. 3). First use Aug. 29, 1969.

SEVER-ALL

Owner of Reg. No. 646,433. For Abrasive Cutting Wheels (Int. Cl. 7). First use in or about July 1958.

Class 5 — Adhesives

SN 347,844. Uniroyal, Inc., New York, N.Y. Filed Jan. 6, 1970.

ROYAL

For Industrial Adhesives (Int. Cl. 1). First use at least as early as September 1969.

Class 6 — Chemicals and Chemical Compositions

SN 324,735. Nor-Am Agricultural Products, Inc., Chicago, Ill., assignee of Morton International, Inc., Chicago, Ill. Filed Apr. 16, 1969.

NOR-AM

For Agricultural Chemicals—Namely, Herbicides, Fungicides, Insecticides, Disinfectant Compositions, and Fumigants (Int. Cl. 5). First use at least as early as Mar. 14, 1969.

SN 326,351. Ciba Limited, Basel, Switzerland. Filed May 5, 1969.

MESORANIL

Owner of Swiss Reg. No. 229,572, dated Jan. 23, 1968. For Chemical Preparations for Killing Weeds and Destroying Vermin, and Preparations for Combating Plant Pests (Int. Cl. 5).

SN 327,492. Hitachi Chemical Company Ltd., Chiyoda-ku, Tokyo, Japan. Filed May 16, 1969.

HIMIC

For Chemical Products and Chemical Compositions Used as a Raw Material in the Manufacture of Unsaturated Polyester Resin and Alkyd Resin, as a Hardener, as a Plasticizer, as a Softener, and as a Surface Active Agent (Int. Cl. 1). First use 1953; in commerce April 1968.

SN 327,751. Dresser Industries, Inc., Dallas, Tex. Filed May 20, 1969.

SE-11

For Product To Aid in Emulsifying Drilling Muds (Int. Cl. 1). First use Feb. 7, 1969.

SN 327,870. Dresser Industries, Inc., Dallas, Tex. Filed May 21, 1969.

FAZETHIN

For Thinning Agent for Drilling Mud (Int. Cl. 1).
First use Feb. 7, 1969.

SN 327,871. Dresser Industries, Inc., Dallas, Tex. Filed May 21, 1969.

VERTHIN

For Thinning Agent for Drilling Mud (Int. Cl. 1).
First use Mar. 4, 1969.

SN 334,946. Standard T Chemical Company, Inc., Chicago, Ill. Filed Aug. 11, 1969.

CARTA COTE

No registration rights are claimed herein for the word "Cote" apart from the mark as shown, but the applicant waives none of its common law rights in said mark or any feature thereof.
For Organic Protective Coating for Paper, Chipboard, Aluminum Foil, and Board Stock (Int. Cl. 1).
First use June 2, 1967.

SN 336,840. Occidental Petroleum Corporation, d.b.a. Occidental Chemical Company, Los Angeles, Calif. Filed Sept. 2, 1969.

OXYCHEM

For Ammonium Sulphate (Int. Cl. 1).
First use on or before Dec. 23, 1968.

SN 337,028. J. M. Eltzroth & Associates, Inc., Schaumburg, Ill. Filed Sept. 4, 1969.

TRU-KROME

For Chemical Compositions for the Surface Treatment of Metals To Render the Metals Corrosion-Resistant (Int. Cl. 2).
First use Oct. 24, 1968.

SN 345,906. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 11, 1969.

PHOSPHAZYME

For Chemical Reagent Test Kit for Determining the Presence of Alkaline, Acid, and Tartrate Labile (Int. Cl. 1).
First use on or before Sept. 30, 1969.

SN 353,966. Standard Oil Company, Flemington, N.J. Filed Mar. 13, 1970.

FRACTOL

Owner of Reg. Nos. 149,248 and 394,957.
For High Viscosity Oil Well Fluids (Int. Cl. 1).
First use Feb. 25, 1969.

SN 354,769. IPA Industrieerzeugnisse und Patentausswertung GmbH, Munich-Solln, Germany. Filed Mar. 23, 1970.



Owner of German Reg. No. 852,226, dated Aug. 10, 1966.
For Chemical Preparations for Use in the Production of Water-Repellent Concrete and Mortar—Namely, a Sealing and Bonding Agent (Int. Cl. 1).

SN 354,770. IPA Industrieerzeugnisse und Patentausswertung GmbH, Munich-Solln, Germany. Filed Mar. 23, 1970.

IPANEX

Owner of German Reg. No. 782,749, dated July 26, 1963.
For Chemical Preparations for Use in the Production of Water Repellent Concrete and Mortar—Namely, a Sealing and Bonding Agent (Int. Cl. 1).

Class 7 — Cordage

SN 347,475. Buffalo Weaving and Belting Co., Buffalo, N.Y. Filed Dec. 31, 1969.

TELL-TALE

For Industrial Belting for Use as Cargo Sling Webbing Having Self-Contained Warning Device Signals (Int. Cl. 22).
First use on or about Dec. 3, 1969.

SN 359,795. Package Containers, Inc., Portland, Oreg. Filed May 15, 1970.

TUFF-TIE

Owner of Reg. No. 844,772.
For Paper Tape With a Wire Core Which Is Used in Tying Polyethylene Bags, Plants, Vegetables, Flowers, Packages, Hose, Ropes, Wires, and Other Articles (Int. Cl. 6).
First use Apr. 24, 1965.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 306,276. Bernard J. Semel, Washington, D.C. Filed Aug. 29, 1968.



For Fireworks of Various Kinds Usually Prepared in Packaged Form (Int. Cl. 13).
First use Oct. 5, 1959.

SN 353,295. Elkton Sparkler Company, Inc., North East, Md. Filed Mar. 6, 1970.

SAN-TEE

For Firecrackers (Int. Cl. 13).
First use Nov. 24, 1969.

Class 10 — Fertilizers

SN 280,809. Occidental Petroleum Corporation, Los Angeles, Calif. Filed Sept. 20, 1967.

Super Iron

For Soil Supplement (Int. Cl. 1).
First use on or about June 5, 1967.

SN 344,715. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Nov. 26, 1969.

'NUF

For Plant Food (Int. Cl. 1).
First use at least as early as Apr. 10, 1969.

SN 349,969. W. R. Grace & Co., Cambridge, Mass. Filed Jan. 29, 1970.

REDI-7

For Compressed Peat Moss Vermiculite Pellets for Soil Conditioning and Plant Germination (Int. Cl. 1).
First use Dec. 16, 1969.

SN 350,003. Richway Products Inc., Janesville, Iowa. Filed Jan. 29, 1970.



The drawing is lined for the colors green and yellow, but no claim is made for color.
For Lawn Fertilizer (Int. Cl. 1).
First use about Apr. 2, 1969.

SN 353,401. American Sugar Company, New York, N.Y. Filed Mar. 9, 1970.

DOMINO

For Fertilizer (Int. Cl. 1).
First use Feb. 3, 1970.

Class 11 — Inks and Inking Materials

SN 353,103. Sun Chemical Corporation, New York, N.Y. Filed Mar. 4, 1970.

EXCELLOTHERM

Owner of Reg. Nos. 663,335 and 743,215.
For Flexographic Ink (Int. Cl. 2).
First use Feb. 24, 1970.

SN 354,198. Markwell Manufacturing Co., Inc., New York, N.Y. Filed Mar. 16, 1970.

MARKWELL

Owner of Reg. No. 513,485.
For Stencil Ink, Marking Ink, Printing Ink, Writing Ink, and Rubber-Stamp Ink (Int. Cls. 2 and 16).
First use Jan. 15, 1920.

SN 354,439. J. M. Huber Corporation, Borger, Tex. Filed Mar. 18, 1970.

CELLOLENE

For Printing Ink (Int. Cl. 2).
First use Dec. 23, 1969.

SN 354,447. Lawter Chemicals, Inc., Chicago, Ill. Filed Mar. 18, 1970.

UROSET

For Printing Ink Vehicle (Int. Cl. 1).
First use Jan. 15, 1970.

Class 12 — Construction Materials

SN 340,350. The Duriron Company, Inc., Dayton, Ohio. Filed Oct. 10, 1969.

DURCOLAM

Owner of Reg. Nos. 417,872 and 761,329.
For Rigid Laminated Plastic Sheets for Use in the Manufacture of Stain and Corrosion Resistant Laboratory Table Tops (Int. Cl. 1).
First use Mar. 26, 1969.

SN 346,630. The Larutan Corporation, Dallas, Tex. Filed Dec. 18, 1969.

LARUTAN

For Soil Compaction Formulations To Be Added to Water and Spread Onto Soil To Be Compacted and Used in Connection With Construction of Building Pads, Bases for Roads, Driveways, Racetracks, Airport Runways, Reservoirs, and the Like (Int. Cl. 19).
First use July 28, 1967.

Class 13—Hardware and Plumbing and Class 15—Oils and Greases Steam-Fitting Supplies

SN 317,866. Paeco, Inc., Perth Amboy, N.J. Filed Jan. 29, 1969.

PAECO-CLIP

For Clips for Attaching Decorative Beams to Suspended Ceilings (Int. Cl. 6).
First use Dec. 17, 1968.

SN 338,590. Medical Plastics Corporation of America, Greensboro, N.C. Filed Sept. 22, 1969.

MEDI-GARD

Owner of Reg. Nos. 829,172, 860,626, and others.
For Plumbing Supplies and Equipment—Namely, Molded Plastic Toilet Seats Made From Bacteriostatic Compounds (Int. Cl. 11).
First use June 26, 1969.
Subj. to Intf. with SN 337,064.

SN 343,715. International Fabricators, Inc., Elkhart, Ind. Filed Nov. 17, 1969.

TOICO

For Hardware in the Nature of Hinges, Latches, Keepers, Butts, and the Like for Metal Partitions, Doors, and Toilet Compartments (Int. Cl. 6).
First use Nov. 9, 1967.

SN 351,408. American Standard Inc., New York, N.Y. Filed Feb. 16, 1970.

CLASSIC

For Sanitary Ware—Namely, Bathtubs (Int. Cl. 11).
First use in or about February 1968.

SN 358,666. Parrish's Cake Decorating Supplies, Inc., Los Angeles, Calif. Filed May 4, 1970.

MAGIC MOLD

For Baking Pans (Int. Cl. 21).
First use Mar. 27, 1970.

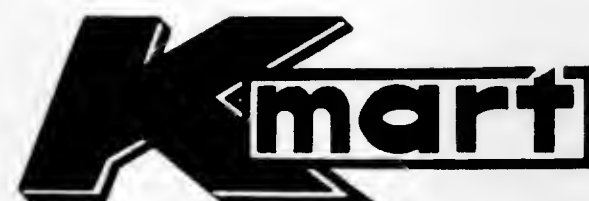
Class 14—Metals and Metal Castings and Forgings

SN 342,819. John Bedford & Sons Limited, Sheffield, England. Filed Nov. 6, 1969.

DEFIANCE

Owner of British Reg. No. 909,481/S,244S, dated May 12, 1967.
For Hollow Mining Steel (Int. Cl. 6).

SN 340,023. S. S. Kresge Company, Detroit, Mich. Filed Oct. 7, 1969.



Owner of Reg. Nos. 774,794, 787,715, 882,880, and 888,176.
For Motor Oils (Int. Cl. 4).
First use on or before Sept. 5, 1969.

SN 343,093. Roy Dean Products Co., Dearborn, Mich. Filed Nov. 10, 1969.

FRICTION FIGHTER

For Lubricants Especially Blended to Customers' Needs (Int. Cl. 4).
First use Oct. 13, 1969.

SN 356,471. Bardahl Manufacturing Corporation, Seattle, Wash. Filed Apr. 10, 1970.



The drawing is lined for the color green. Owner of Reg. Nos. 526,554, 672,390, 805,448, and others.
For Motor Oil Additive (Int. Cl. 1).
First use February 1967.

Class 16—Protective and Decorative Coatings

SN 323,332. Chemtrust Industries Corp., Maywood, Ill. Filed Apr. 1, 1969.

"BUILD-EX"

For Protective Coating for Hard, Non-Porous, Exterior Wall Surfaces of Buildings and the Like, Such as Metal, Sealed Wood, Masonry, Glass, and Aluminum Exterior Wall Surfaces (Int. Cl. 2).
First use Jan. 20, 1963.

SN 323,603. Spies, Hecker & Co., Cologne-Raderthal, Germany. Filed Apr. 3, 1969.

PERMANAL

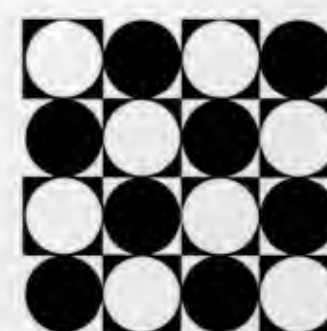
Owner of German Reg. No. 470,866, dated July 4, 1934.
For Paints, Varnishes, Primers, and Undercoatings (Int. Cl. 2).

SN 324,424. Daniel Products Company, Jersey City, N.J. Filed Apr. 14, 1969.

MOD-U-LAR

For Fluid Pigment Dispersion for Use as Tinting Colors (Int. Cl. 2).
First use Jan. 27, 1969.

SN 324,455. Harris Paint Company, Tampa, Fla. Filed Apr. 14, 1969.



For Paints and Enamels (Int. Cl. 2).
First use on or about Sept. 1, 1968.

SN 325,104. Gare Ceramic Supply Co., Inc., Haverhill, Mass. Filed Oct. 30, 1968.

GAREOSOL

Owner of Reg. No. 872,006.
For Protective and Decorative Spray Coating for Application to Ceramic Products (Int. Cl. 2).
First use Oct. 1, 1968.

SN 325,341. Conchemco, Incorporated, d.b.a. Colony Paints, Kansas City, Mo. Filed Apr. 23, 1969.

COLONY

Owner of Reg. Nos. 293,021, 867,394, and others.
For Paints, Varnishes, Enamels, Stains, and Primers (Int. Cl. 2).
First use Nov. 22, 1967.

SN 325,356. Enamel Varnish & Chemical Company of Australia Pty. Limited, Blacktown, New South Wales, Australia. Filed Apr. 23, 1969.

PLASTEVIC

Owner of Australian Reg. No. A161,413, dated July 28, 1960.
For Paints and Lacquers (Int. Cl. 2).
First use March 1959; in commerce July 1968.

SN 326,857. D.P.I. Quality Paints, Inc., Clearwater, Fla. Filed May 9, 1969.



No claim is made to the words "Quality Paints," apart from the mark as shown, without waiving any common law rights therein.

For Paints (Int. Cl. 2).
First use on or about Mar. 24, 1961.

SN 354,221. Salmon Products, Inc., Newton, Iowa. Filed Mar. 16, 1970.

La Patique

Owner of Reg. No. 791,684.
For Paint To Give an Antique Effect to Furniture (Int. Cl. 2).
First use Dec. 1, 1969.

Class 17—Tobacco Products

SN 324,295. Elias Mina Meletlades, Mexico City, Mexico. Filed Apr. 11, 1969.

INSURGENTES

Translated from Spanish to English the word "Insurgentes" means "Insurgents." Owner of Mexican Reg. No. 141,448, dated Jan. 13, 1968.
For Cigars (Int. Cl. 34).

SN 324,487. Philip Morris Incorporated, New York, N.Y. Filed Apr. 14, 1969.

LAUSANNE

For Filter Cigarettes (Int. Cl. 34).
First use Mar. 21, 1969.

SN 325,260. Turmac Tobacco Company N.V., Amsterdam, Netherlands. Filed Apr. 2, 1969.

DELFT BLUE

For Smoking Tobacco (Int. Cl. 34).
First use Mar. 7, 1969; in commerce Mar. 7, 1969.

SN 365,404. Moro & Benedt Cigar Corporation, Miami, Fla. Filed July 16, 1970.

SAN ROMAN

For Cigars (Int. Cl. 34).
First use March 1967.

Class 18—Medicines and Pharmaceutical Preparations

SN 295,219. Continental Saltrates Supply Establishment, Vaduz, Liechtenstein. Filed Oct. 28, 1969.

Saltrates
Rodell

Owner of Liechtenstein Reg. No. 1,037, dated June 29, 1960.
For Antiseptic Footcream and Powder for Footbaths, Both for the Treatment of Itching, Cracked and Sore Skin, Bruises,
First use Dec. 11, 1968.
First use 1940; in commerce 1940.

SN 333,876. Miles Laboratories, Inc., Elkhart, Ind. Filed July 30, 1969.

SWEET DREAMS

For Preparation for Use as a Sleep Inducer (Int. Cl. 5).
First use on or before June 13, 1969.

SN 334,532. Allen & Hanburys Limited, London, England. Filed Aug. 6, 1969.

ACRIFLEX

Owner of British Reg. No. 603,904, dated Jan. 19, 1939; and U.S. Reg. No. 516,313.
For Ointments (Int. Cl. 5).

SN 337,284. Drugs for Veterinary Medicine, Inc., Yonkers, N.Y. Filed Sept. 8, 1969.

CERUVET

For Veterinary Preparation for the Removal of Earwax (Int. Cl. 5).
First use Jan. 21, 1963.

SN 338,689. Pan American Laboratories, Inc., New Orleans, La. Filed Sept. 23, 1969.

PAN-ESTRA

For Conjugated Estrogens (Int. Cl. 5).
First use Nov. 2, 1967.

SN 340,942. Progressive Drugs of America, Inc., Chattanooga, Tenn. Filed Oct. 16, 1969.

WASSER TABS

Applicant disclaims the term "Tabs" except when used in the mark as shown.
For Medicine in Tablet Form—Namely, a Diuretic for the Elimination of Excess Water (Int. Cl. 5).
First use Dec. 11, 1968.

SN 341,030. Genovese Drug Stores, Inc., Long Island City, N.Y. Filed Oct. 17, 1969.

JO-GEN

Owner of Reg. No. 888,393.
For Medicated Skin Cream for Use as an Aid in Healing Chapped Hands, Minor Irritations, and Sunburn (Int. Cl. 5).
First use May 1965.

SN 341,805. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Oct. 27, 1969.

ECTIMAR

Owner of German Reg. No. 793,741, dated Sept. 3, 1964.
For Broad-Spectrum Antimycotic for the Local Treatment of Dermatomycoses (Ringworm) in Horses, Cattle, Pigs, Dogs, and Cats (Int. Cl. 5).

SN 343,271. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Nov. 12, 1969.

OXY-KESSO-TETRA

Owner of Reg. No. 809,502.
For Oxytetracycline Hydrochloride N.F. (Int. Cl. 5).
First use at least as early as Sept. 7, 1967.

SN 343,557. The Hamilton Pharmacal Company, Inc., Hamilton, N.Y. Filed Nov. 14, 1969.

QUARTERMASTER

For Liquid Antibiotic Medicinal Preparation Used in the Treatment of Cows (Int. Cl. 5).
First use Oct. 15, 1969.

SN 344,421. Phenex Antiseptic Laboratories, Inc., Chicago, Ill. Filed Nov. 24, 1969.



For Antiseptic Douche and Deodorant (Int. Cl. 5).
First use June 11, 1969.

SN 348,222. The Norwich Pharmacal Company, Norwich, N.Y. Filed Jan. 12, 1970.

AEROXONE

Owner of Reg. Nos. 587,238, 662,143, and 779,344.
For Topical Antibacterial Preparation in Aerosol Form (Int. Cl. 5).
First use Feb. 26, 1968.

SN 349,367. Meyer Laboratories, Inc., Detroit, Mich. Filed Jan. 22, 1970.

PAVACON

For Tablet Containing Papaverine Hydrochloride and Nicotinic Acid To Be Used as a Vasodilator for Treatment and Prevention of Vasospastic Disorders (Int. Cl. 5).
First use Dec. 2, 1969.

SN 349,486. Marlon Laboratories, Inc., Kansas City, Mo. Filed Jan. 23, 1970.

ANDENE

For Antihistamine Tablet (Int. Cl. 5).
First use Jan. 13, 1970.

SN 349,488. Marlon Laboratories, Inc., Kansas City, Mo. Filed Jan. 23, 1970.

TANDOM

For Antihistamine Tablet (Int. Cl. 5).
First use Jan. 13, 1970.

SN 349,490. Marlon Laboratories, Inc., Kansas City, Mo. Filed Jan. 23, 1970.

METASEP

For Silver Sulfadiazine Cream (Int. Cl. 5).
First use Dec. 31, 1969.

SN 349,687. G. D. Searle & Co., Skokie, Ill. Filed Jan. 26, 1970.

GLYSULIN

For Pharmaceutical Preparation for the Treatment of Diabetes (Int. Cl. 5).
First use Jan. 9, 1970.

SN 349,704. John E. Sweet, d.b.a. Sperry Pharmacal, Chicago, Ill. Filed Jan. 26, 1970.

ULCEREX

For Antacid for the Temporary Relief of Excess Gastric Acidity (Int. Cl. 5).
First use Dec. 21, 1969.

SN 350,305. Richardson-Merrell Inc., New York, N.Y. Filed Feb. 2, 1970.

NASALGEN-P

For Veterinary Vaccine for Immunization of Healthy Cattle Against Bovine Parainfluenza-3 Virus (Int. Cl. 5).
First use Oct. 6, 1969.

SN 350,363. Biotee Laboratories, Inc., Lenexa, Kans. Filed Feb. 3, 1970.

BIOCINE-D

For Canine Distemper Vaccine (Canine Tissue Culture Origin—Modified Live Virus—for Immunization of Dogs Against Distemper) (Int. Cl. 5).
First use Mar. 30, 1968.

SN 350,538. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 4, 1970.

ALPHONE

Owner of Reg. No. 694,832.
For Antineoplastic Agent (Int. Cl. 5).
First use Nov. 17, 1969.

SN 350,539. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 4, 1970.

CORTHOX

Owner of Reg. No. 581,666.
For Medicated Skin Preparation for the Treatment of Aene (Int. Cl. 5).
First use Nov. 17, 1969.

SN 357,044. The Upjohn Company, Kalamazoo, Mich. Filed Apr. 16, 1970.

U SHOT

Owner of Reg. No. 687,466.
For Disposable Syringe Containing Contraceptive Preparation (Int. Cl. 5).
First use Feb. 20, 1970.

Class 19—Vehicles

SN 317,882. Strick Corporation, Fairless Hills, Pa. Filed Jan. 29, 1969.

STRICK

Owner of Reg. No. 541,737.
For Heavy Duty Trailers, Semi-Trailers, Durable Cargo Carrying Units Designed and Built for Conveyance by Van Size Road Vehicles, and Truck Bodies (Int. Cl. 12).
First use Apr. 24, 1936.

SN 320,892. European Motor Products, Inc., d.b.a. Engineered Motor Products, Inc., Riverside, Calif. Filed Apr. 10, 1969.

SPRINT STAR

For Automobile Wheels (Int. Cl. 12).
First use at least as early as December 1966.

SN 348,254. Bombardier Limited, Valcourt, Quebec, Canada. Filed Jan. 12, 1970.

TNT

For Snowmobiles and Parts Therefor (Int. Cl. 12).
First use December 1967; in commerce December 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 320,373. Plastics, Inc., St. Paul, Minn. Filed Feb. 28, 1969.

PERMASIZED

For Plastic Finish Sold as a Component of Outdoor Light Globes (Int. Cl. 11).
First use Feb. 22, 1968.

SN 330,851. Schlumberger Technology Corporation, Houston, Tex. Filed June 24, 1969.

MARSH & MARINE

Applicant disclaims the word "Marine" apart from the mark as shown.
For Electrical Cable Connectors, Takeouts, End Terminations and Assemblies (Int. Cl. 9).
First use January 1953.

SN 349,624. Globe-Union Inc., Milwaukee, Wis. Filed Jan. 26, 1970.

GEL/CELL

The word "Cell" is disclaimed apart from the mark as a whole.
For Rechargeable Storage Batteries and Battery Chargers (Int. Cl. 9).
First use in or about August 1968.

SN 357,291. Rectilinear Research Corp., Bronx, N.Y. Filed Apr. 20, 1970.

Rectilinear



Applicant disclaims the representation of a loudspeaker apart from the mark as shown, without waiving any common law rights thereto.

For Loudspeakers and Component Parts Thereof (Int. Cl. 9).
First use January 1965.

Class 22—Games, Toys, and Sporting Goods

SN 327,500. The Lange Co., Dubuque, Iowa. Filed May 16, 1969.

WORLDBEATERS

For Plastic Ski Boots (Int. Cl. 25).
First use March 1969.

SN 331,035. Gabriel Industries, Inc., New York, N.Y. Filed June 26, 1969.

THE STEERABLES

For Toy Vehicles (Int. Cl. 28).
First use Apr. 7, 1969.

SN 334,950. Wham-O Mfg. Co., San Gabriel, Calif. Filed Aug. 11, 1969.



For Plastic Stream Material or Composition and Toy and Novelty Pressurized Dispenser of Same (Int. Cl. 28).
First use at least as early as Aug. 6, 1969.

SN 338,317. Mattel, Inc., Hawthorne, Calif. Filed Sept. 19, 1969.

MAGIC APPLE

No claim of exclusive right is made to the word "Apple" apart from the mark.

For Educational Toy Comprising a Phonograph and Pictures With Indexing Means and Sound Reproduction Means Whereby Sounds are Reproduced Relevant to a Picture Indexed (Int. Cl. 28).

First use Aug. 14, 1969.

SN 338,793. The Lionel Toy Corporation, Hillside, N.J. Filed Sept. 24, 1969.

AMERICAN FLYER

For Electrical and Mechanical Toys and Miniature Railroads (Int. Cl. 28).
First use 1917.

SN 340,142. Gym Dandy, Inc., Bossier City, La. Filed Oct. 8, 1969.

BIG-GYM

For Home Play Equipment—Namely, Swing Sets (Int. Cl. 28).
First use Sept. 24, 1969.

SN 340,525. Les Davis Fishing Tackle Co., Tacoma, Wash. Filed Oct. 13, 1969.

SLEEK

For Fishing Line (Int. Cl. 28).
First use Sept. 5, 1969.

SN 347,166. Mattel, Inc., Hawthorne, Calif. Filed Dec. 29, 1969.

AQUALANDER

For Toy Three-Wheeled Amphibious Motorized Vehicle (Int. Cl. 28).
First use Oct. 24, 1969.

SN 351,175. Superlor Toy & Mfg. Co., Inc., Chicago, Ill. Filed Feb. 12, 1970.

FORT KNOX

Owner of Reg. No. 690,515.
For Toy Banks (Int. Cl. 28).
First use in or about March 1959.

SN 355,572. Mattel, Inc., Hawthorne, Calif. Filed Apr. 1, 1970.

PEACHY

Owner of Reg. No. 802,621.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Jan. 20, 1970.

SN 357,178. Mattel, Inc., Hawthorne, Calif. Filed Apr. 17, 1970.

PRETTY-UP PUP

No claim of exclusive right is made to the word "Pup" apart from the mark.
For Toy Stuffed Dog (Int. Cl. 28).
First use Feb. 27, 1970.

SN 359,204. Frank Bresee, Hollywood, Calif. Filed May 8, 1970.



PASS-OUT

For Equipment (or Apparatus) Sold as a Unit for Playing a Parlor Board Game (Int. Cl. 28).
First use Apr. 9, 1962.

SN 365,000. Mattel, Inc., Hawthorne, Calif. Filed July 13, 1970.

RHINOZZLE

For Toy Plush Animal (Int. Cl. 28).
First use June 9, 1970.

SN 366,259. Mattel, Inc., Hawthorne, Calif. Filed July 27, 1970.

GRAN TOROS

For Toy Miniature Automobiles (Int. Cl. 28).
First use Feb. 17, 1970.

SN 366,457. Mattel, Inc., Hawthorne, Calif. Filed July 28, 1970.

HI-PERFORMANCE

For Toy Kit Comprising Toy Automobiles, Track, an Automobile Service Building, an Automobile Speed Booster, and a Wheel Alignment Tool (Int. Cl. 28).
First use Feb. 17, 1970.

SN 366,458. Mattel, Inc., Hawthorne, Calif. Filed July 28, 1970.

ROAD TRIALS

For Toy Automobile Racing Set (Int. Cl. 28).
First use Feb. 17, 1970.

SN 366,461. Mattel, Inc., Hawthorne, Calif. Filed July 28, 1970.

CO-MOTION

For Toy Automobile (Int. Cl. 28).
First use June 29, 1970.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 322,741. Star-New Era, Inc., South Hackensack, N.J., by change of name from Powers & Eaton Industries, Inc., South Hackensack, N.J. Filed Mar. 25, 1969.

STAR

Owner of Reg. Nos. S44,051 and S44,052.
For Type Setting, Type Casting Machines, and Structural Parts Thereof—Namely, Controls, Control Mechanisms, Quadrating Mechanisms, Perforators, Tape Readers, Matrix Scanning Mechanisms, and Justifying Mechanisms (Int. Cl. 7).
First use about December 1955.

SN 330,699. Baumritter Corporation, New York, N.Y. Filed June 23, 1969.

ETHAN ALLEN

"Ethan Allen" is the name of the early American patriot, who is now deceased, Owner of Reg. Nos. 381,746 and 737,146.
For Fireplace Tools and Fixtures, Including Bellows, Tongs, and Pokers (Int. Cl. 8).
First use During April 1966.

SN 348,814. Wells Electronics, Inc., South Bend, Ind. Filed Jan. 16, 1970.

DYNABLAST

For Apparatus for Removing Burrs From Metal Parts and Apparatus for Removing Flash From Molded Plastic Parts—Namely, Abrasive Blasting Machines (Int. Cl. 7).
First use July 19, 1968.

SN 349,338. El-Chem Machinery, Inc., Springwater, N.Y. Filed Jan. 22, 1970.



For Deburring Machines (Int. Cl. 7).
First use on or about June 19, 1969.

SN 350,964. Sears, Roebuck and Co., Chicago, Ill. Filed Feb. 9, 1970.

RASPLANE

For Abrading Hand Tools (Int. Cl. 8).
First use on or about Dec. 5, 1957.

SN 362,505. Engineering Technology, Inc., Salt Lake City, Utah. Filed June 12, 1970.

EN-TEC

For Filament Winding Machines, Vacuum Chamber Enclosed Filament Winding Machines and Glass Fiber Compound Sheet Molding Machines (Int. Cl. 7).
First use on or before Aug. 10, 1962.

Class 25—Locks and Safes

SN 331,112. Fellowes Manufacturing Company, Franklin Park, Ill. Filed June 27, 1969.

POLYLOCK

For File Drawer Assembly Devices—Namely, Corner Closure Locks (Int. Cl. 16).
First use at least as early as Apr. 29, 1969.

Class 27—Horological Instruments

SN 348,319. The Pan-American Barter Co., Inc., New York, N.Y. Filed Jan. 12, 1970.

PERFORMANCE

For Watches and Clocks (Int. Cl. 14).
First use Sept. 24, 1969.

Class 28—Jewelry and Precious-Metal Ware

SN 347,967. Royal Military Jewelry Company, Apache Junction, Ariz. Filed Jan. 7, 1970.

RMJ

For Jewelry (Int. Cl. 14).
First use Sept. 1, 1969.

SN 358,035. Seymour Lampert, d.b.a. Styleline Jewelers, Chicago, Ill. Filed Apr. 27, 1970.
Owner of Reg. No. 765,071.



For Articles of Personal Jewelry Made of Precious Metal (Int. Cl. 14).
First use June 28, 1962.

Class 29—Brooms, Brushes, and Dusters

SN 342,611. Avon Products, Inc., New York, N.Y. Filed Nov. 4, 1969.

SAF-T-DENT

For Toothbrush (Int. Cl. 21).
First use Aug. 27, 1969.

SN 355,456. Star Brush Manufacturing Co., Inc., Boston, Mass. Filed Mar. 30, 1970.

Peltron

For Textile Cover Material for Paint Rollers (Int. Cl. 16).
First use Nov. 12, 1969.

Class 31—Filters and Refrigerators

SN 323,046. Sherwood Medical Industries Inc., Chicago, Ill. Filed Mar. 28, 1969.

DEODOR-ALL

For Portable Filtration and Ventilation Device for Purifying, Deodorizing and Circulating Room Air (Int. Cl. 11).
First use May 2, 1968.

SN 337,462. Pritchard Products Corporation, Kansas City, Mo. Filed Sept. 9, 1969.

PRE-SORBER

For Entrapment Separators (Int. Cl. 7).
First use Aug. 7, 1967.

Class 32—Furniture and Upholstery

SN 319,846. Erb Plastics, Inc., Atlanta, Ga. Filed Feb. 24, 1969.

ERB

For Plastic Caps for Chair Legs (Int. Cl. 20).
First use Dec. 27, 1968.

SN 325,396. Royal Seating Corporation, Cameron, Tex. Filed Apr. 23, 1969.



For Educational Furniture—Namely, Student and Teachers' Chairs, Tablet Arm Chairs, Chair-Desk Combinations, Tables, and Table-Desk Combinations (Int. Cl. 20).
First use at least as early as Mar. 25, 1969.

SN 326,152. The United States Bedding Company, St. Paul, Minn. Filed May 1, 1969.

KING KOIL BEDQUARTERS

Owner of Reg. Nos. 597,377, 616,834, and others.
For Sleep Products—Namely, Bed Springs, Mattresses and Sofa Beds (Int. Cl. 20).
First use Mar. 1, 1969.

SN 327,720. W. & J. Sloane, New York, N.Y. Filed Mar. 13, 1969.

**L.J. NEWTON**

The lines in the drawing do not represent the color brown, but are merely representative of the black and white lines in the specimens. "L. J. Newton" is a fanciful name and does not relate to any living or deceased individual.

For Beds, Bureaus, Mirrors, Tables of All Types, Headboards, Chairs, Lounges, Cabinets, Sideboards, Breakfronts, What-Not Shelves, Box Springs, Mattresses, Pillows, Sofas, Foot Stools, Ottomans, Benches, Shelves, Book and Magazine Racks and Stands, Standing Screens, Book Cases, Desks, Plant Stands, Picture Frames, Cribs, Play Pens, Bassinets, Nursery Seats, Lawn Swings, Lawn Furniture, High Chairs, Dressing Tables, Valet Stands, Chests, Shoe Racks, Hat Stands, Luggage Racks, and Bars (Int. Cl. 20).
First use June 1, 1966.

SN 330,671. Maestro Import Industries, Inc., Newark, N.Y. Filed June 23, 1969.

COURT SPANISH

Applicant disclaims any exclusive right to the word "Spanish" except as used in the composite mark.

For Bedroom Furniture, Dining Room Furniture, Living Room Furniture, and Occasional Furniture Such as Bench, Bunching Chest, Bookcase, Etagere, and Desk (Int. Cl. 20).
First use May 21, 1969.

SN 334,220. Federated Department Stores, Inc., Columbus, Ohio. Filed Aug. 1, 1969.

GOLD @ CIRCLE

For Mattresses and Pillows (Int. Cl. 20).
First use Apr. 28, 1968.

SN 343,981. Integral Cubics, Inc., Long Island City, N.Y. Filed Nov. 19, 1969.

WHATCHAMACALLIT

For Knockdown Modular Furniture That Can Be Assembled and Interlocked To Form Storage Walls, Book Cases, Room Dividers, Tables and Can Be Used as Chairs or Containers (Int. Cl. 20).
First use July 10, 1969.

SN 349,196. The Mebane Company, Mebane, N.C. Filed Jan. 21, 1970.

CROWN IMPERIAL

For Mattresses (Int. Cl. 20).
First use Jan. 5, 1970.

SN 355,523. Howe Folding Furniture, Inc., New York, N.Y. Filed Mar. 31, 1970.

HOWE

Owner of Reg. No. 524,633.
For Study Carrels and Booths for Visual and Audio Instruction (Int. Cl. 20).
First use May 1962.

SN 356,274. Gary Arts Ltd., New York, N.Y. Filed Apr. 8, 1970.

**HELP STAMP OUT
BLANK WALLS
BUY PICTURES**

For Framed Paintings, Framed Lithographs and Etchings, Framed Prints and Pictures (Int. Cl. 16).
First use July 26, 1966.

SN 364,053. Kay Manufacturing Corp., Brooklyn, N.Y. Filed June 30, 1970.

BORDER-BOOSTER

For Edge Supports for the Inner Springs of Mattresses and Bedding (Int. Cl. 20).
First use July 6, 1965.

SN 365,058. Consolidated Foods Corporation, Chicago Heights, Ill. Filed July 13, 1970.

FINAL TOUCH

For Window Shade Trim (Int. Cl. 20).
First use Feb. 3, 1970.

Class 37—Paper and Stationery

SN 338,343. Arvey Corporation, Chicago, Ill. Filed Sept. 19, 1969.

CIMARRON BOND

Without waiving any of applicant's common law rights in respect of the mark, applicant disclaims the word "Bond" apart from the mark as shown.

For Writing Paper, Typing Paper, and Envelopes (Int. Cl. 16).
First use Aug. 18, 1969.

SN 338,344. Arvey Corporation, Chicago, Ill. Filed Sept. 19, 1969.

CIMARRON OPAQUE

Without waiving any of applicant's common law rights in respect of the mark, applicant disclaims the word "Opaque" apart from the mark as shown.

For Writing Paper, Typing Paper, and Envelopes (Int. Cl. 16).
First use Aug. 18, 1969.

SN 339,887. Hasbro Industries, Inc., Pawtucket, R.I. Filed Oct. 6, 1969.

COUGAR

For Pencils (Int. Cl. 16).
First use on or about Sept. 17, 1969.

SN 341,766. Acme Visible Records, Inc., Crozet, Va. Filed Oct. 27, 1969.

KromaKode

For Color Coded File Folders (Int. Cl. 10).
First use Apr. 17, 1969.

SN 348,336. Riegel Paper Corporation, New York, N.Y. Filed Jan. 12, 1970.

BLIS-PAK

For Paperboard for Blister Packaging (Int. Cl. 16).
First use Sept. 17, 1969.

SN 351,233. Staff Supermarket Associates, Inc., Jericho, N.Y. Filed Feb. 12, 1970.

TOFT

For Paper Napkins and Bathroom Tissue (Int. Cl. 16).
First use Feb. 4, 1970.

SN 351,575. Westab Inc., Dayton, Ohio. Filed Feb. 16, 1970.
Owner of Reg. Nos. 334,066 and 526,959.

BLUE HORSE

For Pencil Tablets, Composition Note Books, Loose-Leaf Paper and Theme Paper, Sheet Writing Paper, Loose-Leaf Fillers, Loose-Leaf Binders, and Combinations Thereof, Pencils, and Fountain Pens (Int. Cl. 16).
First use March 1902 on pencil tablets.

SN 351,627. Reynolds Metals Company, Richmond, Va. Filed Feb. 17, 1970.

MSP

For Heat-Shrinkable, Transparent Polyvinyl Chloride Film Sold in Rolls for Packaging (Int. Cl. 16).
First use at least as early as Feb. 18, 1969.

SN 351,837. Reynolds Metals Company, Richmond, Va. Filed Feb. 19, 1970.

SLP

For Heat-Shrinkable, Transparent Polyvinyl Chloride Film Sold in Rolls for Packaging (Int. Cl. 16).
First use at least as early as February 1966.

SN 351,839. Reynolds Metals Company, Richmond, Va. Filed Feb. 19, 1970.

GSP

For Heat-Shrinkable, Transparent Polyvinyl Chloride Film Sold in Rolls for Packaging (Int. Cl. 16).
First use at least as early as February 1966.

SN 352,105. Dominion Envelope Company Limited, Don Mills, Ontario, Canada. Filed Feb. 24, 1970.

SCAN-A-LOPE

For Envelopes (Int. Cl. 16).
First use Feb. 17, 1970.

SN 353,034. Chemolene Industries, Inc., Bordentown, N.J. Filed Mar. 4, 1970.

Dark Rite

For Writing Instruments, Especially Ball Pens, Felt-Tip Markers, and Marking Pens (Int. Cl. 16).
First use Jan. 27, 1970.

Class 38—Prints and Publications

SN 303,932. Random House, Inc., New York, N.Y., by merger from The L. W. Singer Company, Inc., New York, N.Y. Filed July 30, 1968.

A CAROUSEL BOOK

Applicant disclaims exclusive right to the word "Book" apart from the mark as shown.
For Books (Int. Cl. 16).
First use at least as early as Apr. 28, 1967.

SN 318,639. Encyclopedia of World Knowledge, Inc., New York, N.Y. Filed Feb. 7, 1969.

**THE ENCYCLOPEDIA OF
WORLD KNOWLEDGE**

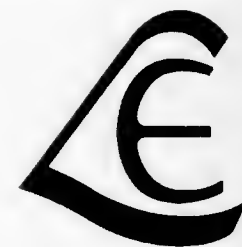
Applicant disclaims the word "Encyclopedia" apart from the mark as shown.
For Books (Int. Cl. 16).
First use Jan. 29, 1969.

SN 324,425. Davies Publishing Company, Chicago, Ill. Filed Apr. 14, 1969.

MP MEAT PROCESSING

The drawing is lined for red and gray, but color is not an essential feature of the mark. Owner of Reg. No. 774,556.
For Magazine (Int. Cl. 16).
First use May 1965.

SN 326,619. Beverly P. Ball, d.b.a. Laureate Enterprises, Falls Church, Va. Filed May 7, 1969.



For Booklets and Kits Containing Instructional Materials for Use in Teaching Various Subjects (Int. Cl. 16).
First use Jan. 6, 1969.

SN 328,053. Steven K. Herlitz, Inc., New York, N.Y. Filed May 22, 1969.



For Advertising Publications—Namely, Brochures Containing Advertisements for Others and Return-Mail Postcards (Int. Cl. 16).
First use at least as early as Apr. 7, 1969.

SN 329,188. Index Publishing Corp., Chicago, Ill. Filed Aug. 4, 1969.



No claim is made to the terms "Architects," or "Contractors," or "Register" apart from the mark as shown. Owner of Reg. No. 882,900.

For Reference Book Published From Time to Time for the Construction Industry and Containing a Classified List of General Contractors, Special Field Contractors, Architects, Structural Engineers, and Material and Equipment Manufacturers and Suppliers (Int. Cl. 16).
First use Sept. 27, 1956.

SN 333,225. John A. Hillman, d.b.a. J. Hillman Art Studio, San Francisco, Calif. Filed July 23, 1969.



For Greeting Cards (Int. Cl. 16).
First use Jan. 5, 1968.

SN 335,255. Physician's Drug Manual, Inc., New York, N.Y. Filed Aug. 13, 1969.



For Physician's Drug Manual, an Educational Periodical on Drugs for Physicians (Int. Cl. 16).
First use June 14, 1969.

SN 335,385. Tingley Rubber Corporation, South Plainfield, N.J. Filed Aug. 14, 1969.

SHOWER FLOWERS

For Self-Adhering Flower Shaped Decals To Be Applied to Children's Rubber Footwear (Int. Cl. 16).
First use Apr. 1, 1969.

SN 335,471. Sales Training, Inc., Seattle, Wash. Filed Aug. 15, 1969.



The people pictured within the mark is an artist's conception of people in various stages of business activity, and are purely fictitious. The applicant disclaims the words in the mark, "Human Relations," "Effective Communications," "Professional Salesmanship," and "Management Development," apart from the mark as a whole.

For Series of Booklets Containing a Training Program (Int. Cl. 16).
First use January 1969.

MOVE

For Magazine (Int. Cl. 16).
First use July 28, 1969; in commerce July 28, 1969.

SN 342,959. Delta Farm Press, Clarksdale, Miss. Filed Nov. 7, 1969.

DELTA FARM PRESS

For Newspaper (Int. Cl. 16).
First use Jan. 1, 1944.

SN 343,324. Pendulum Press, Incorporated, Westport, Conn. Filed Nov. 12, 1969.



For the purposes of registration no claim is made to the exclusive right to use the word "Editions" apart from the mark, but the applicant waives none of its common law rights in the mark or any feature thereof.

For Books and Pamphlets Which Are Teachers' Guides for Use With Sald Books (Int. Cl. 16).
First use May 12, 1969.

SN 344,262. Scholastic Roto, Inc., New York, N.Y. Filed Nov. 21, 1969.

SCHOLASTIC SCENE

For Magazine (Int. Cl. 16).
First use Sept. 2, 1969; October 1941 as to "Scholastic Roto."

SN 346,393. National Association of Minority Contractors, Inc., San Francisco, Calif. Filed Dec. 16, 1969.

MINORITY BUILDER

For Magazines and Newsletters (Int. Cl. 16).
First use Aug. 15, 1969.

SN 347,238. Lloyd L. Davison, Boise, Idaho. Filed Dec. 29, 1969.



For Booklets (Int. Cl. 16).
First use Dec. 20, 1968.

SN 348,134. The Dow Chemical Company, Midland, Mich. Filed Jan. 9, 1970.

AMINELOGICS

For Trade Bulletin (Int. Cl. 16).
First use at least as early as January 1966.

SN 350,439. The Walter Reade Organization, Inc., Oakhurst, N.J. Filed Feb. 4, 1970.

PYRAMID

Owner of Reg. No. 566,092.
For Periodical Magazines and Paperback Books (Int. Cl. 16).
First use not later than 1949.

SN 351,201. Gilder Associates, Inc., Park Ridge, N.J. Filed Feb. 12, 1970.

SWL ADDRESS BOOK

The words "Address Book" are disclaimed apart from the remainder of the mark.
For Printed Directories in Book Form (Int. Cl. 16).
First use Dec. 30, 1969.

SN 351,701. John T. Gibson, d.b.a. Auto Index Company, Huntersville, N.C. Filed Feb. 18, 1970.

AUTODEX

For Monthly Directory Relative to Used Automobile and Truck Parts (Int. Cl. 16).
First use Dec. 29, 1969.

SN 351,933. Derrill S. Glipson, Huntsville, Ala. Filed Feb. 20, 1970.

THE
BOBBYBONES

For Cartoon Series Which Is Published in Pamphlets and Other Publications (Int. Cl. 16).
First use Apr. 13, 1969.

SN 352,592. American National Standards Institute, Incorporated, New York, N.Y. Filed Feb. 27, 1970.

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For Books and Pamphlets Issued From Time to Time Relating to Engineering and Industrial Standards in Various Fields, Such as the Electrical, Mining, Mechanical, Building, Safety, Consumer Goods, Nuclear, Photographic and Traffic Fields (Int. Cl. 16).
First Use Nov. 18, 1969.

SN 352,594. American National Standards Institute, Incorporated, New York, N.Y. Filed Feb. 27, 1970.

ANSI

For Books and Pamphlets Issued From Time to Time Relating to Engineering and Industrial Standards in Various Fields, Such as the Electrical, Mining, Mechanical, Building, Safety, Consumer Goods, Nuclear, Photographic and Traffic Fields (Int. Cl. 16).
First use Nov. 18, 1969.

SN 353,257. Parke, Davis & Company, Detroit, Mich. Filed Mar. 6, 1970.

PATTERNS

Owner of Reg. No. 732,176.
For Periodical Report for the Medical Profession (Int. Cl. 16).
First use on or before Feb. 9, 1970.

SN 353,431. Computer Audit Corporation, Silver Spring, Md. Filed Mar. 9, 1970.

EASYTRIEVE/300

For Technical Manuals and Instruction Sheets for Use With Computer Programs (Int. Cl. 16).
First use Feb. 1, 1969.

SN 353,432. Computer Audit Corporation, Silver Spring, Md. Filed Mar. 9, 1970.

JCL/360

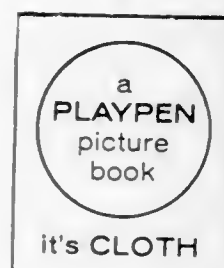
For Technical Manuals for Use With Computer Programs (Int. Cl. 16).
First use Oct. 15, 1969.

SN 353,702. Nenox Photo, Incorporated, Moline, Ill. Filed Mar. 11, 1970.

lenXtra

For Photographic Prints (Int. Cl. 16).
First use Sept. 7, 1969.

SN 354,041. Western Publishing Company, Inc., Racine, Wis. Filed Mar. 13, 1970.



Applicant disclaims its exclusive rights in the words "A," "Picture," and "Book" and the phrase "It's Cloth" apart from the mark as shown.
For Children's Books—Namely, a Series of Children's Cloth Books (Int. Cl. 16).
First use Feb. 3, 1970.

SN 354,665. Project Software and Development, Inc., Cambridge, Mass. Filed Mar. 19, 1970.

PROJECT/2

For Computer Program, in the Form of Instructions and Data on Punched Cards or on Magnetic Tape (Int. Cl. 16).
First use Aug. 1, 1969.

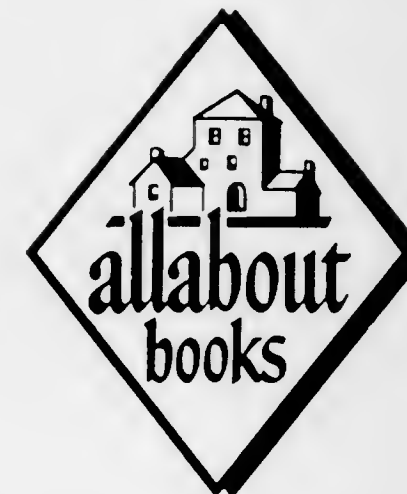
SN 355,281. Western Publishing Company, Inc., Racine, Wis. Filed Mar. 27, 1970.



Applicant disclaims its exclusive rights in the word components "Play and Learn Book" apart from the mark as shown, without waiving any of its common law rights therein. Owner of Reg. No. 891,613.

For Books—Namely, a Series of Board Books Containing Illustrations and Text Primarily Intended for the Education and Amusement of Children of Preschool Age (Int. Cl. 16).
First use June 29, 1962.

SN 356,921. Random House, Inc., New York, N.Y. Filed Apr. 15, 1970.



Applicant disclaims exclusive right to the word "Books" apart from the mark as shown. Owner of Reg. No. 598,226.
For Books (Int. Cl. 16).
First use at least as early as Sept. 16, 1953.

SN 357,002. Riback Enterprises, Inc., Chicago, Ill. Filed Apr. 15, 1970.

GRINVITATIONS

For Paper Goods—Namely, Invitations and Thank-You Notes (Int. Cl. 16).
First use on or about Jan. 21, 1970.

SN 358,197. The Home Insurance Company, New York, N.Y. Filed Apr. 28, 1970.

NEWS FROM HOME

For House Organ (Int. Cl. 16).
First use 1939.

SN 358,325. McGraw-Hill, Inc., New York, N.Y. Filed Apr. 29, 1970.



For Printed Educational Test Booklets and Handbooks (Int. Cl. 16).
First use Feb. 9, 1970.

SN 358,327. McGraw-Hill, Inc., New York, N.Y. Filed Apr. 29, 1970.



For Printed Educational Test Booklets and Handbooks (Int. Cl. 16).
First use Feb. 9, 1970.

SN 358,752. J. Lawrence Herzog, Rockford, Ill. Filed May 4, 1970.

FIRSTS

For Newspaper Articles Published From Time to Time and Including Drawing and Descriptive Matter (Int. Cl. 16).
First use June 16, 1930.

SN 359,094. Doebla Greeting Cards, Incorporated, Nashua, N.H. Filed May 7, 1970.

WESTCHESTER
in GREETINGS

For Boxed Assortments of Christmas Greeting Cards (Int. Cl. 16).
First use Mar. 16, 1970.

SN 359,583. D. H. Baldwin Company, Cincinnati, Ohio. Filed May 13, 1970.

the keynote

Owner of Reg. No. 143,904.
For Magazine Published From Time to Time (Int. Cl. 16).
First use Feb. 26, 1970.

SN 360,033. Community Newspapers, Inc., Franklin, N.C. Filed May 18, 1970.

MOUNTAIN LIVING

For Magazine (Int. Cl. 16).
First use May 15, 1970.

SN 360,292. Rosy Cheeks Publishers, Inc., New York, N.Y. Filed May 20, 1970.

RAGS

For Magazine (Int. Cl. 16).
First use May 7, 1970.

SN 360,328. The General Tire & Rubber Company, Akron, Ohio. Filed May 20, 1970.



Owner of Reg. Nos. 844,938, 513,266, and others.
For In-House Publication Directed to Sporting Goods Dealers Informing Them of Applicant's Latest Products and Services (Int. Cl. 16).
First use Jan. 31, 1963.

SN 361,751. Riback Enterprises, Inc., Chicago, Ill. Filed June 4, 1970.

GRIN-I-CHEERS

For Greeting Cards (Int. Cl. 16).
First use on or before Apr. 9, 1970.

SN 363,067. Pelican Publishing Company, Inc., d.b.a. Pelican Publishing Company, Gretna, La. Filed June 18, 1970.



For Books (Int. Cl. 16).
First use at least as early as Spring 1967.

SN 363,068. Pelican Publishing Company, Inc., d.b.a. Pelican Publishing Company, Gretna, La. Filed June 18, 1970.



For Books and Pamphlets (Int. Cl. 16).
First use at least as early as 1936.

SN 365,651. Woodall Publishing Company, Highland Park, Ill. Filed July 20, 1970.

BETTER CAMPING

Owner of Reg. No. 734,349.
For Magazine (Int. Cl. 16).
First use on or about Jan. 25, 1960.

SN 366,455. Kamar Incorporated, Gardena, Calif. Filed July 28, 1970.

LETTER PETS BY KAMAR

For Adhesive Backed Pictures of Animals and Dolls (Int. Cl. 16).
First use July 9, 1970.

SN 366,772. The Hearst Corporation, New York, N.Y. Filed July 31, 1970.

QUINCY

For Syndicated Newspaper Cartoon Feature (Int. Cl. 16).
First use July 9, 1970.

SN 366,837. Elyse, Inc., Bergenfield, N.J. Filed Aug. 3, 1970.

ALUMIN-ART

For Paintings on Glass (Int. Cl. 16).
First use Apr. 21, 1970.

Class 39 — Clothing

SN 311,170. Palco Hats Inc., South Norwalk, Conn. Filed Nov. 1, 1968.

DIVOT DIGGER

For Men's and Women's Headwear Excepting Australian Bush Hats, Neckwear, Sweaters, and Hosiery (Golfer's Sox) (Int. Cl. 25).
First use since June 1935.

SN 329,957. Bill's Inc., Huntsville, Ala. Filed June 13, 1969.

British Guard

Applicant disclaims the word "British" apart from the mark as shown.
For Clothing—Namely, Sweaters, Sweater Coats, Jackets, Sport Coats, and All-Weather Coats (Int. Cl. 25).
First use during September 1967.

SN 330,540. Sportallor, Inc., Miami, Fla. Filed June 19, 1969.

SPORTCETA

For Beachwear, Men's and Boys' Dress and Knitted Sports Shirts, and Men's Shorts and Slacks (Int. Cl. 25).
First use Mar. 20, 1969.

SN 334,596. Henri Lansberg, Paris (Seine), France. Filed Aug. 6, 1969.

HARRY LANS International

Priority claimed under Sec. 44(d) on French Reg. No. 757,946, dated Feb. 13, 1969. The name "Harry Lans" is fanciful, and does not refer to any particular living individual.
For Beachwear; Footwear; Headwear; Neckwear; Lounge-wear; Rainwear; Swimwear; Underwear; Fur Garments; Foundation Garments; Maternity Apparel; Ski Clothes; Ski Wear; and of Course Dresses, Coats, Slacks, Sweaters, Jackets, Hosiery, Pants or Slacks, Suits, and Gloves (Int. Cl. 25).
First use 1965; in commerce 1965.

SN 339,493. Chanel, Inc., New York, N.Y. Filed May 28, 1969.

CHANEL

Owner of Reg. No. 619,522.
For Coats, Suits, Blouses, and Scarves (Int. Cl. 25).
First use in 1914.

SN 341,201. Christopher Robin, Ltd., St. Joseph, Mo. Filed Oct. 20, 1969.

CHRISTOPHER ROBIN

"Christopher Robin" is a fanciful name.
For Girls' Clothing Comprising Coats, Coat Sets, Jackets, Rain Coats, Snow Suits, Leggings, Dresses, Skirts, Skirt Sets, Sweaters, Blouses, Polos, Sweat Shirts, Swimwear, Sun-suits, Shorts, Peddle Pushers, Jumpers, Slacks, Suits, Gloves, Neckwear, Millinery, Slips, Half-Slips, Pajamas, Gowns, Robes, Lounging Pajamas, Panties, Underwear, Tights, and Sleepers; Boys' Clothing Comprising Coats, Coat Sets, Leggings, Jackets, Car Coats, Rain Coats, Slacks, Shirts, Polo Shirts, Sweat Shirts, Sweaters, Shorts, Short Sets, Deck Pants, Swimwear, Jeans, Sport Coats, Rugby and Eton Suits, Baseball Suits, Hats, Belts, Gloves, Ties, Socks, Pajamas, Robes, Under Shorts, Briefs; and Infants' Clothing Comprising Undershirts, Gowns, Kimonos, Sacques, Training Panties, Shirts, Sleepers, Pajamas, Bootle Sets, Shawls, Buntings Christening Sets, Stretch Items, Diaper Sets, Sweaters, Cover-alls, Over-alls, Boxer Loungies, Boxer Shorts, Sun-suits, Swimwear, Jump Sluts, Polos, Cotton Cardigans, Creepers, Short Pant Sets, Eton Suits, Infant and Babette Dresses, Slipper Socks, Crib Shoes, Soft Shoes, Panty Tights, Headwear, Diapers, Diaper Liners, Disposable Diapers, Pram Suits, Coat Sets, Jackets, Water-Proof Pants (Int. Cl. 25).
First use Apr. 30, 1969.

SN 342,477. Karman, Inc., Denver, Colo. Filed Nov. 3, 1969.

HIPPEROOS

For Ladies' Pants (Int. Cl. 25).
First use Apr. 1, 1969.

SN 342,999. Raleigh Manufacturers, Inc., New York, N.Y. Filed Nov. 7, 1969.



For Men's and Boys' Suits, Coats, and Pants (Int. Cl. 25).
First use June 15, 1950.

SN 343,544. Richard Gregg Manufacturing Co., Inc., Huntsville, Ala. Filed Nov. 14, 1969.

TENSION EZE

For Elastic Bands Which Form a Component Part of Hair Protector Nets (Int. Cl. 26).
First use Sept. 5, 1969.

SN 344,472. Uniroyal, Inc., New York, N.Y. Filed Nov. 24, 1969.

ALLSPORTS

Owner of Reg. No. 237,778.
For Shoes (Int. Cl. 25).
First use about Apr. 19, 1927.

SN 345,258. Modern Jacket Company, St. Louis, Mo. Filed Dec. 4, 1969.

CAMPUSET

For Men's and Boys' Outerwear, Specifically Rainwear, Coats, and Jackets of Leather, Cloth and Synthetic Materials Including Plastics (Int. Cl. 25).
First use Nov. 3, 1969.

SN 345,361. Miss Pat, Los Angeles, Calif. Filed Dec. 4, 1969.

ST. MALO

For Women's, Juniors', and Misses' Wearing Apparel—Namely, Dresses, Coats, Skirts, Pants, Shorts, Culottes, Shirts, Sweaters, Swimwear, and Jackets (Int. Cl. 25).
First use on or about Nov. 1, 1969.

SN 345,682. Shelby Seamless Hosiery Mills, Inc., Shelby, N.C. Filed Dec. 8, 1969.

Convexalon

For Hosiery (Int. Cl. 25).
First use Sept. 1, 1969.

SN 345,881. The Washington Manufacturing Company, Nashville, Tenn. Filed Dec. 10, 1969.

TURTLE BAX

For Ladies' Jeans and Shirts (Int. Cl. 25).
First use July 9, 1969.

SN 346,305. The Servus Rubber Company, Rock Island, Ill. Filed Dec. 15, 1969.

IZAACK WALTON

"Izaak Walton" is the name of an individual, now deceased.
For Footwear—Namely, Rubber Boots (Int. Cl. 25).
First use about Nov. 10, 1969.

SN 347,318. Alberta Penny Rich, Dallas, Tex. Filed Dec. 29, 1969.

TRIANDERIN

For Brassieres (Int. Cl. 25).
First use June 26, 1969.

SN 347,410. Janie Originals, Inc., New York, N.Y. Filed Dec. 30, 1969.



For Children's and Juniors' Bathing Suits, Sweaters, Slacks, Jumpers, Vests, Skirts, Jumpsuits, Coats, Ponchos, Boleros, Blouses, and Dresses (Int. Cl. 25).
First use Dec. 10, 1969.

SN 347,668. Welco Enterprises, Inc., Waynesville, N.C. Filed Jan. 2, 1970.

GLO TREADS

Applicant disclaims the word "Treads" except as used in connection with the mark.

For Footwear—Namely, Boots, Slippers, and Sandals (Int. Cl. 25).
First use Dec. 1, 1969.

SN 347,766. Miken Enterprises, Reading, Pa. Filed Jan. 5, 1970.

CLEAN-CHANGE

For Coverall of Reinforced, Nonwoven, Water and Oil Repellent, Lint Free, Paper-Like Material (Int. Cl. 25).
First use Oct. 27, 1969.

SN 348,045. Mevana Hong Kong Tailors Inc., Hong Kong. Filed Jan. 8, 1970.



"Mevana" is a Hebrew word meaning "understood."
For Men's Suits, Shirts, Slacks, Sport Jackets, Top Coats; Ladies' Dresses, Suits, Sweaters, Blouses, Jackets, and Top Coats (Int. Cl. 25).
First use Sept. 30, 1967; in commerce Jan. 4, 1968.

SN 351,080. Originala Incorporated, New York, N.Y. Filed Feb. 11, 1970.

GININI

For Ladies' Coats, Suits, Dresses, Suit Ensembles, Coat Ensembles, Pants Suits, and Jump Suits (Int. Cl. 25).
First use on or about Feb. 2, 1970.

SN 351,591. Melville Shoe Corporation, New York, N.Y. Filed Feb. 17, 1970.

LOVE-MATES

For Children's Slippers (Int. Cl. 25).
First use Jan. 29, 1970.

SN 352,079. J. W. Bray Company, Inc., Dalton, Ga. Filed Feb. 24, 1970.

WASH' HUMS

For Slippers (Int. Cl. 25).
First use Feb. 18, 1970.

SN 352,225. Sagner, Inc., Frederick, Md. Filed Feb. 24, 1970.

DUNCAN REED

The name "Duncan Reed" is fanciful and does not refer to a living individual.

For Men's Wear—Namely, Slacks, Jackets, Shoes, Vests, Suits, Raincoats, Sweaters, Topcoats, Overcoats, Bathrobes; Women's Wear—Namely, Suits, Skirts, Dresses, Slips, Slacks, Jackets, Shoes, Raincoats, Sweaters, Housecoats; Children's Wear—Namely, Girls' Suits, Coats, Skirts, Jackets, Dresses, Hats, Shoes, Slacks, Sweaters, Raincoats, Bathrobes, Slips; and Boys' Suits, Overcoats, Pants, Shoes, Sweaters, Vests, Jackets, Slacks, Bathrobes, and Raincoats (Int. Cl. 25).
First use 1956.

SN 352,731. Koracorp Industries Inc., San Francisco, Calif., assignee of Koret of California Inc., San Francisco, Calif. Filed Mar. 2, 1970.

IDENTITY DESIGNS

Applicant disclaims any exclusive rights in the word "Designs" apart from the mark as a whole.

For Women's Clothing—Namely, Dresses, Skirts, Shirts, Blouses, Jackets, Coats, Sweaters, Raincoats, Hats, Tunics, For Men's and Boys' Suits, Sports Coats, Vests, Pants, and Cl. 25).
First use Oct. 9, 1969.

SN 356,058. Ericson of Sweden, New York, N.Y. Filed Apr. 6, 1970.



Applicant disclaims the word "Sweden" apart from the mark as shown.
For Men's Leather Sportswear—Namely, Jackets, Coats, Vests, and Pants (Int. Cl. 25).
First use Mar. 9, 1970.

SN 356,063. Florida Fishermens Supply Co., Inc., Tampa, Fla. Filed Apr. 6, 1970.

SN 363,624. White Stag Manufacturing Co., Portland, Oreg. Filed June 25, 1970.



The drawing is lined for the color gold.
For Industrial Rubber Boots (Int. Cl. 25).
First use Nov. 21, 1957.

SN 357,762. Sturdl-Wear Clothes Inc., Scranton, Pa. Filed Apr. 23, 1970.



The name "Jay P. Kays" is fictitious and does not identify any particular living individual.

For Men's and Boys' Suits, Sport Coats, Vests, Pants, and Outerwear—Namely, Coats and Jackets (Int. Cl. 25).
First use Oct. 1, 1969.

SN 358,160. A. Zegna Societa in Accomandita Semplice, Vallemosso, Vercelli, Italy. Filed Apr. 28, 1970.

BARUFFA

"Baruffa" is an Italian word meaning to "quarrel, brawl or scuffle."

For Hosiery and Knitted Wearing Apparel—Namely, Sweaters, Jackets, Coats, Skirts, Slacks, Socks, and Neck Scarves (Int. Cl. 25).
First use Jan. 23, 1968; in commerce Jan. 23, 1968.

SN 358,568. Haspel Brothers, Inc., New Orleans, La. Filed May 1, 1970.

MAGNAVIRA

For Men's Suits, Jackets, and Trousers (Int. Cl. 25).
First use Nov. 24, 1969.

SN 359,654. Spartan Industries, Inc., New York, N.Y. Filed May 13, 1970.

POLYJACK

For Men's and Ladies' Knit Shirts (Int. Cl. 25).
First use Mar. 12, 1970.



Applicant disclaims the word "Clothes" apart from the mark as shown. Owner of Reg. Nos. 369,881, 892,508, and others.
For Skirts (Int. Cl. 25).
First use Nov. 19, 1969.

SN 364,015. International Playtex Corporation, New York, N.Y. Filed June 30, 1970.

BODY PATTERNS

For Girdles, Brassieres and Lingerie (Int. Cl. 25).
First use June 17, 1970.

SN 364,532. Cooper's, Incorporated, Kenosha, Wis. Filed July 7, 1970.



For T-Shirts (Int. Cl. 25).
First use at least as early as Apr. 25, 1970.

SN 364,712. Camp and McInnes, Inc., Reading, Pa. Filed July 9, 1970.

SUPPORT PLUS

For Men's Hosiery (Int. Cl. 25).
First use June 12, 1961.

SN 365,202. Pendleton Woolen Mills, Portland, Oreg. Filed July 14, 1970.

KNOCKABOUTS BY PENDLETON

Owner of Reg. Nos. 728,025, 757,817, and others.
For Women's Sportswear—Namely, Jackets, Skirts, Pants, Shorts, and Dresses (Int. Cl. 25).
First use at least as early as May 4, 1970.

SN 365,513. The Lovable Company, Atlanta, Ga. Filed July 17, 1970.

SOCIAL WHIRL

For Panty Hose (Int. Cl. 25).
First use June 9, 1970.

SN 366,610. Charles H. Bacon Company, Inc., Lenoir City, Tenn. Filed July 30, 1970.

WINKELS

For Panties, Panty Hose, and Hosiery (Int. Cl. 25).
First use July 23, 1970.

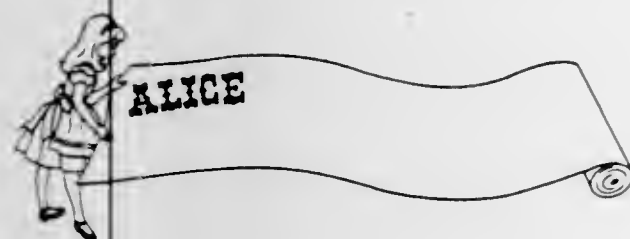
SN 367,101. Duti-Duds, Inc., Lynchburg, Va. Filed Aug. 5, 1970.

CLOUD-MATES

For Women's Maternity Clothes—Namely, Blouses, Dresses, Slacks, Shorts, and Pants Suits (Int. Cl. 25).
First use at least as early as July 21, 1970.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 330,893. Alice Manufacturing Co., Easley, S.C. Filed June 25, 1969.



For Textile Grey Goods—Namely, Cotton Fabrics, Synthetic Fabrics, and Blended Fabrics of Cotton and Synthetic Yarns (Int. Cl. 24).
First use June 16, 1969.

SN 337,703. Maurice Stein, d.b.a. Stuart Kingston Company, Rehoboth Beach, Del. Filed Sept. 11, 1969.

SUPER ROVAL KASHMIR

No claim is made to the word "Kashmir" apart from the mark as shown.
For Oriental Rugs (Int. Cl. 27).
First use October 1968.

SN 341,967. Waumbe Mills, Incorporated, New York, N.Y. Filed Oct. 28, 1969.

SPARERIB

For Textile Fabrics, Including Knitted Textile Fabrics Made of Natural and/or Synthetic Fibers and/or Blends Thereof (Int. Cl. 24).
First use Sept. 12, 1969.

SN 342,286. Klopman Mills, Inc., Rockleigh, N.J. Filed Oct. 31, 1969.

LARANDAH

Owner of Reg. No. 257,752.
For Fabrics in the Piece, Composed of Man-Made Fibers, and Fabrics in the Piece, Composed of Blends of Cotton Fibers and Man-Made Fibers (Int. Cl. 24).
First use at least as early as Feb. 28, 1929.

SN 344,792. Loomskill, Inc., New York, N.Y. Filed Nov. 28, 1969.

XTRATIZE

For Textile Fabrics of Cotton, Synthetics and Combinations Thereof for Manufacture Into Wearing Apparel (Int. Cl. 24).
First use Nov. 7, 1969.

SN 345,054. Angelica Corporation, St. Louis, Mo. Filed Dec. 2, 1969.

DYCURA

For Piece Goods of Synthetic Fibers and Mixtures of Synthetic and Natural Fibers (Int. Cl. 24).
First use May 9, 1969.

SN 346,266. Marnacraft Carpet Co., Ltd., Dalton, Ga. Filed Dec. 15, 1969.

MARNACRAFT

For Carpets (Int. Cl. 27).
First use Nov. 3, 1969.

SN 346,976. Spun-Lo Elderlon, Inc., New York, N.Y. Filed Dec. 22, 1969.

COVINAIR

For Fabrics of Cotton and Rayon (Int. Cl. 24).
First use Dec. 12, 1947.

SN 347,278. Kanri Incorporated, New York, N.Y. Filed Dec. 29, 1969.

TTX

For Woven and Knitted Fabrics (Int. Cl. 24).
First use February 1969.

SN 348,355. South Bay Design Corporation, New York, N.Y. Filed Jan. 12, 1970.



Applicant disclaims exclusive right to use the word "Fabrics" apart from the mark as shown.
For Fabrics Woven and Knitted of Cotton, Wool, Linen, Acetate, Rayon, and Other Synthetic Fibres (Int. Cl. 24).
First use Nov. 28, 1969.

SN 349,570. Walter Bader, Loudonville, N.Y. Filed Jan. 26, 1970.

NORTHCREST

For Rugs and Carpeting (Int. Cl. 27).
First use Mar. 1, 1969.

SN 350,530. Southern Mills, Inc., Atlanta, Ga. Filed Feb. 4, 1970.

ECONOMEX

For Textile Fabric Used for Press Covers on Pressing Bucks of Laundry and Dry Cleaning Presses (Int. Cl. 24).
First use Dec. 11, 1969.

SN 351,158. Synthetics Finishing Corp., Philadelphia, Pa. Filed Feb. 11, 1970.

COMBEAU

For Laminated Textile Fabrics (Int. Cl. 24).
First use Dec. 16, 1969.

SN 364,533. Deering Milliken, Inc., New York, N.Y. Filed July 7, 1970.

MILLIKNIT

For Textile Fabrics Made of Wool, Cotton and Synthetic Fibers and Combinations Thereof (Int. Cl. 24).
First use June 25, 1970.

SN 364,846. Auerbach and Company, Los Angeles, Calif. Filed July 10, 1970.

ACTION PLUS

For Cloth With Stretch Properties Made of Wool, Cotton, Acrylic Fibers, Rayon and Polyesters and Combinations Thereof, To Be Made Into Men's Slacks, Coats, and Suits (Int. Cl. 24).
First use Jan. 2, 1963.

Class 43—Thread and Yarn

SN 345,210. Societe de Filature Anciens Etablissements Jules de Surmont & Fils, Tourcoing, Nord, France. Filed Dec. 3, 1969.

SOFIL

For Yarns and Threads (Int. Cl. 23).
First use 1929; in commerce September 1960.

Class 44—Dental, Medical, and Surgical Appliances

SN 325,198. Humetrics Corporation, Los Angeles, Calif. Filed Apr. 22, 1969.

PHONOCARDIOSIMULATOR

Owner of Reg. Nos. 832,246, 857,101, and 871,863.
For Devices To Produce Sonic or Electric Impulses Simulating Those of the Human Heart (Int. Cl. 10).
First use Oct. 4, 1965.

SN 328,147. Acme Cotton Products Co., Inc., Valley Stream, N.Y. Filed May 23, 1969.

SOFSTRETCH

Owner of Reg. No. 815,230.
For Gauze Bandages (Int. Cl. 5).
First use on or about May 19, 1969.

SN 337,341. Ormco Corporation, Glendora, Calif. Filed Sept. 8, 1969.

ORTHIN

For Tooth Bands for Orthodontic Use (Int. Cl. 10).
First use June 5, 1968.

SN 344,808. Beltone Electronics Corporation, Chicago, Ill. Filed Nov. 28, 1969.

EMPIRE

For Electronic Hearing Aids (Int. Cl. 10).
First use Feb. 24, 1964.

SN 344,809. Beltone Electronics Corporation, Chicago, Ill. Filed Nov. 28, 1969.

LARGO

For Electronic Hearing Aids (Int. Cl. 10).
First use Oct. 27, 1967.

SN 344,810. Beltone Electronics Corporation, Chicago, Ill. Filed Nov. 28, 1969.

PRELUDE

For Electronic Hearing Aids (Int. Cl. 10).
First use Oct. 17, 1969.

SN 351,961. Nation-Wide Dental Studios, Inc., New York, N.Y. Filed Feb. 20, 1970.



For Fixed and Removable Dental Appliances—Namely, Jackets, Crowns, Inlays, and Full and Partial Dentures (Int. Cl. 10).
First use Feb. 21, 1961.

SN 360,696. Becton, Dickinson and Company, East Rutherford, N.J. Filed May 25, 1970.

DISLYN

For Disposable Drapes for Use in Surgical Procedures (Int. Cl. 5).
First use at least as early as Feb. 8, 1970.

SN 362,201. Smith Kline Instruments, Inc., Palo Alto, Calif. Filed June 10, 1970.

LIFEGUARD

For Cardiac Monitoring Medical Instruments Consisting of Bedside Monitor With Cardioscope, Heart Rate Meter, Audio-visual Alarm, Alarm System, Graphic ECG Recorder and Tape Loop (Int. Cl. 10).
First use January 1962.

Class 45—Soft Drinks and Carbonated Waters Class 46—Foods and Ingredients of Foods

SN 323,764. Imperial Flavors, Inc., Winter Haven, Fla. Filed Apr. 7, 1969.

TY-GO

For Fruit Juice Drinks Containing Water and Concentrates and Syrups Therefor (Int. Cl. 32).
First use Nov. 14, 1968.

SN 332,626. The Perfection Company Limited, Waco, Tex. Filed July 15, 1969.

MR. BIG

For Imitation Fruit Flavored Syrup Adapted To Make Soft Drinks (Int. Cl. 32).
First use Mar. 20, 1969.

SN 342,040. Gold Medal Products Co., Cincinnati, Ohio. Filed Oct. 29, 1969.

VITAMITE

For Powder for Making a Non-Carbonated Soft Drink (Int. Cl. 32).
First use on or about Sept. 29, 1969.

SN 359,747. Tavern Products, Inc., Paramount, Calif. Filed May 14, 1970.

Saloon

For Non-Alcoholic Cocktail Mix (Int. Cl. 32).
First use about April 1970.

SN 362,191. Consolidated Fruit & Flavor Corp., Granite City, Ill. Filed June 10, 1970.



RED BARON PUNCH

For the purpose of this registration and without prejudice to common law rights, the term "Punch" is disclaimed apart from the mark as shown.

For Non-Carbonated Fruit Punch of the Type Having a Water Base (Int. Cl. 32).
First use May 11, 1970.

SN 322,164. Hilltop Farm Products, Inc., Birmingham, Mich. Filed Mar. 19, 1969.



The word "Products" is disclaimed apart from the mark as shown.

For Frozen Dinner Rolls (Int. Cl. 30).
First use on or about Jan. 23, 1969.

SN 323,024. Scuffy Pet Centers, Inc., Allendale, N.J., by change of name from Scuffy's Pet Supplies, Inc., Allendale, N.J. Filed Mar. 27, 1969.

SCUFFY'S

For Pet Foods—Namely, Parakeet Fruit Treat (Int. Cl. 31).
First use Mar. 11, 1969.

SN 332,078. Brooke Bond Foods, Inc., Lake Success, N.Y. Filed July 9, 1969.



For Coffee, Tea, Spices, Meat Sauces, Sour Cream Sauce, and Gravy Mix (Int. Cl. 30).
First use as early as Mar. 1, 1969.

SN 336,593. Pescamino Ltd. A/S, Oslo, Norway. Filed Aug. 28, 1969.

PESCAMINO

Owner of Norwegian Reg. No. 71,182, dated Jan. 26, 1967. For Special Flour, Prepared of Fish Flour and Herring Flour (Int. Cl. 31).

SN 340,771. Carson International Inc., d.b.a. Honey Bear Farm, Itasca, Ill. Filed Oct. 15, 1969.

HONEY BEAR FARM

For Canned Soups and Vegetables; Relishes; Hors d'Oeuvres—Namely, Cheese and Crackers, Sardines, Shrimp, Smoked Salmon, Herring, Red Snapper, Cocktail Frankfurters, Fish Balls, Oysters, Crabmeat and Cheese Balls; Sauces for Meat, Fish and Vegetables; Spices and/or Herbs; Fresh, Frozen, Canned and Smoked Meats; Breads, Cookies, and Cakes; Candies and Nuts; Spreads—Namely, Honey Spread, Peanut Butter Spread and Cashew Butter; Pickles; Cheeses; Pancake and Waffle Mixes; Saffron-Herb Rice; Salad Dressings; Tea and Coffee (Int. Cl. 29 and 30).
First use summer of 1952.

SN 341,244. Eskimo Pie Corporation, Richmond, Va. Filed Oct. 21, 1969. SN 353,967. Todd Chemical Company, Incorporated, Great Neck, N.Y. Filed Mar. 13, 1970.

ESKIMO PRECIOUS SERV

Owner of Reg. Nos. 300,055, 823,028, and others.
For Frozen Confections (Int. Cl. 30).
First use on or prior to Oct. 13, 1969.

TATER-DINCKS

For Partially Prepared Potato Pancakes With Special Preservatives Added (Int. Cl. 30).
First use Jan. 22, 1970.

SN 341,699. A. H. Robins Company, Incorporated, Richmond, Va. Filed Oct. 24, 1969. SN 356,248. I. C. Parker, Fort Worth, Tex. Filed Apr. 8, 1970.

DRUTHERS

For Pretzels (Int. Cl. 30).
First use Apr. 1, 1969.

DRUMSTICK

Owner of Reg. Nos. 286,742, 504,742, and 504,743.
For Ice Cream Confections (Int. Cl. 30).
First use at least as early as 1948; at least as early as Mar. 11, 1931, in a different form.

SN 346,532. Tropi Co., Tulsa, Okla. Filed Dec. 17, 1969.

SN 357,675. American Home Products Corporation, New York, N.Y. Filed Apr. 23, 1970.



GULDEN'S

Owner of Reg. Nos. 48,460 and 196,989.
For Ketchup (Int. Cl. 30).
First use Mar. 12, 1970.

For Powdered Dehydrated Banana for Use in Food and Drink (Int. Cl. 29).
First use July 10, 1969. SN 361,238. Miles Laboratories, Inc., Elkhart, Ind. Filed June 1, 1970.

'TIL NOON

SN 347,006. Lawrence Tomskey, d.b.a. Labella Sales Company, San Mateo, Calif. Filed Dec. 23, 1969. For Instant Breakfast, and Non-Dairy Creamer (Int. Cl. 29).
First use on or before Dec. 23, 1969.

IRISH

For Muffins (Int. Cl. 30).
First use June 10, 1969.

SN 366,767. Carter-Wallace, Inc., New York, N.Y. Filed July 31, 1970.

PLAYLAND

For Imitation Mayonnaise (Int. Cl. 29).
First use June 15, 1970.

SN 348,956. Kosher Zion Sausage Company, Chicago, Ill. Filed Jan. 19, 1970.

KOSHERIFFIC

For Meat Products—Namely, Hot Dogs, Salami, and Corned Beef (Int. Cl. 29).
First use Dec. 15, 1969.

Class 47—Wines

SN 351,879. The Robertson Corporation, Brownstown, Ind. Filed Feb. 20, 1970.



For Specially Processed Food Composition for Pets, Live-stock and Poultry (Int. Cl. 31).
First use Nov. 13, 1969.



The portrait on the drawing refers to "Hernando Cortez," a famous Spanish explorer of the sixteenth century. Owner of British Reg. No. 922,085, dated Mar. 6, 1968.
For Spanish Wines (Int. Cl. 33).

Class 48 -- Malt Beverages and Liquors

SN 360,927. Arden-Mayfair, Inc., Los Angeles, Calif. Filed May 27, 1970.

**VELVET
GLOW**

For Beer (Int. Cl. 32).
First use Apr. 5, 1960.

Class 50 -- Merchandise Not Otherwise Classified

SN 351,097. Burgess Cellulose Company, Freeport, Ill. Filed Feb. 11, 1970.

ULTRA-TEX

For Stereotype Mats (Int. Cl. 7).
First use Sept. 30, 1969.

SN 351,981. STP Corporation, Des Plaines, Ill. Filed Feb. 20, 1970.

STP

Owner of Reg. Nos. 648,087 and 827,102.
For Protective Cover for Automotive Fenders (Int. Cl. 22).
First use Sept. 24, 1964.

SN 356,123. Pakline, Inc., North Hollywood, Calif. Filed Apr. 6, 1970.

PAKLINE

For Packaging and Receptacle Accessories—Namely, Handles and Hangers (Int. Cl. 20).
First use February 1964.

SN 365,649. Simple Signman, Inc., Columbus, Ohio. Filed July 20, 1970.

MAGIC STAY

For Signs Having Magnetic Attaching Means (Int. Cl. 6).
First use on or before about Feb. 10, 1970.

Class 51 -- Cosmetics and Toilet Preparations

SN 318,895. Davis Laboratories, Inc., Cherry Hill, N.J. Filed Feb. 11, 1969.

DENTU BRITE

Applicant disclaims the word "Brite" apart from the mark as shown.
For Denture Cleanser (Int. Cl. 3).
First use Nov. 15, 1965.

SN 324,990. Romane Incorporated, Chicago, Ill. Filed Apr. 21, 1969.

SEXUS

"Sexus" is translated to mean "a sex," male or female (of man or beast). Owner of Reg. No. 837,651.
For After Shave Cologne (Int. Cl. 3).
First use Nov. 9, 1968.

SN 333,559. Givaudan Corporation, Clifton, N.J. Filed July 25, 1969.

ARATUSA

The word "Aratusa" is from Greek mythology and means "water nymph."
For Perfumes, Colognes, Toilet Waters, Personal Sachets, Personal Deodorants, Face and Body Powders, Bath Oils and Bath Salts (Int. Cls. 3 and 5).
First use June 19, 1969.

SN 335,324. Sarah Coventry, Inc., Newark, N.Y. Filed Aug. 14, 1969.

SARAH

Owner of Reg. Nos. 636,452, 852,303, and others.
For Hand Lotion (Int. Cl. 3).
First use on or about June 3, 1969.

SN 335,325. Sarah Coventry, Inc., Newark, N.Y. Filed Aug. 14, 1969.

COVENTRY

Owner of Reg. Nos. 636,452, 800,663, and others.
For Men's After Shave Lotion (Int. Cl. 3).
First use on or about June 3, 1969.

SN 335,326. Sarah Coventry, Inc., Newark, N.Y. Filed Aug. 14, 1969.

SARAH COVENTRY

The name "Sarah Coventry" does not identify a living individual, but is a fanciful name. Owner of Reg. Nos. 636,452, 852,303, and others (Int. Cl. 3).
For Men's and Women's Cologne (Int. Cl. 3).
First use on or about June 3, 1969.

SN 338,752. Christian Dior Perfumes Corporation, New York, N.Y. Filed Sept. 24, 1969.

DIORESSENCE

Owner of Reg. Nos. 573,430, 886,004, and others.
For Perfumes, Cosmetic Body Lotion, and Bath Perfume (Int. Cl. 3).
First use July 29, 1969.

SN 341,314. Eversharp, Inc., Milford, Conn. Filed Oct. 22, 1969.

WARM TOUCH

Applicant disclaims the term "Warm" apart from the mark as shown.
For Cosmetic Cleansing Cream (Int. Cl. 3).
First use Oct. 8, 1969.

SN 341,315. Eversharp, Inc., Milford, Conn. Filed Oct. 22, 1969.

WARM & LOVELY

Applicant disclaims the term "Warm" apart from the mark as shown.
For Cosmetic Cleansing Cream (Int. Cl. 3).
First use Oct. 8, 1969.

SN 341,317. Eversharp, Inc., Milford, Conn. Filed Oct. 22, 1969.

WARM AND PRETTY

Applicant disclaims the term "Warm" apart from the mark as shown.
For Cosmetic Cleansing Cream (Int. Cl. 3).
First use Oct. 8, 1969.

SN 352,909. Johnson & Johnson, d.b.a. Personal Products Company, New Brunswick, N.J. Filed Mar. 3, 1970.

LAKME'

For Personal Deodorant Spray (Int. Cl. 5).
First use Jan. 5, 1970.

SN 357,850. Pfizer Inc., New York, N.Y., by change of name from Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 24, 1970.

BRIO, BRIO, BRIO

The English meaning of the mark is "spirited, spirited, spirited, lively in temper and conduct."
For After Shave Lotion (Int. Cl. 3).
First use Aug. 26, 1969.

SN 357,851. Pfizer Inc., New York, N.Y., by change of name from Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 24, 1970.

BRIO ROMA

The English meaning of the mark is "spirited, lively (in temper and conduct) Rome."
For After Shave Lotion (Int. Cl. 3).
First use Aug. 26, 1969.

SN 357,852. Pfizer Inc., New York, N.Y., by change of name from Chas. Pfizer & Co., Inc., New York, N.Y. Filed Apr. 24, 1970.

CON BRIO

The English meaning of the mark is "with spirit, and with liveliness in temper and conduct."
For Men's Cologne (Int. Cl. 3).
First use Aug. 26, 1969.

SN 365,986. Colgate-Palmolive Company, New York, N.Y. Filed July 23, 1970.

SHEER STRENGTH

For Hair Spray (Int. Cl. 3).
First use June 12, 1970.

Class 52 -- Detergents and Soaps

SN 331,766. Nalco Chemical Company, Chicago, Ill. Filed July 3, 1969.

NALFLEET

For Ballast Tank Cleaners, Scale, Rust and Corrosion Removing Preparations in Marine Boilers (Int. Cl. 3).
First use June 27, 1969.

SN 336,346. A. P. Ordway & Co., Inc., New York, N.Y. Filed Aug. 26, 1969.

KAUFMANN'S

Owner of Reg. Nos. 692,549 and 699,142.
For Sulphur Soap (Int. Cl. 3).
First use 1910.

SN 337,135. Montgomery Ward & Co., Incorporated, Chicago, Ill. Filed Sept. 5, 1969.

PERBRITE

For Sodium Perborate Incorporated as an Ingredient in a Household Laundry Detergent (Int. Cl. 3).
First use Feb. 12, 1969.

SN 355,710. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 2, 1970.

SYSTEM 9

For All-Purpose Household Detergent (Int. Cl. 3).
First use Feb. 6, 1970.

SN 357,408. Pine-O-Pine Company of Texas, Inc., Houston, Tex. Filed Apr. 20, 1970.

TILENE

For Cleaner for Ceramics, Plastic, Terrazzo, Mortar, and Metal Surfaces and Fixtures (Int. Cl. 3).
First use Oct. 30, 1969.

SN 357,819. Formica Corporation, Cincinnati, Ohio. Filed Apr. 24, 1970.

FORMICA

Owner of Reg. Nos. 155,689, 742,863, and others.
For Household and Commercial Cleaner for Use on Laminated Plastic Surfaces (Int. Cl. 3).
First use Mar. 13, 1970.

SN 358,517. E. R. Squibb & Sons, Inc., New York, N.Y. Filed May 1, 1970.

BLU-POO

For Children's Shampoo (Int. Cl. 3).
First use Apr. 2, 1970.

SN 358,518. E. R. Squibb & Sons, Inc., New York, N.Y. Filed May 1, 1970.

PINK-POO

For Children's Shampoo (Int. Cl. 3).
First use Apr. 2, 1970.

SN 358,519. E. R. Squibb & Sons, Inc., New York, N.Y. Filed May 1, 1970.

PINKY-POO

For Children's Shampoo (Int. Cl. 3).
First use Apr. 2, 1970.

SN 364,982. Carter-Wallace, Inc., New York, N.Y. Filed July 13, 1970.

HA HA . . . THE SHAMPOO WITH NO BOO HOO

Applicant disclaims the word "Shampoo" apart from the mark as shown.
For Hair Shampoo (Int. Cl. 3).
First use May 20, 1970.

SERVICE MARKS

Class 100—Miscellaneous

SN 328,538. The Pizza Inn, Inc., Arlington, Tex. Filed May 27, 1969.



The representation of a wurst alone, separate and apart from the mark as shown, is disclaimed.
For Restaurant Services (Int. Cl. 42).
First use Mar. 1, 1969.

SN 332,966. Walter F. Neumann, d.b.a. International Design Associates, Western Springs, Ill. Filed July 18, 1969.



For Services in Exterior and Interior Designing of Residential and Commercial Buildings (Int. Cl. 42).
First use Apr. 18, 1969.

SN 336,463. Marine Consultants & Designers, Inc., Cleveland, Ohio. Filed Aug. 27, 1969.



For Naval Architectural and Marine Engineering Services (Int. Cl. 42).
First use on or before Nov. 30, 1963.

SN 338,576. Johnny's American Inn, Inc., Omaha, Nebr. Filed Sept. 22, 1969.

HERE'S JOHNNY'S

For Restaurant Services (Int. Cl. 42).
First use on or before Feb. 1, 1969.

SN 348,867. Absolute Scientific Corporation, Chicago, Ill. Filed Jan. 19, 1970.

DATE-A-MATCH

For Computer Dating Services (Int. Cl. 42).
First use July 1, 1969.

SN 348,969. Merck & Co., Inc., Rahway, N.J. Filed Jan. 19, 1970.

AMPROTECTION

Owner of Reg. Nos. 870,617 and 737,036.
For Service to Poultry Raisers Providing Technical Advice and Counseling To Prevent and Control Outbreaks of Coccidiosis in Poultry (Int. Cl. 42).
First use Jan. 29, 1968.

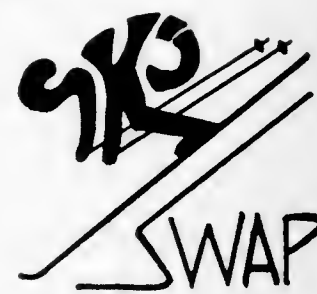
SN 365,393. Hydronautics, Incorporated, Laurel, Md. Filed July 16, 1970.

HSMB

For Testing and Evaluation of Marine Vessels in Ship Model Basins (Int. Cl. 42).
First use November 1969.

Class 101—Advertising and Business

SN 299,592. Ski Swap Management Group, Belmont, Calif. Filed June 3, 1968.



For Establishing and Operating Ski Equipment Trade Shows (Int. Cl. 35).
First use Nov. 22, 1958.

SN 305,929. Delta Data Processing, Inc., San Jose, Calif. Filed Aug. 26, 1968.

ARC

For Collection of Account Receivable Claims for Others (Int. Cl. 35).
First use on or about July 7, 1966.

SN 320,829. Management Recruiters International, Inc., Cleveland, Ohio, assignee of Management Recruiters, Inc., Cleveland, Ohio. Filed Mar. 5, 1969.

MANAGEMENT RECRUITERS

Owner of Reg. No. 810,671.
For Employment Agency Services (Int. Cl. 35).
First use May 1960.

SN 322,157. Foodway, Inc., d.b.a. Foodway Supermarkets, Fayette, Ala. Filed Mar. 19, 1969.



The word "Supermarkets" is disclaimed apart from the mark as shown. Applicant claims use for the area comprising the states of Alabama and Mississippi.

For Retail Supermarket and Food Store Services (Int. Cl. 35).
First use Nov. 30, 1967.
Subj. to Con. Use Proc. with SN 290,619, SN 294,944, and Barber's Super Markets, Inc.

SN 322,300. Kampgrounds of America, Inc., Billings, Mont. Filed Mar. 20, 1969.

KAMPGROUNDS OF AMERICA

Owner of Reg. No. 781,522.
For Aid in the Establishment and Operation of Campsites for Others (Int. Cl. 35).
First use Feb. 12, 1963.

SN 323,032. The Studio-Creative Crafts, Inc., Arlington, Va. Filed Mar. 27, 1969.

THE STUDIO-CREATIVE CRAFTS

For Retail Arts and Crafts Supply Store Services (Int. Cl. 35).
First use December 1967.

SN 323,810. The Gracious Lady Service, Inc., Philadelphia, Pa. Filed Apr. 7, 1969.

GRACIOUS LADIES

Owner of Reg. No. 773,376.
For Advertising Services, Public Relations Advisory Services, and Personnel and Employment Counselling Services, All Utilizing Specially Trained Women Who Conduct Surveys, Perform Market Research, Act as Hostesses, and Otherwise Promote Public Relations and Good Will for Marketing of Products and Services of Others (Int. Cl. 35).
First use at least as early as Nov. 9, 1967.

TM SSO O.G.—2

SN 324,212. Miller-Waltzer Associates, Inc., New York, N.Y. Filed Apr. 10, 1969.

MONEY RACES

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).
First use prior to Feb. 28, 1969.

SN 325,328. Auto Data, Inc., Kansas City, Mo. Filed Apr. 23, 1969.

AUTO DATA

For Providing All Accounting and Computerization Services Needed by Wholesale and Retail Firms Engaging in the Sale of Automobile Parts and Accessories (Int. Cl. 35).
First use Mar. 15, 1969.

SN 332,374. Statistical Tabulating Corporation, Chicago, Ill. Filed July 11, 1969.



For Computer Data Processing Services (Int. Cl. 35).
First use May 9, 1969.

SN 332,381. Tecmark Associates Inc., New York, N.Y. Filed July 11, 1969.

TECMARK

For Personnel Employment, Recruiting of Technical and Marketing Personnel for Electronic and Industrial Companies (Int. Cl. 35).
First use Sept. 30, 1968.

SN 332,705. Freeway National, Inc., Knoxville, Tenn. Filed July 17, 1969.

FREEWAY NATIONAL

For Retail Health and Beauty Supply Store Services (Int. Cl. 35).
First use September 1963.

SN 332,706. Freeway National, Inc., Knoxville, Tenn. Filed July 17, 1969.

FNI

For Retail Health and Beauty Supply Store Services (Int. Cl. 35).
First use September 1963.

SN 335,064. Richard J. Sarchet, Munster, Ind. Filed Aug. 11, 1969.

GAMBLETOWN

For Business Brokerage Services—Namely, Bringing Together Inventors and Investors and Promoting Sale of Inventions (Int. Cl. 35).
First use June 27, 1969.

SN 335,119. CRA West, Inc., Los Angeles, Calif. Filed Aug. 12, 1969.

CRAM

For Market Research Service in the Field of Consumer Products (Int. Cl. 35).
First use on or about July 1, 1968.

SN 335,720. M. Belmont Ver Standig, Inc., d.b.a. Ver Standig, Inc., Washington, D.C. Filed Aug. 19, 1969.

WELLINGTON JEWELS

For Retail Mail Order and Jewelry Store Services (Int. Cl. 35).
First use at least as early as Jan. 14, 1969.

SN 337,147. Befwick International, Inc., Erie, Pa. Filed Sept. 5, 1969.



Lord BEFWICK
English Inns

Applicant disclaims the words "English Inns" apart from the mark. "Lord Befwick" is fictitious and does not indicate the name of any living person.

For Aiding in the Establishment and Operation of Restaurants of Others (Int. Cl. 35).
First use July 5, 1969.

SN 340,855. United International Clubs, Inc., Beverly Hills, Calif. Filed Oct. 15, 1969.

CREDIT CARD IN REVERSE

Applicant disclaims the words "Credit Card" apart from the mark as shown.

For Promoting Sales of Goods and Services of Others Through the Arrangement of Purchaser Discount Plans (Int. Cl. 35).

First use on or before Nov. 1, 1968.

SN 348,945. Honeywell, Inc., Minneapolis, Minn. Filed Jan. 19, 1970.

KEYTAX

For Preparation of Income Tax Returns Through the Use of Computers (Int. Cl. 35).
First use Nov. 1, 1969.

SN 353,133. Farrell-Argast Electric Co., Inc., Indianapolis, Ind. Filed Mar. 5, 1970.



For Retail Electrical Supply Store Services (Int. Cl. 35).
First use January 1968.

SN 356,677. Harmon-O'Loughlin Enterprises, Inc., Portland, Oreg. Filed Apr. 13, 1970.



For Production and Promotion of Closed and Public Trade Shows (Int. Cl. 35).
First use Aug. 1, 1961.

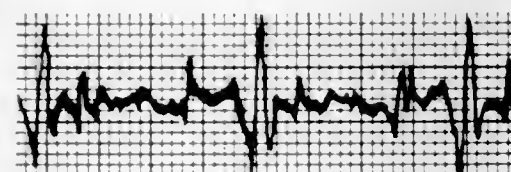
Class 102 — Insurance and Financial

SN 326,379. Investors Syndicate Life Insurance and Annuity Company, Minneapolis, Minn. Filed May 5, 1969.



The words "Variable Annuities" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 691,427 and 693,627.
For Variable Annuity Services—Namely, Contracting With Annuitant To Pay Him Based on the Investment Experience of an Annuity Fund (Int. Cl. 36).
First use Apr. 9, 1969.

SN 327,649. Medicrodit Inc., Narberth, Pa. Filed May 19, 1969.



For Providing Combination Medical and Health Insurance Credit Program (Int. Cl. 36).
First use Oct. 17, 1968.

SN 327,842. Boston Mutual Sales Corp., Boston, Mass. Filed May 21, 1969.

SN 327,845. Boston Mutual Sales Corp., Boston, Mass. Filed May 21, 1969.



For Services of Selling or Distributing Shares of Stock of Mutual Investment Funds (Int. Cl. 36).
First use Feb. 3, 1969.

SN 327,843. Boston Mutual Sales Corp., Boston, Mass. Filed May 21, 1969.



For Services of Selling or Distributing Shares of Stock of Mutual Investment Funds (Int. Cl. 36).
First use Feb. 3, 1969.

SN 327,844. Boston Mutual Sales Corp., Boston, Mass. Filed May 21, 1969.



For Services of Selling or Distributing Shares of Stock of Mutual Investment Funds (Int. Cl. 36).
First use Feb. 3, 1969.



For Services of Selling or Distributing Shares of Stock of Mutual Investment Funds (Int. Cl. 36).
First use Feb. 3, 1969.

SN 335,128. Fund for Mutual Depositors Inc., New York, N.Y. Filed Aug. 12, 1969.



For Mutual Fund Investment Services (Int. Cl. 36).
First use July 30, 1969.

SN 341,015. The Cleveland Trust Company, Cleveland, Ohio. Filed Oct. 17, 1969.



The mark comprises, in part, a fanciful representation of the letters "CT." No claim is made to the word "Cleveland" or the word "Trust" apart from the mark as shown, with such disclaimer being without prejudice to applicant's rights in the words disclaimed. Owner of Reg. Nos. 644,314 and 800,032.
For Banking Services, Particularly Customer Payroll Services (Int. Cl. 36).
First use Sept. 23, 1969.

SN 342,136. The Branch Banking and Trust Company, Wilson, N.C. Filed Oct. 30, 1969.



The mark consists of a stylized "B's" design.
For Banking and Trust Services (Int. Cl. 36).
First use Aug. 5, 1969.

Class 103 — Construction and Repair

SN 321,152. ARA Services, Inc., Philadelphia, Pa., by change of name from Automatic Retailers of America, Inc., Philadelphia, Pa. Filed Mar. 6, 1969.

PRO VITA

The words "Pro Vita" are translated from Latin as "on behalf of the patients' life."
For Hospital Sanitation and Housekeeping Services (Int. Cl. 37).
First use Sept. 13, 1968.

SN 324,929. Ordean Terrence Nelson, d.b.a. College Craft Painters, Glen Ellyn, Ill. Filed Apr. 18, 1969.

COLLEGE CRAFT

For Painting and Decorating Services (Int. Cl. 37).
First use 1960.

SN 340,563. Kentucky Colonel Gasoline Inc., Louisville, Ky. Filed Oct. 13, 1969.

KENTUCKY COLONEL

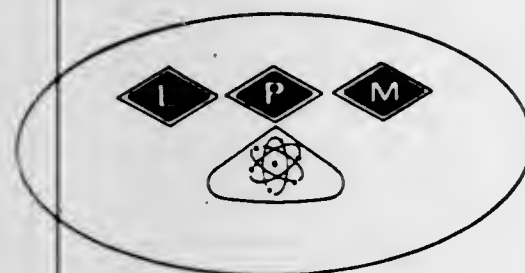
For Gasoline Service Station Services and Car Washing Services (Int. Cl. 37).
First use Oct. 1, 1968.

SN 342,546. Teasdale Fenton Cleaners, Cincinnati, Ohio. Filed Nov. 3, 1969.

TEASDALE FENTON

Owner of Reg. No. 522,430.
For Dry Cleaning Services (Int. Cl. 37).
First use December 1964.

SN 358,041. Liberty Plastics & Metals Co., Louisville, Ky. Filed Apr. 27, 1970.



For Corrosion-Control Coatings to the Metal-Like Products of Others (Int. Cl. 37).
First use May 1, 1966.

Class 104 — Communication

SN 308,087. The Bunker-Ramo Corporation, Oak Brook, Ill. Filed Sept. 24, 1968.

TOPS

For Communication and Data Processing Service Provided to the Financial Community—Namely, a Service for Transmitting Buy and Sell Orders, Administrative Information, and the Like, and for Performing Message Switching, Verification, and Other Data Processing Operations on the Transmitted Information (Int. Cl. 38).
First use Nov. 4, 1965.

Class 106 — Material Treatment

SN 335,529. American Waterproofing Corp., New Haven, Mo. Filed Aug. 18, 1969.

AMERLITE

Owner of Reg. No. 512,923.
For Waterproofing and Mildewproofing Fabrics (Int. Cl. 40).
First use September 1964.

Class 107 — Education and Entertainment

SN 314,094. The Lamplighter Club, Inc., New Orleans, La. Filed Dec. 10, 1968.

LAMPLIGHTER

For Private Recreation Club Services (Int. Cl. 41).
First use on or about Aug. 24, 1967.

SN 322,674. Total Woman, Inc., Pittsburgh, Pa. Filed Mar. 24, 1969.

TOTAL WOMAN

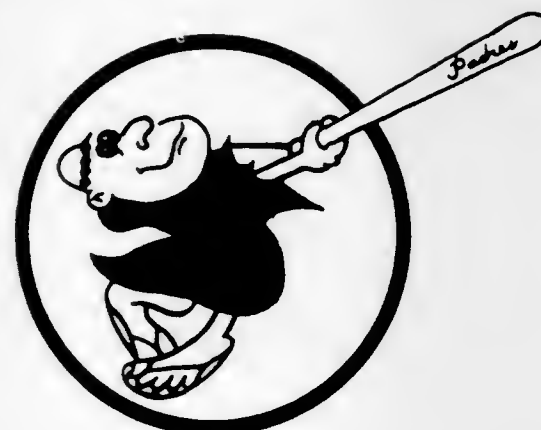
For Charm School, Modeling School and Finishing School Services on Either a Resident or Home Study Basis (Int. Cl. 41).
First use on or about June 23, 1968.

SN 336,225. Golf Players, Incorporated, Chattanooga, Tenn. Filed Aug. 21, 1969.

IT'S THE GOONiest!

Owner of Reg. No. 835,283.
For Providing of Facilities for Playing Miniature Golf (Int. Cl. 41).
First use Sept. 26, 1960.

SN 338,647. San Diego Padres, San Diego, Calif. Filed Sept. 22, 1969.



For Entertainment Services in the Nature of Baseball Exhibitions (Int. Cl. 41).
First use Nov. 27, 1968.

SN 340,080. Sterling Drug Inc., New York, N.Y. Filed Oct. 7, 1969.



For Educational Services Rendered Through Courses on Sanitation Maintenance (Int. Cl. 41).
First use Mar. 26, 1969.

SN 340,383. Electric Circus of New York, Inc., New York, N.Y. Filed Oct. 10, 1969.

THE ELECTRIC CIRCUS

For Entertainment Services—Namely, the Presentation of Musical Concerts (Int. Cl. 41).
First use May 23, 1968.

THE WASHINGTON SCHOOL FOR SECRETARIES

The term "School for Secretaries" is disclaimed apart from the mark as shown.
For Educational Services—Namely, Conducting Educational Courses in Secretarial Instruction and Training (Int. Cl. 41).
First use March 1920.

SN 365,519. WSM, Incorporated, Nashville, Tenn. Filed July 17, 1970.

SCENE AT SIX

For Television Programs in the Nature of Newscasts (Int. Cl. 41).
First use June 13, 1970.

SN 365,520. WSM, Incorporated, Nashville, Tenn. Filed July 17, 1970.

SCENE AT TEN

For Television Programs in the Nature of Newscasts (Int. Cl. 41).
First use June 13, 1970.

COLLECTIVE MEMBERSHIP MARKS**Class 200**

SN 324,726. LERC Audio Recording Club, Burbank, Calif. Filed Apr. 16, 1969.



For Indicating Membership in Applicant.
First use April 1965.

SN 332,211. American Safety Belt Council, Inc., New Rochelle, N.Y. Filed July 10, 1969.



For Indicating Membership in Applicant.
First use Jan. 20, 1969.

SN 334,338. International Fraternity of Delta Sigma Pi, Oxford, Ohio. Filed Aug. 4, 1969.



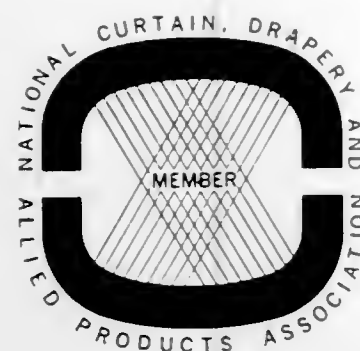
The translation of the wording in the mark is "Athenamis, Slope and Paktosis."
For Indicating Membership in Applicant.
First use November 1950.

SN 336,196. The United States Duffers' Association, Inc., Newport, Ky. Filed Aug. 25, 1969.



The word "Member" is disclaimed apart from the mark as shown.
For Indicating Membership in Applicant.
First use June 10, 1968.

SN 342,502. National Curtain, Drapery and Allied Products Association, Inc., New Rochelle, N.Y. Filed Nov. 3, 1969.



For Indicating Membership in Applicant.
First use Aug. 22, 1969.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

- 901,651. REGU. Claus Koenig KG. MULTIPLE CLASS (Classes 1, 5, 14, 23, 37, and 38). SN 291,228. Pub. 4-21-70. Filed 2-16-68.
- 901,652. DYPOR. Dynamit Nobel Aktiengesellschaft. SN 330,915. Pub. 8-18-70. Filed 6-25-69.
- 901,653. ULTRA XT. L. Teweles Seed Co. SN 338,018. Pub. 8-18-70. Filed 9-16-69.
- 901,654. ZEFGUARD. Dow Badische Company. SN 339,070. Pub. 8-18-70. Filed 9-29-69.
- 901,655. PANDA. Pandel, Inc. SN 342,703. Pub. 7-7-70. Filed 11-5-69.

Class 2—Receptacles

- 901,656. BRIK. Aktiebolaget Tetra Pak. MULTIPLE CLASS (Classes 2 and 37). SN 263,002. Pub. 8-18-70. Filed 1-23-67.
- 901,657. GITS AND DESIGN. Gits Bros. Mfg. Co., by merger and assignment from Gits Bros. Mfg. Co. MULTIPLE CLASS (Classes 2, 13, 23, 26, and 35). SN 291,116. Pub. 1-6-70. Filed 2-15-68.
- 901,658. MPI. Medical Plastics, Inc. SN 340,672. Pub. 8-18-70. Filed 10-14-69.
- 901,659. STAK-TITE GBC AND MAN AND BARREL DESIGN. Greff Bros. Corporation. SN 341,653. Pub. 8-18-70. Filed 10-24-69.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 901,660. YVES SAINT LAURENT. Lanvin-Charles of the Ritz, Inc. SN 315,857. Pub. 8-18-70. Filed 1-6-69.
- 901,661. BETTER VUE PRODUCT ETC. AND DESIGN. Jay Plastics Inc. SN 329,360. Pub. 8-18-70. Filed 6-6-69.
- 901,662. CENTURA. Broadway-Hale Stores, Inc. MULTIPLE CLASS (Classes 3, 28, and 39). SN 343,026. Pub. 8-18-70. Filed 11-10-69.

Class 4—Abrasives and Polishing Materials

- 901,663. ROTO-FINISH. Roto-Finish Company. SN 345,205. Pub. 8-18-70. Filed 12-3-69.

Class 5—Adhesives

- 901,651. (See Class 1 for this trademark.)
- 901,664. SPRAY 'N LAY. GAF Corporation. SN 303,906. Pub. 8-18-70. Filed 7-30-68.

Class 6—Chemicals and Chemical Compositions

- 901,665. TX-10. International Salt Company. SN 286,531. Pub. 8-18-70. Filed 12-8-67.

- 901,666. VAPORAIRE. Thuron Industries, Inc. SN 334,947. Pub. 8-18-70. Filed 8-11-69.
- 901,667. QUESTRAL. United Merchants and Manufacturers, Inc. SN 337,841. Pub. 6-2-70. Filed 9-12-69.
- 901,668. PYROCRON. Pfizer Inc., by change of name from Chas. Pfizer & Co., Inc. SN 340,992. Pub. 8-18-70. Filed 10-17-69.
- 901,669. RHENIFORMING. Chevron Research Company. SN 341,627. Pub. 8-18-70. Filed 10-24-69.
- 901,670. CZ DESIGN. Crown Zellerbach Corporation. SN 347,152. Pub. 8-4-70. Filed 12-29-69.
- 901,671. COPPER-COUNT. Mineral Research and Development Corporation. SN 351,501. Pub. 8-18-70. Filed 2-16-70.
- 901,672. D A S I N O L. Geigy Chemical Corporation. SN 356,393. Pub. 8-11-70. Filed 4-9-70.
- 901,673. ILBEX. Geigy Chemical Corporation. SN 357,532. Pub. 8-11-70. Filed 4-21-70.
- 901,674. I R G A S T A T. Geigy Chemical Corporation. SN 358,731. Pub. 8-11-70. Filed 5-4-70.

Class 9—Explosives, Firearms, Equipments, and Projectiles

- 901,675. GENERAL OFFICERS. Colt's Inc. SN 323,535. Pub. 8-18-70. Filed 4-3-69.
- 901,676. METAMITE. Canadian Industries Limited. SN 346,053. Pub. 8-18-70. Filed 12-12-69.
- 901,677. HYDROMEX. Canadian Industries Limited. SN 346,056. Pub. 8-18-70. Filed 12-12-69.
- 901,678. XACTEX. Canadian Industries Limited. SN 346,057. Pub. 8-18-70. Filed 12-12-69.
- 901,679. N I T R O N E. Canadian Industries Limited. SN 346,058. Pub. 8-18-70. Filed 12-12-69.
- 901,680. PENTO-MEX. Canadian Industries Limited. SN 346,219. Pub. 8-18-70. Filed 12-15-69.
- 901,681. S H E A R E X. Canadian Industries Limited. SN 346,220. Pub. 8-18-70. Filed 12-15-69.
- 901,682. W I N G O. Olin Corporation. SN 360,288. Pub. 8-18-70. Filed 5-20-70.

Class 10—Fertilizers

- 901,683. K-NITE. American Metal Climax, Inc., d.b.a. Southwest Potash Corporation. SN 336,533. Pub. 8-18-70. Filed 8-28-69.

Class 12—Construction Materials

- 901,684. BELL-BOLT. Interpace Corporation. SN 315,317. Pub. 8-18-70. Filed 12-27-68.
- 901,685. APPROVED BELACO QUALITY AND DESIGN. Belaco, Inc. SN 323,082. Pub. 8-18-70. Filed 3-28-69.
- 901,686. HOLMES INSULATORS H AND DESIGN. Holmes Insulations Limited. SN 323,564. Pub. 8-18-70. Filed 4-3-69.
- 901,687. VINYLHUE. Weyerhaeuser Company. SN 328,610. Pub. 8-18-70. Filed 3-28-69.
- 901,688. FERRO-MESH. Platt Monfort, d.b.a. Aladdin Products. SN 331,228. Pub. 8-18-70. Filed 6-27-69.

- 901,689. EPECO. Enterprise Pool Equipment Corp. SN 331,883. Pub. 8-18-70. Filed 7-7-69.
- 901,690. REGAL. Johns-Manville Corporation. SN 332,725. Pub. 8-18-70. Filed 7-16-69.
- 901,691. UNIROYAL TRACK. Uniroyal, Inc. SN 333,209. Pub. 8-18-70. Filed 7-22-69.
- 901,692. TIWI. Tiwi Oy. SN 335,390. Pub. 8-18-70. Filed 8-14-69.
- 901,693. CHROMASTONE. Resin Systems Inc. SN 336,172. Pub. 8-18-70. Filed 8-25-69.
- 901,694. MONACO. Simpson Timber Company. SN 338,655. Pub. 8-18-70. Filed 9-23-69.
- 901,695. SURFACE MASTER. Surface Master Corporation. SN 342,912. Pub. 8-18-70. Filed 11-6-69.
- 901,696. ALIINE. Johns-Manville Corporation. SN 343,295. Pub. 8-18-70. Filed 11-12-69.
- 901,697. DIRECTOIRE. Johns-Manville Corporation. SN 343,299. Pub. 8-18-70. Filed 11-12-69.
- 901,698. ROTA. Andre Rubber Company (Canada) Limited. SN 343,447. Pub. 8-18-70. Filed 11-13-69.
- 901,699. ROTAFLO. Andre Rubber Company (Canada) Limited. SN 343,448. Pub. 8-18-70. Filed 11-13-69.
- 901,700. SIGNALINE. Anaconda Aluminum Company. SN 345,124. Pub. 8-18-70. Filed 12-3-69.
- 901,701. ACQU-LINE AND DESIGN. The McGraw Co. SN 350,395. Pub. 8-18-70. Filed 2-3-70.
- 901,702. FAHMSTED. Butler Manufacturing Company. SN 352,939. Pub. 8-18-70. Filed 3-3-70.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 901,657. (See Class 2 for this trademark.)
- 901,703. QUICK SAFE. Dixon Valve & Coupling Co. SN 329,066. Pub. 8-18-70. Filed 6-4-69.
- 901,704. HORSE AND BUGGY AND DESIGN. Continental Copper & Steel Industries, Inc. SN 335,849. Pub. 8-18-70. Filed 8-21-69.
- 901,705. QUICK-HOOK. Kirsch Company. SN 336,457. Pub. 8-18-70. Filed 8-27-69.
- 901,706. R AND DESIGN. Rockford Products Corporation, by merger from Rockford Screw Products Co. SN 338,066. Pub. 8-18-70. Filed 9-10-69.
- 901,707. UPTACK AND DESIGN. Timothy J. Wallace. SN 339,979. Pub. 8-18-70. Filed 10-6-69.
- 901,708. HUCKTAINER. Huck Manufacturing Company. SN 341,818. Pub. 8-18-70. Filed 10-27-69.
- 901,709. ABA. Allmanna Brandredskapsaffaren Aktiebolag. SN 341,899. Pub. 8-18-70. Filed 10-28-69.
- 901,710. GREENIE AND DESIGN. Gardner Tools Corporation. SN 343,397. Pub. 8-18-70. Filed 11-13-69.
- 901,711. IBN. Industrial Bolt and Nut Company. SN 351,470. Pub. 8-18-70. Filed 2-16-70.
- 901,712. SILVER FLIPPER. Armstrong Plastic Specialties Company, d.b.a. Armstrong Systems. SN 353,407. Pub. 8-18-70. Filed 3-9-70.

Class 14—Metals and Metal Castings and Forgings

- 901,651. (See Class 1 for this trademark.)
- 901,713. ALBITS. Diversified Industries, Inc. SN 344,699. Pub. 8-18-70. Filed 11-26-69.
- 901,714. CASE AND DESIGN. J. I. Case Company. MULTIPLE CLASS (Classes 14, 19, and 23). SN 349,232. Pub. 8-18-70. Filed 1-22-70.

Class 15—Oils and Greases

- 901,715. LUBREASE. National Chemsearch Corporation. SN 328,144. Pub. 12-9-69. Filed 5-23-69.
- 901,716. MICRO-MOLY PLATES MOVING PARTS AND DESIGN. Arthur N. Luke, assignee of A. Harold Castonguay, d.b.a. Micro-Moly Products. SN 333,673. Pub. 8-4-70. Filed 7-28-69.

Class 17—Tobacco Products

- 901,717. ROTHMANS KING SIZE AND DESIGN. Rothmans of Pall Mall Limited. SN 322,092. Pub. 8-18-70. Filed 3-18-69.
- 901,718. GOLD MAN AND DESIGN. Abelardo N. del Rosario, d.b.a. La Ilustre Cigar & Cigarette Factory. SN 329,420. Pub. 8-18-70. Filed 6-9-69.

Class 18—Medicines and Pharmaceutical Preparations

- 901,719. ALVA AND DESIGN. Emile H. Gerchenson. SN 296,420. Pub. 12-9-69. Filed 4-24-68.
- 901,720. EL AND DESIGN. The Norwich Pharmacal Company (Delaware corporation), assignee of the Norwich Pharmacal Company (New York corporation). SN 305,154. Pub. 8-4-70. Filed 8-14-68.

Class 19—Vehicles

- 901,714. (See Class 14 for this trademark.)
- 901,721. BEVEL-WELD. The Budd Company. SN 329,222. Pub. 8-18-70. Filed 6-5-69.
- 901,722. RUF NECK AND DESIGN. Downs-Clark, Incorporated. MULTIPLE CLASS (Classes 19 and 23). SN 331,173. Pub. 8-18-70. Filed 6-27-69.
- 901,723. NIPPONDENSO. Nippon Denso Kabushiki Kaisha. MULTIPLE CLASS (Classes 19 and 21). SN 332,846. Pub. 8-18-70. Filed 7-17-69.
- 901,724. CAMECO. Cane Machinery & Engineering Co., Inc. MULTIPLE CLASS (Classes 19 and 23). SN 339,133. Pub. 8-18-70. Filed 9-29-69.
- 901,725. AMERICAN MOTORS. American Motors Corporation. SN 348,242. Pub. 8-18-70. Filed 1-12-70.

Class 21—Electrical Apparatus, Machines, and Supplies

- 901,723. (See Class 19 for this trademark.)
- 901,726. BIRD. Bird Electronic Corporation. MULTIPLE CLASS (Classes 21 and 26). SN 237,295. Pub. 8-9-66. Filed 1-26-66.
- 901,727. UNIVERSITY LABORATORIES AND LIGHT DESIGN. Spectra-Physics, Inc., assignee of University Laboratories, Incorporated. MULTIPLE CLASS (Classes 21 and 26). SN 317,418. Pub. 7-7-70. Filed 1-24-69.
- 901,728. MAGNEFIL. Instrument Specialties Company, Inc. SN 317,452. Pub. 4-21-70. Filed 1-24-69.
- 901,729. ADTALK. American District Telegraph Company. SN 326,057. Pub. 8-18-70. Filed 5-1-69.
- 901,730. SHURE SPLICER. Thomas & Betts Corporation. SN 329,140. Pub. 8-18-70. Filed 6-4-69.

- 901,731. STAR DESIGN. Sperry Rand Corporation. MULTIPLE CLASS (Classes 21, 26, 100, and 101). SN 329,928. Pub. 8-18-70. Filed 6-13-69.
- 901,732. SPERRY RAND AND STAR DESIGN. Sperry Rand Corporation. MULTIPLE CLASS (Classes 21, 26, 100 and 101). SN 329,930. Pub. 8-18-70. Filed 6-13-69.
- 901,733. VOICE PROJECTOR. Voice Projector Co. SN 330,315. Pub. 8-18-70. Filed 6-17-69.
- 901,734. CORD AND STAR DESIGN. Star-A Electric Mfg. Co., Inc. SN 330,425. Pub. 8-18-70. Filed 6-18-69.
- 901,735. ORBAY & CERRATO. Orbay & Cerrato Furniture Inc. MULTIPLE CLASS (Classes 21, 32, and 42). SN 331,567. Pub. 8-18-70. Filed 7-2-69.
- 901,736. COLUMBIA AND C DESIGN. Avnet, Inc. SN 332,909. Pub. 7-7-70. Filed 7-18-69.
- 901,737. LEGI. Ishimoto Trading Company. SN 337,053. Pub. 8-18-70. Filed 9-4-69.
- 901,738. TEE DESIGN. Falchbild Hiller Corporation. SN 345,046. Pub. 8-18-70. Filed 12-2-69.
- 901,739. DURA-LEC. Adamson Company, Inc. SN 345,234. Pub. 8-18-70. Filed 12-4-69.
- 901,740. GUARDWELL. Eastwood General Corporation. SN 349,268. Pub. 8-18-70. Filed 1-22-70.
- 901,741. DURO-PAK. Arriflex Corporation of America. SN 349,813. Pub. 8-18-70. Filed 1-28-70.
- 901,742. THE ACTIVE SOUND OF JULIETTE. Topp Electronics, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 353,243. Pub. 8-18-70. Filed 3-6-70.
- 901,743. VIGILANTE. Protection Engineers, Inc. SN 353,556. Pub. 8-18-70. Filed 3-9-70.

Class 22—Games, Toys, and Sporting Goods

- 901,744. POP AND DESIGN. POP Corporation. SN 285,058. Pub. 4-23-68. Filed 11-16-67.
- 901,745. GO! THE PUERTO RICO GAME. Travel Games Ltd. SN 300,138. Pub. 8-18-70. Filed 6-10-68.
- 901,746. AQUALA. Aquala, Inc. SN 321,588. Pub. 8-18-70. Filed 4-14-69.
- 901,747. BUMPS AND GRINDS. Diplomat Sales Company, Incorporated. SN 324,054. Pub. 8-18-70. Filed 4-9-69.
- 901,748. MATCH-A-BRUSH. Romper Room Enterprises, Inc., assignee of Hasbro Industries, Inc. SN 334,323. Pub. 5-19-70. Filed 8-4-69.
- 901,749. ASTROLITE. Hasbro Industries, Inc. SN 337,801. Pub. 8-18-70. Filed 9-12-69.
- 901,750. HAFAS. Joseph P. Parulski, d.b.a. Mid West Coast Balt Company. SN 341,409. Pub. 8-18-70. Filed 10-22-69.
- 901,751. YUMMY. Uneeda Doll Co., Inc. SN 341,712. Pub. 8-18-70. Filed 10-24-69.
- 901,752. PRO-TOUR. Sportsotron, Inc. SN 341,956. Pub. 8-18-70. Filed 10-28-69.
- 901,753. SAFE-PLAY. Safe-Play Manufacturing Company, Inc. SN 342,069. Pub. 8-18-70. Filed 10-29-69.
- 901,754. GLOW-ACTION. Hasbro Industries, Inc. SN 342,448. Pub. 8-18-70. Filed 11-3-69.
- 901,755. KLUBS UP. David B. Cantwell. SN 344,325. Pub. 8-18-70. Filed 11-24-69.
- 901,756. LUNAR LOON. Jonnie W. Chase. SN 344,327. Pub. 8-18-70. Filed 11-24-69.
- 901,757. BUBBLE. The Firestone Tire & Rubber Company. SN 344,359. Pub. 8-18-70. Filed 11-24-69.
- 901,758. FREEZ-FUN. Aluminum Hardgoods, Inc. SN 345,744. Pub. 8-18-70. Filed 12-10-69.
- 901,759. DESTINY DECK. Ellen Ketchum. SN 350,548. Pub. 8-18-70. Filed 2-5-70.
- 901,760. BRIDGES AND TUNNELS. Murray Eskenazi. SN 350,818. Pub. 8-18-70. Filed 2-9-70.
- 901,761. ORBITOR. Mattel, Inc. SN 359,558. Pub. 8-18-70. Filed 5-13-70.

- 901,762. PACIFIC/S. Mattel, Inc. SN 359,560. Pub. 8-18-70. Filed 5-13-70.
- 901,763. SEARCH & RESCUE. Mattel, Inc. SN 359,561. Pub. 8-18-70. Filed 5-13-70.
- 901,764. THE SNARLER. Mattel, Inc. SN 359,962. Pub. 8-18-70. Filed 5-18-70.
- 901,765. ROARIN GLORY. Mattel, Inc. SN 359,963. Pub. 8-18-70. Filed 5-18-70.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 901,651. (See Class 1 for this trademark.)
- 901,657. (See Class 2 for this trademark.)
- 901,714. (See Class 14 for this trademark.)
- 901,722. (See Class 19 for this trademark.)
- 901,724. (See Class 19 for this trademark.)
- 901,766. HATZ AND DESIGN. Motorenfabrik Hatz GmbH. SN 315,290. Pub. 8-18-70. Filed 12-27-68.
- 901,767. CORRA-TROUGH. The Bucket Elevator Company. SN 327,355. Pub. 8-18-70. Filed 5-15-69.
- 901,768. REDLINE AND DESIGN. TSC Industries Inc. SN 329,896. Pub. 8-18-70. Filed 6-12-69.
- 901,769. SUPER ARMOURCUT. Wilkinson Sword Limited. SN 330,650. Pub. 8-18-70. Filed 6-20-69.
- 901,770. RIGID-VU. Scientific Atlanta, Inc. SN 335,065. Pub. 8-18-70. Filed 8-11-69.
- 901,771. WINCH-MATIC. Beebe Bros., Inc. SN 335,842. Pub. 8-18-70. Filed 8-21-69.
- 901,772. DARDANELLA. Oneida Ltd. SN 336,153. Pub. 8-18-70. Filed 8-23-69.
- 901,773. DICKERSON. Edward F. Dickerson. SN 340,782. Pub. 8-18-70. Filed 10-15-69.
- 901,774. MEAD SEAL-III AND DESIGN. The Mead Corporation. SN 341,402. Pub. 8-18-70. Filed 10-22-69.
- 901,775. ABERCROMBIE 60. Abercrombie & Fitch Co. SN 344,087. Pub. 8-18-70. Filed 11-20-69.
- 901,776. JECTAIR. Coppus Engineering Corporation. SN 347,480. Pub. 8-18-70. Filed 12-31-69.
- 901,777. IAMCO. International Automated Marketing Co. SN 352,140. Pub. 8-18-70. Filed 2-24-70.

Class 24—Laundry Appliances and Machines

- 901,778. TITAN. Chicago Dryer Company. SN 344,502. Pub. 6-9-70. Filed 11-25-69.
- 901,779. CHORE-KLEEN. Ametek, Inc. SN 354,063. Pub. 8-18-70. Filed 3-16-70.

Class 25—Locks and Safes

- 901,780. LOKALARM. Exello Precision, Ltd. SN 331,504. Pub. 12-23-69. Filed 7-1-69.

Class 26—Measuring and Scientific Appliances

- 901,657. (See Class 2 for this trademark.)
- 901,726. (See Class 21 for this trademark.)
- 901,727. (See Class 21 for this trademark.)
- 901,731. (See Class 21 for this trademark.)
- 901,732. (See Class 21 for this trademark.)

- 901,781. MISCELLANEOUS DESIGN. I-T-E Imperial Corporation, assignee of Imperial-Eastman Corporation. SN 269,426. Pub. 8-1-70. Filed 4-18-67.
- 901,782. USTER AQUATEC AND DESIGN. Uster Corporation. SN 278,834. Pub. 8-18-70. Filed 8-22-67.
- 901,783. IBI (DESIGN). Information Displays, Inc. SN 290,958. Pub. 4-8-69. Filed 2-13-68.
- 901,784. 123 DIGI FLOW AND DESIGN. Waukesha Foundry Company, Inc., assignee of Waukesha Foundry Company. SN 303,209. Pub. 8-18-70. Filed 7-19-68.
- 901,785. NMR SPECIALTIES AND DESIGN. Nuclear Magnetic Resonance Specialties, Inc. SN 308,509. Pub. 8-18-70. Filed 9-30-68.
- 901,786. MULTI/CHEK. Data Machines, Inc. SN 308,607. Pub. 8-18-70. Filed 10-1-68.
- 901,787. BERKEY. Berkey Photo, Inc. SN 315,033. Pub. 8-18-70. Filed 12-23-68.
- 901,788. NS AND DESIGN. Nanosecond Systems, Inc. SN 317,399. Pub. 8-18-70. Filed 1-27-69.
- 901,789. VISOLUX-ELEKTRONIK. Visolux-Elektronik Richard Sterling, G.m.b.H. SN 322,108. Pub. 8-18-70. Filed 3-18-69.
- 901,790. MASTERFILE. Visual Electronics Corporation. SN 323,494. Pub. 8-18-70. Filed 4-2-69.
- 901,791. VICONEX. Vicon Products Corp. SN 324,548. Pub. 8-18-70. Filed 4-14-69.
- 901,792. SIGHT-GARD. Mine Safety Appliances Company, assignee of Acrylic Optics Corporation. SN 327,339. Pub. 1-6-70. Filed 5-15-69.
- 901,793. G.V.W. G.V.W. Corporation. SN 328,047. Pub. 8-18-70. Filed 5-22-69.
- 901,794. MILLIAN. Millian Instruments S.A. SN 331,922. Pub. 8-18-70. Filed 7-7-69.
- 901,795. MICROTROL AND DESIGN. Drummond Instrument Company. SN 335,403. Pub. 8-18-70. Filed 8-15-69.
- 901,796. ASTROSET. Astrocom Corporation. SN 335,933. Pub. 8-18-70. Filed 8-22-69.
- 901,797. COMPUTER SYNECTICS. Computer Syneetics, Inc. SN 337,272. Pub. 8-18-70. Filed 9-8-69.
- 901,798. GOLD WE MASTER AND DESIGN. White's Electronics, Inc. SN 337,735. Pub. 8-18-70. Filed 9-11-69.
- 901,799. MINITS. The Jacobi Systems Corporation. SN 344,289. Pub. 8-18-70. Filed 11-24-69.
- 901,800. SUNDICATOR. Thomas D. Spencer, d.b.a. Thomas Spencer Enterprises. SN 346,777. Pub. 8-18-70. Filed 12-19-69.
- 901,801. FORDAX. Fordax Corp. SN 347,596. Pub. 6-30-70. Filed 1-2-70.
- 901,802. BA AND DESIGN. Babbitt Industries, Inc. SN 349,156. Pub. 8-18-70. Filed 1-21-70.
- 901,803. TEMP-HARD. Aden Supply Company. SN 353,146. Pub. 8-18-70. Filed 3-5-70.
- 901,804. REZ-HARD. Aden Supply Company. SN 353,147. Pub. 8-18-70. Filed 3-5-70.
- 901,805. SUPER-K. Eastman Kodak Company. SN 355,119. Pub. 8-18-70. Filed 3-26-70.
- 901,806. STATUSPCS. Renault International, Ltd. SN 359,797. Pub. 8-18-70. Filed 5-15-70.

Class 28 — Jewelry and Precious-Metal Ware

- 901,862. (See Class 3 for this trademark.)
- 901,807. E OF C AND DESIGN. Emeralds of Colombia Jewelers. SN 330,828. Pub. 8-18-70. Filed 6-24-69.

Class 29 — Brooms, Brushes, and Dusters

- 901,808. SCOOPER. Popell Brothers, Inc. SN 348,088. Pub. 8-18-70. Filed 1-9-70.

Class 31 — Filters and Refrigerators

- 901,809. FLOATING AIR. Friedrich Refrigerators Inc. SN 343,539. Pub. 8-18-70. Filed 11-14-69.
- 901,810. ADAMS-UNI-MATIC. R. P. Adams Company, Inc. SN 344,202. Pub. 8-18-70. Filed 11-21-69.

Class 32 — Furniture and Upholstery

- 901,735. (See Class 21 for this trademark.)
- 901,811. CENTURIES OF ART. Centuries of Art, Inc. SN 336,415. Pub. 8-18-70. Filed 8-27-69.
- 901,812. THE SOMETIME SOFA. Jamison Bedding, Inc. SN 338,152. Pub. 8-18-70. Filed 9-17-69.
- 901,813. SERENE SUPERBA. Fiber Industries, Inc. SN 357,349. Pub. 8-18-70. Filed 4-20-70.

Class 33 — Glassware

- 901,814. N AND CIRCLE DESIGN. American Carnival Glass Association, Inc. SN 335,114. Pub. 8-18-70. Filed 8-12-69.

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 901,815. PIC AND DESIGN. Poweray Infrared Corporation. SN 317,371. Pub. 8-18-70. Filed 1-23-69.
- 901,816. RR AND DESIGN. Stoddy Company. SN 326,922. Pub. 8-18-70. Filed 5-9-69.
- 901,817. ADAPTA-ZONE. Lear Seigler, Inc., assignee of Mammoth Industries, Inc. SN 330,523. Pub. 8-4-70. Filed 6-19-69.
- 901,818. NOZ-L-IFE AND DESIGN. Fred A. Lorenz, d.b.a. Lorenz Manufacturing. SN 346,921. Pub. 8-18-70. Filed 12-22-69.
- 901,819. MONGOLIAN KOOKER. Continental Gourmet, Inc. SN 348,501. Pub. 8-18-70. Filed 1-14-70.
- 901,820. ROAST-A-TRON. Mix-Mill, Inc. SN 349,802. Pub. 8-18-70. Filed 1-28-70.
- 901,821. FRIGIDHEAT AND DESIGN. James O. Ewing, d.b.a. Frigidheat Industries. SN 351,021. Pub. 8-18-70. Filed 2-10-70.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 901,857. (See Class 2 for this trademark.)
- 901,822. VOIT. W. J. Volt Rubber Corp. SN 298,072. Pub. 8-18-70. Filed 5-13-68.
- 901,823. STOP-RITE. Royal Industries, Inc., assignee of Royal Industries. SN 301,260. Pub. 8-18-70. Filed 6-24-68.
- 901,824. ZEPHYR FLYTE. Carlisle Corporation. SN 325,835. Pub. 8-18-70. Filed 4-29-69.

Class 36 — Musical Instruments and Supplies

- 901,742. (See Class 21 for this trademark.)
- 901,825. GARDEN GROOVE MUSIC CENTER AND DESIGN. John M. Washburn, d.b.a. Garden Grove Music Center. SN 338,453. Pub. 8-18-70. Filed 9-19-69.

- 901,826. AMJO. James Johnson, d.b.a. Amjo Rec. SN 341,076. Pub. 8-18-70. Filed 10-16-69.
- 901,827. ROOM ROCKER. Hammond Corporation. SN 354,621. Pub. 8-18-70. Filed 3-19-70.
- 901,828. NGC DESIGN. National General Records Corporation. SN 354,873. Pub. 8-18-70. Filed 3-23-70.

Class 37 — Paper and Stationery

- 901,651. (See Class 1 for this trademark.)
- 901,656. (See Class 2 for this trademark.)

Class 38 — Prints and Publications

- 901,651. (See Class 1 for this trademark.)
- 901,829. MICROWAVES. Hayden Publishing Company, Inc. SN 117,494. Pub. 9-3-68. Filed 4-10-61.
- 901,830. MISCELLANEOUS DESIGN. John Hinde Ltd. SN 308,295. Pub. 8-18-70. Filed 9-26-68.
- 901,831. JOHN HINDE. John Hinde Ltd. SN 308,296. Pub. 8-18-70. Filed 9-26-68.
- 901,832. DUMBUDUM. William C. Bach. SN 337,848. Pub. 8-18-70. Filed 9-15-69.
- 901,833. POT-SHOTS. Ashleigh Ellwood Brilliant, d.b.a. Brilliant Enterprises. SN 341,616. Pub. 8-18-70. Filed 10-24-69.
- 901,834. NURSERY SCHOOL WORLD OF MUSIC AND DESIGN. Ruby A. Owens. SN 341,880. Pub. 8-18-70. Filed 10-27-69.
- 901,835. GOLDEN COMICS DIGEST. Western Publishing Company, Inc. SN 345,223. Pub. 8-18-70. Filed 12-3-69.
- 901,836. WHITE ROOSTER AND DESIGN. Pathe News, Inc. SN 357,287. Pub. 8-18-70. Filed 4-20-70.
- 901,837. RETIRED TIMES. Richard L. Estes. SN 358,718. Pub. 8-18-70. Filed 5-4-70.
- 901,838. EIGHTBALL. Hanky-Panky, Inc. SN 358,748. Pub. 8-18-70. Filed 5-4-70.

Class 39 — Clothing

- 901,662. (See Class 3 for this trademark.)
- 901,839. MARIE-CHANTAL. Marie Chantal. SN 315,537. Pub. 8-18-70. Filed 1-2-69.
- 901,840. IDENT-A-PATCH. Fairfield Glove Company. SN 339,872. Pub. 6-9-70. Filed 10-6-69.
- 901,841. KOO KOO AND BIRD DESIGN. Toni California. SN 340,440. Pub. 8-18-70. Filed 10-10-69.
- 901,842. NEARLY YOU. Maldenform, Inc. SN 344,513. Pub. 8-18-70. Filed 11-25-69.
- 901,843. S01 COLLECTION. Pallizzio, Inc. SN 345,491. Pub. 8-18-70. Filed 12-5-69.
- 901,844. BELVEDERE. Publix Shirt Corporation. SN 345,497. Pub. 8-18-70. Filed 12-5-69.
- 901,845. NORTH MAIN STREET. Elise Blouse of Boston, Inc. SN 346,554. Pub. 8-18-70. Filed 12-18-69.
- 901,846. INTERDIGITATE. Consolidated Foods Corporation. SN 346,558. Pub. 8-18-70. Filed 12-18-69.
- 901,847. STRETCH UPS. Teenform, Inc. SN 350,142. Pub. 8-18-70. Filed 1-30-70.
- 901,848. MISCELLANEOUS DESIGN. Trendsetter Footwear Corporation. SN 351,176. Pub. 8-18-70. Filed 2-12-70.
- 901,849. TRENDSETTER AND DESIGN. Trendsetter Footwear Corporation. SN 351,177. Pub. 8-18-70. Filed 2-12-70.
- 901,850. THE UNDIE-WORLD. Herbert F. Greenberg. SN 352,413. Pub. 8-18-70. Filed 2-26-70.
- 901,851. HEATHER LIGHT. Camp and McInnes, Inc. SN 358,653. Pub. 8-18-70. Filed 5-4-70.

- 901,852. MOON WALK. International Playtex Corporation. SN 358,659. Pub. 8-18-70. Filed 5-4-70.
- 901,853. J. RIGGINGS. The United States Shoe Corporation. SN 359,183. Pub. 8-18-70. Filed 5-8-70.
- 901,854. J. RIGGINGS AND DESIGN. The United States Shoe Corporation. SN 359,311. Pub. 8-18-70. Filed 5-11-70.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 901,735. (See Class 21 for this trademark.)
- 901,855. FONDA-VEL. Fonda Manufacturing Corporation. SN 330,489. Pub. 8-18-70. Filed 6-19-69.
- 901,856. UNITED HOLTEX MILLS. Janssens de Horiou's Wollenstofffabrieken N.V. SN 338,574. Pub. 8-18-70. Filed 9-22-69.
- 901,857. ZEFGUARD. Dow Badische Company. SN 339,072. Pub. 8-18-70. Filed 9-29-69.
- 901,858. COMPUT-R-FLOR. Collins & Aikman Corporation. SN 341,916. Pub. 8-18-70. Filed 10-28-69.
- 901,859. INTIMA. Gullford Mills, Inc. SN 344,186. Pub. 8-18-70. Filed 11-21-69.
- 901,860. K DESIGN. Kinetic Knitting Mills, Inc. SN 344,635. Pub. 8-18-70. Filed 11-26-69.
- 901,861. VENTANA. Deering Milliken, Inc. SN 359,782. Pub. 8-18-70. Filed 5-15-70.

Class 44 — Dental, Medical, and Surgical Appliances

- 901,862. DENTAL DYNAMICS. Dental Dynamics Inc. SN 287,283. Pub. 8-18-70. Filed 12-20-67.
- 901,863. PELVIC ANCHOR. The Pelvic Anchor Corporation. SN 290,320. Pub. 8-18-70. Filed 2-5-68.
- 901,864. COPYCAST. Howmet Corporation. SN 325,487. Pub. 8-18-70. Filed 4-24-69.
- 901,865. LTD. Hanau Engineering Co., Inc. SN 343,704. Pub. 8-18-70. Filed 11-17-69.
- 901,866. UNILASTIC. Sybron Corporation. SN 344,151. Pub. 8-18-70. Filed 11-20-69.
- 901,867. SILHOUETTE. Johnson & Johnson, d.b.a. Personal Products Company. SN 353,007. Pub. 6-9-70. Filed 3-4-70.

Class 45 — Soft Drinks and Carbonated Waters

- 901,868. SUGARBUSH. The Coca-Cola Company. SN 349,132. Pub. 8-18-70. Filed 1-21-70.
- 901,869. AFICIONADO. Royal Crown Cola Co. SN 360,656. Pub. 8-18-70. Filed 5-25-70.

Class 46 — Foods and Ingredients of Foods

- 901,870. TRIPLE CROWN. Fruen Milling Company. SN 257,270. Pub. 9-19-67. Filed 10-26-66.
- 901,871. 3 CROWNS (DESIGN). Fruen Milling Company. SN 257,271. Pub. 9-19-67. Filed 10-26-66.
- 901,872. POP-UPS. General Foods Corporation. SN 271,613. Pub. 5-21-68. Filed 5-16-67.
- 901,873. EARL OF SANDWICH AND DESIGN. Earl of Sandwich, Inc. SN 324,283. Pub. 8-18-70. Filed 4-11-69.

- 901,874. 1001 ISLAND DRESSING. Henri's Food Products Company, Inc., d.b.a. Henri's Food Products. SN 342,743. Pub. 8-18-70. Filed 11-5-69.
- 901,875. MIRA-CREME. A. E. Staley Manufacturing Company. SN 346,316. Pub. 8-18-70. Filed 12-15-69.
- 901,876. ROADEL AND DESIGN. Roadel Foods, Inc. SN 346,701. Pub. 8-18-70. Filed 12-19-69.
- 901,877. INSTINCT. Pet Incorporated. SN 349,929. Pub. 8-18-70. Filed 1-29-70.
- 901,878. MAZITOS. General Mills, Inc. SN 350,180. Pub. 7-7-70. Filed 2-2-70.
- 901,879. FOOD FOR THOUGHT. Carter-Wallace, Inc. SN 350,648. Pub. 8-18-70. Filed 2-6-70.
- 901,880. BRILL QUALITY-APPROVED BAKERS' INGREDIENTS AND DESIGN. H. C. Brill Company, Inc. SN 351,674. Pub. 8-18-70. Filed 2-18-70.
- 901,881. VITA GUARD. John T. Brueggeman, d.b.a. Vita Guard Enterprises. SN 351,675. Pub. 8-18-70. Filed 2-18-70.
- 901,882. BOLLERO. Gainsborough International (Spain), S.A. SN 352,467. Pub. 8-18-70. Filed 2-26-70.
- 901,883. STAR CHEF. The Oxford Corporation. SN 352,509. Pub. 8-18-70. Filed 2-26-70.
- 901,884. DOWNYFLAKE. Pet Incorporated. SN 357,564. Pub. 8-18-70. Filed 4-22-70.
- 901,885. HEARTLINE. Lever Brothers Company. SN 360,274. Pub. 8-18-70. Filed 5-20-70.
- 901,886. MAGIC CARROUSEL. DCA Food Industries Inc. SN 360,413. Pub. 8-18-70. Filed 5-21-70.
- 901,887. LIPTON. Thomas J. Lipton, Inc. SN 360,424. Pub. 8-18-70. Filed 5-21-70.

Class 47 — Wines

- 901,888. DUFOULEUR FRERES. Dufouleur Freres. SN 325,588. Pub. 8-18-70. Filed 4-25-69.
- 901,889. MONTARIA. Taylor, Fladgate & Yeatman-Vinhos S.A.R.L. SN 328,462. Pub. 8-18-70. Filed 3-9-70.
- 901,890. ONDINE. Hermann Kendermann. SN 333,834. Pub. 8-18-70. Filed 7-29-69.

Class 49 — Distilled Alcoholic Liquors

- 901,891. PATRICIAN. Mediterranean Importing Co., Inc. SN 318,443. Pub. 8-18-70. Filed 2-5-69.
- 901,892. SEGUIN AND DESIGN. Seguin & Co. SN 333,304. Pub. 8-18-70. Filed 7-23-69.
- 901,893. COVENTRY. Charles Jacquin et Cie., Inc. d.b.a. Coventry Distillers Company. SN 339,018. Pub. 8-18-70. Filed 9-26-69.
- 901,894. KOH-I-NOOR. Crown Distillers Limited. SN 345,065. Pub. 8-18-70. Filed 12-2-69.

Class 50 — Merchandise Not Otherwise Classified

- 901,895. TREELAND AND TREE DESIGN. Boethling Treeland Nursery Co. SN 319,691. Pub. 8-18-70. Filed 2-20-69.

Class 51 — Cosmetics and Toilet Preparations

- 901,896. VALENTINO. VB Creations, Inc., assignee of Helena Rubenstein, Inc. SN 317,505. Pub. 3-24-70. Filed 1-27-69.

- 901,897. SUDDEN SOFTNESS. Johnson & Johnson. SN 344,787. Pub. 6-30-70. Filed 11-28-69.
- 901,898. ANTI-PLUS. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories. SN 348,928. Pub. 8-18-70. Filed 1-19-70.
- 901,899. 7:45. Mark Allen Co. SN 357,890. Pub. 8-18-70. Filed 4-27-70.

Class 52 — Detergents and Soaps

- 901,900. RED DOOR. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden. SN 334,824. Pub. 8-18-70. Filed 8-8-69.
- 901,901. COCOPEXION. Armour-Dial, Inc. SN 349,310. Pub. 8-18-70. Filed 1-22-70.

Service Marks

Class 100 — Miscellaneous

- 901,731. (See Class 21 for this trademark.)
- 901,732. (See Class 21 for this trademark.)
- 901,902. WIENERWALD. Wienerwald Third Avenue, Inc., by change of name from Wienerwald at the Walldorfkeller, Inc. SN 284,774. Pub. 8-18-70. Filed 11-13-67.
- 901,903. WIENERWALD AND DESIGN. Wienerwald Third Avenue, Inc., by change of name from Wienerwald at the Walldorfkeller, Inc. SN 284,775. Pub. 8-18-70. Filed 11-13-67.
- 901,904. GAS AND DESIGN. Gollob Analytical Service Corp., assignee of Gollob Analytical Service, Inc. SN 291,066. Pub. 8-18-70. Filed 2-14-68.
- 901,905. RPC. Robin Products Company. SN 295,176. Pub. 8-18-70. Filed 4-8-68.
- 901,906. FARMER'S DAUGHTER. Farmer's Daughter, Inc., by merger from Sir Beef Industries, Inc. SN 302,136. Pub. 8-18-70. Filed 7-5-68.
- 901,907. LITCHFIELD PARK. Litchfield Park Properties. SN 304,359. Pub. 8-18-70. Filed 8-5-68.
- 901,908. BIG SCOOP ICE CREAM ETC. AND DESIGN. Big Scoop International, Inc. SN 309,952. Pub. 8-18-70. Filed 10-18-68.
- 901,909. MICRON INCORPORATED AND DESIGN. Micron, Incorporated. SN 313,185. Pub. 8-18-70. Filed 11-27-68.
- 901,910. ULTRACHEM AND DESIGN. Ultrachem Corporation. SN 314,635. Pub. 8-18-70. Filed 12-16-68.
- 901,911. PROJECT HOPE AND SHIP DESIGN. The People-to-People Health Foundation, Inc. SN 314,816. Pub. 8-18-70. Filed 12-18-68.
- 901,912. COMMUNICO. Marlitz, Inc. MULTIPLE CLASS (Classes, 100, 101, and 107). SN 325,369. Pub. 8-18-70. Filed 4-23-69.
- 901,913. PLAN-A-YIELD. Farm Bureau Services, Inc. SN 325,528. Pub. 8-18-70. Filed 4-24-69.
- 901,914. DIPPY DONUTS MALE AND CUP DESIGN. Dippy Donuts, Inc. SN 330,591. Pub. 8-18-70. Filed 6-20-69.
- 901,915. DIALOG AND ARROWS DESIGN. Dialog Computing, Inc. SN 332,812. Pub. 8-18-70. Filed 7-17-69.
- 901,916. FORUM CAFETERIA. Forum Restaurants, Inc. SN 334,705. Pub. 8-18-70. Filed 8-7-69.
- 901,917. FORUM AND DESIGN. Forum Restaurants, Inc. SN 335,010. Pub. 8-18-70. Filed 8-11-69.
- 901,918. MALE DESIGN. The Thin Man, Incorporated. SN 335,076. Pub. 8-18-70. Filed 8-11-69.
- 901,919. APL PLUS. Scientific Time Sharing Corporation. SN 336,901. Pub. 8-18-70. Filed 9-3-69.

- 901,920. MISCELLANEOUS DESIGN. Interstate United Corporation. SN 347,377. Pub. 8-18-70. Filed 12-30-69.
- 901,921. TRADEMARK TRACER. TCR Service, Inc. SN 359,064. Pub. 8-18-70. Filed 5-7-70.

Class 101 — Advertising and Business

- 901,731. (See Class 21 for this trademark.)
- 901,732. (See Class 21 for this trademark.)
- 901,912. (See Class 100 for this trademark.)
- 901,922. GLOBE OUTLINE WITH ARROWS (DESIGN). Anglo American Aviation Company. SN 287,265. Pub. 8-18-70. Filed 12-20-67.
- 901,923. IF IT'S A KOA . . . IT'S A-OK! Campgrounds of America, Inc. SN 322,301. Pub. 8-18-70. Filed 3-20-69.
- 901,924. INTERNATIONAL SHOWS AND DESIGN. Jack Lawton Webb, d.b.a. International Shows. SN 324,377. Pub. 8-18-70. Filed 4-14-69.
- 901,925. GEORGE WASHINGTON COUNTRY AND DESIGN. Alexandria Board of Trade. SN 326,737. Pub. 8-18-70. Filed 5-8-69.
- 901,926. LSD DESIGN. Language and Systems Development, Inc. SN 329,736. Pub. 8-18-70. Filed 6-11-69.
- 901,927. THE COUNTRYSIDE PRESS AND DESIGN. Farm Journal, Inc. SN 339,955. Pub. 8-18-70. Filed 10-7-69.
- 901,928. STENOCOMP INC. AND DESIGN. Stenocomp Incorporated. SN 340,288. Pub. 8-18-70. Filed 10-9-69.
- 901,929. PAYLESS CASHWAY AND DESIGN. Payless Cashways, Inc. SN 341,995. Pub. 8-18-70. Filed 10-29-69.
- 901,930. SAVECARD AND DESIGN. Savecard Associated Enterprises. SN 342,070. Pub. 8-18-70. Filed 10-29-69.
- 901,931. M AND SPACEBOY DESIGN. Mars Bargainland, Inc. SN 359,961. Pub. 8-18-70. Filed 5-18-70.

Class 102 — Insurance and Financial

- 901,932. INTER - MONETARY. Inter - Monetary, Inc. SN 340,019. Pub. 8-18-70. Filed 10-7-69.

Class 103 — Construction and Repair

- 909,933. MAC AND DESIGN. Motorist Auto Care, Inc. SN 337,236. Pub. 8-18-70. Filed 9-8-69.

Class 104 — Communication

- 901,934. MISCELLANEOUS DESIGN. TCI Tele-Communications Consultants, Inc. SN 330,860. Pub. 8-18-70. Filed 6-24-69.

Class 105 — Transportation and Storage

- 901,935. INSTAR AND DESIGN. Instar, Inc. SN 360,273. Pub. 8-18-70. Filed 5-20-70.

Class 106 — Material Treatment

- 901,936. CERREFCO. Clifford J. Knight. SN 300,203. Pub. 8-18-70. Filed 6-11-68.

Class 107 — Education and Entertainment

- 901,912. (See Class 100 for this trademark.)
- 901,937. CAREER DIRECTIONS. Famous Artists Schools, Inc. SN 312,580. Pub. 8-18-70. Filed 11-19-68.
- 901,938. DELAWARE HIGHLAND GATHERING. The Scottish Games Association of Delaware, Inc. SN 321,828. Pub. 8-18-70. Filed 3-14-69.
- 901,939. THE WEAVER SOUND. The Voice of Orange Empire, Inc., Ltd. SN 333,508. Pub. 8-18-70. Filed 7-25-69.
- 901,940. WEAVER APPROACH. The Voice of Orange Empire, Inc., Ltd. SN 333,509. Pub. 8-18-70. Filed 7-25-69.
- 901,941. HUMAN AND BUILDING DESIGN. American Child Centers, Inc. SN 352,709. Pub. 8-18-70. Filed 3-2-70.

Collective Membership Mark

Class 200

- 901,942. PHCC AND DESIGN. National Association of Plumbing-Heating-Cooling Contractors. SN 340,582. Pub. 8-18-70. Filed 10-13-69.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1 (Combined Certificates)

- 901,948. Jack Gasnick, d.b.a. Cross at the Green Enterprises, New York, N.Y. SN 348,071. Filed 1-9-70.

BUCKLE UP FOR SAFETY

Class 26 — Measuring and Scientific Appliances

For All Purpose Goggles (Int. Cl. 9).

Class 39 — Clothing

For Water-Repellent and Weather Protective Jackets, Coats, Coveralls, Hats and Boots, and Helmets (Int. Cl. 25).

Class 44 — Dental, Medical, and Surgical Appliances

For Dust Masks and Respirators (Int. Cl. 9).

First use Jan. 17, 1965.

SECTION 2

Class 1—Raw or Partly Prepared Materials

901,943. George Warner Seed Co., Inc., Hereford, Tex. SN 346,415. Filed P.R. 12-16-69; Am. S.R. 7-15-70.



The drawing is lined for the color red, but no claim to color is made.

For Bird Resistant Hybrid Grain Sorghum Seed (Int. Cl. 31).

First use Apr. 9, 1968.

Class 6—Chemicals and Chemical Compositions

901,944. Babson Bros. Co., Oak Brook, Ill. SN 341,737. Filed P.R. 10-27-69; Am. S.R. 7-20-70.

TEAT-KOTE

For Bactericidal Teat Dip for Cows (Int. Cl. 5).
First use Apr. 29, 1969.

Class 15—Oils and Greases

901,945. The Joseph Dixon Crucible Company, Jersey City, N.J. SN 322,842. Filed P.R. 3-26-69; Am. S.R. 7-13-70.

RUST CHECK

For Penetrating Oil (Int. Cl. 4).
First use Jan. 24, 1969.

Class 19—Vehicles

901,946. United Aircraft Corporation, East Hartford, Conn. SN 319,651. Filed P.R. 2-19-69; Am. S.R. 6-25-70.

TURBO TRAIN

For Gas Turbine Powered Trains Consisting of a Locomotive and Cars Sold as a Unit, and Parts Thereof (Int. Cl. 12).
First use about Aug. 1, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

901,947. Usines Decoufle, Paris, Seine, France. SN 331,079. Filed P.R. 6-26-69; Am. S.R. 7-14-70.

DECOUFLE

Owner of French Reg. No. 755,996, dated Oct. 16, 1968.
For Machines for Manufacturing, Conveying and Packaging Cigarettes and Cigars and for Parceling Packages Such as Cigarette and Cigar Packages (Int. Cl. 7).

TM 46

Class 26—Measuring and Scientific Appliances

901,948. See Section 1 (Combined Certificate).

Class 38—Prints and Publications

901,949. Pittway Corporation, Cleveland, Ohio. SN 329,125. Filed P.R. 6-4-69; Am. S.R. 7-31-70.

SAFETY/SECURITY MANAGEMENT

For Magazine (Int. Cl. 16).
First use on or about May 8, 1969.

901,950. Cahners Publishing Company, Inc., Boston, Mass. SN 337,005. Filed P.R. 9-4-69; Am. S.R. 8-3-70.

METALWORKING ECONOMICS

For Magazine Published Monthly (Int. Cl. 16).
First use July 1969.

901,951. National Magazine Company Ltd., London, England. SN 343,917. Filed P.R. 11-19-69; Am. S.R. 4-10-70.

CONTAINER GUIDE

For Compendium of Information Published Annually and/or at Other Intervals (Int. Cl. 16).
First use October 1968; in commerce October 1968.

Class 39—Clothing

901,948. See Section 1 (Combined Certificate).

901,952. Kermit R. Goldbergh, d.b.a. Kavanaugh's of Maryland, Inc., Baltimore, Md. SN 302,836. Filed P.R. 7-16-68; Am. S.R. 7-23-70.

CALLAWAY

For Shoes and Slippers (Int. Cl. 25).
First use July 1, 1968.

901,953. Eloesser-Heynemann Company, S. San Francisco, Calif. SN 333,256. Filed P.R. 7-23-69; Am. S.R. 7-28-70.



For Slacks (Int. Cl. 25).
First use May 14, 1969.

NOVEMBER 3, 1970

U. S. PATENT OFFICE

TM 47

Class 44—Dental, Medical, and Surgical Appliances

901,948. See Section 1 (Combined Certificate).

901,954. Revlon, Inc., New York, N.Y. SN 327,410. Filed P.R. 5-15-69; Am. S.R. 2-16-70.

BUFFETTE

For Nail Buffers (Int. Cl. 8).
First use Sept. 15, 1966.

901,955. Revlon, Inc., New York, N.Y. SN 327,413. Filed P.R. 5-15-69; Am. S.R. 2-16-70.

LADY-GROOM

For Cuticle Pusher, Cuticle Trimmer, and Under Nail Cleaner (Int. Cl. 8).
First use April 1967.

Class 46—Foods and Ingredients of Foods

901,956. Flavour Candy Company, Inc., Chicago, Ill. SN 330,830. Filed P.R. 6-24-69; Am. S.R. 8-10-70.

LICKY STIX

For Candy (Int. Cl. 30).
First use Aug. 15, 1968.

Class 51—Cosmetics and Toilet Preparations

901,957. Clairol Incorporated, New York, N.Y. SN 302,040. Filed P.R. 7-5-68; Am. S.R. 7-23-70.

SHIMMER LIGHTS

For Hair Lightener With Toning Action (Int. Cl. 3).
First use Mar. 22, 1968.

901,958. Maurer & Wirtz K.G., Stolberg, Rheinland, Germany. SN 309,272. Filed P.R. 10-9-68; Am. S.R. 7-20-70.



Owner of German Reg. No. 778,750, dated July 12, 1962.
For Perfumes, Hair Oil, and Hair Lotion, After Shave Lotion and Pre-Shave Lotion (Int. Cl. 3).

901,959. Clairol Incorporated, New York, N.Y. SN 332,315. Filed P.R. 7-11-69; Am. S.R. 7-23-70.

SUPER LEMON

For Hair Lightener (Int. Cl. 3).
First use June 11, 1969.

901,960. Yardley of London, Inc., New York, N.Y. SN 334,150. Filed P.R. 7-31-69; Am. S.R. 7-27-70.

FULL FINISH

For Foundation Make-Up (Int. Cl. 3).
First use Nov. 29, 1961.

Class 52—Detergents and Soaps

901,961. Maurer & Wirtz K.G., Stolberg, Rheinland, Germany. SN 320,271. Filed P.R. 2-27-69; Am. S.R. 7-20-70.



The mark consists of the conformation of the container and wording shown. Owner of German Reg. No. 778,748, dated July 12, 1962.

For Bath and Toilet Soap (Int. Cl. 3).

Class 100—Miscellaneous

901,962. American Dairy Queen Corporation, Minneapolis, Minn. SN 304,879. Filed P.R. 8-12-68; Am. S.R. 8-24-70.

EAT, DRINK AND BE MERRY

For Confectionery Fountain and Food Services (Int. Cl. 35).
First use July 26, 1968.

901,963. Scientific Resources Incorporated, Union, N.J. SN 326,573. Filed P.R. 2-18-69; Am. S.R. 1-28-70.

SCIENTIFIC RESOURCES INCORPORATED

Applicant disclaims the word "Incorporated" apart from the mark as shown.

For Consulting Services in the Behavioral Sciences—Namely, Psychological Testing, Individual and Group Psychotherapy, and Career Counseling (Int. Cl. 42).
First use Oct. 22, 1965.

Class 101—Advertising and Business

901,964. Bio-Dynamics, Inc., Cambridge, Mass. SN 295,801. Filed P.R. 4-17-68; Am. S.R. 7-16-70.

BIO-DYNAMICS

For Rendering Consulting, Advisory, Research, and Development Services to Others in Connection With the Design of Test Instruments Intended for Fields Involving Human Environment Relationships—Namely, Physiological Monitoring, Environmental, and Occupational Health (Int. Cl. 35).
First use May 1961.

901,965. A-T-O Inc., d.b.a. Automatic Protection Systems, Cleveland, Ohio, by change of name from "Automatic" Sprinkler Corporation of America, d.b.a. Automatic Protection Systems, Cleveland, Ohio. SN 322,517. Filed P.R. 3-24-69; Am. S.R. 8-3-70.

AUTOMATIC PROTECTION SYSTEMS

For Aiding in the Establishment and Operation of Businesses Involving Burglar and Fire Alarms (Int. Cl. 35).
First use at least as early as Dec. 1, 1968.

TRADEMARK REGISTRATIONS RENEWED

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| 34,411. LA PRIMERA. Cl. 46 (Int. Cl. 29). 4-3-1900. | 530,021. TRI-FLUTE-CHECK. Cl. 26 (Int. Cl. 9). 8-29-50. |
| 35,149. WILBURINE. Cl. 15 (Int. Cl. 4). 9-25-1900. | 530,045. TWIN VOLUTE AND DESIGN. Cl. 23 (Int. Cl. 7). 8-29-50. |
| 271,363. DENTYNETTES. Cl. 46 (Int. Cl. 30). 6-3-30. | 530,105. VAN BRODE AND DESIGN. Cl. 46 (Int. Cl. 30). 9-5-50. |
| 271,784. ETHYL. Cl. 52 (Int. Cl. 3). 6-17-30. | 530,196. TENDER-TONE. Cl. 46 (Int. Cl. 29). 9-5-50. |
| 273,431. ADVERTISING AGE. Cl. 38 (Int. Cl. 16). 8-5-30. | 530,345. REMINGTON. Cl. 35 (Int. Cl. 12). 9-5-50. |
| 273,505. DONGE. Cl. 51 (Int. Cl. 3). 8-5-30. | 530,389. WRIKORG -C-. Cl. 6 (Int. Cl. 1). 9-5-50. |
| 273,793. "SURWEL". Cl. 26 (Int. Cl. 9). 8-12-30. | 530,504. NO. 521. Cl. 1 (Int. Cl. 6). 9-12-50. |
| 274,361. PAYMASTER. Cl. 46 (Int. Cl. 31). 8-26-30. | 530,693. ELFIN. Cl. 37 (Int. Cl. 16). 9-12-50. |
| 274,533. THE CATHOLIC SCHOOL JOURNAL. Cl. 38 (Int. Cl. 16). 9-2-30. | 530,937. LEVELAN. Cl. 23 (Int. Cl. 7). 9-19-50. |
| 274,966. FLIGHT. Cl. 28 (Int. Cls. 8 and 14). 9-9-30. | 531,626. CATERPILLAR. Cl. 23 (Int. Cls. 7, 8, and 9). 10-10-50. |
| 274,968. CHATELAINE. Cl. 28 (Int. Cls. 8 and 14). 9-9-30. | 531,713. PERMALITE. Cl. 1 (Int. Cl. 19). 10-10-50. |
| 276,508. "VALUE-TEX" AND DESIGN. Cl. 39 (Int. Cl. 25). 10-21-30. | 531,751. RIB-AD. Cl. 46 (Int. Cl. 31). 10-10-50. |
| 276,565. NORTHERN. Cl. 23 (Int. Cl. 7). 10-21-30. | 531,762. FARMDALE. Cl. 46 (Int. Cl. 29). 10-10-50. |
| 276,997. U&G. Cl. 16 (Int. Cl. 2). 11-4-30. | 531,814. CLASSIC. Cl. 37 (Int. Cl. 16). 10-10-50. |
| 277,938. LHYCOSOL. Cl. 6 (Int. Cl. 2). 12-2-30. | 531,874. HOOVER. Cl. 103 (Int. Cl. 37). 10-10-50. |
| 278,639. WIPLOT. Cl. 37 (Int. Cl. 16). 12-23-30. | 531,956. MODERNAIRE. Cl. 32 (Int. Cl. 20). 10-17-50. |
| 278,870. PHOENIX DUL SHEER AND DESIGN. Cl. 39 (Int. Cl. 25). 12-30-30. | 532,167. GOBBLE. Cl. 22 (Int. Cl. 28). 10-17-50. |
| 279,219. BIONY. Cl. 46 (Int. Cl. 30). 1-13-31. | 532,309. FUL-VU. Cl. 3 (Int. Cls. 16 and 18). 10-24-50. |
| 280,019. STANRITE. Cl. 26 (Int. Cl. 9). 2-10-31. | 532,423. SUPER MIST DRIZER. Cl. 21 (Int. Cl. 9). 10-24-50. |
| 280,290. FLEISCHMANN'S. Cl. 46 (Int. Cl. 30). 2-10-31. | 532,440. HEROULT. Cl. 21 (Int. Cl. 11). 10-24-50. |
| 444,172. MICROJET. Cl. 23 (Int. Cl. 7). 8-22-50. | 532,518. THE FRONTROW BY. Cl. 38 (Int. Cl. 16). 10-24-50. |
| 444,207. ASPH-O-LITE. Cl. 16 (Int. Cl. 1). 9-12-50. | 532,647. NEUTRA-GAS. Cl. 34 (Int. Cl. 11). 10-31-50. |
| 444,229. OIL CO. Cl. 23 (Int. Cl. 7). 9-19-50. | 532,763. BROINT. Cl. 18 (Int. Cl. 5). 10-31-50. |
| 444,273. JIFFY AND DESIGN. Cl. 51 (Int. Cl. 3). 10-17-50. | 532,822. VIRGINIANS. Cl. 17 (Int. Cl. 34). 10-31-50. |
| 524,808. GATES AND DESIGN. Cl. 19 (Int. Cl. 12). 5-2-50. | 532,897. CROWN AND DESIGN. Cl. 19 (Int. Cl. 12). 10-31-50. |
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| 525,275. SILK-FILM. Cl. 51 (Int. Cl. 3). 5-16-50. | 533,165. X SHAPED DESIGN. Cl. 48 (Int. Cl. 32). 11-7-50. |
| 525,276. SERENADE. Cl. 28 (Int. Cl. 14). 5-16-50. | 533,319. LINDALE. Cl. 39 (Int. Cl. 25). 11-14-50. |
| 525,406. POLYFAX. Cl. 16 (Int. Cl. 2). 5-23-50. | 533,409. FRIGI FLEX. Cl. 12 (Int. Cl. 17). 11-14-50. |
| 525,717. XEROX. Cl. 38 (Int. Cl. 16). 5-30-50. | 533,420. COQUITO. Cl. 52 (Int. Cl. 3). 11-14-50. |
| 526,010. KIMLOC. Cl. 37 (Int. Cl. 16). 6-6-50. | 533,472. JOHN-EE. Cl. 13 (Int. Cl. 11). 11-14-50. |
| 526,175. JEEP. Cl. 19 (Int. Cl. 12). 8-13-50. | 533,693. PACEMAKER. Cl. 23 (Int. Cl. 16). 11-21-50. |
| 526,224. JEFFERSON CLUB. Cl. 45 (Int. Cl. 32). 6-13-50. | 533,698. WISCONSIN. Cl. 23 (Int. Cl. 7). 11-21-50. |
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| 527,791. BABYCREST. Cl. 39 (Int. Cl. 25). 7-18-50. | 534,101. PRODELIN. Cl. 21 (Int. Cl. 9). 11-28-50. |
| 527,917. PROVIDENT AND DESIGN. Cl. 102 (Int. Cl. 36). 7-18-50. | 534,117. TRAVERT. Cl. 18 (Int. Cl. 5). 11-38-50. |
| 528,559. HANNA. Cl. 23 (Int. Cl. 7). 8-8-50. | 534,133. WHITE AS SNOW SOFT AS DOWN. Cl. 37 (Int. Cl. 16). 11-28-50. |
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| 529,765. MORAIN. Cl. 31 (Int. Cl. 11). 8-29-50. | |
| 529,813. YANK. Cl. 38 (Int. Cl. 16). 8-29-50. | |

- 535,582. VISCOSINE. Cl. 15 (Int. Cl. 4). 1-2-51.
535,663. CHLOROWAX. Cl. 6 (Int. Cl. 4). 1-2-51.
535,693. PERMACORE AND DESIGN. Cl. 32 (Int. Cl. 6). 1-2-51.
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536,190. LE SUEUR. Cl. 46 (Int. Cl. 29). 1-9-51.
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- 536,595. JENNY LEE. Cl. 46 (Int. Cl. 30). 1-16-51.
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537,423. JET AND DESIGN. Cl. 21 (Int. Cl. 9). 2-6-51.

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- 812,303. ATI AND DESIGN. Cl. 101. 8-2-66.

Section 8

- 776,585. VERSA-TEL. Cl. 23. 9-8-64.

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| 776,814. SP. Cls. 2, 6, 23, and 52. | 776,977. SAMSON. Cl. 23. |
| 776,816. WHITE LINE. Cl. 2. | 776,980. H AND DESIGN. Cl. 23. |
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| 776,897. JUNO. Cl. 19. | 777,066. YT ORIGINAL. Cl. 39. |
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| 776,926. NAVISCAN. Cl. 21. | 777,102. DAI-LEE. Cl. 45. |
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| 776,945. T WEB. Cl. 22. | 777,112. CALOLITE. Cl. 46. |
| 776,946. TECHNO-BUILDER. Cl. 22. | 777,117. GOLD N' CAMEL. Cl. 46. |
| 776,948. GLASBAT. Cl. 22. | 777,126. MY GEISHA AND JAPANESE CHARACTERS. Cl. 47. |
| 776,949. BENDIT. Cl. 23. | 777,129. BEE GO AND DESIGN. Cl. 50. |
| 776,951. VAC-U-MOW. Cl. 23. | 777,134. RHR (FANCIFUL). Cl. 51. |
| 776,957. NOPAK PLASTIK AND DESIGN. Cl. 23. | 777,143. FEATHERLASH. Cl. 51. |
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| 776,960. SANG. Cl. 23. | 777,154. MISCELLANEOUS DESIGN. Cl. 102. |
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| 776,966. AJAX. Cl. 23. | 777,162. PIONEER. Cl. 107. |
| 776,967. PERGEAR TROL. Cl. 23. | 777,163. (BADGE (DESIGN)). Cl. 200. |
| 776,969. DYNABRATOR. Cl. 23. | 777,164. CREST (DESIGN). Cl. 200. |
| | 777,165. Q BLOCK. Cl. A. |

Section 18

- 621,459. AID IN CIRCLE DESIGN. Cl. 102. 2-14-56.
783,095. SNO-TRACS. Cl. 13. 1-12-65.
874,391. COLONEL REBEL AND DESIGN. Cl. 49. 8-5-69.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 6—Chemicals and Chemical Compositions

308,845. Dec. 26, 1933. The Dow Chemical Company, Midland, Mich. Pub. by registrant.

DOWICIDE

For Insecticides, Fungicides, Germicides, Antiseptics, Disinfectants, and Preservatives Against Moulding, etc.

313,389. May 29, 1934. The Dow Chemical Company, Midland, Mich. Pub. by registrant.

DOWTHERM

For Liquid or Liquefiable Chemical Products Containing or Consisting of diphenyl, etc.

361,946. Nov. 8, 1938. Great Western Electro-Chemical Company, San Francisco, Calif. Pub. by The Dow Chemical Company, Midland, Mich.

Z

For Sodium Ethyl Xanthate, etc.

362,166. Nov. 15, 1938. The Dow Chemical Company, Midland, Mich. Pub. by Registrant.

METHOCEL

For Methyl Cellulose.

362,672. Nov. 29, 1938. The Dow Chemical Company, Midland, Mich. Pub. by registrant.

ETHOCEL

For Ethyl Cellulose.

379,252. July 9, 1940. The Dow Chemical Company, Midland, Mich. Pub. by registrant.

ALKAZENE

For Alkylated Benzene and Bromo-Benzene Compounds, etc.

TM 50

385,130. Feb. 18, 1941. The Dow Chemical Company, Midland, Mich. Pub. by registrant.

DOWFUME

For Fumigants for the Control of Insects in the Egg, Larval or Adult Stages.

Class 12—Construction Materials

196,111. Mar. 10, 1925. The Dow Chemical Company, Midland, Mich. Pub. by registrant.

DOWFLAKE

For Chemical Compounds and Hygroscopic Materials for Use in the Construction and Maintenance of Roads and Highways, etc.

Class 18—Medicines and Pharmaceutical Preparations

279,063. Jan. 6, 1931. The Norwich Pharmacal Company, Norwich, N.Y. Pub. by Registrant.

NORFORMS

For Vaginal Suppositories (Int. Cl. 5).

Class 21—Electrical Apparatus, Machines, and Supplies

414,292. June 5, 1945. Rembrandt Lamp Corporation, Chicago, Ill. Pub. by The Scott & Fetzer Company, Cleveland, Ohio.



For Floor Lamps and Table Lamps and Torchieres and Table-and-Lamp Combinations, With and Without Shades, etc.

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TM 51

Class 23—Cutlery, Machinery, and Tools, Class 43—Thread and Yarn and Parts Thereof

273,064. July 22, 1930. American Safety Razor Corporation, Brooklyn, N.Y. Pub. by Philip Morris Incorporated, d.b.a. American Safety Razor Company, New York, N.Y.

micromatic

For Razors and Blades (Int. Cl. 8).

444,162. Aug. 22, 1950. The De Laval Separator Company, Poughkeepsie, N.Y. Pub. by registrant.

NOZZLE - MATIC

For Industrial Centrifuges (Int. Cl. 7).

444,265. Oct. 10, 1950. Stephens-Adamson Mfg. Co., Aurora, Ill. Pub. by Borg-Warner Corporation, Chicago, Ill.

SACCO

For Variable Gear and Belt Speed Reducers for Use Between Prime Movers and Loads.

444,348. Dec. 5, 1950. The Linen Thread Co., Inc., New York, N.Y. Pub. by Indian Head Inc., New York, N.Y.

CASTLE

For Thread (Int. Cl. 23).

Class 46—Foods and Ingredients of Foods

195,339. Feb. 24, 1925. Hawley & Hoops, New York, N.Y. Pub. by Mars, Incorporated, Wilmington, Del.

PILOT

For Candy.

Class 52—Detergents and Soaps

370,415. Aug. 29, 1939. The Dow Chemical Company, Midland, Mich. Pub. by registrant.

DOWCLENE

For Dry Cleaning Solvents.

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(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- A. A. Records, Inc., New York, N.Y. 777,030, can. Cl. 36.
 AGS Development & Sales Corp., The, Baltimore, Md. 783,095, can. Cl. 13.
 A-T-O Inc., d.b.a. Automatic Protection Systems, from "Automatic" Sprinkler Corp. of America, Cleveland, Ohio. 901,965, Cl. 101.
 Abercrombie & Fitch Co., New York, N.Y. 901,775, pub. 8-18-70, Cl. 23.
 Acme Markets, Inc., Philadelphia, Pa. 531,762, ren. 11-3-70, Cl. 46.
 Acrylic Optics Corp.: See—
 Mine Safety Appliances Co.
 Adams, R. P., Co., Inc., Buffalo, N.Y. 901,810, pub. 8-18-70, Cl. 31.
 Adamson Co., Inc., Richmond, Va. 901,739, pub. 8-18-70, Cl. 21.
 Aden Supply Co., Belmont, Mich. 901,803-4, pub. 8-18-70, Cl. 26.
 Aid Investment & Discount Inc., Akron, Ohio. 521,459, can. Cl. 102.
 Aktiebolaget Tetra Pak, Lund, Sweden. 901,656, pub. 8-18-70, Multiple Class (Classes 2 and 37).
 Aktieselskabet Regard Aarhus Gummilvarefabrik, Aarhus, Denmark. 774,097, can. Cl. 44.
 Alexandria Board of Trade, Alexandria, Va. 901,925, pub. 8-18-70, Cl. 101.
 Allen, Mark, Co., Detroit, Mich. 901,899, pub. 8-18-70, Cl. 51.
 Allmanna Brandredskapsaffaren Aktiebolag, Stockholm, Sweden. 901,709, pub. 8-18-70, Cl. 13.
 Altman, B., & Co., New York, N.Y. 776,884, can. Cl. 18.
 Aluminum Hardgoods, Inc., Forest Park, Ill. 901,758, pub. 8-18-70, Cl. 22.
 Amercrest Corp., New York, N.Y. 527,791, ren. 11-3-70, Cl. 39.
 American Air Filter Co., Inc., Louisville, Ky. 535,582, ren. 11-3-70, Cl. 15.
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 American Carnival Glass Association, Inc., Washington, D.C. 901,814, pub. 8-18-70, Cl. 33.
 American Child Centers, Inc., Nashville, Tenn. 901,941, pub. 8-18-70, Cl. 107.
 American Dairy Queen Corp., Minneapolis, Minn. 901,962, Cl. 100.
 American District Telegraph Co., New York, N.Y. 901,729, pub. 8-18-70, Cl. 21.
 American Home Products Corp., New York, N.Y. 534,272, ren. 11-3-70, Cl. 18.
 American Home Products Corp., New York, N.Y. 534,409, ren. 11-3-70, Cl. 18.
 American Metal Cilmay, Inc., d.b.a. Southwest Potash Corp., New York, N.Y. 901,683, pub. 8-18-70, Cl. 10.
 American Machine & Foundry Co., New York, N.Y. 776,903, can. Cl. 19.
 American Motors Corp., Kenosha, Wis. 901,725, pub. 8-18-70, Cl. 19.
 American Saint Gobain Corp., Kingsport, Tenn. 777,017, can. Cl. 33.
 Ametek, Inc., East Moline, Ill. 901,779, pub. 8-18-70, Cl. 24.
 Anaconda Aluminum Co., Louisville, Ky. 901,700, pub. 8-18-70, Cl. 12.
 Anderson, Clayton, & Co., Houston, Tex. 274,361, ren. 11-3-70, Cl. 46.
 Andre Rubber Co. (Canada) Ltd., Toronto, Ontario, Canada. 901,698-9, pub. 8-18-70, Cl. 12.
 Anglo American Aviation Co., North Hollywood, Calif. 901,922, pub. 8-18-70, Cl. 101.
 Applied Power Industries, Inc., Milwaukee, Wis. 776,969, can. Cl. 23.
 Aquala, Inc., Los Angeles, Calif. 901,746, pub. 8-18-70, Cl. 22.
 Arden, Elizabeth, Sales Corp., d.b.a. Elizabeth Arden, New York, N.Y. 901,900, pub. 8-18-70, Cl. 52.
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 Arkwright Merchandising Corp., New York, N.Y. 531,956, ren. 11-3-70, Cl. 32.
 Armour-Dial, Inc., Chicago, Ill. 901,901, pub. 8-18-70, Cl. 52.
 Armstrong Plastic Specialties Co., d.b.a. Armstrong Systems, Los Angeles, Calif. 901,712, pub. 8-18-70, Cl. 13.
 Arriflex Corp. of America, Woodside, N.Y. 901,741, pub. 8-18-70, Cl. 21.
 Ashland Oil, Inc., Ashland, Ky. 35,149, ren. 11-3-70, Cl. 15.
 Astra Pharmaceutical Products, Inc., Worcester, Mass. 534,232, ren. 11-3-70, Cl. 18.
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 Astrocom Corp., St. Paul, Minn. 901,796, pub. 8-18-70, Cl. 26.
 Auto-Tronix, Inc., Denver, Colo. 812,303, can. Cl. 101.
 Avnet, Inc., Pawtucket, R.I. 901,736, pub. 7-7-70, Cl. 21.
 Babbitt Industries, Inc., South San Francisco, Calif. 901,802, pub. 8-18-70, Cl. 26.
 Babson Bros. Co., Oak Brook, Ill. 901,944, Cl. 6.
 Bach, William C., Monterey Park, Calif. 901,832, pub. 8-18-70, Cl. 38.
 Barrett, Haentjens & Co., Hazleton, Pa. 530,045, ren. 11-3-70, Cl. 23.
 Baxter Laboratories, Inc., Morton Grove, Ill. 534,117, ren. 11-3-70, Cl. 18.
 Bayuk Cigars Inc., Philadelphia, Pa. 776,819, can. Cl. 2.
 Beebe Bros., Inc., Seattle, Wash. 901,771, pub. 8-18-70, Cl. 23.
 Belaco, Inc., Delray Beach, Fla. 901,685, pub. 8-18-70, Cl. 12.
 Berkeley Photo, Inc., New York, N.Y. 901,787, pub. 8-18-70, Cl. 26.
 Blg. Scoop International, Inc., Dallas, Tex. 901,908, pub. 8-18-70, Cl. 100.
 Bio-Dynamics, Inc., Cambridge, Mass. 901,964, Cl. 101.
 Biological Research, Inc., Bridgeton, Mo. 776,820, can. Cl. 2.
 Bird Electronic Corp., Solon, Ohio. 901,726, pub. 8-9-66, Multiple Class (Classes 21 and 26).
 Blalich, Adolph, Inc., Burlingame, Calif. 777,073, can. Cl. 39.
 Block Drug Co., Inc., Jersey City, N.J. 535,011, ren. 11-3-70, Cl. 51.
 Boethling Treeland Nursery Co., Woodland Hills, Calif. 901,895, pub. 8-18-70, Cl. 50.
 Boker, H., & Co., Inc., New York, N.Y. 776,976, can. Cl. 23.
 Bonded Business Supply Co., Atlanta, Ga. 776,816, can. Cl. 2.
 Bonded Business Supply Co., Atlanta, Ga. 776,817, can. Cl. 2.
 Borg-Warner Corp., Chicago, Ill. 444,265, 12(c) pub. 11-3-70, Cl. 23.
 Borninbus, Paris, France. 777,106, can. Cl. 46.
 Bradford Dyeing Association (U.S.A.) Inc., Westerly, R.I. 535,471, ren. 11-3-70, Cl. 106.
 Brill, H. C., Co., Inc., Cedar Grove, N.J. 901,880, pub. 8-18-70, Cl. 46.
 Brilliant, Ashleigh E., d.b.a. Brilliant Enterprises, San Francisco, Calif. 901,833, pub. 8-18-70, Cl. 38.
 Broadway-Hale Stores, Inc., Los Angeles, Calif. 901,662, pub. 8-18-70, Multiple Class (Classes 3, 28, and 39).
 Brown, Joseph M., d.b.a. Brolint Ointment Co., Blacksburg, S.C. 532,763, ren. 11-3-70, Cl. 18.
 Brueggeman, John T., d.b.a. Vita Guard Enterprises, Deerfield, Ill. 901,881, pub. 8-18-70, Cl. 46.
 Bucket Elevator Co., The, Chatham, N.J. 901,767, pub. 8-18-70, Cl. 23.
 Budd Co., The, Philadelphia, Pa. 901,721, pub. 8-18-70, Cl. 19.
 Bulluck Hosiery Inc., New York, N.Y. 533,319, ren. 11-3-70, Cl. 39.
 Buss, Donald R., d.b.a. Buss Mfg. Co., Lanark, Ill. 532,167, ren. 11-3-70, Cl. 22.
 Butler Mfg. Co., Kansas City, Mo. 901,702, pub. 8-18-70, Cl. 12.
 CCM Professional Magazines, Inc., Greenwich, Conn. 274,533, ren. 11-3-70, Cl. 38.
 Cahners Publishing Co., Inc., Boston, Mass. 901,950, Cl. 38.
 Camp & McInnes, Inc., Reading, Pa. 901,851, pub. 8-18-70, Cl. 39.
 Canadian Industries Ltd., Montreal, Quebec, Canada. 901,670-81, pub. 8-18-70, Cl. 9.
 Cane Machinery & Engineering Co., Inc., Thibodaux, La. 901,724, pub. 8-18-70, Multiple Class (Classes 19 and 23).
 Cantwell, David B., San Francisco, Calif. 901,753, pub. 8-18-70, Cl. 22.
 Carlisle Corp., Carlisle, Pa. 901,824, pub. 8-18-70, Cl. 35.
 Carter-Wallace, Inc., New York, N.Y. 901,879, pub. 8-18-70, Cl. 46.
 Car-Vac Industries Ltd., Vancouver, British Columbia, Canada. 776,929, can. Cl. 21.
 Case, J. L., Co., Racine, Wis. 901,714, pub. 8-18-70, Multiple Class (Classes 14, 19, and 23).
 Castonguay, A. Harold: See—
 Luke, Arthur N.
 Caterpillar Tractor Co., Peoria, Ill. 531,626, ren. 11-3-70, Cl. 23.
 Cedar Rapids Engineering Co., Cedar Rapids, Iowa. 529,692, ren. 11-3-70, Cl. 23.
 Centuries of Art, Inc., Pacoima, Calif. 901,811, pub. 8-18-70, Cl. 32.
 Chantal, Marie, Paris, France. 901,839, pub. 8-18-70, Cl. 39.
 Chase, Jonnie W., Roseland, N.J. 901,756, pub. 8-18-70, Cl. 22.
 Chemetron Corp., Chicago, Ill. 528,999, ren. 11-3-70, Cl. 26.
 Chemtrust Industries Corp., Maywood, Ill. 444,207, ren. 11-3-70, Cl. 16.
 Chevron Research Co., Richmond, Calif. 901,669, pub. 8-18-70, Cl. 6.
 Chicago Dryer Co., Chicago, Ill. 901,778, pub. 6-9-70, Cl. 24.
 Clalrol Inc., New York, N.Y. 901,957, Cl. 51.
 Clalrol Inc., New York, N.Y. 901,959, Cl. 51.
 Cloverland Products, Freeport, Ill. 777,129, can. Cl. 50.
 Coca-Cola Co., The, Atlanta, Ga. 901,868, pub. 8-18-70, Cl. 45.
 Cole-Preston Co., Auburn, Wash. 777,045, can. Cl. 37.
 Colgate-Palmolive Co., New York, N.Y. 273,505, ren. 11-3-70, Cl. 51.
 Collins & Alkman Corp., New York, N.Y. 901,858, pub. 8-18-70, Cl. 42.
 Colt's Inc., Hartford, Conn. 901,675, pub. 8-18-70, Cl. 9.
 Columbia Paper Products Corp., Baltimore, Md. 776,828, can. Cl. 2.
 Computer Synectics, Inc., Santa Clara, Calif. 901,797, pub. 8-18-70, Cl. 26.
 Concel Inc., New York, N.Y. 531,814, ren. 11-3-70, Cl. 37.

Consolidated Foods Corp., d.b.a. Popsicle Industries, Englewood, N.J. 531,915, ren. 11-3-70. Cl. 40.
 Consolidated Foods Corp., Chicago, Ill. 901,846, pub. 8-18-70. Cl. 39.
 Continental Copper & Steel Industries, Inc., New York, N.Y. 901,704, pub. 8-18-70. Cl. 13.
 Continental Goumet, Inc., Los Angeles, Calif. 901,819, pub. 8-18-70. Cl. 44.
 Continental Motors, Muskegon, Mich. 777,157, can. Cl. 103.
 Cooks' Inc., Blackwood, N.J. 532,309, ren. 11-3-70. Cl. 3.
 Coppus Engineering Corp., Worcester, Mass. 901,776, pub. 8-18-70. Cl. 43.
 Corona-College Heights Orange & Lemon Association, Claremont, Calif. 536,553, ren. 11-3-70. Cl. 46.
 Corn Products Co., New York, N.Y. 776,835, can. Cl. 5.
 Cowman-Campbell Paint Co., Inc., Seattle, Wash. 537,142, ren. 11-3-70. Cl. 16.
 Crain Communications, Inc., Chicago, Ill. 273,431, ren. 11-3-70. Cl. 38.
 Crown Distillers Ltd., London, England. 901,894, pub. 8-18-70. Cl. 49.
 Crown Zellerbach Corp., San Francisco, Calif. 901,670, pub. 8-4-70. Cl. 6.
 Cyclops Corp., Pittsburgh, Pa. 529,619, ren. 11-3-70. Cl. 34.
 DCA Food Industries Inc., New York, N.Y. 901,886, pub. 8-18-70. Cl. 46.
 Dalzen Shoten Ltd., Chibaken, Japan. 777,126, can. Cl. 47.
 Data Machines, Inc., Richmond, Va. 901,756, pub. 8-18-70. Cl. 26.
 Deering Milliken, Inc., New York, N.Y. 901,861, pub. 8-18-70. Cl. 42.
 De Laval Separator Co., The, Poughkeepsie, N.Y. 444,162, 12(c) pub. 11-3-70. Cl. 23.
 Del Rosario, Abelardo N., d.b.a. La Ilustre Cigar & Cigarette Factory, Malabon, Rizal, Philippines. 901,715, pub. 8-18-70. Cl. 17.
 Denelson Mfg. Co., Framingham, Mass. 529,022, ren. 11-3-70. Cl. 37.
 Dental Dynamics Inc., Coral Gables, Fla. 901,862, pub. 8-18-70. Cl. 44.
 Department of Defense, Washington, D.C. 529,813, ren. 11-3-70. Cl. 38.
 Des Moines Register & Tribune Co., Des Moines, Iowa. 532,518, ren. 11-3-70. Cl. 38.
 Dialog Computing, Inc., Fairfield, Conn. 901,915, pub. 8-18-70. Cl. 100.
 Diamond Shamrock Corp., Cleveland, Ohio. 535,663, ren. 11-3-70. Cl. 6.
 Dickerson, Edward F., South Haven, Mich. 901,773, pub. 8-18-70. Cl. 23.
 Diplomat Sales Co., Inc., Los Angeles, Calif. 901,747, pub. 8-18-70. Cl. 22.
 Dippy Donuts, Inc., Omaha, Nebr. 901,914, pub. 8-18-70. Cl. 100.
 Diversified Industries, Inc., Clayton, Mo. 901,713, pub. 8-18-70. Cl. 14.
 Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 901,945, Cl. 15.
 Dixon Valve & Coupling Co., Philadelphia, Pa. 901,703, pub. 8-18-70. Cl. 13.
 Dr. Nut, Inc., New Orleans, La. 777,101, can. Cl. 45.
 Dow Badische Co., Williamsburg, Va. 901,854, pub. 8-18-70. Cl. 1.
 Dow Badische Co., Williamsburg, Va. 901,857, pub. 8-18-70. Cl. 42.
 Dow Chemical Co., The, Midland, Mich. 196,111, 12(c) pub. 11-3-70. Cl. 12.
 Dow Chemical Co., The, Midland, Mich. 308,845, 12(c) pub. 11-3-70. Cl. 6.
 Dow Chemical Co., The, Midland, Mich. 313,389, 12(c) pub. 11-3-70. Cl. 6.
 Dow Chemical Co., The, Midland, Mich. 361,946, 12(c) pub. 11-3-70. Cl. 6.
 Dow Chemical Co., The, Midland, Mich. 362,166, 12(c) pub. 11-3-70. Cl. 6.
 Dow Chemical Co., The, Midland, Mich. 362,672, 12(c) pub. 11-3-70. Cl. 6.
 Dow Chemical Co., The, Midland, Mich. 370,415, 12(c) pub. 11-3-70. Cl. 6.
 Dow Chemical Co., The, Midland, Mich. 379,252, 12(c) pub. 11-3-70. Cl. 6.
 Dow Chemical Co., The, Midland, Mich. 385,130, 12(c) pub. 11-3-70. Cl. 6.
 Downs-Clark Inc., Bronwood, Tex. 901,722, pub. 8-18-70. Multiple Class (Classes 19 and 23).
 Draper Corp., Hopedale, Mass. 776,962, can. Cl. 23.
 Drummond Instrument Co., Broomall, Pa. 901,795, pub. 8-18-70. Cl. 28.
 Du Barry, Inc., Morris Plains, N.J. 525,009, ren. 11-3-70. Cl. 51.
 Dufouleur Freres, Cote D'Or, France. 901,888, pub. 8-18-70. Cl. 47.
 Dulany Foods Inc., Fruitland, Md. 777,111, can. Cl. 46.
 Dunlop Tire & Rubber Corp., Buffalo, N.Y. 530,845, ren. 11-3-70. Cl. 35.
 Du Pont de Nemours, E. I. & Co., Wilmington, Del. 277,938, ren. 11-3-70. Cl. 6.
 Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. 901,652, pub. 8-18-70. Cl. 1.
 Earl of Sandwich, Inc., Baltimore, Md. 901,873, pub. 8-18-70. Cl. 46.
 Eastman Kodak Co., Rochester, N.Y. 901,805, pub. 8-18-70. Cl. 26.
 Eastwood General Corp., Los Angeles, Calif. 901,740, pub. 8-18-70. Cl. 21.
 Ellise Blouse of Boston, Inc., Boston, Mass. 901,845, pub. 8-18-70. Cl. 39.
 Eloesser-Heynemann Co., South San Francisco, Calif. 901,953, Cl. 39.
 Emeralds of Columbia Jewelers, Miami, Fla. 901,807, pub. 8-18-70. Cl. 28.
 Enterprise Pool Equipment Corp., South Kearny, N.J. 901,689, pub. 8-18-70. Cl. 12.
 Eskenazi, Murray, East Rockaway, N.Y. 901,760, pub. 8-18-70. Cl. 22.
 Estes, Richard L., Lithonia, Ga. 901,837, pub. 8-18-70. Cl. 38.
 Ethyl Corp., Richmond, Va. 271,784, ren. 11-3-70. Cl. 52.
 Ewing, James O., d.b.a. Frigidheat Industries, Nashville, Tenn. 901,821, pub. 8-18-70. Cl. 34.
 Excello Precision, Ltd., Plainview, N.Y. 901,780, pub. 12-23-69. Cl. 25.
 FMC Corp., San Jose, Calif. 276,565, ren. 11-3-70. Cl. 23.
 Fairchild Hiller Corp., Germantown, Md. 901,738, pub. 8-18-70. Cl. 21.
 Fairfield Glove Co., Fairfield, Iowa. 901,840, pub. 6-9-70. Cl. 39.
 Famous Artists Schools, Inc., New York, N.Y. 901,937, pub. 8-18-70. Cl. 107.
 Farm Bureau Services, Inc., Lansing, Mich. 901,913, pub. 8-18-70. Cl. 100.
 Farm Journal, Inc., Philadelphia, Pa. 901,927, pub. 8-18-70. Cl. 101.
 Farman's Daughter, Inc., from Sir Beef Industries, Inc., Evansville, Ind. 901,906, pub. 8-18-70. Cl. 100.
 Federal-Mogul Corp., Southfield, Mich. 533,409, ren. 11-3-70. Cl. 12.
 Fiber Industries, Inc., Charlotte, N.C. 901,813, pub. 8-18-70. Cl. 32.
 Firestone Tire & Rubber Co., The, Akron, Ohio. 901,757, pub. 8-18-70. Cl. 22.
 5335 S. Pulaski Corp., Chicago, Ill. 777,152, can. Cl. 101.
 Flavour Candy Co., Inc., Chicago, Ill. 901,956, Cl. 46.
 Flexees International Inc., New York, N.Y. 529,603, ren. 11-3-70. Cl. 39.
 Fonda Mfg. Corp., New York, N.Y. 901,855, pub. 8-18-70. Cl. 42.
 Fordax Corp., Wellesley Hills, Mass. 901,801, pub. 6-30-70. Cl. 26.
 Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. 901,898, pub. 8-18-70. Cl. 51.
 Forsman, C. H., Co., Fair Lawn, N.J. 535,136, ren. 11-3-70. Cl. 37.
 Fort Howard Paper Co., Green Bay, Wis. 278,639, ren. 11-3-70. Cl. 37.
 Fort Howard Paper Co., Green Bay, Wis. 530,693, ren. 11-3-70. Cl. 37.
 Fort Howard Paper Co., Green Bay, Wis. 534,133, ren. 11-3-70. Cl. 37.
 Forum Restaurants, Inc., Kansas City, Mo. 901,917, pub. 8-18-70. Cl. 100.
 Fox Mfg. Co., Rome, Ga. 535,708, ren. 11-3-70. Cl. 32.
 Friedrich Refrigerators Inc., San Antonio, Tex. 901,809, pub. 8-18-70. Cl. 31.
 Fruen Milling Co., Minneapolis, Minn. 901,870, pub. 9-19-67. Cl. 46.
 Fruen Milling Co., Minneapolis, Minn. 901,871, pub. 9-19-67. Cl. 46.
 GAF Corp., New York, N.Y. 901,664, pub. 8-18-70. Cl. 5.
 G.E. Laboratories, Inc., Shamokin, Pa. 536,237, ren. 11-3-70. Cl. 18.
 G.V.W. Corp., Dearborn Heights, Mich. 901,793, pub. 8-18-70. Cl. 26.
 Gainsborough International (Spain), S.A., Malaga, Spain. 901,882, pub. 8-18-70. Cl. 40.
 Galland-Henning Mfg. Co., Milwaukee, Wis. 776,957, can. Cl. 23.
 Gardner Tools Corp., Denver, Colo. 901,710, pub. 8-18-70. Cl. 13.
 Garfield, Herman E., d.b.a. Genini Ltd., Chicago, Ill. 777,005, can. Cl. 28.
 Gasnick, Jack, d.b.a. Cross at the Green Enterprises, New York, N.Y. 901,948, Multiple Class (Classes 26, 39, and 44).
 Gates Rubber Co., The, Denver, Colo. 524,808, ren. 11-3-70. Cl. 19.
 Gelgy Chemical Corp., Ardsley, N.Y. 901,672-4, pub. 8-11-70. Cl. 6.
 General Appliance Mfg. Co., Omaha, Nebr. 776,977, can. Cl. 23.
 General Battery Corp., Reading, Pa. 537,423, ren. 11-3-70. Cl. 21.
 General Foods Corp., White Plains, N.Y. 901,872, pub. 5-21-68. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 274,966, ren. 11-3-70. Cl. 28.
 General Mills, Inc., Minneapolis, Minn. 274,968, ren. 11-3-70. Cl. 28.
 General Mills, Inc., Minneapolis, Minn. 901,878, pub. 7-7-70. Cl. 46.
 General Motors Corp., Detroit, Mich. 529,765, ren. 11-3-70. Cl. 31.
 Geramine Montell Cosmetics Corp., New York, N.Y. 777,143, can. Cl. 51.
 Gershenson, Emile H., Chicago, Ill. 901,719, pub. 12-9-69. Cl. 18.
 Gibson, A. C., Co. Inc., Buffalo, N.Y. 529,115, ren. 11-3-70. Cl. 29.
 Glits Bros. Mfg. Co., from Glits Bros. Mfg. Co., Chicago, Ill. 901,857, pub. 1-6-70. Multiple Class (Classes 2, 13, 23, 26, and 35).
 Goldbergh, Kermit R., d.b.a. Kavanaugh's of Maryland, Inc., Baltimore, Md. 901,952, Cl. 39.
 Gollob Analytical Service Corp., from Gollob Analytical Service, Inc., Berkely Heights, N.J. 901,904, pub. 8-18-70. Cl. 100.

Gollob Analytical Service, Inc.: See—
 Gollob Analytical Service Corp.
 Good Humor Corp., Englewood Cliffs, N.J. 528,992, ren. 11-3-70. Cl. 46.
 Goodrich, B. F., Co., The, Akron, Ohio. 777,028, can. Cl. 35.
 Granat Bros., Dallas, Tex. 525,276, ren. 11-3-70. Cl. 28.
 Grass, I. J., Noodle Co., Inc., Chicago, Ill. 533,118, ren. 11-3-70. Cl. 46.
 Greater Iowa Corp., The, Des Moines, Iowa. 776,585, can. Cl. 23.
 Green Giant Co., Le Sueur, Minn. 536,190, ren. 11-3-70. Cl. 46.
 Greenberg, Herbert F., Los Angeles, Calif. 901,850, pub. 8-18-70. Cl. 39.
 Grefco, Inc., Philadelphia, Pa. 531,713, ren. 11-3-70. Cl. 1.
 Greif Bros. Corp., St. Paul, Minn. 901,639, pub. 8-18-70. Cl. 2.
 Guilford Mills, Inc., Greensboro, N.C. 901,859, pub. 8-18-70. Cl. 42.
 Hamlin, Catherine E., d.b.a. Medi-Sonic Research & Engineering Co., Torrance, Calif. 777,096, can. Cl. 44.
 Hammond Corp., Deerfield, Ill. 901,827, pub. 8-18-70. Cl. 36.
 Hanau Engineering Co., Inc., Buffalo, N.Y. 901,865, pub. 8-18-70. Cl. 44.
 Hanky-Panky, Inc., Amarillo, Tex. 901,838, pub. 8-18-70. Cl. 38.
 Harf, Inc., Hatfield, Pa. 529,098, ren. 11-3-70. Cl. 6.
 Harris Corp., The, Grafton, Wis. 776,950, can. Cl. 23.
 Harris, D. P., Hardware & Mfg. Co., Inc., New York, N.Y. 532,897, ren. 11-3-70. Cl. 19.
 Hasbro Industries, Inc.: See—
 Romper Room Enterprises, Inc.
 Hasbro Industries, Inc., Pawtucket, R.I. 901,749, pub. 8-18-70. Cl. 22.
 Hasbro Industries, Inc., Pawtucket, R.I. 901,754, pub. 8-18-70. Cl. 22.
 Hayden Publishing Co., Inc., New York, N.Y. 901,829, pub. 9-3-68. Cl. 38.
 Helndel, Horace E., York, Pa. 528,987, ren. 11-3-70. Cl. 6.
 Helnn, Inc., Milwaukee, Wis. 535,198, ren. 11-3-70. Cl. 37.
 Helme, George W., Co., Helmetta, N.J. 776,883, can. Cl. 18.
 Henrl's Food Products Co., Inc., d.b.a. Henrl's Food Products, Milwaukee, Wis. 901,874, pub. 8-18-70. Cl. 46.
 Heuer, Ed., & Co., S.A., Blenne, Switzerland. 777,000, can. Cl. 27.
 Higley, R. C., Co., Artesia, N. Mex. 530,937, ren. 11-3-70. Cl. 23.
 Hinde, John Ltd., Dublin, Ireland. 901,830, pub. 8-18-70. Cl. 38.
 Hinde, John Ltd., Dublin, Ireland. 901,831, pub. 8-18-70. Cl. 38.
 Holmes Insulations Ltd., Sarnia, Ontario, Canada. 901,686, pub. 8-18-70. Cl. 12.
 Honda Giken Kogyo Kabushiki Kaisha (Honda Motor Co. Ltd.), Tokyo, Japan. 776,894, can. Cl. 19.
 Honda Giken Kogyo Kabushiki Kaisha (Honda Motor Co. Ltd.), Tokyo, Japan. 776,897-8, can. Cl. 19.
 Hoover Co., The, North Canton, Ohio. 531,874, ren. 11-3-70. Cl. 103.
 House of Suburbia, Inc., New York, N.Y. 777,058, can. Cl. 39.
 House of Worst-Tex, Inc., Philadelphia, Pa. 276,508, ren. 11-3-70. Cl. 39.
 Howmet Corp., New York, N.Y. 901,864, pub. 8-18-70. Cl. 44.
 Huck Mfg. Co., Detroit, Mich. 901,708, pub. 8-18-70. Cl. 13.
 Hudnut, Richard, Morris Plains N.J. 777,134, can. Cl. 51.
 Hus-Ski Ltd., Pointe Claire, Quebec, Canada. 776,892, can. Cl. 19.
 Hydro-Coll, Inc., Van Nuys, Calif. 776,845, can. Cl. 9.
 Hyer, C. H. & Sons, Inc., Olathe, Kans. 777,065, can. Cl. 39.
 I-T-E Imperial Corp., Philadelphia, Pa., from Imperial-Eastman Corp., Chicago, Ill. 901,781, pub. 8-4-70. Cl. 26.
 Illinois Tool Works, Inc., Chicago, Ill. 776,827, can. Cl. 2.
 Imperial-Eastman Corp.: See—
 I-T-E Imperial Corp.
 Indian Head Inc., New York, N.Y. 444,348, 12(c) pub. 11-3-70. Cl. 43.
 Industrial Bolt & Nut Co., Newark, N.J. 901,711, pub. 8-18-70. Cl. 13.
 Information Displays, Inc., Mount Kisco, N.Y. 901,783, pub. 4-8-69. Cl. 26.
 Inmont Corp., New York, N.Y. 525,406, ren. 11-3-70. Cl. 16.
 Inspection Control Co., Lake City, Mich. 530,021, ren. 11-3-70. Cl. 26.
 Instar, Inc., Wilmington, Mass. 901,935, pub. 8-18-70. Cl. 105.
 Instrument Specialties Co., Inc., West Paterson, N.J. 901,728, pub. 4-21-70. Cl. 21.
 Inter-Monetary, Inc., St. Louis, Mo. 901,932, pub. 8-18-70. Cl. 102.
 International Automated Marketing Co., Chicago, Ill. 901,777, pub. 8-18-70. Cl. 23.
 International Playtex Corp., New York, N.Y. 901,852, pub. 8-18-70. Cl. 39.
 International Salt Co., Clarks Summit, Pa. 901,665, pub. 8-18-70. Cl. 6.
 Interpace Corp., Parsippany, N.J. 529,303, ren. 11-3-70. Cl. 46.
 Interpace Corp., Parsippany, N.J. 901,684, pub. 8-18-70. Cl. 17.
 Interstate United Corp., Chicago, Ill. 901,920, pub. 8-18-70. Cl. 100.
 Ishimoto Trading Co., Los Angeles, Calif. 901,737, pub. 8-18-70. Cl. 21.
 Jabel Ring Mfg. Co., Irvington, N.J. 777,008, can. Cl. 28.
 Jacobi Systems Corp., The, Encino, Calif. 901,799, pub. 8-18-70. Cl. 26.
 Jacquelin, Charles et Cie, Inc., Philadelphia, Pa. 901,893, pub. 8-18-70. Cl. 49.
 Jamison Bedding, Inc., Nashville, Tenn. 901,812, pub. 8-18-70. Cl. 32.
 Janssens de Horion's Wollenstoffenfabrieken N.V., Tilburg, Netherlands. 901,856, pub. 8-18-70. Cl. 42.
 Jay Plastics Inc., Bayshore, N.Y. 901,561, pub. 8-18-70. Cl. 3.
 Jeep Corp., Toledo, Ohio. 526,175, ren. 11-3-70. Cl. 19.
 John-ee Seat Corp., Long Island City, N.Y. 533,472, ren. 11-3-70. Cl. 13.
 Johns-Manville Corp., New York, N.Y. 901,690, pub. 8-18-70. Cl. 12.
 Johns-Manville Corp., New York, N.Y. 901,696-7, pub. 8-18-70. Cl. 12.
 Johnson, James, d.b.a. Amjo Rec, Philadelphia, Pa. 901,826, pub. 8-18-70. Cl. 36.
 Johnson & Johnson, d.b.a. Personal Products Co., New Brunswick, N.J. 901,867, pub. 6-9-70. Cl. 44.
 Johnson & Johnson, New Brunswick, N.J. 901,897, pub. 6-30-70. Cl. 51.
 Johnson & Johnson, New Brunswick, N.J. 527,766, ren. 11-3-70. Cl. 44.
 Johnson, Lauretta, d.b.a. Pioneer School of Driving, Denver, Colo. 777,162, can. Cl. 107.
 Junger & Junger Enterprises, Inc., d.b.a. J. J. Jewelfcraft, Los Angeles, Calif. 777,002, can. Cl. 28.
 Kampgrounds of America, Inc., Billings, Mont. 901,923, pub. 8-18-70. Cl. 101.
 Kayser-Roth Corp., New York, N.Y. 278,870, ren. 11-3-70. Cl. 39.
 Kayser-Roth Corp., New York, N.Y. 534,297, ren. 11-3-70. Cl. 39.
 Keen Mfg. Co., Inc., Kansas City, Mo. 776,951, can. Cl. 23.
 Kendermann, Hermann, Weisbaden, Germany. 901,890, pub. 8-18-70. Cl. 47.
 Kern, Robert L., Portland, Oreg. 776,948, can. Cl. 22.
 Ketchum, Ellen, Houston, Tex. 901,759, pub. 8-18-70. Cl. 22.
 Kinetic Knitting Mills, Inc., New York, N.Y. 901,860, pub. 8-18-70. Cl. 42.
 Kinney & Co., Inc., Columbus, Ind. 776,881, can. Cl. 18.
 Kirsch Co., Sturgis, Mich. 901,705, pub. 8-18-70. Cl. 13.
 Knight, Clifford J., Sharon, Pa. 901,936, pub. 8-18-70. Cl. 106.
 Koenig, Claus, KG, Erlangen, Germany. 901,651, pub. 4-21-70. Multiple Class (Classes 1, 5, 14, 23, 37, and 38).
 Kohner Bros., Inc., New York, N.Y. 776,946, can. Cl. 22.
 Language & Systems Development, Inc., Newark, N.J. 901,926, pub. 8-18-70. Cl. 101.
 Lanvin-Charles of the Ritz, Inc., New York, N.Y. 901,660, pub. 8-18-70. Cl. 3.
 La Mere Industries, Inc., Walworth, Wis. 777,023, can. Cl. 34.
 Lear Selgier, Inc., from Mammoth Industries, Inc., Minneapolis, Minn. 901,817, pub. 8-4-70. Cl. 34.
 Lear Selgier, Inc., St. Paul, Minn. 536,595, ren. 11-3-70. Cl. 46.
 Lemmon Pharmacal Co., Sellersville, Pa. 536,724, ren. 11-3-70. Cl. 18.
 Lever Bros. Co., New York, N.Y. 901,885, pub. 8-18-70. Cl. 46.
 Lipton, Thomas J., Inc., Englewood Cliffs, N.J. 901,887, pub. 8-18-70. Cl. 46.
 Litchfield Park Properties, Litchfield Park, Ariz. 901,907, pub. 8-18-70. Cl. 100.
 Little Giant Corp., Oklahoma City, Okla. 777,026, can. Cl. 35.
 Litton Business Systems, Inc., New York, N.Y. 526,010, ren. 11-3-70. Cl. 37.
 Litton Business Systems, Inc., New York, N.Y. 529,065, ren. 11-3-70. Cl. 37.
 Lone Star Boat Co., Plano, Tex. 776,902, can. Cl. 19.
 Lorenz, Fred A., d.b.a. Lorenz Mfg., Romulus, Mich. 901,818, pub. 8-18-70. Cl. 34.
 Luke, Arthur N., West Yarmouth, from A. Harold Castonguay, d.b.a. Micro-Moly Products, Hyannis, Mass. 901,716, pub. 8-4-70. Cl. 15.
 Lumbered Plastics Corp., Woodbridge, N.J. 776,832, can. Cl. 3.
 Lynchey, James M., d.b.a. Kup Kaddle, Detroit, Mich. 776,812, can. Cl. 2.
 Maldenform, Inc., New York, N.Y. 901,842, pub. 8-18-70. Cl. 39.
 Mammoth Industries, Inc.: See—
 Lear Selgier, Inc.
 Marathon Co., Attleboro, Mass. 529,753, ren. 11-3-70. Cl. 28.
 Maritz, Inc., Fenton, Mo. 901,912, pub. 8-18-70. Multiple Class (Classes 100, 101, and 107).
 Markwell Mfg. Co., Inc., New York, N.Y. 534,389, ren. 11-3-70. Cl. 13.
 Markwell Mfg. Co., Inc., New York, N.Y. 533,693, ren. 11-3-70. Cl. 23.
 Mars Bargainland, Inc., New Bedford, Mass. 901,931, pub. 8-18-70. Cl. 101.
 Mars, Inc., Wilmington, Del. 195,339, 12(c) pub. 11-3-70. Cl. 46.
 Mars, Inc., Chicago, Ill. 776,822, can. Cl. 2.
 Mars, Inc., Chicago, Ill. 776,823, can. Cl. 2.
 Mars, Inc., Wilmington, Del. 777,117, can. Cl. 46.
 Marsh, M., & Son, Wheeling, W. Va. 532,822, ren. 11-3-70. Cl. 17.
 Mattel, Inc., Hawthorne, Calif. 901,761-5, pub. 8-18-70. Cl. 22.
 Maurer & Wirtz K.G., Stolberg/Rheinland, Germany. 901,958, Cl. 51.
 Maurer & Wirtz K.G., Stolberg/Rheinland, West Germany. 901,961, Cl. 52.
 McGraw Co., The, Glenside, Pa. 901,701, pub. 8-18-70. Cl. 12.

Mead Corp., The, Dayton, Ohio. 901,774, pub. 8-18-70. Cl. 23.
 Medical Plastics, Inc., Minneapolis, Minn. 901,658, pub. 8-18-70. Cl. 2.
 Mediterranean Importing Co., Inc., Long Island City, N.Y. 901,591, pub. 8-18-70. Cl. 49.
 Micron, Inc., Wilmington, Del. 901,909, pub. 8-18-70. Cl. 100.
 Midland-Ross Corp., Cleveland, Ohio. 444,172, ren. 11-3-70. Cl. 23.
 Midway National Bank of St. Paul, The, St. Paul, Minn. 777,154, can. Cl. 102.
 Millan Instruments S.A., Geneva, Switzerland. 901,794, pub. 8-18-70. Cl. 26.
 Miller Brewing Co., Milwaukee, Wis. 533,165, ren. 11-3-70. Cl. 48.
 Mine Safety Appliance Co., Pittsburgh, Pa., from Acrylic Optics Corp., Oak Park, Mich. 901,792, pub. 1-6-70. Cl. 26.
 Mineral Research & Development Corp., Charlotte, N.C. 901,671, pub. 8-18-70. Cl. 6.
 Mr. Hot Cup, Inc., Homestead, Pa. 776,958, can. Cl. 23.
 Mix-Mill, Inc., Bluffton, Ind. 901,820, pub. 8-18-70. Cl. 34.
 Modern Medicine Publications, Inc., Minneapolis, Minn. 537,137, ren. 11-3-70. Cl. 38.
 Monfort, Platt, d.b.a. Aladdin Products, Huntington Station, N.Y. 901,685, pub. 8-18-70. Cl. 12.
 Montclair Mobile Homes, Inc., Montclair, Calif. 776,893, can. Cl. 19.
 Morey Machinery Co., Inc., New York, N.Y. 776,987, can. Cl. 23.
 Morre Associates, San Carlos, Calif. 776,997, can. Cl. 26.
 Morris, Philip, Inc., d.b.a. American Safety Razor Co., New York, N.Y. 273,064, 12(c) pub. 11-3-70. Cl. 23.
 Motorenfabrik Hatz G.m.b.H., Ruhstorf, Germany. 901,766, pub. 8-18-70. Cl. 23.
 Motorist Auto Care Inc., Minneapolis, Minn. 901,933, pub. 8-18-70. Cl. 103.
 Nachman Corp., Chicago, Ill. 535,693, ren. 11-3-70. Cl. 32.
 Nachman Corp., Chicago, Ill. 537,003, ren. 11-3-70. Cl. 32.
 Nanosecond Systems, Inc., Fairfield, Conn. 901,788, pub. 8-18-70. Cl. 26.
 National Association of Plumbing-Heating-Cooling Contractors, Washington, D.C. 901,942, pub. 8-18-70. Cl. 200.
 National Chemsearch Corp., Irving, Tex. 901,715, pub. 12-9-69. Cl. 15.
 National Concrete Masonry Association, Washington, D.C. 777,165, can. Cl. A.
 National General Records Corp., Los Angeles, Calif. 901,828, pub. 8-18-70. Cl. 36.
 National Magazine Co. Ltd., London, England. 901,951. Cl. 38.
 Navlonics, Inc., College Park, Md. 776,926, can. Cl. 21.
 Nippon Densetsu Kabushiki Kaisha, Kariya, Aichi, Japan. 901,723, pub. 8-18-70. Multiple Class (Classes 19 and 21).
 Norwich Pharmacal Co., The, Norwich, N.Y. 279,063, 12(c) pub. 11-3-70. Cl. 15.
 Norwich Pharmacal Co., The, from The Norwich Pharmacal Co., Norwich, N.Y. 901,720, pub. 8-4-70. Cl. 15.
 Nuclear Magnetic Resonance Specialties, Inc., New Kensington, Pa. 901,785, pub. 8-18-70. Cl. 26.
 Nyman, Albert H., Fort Lauderdale, Fla. 776,844, can. Cl. 8.
 Oil Equipment Mfg. Co., Louisville, Ky. 444,229, ren. 11-3-70. Cl. 23.
 Olin Corp., Stamford, Conn. 901,652, pub. 8-18-70. Cl. 9.
 Olin Mathliessen Chemical Corp., East Alton, Ill. 776,854, can. Cl. 13.
 Oneida Ltd., Oneida, N.Y. 901,772, pub. 8-18-70. Cl. 23.
 Orbay & Cerrato Furniture Inc., Elizabeth, N.J. 901,735, pub. 8-18-70. Multiple Class (Classes 21, 32 and 42).
 Owens, Ruby A., Lemon Grove, Calif. 901,834, pub. 8-18-70. Cl. 38.
 Oxford Corp., The, Oxford, Pa. 901,883, pub. 8-18-70. Cl. 46.
 POP Corp., Tokyo, Japan. 901,744, pub. 8-18-70. Cl. 22.
 Pallizio, Inc., New York, N.Y. 901,843, pub. 8-18-70. Cl. 39.
 Pandel, Inc., Lowell, Mass. 901,655, pub. 7-7-70. Cl. 1.
 Park Chemical Co., Detroit, Mich. 532,647, ren. 11-3-70. Cl. 34.
 Parulski, Joseph P., d.b.a. Mid West Coast Balt Co., Milwaukee, Wis. 901,750, pub. 8-18-70. Cl. 22.
 Pathe News, Inc., New York, N.Y. 901,836, pub. 8-18-70. Cl. 38.
 Payless Cashways, Inc., Iowa Falls, Iowa. 901,929, pub. 8-18-70. Cl. 101.
 Pelvic Anchor Corp., The, Rochester, N.Y. 901,863, pub. 8-18-70. Cl. 44.
 People-to-People Health Foundation, Inc., The, Washington, D.C. 901,911, pub. 8-18-70. Cl. 100.
 Pepsi-Cola Bottling Co. of Central Virginia, Charlottesville, Va. 526,224, ren. 11-3-70. Cl. 45.
 Pepsi-Cola Quincy Bottling Co., Quincy, Ill. 777,102, can. Cl. 45.
 Perfection Gear Co., Harvey, Ill. 776,967, can. Cl. 23.
 Per Inc., St. Louis, Mo. 901,877, pub. 8-18-70. Cl. 46.
 Per Inc., St. Louis, Mo. 901,884, pub. 8-18-70. Cl. 46.
 Pfizer, Chas. & Co., Inc.: See—
 Pfizer Inc.
 Pfizer, Chas. & Co., Inc., New York, N.Y. 776,882, can. Cl. 18.
 Pfizer Inc., New York, N.Y. 530,504, ren. 11-3-70. Cl. 1.
 Pfizer Inc., from Chas. Pfizer & Co., Inc., New York, N.Y. 901,668, pub. 8-18-70. Cl. 6.
 Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. 777,112, can. Cl. 46.
 Pioneer Soap Co., San Francisco, Calif. 533,420, ren. 11-3-70. Cl. 52.
 Pittway Corp., Cleveland, Ohio. 901,949. Cl. 38.
 Plastic Industries, Inc., Beaumont, Tex. 776,864, can. Cl. 13.
 Popell Brothers, Inc., Chicago, Ill. 901,808, pub. 8-18-70. Cl. 29.

Poweray Infrared Corp., Farmingdale, N.Y. 901,815, pub. 8-18-70. Cl. 34.
 Pretty Products, Inc., Coshocton, Ohio. 776,899, can. Cl. 19.
 Pretty Products, Inc., Coshocton, Ohio. 777,072, can. Cl. 39.
 Pro-Capa Products, Inc., Brooklyn, N.Y. 444,273, ren. 11-3-70. Cl. 51.
 Prodelin, Inc., Montclair, N.J. 534,101, ren. 11-3-70. Cl. 21.
 Protection Engineers, Inc., Ft. Worth, Tex. 901,743, pub. 8-18-70. Cl. 21.
 Provident National Bank, Philadelphia, Pa. 527,917, ren. 11-3-70. Cl. 102.
 Publix Shirt Corp., New York, N.Y. 901,844, pub. 8-18-70. Cl. 39.
 Quatomatic, Inc., Memphis, Tenn. 529,142, ren. 11-3-70. Cl. 52.
 Radion Corp., The, Crystal Lake, Ill. 776,916, can. Cl. 21.
 Radion Corp., The, Crystal Lake, Ill. 776,917, can. Cl. 21.
 Raychem Corp., Redwood City, Calif. 776,914, can. Cl. 21.
 Rebel Distributing Co., Inc., Jackson, Miss. 874,891, can. Cl. 49.
 Remington Arms Co., Inc., Bridgeport, Conn. 776,846, can. Cl. 9.
 Renaud International, Ltd., Fitchburg, Mass. 901,806, pub. 8-18-70. Cl. 26.
 Rendell, W. J., Ltd., London, England. 777,095, can. Cl. 44.
 Rendell, W. J., Ltd., London, England. 776,880, can. Cl. 18.
 Resin Systems Inc., Woodside, N.Y. 901,693, pub. 8-18-70. Cl. 12.
 Resus-O-Kit Corp., Columbia, S.C. 777,099, can. Cl. 44.
 Revere Copper & Brass Inc., New York, N.Y. 535,788, ren. 11-3-70. Cl. 13.
 Revlon, Inc., New York, N.Y. 901,954-5. Cl. 44.
 Rex Chalmers Inc., Milwaukee, Wis. 528,559, ren. 11-3-70. Cl. 23.
 Reynolds Metals Co., Richmond, Va. 777,038, can. Cl. 37.
 Roadel Foods, Inc., New York, N.Y. 901,876, pub. 8-18-70. Cl. 46.
 Robertshaw Controls Co., Richmond, Va. 529,180, ren. 11-3-70. Cl. 26.
 Robin Products Co., Warren, Mich. 901,905, pub. 8-18-70. Cl. 100.
 Rockford Products Corp., from Rockford Screw Products Co., Rockford, Ill. 901,706, pub. 8-4-70. Cl. 13.
 Rockford Screw Products Co.: See—
 Rockford Products Corp.
 Rollermaid, Inc., Brooklyn, N.Y. 776,824, can. Cl. 2.
 Romper Room Enterprises, Inc., Towson, Md., from Hasbro Industries, Inc., Pawtucket, R.I. 901,748, pub. 5-19-70. Cl. 22.
 Rothmans of Pall Mall Ltd., Zurich, Switzerland. 901,717, pub. 8-18-70. Cl. 17.
 Roto-Finish Co., Kalamazoo, Mich. 901,663, pub. 8-18-70. Cl. 4.
 Rotron Mfg. Co., Inc., Woodstock, N.Y. 776,981, can. Cl. 23.
 Royal Crown Cola Co., Columbus, Ga. 901,869, pub. 8-18-70. Cl. 45.
 Royal Industries: See—
 Royal Industries, Inc.
 Royal Industries, Inc., from Royal Industries, Pasadena, Calif. 901,823, pub. 8-18-70. Cl. 35.
 Rubin Co., The, Melrose Park, Ill. 777,078, can. Cl. 39.
 Rubinstein, Helena, Inc., New York, N.Y. 525,275, ren. 11-3-70. Cl. 51.
 Safe-In-Suds, Inc., New York, N.Y. 777,082, can. Cl. 39.
 Safe-Play Mfg. Co., Inc., Sidney, Nebr. 901,753, pub. 8-18-70. Cl. 22.
 Savecard Associated Enterprises, New Haven, Conn. 901,930, pub. 8-18-70. Cl. 101.
 Schiffer, Clifford E., d.b.a. Celusa Associates, Los Angeles, Calif. 777,146, can. Cl. 52.
 Schreiber & Goldberg, Inc., New York, N.Y. 776,959-60, can. Cl. 23.
 Scientific Atlanta, Inc., Atlanta, Ga. 901,770, pub. 8-18-70. Cl. 23.
 Scientific Resources Inc., Union, N.J. 901,963. Cl. 100.
 Scientific Time Sharing Corp., Washington, D.C. 901,919, pub. 8-18-70. Cl. 100.
 Scionics Corp., The, Canoga Park, Calif. 777,031, can. Cl. 37.
 Scott & Fetzer Co., The, Cleveland, Ohio. 414,292, 12(c) pub. 11-3-70. Cl. 21.
 Scottish Games Association of Delaware, Inc., The, Wilmington, Del. 901,938, pub. 8-18-70. Cl. 107.
 Seelers, Frank R., d.b.a. Jetclean, Westmont, N.J. 776,834, can. Cl. 4.
 Seguin & Co., Macheoul, France. 901,892, pub. 8-18-70. Cl. 49.
 Shur-Gloss Mfg. Co., Inc., Chicago, Ill. 533,968, ren. 11-3-70. Cl. 52.
 Sifo Co., St. Paul, Minn. 776,941, can. Cl. 22.
 Simpson Timber Co., Seattle, Wash. 901,694, pub. 8-18-70. Cl. 12.
 Singer Co., The, New York, N.Y. 776,909, can. Cl. 21.
 Sir Reef Industries, Inc.: See—
 Farmer's Daughter, Inc.
 Smockery, The, Englewood, N.J. 777,066, can. Cl. 39.
 Snyder's Bakery Service, Inc., Oakland, Calif. 530,196, ren. 11-3-70. Cl. 46.
 Spectra-Physics, Inc., Mountain View, from University Laboratories, Inc., Berkeley, Calif. 901,727, pub. 7-7-70. Multiple Class (Classes 21 and 26).
 Spencer, Thomas D., d.b.a. Thomas Spencer Enterprises, New Canaan, Conn. 901,800, pub. 8-18-70. Cl. 26.
 Sperry Rand Corp., New York, N.Y. 777,052, can. Cl. 38.
 Sperry Rand Corp., New York, N.Y. 901,731-2, pub. 8-18-70. Multiple Class (Classes 21, 26, 100, and 101).
 Sperry-Sun Well Surveying Co., Sugar Land, Tex. 273,793, ren. 11-3-70. Cl. 26.

Spokane Pres-To-Log Co., Inc., Spokane, Wash. 776,826, can. Cl. 2.
 Sportsotron, Inc., Lynbrook, N.Y. 901,752, pub. 8-18-70. Cl. 22.
 Staley, A. E., Mfg. Co., Decatur, Ill. 901,875, pub. 8-18-70. Cl. 46.
 Standard Brands Inc., New York, N.Y. 280,290, ren. 11-3-70. Cl. 46.
 Star-A Electric Mfg. Co., Inc., Brooklyn, N.Y. 901,734, pub. 8-18-70. Cl. 21.
 Stelner, Abraham, d.b.a. A. Stelner, New York, N.Y. 777,003, can. Cl. 28.
 Stenocomp Inc., Silver Spring, Md. 901,928, pub. 8-18-70. Cl. 101.
 Sterno Industries, Inc., Allendale, N.J. 776,921, can. Cl. 21.
 Stewart-Warner Corp., Chicago, Ill. 528,794, ren. 11-3-70. Cl. 19.
 Stoker, Annette T., Denver, Colo. 777,013, can. Cl. 29.
 Stoddy Co., Santa Fe Springs, Calif. 901,816, pub. 8-18-70. Cl. 34.
 Superpack Vending Ltd., Scarborough, Ontario, Canada. 776,814, can. Multiple Class (Classes 2, 6, 23, and 52).
 Surface Master Corp., Scranton, Pa. 901,695, pub. 8-18-70. Cl. 12.
 Swift & Co., Chicago, Ill. 34,411, ren. 11-3-70. Cl. 46.
 Sybron Corp., Rochester, N.Y. 901,866, pub. 8-18-70. Cl. 44.
 Symmons Engineering Co., Boston, Mass. 776,861, can. Cl. 13.
 TCI Telecommunications Consultants, Inc., New York, N.Y. 901,934, pub. 8-18-70. Cl. 104.
 TCR Service, Inc., Englewood Cliffs, N.J. 901,921, pub. 8-18-70. Cl. 100.
 TIWI oy Keuruu, Finland. 901,692, pub. 8-18-70. Cl. 12.
 TSC Industries Inc., Chicago, Ill. 901,768, pub. 8-18-70. Cl. 23.
 Tarr, W. A., d.b.a. W. A. Tarr Co., Bellevue, Wash., 776,989, can. Cl. 23.
 Taylor, Fladgate & Yeatman-Vinhos S.A.R.L., Oporto, Portugal. 901,889, pub. 8-18-70. Cl. 47.
 Technical Measurement Corp., White Plains, N.Y. 776,998, can. Cl. 26.
 Teenform, Inc., New York, N.Y. 901,847, pub. 8-18-70. Cl. 39.
 Teledyne Industries, Inc., Los Angeles, Calif. 533,698, ren. 11-3-70. Cl. 23.
 Testrite Instrument Co., Inc., Newark, N.Y. 280,019, ren. 11-3-70. Cl. 26.
 Teyles, L., Seed Co., Milwaukee, Wis. 901,653, pub. 8-18-70. Cl. 1.
 Thin Man, Inc., The, New Haven, Conn. 901,918, pub. 8-18-70. Cl. 100.
 Thomas & Betts Corp., Elizabeth, N.J. 901,730, pub. 8-18-70. Cl. 21.
 Thuron Industries, Inc., Dallas, Tex. 901,666, pub. 8-18-70. Cl. 6.
 Toni, California, Los Angeles, Calif. 901,841, pub. 8-18-70. Cl. 39.
 Topp Electronics, Inc., Miami, Fla. 901,742, pub. 8-18-70. Multiple Class (Classes 21 and 36).
 Topps Chewing Gum, Inc., Brooklyn, N.Y. 279,219, ren. 11-3-70. Cl. 46.
 Travel Games Ltd., New Providence, Bahamas. 901,745, pub. 8-18-70. Cl. 22.
 Trendsetter Footwear Corp., Newtonville, Mass. 901,848-9, pub. 8-18-70. Cl. 39.
 Tung Oil Products, Inc., Gainesville, Fla. 534,657, ren. 11-3-70. Cl. 16.
 Ultrachem Corp., Walnut Creek, Calif. 901,910, pub. 8-18-70. Cl. 100.
 Ureida Doll Co., Inc., Brooklyn, N.Y. 901,751, pub. 8-18-70. Cl. 22.
 Union Carbide Corp., New York, N.Y. 537,257, ren. 11-3-70. Cl. 21.
 Uniroyal, Inc., New York, N.Y. 901,691, pub. 8-18-70. Cl. 12.
 United Aircraft Corp., East Hartford, Conn. 901,946. Cl. 19.
 United Merchants & Manufacturers, Inc., New York, N.Y. 901,667, pub. 6-2-70. Cl. 6.
 United Press International, Inc., New York, N.Y. 777,048, can. Cl. 38.
 United States Gypsum Co., Chicago, Ill. 276,997, ren. 11-3-70. Cl. 16.

United States Rubber Co., New York, N.Y. 777,027, can. Cl. 35.
 United States Shoe Corp., The, Cincinnati, Ohio. 901,853-4, pub. 8-18-70. Cl. 39.
 United States Steel Corp., Pittsburgh, Pa. 532,440, ren. 11-3-70. Cl. 21.
 University Laboratories, Inc.: See—
 Spectra-Physics, Inc.
 Usines Decoufle, Paris, France. 901,947. Cl. 23.
 Uster Corp., Charlotte, N.C. 901,782, pub. 8-18-70. Cl. 26.
 VB Creations, Inc., from Helena Rubinstein, Inc., New York, N.Y. 901,896, pub. 3-24-70. Cl. 51.
 Van Brode Milling Co., Inc., Clinton, Mass. 530,105, ren. 11-3-70. Cl. 46.
 Van Praag Productions, Inc., New York, N.Y. 777,054, can. Cl. 38.
 Vicon Products Corp., Mamroneck, N.Y. 901,791, pub. 8-18-70. Cl. 26.
 Visolux-Elektronik Richard Sterling, G.m.b.H., Berlin, Germany. 901,789, pub. 8-18-70. Cl. 26.
 Visual Electronics Corp., New York, N.Y. 901,790, pub. 8-18-70. Cl. 26.
 Vitaminal Products Co., Peoria, Ill. 531,751, ren. 11-3-70. Cl. 46.
 Voice of Orange Empire, Inc., Ltd., The, Santa Ana, Calif. 901,939-40, pub. 8-18-70. Cl. 107.
 Voice Projector Co., Los Angeles, Calif. 901,733, pub. 8-18-70. Cl. 21.
 Votr, W. J., Rubber Corp., Santa Ana, Calif. 901,822, pub. 8-18-70. Cl. 35.
 Walker Mfg. Co., Racine, Wis. 776,966, can. Cl. 23.
 Wallace, Timothy J., Old Bridge, N.J. 901,707, pub. 8-18-70. Cl. 13.
 Ward, D. L., Co., Philadelphia, Pa. 777,036, can. Cl. 37.
 Warner, George, Seed Co., Inc., Hereford, Tex. 901,943. Cl. 1.
 Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 271,363, ren. 11-3-70. Cl. 46.
 Washburn, John M., d.b.a. Garden Grove Music Center, Garden Grove, Calif. 901,825, pub. 8-18-70. Cl. 36.
 Watercham Sales Co., South El Monte, Calif. 776,860, can. Cl. 13.
 Waukesha Foundry Co.: See—
 Waukesha Foundry Co., Inc.
 Waukesha Foundry Co., Inc., from Waukesha Foundry Co., Waukesha, Pa. 901,754, pub. 8-18-70. Cl. 26.
 Webb, Jack Lawton, d.b.a. International Shows, Joplin, Mo. 901,924, pub. 8-18-70. Cl. 101.
 West Chemical Products, Inc., Long Island City, N.Y. 532,423, ren. 11-3-70. Cl. 21.
 Westbury Cravats Mfg. Corp., New York, N.Y. 777,089, can. Cl. 39.
 Western Publishing Co., Inc., Racine, Wis. 901,835, pub. 8-18-70. Cl. 38.
 Weyerhaeuser Co., Tacoma, Wash. 901,687, pub. 8-18-70. Cl. 12.
 Whirlpool Corp., Benton Harbor, Mich. 777,014, can. Cl. 31.
 White's Electronics, Inc., Sweet Home, Oreg. 901,788, pub. 8-18-70. Cl. 26.
 Wlenerwald at the Walldorfkeller, Inc.: See—
 Wlenerwald Third Avenue, Inc.
 Wlenerwald Third Avenue, Inc., from Wlenerwald at the Walldorfkeller, Inc., New York, N.Y. 901,902-3, pub. 8-18-70. Cl. 100.
 Wilkinson Sword Ltd., London, England. 901,769, pub. 8-18-70. Cl. 23.
 Wilson Sporting Goods Co., River Grove, Ill. 776,945, can. Cl. 22.
 Witco Chemical Corp., New York, N.Y. 528,824, ren. 11-3-70. Cl. 15.
 Wright Chemical Corp., Chicago, Ill. 530,389, ren. 11-3-70. Cl. 6.
 Xerox Corp., Stamford, Conn. 525,717, ren. 11-3-70. Cl. 38.
 Yardney Electric Corp., New York, N.Y. 776,925, can. Cl. 21.
 Yardley of London, Inc., New York, N.Y. 901,960. Cl. 51.
 Zeta Phi Eta, National Professional Speech Arts Fraternity for Women, Seattle, Wash. 777,163, can. Cl. 200.
 Zeta Phi Eta, National Professional Speech Arts Fraternity for Women, Seattle, Wash. 777,164, can. Cl. 200.



U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

November 10, 1970

Volume 880

Number 2

PATENTS NOTICES

Board of Appeals Decisions Rendered in the Month of September 1970

Examiner affirmed	117
Examiner affirmed in part	14
Examiner reversed	35
Total	166

Certificates of Correction for the Week of Nov. 10, 1970

Re. 26,890	3,477,972	3,492,523	3,518,247
Re. 26,903	3,478,156	3,494,735	3,518,250
Re. 26,939	3,479,718	3,494,887	3,518,590
3,020,823	3,479,857	3,495,815	3,518,627
3,160,189	3,479,873	3,496,239	3,519,021
3,310,659	3,481,065	3,497,290	3,519,460
3,364,107	3,482,032	3,498,135	3,519,695
3,394,507	3,482,343	3,499,014	3,519,843
3,398,891	3,483,019	3,501,478	3,520,774
3,413,869	3,483,378	3,502,127	3,520,855
3,419,761	3,483,423	3,502,688	3,520,972
3,430,172	3,485,406	3,502,741	3,521,406
3,432,341	3,485,837	3,504,980	3,521,527
3,433,738	3,486,650	3,506,653	3,521,676
3,442,815	3,486,981	3,507,080	3,522,207
3,446,256	3,487,067	3,508,867	3,522,843
3,447,282	3,487,677	3,509,192	3,523,558
3,451,770	3,487,894	3,509,259	3,523,724
3,451,809	3,488,165	3,510,273	3,524,082
3,458,523	3,488,264	3,511,174	3,524,205
3,463,732	3,488,350	3,513,108	3,524,463
3,464,924	3,488,720	3,514,439	3,524,536
3,464,982	3,488,883	3,514,758	3,525,149
3,467,075	3,489,026	3,515,094	3,525,194
3,467,982	3,489,510	3,515,723	3,525,455
3,469,451	3,489,956	3,516,233	3,525,765
3,472,882	3,490,378	3,516,349	3,525,808
3,476,465	3,490,902	3,517,479	3,526,029
3,476,603	3,491,039	3,518,135	3,526,240
3,477,240	3,491,287	3,518,153	3,526,641
3,477,247	3,492,484	3,518,236	3,527,715

Disclaimers

3,085,535.—*Charles R. Hunt*, Tilton, N.H. BOAT HULL. Patent dated Apr. 16, 1963. Disclaimer filed Aug. 17, 1970, by the assignee, *Hunt Industries, Inc.*

Hereby enters this disclaimer to claims 1 to 4 of said patent.

New Applications Received During August 1970

Patents	8337
Designs	532
Plant Patents	5
Reissues	33
Total	8907

3,238,691.—*Roland E. Miller*, Orangeville, *George Howard Kraft*, Wilmette, *Carmen G. Tumino*, Elk Grove Village, and *Clyde D. Wayne*, Wilmette, Ill. PACKAGING MATERIAL REGISTER CONTROL. Patent dated Mar. 8, 1966. Disclaimer filed July 24, 1970, by the assignee, *Kraftco Corporation*.

Hereby enters this disclaimer to claims 1 through 8 of said patent.

3,283,153.—*Eric L. Geiger*, Santa Fe, N. Mex. RADON DOSIMETER. Patent dated Nov. 1, 1966. Disclaimer filed Apr. 6, 1970, by the assignee, *Eberline Instrument Corporation*.

Hereby enters this disclaimer to claims 1 and 4 of said patent.

3,343,106.—*Walter John Honeyball*, Chelmsford, England. TUNABLE ELECTRON DISCHARGE DEVICES AND CAVITIES. Patent dated Sept. 19, 1967. Disclaimer filed July 24, 1970, by the assignee, *English Electric Valve Company Limited*.

Hereby disclaims claims 1, 2, 4 and 5 of said patent.

3,463,311.—*J. Frank Coneybear*, Rockville, Md., *Charles H. Chandler*, Princeton, N.J., and *John J. Andriain, Jr.*, Parma Heights, Ohio. CRUSHER SEPARATOR APPARATUS AND METHOD. Patent dated Aug. 26, 1969. Disclaimer filed June 25, 1970, by the assignee, *Ocean Spray Cranberries, Inc.*

Hereby enters this disclaimer to claims 1 through 6 of said patent.

3,487,919.—*Carmon M. Elliott*, Rochester, and *Richard A. Cowles*, Victor, N.Y. BOOK-STYLE CONTAINER FOR FILM OR TAPE REELS AND METHOD OF MAKING THE SAME. Patent dated Jan. 6, 1969. Disclaimer filed Apr. 6, 1970, by the assignee, *Eastman Kodak Company*.

Hereby enters this disclaimer to claims 7, 10, and 11 of said patent.

3,492,492.—*Albert A. Ballman*, Woodbridge, *Pascal V. Lenzo*, Warren Township, Somerset County, and *Edvard G. Spencer*, Berkeley Heights, N.J. OPTICALLY ACTIVE DEVICE WITH OPTICAL ENHANCEMENT. Patent dated Jan. 27, 1970. Disclaimer filed July 10, 1970, by the assignee, *Bell Telephone Laboratories, Incorporated*.

Hereby enters this disclaimer to claim 3 of said patent.

Issue—November 10, 1970

Patents	1550—No. 3,538,508 to No. 3,540,057, Incl.
Designs	79—No. 219,121 to No. 219,199, Incl.
Plant Patents	4—No. 2,996 to No. 2,999, Incl.
Total	1633

Disclaimer and Dedication

3,480,476.—*Ralph E. Abbott*, San Francisco, Calif. CONTROL SYSTEM FOR SUGAR INVERSION PROCESS. Patent dated Nov. 25, 1969. Disclaimer and dedication filed July 21, 1970, by the assignee, *Bailey Meter Company*.

Hereby disclaims the remaining term of said patent and dedicates said patent to the Public.

Dedications

3,058,934.—*James C. Kyle, Glendora*, and *Gerald R. Curtis*, Duarte, Calif. POTENTIOMETERS. Patent dated Oct. 2, 1962. Dedication filed June 3, 1970, by the assignee, *Physical Sciences Corporation*.

Hereby dedicates the entire term of said patent to the Public.

3,077,571.—*Gerald R. Curtis*, Duarte, *Glen Robinson*, Pasadena, and *Richard W. Baugh*, Duarte, Calif. KEY FOR CONNECTOR. Patent dated Feb. 12, 1963. Dedication filed June 3, 1970, by the assignee, *Physical Sciences Corporation*.

Hereby dedicates the entire term of said patent to the Public.

3,183,126.—*Gerald R. Curtis*, Duarte, *James C. Kyle*, Glendora, and *Glen Robinson*, Pasadena, Calif. METHOD OF MAKING MAGNETIC TRANSDUCERS. Patent dated May 11, 1965. Dedication filed June 3, 1970, by the assignee, *Physical Sciences Corporation*.

Hereby dedicates the entire term of said patent to the Public.

3,212,321.—*James C. Kyle*, Glendora, Calif. ENCAPSULATED EXTENSOMETER. Patent dated Oct. 19, 1965. Dedication filed June 3, 1970, by the assignee, *Physical Sciences Corporation*.

Hereby dedicates the entire term of said patent to the Public.

3,274,937.—*James C. Kyle*, Glendora, Calif. DETONATION SQUIB. Patent dated Sept. 27, 1966. Dedication filed June 3, 1970, by the assignee, *Physical Sciences Corporation*.

Hereby dedicates the entire term of said patent to the Public.

3,308,086.—*Lloyd H. Wartman*, Charleston, W. Va. ETHYLENE COPOLYMERS WITH VINYL ESTERS PLASTICIZED WITH PHOSPHATE AND CARBOXYLIC ESTERS. Patent dated Mar. 7, 1967. Dedication filed June 18, 1970, by the assignee, *Union Carbide Corporation*.

Hereby dedicates the remainder of the term of the patent to the Public.

3,308,412.—*Gerald R. Curtis*, Duarte, *James C. Kyle*, Glendora, and *Glen Robinson*, Pasadena, Calif. TEMPERATURE COMPENSATED MAGNETIC TRANSDUCER. Patent dated Mar. 7, 1967. Dedication filed June 3, 1970, by the assignee, *Physical Sciences Corporation*.

Hereby dedicates the entire term of said patent to the Public.

3,446,637.—*John A. Earl*, Alhambra, Calif. CERAMIC MATERIAL AND METHOD. Patent dated May 27, 1969. Dedication filed June 3, 1970, by the assignee, *Physical Sciences Corporation*.

Hereby dedicates the entire term of said patent to the Public.

3,457,066.—*Marvin A. Pohlman*, Muskegon, Mich., and *Joseph B. Moore*, Tequesta, Fla. NICKEL BASE ALLOY. Patent dated July 22, 1969. Dedication filed June 26, 1970, by the assignee, *General Electric Company*.

Hereby dedicates the remaining term of said patent to the Public.

Patents Available for Licensing or Sale

D. 215,183. FLEXIBLE TRANSMISSION COUPLING FOR THREE-WHEELED VEHICLE. *James H. Mayland*, 173 Southwood Drive, Old Bridge, N.J., 08857.

3,177,613. KISSING DOLL. *Martha J. Price*, 1931 15th St., Cuyahoga Falls, Ohio, 44223.

3,384,084. COLOSTOMY DEVICE. *Fred Jeschawitz*, Chadwicks, N.Y. Correspondence to: *Cushman, Darby & Cushman*, 730 15th St. NW., Washington, D.C., 20005.

3,493,478. ELECTROLYTIC PREPARATION OF PERCHLORATES. *Handady Venkatakrishna Udupa et al.*, India. Correspondence to: *Michael S. Striker*, 360 Lexington Ave., New York, N.Y., 10036.

3,522,619. AUTOMATIC WASHING DEVICE FOR CLEANING VERTICAL SIDES OF A MOTOR VEHICLE. *Gebhard Welgele et al.*, Augsburg, Germany. Correspondence to: *Woodhams, Blanchard and Flynn*, 2026 Rambling Road, Kalamazoo, Mich., 49001.

3,522,810. SAFETY ASH TRAY. *George Eldson*, P.O. Box 643, Gridley, Calif., 95948.

3,525,169. CREATURE REPELLER. *William Odenwald*, 380 Irvington Ave., Elizabeth, N.J., 07208.

The following 3 patents are offered by *John W. Barnd*, 32 Hollybrook Road, Paramus, N.J.

3,351,128. MULTI-ZONE TEMPERATURE CONTROL.

3,496,991. FLUID TEMPERATURE REGULATING METHOD AND APPARATUS.

3,515,345. MULTI-ZONE TEMPERATURE CONTROL.

Otto Wöhr of Stuttgart, Germany, is prepared to grant exclusive or non-exclusive license on reasonable terms and conditions under the following patent.

Inquiries should be addressed to: *George V. Caldwell & Associates*, 236 Adelaide Drive, Santa Monica, Calif., 90402.

3,437,217. DOUBLE-TIER GARAGE.

General Electric Company is prepared to grant non-exclusive licenses under the following 22 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: *Division Patent Counsel, Space Division, General Electric Company*, P.O. Box 8555, Philadelphia, Pa., 19101.

3,520,223. QUICK RELEASE DEVICE WITH AUTOMATIC RESET.

Applications for license under the following 2 patents may be addressed to: *General Electric Company, Patent Counsel, Housewares Division*, 1285 Boston Ave., Bridgeport, Conn., 06602.

3,037,107. BRACKET ASSEMBLY FOR THERMOSTATIC COOKWARE.

3,440,405. COOKING VESSEL PROBE EJECTOR.

Applications for license under the following 8 patents may be addressed to: *General Electric Company, Power Distribution Division*, 100 Woodlawn Ave., Pittsfield, Mass., 01201, Attention—*Division Patent Counsel*.

3,189,708. ELECTRIC CIRCUIT RECLOSER.

3,414,868. TERMINATOR FOR CONNECTING A PLURALITY OF ELECTRICAL CABLES TO A SECONDARY OF AN ELECTRICAL APPARATUS.

3,489,889. SWITCH MECHANISM FOR EXPANDABLE TRACK DEVICE WITH A SWITCH ACTUATOR ALSO SERVING AS A STOP MEANS.

3,489,921. PEAK DETECTING CIRCUIT WITH COMPARISON MEANS PRODUCING A PEAK INDICATIVE SIGNAL.

3,489,977. CURRENT LIMITING FUSE.

3,510,819. VACUUM FUSE AND METHOD OF MAKING SAME.

3,513,394. INSULATED VOLTAGE SOURCE FOR HIGH VOLTAGE CONDUCTOR TERMINATIONS.

3,524,042. METHOD OF MAKING MECHANICAL AND WELDED JOINT.

Applications for license under the following 11 patents may be addressed to: *Patent Counsel, Appliance and Television Business Group, General Electric Company*, Appliance Park, Louisville, Ky., 40225.

3,051,313. CONTROL MECHANISM.

3,102,409. CLOTHES WASHING MACHINE.

3,181,924. RACK ARRANGEMENT FOR DISHWASHERS.

3,292,398. BASKET FOR A WASHING MACHINE.

3,301,022. WASHING MACHINE HAVING A TREATING AGENT DISPENSING SYSTEM.

3,321,261. RACK SYSTEM FOR AUTOMATIC DISHWASHER.

3,352,999. ELECTRIC WATER HEATER CIRCUIT.

3,353,001. ELECTRIC WATER HEATER CIRCUIT.

3,353,002. ELECTRIC WATER HEATER CIRCUIT.

3,439,896. PILOT TYPE VALVE.

3,516,369. VERTICALLY ADJUSTABLE SHELF.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 20, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-03-69
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	10-01-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-02-69
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chem- ical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	3-20-69
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-03-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	11-06-69
SECURITY, GROUP 220—C. D. QUARFORTH, Acting Director..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio- Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	4-03-69
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	6-03-69
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	6-30-69
PHYSICS, GROUP 280—R. L. EVANS, Director..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4-04-69
DESIGNS, GROUP 290—C. D. QUARFORTH, Acting Director..... Industrial Arts; Household, Personal and Fine Arts.	12-15-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Recep- tacles and Packages.	7-25-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding; Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	5-01-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Trolley; Printing; Typewriters; Stationery; Information Dissemination.	5-19-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lu- brication; Joint Packing.	10-02-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	7-10-69
Total number of pending applications (excluding Designs).....	183,635
Total number of Design applications pending.....	2,853

Expiration of patents: The patents within the range of numbers indicated below expired during November 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 890, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 819, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents..... Numbers 2,657,382 to 2,660,722, inclusive
Plant Patents..... Numbers 1,226 to 1,231, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE LYNN B. WAKEFIELD AND FREDERICK C. FOSTER

No. 8192. Decided March 12, 1970

[57 CCPA —; 422 F.2d 897; 164 USPQ 636]

1. CLAIM—MULTIPLICITY OF CLAIMS—35 U.S.C. 112.

"The Board's affirmation of the multiplicity rejection * * * is based upon the view that the many different definitions of appellants' invention were both unnecessary and confusing. We disagree on both points. It is rarely possible to determine necessity for narrower claims at the time of prosecution. * * * there is no statutory authority for rejecting claims as being 'unnecessary.' For these reasons, an applicant should be allowed to determine the necessary number and scope of his claims, provided he pays the required fees and otherwise complies with the statute. This brings us to the Board's view that the number of claims was so large as to obscure the invention, thereby failing to comply with the second paragraph of 35 U.S.C. 112. Again we disagree. Each appealed claim is relatively brief and clear in its meaning. * * * We conclude that the Board erred in affirming the multiplicity rejection."

2. PATENTABILITY—AFFIDAVIT UNDER RULE 131—INDIRECT ANTE-DATING.

"Turning to the Examiner's argument that the affidavits [under Rule 131] are insufficient because they do not show the composition which the reference shows, this court rejected such a test in *Clarke* * * * and stated instead that 'antedating affidavits must contain facts showing a completion of "the invention" commensurate with the extent the invention is shown in the reference, whether or not it be a showing of the identical disclosure of the reference.' It is clear those claims which recite nothing about gel do not define an invention predicated for patentability upon the presence or absence of gel. With regard to the recited elements of these claims, we believe appellants have shown as much as Horne shows. Appellants show in their affidavits the manufacture of the claimed product by the use of lithium-based catalysts. Horne shows its preparation using Ziegler catalysts. Appellants possessed the claimed product as fully as Horne did, and before the Horne date. Horne is therefore overcome as a reference as to these claims."

3. SAME—SAME.

"On the basis of the record before us, we conclude that the Examiner was correct in his view that Horne discloses a substantially gel-free product. Since appellants' affidavits [under Rule 131] do not show their possession of such a product prior to the Horne date, we must affirm the Board's decision as to claims 2, 7, 16, 21, 25 and 30."

4. CLAIM—CONSTRUCTION OF CLAIMS—WORDS AND PHRASES—"SYNTHETIC."

"We turn * * * to the Board's view that the word 'synthetic' as used in the claims is applicable to natural rubber from which impurities have been removed. We cannot agree that this is a reasonable construction of 'synthetic.'"

5. SAME—SAME—SAME—SAME.

"* * * to persons skilled in the rubber art the word 'synthetic' would not include a purified natural product. This is demonstrated in the Horne patent, wherein synthetic is defined as 'man-made.' The preliminary portions of appellants' specification lead to the same conclusion. The specification draws a sharp and consistent distinction between synthetic rubbers on the one hand and products made from natural rubber on the other."

6. SAME—PRODUCT—OBVIOUSNESS—SYNTHETIC AND PURIFIED NATURAL RUBBER—ENABLING DISCLOSURE.

"We turn now to the Examiner's view, adopted by the Board, that the synthetic product is so similar to the natural product, purified to the extent allegedly shown in Davis, as to be 'prima facie obvious.' We would agree with this conclusion as a tentative one based on similarity of structure and gross characteristics. However, such tentative conclusions of obviousness are rebutted in those instances where there was, at the time the invention was made, no known or obvious method of making the claimed composition, or where the

claimed composition is found to possess unexpected characteristics. At least the first situation is present in the case before us, since it cannot be said that a method of making the claimed synthetic product would be known or obvious from Davis. On the contrary, the record before us shows that years of effort in the art were required after Davis to find such a method. We conclude, therefore, that the rejection for obviousness based on Davis cannot be supported."

7. CLAIM—CONSTRUCTION OF CLAIMS—CLAIMS SET BOUNDARIES ON PROTECTION—SECTION 112, SECOND PARAGRAPH.

"* * * the Examiner stated that certain claims 'are rejected as not properly defining the invention (35 U.S.C. 112).' * * * [It] is the Examiner's view * * * that applicants' polymers contain lithium end groups, which were not recited in the claims. Presumably this position is limited to the examples wherein appellants disclose the use of lithium-based catalysts. Such a ground of rejection cannot be sustained. Section 112 does not require that the claims define 'the invention,' whatever that would mean. It is apparently the second paragraph of that section which is in issue, and that paragraph requires that the claims define the subject matter which the applicant regards as his invention.' The meaning of this provision is simply that an applicant is required to set definite boundaries on the patent protection sought. The record before us amply demonstrates that appellants did not regard catalytic impurities as even being present in their products, much less regard such impurities as an element of their invention."

8. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—STATUTORY BASIS FOR REJECTION SHIFTED IN EXAMINER'S ANSWER—UNDER BREADTH IN CLAIMS—SECTION 112, FIRST PARAGRAPH.

"The Examiner's answer possibly shifted his statutory basis for the § 112 rejection, stating: 'The claims are rejected under 35 U.S.C. 112 as being broader than that invention clearly described in the specification.' A breadth rejection such as this is really an assertion that the specification is insufficient to support claims of the breadth sought. * * * The proper statutory basis for such a rejection is the first paragraph of § 112. In response to this possible shift in ground by the Examiner, appellants submitted a reply brief under Rule 193(b). The Board refused to consider the reply brief and held that the Examiner's answer did not raise a new point of argument. We are not sure whether an attack on the specification was being made. If it was, appellants were deprived of an opportunity to contest this new basis for the § 112 rejection before the Board. Further, the Board's opinion makes no reference to insufficiency of disclosure. Accordingly, we shall not consider it to be in issue before us."

9. CLAIM—INDEFINITENESS—NEGATIVE LIMITATION—SECTION 112, SECOND PARAGRAPH.

"We turn * * * to the Board's affirmation of the rejection for indefiniteness under the second paragraph of § 112. The Board set forth two bases for concluding that the claims were indefinite. The first was that the use of a negative limitation excluding the characteristics of the prior art products causes the claims to read on a virtually unlimited number of materials, many of which 'might be the full equivalents in their effects of those excluded.' We fail to see how this renders the claims indefinite. The complaint seems to be that a very large number of substances are encompassed by the claims, through the possible addition of unrecited impurities. The scope of the claim is still definite, however, because each recited limitation is definite."

10. SAME—SAME—WORDS AND PHRASES—"SYNTHETIC"—SECTION 112, SECOND PARAGRAPH.

"Appellants have excluded from the scope of their claims any purified natural product by the recitation 'synthetic.' This word * * * has a reasonably precise meaning and therefore does not render the claims indefinite. It is not contended, and we are not holding, that the word *synthetic* alone makes the claimed composition new. We are holding that, as used here, the word is not indefinite and does not provide a basis for rejecting the claims under the second paragraph of § 112. We conclude that the Board erred in affirming the rejection under 35 U.S.C. 112."

11. PATENTABILITY—PARTICULAR SUBJECT MATTER—"ESSENTIALLY *Cis* RUBBERY POLYISOPRENE AND METHOD FOR MAKING SAME."

The refusal of certain claims in an application entitled "*Essentially Cis Rubbery Polyisoprene and Method for Making Same*," *inter alia* as unpatent-

able over the prior art, is affirmed as to certain claims and reversed as to the remaining claims.

APPEAL from Patent Office. Serial No. 199.603.

MODIFIED.

Edward S. Irons, Mary Helen Sears, Irons, Birch, Swindler & McKie, Stanley M. Clark, H. N. Harger, for appellants.

Joseph Schimmel (Raymond E. Martin, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and MATTHEWS, *Senior Judge*, United States District Court for the District of Columbia, sitting by designation LANE, J., delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals, which affirmed the rejection of product claims 1-3, 5-8, 10-17, 19-22, 24-26 and 28-31 in appellants' patent application Serial No. 199,603, filed June 4, 1962, for "*Essentially Cis Rubbery Polyisoprene and Method for Making Same*." The application is a continuation-in-part of applications Serial No. 530,396, filed August 24, 1955, and Serial No. 605,438, filed August 21, 1956. Four method claims have been allowed.

THE DISCLOSURE

The application discloses a method of making a synthetic polyisoprene having essentially the molecular structure of natural Hevea rubber, i.e., at least 80% *cis*-1,4, not more than 10% *trans*-1,4, not more than 10% 3,4, and practically no 1,2 structure. The synthetic product will then have the advantageous properties of natural rubber but will not contain the proteins, soaps, resins and sugars which are disadvantageously present in natural rubber. The disclosed process of making the synthetic product involves the use of a catalyst which may be metallic lithium, a hydrocarbon lithium compound, a crystalline salt in admixture with colloiddally dispersed lithium metal, a composite comprising either lithium metal or a lithium hydrocarbon in association with a fluorine-containing salt, or a Ziegler type catalyst. Information on selection and use of each of the catalysts is set forth in the specification but is unnecessary for an understanding of the issues here. Seventeen examples are disclosed in the specification to detail the use of the various types of catalysts.

THE INVENTION

Claim 1 is illustrative of the claims on appeal.

1. A synthetic homopolymer [of] isoprene combining the desirable properties of both Hevea and sulfur vulcanizable synthetic rubbers characterized by at least 80% *cis*-1,4 structure, not in excess of 10% *trans*-1,4 structure, not in excess of 10% 3,4 structure, and essentially no 1,2 structure, said homopolymer being free from the proteins, soaps, resins and sugars present in natural Hevea rubber.

The other appealed claims add one or more limitations to the subject matter of claim 1, and we shall discuss them in more detail later.

PRIOR ART

Horne, U.S. Patent 3,114,743, issued December 17, 1963, filed December 2, 1954, discloses a *cis*-1,4 polyisoprene rubbery polymer which has essentially the same structure and physical properties as natural Hevea rubber. Horne states that all of the isoprene formed by his

method is of the *cis*-1,4 structure and that it is free from protein, soaps, resins and sugars. Applicants attempted to remove Horne as a reference by submitting affidavits under Rule 131.

The Examiner and the Board also applied Davis et al., Chemistry and Technology of Rubber, 1937, pp. 91-92, alone as a reference under 35 U.S.C. 103. Davis discloses the structure of natural Hevea rubber and describes attempts to purify it.

THE EXAMINER

The Examiner rejected all the appealed claims for undue multiplicity under 35 U.S.C. 112 and required that applicants either reduce the number of claims to 15 or select 15 claims for further examination on the merits. Applicants traversed this rejection and provisionally elected 15 claims for further prosecution. The Examiner refused to withdraw the multiplicity rejection and continued to apply it to all claims. He also rejected all the claims for failing to define the invention and for obviousness in view of Davis. He further rejected claims 1, 3 and 5-8 for lack of novelty based on Horne, and the remaining claims for obviousness in view of Horne.

THE BOARD

The Board affirmed all of the Examiner's rejections. We shall separately treat each affirmance and state our opinion with regard thereto.

OPINION

(a) *Multiplicity*

The Board stated that many of the claims recite "only the obvious vulcanizate of the homopolymer, with varying recitations of its properties stemming from the negative recitation" appearing in claim 1. Other claims, said the Board, merely give a somewhat more restricted range of percentages of the various structures in the polymer. The Board agreed with the Examiner that if the polyisoprene is adequately defined in each claim, then claims reciting the inherent properties of the polymer are unnecessary and tend to confuse the issue. The Board held the number of claims to be unreasonable and to have the effect of obscuring the invention rather than pointing it out as required by 35 U.S.C. 112. [1] The Board's affirmance of the multiplicity rejection, therefore, is based upon the view that the many different definitions of appellants' invention were both unnecessary and confusing. We disagree on both points. It is rarely possible to determine necessity for narrower claims at the time of prosecution. An applicant often does not know all the prior art which may be asserted against his broader claims when he litigates his patent. Further, he is never sure that the broader claims will not be successfully attacked on other grounds when litigated in the courts. See, e.g., Graver Tank v. Linde Air Products, 336 U.S. 271 (1949). Moreover, there is no statutory authority for rejecting claims as being "unnecessary." For these reasons, an applicant should be allowed to determine the necessary number and scope of his claims, provided he pays the required fees and otherwise complies with the statute. This brings us to the Board's view that the number of claims was so large as to obscure the invention, thereby failing to comply with the second paragraph of

35 U.S.C. 112. Again we disagree. Each appealed claim is relatively brief and clear in its meaning. Examination of 40 claims in a single application may be tedious work, but this is no reason for saying that the invention is obscured by the large number of claims. We note that the claims were clear enough for the Examiner to apply references against all of them in his first action. We conclude that the Board erred in affirming the multiplicity rejection.

(b) *The rejections on Horne*

We now come to the rejections under 35 U.S.C. 102 and 103 based on the Horne patent. Horne was cited under section 102(e) and applicants sought to remove the reference by submitting affidavits under Rule 131. The Examiner found that the affidavits were insufficient in breadth to remove Horne as a reference against the claims. He considered the claims broad as against Horne in several respects which we shall separately treat.

The first aspect of breadth considered by the Examiner was that the claims contain no limitation as to catalytic impurities which he believed would be present in the product and would affect its properties. Horne used Ziegler type catalysts. The affidavits show appellants' use of lithium-based catalysts. The claims cover products containing either type impurity, and the Examiner considered them broad for this reason. The Board apparently agreed, pointing out that the type of catalyst used might result in significantly different products. Appellants disputed vigorously that their product contained any lithium end groups. We find it unnecessary to decide that question here, because there is no convincing evidence in the record that the presence or absence of such impurities would affect the product. Since the claims do not recite the presence or absence of any impurities other than the naturally occurring ones, we must conclude that such limitations are not essential to appellants' case for patentability. Appellants should not be required to show how various nonessential impurities could be added to the recited elements of their polymer. This is making a breadth problem where none exists.

The second aspect of breadth considered by the Examiner was the gel content of the product. It was the Examiner's position that the product shown in appellants' Rule 131 affidavits "is not the same polymer disclosed by Horne and does not support the broad claim." This conclusion was derived from the fact that the product shown in the attachments to the affidavits was stated therein to contain "considerable hard, non-dispersible gel," whereas Horne states that his product is adaptable to be gel-free. Although the Board nowhere mentioned this issue, we consider it to have been fairly raised by the Examiner. It is necessary, in treating this issue, to separate the claims which contain no limitation as to the presence or absence of gel from the claims which recite that the product must be "substantially gel-free."¹ As to the first group, the Examiner's contention that the product shown in the affidavits, called CPP 1196,² does not "support the claim" is irrelevant. It is uncontested that CPP 1196 is in fact a compound falling under this first group of claims. The fact that it alone would not support the broader claims is of no significance. See *In re Clarke*, 53

¹ The latter group comprises claims 2, 7, 16, 21, 25 and 30.

² The Examiner referred to this product as CP 1198. This was apparently inadvertent, since we find no other reference in the record to a product so designated.

CCPA 954, 960, 356 F.2d 987, 991, 148 USPQ 665, 669 (1966). [2] Turning to the Examiner's argument that the affidavits are insufficient because they do not show the composition which the reference shows, this court rejected such a test in *Clarke*, supra, and stated instead that "antedating affidavits must contain facts showing a completion of 'the invention' commensurate with the extent the invention is shown in the reference, whether or not it be a showing of the identical disclosure of the reference." It is clear those claims which recite nothing about gel do not define an invention predicated for patentability upon the presence or absence of gel. With regard to the recited elements of these claims, we believe appellants have shown as much as Horne shows. Appellants show in their affidavits the manufacture of the claimed product by the use of lithium-based catalysts. Horne shows its preparation using Ziegler catalysts. Appellants possessed the claimed product as fully as Horne did, and before the Horne date. Horne is therefore overcome as a reference as to these claims.³ See *In re Rainer*, 55 CCPA 853, 390 F.2d 771, 156 USPQ 334 (1968).

We now consider the claims reciting a "substantially gel-free" polymer. Here, of course, we cannot ignore the significance of the fact that appellants' affidavits do not show possession of a gel-free product. The issue is whether Horne enables persons of ordinary skill to make the gel-free product. The Horne patent is far from clear on this point. It states, in part:

The process described herein is adaptable to give a linear polyisoprene rubber which * * * is free of extremely high molecular fractions or cross-linked fractions, called gel, such as are present in natural rubber. [Emphasis ours.]

The Examiner believed Horne's product to be gel-free. His opinion is supported by Horne's Example 1, which states that a clear solution of the reaction product in heptane is obtained, which upon precipitation, washing and drying "is found to possess a tackiness equivalent to that of milled natural rubber * * *." [Emphasis ours.] Milling is one of the ways of removing the gel from natural rubber. The last-quoted portion of Horne would therefore indicate that the product has no substantial gel. Moreover, while appellants have pointed out the lack of complete clarity in Horne's statement concerning gel, they have not argued that Horne's Example 1 does not in fact produce a gel-free product. [3] On the basis of the record before us, we conclude that the Examiner was correct in his view that Horne discloses a substantially gel-free product. Since appellants' affidavits do not show their possession of such a product prior to the Horne date, we must affirm the Board's decision as to claims 2, 7, 16, 21, 25 and 30.

(c) *The rejection on Davis*

The Examiner rejected all of the fully prosecuted claims as unpatentable over Davis, under 35 U.S.C. 103. The Examiner acknowledged that Davis does not show a complete removal of all impurities from natural rubber. His position was that "the pure compound is so similar to the impure compound (no non-obvious utilitarian differences accountable to the purity level have been shown) as to be prima facie obvious." The Board affirmed the rejection "for the reasons fully set forth by the Examiner," adding that the word *synthetic* in the

³ It might be noted here that the Examiner mentioned other aspects of breadth, such as molecular weight and molecular weight distribution. Since these assertions were not further developed and were not mentioned by the Board, we consider any issues based thereon to not have been raised below.

claims is applicable to natural rubber "from which the impurities have been extracted in Davis."

We do not think that Davis is effective as a reference against any of the claims.⁴ Davis describes the separate work of various researchers in removing proteins and resins from natural rubber. The description of each elimination attempt is brief, and a complete statement of results does not appear. Moreover, Davis nowhere mentions the elimination of sugars and soaps.

[4] We turn first to the Board's view that the word "synthetic" as used in the claims is applicable to natural rubber from which impurities have been removed. We cannot agree that this is a reasonable construction of "synthetic." The dictionary meaning of the word as it pertains to chemistry is shown by the following:

Of pertaining to, or formed by artificial synthesis. Webster's New International Dictionary (1932).

Noting or pertaining to compounds formed by chemical reaction in a laboratory, as opposed to those of natural origin. Random House Dictionary (1969).

"Synthetic rubber" is defined as:

Any of several substances similar to natural rubber in properties and uses, produced by the polymerization of an unsaturated hydrocarbon, as butylene or isoprene, or by the copolymerization of such hydrocarbons with styrene, butadiene, or the like. Random House Dictionary (1969).

The foregoing definitions nowhere mention or suggest to us that a purified natural product could properly be called "synthetic." Rather, the word connotes an artificially compounded or built-up product.

[5] Moreover, to persons skilled in the rubber art the word "synthetic" would not include a purified natural product. This is demonstrated in the Horne patent, wherein synthetic is defined as "man-made." The preliminary portions of appellants' specification lead to the same conclusion. The specification draws a sharp and consistent distinction between synthetic rubbers on the one hand and products made from natural rubber on the other.

In view of the foregoing, we must disagree with the Board's position that the word "synthetic," as used in the claims, would be applicable to the purified natural product.

[6] We turn now to the Examiner's view, adopted by the Board, that the synthetic product is so similar to the natural product, purified to the extent allegedly shown in Davis, as to be "prima facie obvious." We would agree with this conclusion as a tentative one based on similarity of structure and gross characteristics. However, such tentative conclusions of obviousness are rebutted in those instances where there was, at the time the invention was made, no known or obvious method of making the claimed composition, or where the claimed composition is found to possess unexpected characteristics. At least the first situation is present in the case before us, since it cannot be said that a method of making the claimed synthetic product would be known or obvious from Davis. On the contrary, the record before us shows that years of effort in the art were required after Davis to find such a method. We conclude, therefore, that the rejection for obviousness based on Davis cannot be supported.

⁴ From this point on we are discussing only the claims still in issue, i.e., claims 1, 3, 5, 6, 8, 10-15, 17, 19, 20, 22, 24, 26, 28, 29 and 31.

(d) *The rejection for "not properly defining the invention"*

[7] In the final rejection, the Examiner stated that certain claims "are rejected as not properly defining the invention (35 U.S.C. 112)." He stated three bases for this conclusion, two of which have been removed through amendment. The remaining basis is the Examiner's view, mentioned above, that applicant's polymers contain lithium end groups, which were not recited in the claims. Presumably this position is limited to the examples wherein appellants disclose the use of lithium-based catalysts. Such a ground of rejection cannot be sustained. Section 112 does not require that the claims define "the invention," whatever that would mean. It is apparently the second paragraph of that section which is in issue, and that paragraph requires that the claims define "the subject matter which the applicant regards as his invention." The meaning of this provision is simply that an applicant is required to set definite boundaries on the patent protection sought. The record before us amply demonstrates that appellants did not regard catalytic impurities as even being present in their products, much less regard such impurities as an element of their invention.

[8] The Examiner's answer possibly shifted his statutory basis for the § 112 rejection, stating: "The claims are rejected under 35 U.S.C. 112 as being broader than that invention clearly described in the specification." A breadth rejection such as this is really an assertion that the specification is insufficient to support claims of the breadth sought. See *In re Cavallito*, 49 CCPA 1335, 306 F.2d 505, 134 USPQ 370 (1962). The proper statutory basis for such a rejection is the first paragraph of § 112.⁵ In response to this possible shift in ground by the Examiner, appellants submitted a reply brief under Rule 193(b). The Board refused to consider the reply brief and held that the Examiner's answer did not raise a new point of argument. We are not sure whether an attack on the specification was being made. If it was, appellants were deprived of an opportunity to contest this new basis for the § 112 rejection before the Board. Further, the Board's opinion makes no reference to insufficiency of disclosure. Accordingly, we shall not consider it to be in issue before us.

[9] We turn, therefore, to the Board's affirmation of the rejection for indefiniteness under the second paragraph of § 112. The Board set forth two bases for concluding that the claims were indefinite. The first was that the use of a negative limitation excluding the characteristics of the prior art products causes the claims to read on a virtually unlimited number of materials, many of which "might be the full equivalents in their effects of those excluded." We fail to see how this renders the claims indefinite. The complaint seems to be that a very large number of substances are encompassed by the claims, through the possible addition of unrecited impurities. The scope of the claim is still definite, however, because each recited limitation is definite.

The Board's second basis for concluding indefiniteness was that the claims [read] better upon the natural product from which the named substances have been removed than upon that prepared by the disclosed method of this application, which obviously never had these substances present to contend with in the first place.

With this we disagree for the reasons stated above with regard to the Davis reference. [10] Appellants have excluded from the scope

⁵ See *In re Borkowski* (PA 8214) decided concurrently herewith.

of their claims any purified natural product by the recitation "synthetic." This word, as we have shown above, has a reasonably precise meaning and therefore does not render the claims indefinite. It is not contended, and we are not holding, that the word *synthetic* alone makes the claimed composition new. We are holding that, as used here, the word is not indefinite and does not provide a basis for rejecting the claims under the second paragraph of § 112. We conclude that the Board erred in affirming the rejection under 35 U.S.C. 112.

[11] The decision of the Board is affirmed as to claims 2, 7, 16, 21, 25 and 30, and *Reversed* as to claims 1, 3, 5, 6, 8, 10-15, 17, 19, 20, 22, 24, 26, 28, 29 and 31.

MODIFIED.

PER CURIAM:

The court having considered appellants' request for reconsideration, the opposition of the Commissioner of Patents, and appellants' reply to said opposition, the request is granted to the extent that the court has reconsidered its decision and modified the second sentence of footnote 3 of its opinion to read: "Since these assertions were not supported by reference to appropriate evidence of record, we consider any issues based thereon not to have been raised below." Appellants' request is otherwise *denied*.

U.S. Court of Customs and Patent Appeals

IN RE JOACHIM STROSZYNSKI AND ERWIN GRIMM

No. 8254. Decided April 30, 1970

[57 CCPA —; 424 F.2d 1114; 165 USPQ 438]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—TACIT CONCESSIONS BEFORE THE BOARD.

"Since appellants have not seen fit to include in the record before this court any of the amendments or briefs filed below (so that we might judge for ourselves), we must assume that below appellants had tacitly conceded [as indicated of the Board] the relevancy of the secondary references. To permit appellants now to criticize these references, would only encourage less-than-full development of issues when an application is still at the examination stage. As was stated in *In re Soli* * * * 'issues should be crystalized before appeal to this court.' Accordingly, we will not give separate consideration to the secondary references * * *"

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—"TREATMENT OF MATERIAL IN WEB FORM."

The refusal of certain claims to a jet dryer in an application entitled "Treatment of Material in Web Form," as unpatentable over the prior art, is affirmed.

APPEAL from Patent Office. Serial No. 411,044.

AFFIRMED.

Bryan and Butrum, Roy W. Butrum, James E. Bryan, for appellants.

Joseph Schimmel (Lutrelle F. Parker, of counsel) for the Commissioner of Patents.

Before *Rich, Acting Chief Judge*, *Almond, Baldwin, Lane, Associate Judges*, and *McManus, Chief Judge*, Northern District of Iowa, sitting by designation

Rich, Acting Chief Judge, delivered the opinion of the court.

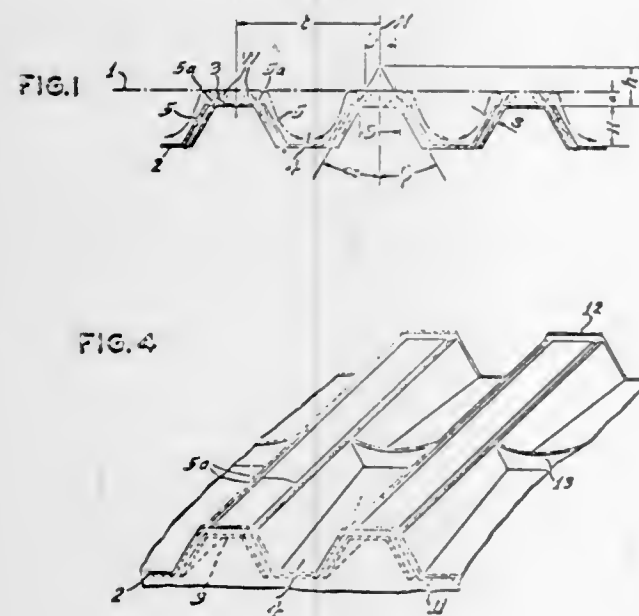
This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 9, 10, and 12-22 of application

Serial No. 411,044, filed November 13, 1964, entitled "Treatment of Material in Web Form."

THE INVENTION

The claimed invention is a jet dryer for treating and drying an aerodynamically transported web of material with a gas or vapor. Appellants' specification states that the expression "aerodynamically transported" is used to indicate that the web of material is supported in the treatment zone solely by means of jets of the gas or vapor, that is, without mechanical aid. FIGS. 1 and 4 from the application drawing are illustrative:

Appellants' Drawings



FIGS. 1 and 4 are, respectively, a sectional view in elevation and a perspective view of a number of nozzle assemblies. The trough-shaped units 2 are disposed opposite a web of material at 1 in a manner such that the open and closed ends face the web alternately and such that the sides of adjacent units form pairs of slit-shaped nozzles 5 inclined toward each other. Units 4 which have their open ends facing the web also serve as exhaust channels. Ordinarily, a second series of nozzle assemblies is positioned above and opposite the one shown so as to maintain the web in equilibrium between the two.

The one feature which appellants have emphasized, almost to the exclusion of all others, is the wall or baffle 3 which extends between and is of the same height as the nozzle orifices 5a. According to appellants, when jets of a vapor or gaseous medium under pressure issue from the nozzles 5, supporting eddies W are formed which prevent contact between the web 1 and walls 3.

Insofar as the issues before us are concerned, we consider claim 9, the only independent claim, to be representative of all the appealed claims:

9. An apparatus for treating an aerodynamically transported web of material which comprises a chamber having a plurality of jet nozzles therein for impinging a fluid selected from the group consisting of a gas and a vapor upon a web traveling through the chamber, the nozzles having slit-shaped orifices and being mounted in pairs of spaced single nozzles, the nozzles of each pair being inclined toward each other and having a barrier comprising at least one rigid wall extending between the orifices thereof and being of the same height, and exhaust channels in the chamber in proximity to the pairs of nozzles.

THE REJECTION

The references relied on are:

Dungler, 2,590,849, Apr. 1, 1952.

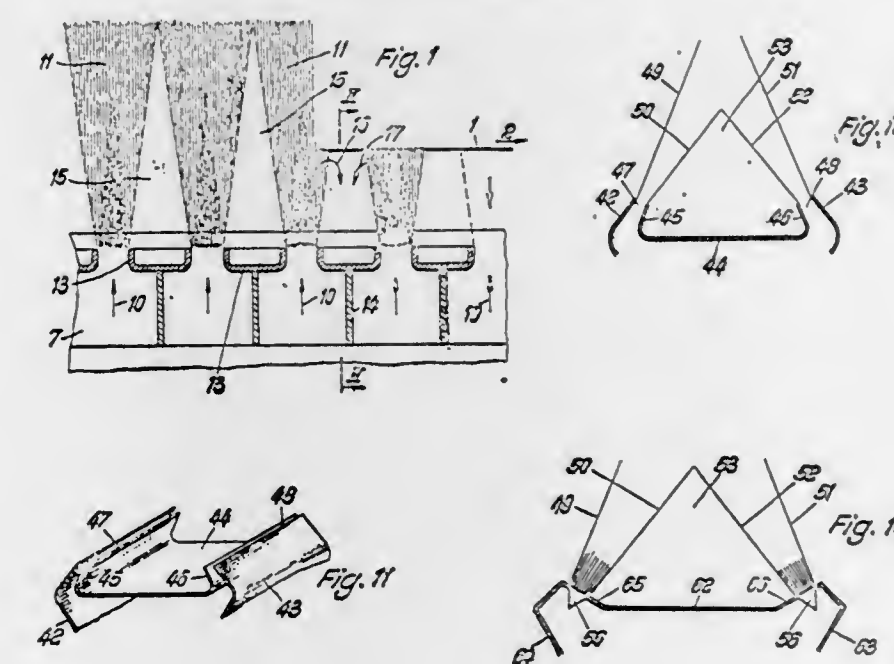
Vits, 3,181,250, May 4, 1965 (filed Sept. 21, 1961).

German patent, 1,145,572, Mar. 21, 1963.

There are three rejections under 35, U.S.C. 103: claims 9, 10, 12-15, 18-20, and 22 are rejected on Vits; claims 17 and 18 on Vits in view of the German patent; and claim 21 on Vits in view of Dungler.¹

Vits, like appellants, discloses an apparatus for drying, surface refinement and similar treatment of an elongated web of flexible material by directing jets of a gas or vapor against the opposite faces of the web such that the web is maintained in a position between the nozzles without touching them. FIGS. 1, 10, 11, and 16 have been emphasized by the parties:

Vits' Drawings



As shown in FIGS. 10, 11, and 16, the nozzles may be formed with slit-shaped orifices 47, 48 mounted in pairs and inclined toward each other. Describing the operation of this apparatus, Vits states (our emphasis):

[T]he material is exposed to the influence of blower jets arranged at least in rows transverse to the direction of feed and having edge flows directed toward each other, said edge flows confining spaces tapered in the direction toward the web, in which a static excess pressure is generated and web-carrying air cushions are formed.

* * * the space confined by the blower jets in such a way as to form hollow jets is primarily filled with treating medium entirely at rest. It is thus capable of taking up the edge flow deflected at the web whereby a static excess pressure relative to the adjacent flows is formed. Media such as air being under static excess pressure within a confined space will cause the formation of some sort of cushion. By arranging several hollow jets in rows in a direction transverse to the direction of web feed, an equal number of air cushions is formed so that it merely requires a suitable distribution of the cushions relative to the length of the web to achieve an absolutely stable support of the web. * * * A sur-

¹ Claims 17, 18, and 21 read:

17. An apparatus according to claim 9 in which the exhaust channels are centrally divided by means of a baffle extending in a direction parallel to the longitudinal axis of the web.

18. An apparatus according to claim 9 in which the exhaust channels each comprises a trough having a parabolic cross-section and formed of sheet material, the troughs being spaced from each other and each pair of nozzles being defined by the exterior edges of adjacent troughs and by baffle means mounted between the edges.

21. An apparatus according to claim 9 including a plurality of separate nozzle chambers in each of which the distance between the nozzle assemblies and the web is independently variable.

prisingly stable equilibrium is thus generated causing the web to be held in mid-air between the blowing nozzles as if suspended by invisible hands. This state of equilibrium is bound to be brought about because the web enters a sphere of heavier edge flow when approaching the nozzles due to the fact that the distance between the web and the jet-producing devices is reduced, and the deflection of the more powerful edge flow at the web is all the stronger and the static excess pressure in the space confined by the marginal jets becomes all the higher. This excess pressure immediately results in a widening of the distance between the web and the nozzle so that the stable support of the web in a center position between the hollow jets is a necessary consequence of the measures described

* * * *

* * * It is necessary to provide for a progressive formation of cushions between the hollow jets and the web of material so that the approaching web is elastically pushed back into its center or nominal position. *The resilient buffer* must not only be a little progressive but must be extremely progressive, and it is formed in build-up spaces confined by the web, by blowing jet screens, and by the base in which the jet orifices are located. To enable the build-up pressure to form there, it is necessary that the base surface between the outlet rows have as little connection to escape channels as possible.

The German patent and Dugler also disclose apparatus for drying and treating webs of fabric or fiber. The former was relied on by the Examiner in rejecting claims 17 and 18 (see note 1, supra) "to show that the pressure characteristics of the air adjacent a web may be varied by varying the cross-section of the air nozzles and exhaust channels" while the latter was relied on in rejecting claim 21 (see note 1, supra) "to illustrate the use of a plurality of nozzle chambers which are independently movable with respect to the web."

Referring to the German patent and Dugler, the Board stated:

[W]e need not consider these subsidiary references since the features for which they have been cited are conceded as being made obvious by lack of argument to the contrary.

Here, appellants do not dispute the accuracy of this statement beyond stating that their brief before the Board contained the general conclusion that the "combination of the subsidiary references with the Vits patent was improper." [1] Since appellants have not seen fit to include in the record before this court any of the amendments or briefs filed below (so that we might judge for ourselves), we must assume that below appellants had tacitly conceded the relevancy of the secondary references. To permit appellants now to criticize these references, would only encourage less-than-full development of issues when an application is still at the examination stage. As was stated in *In re Soli*, 50 CCPA 1288, 317 F.2d 941, 137 USPQ 797 (1963), "issues should be crystalized before appeal to this court." Accordingly, we will not give separate consideration to the secondary references or the rejections of claims 17, 18, and 21.

Regarding the rejection of claim 9 over Vits alone, appellants point out that in their nozzle structure, the baffle 3 (FIGS. 1 and 4) extends between and is of the same height as the orifices 5a, whereas in the Vits drawings, baffles 44 (FIGS. 10 and 11) and 62 (FIG. 16) are shown as being recessed below the level of the orifices. This difference, appellants say, yields new and unobvious results not obtainable by the Vits structure and renders the claimed structure patentable. Appellants also argue, apparently for the first time, that Vits does not disclose the use of exhaust channels.

With respect to the alleged differences in results, appellants submitted evidence as to the pressure gradient which occurs as a web of material is moved toward the orifices of one embodiment of appellants' nozzle structure. Appellants compare this gradient with that

reported in Vits. The former shows a very high increase in pressure when the nozzle-to-web distance is decreased in the range of 0 to 20 millimeters. There is a pressure minimum at a distance of 15 to 30 millimeters and as the distance is increased above 30 millimeters the pressure increases and then falls abruptly. Vits, on the other hand, reports a pressure gradient which steadily increases as the web approaches the nozzle.

The Examiner observed that the confined spaces formed between the jets of air, the web, and the wall between the nozzles are very similar in appellants' and Vits' apparatus, the only apparent difference being that in the latter the space is somewhat larger. The Examiner also noted that Vits discloses the formation of air cushions and in FIG. 1 illustrates eddy currents 16 and 17 formed within the space 15 between the web and the wall 13. The evidence submitted by appellant, the Examiner said, "does not show any * * * results which are not present or obviously obtainable in the Vits system."

Agreeing with the Examiner, the Board said:

As appellants point out the form of FIGURES 10 and 11 is probably the best considered relative to the sole difference argued. These two figures show an embodiment in which the air jets extend across the lateral dimension of the web. The disclosure of this patent as is unchallenged is that many such devices are utilized in series for supporting the web, there being a series both above and below the web to float the web in between.

It will further be seen that the wall 44 is at a plane lower than the discharge plane of the discharge nozzles 47, 48. *This is the sole difference argued anywhere in [the] brief or reply brief.*

In connection with this difference appellants call attention to the exhibits * * * we find these exhibits to be unpersuasive that this sole difference warrants the issue of a patent. The basis urged is that it yields unobvious results. However, the exhibits are not persuasive of this conclusion. To be persuasive it should be shown that *two forms of apparatus, otherwise identical, involving this single difference, the one involving such difference yields advantageous utilities not yielded by the other.* There is no such showing [Emphasis ours.]

OPINION

On the basis of the record before us, we must conclude that appellants' nozzle structure would have been obvious to one of ordinary skill in the art. We do not find convincing appellants' argument that Vits does not disclose exhaust channels. Admittedly, Vits does not use the expression "exhaust channels." However, Vits does refer to "escape channels," "flowoff between rows of nozzles extending in parallel," and of "a staggered or zigzag arrangement [of nozzles] whereby wedge-shaped intermediate spaces for flow-off are formed." Although none of the figures from Vits reproduced above does so, other figures therein show spaces between rows of nozzle heads clearly intended to serve in the same manner as appellants' exhaust channels.

The only arguable difference between the structure recited in appellants' claim 9 and that disclosed by Vits is the positioning of the baffle. In this regard we note that while Vits' FIGS. 10, 11, 16 illustrate nozzle structures in which the baffles are below the level of the nozzle orifices, there is nothing in the text of Vits' disclosure to indicate that this positioning is essential or even to be preferred. We also note that appellants do not contend that no eddies would be produced by the Vits structure; rather, they contend that the structure "does not create the dynamic supporting eddies and air cushions to the desired degree" (emphasis added). Appellants' exhibits do not persuade us that the positioning of the baffle level below the nozzle orifices produces unobvious results or even results different from those obtainable

with the Vits apparatus. It is apparent from appellants' exhibits that the *appearance* of a plot of pressure exerted on a web versus the web-to-nozzle distance will be greatly influenced by the maximum web-to-nozzle distance at which a measurement is taken and by the pressure at which the gas jets are maintained. Since the plots shown in Vits' drawings give no idea of the magnitude of these variables, they cannot be compared meaningfully with those in appellants' exhibits. We therefore agree with the Board that appellants, if they hoped to sustain their position, should have compared two forms of apparatus differing only in the positioning of the baffle with respect to the nozzle orifices.

[2] The decision of the Board is affirmed.
AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE ELLEN L. MOCHEL

No. 8291. Decided April 16, 1970

[57 CCPA —; 424 F.2d 620; 165 USPQ 319]

1. PATENTABILITY—OBVIOUSNESS—ALUMINA CONTAINING GLASS.

"We agree with the Board that the prior art references, considered as a whole, suggest the claimed invention so as to render it obvious to one of ordinary skill in the art. Admittedly, the references do not treat glass containing at least 10 percent alumina; however, they do not suggest that such cannot be done and at least the reasonable inference to one of ordinary skill would be to apply this irrespective of the alumina level."

2. SAME—EVIDENCE—COMPARATIVE TESTS.

"We are not persuaded by appellant's contention that a relatively high [at least 10%] alumina content results in a synergistic effect upon abraded strength that is wholly unexpected and unpredictable, for several reasons. While superior results were shown for the single comparison made, the record is devoid of clear and convincing evidence that such results were unexpected by the art. Hood obtained superior results due to the presence of high percentages of alumina. Moreover, the single comparison is with a soda-lime glass containing one percent alumina, yet the references disclose similar treatment of glasses containing up to 5.8% alumina, a level which very likely would affect the strength and produce results different from that of the one percent alumina glass compared. This court has often said that obviousness does not require absolute predictability."

3. SAME—PARTICULAR SUBJECT MATTER—"METHOD OF GLASS TREATMENT AND PRODUCT."

The refusal of certain claims in an application entitled "Method of Glass Treatment and Product," as unpatentable over the prior art, is affirmed.

APPEAL from Patent Office. Serial No. 537,734.

AFFIRMED.

Clinton S. Janes, Jr., for appellant.

Joseph Schimmel (Leroy B. Randall and Raymond E. Martin, of counsel) for the Commissioner of Patents.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and ROSENSTEIN, Judge, United States Customs Court, sitting by designation

ALMOND, J., delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the Examiner's rejection of claim 1-7 in appellant's application entitled "Method of Glass Treatment and Product."¹ No claims have been allowed.

¹ Serial No. 537,734, filed March 28, 1966, as a divisional application of Serial No. 181,857, filed March 23, 1962.

The invention relates to the strengthening of sodium aluminosilicate (predominantly $\text{Na}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$) glasses which contain at least ten percent alumina (Al_2O_3) by treatment with a source of hydrogen ions in a sulfur oxide environment at a temperature above the strain point, but below the deformation point, of the glass. This results in a glass surface having a higher viscosity and lower coefficient of thermal expansion than that of the parent glass comprising the interior portion of the article so that upon cooling the surface contracts less than the inner portion of the glass thereby creating a surface layer of compressive stresses within the article.

Acknowledging that the above has been known to the glass art as a treatment for soda lime glass (predominantly $\text{Na}_2\text{O}-\text{CaO}-\text{SiO}_2$), appellant states that the crux of her invention is the discovery that sodium silicate glasses having a relatively high alumina (Al_2O_3) content exhibit as much as a three or four-fold improvement in "abraded strength," i.e. strength displayed after surface abrasion.

Illustrative are claims 1 and 5:

1. A method for strengthening a soda aluminosilicate glass article which comprises forming a glass article from a soda aluminosilicate glass composition consisting essentially, by weight on the oxide basis, of about 10-25% Na_2O , 10-25% Al_2O_3 , the total of said Na_2O and Al_2O_3 together with SiO_2 constituting at least 80% by weight of the glass composition, contacting said glass article at a temperature between the strain and deformation points of the glass with a source of hydrogen ions in a sulfur oxide environment to remove sodium ions from the glass surface in exchange for hydrogen ions and thereby produce a surface layer of compressive stress on the glass article, and then cooling the article to room temperature.

5. A glass article exhibiting high strength after being subjected to surface abrasion, said article comprising a soda aluminosilicate glass containing, by weight on the oxide basis, about 10-25% Na_2O , 10-25% Al_2O_3 , the total of the Na_2O and Al_2O_3 together with SiO_2 constituting at least 80% by weight of the glass composition and having a surface compressive stress layer created by ion exchange replacement of sodium ions by hydrogen ions, whereby the concentration of said hydrogen ions is greater in said surface layer than in the interior of the article and the concentration of said sodium ions is greater in the interior than in said surface layer.

Claims 2-4 depend from claim 1, claim 2 being drawn to the use of an atmosphere of moisture and a catalyzed mixture of sulfur dioxide and hydrogen, while claim 3 states the depth of the surface layer of compressive stress being produced to be at least five microns, and claim 3 recites the soda and alumina content of the starting glass as being 15-16 percent and 16-22 percent by weight, respectively. Claims 6 and 7 depend from claim 5 and recite in product terms the limitations of claims 3 and 4.

The references relied upon are:

Weyl et al., 2,455,719, Dec. 7, 1948.

Hood et al., 2,779,136, Jan. 29, 1957.

LeClerc et al., 3,116,991, Jan. 7, 1964.

Douglas and Isard, "Transactions of the Society of Glass Technology," vol. 33, pages 289-335 (1949).

Weyl discloses dealkalinization of the surface of soda lime glass containing some alumina to improve properties of chemical resistivity and strength by coating the surface with metakaolin and heating the glass. Alkali ions migrate from the glass surface while hydrogen ions in the clay replace them. The process is described as being carried out below the strain point to avoid surface deformation, the patentee

stating, however, that when surface condition is of secondary importance, temperatures above the strain point may be used.

Hood discloses a method of strengthening glass wherein lithium ions from an external source are exchanged with sodium and/or potassium ions present within the surface of the glass at temperatures between the strain and softening points of the glass. Surprisingly high tensile strengths are allegedly attained in silicate glasses containing 7.5% to 25% alumina (Al_2O_3) due to formation of beta-spodumene; however, TiO_2 is also necessary to prevent spalling. An example showing an increase of 330% in abraded tensile strength is given.

LeClerc discloses the dealcalization of glass by bringing the glass into contact with hot sulfuric acid or hot acid sulphate and causing the hydrogen ions thereof to be exchanged with the alkaline ions of the glass. An example using a glass containing 5.80% alumina (Al_2O_3) is given. The patent states also that the glass obtained can be subjected to heat treatment to improve its mechanical properties.

Douglas describes the treatment of soda glass containing 2.6 percent alumina (Al_2O_3) in a sulfur dioxide atmosphere containing hydrogen ions resulting in alkali-hydrogen ion exchange. Sulfur dioxide treatment above 500° is discussed as improving the mechanical strength of glass.

The Examiner rejected product claims 5-7 as failing to comply with 35 U.S.C. 112 in that they did not particularly point out the subject matter of the invention. Specifically, he felt that the term "created by ion exchange replacement" was a method recitation which rendered the claims vague and indefinite. The Board agreed with the Examiner's position and added that since the process limitations in product claims 5-7 omitted the essential detail of temperature range, the claims were indefinite.

The Examiner also rejected claims 1-7 as unpatentable over Hood and Weyl "considered with" LeClerc and, two references not discussed here, Kamita or Murgatroyd under 35 U.S.C. 103. Of these references, the Board considered LeClerc and Weyl most pertinent. Adding thereto the Douglas reference cited in appellant's specification, the Board affirmed the Examiner's rejection, stating:

The replacement of sodium ions in glass by hydrogen ions is described in LeClerc et al. for a glass containing 5.80% Al_2O_3 , * * *, and in Weyl et al. above the strain point for glasses containing sufficient Al_2O_3 to increase the melting and firing temperatures * * *. The reference acknowledged on page 4 of appellant's specification, Douglas et al., * * * shows that the surface of a soda glass containing 2.6% Al_2O_3 will have its sodium ions replaced by hydrogen ions when exposed to an atmosphere of wet SO_2 at temperatures up to 1000° C. With this state of the art before him, a worker of ordinary skill in the glass art would, in our opinion, find it obvious to use the acid leaching expedient of LeClerc et al. and Douglas et al. in lieu of the metakaolin leaching agent of Weyl et al. The leaching process thus derived would be expected to be satisfactory for soda glasses containing 10% Al_2O_3 , because each of the three above described references contemplates the presence of Al_2O_3 in the glass.

No request for reconsideration was made.

Appellant contends that the Board committed error in rejecting claims 1-7, particularly in holding that the ion exchange of hydrogen ions for sodium ions in a sulfur oxide-containing atmosphere "would be expected to be satisfactory for soda glasses containing 10% Al_2O_3 , because each of the three above-described references contemplates the presence of Al_2O_3 in the glass." This reasoning, appellant alleges, overlooks the crux of the invention, namely, the discovery of the synergistic effect upon the development of greatly increased abraded

strength which Al_2O_3 plays. The essence of appellant's argument is stated in her brief:

Even conceding that $\text{Na}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$ glasses containing 10-25% Al_2O_3 were known in the art and hydrogen ion exchange in a sulfur oxide-containing atmosphere with commercial soda lime glass was also known in the art, it is earnestly contended that this knowledge would not render obvious the synergistic effect which 10-25% Al_2O_3 has upon the abraded strength that can be developed through ion exchange. Certainly none of the three references alone or in combination with each other even hints at this property of Al_2O_3 and it is firmly believed that no inference can be fairly drawn from the references which would suggest this faculty of 10-25% Al_2O_3 . The effect of Al_2O_3 on abraded strength invokes a situation that can be likened to $2+2=5$.

For factual support for her argument, appellant points to an example in her specification wherein a commercial soda-lime glass containing one percent alumina and two sodium aluminosilicate glasses containing 18 percent alumina are subjected to essentially the same ion exchange treatment, abraded and then subjected to modulus of rupture tests. The table accompanying the example shows a significant increase in strength for the high alumina glasses compared to the soda lime glass.

The Solicitor responds by contending that improved strength, after abrasion, has no effect on whether the process use to produce this product is unobvious. In his opinion, the lower limit of alumina (10 percent) in the claims is an arbitrary one since the specification indicates only that the rate of reaction of the process is affected by the alumina content. Moreover, it is pointed out, the specification characterized an alkali aluminosilicate glass as one containing at least five percent alumina. With regard to the product claims, the Solicitor argues that the comparison shown in appellant's example is inadequate since it compares a soda lime glass containing one percent alumina whereas the references disclose the use of glasses containing 2.6% and 5.80% alumina. It is alleged that the specification indicates that five percent alumina was satisfactory for appellant's purpose and that percentages lower than 10% are operative.

At oral argument, the Solicitor referred to Hood and the Examiner's reliance thereon in support of the view that Al_2O_3 possesses the ability to hold exchanged ions, thus negating reliance upon that feature for patentability. The reference suggests, the Solicitor contends, that substantially improved abraded strength is obtained when using a relatively high alumina (Al_2O_3) content glass.

[1] We agree with the Board that the prior art references, considered as a whole, suggest the claimed invention so as to render it obvious to one of ordinary skill in the art. Admittedly, the references do not treat glass containing at least 10 percent alumina; however, they do not suggest that such cannot be done and at least the reasonable inference to one of ordinary skill would be to apply this irrespective of the alumina level.

[2] We are not persuaded by appellant's contention that a relatively high alumina content results in a synergistic effect upon abraded strength that is wholly unexpected and unpredictable, for several reasons. While superior results were shown for the single comparison made, the record is devoid of clear and convincing evidence that such results were unexpected by the art. Hood obtained superior results due to the presence of high percentages of alumina. Moreover, the single comparison is with a soda-lime glass containing one percent alumina, yet the references disclose similar treatment of glasses containing up to 5.8% alumina, a level which very likely would affect

the strength and produce results different from that of the one percent alumina glass compared. This court has often said that obviousness does not require absolute predictability. *In re Miegel*, 56 CCPA 761, 404 F.2d 378, 159 USPQ 716 (1968); *In re Sebek*, 52 CCPA 1442, 347 F.2d 632, 146 USPQ 44 (1965); *In re Moreton*, 48 CCPA 928, 288 F.2d 940, 129 USPQ 288 (1961).

[3] We are unable to find, based on the facts of record, that the Board erred in sustaining the Examiner's rejection of claims 1-7 based on prior art and, accordingly, the Board's decision is affirmed. The view we have taken renders it unnecessary to consider the additional rejection of claims 5-7 under 35 U.S.C. 112.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

MANIFATTURE LANE PETTINATE ANGELO BORCHI S.p.A.

v. PATONS & BALDWIN, LIMITED

No. 8288. Decided April 30, 1970

[57 CCPA —; 425 F.2d 1271; 165 USPQ 427]

1. TRADEMARK — CONFUSING SIMILARITY — COMPOSITE MARKS WITH LETTERS "B·B·B" AND "BB" FOR YARNS.

In reviewing a decision by the Trademark Trial and Appeal Board that there was a likelihood of confusion between appellee-opposer's composite mark with letters "BB" and appellant's composite mark with letters "B·B·B," both marks being for yarns, *Held* that "• • • we are not persuaded of reversible error in the decision of the Board and it is affirmed."

APPEAL from Trademark Trial and Appeal Board. Opposition No. 45,529.

AFFIRMED.

Michael S. Striker, for appellant.

Russell E. Law (Burgess, Ryan & Hicks), for appellee.

Before WORLEY, Chief Judge, RICH, BALDWIN, LANE, Associate Judges, and RICHARDSON, Judge, United States Customs Court, sitting by designation

RICH, J., delivered the opinion of the court.

This appeal by Manifatture Lane Pettinate Angelo Borghi S.p.A., an Italian corporation, is from the decision of the Patent Office Trademark Trial and Appeal Board, abstracted at 155 USPQ 759, sustaining the opposition filed by Patons & Baldwins, Limited, a British corporation.

The record discloses that appellant filed an application¹ to register for "woolen yarns" the following mark:



¹ Serial No. 210,143, filed Jan. 18, 1965, based on Italian Reg. No. 105,829, of Feb. 1, 1952.

Appellee-opposer is the owner of a registration² which describes the mark as consisting of "the representation of a bee hive with the letters 'BB' and the representation of two bees thereon," and as being for "yarns." The drawing is here reproduced:



The registration states:

Above the bee hive are the letters, character, and words "J. & J. Baldwin, Bee Hive, Trade Mark" and at the foot the words "Registered, Halifax" but these words, character, and letters do not form part of our trade-mark and may be omitted.

The record supports the findings of the Board that appellee's yarns have been sold in the United States during the past eleven years under a mark substantially as disclosed above with the J. & J. Baldwin feature omitted; that during the past six years approximately \$920,000 worth of appellee's goods so marked were sold in this country; that priority of use resides with appellee; that the goods of the parties constitute like goods and the only question is whether appellant-applicant's mark so resembles that of opposer-appellee as to be likely to cause confusion.

In sustaining the opposition, the Board stated:

Applicant's mark is composed of three essential features, namely, the stylized figure of a woman who is sitting in an armchair and is knitting, a giant ball of wool, and the three B's.

Opposer's mark as actually covered by the registration comprises the letters "BB" superimposed upon a bee hive encompassed by flowers and foliage.

The letters "BB" in opposer's mark comprise an essential and distinguishing feature thereof.

To order or call for applicant's goods orally, one would necessarily rely upon the letters "B·B·B." Furthermore the letters forming part of applicant's mark comprise the only literal portion thereof. The letters "B·B·B" are clearly an essential and distinguishing feature of applicant's mark.

Since the goods of the parties are like goods [yarns] and since the essential and distinguishing features of the respective marks are so nearly alike, it is our opinion that applicant's mark, in its entirety, so resembles the mark of opposer as to be likely to cause confusion or mistake. This opinion is not without doubt but the doubt must be resolved in favor of the prior user.

[1] Upon consideration of the record and briefs and arguments of counsel, we are not persuaded of reversible error in the decision of the Board and it is affirmed.

AFFIRMED.

² No. 25,669, issued December 18, 1894, to a predecessor and renewed to opposer in 1964.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,674,229, N. T. Karlen, SPEED LIMITING GOVERNOR FOR FLUID DRIVEN ROTARY DEVICES; 2,925,089, Conklin, Rockwood, Smelker and Linsker, PNEUMATIC TOOL, filed Aug. 17, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c2027, Rockwell Manufacturing Company v. Chicago Pneumatic Tool Company.

2,739,146, Wegele and Huss, DIAZO-DYESTUFFS INSOLUBLE IN WATER, filed Apr. 24, 1970, D.C.N.J. (Newark), Doc. 494-70, American Hoechst Corporation and Farbwerke Hoechst Aktiengesellschaft v. Indol Chemical Company. Consent judgment for permanent injunction declaring patent valid, Aug. 31, 1970.

2,923,242, H. P. Klair, FUZE FOR ARTILLERY SHELL, filed Jan. 26, 1967, Ct. of Cls., Washington, D.C., Doc. 24-67, Ronald H. Klair, as executor of the estate of Howard P. Klair v. The United States. Order and stipulation, entry of judgment agreed, Aug. 21, 1970.

2,925,089. (See 2,674,229.)

3,362,627, H. Papst, VENTILATOR, filed Aug. 18, 1970, D.C., S.D.N.Y., Doc. 70-3569, Papst Motoren KG v. Rotron Incorporated.

3,363,999, J. H. Gary, HYDROCARBON FUEL ADDITIVE, filed July 2, 1970, D.C. Colo. (Denver), Doc. C-2403, Fuels Research Corporation et al. v. Husky Oil Company of Delaware et al.

3,423,825, Frost and Maguire, CAN OPENER, filed June 12, 1970, D.C., E.D. Mo. (St. Louis), Doc. 70C290(1), Rival Manufacturing Company v. Swing-A-Way Manufacturing Company.

3,437,929, D. A. Glenn, AUTOMATICALLY INDEXED PROBE ASSEMBLY FOR TESTING SEMICONDUCTOR WAFERS AND THE LIKE, filed Aug. 17, 1970, D.C., N.D. Calif. (San Francisco), Doc. C-70-1750WTS, Electroglas, Inc. v. Pacific Western Systems, Inc.

3,469,405, R. H. Reinhold, MINE WATER BARRIER, filed Aug. 14, 1970, D.C., W.D. Pa. (Pittsburgh), Doc. 70-972, Layne-New York Company, Inc. v. Allied Asphalt Company, Inc. Same, filed Aug. 14, 1970, D.C., W.D. Pa. (Pittsburgh), Doc. 70-973, Layne-New York Company, Inc. v. B. H. Mott & Sons, Inc.

3,483,716, G. Stenzler, PERSONAL ORNAMENT WITH MOUNTING AND INDEXING MEANS FOR CENTERING VARIED NUMBERS OF JEWEL SETTINGS, filed Aug. 11, 1970, D.C., S.D.N.Y., Doc. 70-C-3444, Transamerica Overseas Ltd. v. Zale Corporation.

3,484,289, A. Wasserman, METHOD OF PROCESSING METALS FOR USE IN ALLOYING FURNACES, filed Aug. 20, 1970, D.C., E.D. Mich. (Detroit), Doc. 35262, Alvin Wasserman, Allied Iron Co., and American Processing Co. v. Samuel G. Keywell Co., Inc.

3,485,306, J. M. Gulley, SELF-GUIDING TOOLING SYSTEMS, filed Aug. 19, 1970, D.C., N.D. Ohio (Cleveland), Doc.

C70-S06, Helen Gulley, executrix of the estate of John M. Gulley, deceased v. Air Products & Chemicals, Inc., Arcair, and Independent Welding and Fabricating Co.

3,494,744, G. Zborowski, METHOD FOR DETERMINATION OF PROTEIN-BOUND IODINATED COMPONENTS, filed Apr. 24, 1970, D.C., N.D. Calif. (San Francisco), Doc. C70-S720JC, Bio-Rad Laboratories v. Oxford Laboratories.

3,496,812, White and Meyer, PLASTIC CUTTING DEVICE AND METHOD, filed Aug. 26, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c2125, White-Meyer Wood Products, Inc. v. J.K.O. Cutters Ltd. et al.

3,499,127, Cherry and Long, THUMBWHEEL TYPE SWITCH, filed Aug. 1, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-1346-AAH (amended complaint), Cherry Electrical Products Corporation v. Becton, Dickinson Electronics Co. (substituted defendant).

3,499,481, W. C. Avrea, PRESSURIZED LIQUID COOLING SYSTEM, filed Aug. 3, 1970, D.C. Ariz. (Phoenix), Doc. C-70-455, Saf-Gard Products, Inc. v. Service Parts, Inc. et al.

3,506,682, S. E. Newfield, APPARATUS FOR WEATHERING COATED TEST PANELS, filed Aug. 12, 1970, D.C. N. Mex. (Albuquerque), Doc. 8632, The Q-Panel Company v. Stephen E. Newfield.

3,508,708, Caparone and Dykzeul, PRESSURE REGULATOR CONSTRUCTION, filed Aug. 18, 1970 D.C., C.D. Calif. (Los Angeles), Doc. 70-1834-IH, Robertshaw Controls Co. v. Brannen Pipe & Supply, A. O. Smith Corp., and Emerson Electric Co.

Re. 24,017, J. A. Henricks, METHOD OF COATING AND DRAWING METAL AND COMPOSITION THEREFOR, filed Jan. 28, 1970, D.C. Del (Wilmington), Doc. 3841, Dever Corporation et al. v. Chrysler Corp. Stipulated order of dismissal with prejudice, July 30, 1970.

Re. 25,360, E. G. Rice, COMBINATION STOCKINGS AND PANTY, filed Dec. 16, 1969, D.C., M.D.N.C. (Greensboro), Doc. C-25S-G-69, Tights, Inc. v. Acme-McCrory Corp. Same, filed Aug. 20, 1970, D.C., M.D.N.C. (Greensboro), Doc. C-179-G-70, Tights, Inc. v. Kayser-Roth Corp.

D. 184,739, E. L. Kanter, TOOTHBRUSH AND TOOTH-PASTE HOLDER, filed July 28, 1970, D.C., E.D. Va. (Norfolk), Doc. 542-70-N, Eugene L. Kanter v. Colgate-Palmolive Company.

D. 213,843, M. K. Summers, CLOCK FACE, filed Aug. 7, 1970, D.C.R.I. (Providence), Doc. 4377, Marion K. Summers and Marion Kay Company, Inc. v. Bevis Industries, Inc. Same, filed Aug. 31, 1970, D.C. Kans. (Wichita), Doc. W-4430, Marion K. Summers and Marion Kay Company, Inc. v. James V. Laubach.

D. 217,331, R. F. Bernhard, BOTTLE, filed Aug. 20, 1970, D.C., N.D. Calif. (San Francisco), Doc. C-70-1779-LHB, Pioneer Soap Company, Inc. v. Key Markets, Inc.

PLANT PATENTS

GRANTED NOVEMBER 10, 1970

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,996

PEACH TREE

Grant Merrill, 416 N. Anderson Road,
Exeter, Calif. 93221

Filed Jan. 21, 1969, Ser. No. 792,875

Int. Cl. A01h 5/03

U.S. Cl. Plt.—43

1 Claim

1. A new and distinct variety of peach substantially as illustrated and described, which is characterized by a regular bearing tree of good vigor, and very early ripening fruit having high color, large size for its season, round shape and few split pits; and which most closely resembles Bonjour (U.S. Plant Pat. No. 2,694) but is distinguished therefrom primarily by the characteristic of bearing fruit two to five days earlier which is more round in shape.

2,997

ROSE PLANT

William A. Warriner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Dec. 9, 1968, Ser. No. 782,493

Int. Cl. A01h 5/00

U.S. Cl. Plt.—15

1 Claim

1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous and upright habit of growth, long, strong and upright flower stems, exceptionally large flowers, and a distinctive and attractive pale orange-yellow color effect of the flowers.

2,998

ROSE PLANT

Eugene S. Boerner, deceased, late of Benton, N.Y., by Lincoln Rochester Trust Company, Geneva, N.Y., and Roger L. Boerner, executors, Milwaukee, Wis., assignors to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Nov. 25, 1968, Ser. No. 779,287

Int. Cl. A01h 5/00

U.S. Cl. Plt.—14

1 Claim

1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a large plant size, exceptionally large and leathery leaves which are very resistant to mildew and blackspot, continuous flower production throughout the year when grown in the greenhouse, a classical, spiral opening flower form, with the flowers being borne on long and unusually thick stems, a distinctive and attractive white flower color, with the flowers being larger than those of any other white-flowered variety grown in the same environment, and very long keeping qualities of the flowers.

2,999

ROSE PLANT

Reimer Kordes, Barmstedt, near Elmshorn, Germany, assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Feb. 19, 1969, Ser. No. 800,780

Int. Cl. A01h 5/00

U.S. Cl. Plt.—16

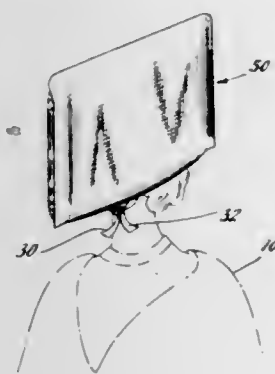
1 Claim

1. A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of an upright plant habit, a habit of bearing the flowers on long and strong stems, distinctively well-formed flowers of good substance, said flowers being high-centered in the early stages, while being of imbricated form when fully open, and a distinctive, attractive and uniform orange flower color.

PATENTS

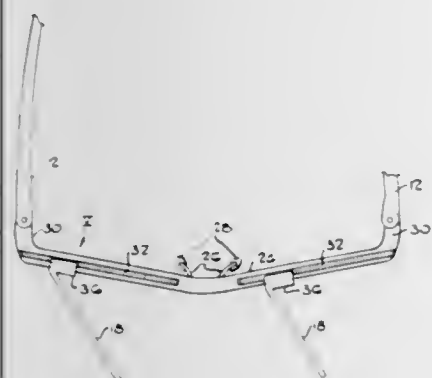
GRANTED NOVEMBER 10, 1970
GENERAL AND MECHANICAL

3,538,508
COMBINATION PILLOW AND CRASH HELMET
Samuel Young, % Fairfield Wool Co. Inc., Taylor St.,
Danbury, Conn. 06810
Filed Aug. 8, 1968, Ser. No. 751,190
Int. Cl. A42b 1/08
U.S. Cl. 2—3 10 Claims



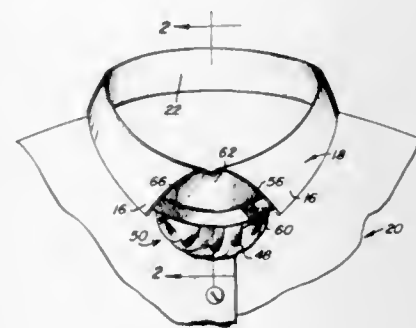
A pillow body is enclosed in a ticking, and a pair of tie strings are each attached at one end thereof to the ticking at opposite ends of the pillow body. The pillow body is folded in half along a transverse medial line, and the confronting side edges of the ticking are sewn together so as to form a pouch open on only one side. A pillowcase with a zipper closure surrounds the pouch. The device thus formed is useful as a courtesy pillow for the comfort of airline passengers, and doubles as a crash helmet which may be put over the head of the passenger when he is forewarned of an impending crash landing.

3,538,509
GLARE ELIMINATING DEVICE
Konrad Sachse, 105 Derley Park, Enstra Springs,
Transvaal, Republic of South Africa
Filed Dec. 10, 1968, Ser. No. 782,678
Claims priority, application Republic of South Africa,
Dec. 12, 1967, 67/7,475
Int. Cl. A61f 9/00
U.S. Cl. 2—12 4 Claims



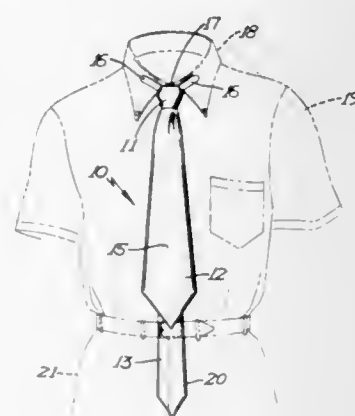
The invention is of an antiglare eyeshield for motorists comprising a spectacle device having translucent panels extending obliquely forwardly and parallel with one another with the bottom edges not lower than the centres of the eyes of the wearer, said panels being laterally adjustable.

3,538,510
NECKPIECE
Charles A. Davis, Sr., Rte. 2, Halfway, Mo. 65663
Filed Apr. 22, 1969, Ser. No. 818,239
Int. Cl. A41d 25/02, 25/08
U.S. Cl. 2—149 9 Claims



A stylishly unique neckpiece for occasional wear by both men and women expressly designed for use when attired for formal, semiformal, sportswear and such occasions as call for a fashionably attired appearance. It comprises a fabric-covered bendably pliant form which spans the gap between the shirt collar ends and conceals the buttoned ends of the neckband and, being ready-made, is attached by a hook-equipped clip. Broadly, the form is covered by decorative ribbons oriented with a depending ornate puff.

3,538,511
NECKTIE
George A. Aro, 2925 18th Ave. N.,
Minneapolis, Minn. 55411
Filed Aug. 15, 1969, Ser. No. 850,415
Int. Cl. A43d 25/02
U.S. Cl. 2—150 1 Claim



A necktie comprises a front portion, and a narrow rear portion, and a knot between the portions. If the necktie is a wrap-around type, the front portion has a retaining band intermediate its ends through which the narrow portion extends. Suitable indicators locate the position of the knot. If the necktie has a preformed knot and is to be clipped to the shirt collar of a user, then the rear portion is secured to the front portion by suitable

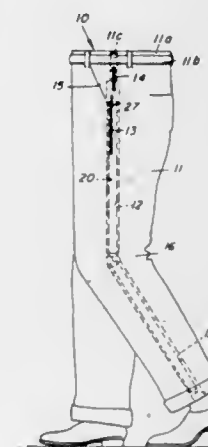
NOVEMBER 10, 1970

GENERAL AND MECHANICAL

363

stitching. The rear portion has a length substantially one-third greater than the length of the front portion to permit the lower end of the rear portion to be inserted beneath the trousers of a user.

3,538,512
TROUSERS ASSOCIATED GROUND ENGAGING IMPROVED SUPPORT FOR SEAT ENGAGEMENT BY WEARER
Robert N. Dolan, 726 W. 16th St.,
New Cumberland, Pa. 17070
Continuation-in-part of application Ser. No. 711,576,
Mar. 8, 1968. This application June 17, 1969,
Ser. No. 834,124
Int. Cl. A41c 1/06; A41d 1/00
U.S. Cl. 2—227 13 Claims



A pair of trousers has a tubular length of cloth sewn to the inside thereof along the outside seam and extending from cuff to waist band. A strap harness having a support seat strap for the seat of the wearer is joined at each of its ends by a loop through which is inserted the respective leg of the wearer. An elongated support member jointed at the knee is inserted in each of the tubes of cloth sewn to the trousers legs and it has a flexible strap at its top that is detachably connected to a fastener on the waist portion of the trousers. To the top of each elongated support member a clip on the end of the seat support strap of the harness is detachably attached to suspend the seat support. The elongated support member has a tubular guide member at its top and to which the flexible strap and the clip are attached. This tubular guide member has an upper tube slidably extending downwardly therefrom and a lower tube pivotally abutting the upper tube at the knee joint. The upper tube has adjacent its top end a control pin extending transversely therefrom and out through an elongated slot in the guide member. Thus, the control pin which is accessible in a vertical slot adjacent the outside seam in the trousers leg can be used to push the upper tube down and up in its guide member and means operated by the upper tube upon downward movement of the same to position a locking pin inside said tubes in the knee joint to provide a rigid support.

3,538,513
CREASE PROOFED CUFFED TROUSERS AND METHOD OF ADJUSTING LENGTH OF SAME
Manlio Hernandez, 1111 Grand Ave.,
Grover City, Calif. 93433
Filed Oct. 16, 1968, Ser. No. 768,067
Int. Cl. A41d 27/10
U.S. Cl. 2—269 4 Claims

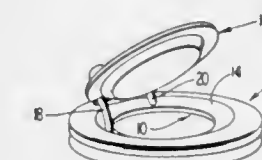
A trouser constructed of a fibrous material treated with a crease-proofing agent has trouser legs with free trouser ends and a pair of cuffs each comprising an inner and an

outer cuff member, first and second ends, a center-fold and a pair of intermediate folds arranged so that the ends of the cuff are disposed adjacent each other. After the length of the trouser legs is adjusted, the cuffs are secured to the free ends thereof by placing the ends of the cuffs interiorly of the trouser leg ends and securing the cuffs thereto. The method for adjusting the length of already cuffed trousers requires that the cuff is severed



from the trouser legs at the lowermost fold positioned between the end of the trouser leg and the cuffs, adjusting, i.e. shortening, the length of the trouser legs, and placing the end of the cuffs that has been severed from the trouser leg adjacent the trouser leg so that cuff material between such cuff end and an upper fold of the cuff adjoins and is parallel to the trouser leg. The other end of the cuff is positioned on the interior of the trouser leg and both cuff ends are secured to the trouser leg.

3,538,514
ARTIFICIAL HEART VALVE
George Schimert, 6963 Old Lake Shore Road, Lakeview,
N.Y. 14085, and Toivo John Bohm, 7550 Salt Road,
Clarence Center, N.Y. 14032
Filed Dec. 23, 1968, Ser. No. 786,086
Int. Cl. A61f 1/22
U.S. Cl. 3—1 5 Claims

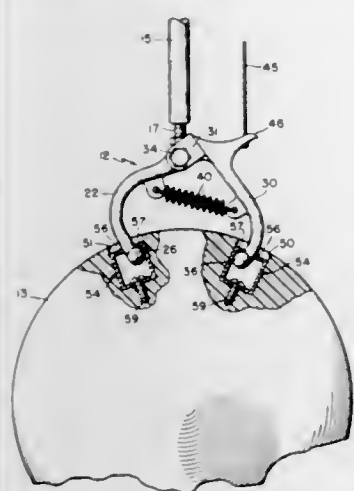


The occluder disc of a prosthetic heart valve is mounted on the valve ring simultaneously to lift away and tilt with respect to the valve ring, giving rise to improved flow characteristics. The occluder has dual, concentric seating portions to form a cushioning chamber as the valve closes, thereby providing quiet operation and minimizing blood damage. Also, the guide posts mounting the occluder intersect such chamber allowing a controlled bleed off avoiding bounce and additionally forcing blood along the bases of the posts continually to cleanse them and avoid the formation of deposits.

3,538,515
ARTIFICIAL HAND FOR BOWLING
Robert L. Brown, R.R. 2, Berne, Ind. 46711
Filed Jan. 26, 1968, Ser. No. 700,775
Int. Cl. A61f 1/06
U.S. Cl. 3—12.8 4 Claims

An artificial hand for bowling has two stationary fingers and an opposed movable thumb. Each of the fingers and thumb has the end provided with a ball tip which fits into a respective hole in a bowling ball. The thumb is urged toward the fingers by a tension spring having sufficient

force to hold a bowling ball. The thumb may be moved away from the fingers by a cable connected between the



thumb and the opposite shoulder of the user to release the ball.

3,538,516 ADJUSTABLE ARTIFICIAL LEG FOR TEMPORARY USE

John G. Bailey, Bristol, George J. Wyers, Coseley, Peter Spear, Wolverhampton, and Anthony W. Gregory, Cod-sall, England, assignors to Rubery, Owen and Company Limited, Darlaston, Wednesbury, Staffordshire, Eng-land, a British company

Filed Oct. 20, 1967, Ser. No. 676,781
Claims priority, application Great Britain, Oct. 20, 1966,
46951/66; Jan. 19, 1967, 2,855/67
Int. Cl. A61f 1/04, 1/08

U.S. Cl. 3—21

5 Claims



An artificial leg for temporary use after an above-knee amputation is formed by a number of co-operating inter-engaged parts incorporating means for relative adjustment between parts of the leg transversely, angularly and rotationally to allow the leg to be adjusted over a period of time to accommodate bodily changes in the wearer and then to be used as a template or pattern for a permanent leg.

3,538,517 PNEUMATIC FLUSHING SYSTEM FOR SELF-CONTAINED SEWAGE SYSTEM

Alan H. Cornish, Kettering, and Ronald E. De Laney, Dayton, Ohio, assignors to Koehler-Dayton, Inc., Day-ton, Ohio, a corporation of Ohio

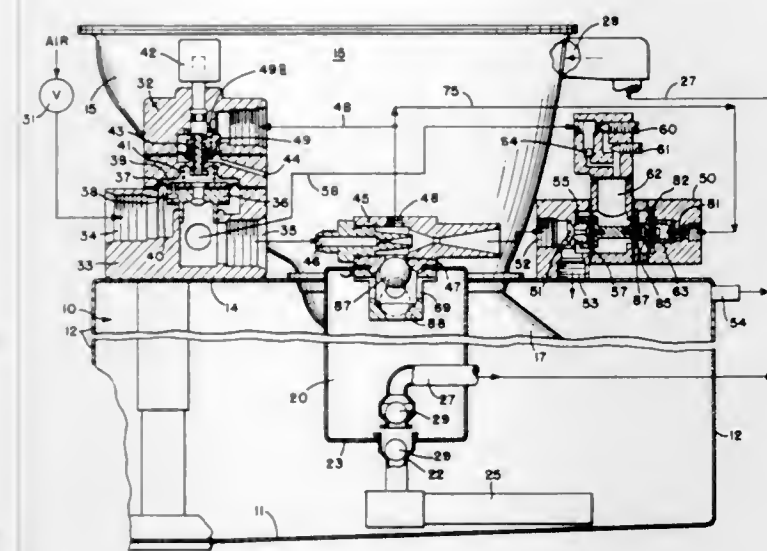
Filed Oct. 7, 1968, Ser. No. 765,566
Int. Cl. E03d 5/16

U.S. Cl. 4—10

5 Claims

A pneumatic flushing system for a self-contained flush-ing toilet system includes a reservoir to hold flushing liquid, a venturi having a vacuum line connected to the

reservoir, an inlet valve to control the flow of air through the venturi, and a flow restricting valve in the downstream side of the venturi. In operation, the inlet valve is opened while the flow restricting valve remains closed, and there-fore a positive pressure will be created to force the liquid within the reservoir into a flushing manifold within a toilet bowl. After a predetermined time delay, sufficient



to empty most of the liquid from the reservoir, the pneu-matic system causes the flow restricting valve on the downstream side of the venturi to open thus creating a subatmospheric pressure within the reservoir to draw liquid through a filter from a main holding tank. Another pneumatic circuit closes the inlet valve after the reservoir fills with filtered liquid.

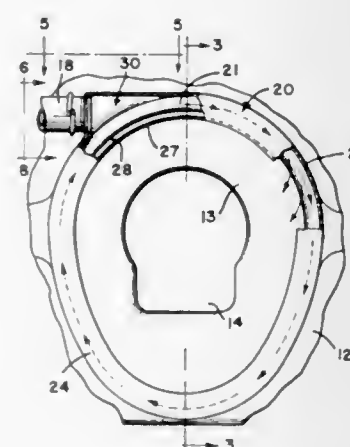
3,538,518 FLUSHING MANIFOLD FOR PORTABLE TOILETS

Robert C. Helke, Dayton, Charles E. VanGilder, Ketter-ing, and Max W. Burgner, Vandalia, Ohio, assignors to Koehler-Dayton, Inc., Dayton, Ohio, a corporation of Ohio

Filed Dec. 9, 1968, Ser. No. 782,062
Int. Cl. E03d 3/100

U.S. Cl. 4—10

7 Claims



In an improved flushing manifold for a toilet, flushing liquid is introduced into the flushing manifold tangentially and flows through a continuous slot surrounding the toilet bowl so that the liquid circulates around and through the manifold and flows downwardly and around the bowl thereby increasing the distance through which the liquid moves while in contact with the bowl to provide improved cleansing action.

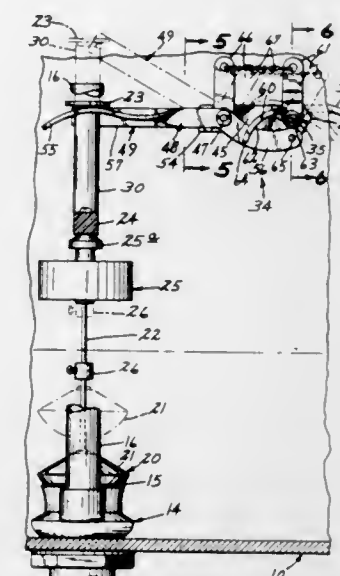
3,538,519 ACTUATING MECHANISM FOR TOILET FLUSH TANKS OF THE DUAL-FLUSH TYPE

George R. Weisz, 1507 S. 6th St.,
Brainerd, Minn. 56401

Filed Oct. 23, 1968, Ser. No. 769,987
Int. Cl. E03d 1/34

U.S. Cl. 4—67

9 Claims



Apparatus for selectively actuating a dual flush cycle in toilets having a first and second lever means which is mounted on a common pivot for operable engagement with a first and second float means, the first and second float means being mounted in the toilet flush tank to control the flow of fluid therein through the fluid outlet there-of, a handle equipped spindle being mounted in a wall of the toilet flush tank. Means including lost motion mechanism connects the spindle to the first and second lever means whereby movement of the handle in one direction causes a full flush cycle and movement of the handle in an opposite direction causes a partial flush cycle of the toilet.

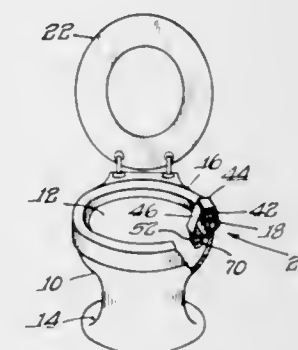
3,538,520 LAVATORY SANITATION BODIES

Seymour Leavitt, Lincolnwood, Ill., assignor to Madison Chemical Corporation, Maywood, Ill., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,488
Int. Cl. E03d 9/02

U.S. Cl. 4—222

13 Claims



Bodies for use in connection with sanitary units such as toilet bowls, urinals and the like, which are positioned in relation thereto in a manner whereby flush water will come into direct contact with at least a portion of the bodies. The bodies include a solid sanitizing material which will dissolve in part with each flushing thereby to provide automatic and metered cleaning, disinfecting, deodorizing,

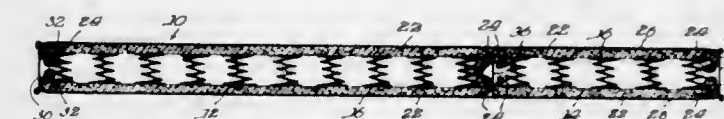
and the like, of the toilet bowl or urinal. The solid sanitiz-ing material which advantageously is in bar or premolded form comprises, as its essential active ingredients, an in-timate admixture of (a) one or more synthetic detergents which are solid at room temperatures, and (b) an acidic agent in the form of one or more acids or acid-forming salts or both, the ratio of the synthetic detergent to the acidic agent in the solid, sanitizing material ranging prefer-ably from about 1 to 100 of the former to about 1 of the latter. The bodies, in their preferred form, include a holder, one embodiment of which can be attached to the rim of a toilet bowl and another embodiment of which can be placed in a urinal, each embodiment serving to support said solid sanitizing material in a position in a bowl or urinal whereby flush water will come into direct contact therewith with each flushing of the bowl.

3,538,521 HOSPITAL MATTRESS

Ernest L. Basner, Barrington, Ill., assignor to Sealy, In-corporated, Chicago, Ill., a corporation of Delaware
Filed July 15, 1968, Ser. No. 745,036
Int. Cl. A47c 23/00; A61g 7/02

U.S. Cl. 5—91

6 Claims

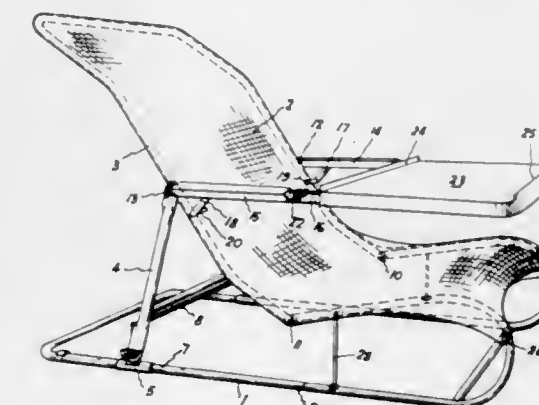


An auxiliary mattress is provided which fits on top of a primary mattress to modify the firmness thereof. The auxiliary mattress has a plurality of transverse pockets on the underside, into which stiffening members may be inserted along selected portions of the mattress length. Also included in the invention is an articulated primary mattress, to which the auxiliary mattress may be attached. The articulated mattress comprises a pair of resilient, generally rectangular mattress constructions aligned with one another in close spaced relationship, and covered in conventional manner with unitary top, bottom, and side covers. To permit proper flexing without bunching, an elongated strip of flexible material is located between the mattress constructions and joined to the top and bottom covers to provide a taut connection between them.

3,538,522 BED SUPPORT

James T. Adams, Lakemba, New South Wales, Australia, assignor to B. J. Ball Limited, Sydney, New South Wales, Australia
Filed June 26, 1968, Ser. No. 740,344
Claims priority, application Australia, July 26, 1967,
25,081/67
Int. Cl. A47b 23/00; A47c 4/03; B60n 1/06, 1/10
U.S. Cl. 5—327

8 Claims



A support to hold a bed-ridden patient in an inclined position comprising a horizontal base member of tubu-lar construction having a U-shaped back rest pivoted

above it and a strut from the back rest to the base member which is adjustable along the length of the base member in order to change the angle of inclination of the back rest. An auxiliary frame is provided for arm rest and a food tray or reading shelf.

3,538,523

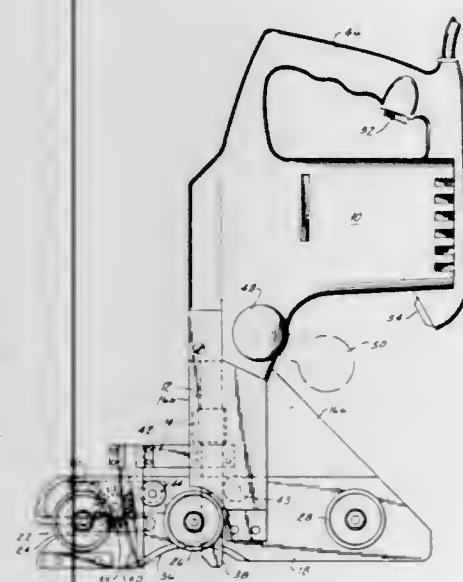
CARPET FINISHING TOOL

Robert A. Sparks, Clearwater, Fla., assignor to S & S Tool Company, Clearwater, Fla., a corporation of Florida

Filed Mar. 18, 1968, Ser. No. 713,719
Int. Cl. B25f 1/00; B26b 11/00

U.S. Cl. 7-14.1

7 Claims



A carpet finishing tool for setting and, if desired, trimming carpet automatically, including a power source which drives a vertically reciprocating setter blade, and, if desired, a knife blade forwardly offset from said setter blade as a guide runner, as said tool slides along the gap between usual anchoring strip and the wall adjacent said strip.

3,538,524

SKI BINDING

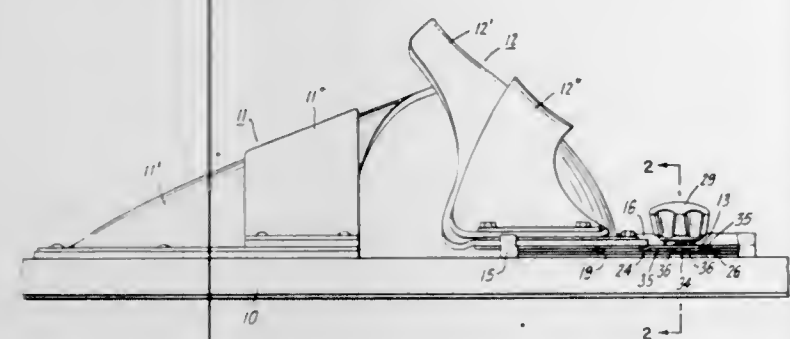
Charles J. Jehle, Laguna Hills, and Joseph B. LaMonica, Tustin, Calif., assignors to W. J. Volt Rubber Corporation, a corporation of California

Filed Dec. 30, 1968, Ser. No. 787,729

Int. Cl. A63c 15/06

U.S. Cl. 9-310

6 Claims



The means for locking the adjustable heel plate in set position comprises a transverse slide beneath the heel plate which has a tooth on it engagable with a row of teeth formed on one of the side guides for the heel plate. The transverse slide is moved by a rotary cam disposed in a cam notch formed in the transverse slide. The rotary cam is operated by a hand knob which is disposed above the heel plate and behind the foot heel engaging part mounted on the adjustable heel plate.

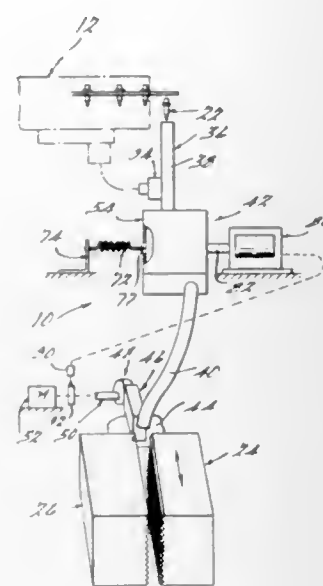
3,538,525 METHOD AND APPARATUS FOR FORMING THREADS ON STUDS

George B. Dupont, Sr., Royal Oak, Mich., assignor to G. B. Dupont Co., Inc., Troy, Mich., a corporation of Michigan

Filed July 29, 1965, Ser. No. 475,664
Int. Cl. B23g 1/00

U.S. Cl. 10-11

6 Claims



In an apparatus for successively forming preselected portions of a plurality of workpieces, means defining a workpiece container, means for successively dispensing workpieces from the container in a preselected orientation, means for forming the preselected portion of each of the workpieces, a workpiece inverting mechanism, means for conveying the workpieces from the dispensing means to the inverting mechanism while maintaining the workpieces in the preselected orientation, the mechanism comprising housing means and shuttle means movable between first and second spaced positions within the housing means, means for conveying successive workpieces from the shuttle means when the shuttle means is disposed in the second position, and means for selectively biasing the shuttle means between the first and second positions.

3,538,526

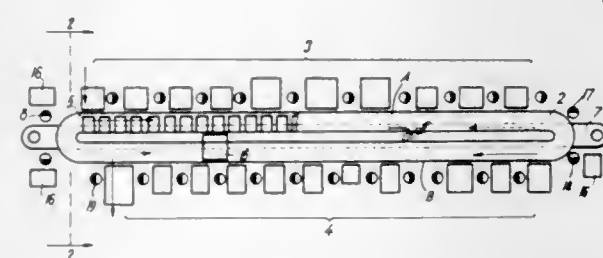
FLOW LINE FOR THE PRODUCTION OF
CEMENTED FOOTWEAR

Josef Horak, Gottwaldov, Jiri Paulus, Vizovich, and Frantisek Volek, Zdenek Figalla, Josef Hanko, Oldrich Hadac, and Alois Opravil, Gottwaldov, Czechoslovakia, assignors to Statni vyzkumny ustav kozedelný, Gottwaldov, Czechoslovakia

Filed July 28, 1969, Ser. No. 845,480
Claims priority, application Czechoslovakia,
Aug. 2, 1968, 5,622/68
Int. Cl. A43d

U.S. Cl. 12-1

7 Claims



Between a row of machines in a lasting section and a parallel row of machines in a finishing section there is disposed a first, upper conveyor with a system of racks for carrying lasts, shoe uppers, and shoes. Beneath the

first conveyor there is a heated covered tunnel through which runs a second, lower conveyor driven in a direction opposite the first conveyor. During the travel of the second conveyor through the first side portion of the heating tunnel, the shoe upper is set upon the last. Adhesive is applied to the shoe upper margin folded over the feather-line of the last onto the insole at a station on the second conveyor beyond the end of its first side portion of the second conveyor, the solvents of the adhesive evaporated by moving the shoe upper and last through the second side portion of the second conveyor.

3,538,527

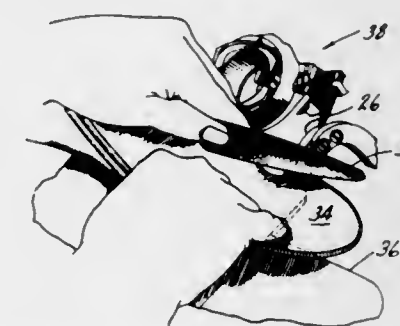
METHOD OF MANUFACTURING MOCCASINS

Joseph R. Ioannilli, Beverly, Mass., assignor to USM Corporation, Boston, Mass., a corporation of New Jersey

Filed Apr. 25, 1969, Ser. No. 819,296
Int. Cl. A43d 9/00

U.S. Cl. 12-142

10 Claims



A method of manufacturing a composite article comprising a set of parts including a first and a second part, having seam receiving margins, the margin of one part being longer than that of the other, as for example, moccasins comprising a vamp adapted to underlie the wearer's foot and having an edge joined to the shorter edge of a central toe covering plug. According to the present method the vamp is connected to the plug starting with both parts in flat condition and forming a three-dimensional pouch progressively as the edge of the vamp is joined by a seam to that of the plug. In the process, the longer edge of the vamp is puckered to match that of the plug. After the completion of the sewing operation, the moccasin assembly consisting of the vamp and plug is stretched on a last to give it shape and thereafter finishing operations are carried out in a conventional manner.

3,538,528

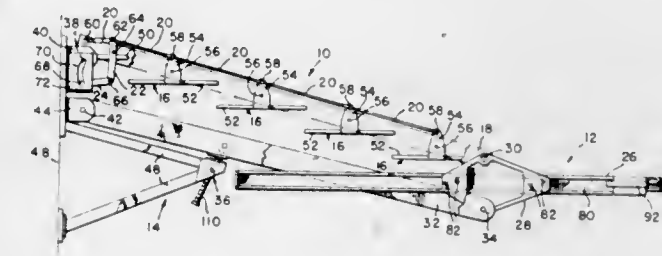
ACCESS RAMP

George Z. Porter, Bellevue, Wash., and Gordon Jacobson, 741 S. 295th Place, Federal Way, Wash. 98002; said Porter assignor to said Jacobson

Filed Aug. 1, 1968, Ser. No. 749,417
Int. Cl. B65g 11/00

U.S. Cl. 14-71

10 Claims



An access ramp suitable for cantilevered mounting from an above ground airline terminal passenger boarding gate comprises a ramp assembly adapted to be raised and lowered and to be arranged either in a stair mode or a ramp mode, and an outboard landing horizontally mounted by the outboard end of the ramp assembly and adapted to be extended and retracted.

3,538,529

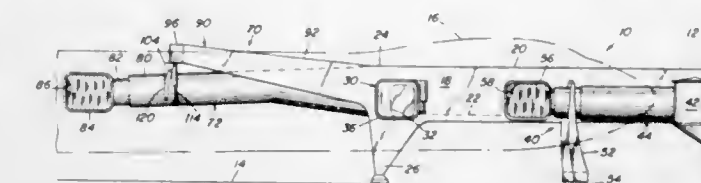
AIRCRAFT LOADING EQUIPMENT

Morton A. Breier, Greenwich, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware

Filed Dec. 23, 1968, Ser. No. 786,181
Int. Cl. B65g 11/00

U.S. Cl. 14-71

12 Claims



The present invention relates to unique aircraft loading equipment wherein elongated loading modules extend out from an aircraft terminal building into an aircraft parking ramp area. Such an elongated loading module may be approached by aircraft nosed-in toward the terminal with the aircraft fuselage parallel to and closely adjacent the module whereby the access doors along one side of the aircraft may be utilized for loading while keeping the opposite side of the aircraft clear for other servicing operations. The invention further provides a novel loading bridge having an overhead support. The bridge may be utilized in such a loading module in which case the bridge may extend over a wing of the aircraft to mate with the rearward aircraft doors.

3,538,530

TOOTHBRUSH

Walter Stemme, Sulzbach, Taunus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany

Filed Jan. 28, 1969, Ser. No. 794,653
Claims priority, application Germany, Jan. 30, 1968,
1,632,386

Int. Cl. A46b 13/02

U.S. Cl. 15-22

10 Claims



A motor-driven toothbrush includes a housing and a brush whose stem extends into the housing at a free end thereof. A guide arrangement provides cam faces whose outline resembles a figure eight and shifts the portion of the stem extending into the housing, and thereby the entire brush, in a path resembling a figure eight.

3,538,531

PIPELINE PIG

Kenneth M. Knapp and Mary M. Knapp, both of 1209 Hardy, Houston, Tex. 77020

Filed June 30, 1969, Ser. No. 837,410

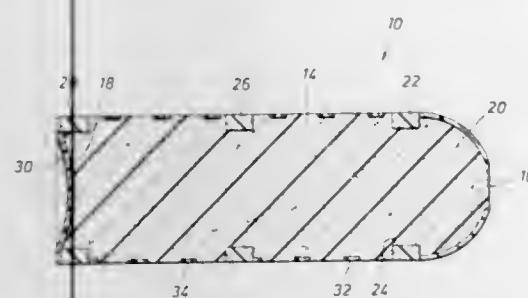
Int. Cl. B08b 9/04

U.S. Cl. 15-104.06

4 Claims

A pipeline pig for passing through a pipeline to clear out accumulations, deposits on the wall, and liquid collecting at low spots in the pipeline, which preferably incorporates a bullet-shaped elongate plastic body of cross

section comparable to that of the pipeline, preferably formed of a foamed plastic mass and including an encircling ring of tough nonfoamed plastic material having the same outer circumference as that of the plastic body



which is located at the edge of contact of the bullet-shaped body to provide a wearing surface to extend the life of the pig. Additionally, other encircling rings of the same outer circumference may be incorporated in the body at the mid-point and at the rear end of the pig.

3,538,532

SPLASH GUARD FOR PAINT ROLLERS

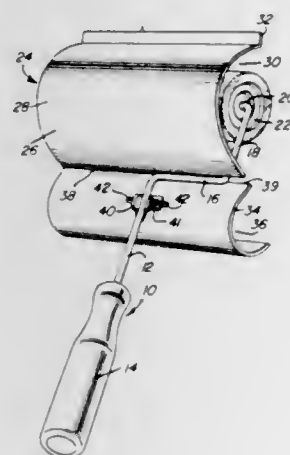
Joseph P. Shortino, 518 N. Cable St., Lima, Ohio, 45805, and James J. Shortino, Lima, Ohio (7703 Allengrove St., Downey, Calif. 90240)

Filed Jan. 29, 1969, Ser. No. 794,943

Int. Cl. B44d 3/40

U.S. Cl. 15—230.11

8 Claims



A contoured shield readily removably mountable on a paint roller and including an arcuate panel portion for loosely embracing somewhat less than one half the circumference of the roller portion of the paint roller. The shield is constructed for ready attachment to conventional paint rollers and in a manner whereby the opposite axial ends of the arcuate panel portion will project approximately one half inch beyond the axle ends of the associated roller portion of the paint roller.

3,538,533

NAP RAISING DEVICE

John A. Woods, 517 W. San Gabriel, Fresno, Calif. 93705

Continuation-in-part of application Ser. No. 714,999, Mar. 21, 1968. This application June 16, 1969, Ser. No. 839,772

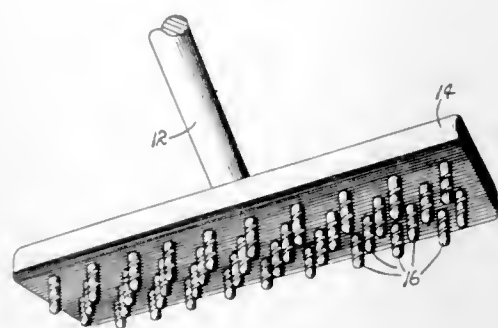
Int. Cl. A47i 13/02

U.S. Cl. 15—236

7 Claims

A nap raising device including a supporting head on which rows of studs, of a given dimension, are mounted for movement through the nap of carpets and the like in a direction transversely of the studs, the peripheral sur-

faces of the studs having elongated sharpened edges therein which extend obliquely transversely of the studs and



are disposed toward the head, the edges providing a lifting component when moved through the nap.

3,538,534

RUG CLEANING APPARATUS

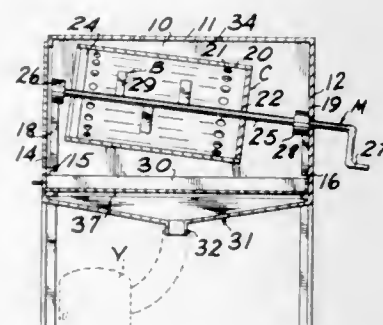
Raymond W. Chosewood and Marie L. Chosewood, both of 1765 Harts Mill Road, Chamblee, Ga. 30005

Filed June 17, 1968, Ser. No. 737,408

Int. Cl. A47i 7/00

U.S. Cl. 15—305

9 Claims



A rug cleaning apparatus for removing dust, dirt, and other debris from articles such as throw rugs and the like, including a hollow, closed housing, a perforated cylinder rotatably mounted within the housing with means outside the housing for rotatably driving same, and a plurality of beating means within the perforated cylinder for agitating the article within the perforated cylinder as the same is rotated. A debris collection member is removably carried within the housing under the perforated cylinder to selectively catch the debris discharged from the article within the cylinder and a funnel member is provided for connection to a vacuum source for selectively drawing air through the housing to assist in cleaning the article within the perforated cylinder.

3,538,535

WINDOW CLEANING APPARATUS

Irwin Ginsburgh, Morton Grove, and Lawrence T. Wright, Homewood, Ill., and Benjamin D. Pennington, Hammond, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed June 15, 1967, Ser. No. 646,282

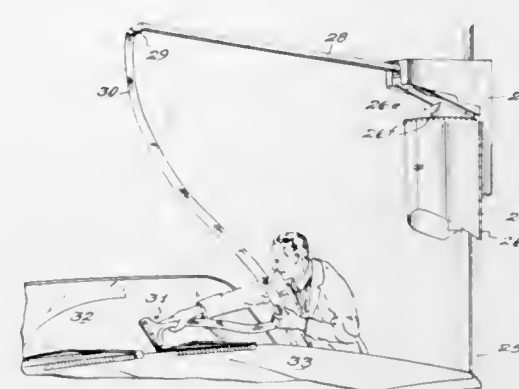
Int. Cl. A47i 1/08

U.S. Cl. 15—321

7 Claims

Apparatus for washing and drying window glass in a vehicle having a working end which includes a resilient rubber workpiece disposed below a valve means in a housing providing a handle. A plurality of conduit means for supplying and recycling a heated detergent and a vacuum, the conduits extending flexibly from the working end to a flexible rotating arm and therefrom to a central

unit remotely located which produces the vacuum and supplies the heated detergent to the working end by urging door opened or closed according to their placement. Pin passing through a helical spring and adapted for wind-



means of a power source, a heated reservoir, a pump, and a turbine among others.

3,538,536

CARPET SECURING MEANS

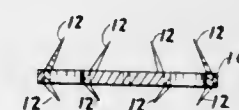
James Pecorella, 235 Etna St., Brooklyn, N.Y. 11229

Filed Jan. 26, 1968, Ser. No. 700,978

Int. Cl. A47g 27/04

U.S. Cl. 16—16

1 Claim



A device used for securing vertically and/or horizontally separated horizontal layers of material in such manner as to form tight seams or joints without serving or the like.

3,538,537

COMBINATION DOOR RELEASE AND DOOR CHECK

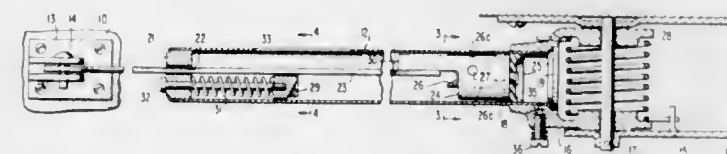
Leopold Strauss, 14 Walnut Road, East Rockaway, N.Y. 11518

Filed Jan. 23, 1969, Ser. No. 793,343

Int. Cl. E05f 3/00

U.S. Cl. 16—66

5 Claims



A dashpot type door closer and door check having a latch means therewithin for maintaining the door in a fully open position and being easily releasable for allowing the door to close in a normal manner when desired.

3,538,538

SPRING-LOADED HINGE PIN

William J. Field, 80 Mott Crescent, New Westminster, British Columbia, Canada

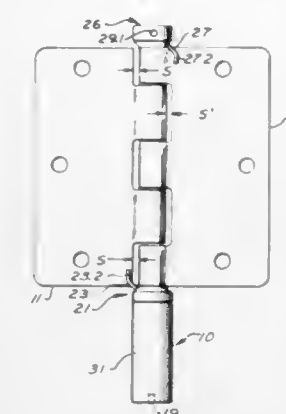
Filed July 29, 1968, Ser. No. 748,334

Int. Cl. E05f 1/12

U.S. Cl. 16—189

3 Claims

Replacement pin for converting ordinary hinge door to spring door. Spring activated lugs engaging leaves of hinge



3,538,539

AUTOMATIC DOORSTOP HINGE

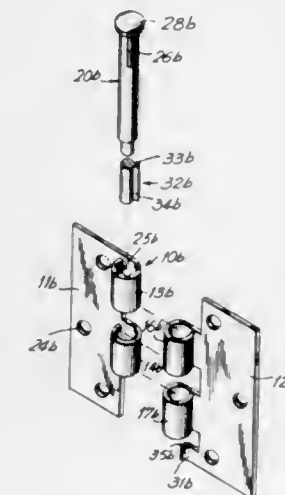
Dale Clifford Allison, 2340 N. Richmond Ave., Wichita, Kans. 67202

Filed Dec. 13, 1967, Ser. No. 690,211

Int. Cl. E05d 11/06

U.S. Cl. 16—191

2 Claims



A hinge assembly, as for use on doors, of the type which may be adjusted so that the angular opening between the door casing and door may be controlled. The hinge structure consisting of hinge plates having interdigitating axially aligned knuckles with a hinge pin extending there-through and having an outwardly extending rib which is adapted to mate with one or more vertical grooves contained in one of the knuckles to provide for a locking of the hinge pin in a selected fixed relation to one of the hinge plates and stop means in the form of a cam element on said pin and a coacting cam element or stop on a knuckle of the other hinge plate adapted to engage with and stop the angular rotation between the hinge plates. In accordance with another embodiment, the stop means is on the exterior of the hinge structure.

3,538,540

POULTRY DEFEATHERING APPARATUS

Jack L. Hathorn, Independence, Mo., assignor, by mesne assignments, to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri

Filed Feb. 14, 1968, Ser. No. 705,544

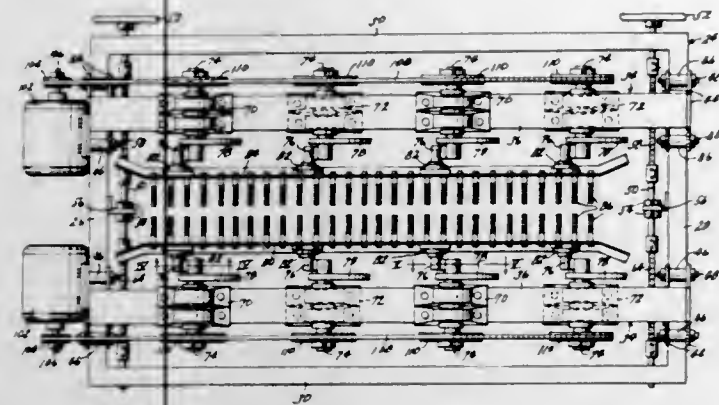
Int. Cl. A22c 21/02

U.S. Cl. 17—11.1

13 Claims

An apparatus for defeathering poultry as the birds are suspended and moved along a generally horizontal path

of travel by a conveyor, said apparatus comprising a pair of vertical, parallel plates disposed respectively at opposite sides of the vertical plane of said path of travel and extending parallel thereto, resilient picking fingers mounted



in said plates and projecting toward said path, and means for orbiting each of said plates in a relatively small-diameter path about an axis normal to said plate and to said vertical plane of poultry travel.

3,538,541

APPARATUS FOR ORIENTING SHRIMPS

Hendrikus Gerhardus Muller, Hengelo, Netherlands, assignor to N.V. Machinefabriek B & S Bedrijven v.d. Woerd

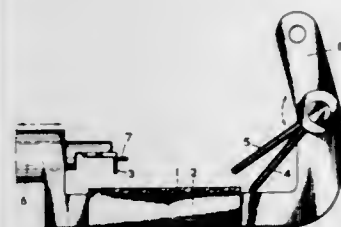
Filed Mar. 14, 1969, Ser. No. 807,317

Claims priority, application Netherlands, Mar. 14, 1968, 6803637

Int. Cl. A22c 29/00

U.S. Cl. 17—71

17 Claims



Shrimps are uniformly oriented in a work station to which they are delivered and from which they are removed by at least one conveyor. A slide pushes the shrimps transversely to the direction of movement of the conveyor, the slide being at a height to contact only the body and not the tail of the shrimp. The slide pushes the shrimp only so far, so that if the shrimp is advanced tail first, then the tail will extend beyond the position occupied by the body if the shrimp is advanced body first. A turning device contacts the tail, if the shrimp is tail first, to turn the shrimp over so that all the shrimps are uniformly oriented.

3,538,542

HOLLOW ELECTRODE AND ROTATING CRUCIBLE APPARATUS FOR PRODUCTION OF PARTICULATE REFRACTORY MATERIAL

John Malcolm North, Abingdon, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 13, 1967, Ser. No. 690,353

Claims priority, application Great Britain, Dec. 19, 1966, 56,718/66

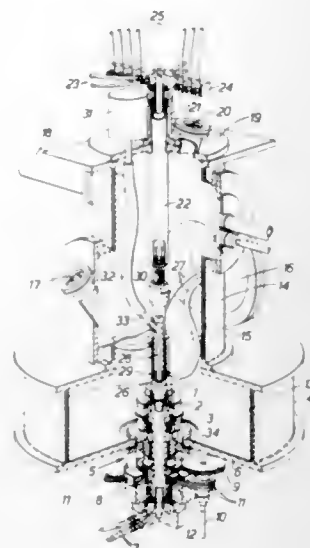
Int. Cl. B22d 23/08

U.S. Cl. 18—2.6

2 Claims

Apparatus for making particulate refractory material, such as alumina, uranium carbide or tungsten, com-

prises a water-cooled, electrically-conducting crucible rotatable about its own axis, an arc electrode to coat therewith, means to feed powder to the crucible and



means to permit molten material flung from the crucible to solidify before contacting a solid surface. The method of the invention can be applied to nuclear fuel to re-process the same.

3,538,543

SHELL MOULD FOR MANUFACTURING HOLLOW PLASTIC MOULDINGS

Paul Nataf, 54 Rue de Sablonville, Neuilly-sur-Seine, Hauts-de-Seine, France

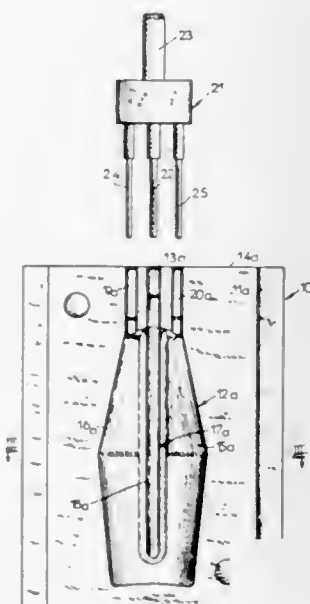
Original application Mar. 21, 1966, Ser. No. 535,875, now Patent No. 3,347,401, dated Oct. 17, 1967. Divided and this application June 26, 1967, Ser. No. 648,642

Claims priority, application France, Mar. 24, 1965, 10,512; June 5, 1965, 19,755

Int. Cl. B29c 1/00

U.S. Cl. 18—5

8 Claims



The mould comprises two shells, each one of said shells comprising an upper face forming a joint plane, a hollow portion, a first groove extending from the front edge of the shell to said hollow portion, a partition member in the hollow portion extending to a short distance from the bottom face of said hollow portion whereby said hollow portion is divided into two cavities communicating with

each other. The partition member has an upper edge substantially level with said upper face and provided with a second groove communicating with said first groove. The mould further comprises a mandrel having an air fed hollow duct adapted to be received in said first groove.

3,538,544

SPINNERET ASSEMBLY FOR COMPOSITE FILAMENTS

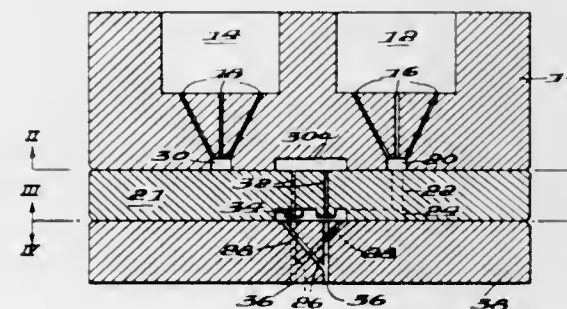
John Gerson Ullman, Martinsville, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 9, 1968, Ser. No. 727,992

Int. Cl. D01d 5/28

U.S. Cl. 18—8

5 Claims



A spinneret assembly comprising sandwiched filter block, distribution plate and spinneret plate is designed to produce a plurality of uniform sheath-core filaments with accurate regulation of sheath thickness without overcrowding extrusion orifices. The flow channels and passages are shaped and interconnected to provide uniform pressure and distribution of the sheath and core polymers across the plurality of extrusion orifices.

3,538,546

ADJUSTABLE FEED DEFLECTOR

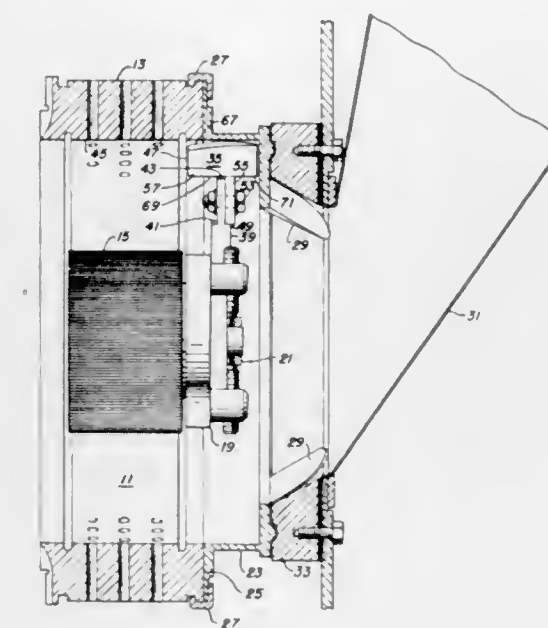
Robert W. Gilman, San Francisco, Calif., assignor to California Pellet Mill Company, San Francisco, Calif., a corporation of California

Continuation of application Ser. No. 639,869, May 19, 1967. This application Sept. 25, 1969, Ser. No. 861,205

Int. Cl. B29f 3/012

U.S. Cl. 18—12

14 Claims



A pair of angled deflector faces are adjustably secured to a pellet mill to deflect feed material into the extrusion rolls thereof in a controllable deposition pattern.

3,538,547

EXTRUDER HEAD FOR DUAL EXTRUSION

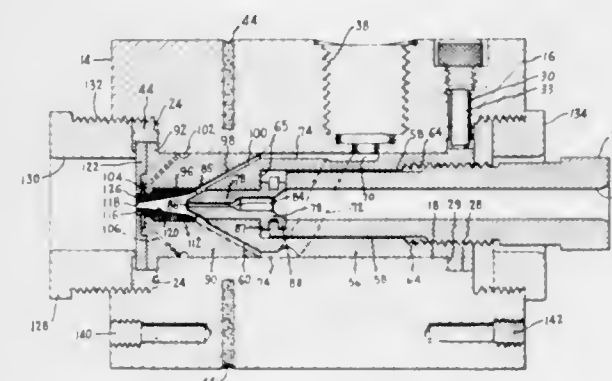
Michael J. Drabb, Fairfield, Conn., assignor to General Electric Company, a corporation of New York

Filed Apr. 26, 1968, Ser. No. 724,392

Int. Cl. B29f 3/12

U.S. Cl. 18—13

3 Claims



3,538,545

PLASTIC MESH EXTRUSION DIES

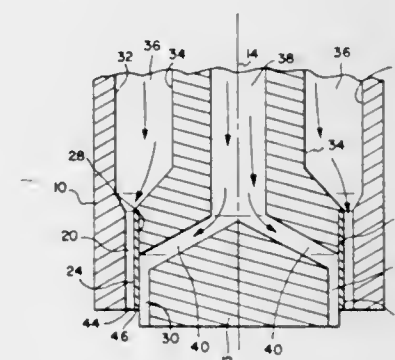
Jesse J. Smith, P.O. Box 162, Garden City, Kans. 67846

Filed Nov. 25, 1968, Ser. No. 778,380

Int. Cl. B29f 3/00; B29d 23/12

U.S. Cl. 18—12

6 Claims



A plurality of concentric relatively rotatable die members having a common rotary axis; said die members having concentric annular rows of plastic extruding passages; said passages all having longitudinal axes directed substantially parallel to each other and parallel to said rotary axis; and wall means projecting beyond terminal open ends of said passages whereby filaments extruded from said terminal open ends may expansively react laterally from said wall means and force some of said filaments into welding contact with other of said filaments.

An apparatus or extruder is provided for the simultaneous extrusion of two layers of dissimilar plastic compositions having different melting points over a conductor. The extruder includes a main axial bore terminating with enlarged openings and two spaced passageways communicating with the main axial bore for feeding composition to the extruder. Wire guide assembly means cooperate with die assembly means substantially aligned in the main axial bore to define appropriate channels for feeding the composition over the conductor as separate layers.

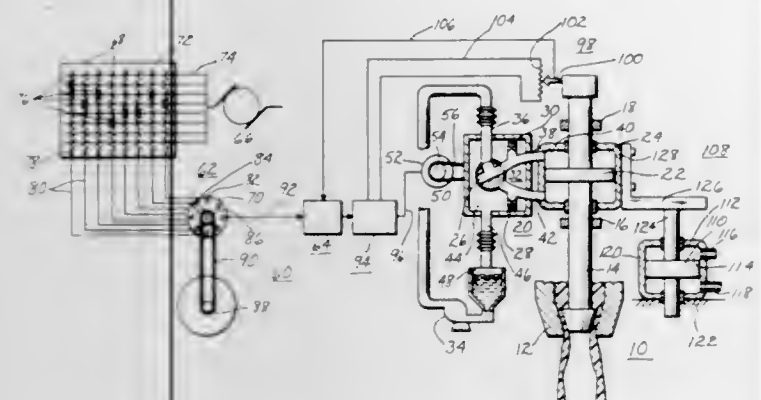
3,538,548 CONTROL APPARATUS FOR VARYING PARISON THICKNESS

Arnold J. Tenner, West Haven, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed May 19, 1967, Ser. No. 639,686
Int. Cl. B29d 23/04

U.S. Cl. 18-14

7 Claims



This disclosure relates to method and means for controlling the material distribution of a plastic parison during extrusion by a control system used to vary the opening of the extrusion outlet.

3,538,549 PLASTICIZING UNIT FOR INJECTION-MOLDING MACHINE

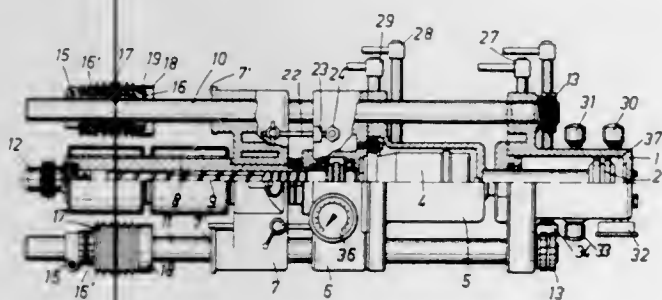
Karl Hehl, Lossburg, Württemberg, Germany, assignor to Arburg Maschinenfabrik Hehl & Sonne, Lossburg, Württemberg, Germany

Filed Apr. 10, 1967, Ser. No. 629,655
Claims priority, application Germany, Apr. 9, 1966, A 52,129

Int. Cl. B29f 1/06

U.S. Cl. 18-30

10 Claims



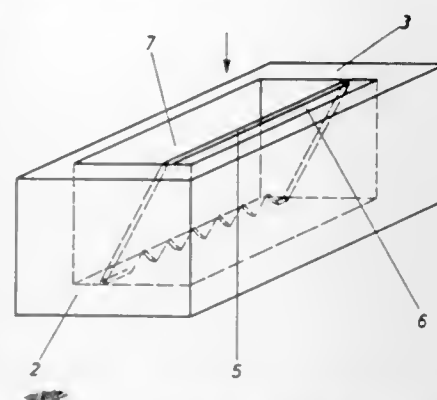
A plasticizing unit including an axially moveable extrusion cylinder for receiving plastic material and injecting the plastic material into a mold, a rotatable and axially moveable feed screw within the plasticizing cylinder for driving the plastic material toward the outlet end of the plasticizing cylinder, axial drive means for axially moving the feed screw and plasticizing cylinder to an injection position at which plastic material can be injected into a mold, and spring means positioned for engagement with the plasticizing cylinder to be compressed by the movement thereof toward the injection position and thereby to develop a force urging the plasticizing cylinder away from its injection position so that the plasticizing cylinder will be automatically moved away from its injection position when the force applied to the plasticizing cylinder by the axial drive means is released.

3,538,550 PARTITIONED MOLD DIE

Eugen Dürrwächter, Carl-Ludwig Meyer, Ulf Harmsen, and Wolfgang Pöttken, Pforzheim, Germany, assignors to Eugen Dürrwächter Doduco, Pforzheim, Germany
Original application May 3, 1966, Ser. No. 547,282, now Patent No. 3,510,935, dated May 12, 1970. Divided and this application July 17, 1968, Ser. No. 767,869
Claims priority, application Germany, Jan. 3, 1966, D 49,065, D 49,066, D 49,067
Int. Cl. B29c 1/00

U.S. Cl. 18-34

9 Claims

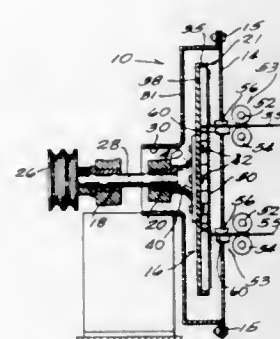


A die for holding powdered materials such as metals while they are being compacted to form multilayer objects includes opposite side walls defining an open-topped die. Parallel grooves are formed in the side walls and a removable partition is mounted in the grooves to define open topped compartments in the interior of the die for holding materials which form separate layers.

3,538,551 DISC TYPE FIBERIZER Curt G. Joa, Ocean Ridge, Fla. (Box 1121, Boynton Beach, Fla. 33435) Filed May 15, 1968, Ser. No. 729,249 Int. Cl. D01g 11/00

U.S. Cl. 19-83

7 Claims



Disclosed herein is a wood pulp fiberizer which includes a disc having a plurality of outwardly directed pins on one surface. The disc is mounted in a housing for rotation in a plane transverse to the direction of motion of a web of wood pulp, and in close proximity to the points of entry of the webs into the housing so that the pins will pick the wood fibers from the web.

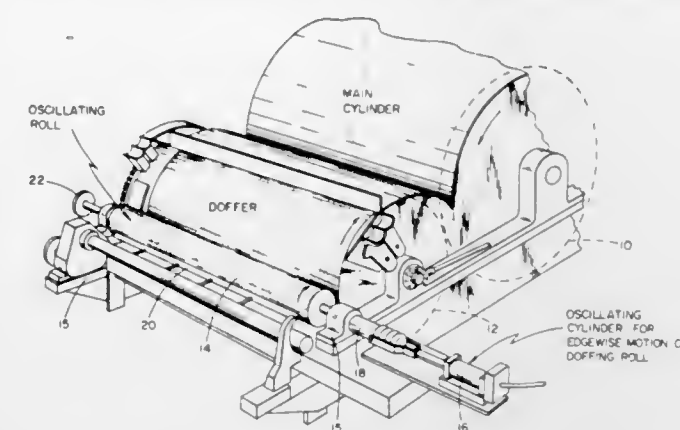
3,538,552 CARDING DEVICE James L. Foley, Walpole, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts Continuation-in-part of application Ser. No. 689,402, Dec. 11, 1967. This application Mar. 3, 1969, Ser. No. 803,923 Int. Cl. D01g 15/00

U.S. Cl. 19-163

1 Claim

As a carding auxiliary, an auxiliary toothed roll of relatively small diameter is set adjacent to, but not in contact with, the doffing cylinder of a conventional textile carding machine. The auxiliary roll is provided with a device by means of which it can be caused to oscillate back

and forth across the doffing cylinder face at a rate of 100 to 1000 cycles per minute, at a surface speed which is slower than the surface speed of the doffing cylinder. By

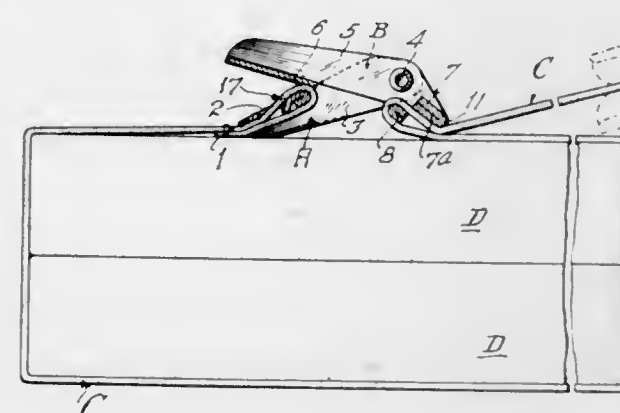


this means, the highly-parallelized fiber orientation of a conventional card web is perturbed, and a more nearly equalized lengthwise to crosswise strength ratio is realized in carded webs and nonwoven fabrics made therefrom.

3,538,553 BUCKLE WITH STRAP TIGHTENING LEVER Henry J. Brucker, Summit, N.J., assignor to American Aluminum Company, Mountainside, N.J., a corporation of New Jersey Filed Oct. 24, 1968, Ser. No. 770,192 Int. Cl. A44b 11/02

U.S. Cl. 24-68

5 Claims



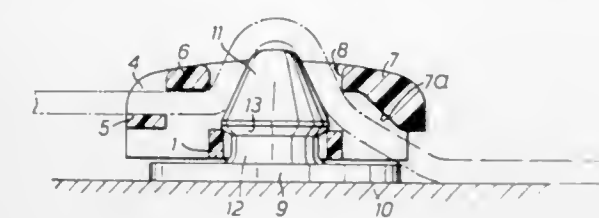
A buckle includes a sheet metal body section which has an apertured plate for connection to one end of a strap and also has projecting therefrom two spaced side arms on and between which are pivotally mounted intermediate their ends the two side walls of a sheet metal strap tightening lever, which are connected together at one end by a handle plate and at the other end by a strap tensioning bar and a strap guide bar spaced apart to guide a strap between said bars and around the edge of one bar that faces oppositely from one edge of the other bar. Said bars are also closely spaced apart longitudinally of said walls and each is formed of one thickness of metal integral with and folded onto another thickness, and the folded thickness of the tensioning bar is interlocked at its ends with said side walls.

3,538,554 STRAP BUCKLE David Julian Ford, Stapleford, England, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware Filed Jan. 16, 1969, Ser. No. 791,735 Claims priority, application Great Britain, Jan. 19, 1968, 3,003/68 Int. Cl. A44b 11/25

U.S. Cl. 24-77

5 Claims

A strap buckle formed of synthetic plastics has a flexible arm and two rigid arms through which the strap is



tion of the strap into frictional engagement with said rigid arms.

3,538,555 SHEET FOLDING DEVICE Ambrose C. Langston, 7963 Amador Ave., Yucca Valley, Calif. 92284 Continuation-in-part of application Ser. No. 694,505, Dec. 29, 1967. This application Nov. 14, 1968, Ser. No. 775,823 Int. Cl. D06f 55/02

U.S. Cl. 24-81

3 Claims



Apparatus for assisting in the folding of sheets comprising a fixed clamp and a slideable spring mounted clamp in a vertical track whereby the folded edges of a sheet may be held in stretched position so that the operator may easily fold the remaining sheet portion.

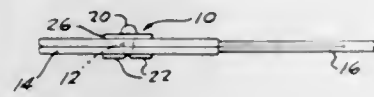
3,538,556 CUFFLINK WITH INTERCHANGEABLE DECORATIVE MEMBERS Melvin Shein, 103 S. Hubbard Lane, Louisville, Ky. 40207 Filed Apr. 12, 1968, Ser. No. 720,963 Int. Cl. A44b 1/18

U.S. Cl. 24-90

5 Claims

A cuff link including a stem, a head on the front end of said stem, retaining means at the back of said stem and a decorative member removably seated on the stem back of the head. In a preferred embodiment, said stem is formed of a resilient plastic material bifurcated at the back end, the bifurcation constituting said retaining means and being preformed to spread retaining positions in which they extend in opposite directions substantially at

right angles to the axis of said stem, the bifurcation walls being bendable toward each other to permit their joint insertion through an aperture of the decorative member



and an aperture of a piece of clothing and thereafter upon release resiliently returning to their retaining positions.

3,538,557

SNAP FASTENER

Ichiro Hirase, 110, 14, 5-ban 4-chome, Chiyoda-ku, Iidabashi, Tokyo, Japan

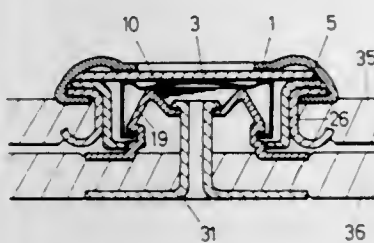
Filed Nov. 6, 1967, Ser. No. 680,939

Claims priority, application Japan, Nov. 18, 1966 (utility model), 41/105,806

Int. Cl. A44b 17/00

U.S. Cl. 24—217

1 Claim



A snap fastener consisting of a male part and a female part is used for connecting and separating two articles. The female part is featured by a resilient clamp ensuring clamping and release of the male part and particularly stability of clamping whereby separation is not possible without intended operation though simple and easy. The resilient clamp includes fingers that are engageable with a groove in the female part for separably coupling them together.

3,538,558

AUTOMOBILE SAFETY BELT BUCKLES

John Arthur Phillip Croft, Kings Langley, England, assignor to Romac Industries Limited, of The Hyde, Hendon, London, England

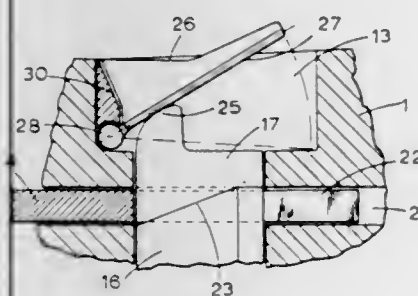
Filed May 6, 1968, Ser. No. 726,949

Claims priority, application Great Britain, May 10, 1967, 21,698/67; Sept. 19, 1967, 42,715/67

Int. Cl. A44b 11/26

U.S. Cl. 24—230

3 Claims



A buckle comprising a body assembly and a tongue designed so that the body assembly can be made pre-

dominantly of plastics material, reinforced where necessary by steel, and so that the tongue can snap easily into the body assembly and be quickly released by finger pressure on a button or lever.

3,538,559

POLISHED ROD CLAMPS

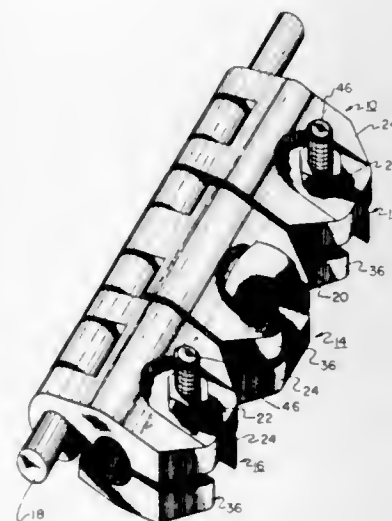
Joe Frank Rives, Borger, Tex., assignor to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey

Filed Oct. 14, 1968, Ser. No. 767,202

Int. Cl. A44b 21/00

U.S. Cl. 24—249

1 Claim



A hinged-type polished rod clamp adapted to be mounted with two or more similar clamps on a single hinge pin to provide for improved functional combinations of the polished rod clamps.

3,538,560

CLAMP

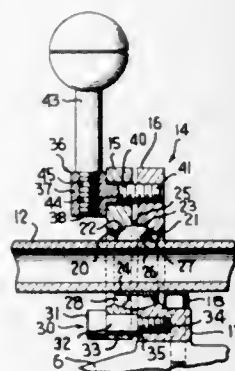
Kurt M. Gebel, Waynesboro, Pa., assignor to Litton Industries, Inc., Beverly Hills, Calif., a corporation of Delaware

Filed Mar. 25, 1969, Ser. No. 810,140

Int. Cl. A44b 21/00

U.S. Cl. 24—263

8 Claims



This disclosure has to do with a clamp for adjustably mounting a pipe with the clamp featuring a quick releasing and positioning mechanism so as to facilitate the adjustment of the pipe. The clamp is particularly adapted for clamping a fluid supply pipe of a machine tool, particularly a coolant pipe for directing coolants and lubricants onto workpieces.

3,538,561

ELASTIC FIXING WEDGES

Eugeniu Vasile Anastasiu and Traian Margarit, Bucharest, Rumania, assignors to Institut Proiectare si Cercetare pt. Utilaj Petrolier, Bucharest, Rumania, a corporation of Rumania

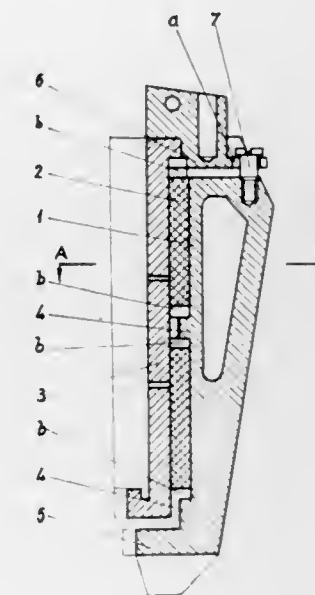
Filed Apr. 16, 1969, Ser. No. 816,659

Claims priority, application Rumania, May 10, 1968, 56,681

Int. Cl. F16l 7/00

U.S. Cl. 24—263

2 Claims



A wedge for releasably retaining tubular members at oil wells and the like. In the body of the wedge there is provided an elastic rubber layer or a layer of another synthetic material, pasted and vulcanized onto the body of the wedge, which is also provided with elements for maintaining the specific pressure on the elastic layer within allowable limits. In order to prevent sliding of the tubular material through the wedges if the elastic layer is destroyed, the conically shaped trunk or body of the wedge is provided with stopping thresholds, which prevent the movement of wedging elements to exceed predetermined longitudinal sliding tolerances and a radial deformation greater than a pre-established amount.

3,538,562

DEVICE FOR DIVIDING PLASTIC BLOCKS

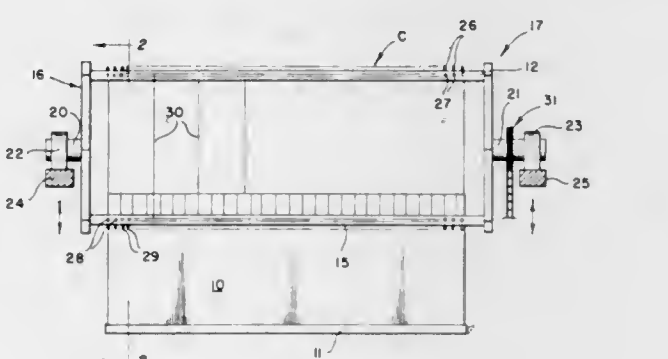
Gösta Ekstedt, Stockholm, and Per-Erik Söderlund, Saltsjöbaden, Sweden, assignors to Ytong International AB, Stockholm, Sweden

Filed Feb. 15, 1968, Ser. No. 705,818

Int. Cl. B28b 11/14; B26d 4/02

U.S. Cl. 25—107

9 Claims



A cutting apparatus for cutting plastic blocks of uncured lightweight concrete includes a rotatable support for a series of cutting frames. These frames each include a plurality of cutting wires of different predetermined

3,538,563

APPARATUS FOR IMPARTING ELASTICITY TO WOVEN TEXTILE FABRICS

Motohiro Tsuruta, Kyoto-shi, Hiroshi Kimura, Akio Koshimo, and Hirohisa Nara, Kyoto-fu, Tokujin Goto, Nara-shi, and Kunio Amemiya, Kyoto-fu, Japan, assignors to Nippon Rayon Kabushiki Kaisha (Nippon Rayon Co., Ltd.), Kyoto-fu, Japan, a body corporate of Japan

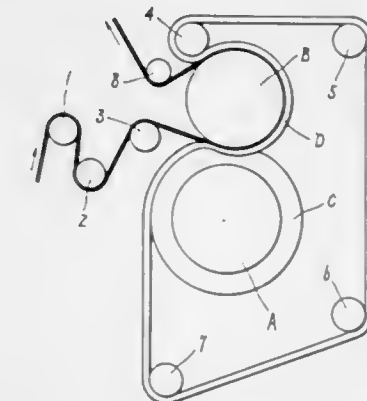
Filed Mar. 8, 1968, Ser. No. 711,668

Claims priority, application Japan, Mar. 9, 1967, 42/14,903

Int. Cl. D06c 21/00

U.S. Cl. 26—18.6

3 Claims



The present invention relates to an apparatus and a process for treating woven textile fabrics. In one aspect, the present invention relates to a process for imparting elasticity to a woven textile fabric in its warp direction, in which a woven textile fabric is compressed in its warp direction by means of a rubber roller and an elastic flexible belt, and is then fixed in its altered state.

3,538,564

METHOD OF MAKING A NONWOVEN FABRIC

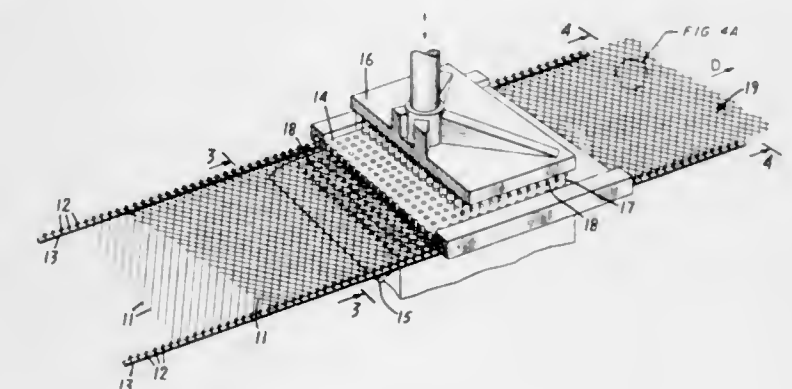
George A. Skoler, White Plains, N.Y., and Kenneth M. Hillas, Boonton, N.J., assignors to Union Carbide Corporation, New York, N.Y., a corporation of New York

Filed Apr. 12, 1968, Ser. No. 720,799

Int. Cl. D04h 18/00

U.S. Cl. 28—72.2

37 Claims



Coherent nonwoven textiles having uniform thickness, appearance, and physical properties, and having an appearance closely resembling woven or knitted textiles of similar material and weight can be made by cross-laying

strands of yarn or tow between two parallel rows of restraining means to form a web or sheet, if also warplaving yarn or tow on one or both sides of such web or sheet, and mechanically interlocking, as by needle punching, the fibers of the web or sheet while the cross-laid strands are still restrained on the restraining means. Stripes, plaids, checks, and other effects are obtainable, with smooth or lofted surface.

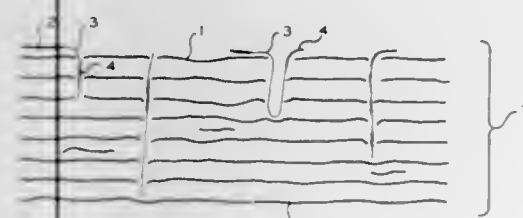
3,538,565

SELECTIVE MOLECULAR ORIENTATION OF FIBERS IN PLASTIC FELT

Heyward V. Simpson, Rome, and Reginald Burnett and John E. Ellenburg, Dalton, Ga., assignors to Phillips Petroleum Company, a corporation of Delaware
Original application Oct. 26, 1967, Ser. No. 678,408, now Patent No. 3,484,283, dated Dec. 16, 1969. Divided and this application July 17, 1969, Ser. No. 842,674
Int. Cl. D04h 18/00

U.S. Cl. 28—72.2

6 Claims



Plastic felt-like material is formed using unoriented fibers which are later at least partially molecularly oriented by needling.

3,538,566

PROCESS FOR MAKING CRIMPED FILAMENTS OF POLYESTER

Yukio Mitsuishi, Hirofumi Yoshikawa, and Hitoshi Tonami, Ibaraki-shi, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan
No Drawing. Filed Dec. 24, 1968, Ser. No. 786,730
Claims priority, application Japan, Dec. 30, 1967, 43/85,338; Oct. 8, 1968, 43/73,761
Int. Cl. D02q 1/10

U.S. Cl. 28—72.13

11 Claims

Crimped filaments of terephthalate polyester are prepared by wetting unoriented filaments of terephthalate polyester with a non-solvent for the polyester, drawing the wetted filaments uniformly in the longitudinal direction but non-uniformly in the cross-sectional direction of the filaments, and subjecting the drawn filaments to an elevated temperature under conditions which will allow shrinkage or contraction of the filaments. In the drawing step, a pin is used which has a specified convex surface and is maintained at a specified temperature.

3,538,567

WEDGE-LOCK FOR MACHINE TOOLS

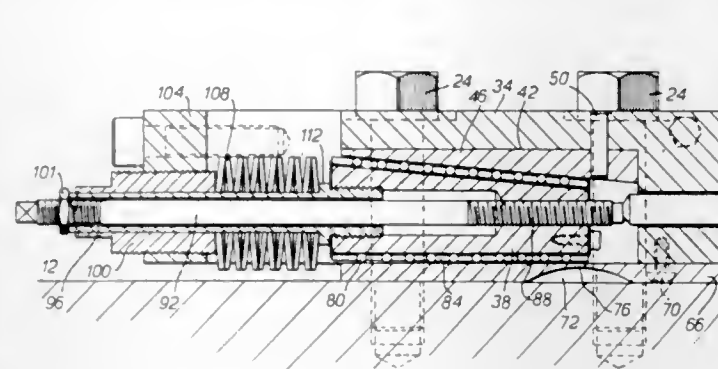
Thomas C. Sykes, Bradshaw, Halifax, York, England, assignor to William Asquith Limited, Halifax, York County, England, a corporation of Great Britain
Filed July 24, 1967, Ser. No. 655,396
Claims priority, application Great Britain, July 28, 1966, 33,852/66
Int. Cl. B21d 53/00

U.S. Cl. 29—1

6 Claims

A wedge lock for two relatively movable parts of a machine tool includes two wedges operating at opposite ends of one movable member. The wedges on their undersides engage locking members each mounted cantilever fashion so that they deflect into frictional locking engagement with one of the relatively movable members when the wedges are forced inwardly.

A hydraulic actuator and associated mechanism cooperates with opposed springs to automatically actuate the



wedges in reverse directions so that locking and unlocking can be controlled remotely.

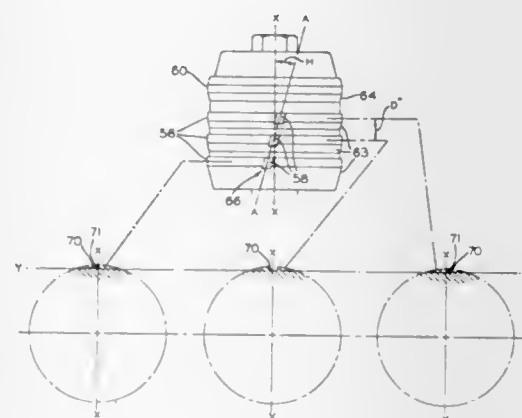
3,538,568

APPARATUS FOR RIFLING GUN BARREL TUBES BY EXTRUSION

Ralph W. Hilton, Torrance, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Apr. 25, 1968, Ser. No. 724,186
Int. Cl. B23p 13/00

U.S. Cl. 29—1.1

3 Claims



Apparatus for rifling gun barrel tubes by extrusion includes a die for squeezing down the tube to reduce the inside diameter thereof during one stroke of a press ram and automatically orienting the die relative to the rifling mandrel for cooperation therewith in maintaining concentricity of the inside and outside diameters during the opposite rifling stroke. The mandrel is self-rotating in the tube and includes grooves in a plurality of ribs for forming the rifling lands while the tube is drawn over the mandrel, which grooves can be varied as to angular relationship by changing the space between the ribs to produce deep or shallow riflings with sharp and distinct geometry.

3,538,569

MANUFACTURE OF METAL WOOL SCOURING PADS

George Mills, Salford, England, assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Mar. 27, 1968, Ser. No. 716,615
Int. Cl. B23p 17/06

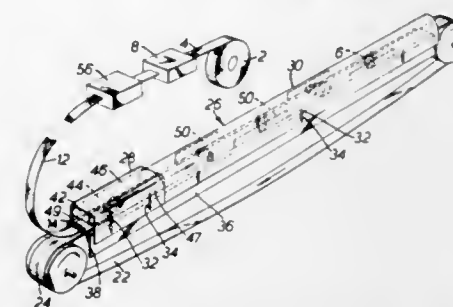
U.S. Cl. 29—4.5

4 Claims

A method of and apparatus for making metal wool scouring pads from a strip of metal wool by passing the strip on a rough surfaced conveyor through a tunnel and,

by engagement of the strip with alternately spaced rough areas of the tunnel walls, rolling up the strip in suc-

cessively changing directions. The pads may be subsequently moulded and may be impregnated before or after rolling.



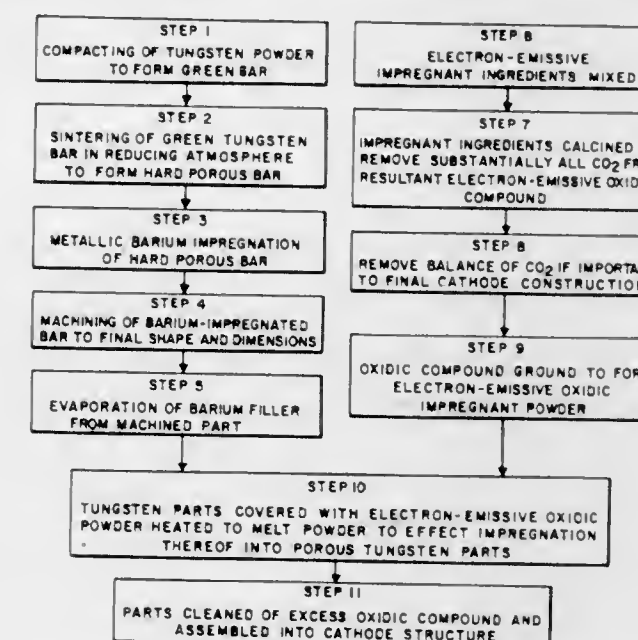
3,538,570

THERMIONIC DISPENSER CATHODE

Otto G. Koppius, Florence, Ky.
(280 Lake Shore Drive, Clermont, Fla. 32711)
Filed Feb. 28, 1968, Ser. No. 709,114
Int. Cl. H01j 9/16, 9/44

U.S. Cl. 29—25.18

3 Claims



A sintered, porous refractory metal matrix which will constitute a thermionic dispenser cathode is impregnated with metallic barium whereby the open pores thereof are completely filled with metallic barium after which the matrix is machined to its final shape and dimensions. The barium metal lubricates, strengthens and reinforces the matrix for the machining operation. The barium filler is then evaporated from the machined part for restoring the initial porous condition of said body as it existed prior to impregnation. The porous part thus formed is then impregnated with electron-emissive oxides for providing a thermionic dispenser cathode.

3,538,571

APPARATUS FOR PRODUCING CERAMIC CHIP ELECTRICAL COMPONENTS

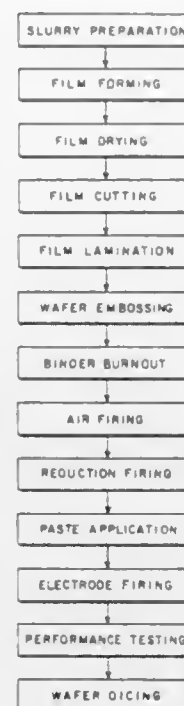
James P. Callahan, Elk Grove Village, and Richard A. Stark, Des Plaines, Ill., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Original application Mar. 23, 1967, Ser. No. 625,459. Divided and this application Apr. 4, 1969, Ser. No. 840,868
Int. Cl. H01g 13/00

U.S. Cl. 29—25.41

12 Claims

The disclosure presents a miniature ceramic chip capacitor primarily for use in hybrid integrated circuits. The capacitor electrodes are external and coplanar, being separated by a groove in the chemically reduced, semi-conducting ceramic body. A pattern of grooves defining a

number of capacitors and their electrode surface is embossed on one surface of a green ceramic film having a plastic binder. An electrode paste is applied to the coplanar



PROCESS OF MAKING AN IMPREGNATED CAPACITOR

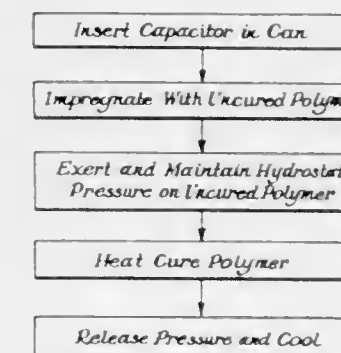
Roger E. Lull, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Sept. 16, 1968, Ser. No. 762,249

Int. Cl. H01g 3/195

U.S. Cl. 29—25.42

1 Claim



A capacitor section located in a capacitor can, is one which has been vacuum impregnated with a resin which has been cured while under hydrostatic pressure. The resin is therefore characterized by hydrostatic pressure-eliminated voids, fissures and gas bubbles. The process involves subjecting the impregnated unit to hydrostatic pressure prior to and during heat curing of the resin.

3,538,573

MACHINE FOR ASSEMBLING BOX SPRINGS

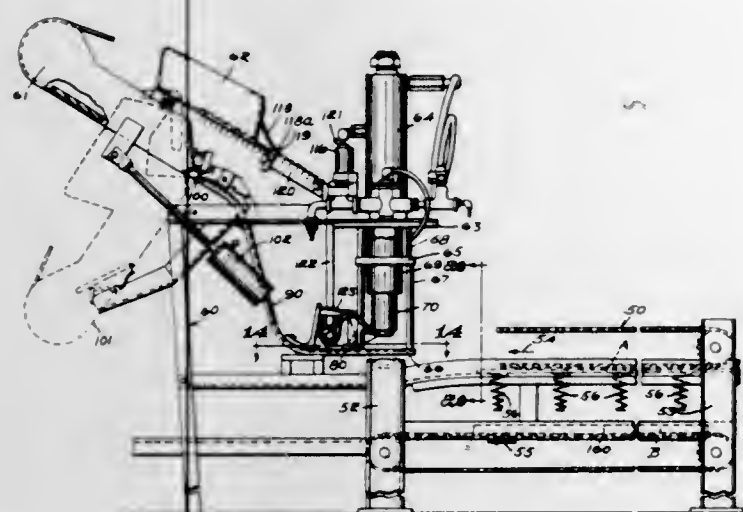
Fred A. Ciampa, Angelo Serafini, and Louis Mazzarella, Boston, Mass., assignors to Standard Box Spring Co., East Boston, Mass., a corporation of Massachusetts
Filed June 7, 1968, Ser. No. 735,373
Int. Cl. B68g 7/00

U.S. Cl. 29—91

16 Claims

A machine for fastening box spring coils to the wood bottom frame of a box spring, by means of flanged disks which engage over the bottom turns of the coils and are

secured to the frame by tacks. The machine has a row of attaching mechanisms, each including a disk feed mechanism, a tack feed mechanism which drops tacks singly through holes in the disks, and a plunger which drives a disk and tack through a coil into the frame. The



attaching mechanisms operate simultaneously to fasten a row of coils. A first step conveyor advances the frame, and a second step conveyor advances a pre-assembled top and coil spring assembly into the row of attaching mechanisms.

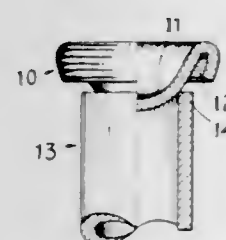
3,538,574

METHOD OF MAKING PUSH ROD

Hiroyuki Toma, Yokohama, and Matsuji Nishiyama, Fujisawa, Japan, assignors to Kokan Kako Kabushiki-Kaisha, Yokohama, Japan, a corporation of Japan
Filed June 20, 1967, Ser. No. 647,502
Int. Cl. B23p 13/00

U.S. Cl. 29-156.4

1 Claim



A method of making a push rod by plastic working. A metal piece which functions as an end of push rod and has an annular peripheral groove, is placed on an end of a metal hollow tube of which diameter is smaller than the diameter of the annular groove. By applying pressure upon the metal piece and tube toward each other, the end wall of metal tube is deformed outwardly and is molded into the annular groove of metal piece, thus the metal piece and tube are integrally joined together.

3,538,575

UNITARY CYLINDER WITH PISTON RETAINING MEANS

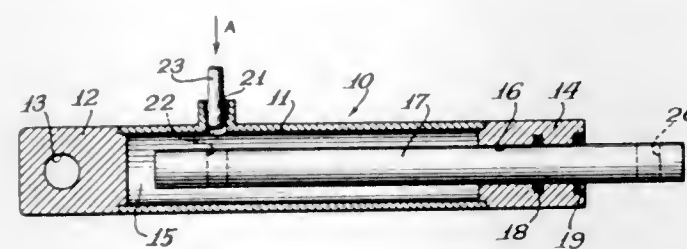
Murray C. Roland, Hamilton, Ontario, Canada, assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Continuation of application Ser. No. 644,263, June 7, 1967. This application Jan. 21, 1969, Ser. No. 796,289
Int. Cl. B23p 15/00

U.S. Cl. 29-156.4

2 Claims

A piston and cylinder assembly wherein the cylinder includes a closed end portion at one end and a piston-receiving bore at the other end. The cylinder includes a radially extending fluid inlet outlet port communicating

with the interior of the cylinder. A piston is receivable through the bore and includes an opening extending transversely therethrough which is adapted to be aligned with the port. A pin is adapted to be inserted through the



port into the opening in the piston and serves to limit the movement of the piston outwardly from within the cylinder to retain the piston within the cylinder during normal reciprocating movement thereof.

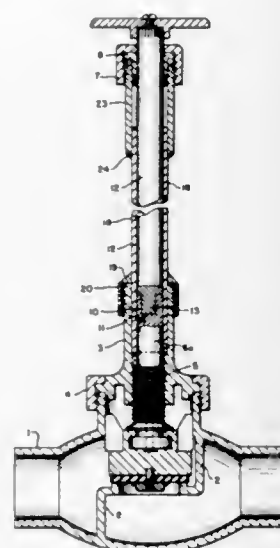
3,538,576

METHOD OF CONVERTING A BRASS VALVE INTO A CRYOGENIC VALVE

Frank T. Saving, New Albany, Ind., assignor to Saving Machine & Supply Company, Louisville, Ky., a corporation of Kentucky
Filed July 22, 1968, Ser. No. 746,581
Int. Cl. B21d 53/00; B21k 29/00; B23p 15/26

U.S. Cl. 29-157.1

6 Claims



The conversion is effected, after removing the packing nut and ring of the brass valve, by severing the projecting brass valve stem at a point adjacent the open mouth of the brass valve bonnet; extending the brass stem remnant with a stainless steel rod of the same diameter and of desired length; extending the brass bonnet with a desired length of stainless steel tubing having one end snugly-fitted into one end of the bonnet and its other end snugly-fitted into one end of a brass adapter, the other end of which reproduces the mouth end of the original bonnet; and conventionally sealing the space between the adapter and the stainless rod using the original brass packing ring and nut.

3,538,577

METHOD FOR CONTROLLING TUBE HEIGHT BY TENSILE INFLATION

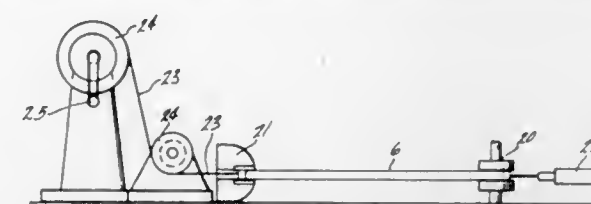
Michael P. O'Malley, Florissant, Mo., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed June 9, 1969, Ser. No. 831,520
Int. Cl. B21d 53/02

U.S. Cl. 29-157.3

4 Claims

The disclosure teaches providing an integrally unified, composite metal strip or sheet having an unbonded internal portion corresponding to a pattern of weld preven-

tive material, applying a tensile force to said composite, and injecting a fluid into the unbonded portion under



sufficient pressure to space apart the adjacent metal surfaces while the tensile force is applied to the composite.

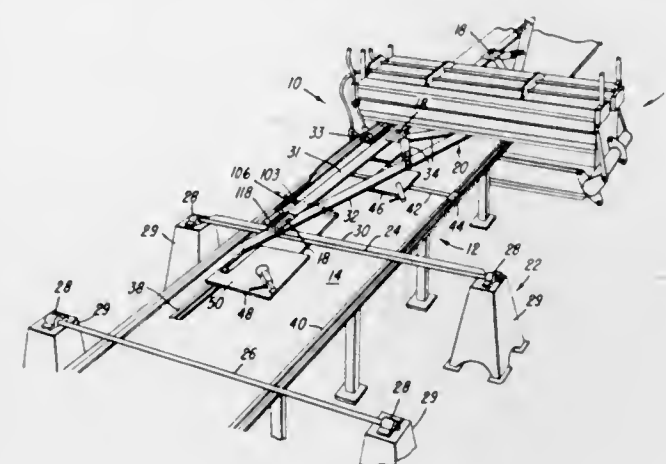
3,538,578

TRUSS ELEVATING DEVICE (HYDRAULIC POPUP DEVICE)

Richard E. Heise and Adolfo Castillo, Miami, Fla., assignors to Automated Building Components, Inc., Miami, Fla., a corporation of Florida
Filed May 29, 1968, Ser. No. 733,104
Int. Cl. B23p 19/00

U.S. Cl. 29-200

14 Claims



The present device includes a conveyor operable to advance a jig table carrying the wooden elements forming a truss through a press. The spaced joints of the truss are successively located below a press platen whereat nail plates of the type having a plurality of teeth struck therefrom are embedded into the joints. A fluid actuated slave cylinder is located adjacent the leading heel reaction pad of the jig table and is operably connected to a pivoted member located below the leading heel joint of the truss whereby actuation of the slave cylinder pivots the member upwardly to elevate the leading portion of the truss from the jig table. A master cylinder is mounted on the jig table behind and connected to the slave cylinder via a fluid line. The master cylinder carries a linkage projecting above the truss elements whereby the linkage actuates the master cylinder in response to downward movement of the press platen to provide fluid to the slave cylinder, thereby elevating the leading heel portion of the completed truss above the jig table onto an automated truss unloading mechanism.

3,538,579

MOUNTING FIXTURE FOR ASSEMBLING A PLURAL-STAGE AXIAL COMPRESSOR

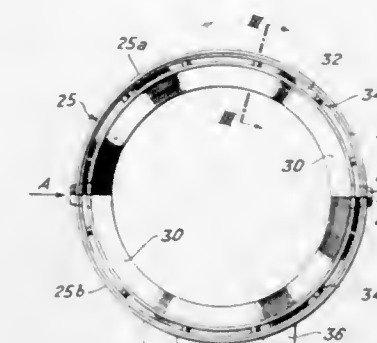
Walter Sprenger, Zurich, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Jan. 24, 1968, Ser. No. 700,191
Claims priority, application Switzerland, Feb. 10, 1967, 2,021/67

Int. Cl. B23p 19/00, 15/04; B23q 17/00
U.S. Cl. 29-200

3 Claims

A mounting fixture for assembly of a plural stage axial compressor in which a blade carrier divided into plural

parts along an axial plane and provided with a plurality of variable pitch blades is to be assembled to a pitch adjusting sheath, likewise divided into plural parts along an axial plane, with pins on adjusting levers of the blades being engaged in grooves on the inside of the sheath. The fixture comprises a ring demountable along a diameter



into two parts and having two plane, parallel and coaxial annular surfaces, one for support of one blade carrier part and the other for support of one sheath part, and two cylindrical surfaces coaxial with each other and with those annular surfaces, one for centering of the blade carrier part and the other for centering of the sheath part.

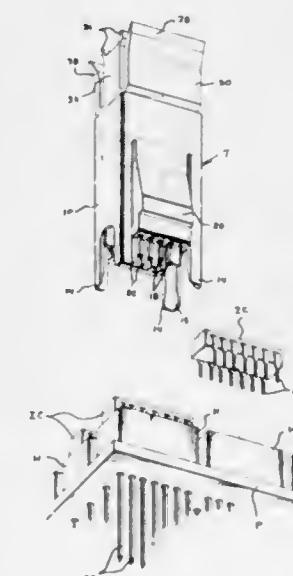
3,538,580

TOOL FOR MOUNTING AND REMOVING PLUGGABLE CIRCUIT COMPONENTS

Peter Martin Bruner, Mechanicsburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 4, 1968, Ser. No. 710,309
Int. Cl. H01r 43/04; B25b 7/00

U.S. Cl. 29-203

5 Claims



A tool is disclosed for electrical and/or electronic components of the type having a plurality of relatively small component leads adapted to be inserted into a multiple connector block or header and/or withdrawn therefrom. The disclosed tool features a relatively rigid frame which fits around a component to center working arms carrying teeth closed to grip the component between the leads thereof without engaging or deforming such leads. The tool further features a series of rigid fingers which engage the component leads at the point of entry of such leads into the component and facilitate forcing the component into a mating header. The tool includes as a separate feature a frame structure with movable arms shaped to be closed against the frame structure to straighten component leads prior to installation in a component header.

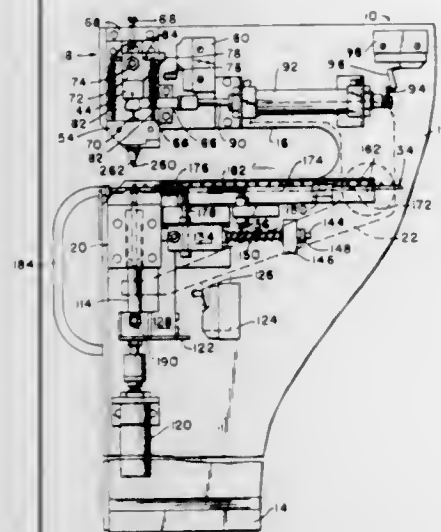
3,538,581

TERMINAL APPLICATOR

Timothy F. Collins, York, and Weldon L. Brubaker, Mechanicsburg, Pa., assignors to Berg Electronics, Inc., New Cumberland, Pa., a corporation of Pennsylvania
Filed May 27, 1968, Ser. No. 732,412
Int. Cl. H05k 13/00

U.S. Cl. 29—203

10 Claims



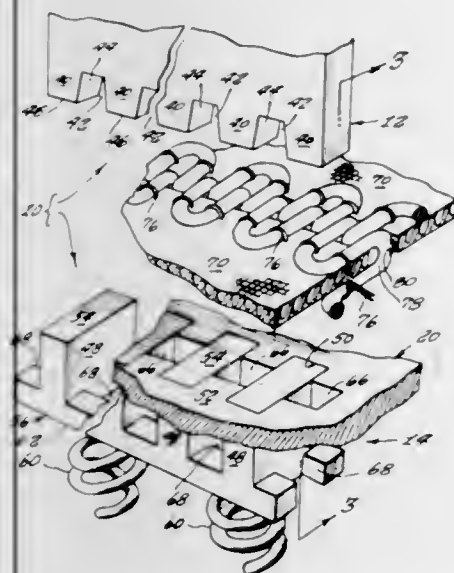
Apparatus for securing a through-board terminal to a circuit board by extending a mandrel through a hole in the circuit board to engage one end of the terminal, moving a ram to engage the other end of the terminal, escorting the terminal while held between the ram and mandrel to a seated position in the circuit board hole, and then flaring the terminal to secure it to the board. The mandrel and ram are linked together by a control arm to synchronize their movement as the terminal is moved toward the board.

3,538,582

GAPPING DEVICE FOR MEANDER SLIDE FASTENERS

Morris Perlman, 1631 63rd St., Brooklyn, N.Y. 11204
Filed Nov. 30, 1967, Ser. No. 686,864
Int. Cl. A41h 37/06; B21d 53/50; B29d 5/00
U.S. Cl. 29—207.5

1 Claim



A method for gapping a slide fastener chain of the so-called meander type and a punch mechanism for accomplishing the same, whereby alternate scoops or loops are first cut away and the remaining scoops or loops therebetween are pulled out by the punch mechanism, thereby leaving a finished gap in the chain.

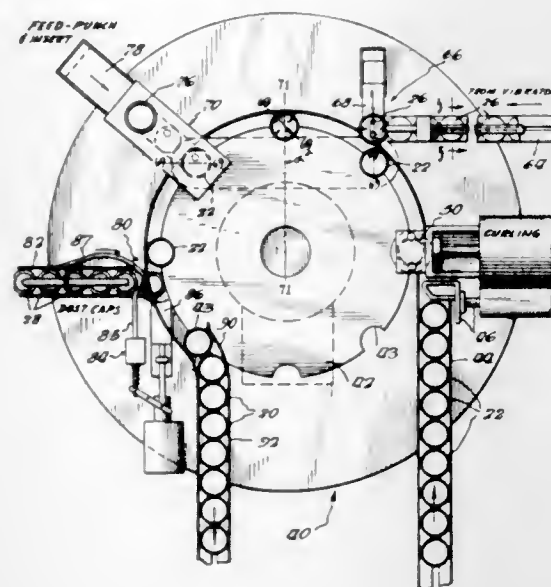
3,538,583

MACHINE FOR ASSEMBLING SIFTER TOP PACKAGES

Longin Galockin, Deerfield, Walter A. Glazewski, Chicago, and Eugene R. Sitkowski, Dolton, Ill., assignors to Stone Container Corporation, Chicago, Ill., a corporation of Illinois
Filed July 5, 1968, Ser. No. 742,749
Int. Cl. B23p 19/04; B23q 7/10

U.S. Cl. 29—208

17 Claims



A machine for assembling a partially completed sifter container or dredger for granular material prior to the filling thereof. The particular type of dredger comprises an elongate tubular body having a return-bent interior flange at one end thereof, an apertured cover member fixedly secured within said body element and a perforated sifter top rotatably engaged within said tubular body between the cover member and said interior flange, and an opposite open end for filling the partially completed container. The machine employs a plurality of work stations which perform the following assembly steps: curling of the open end of the body element inwardly to provide the interior flange; insertion of the sifter top within the body element in engagement with said flange; and insertion of the apertured cover member in frictional engagement with the interior walls of said body element to rotatably mount said sifter top between the flange and said cover member. These steps are performed with the sifter top and cover member each oriented in a predetermined position such that upon assembly the aperture in the cover member overlies or is in registry with an imperforated portion of the sifter top whereby subsequent filling of said dredger may be performed without the danger of granular material being discharged inadvertently through openings in the superposed sifter top and cover member. The machine is constructed to permit its stations to operate concurrently so that a tubular body is delivered to the first station, and other tubular bodies are in some stage of partial assembly and in completed partial assembly and being withdrawn from the machine during each cycle of operation of the machine.

3,538,584

THREADING AND ASSEMBLING APPARATUS

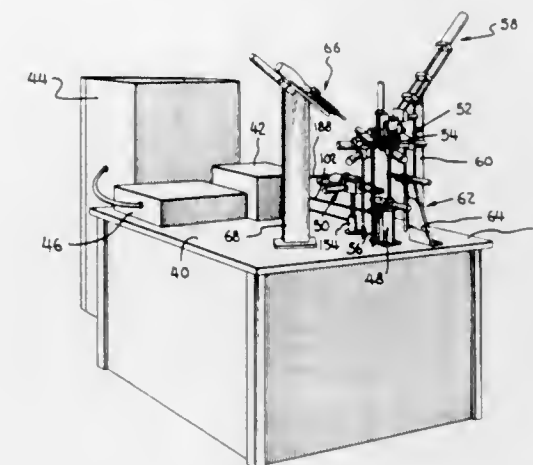
Albert James Carpenter, Hanover, George Robert Metz-dorf, Camp Hill, and Burnell Calvin Stambaugh, Hanover, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Feb. 26, 1968, Ser. No. 708,053
Int. Cl. B23p 19/04

U.S. Cl. 29—208

20 Claims

An apparatus is provided for automatically threading a thin filamentary material through the apertures in a multi-apertured disk to provide an assembly which is of

the lariat and honda type. The apparatus feeds a strip of apertured members to a work station and locates one of the members within a series of guiding dies. The filamentary material is fed to the work station and is guided by the dies through the various apertures in the member



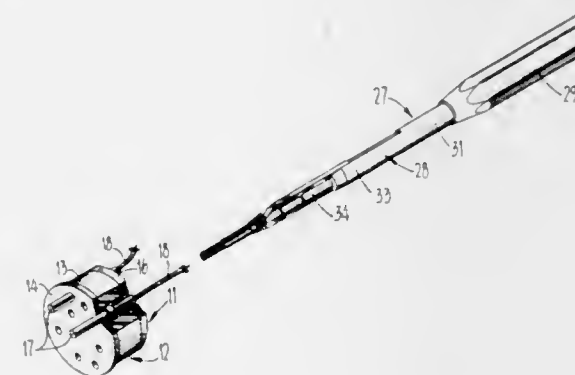
according to a predetermined threading pattern. The filamentary material is not rigid and therefore the guiding surfaces must be capable of permitting the passage of material at extremely low friction levels in order to prevent buckling of the material.

3,538,585

CONTACT INSERTION-REMOVAL TOOL

Robert B. Hendry and Robert B. Hendry, Jr., both of 45833 Warm Springs Blvd., Fremont, Calif. 94538
Filed Jan. 12, 1968, Ser. No. 697,521
Int. Cl. H01r 43/04, 1/00; H05k 13/00
U.S. Cl. 29—203

7 Claims



A tool for the ready insertion and removal of electrical contact pins into and from a multiple pin connector. The tool is provided with a nose arranged to releasably grip a pin such that it may be inserted by the nose between the contact retention springs of the connector, spreading the springs during the insertion process. The nose may then be released from the pin in such a manner as to partially release the springs and permit them to grip the pin sufficiently to hold same in place. The tool may then be withdrawn, leaving the pin operatively mounted in the connector. Removal of a pin is accomplished in reverse order by inserting the nose of the tool and manipulating same to grip the pin and spread the retention springs, thereby releasing the pin for removal upon withdrawing the tool. The tool is particularly useful in applications involving connectors with many pins as employed in high reliability circuits, it being frequently desirable to replace several defective pins rather than discard the entire connector to restore reliability.

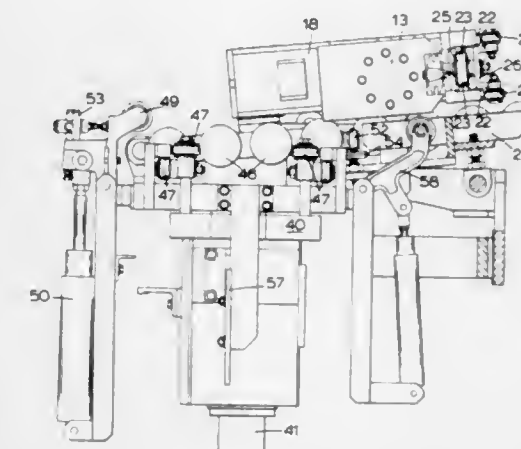
3,538,586

BOX CLOSING APPARATUS

Henry B. Hallsworth, Walsall, England, assignor to Rubery Owen & Company Limited, Darlaston Wednesbury, England, a corporation of Great Britain and Northern Ireland
Filed May 28, 1968, Ser. No. 732,683
Claims priority, application Great Britain, May 30, 1967, 24,816/67; Oct. 10, 1967, 46,162/67
Int. Cl. B23p 19/04

U.S. Cl. 29—208

13 Claims



Apparatus for closing together two boxes such as mould box halves, with the upper and lower boxes arriving alternately in a continuous stream. A first box carrier is positioned to receive a first box and to facilitate receiving of the box movable laterally to a limited extent. The carrier is mounted on means adapted to raise and invert the box on receipt of a box in the carrier. A second box arrives in a second carrier below the raised first box and the second carrier is then raised to close the boxes together. Location means accurately locate the boxes together.

3,538,587

APPARATUS FOR MAKING VALVES

Louis Charles Shurtleff and O O Shurtleff, Austin, Tex., assignors, by mesne assignments, to "Automatic" Sprinkler Corporation of America, Cleveland, Ohio, a corporation
Continuation of application Ser. No. 541,687, Apr. 11, 1966. This application Mar. 21, 1968, Ser. No. 715,092
Int. Cl. B23p 19/02

U.S. Cl. 29—235

6 Claims



One or more tetrafluoroethylene resin sealing rings are simultaneously expanded and moved axially into annular

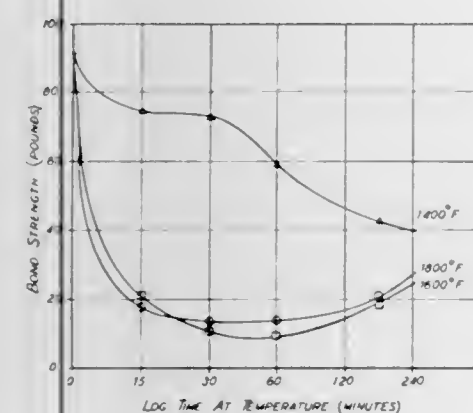
grooves in a valve stem head by means of such a sudden impact that the rings are not permanently stretched but immediately contract into the grooves.

3,538,588 METHOD FOR RECLAIMING COMPOSITE METAL SCRAP

Joseph Winter and Alan J. Goldman, New Haven, Conn., assignors to Olin Corporation, a corporation of Virginia. Original application Feb. 28, 1967, Ser. No. 619,334, now Patent No. 3,481,020, dated Dec. 2, 1969. Divided and this application Apr. 1, 1969, Ser. No. 850,271. Int. Cl. B23q 17/00

U.S. Cl. 29—403

12 Claims



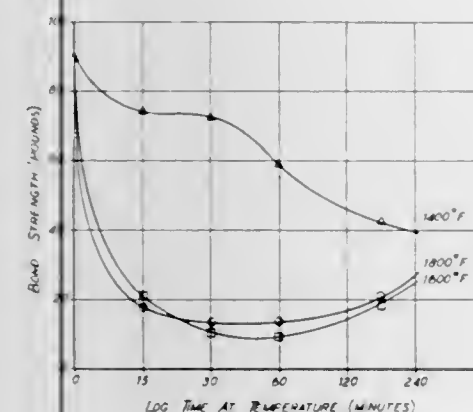
This invention is a method of separating composites made of different metals and/or alloys by weakening the bond between the dissimilar metals in the composite by void formation at the bond interface, and/or grain boundary rupture in the vicinity of the bond interface, and/or formation of a brittle intermetallic phase at the bond interface.

3,538,589 METHOD FOR RECLAIMING COMPOSITE METAL SCRAP

Joseph Winter and Alan J. Goldman, New Haven, Conn., assignors to Olin Corporation, a corporation of Virginia. Original application Feb. 28, 1967, Ser. No. 619,334, now Patent No. 3,481,020, dated Dec. 2, 1969. Divided and this application Apr. 1, 1969, Ser. No. 850,272. Int. Cl. B23q 17/00

U.S. Cl. 29—403

11 Claims



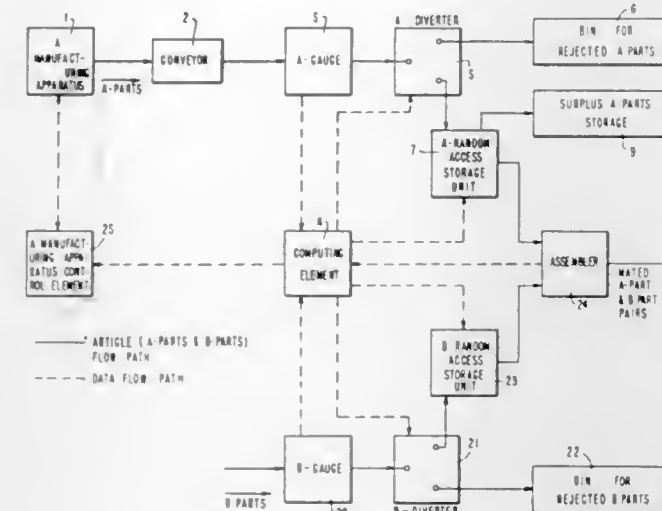
This invention is a method of separating composites made of different metals and/or alloys by weakening the bond between the dissimilar metals in the composite by void formation at the bond interface, and/or grain boundary rupture in the vicinity of the bond interface, and/or formation of a brittle intermetallic phase at the bond interface.

3,538,590 METHOD AND APPARATUS FOR SELECTIVE INTERFITTING PARTS FOR ASSEMBLY

Seymour Bederman, Yorktown Heights, and Larry G. Lankford, Mahopac, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York. Filed Sept. 30, 1968, Ser. No. 775,223. Int. Cl. B23p 19/04; B23q 17/00

U.S. Cl. 29—407

35 Claims



This method and apparatus for selective assembly of parts accepts parts of a first class from a manufacturing source not under the control of the apparatus and parts of a second class from a manufacturing source under the control of the apparatus. The parts are to be assembled in interfitting pairs, one part of the first class being assembled with a part of the second class. The selective assembly apparatus operates to maintain the clearance between the assembled parts of each pair within a clearance range which is substantially smaller than the manufacturing tolerance ranges for the parts of both the first and second classes.

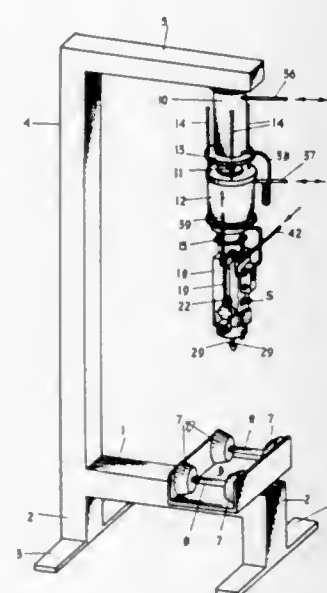
3,538,591 SHIVE EXTRACTOR AND METHOD OF EXTRACTING SHIVES

Joseph Howard Reynolds and Arthur Benjamin Levee, Belmore, New South Wales, Australia, assignors to Ceeco Products Pty. Limited, Belmore, New South Wales, Australia, a company of New South Wales. Filed Jan. 30, 1968, Ser. No. 701,616. Claims priority, application Australia, May 4, 1967, 21,297/67

Int. Cl. B23p 19/02, 19/04

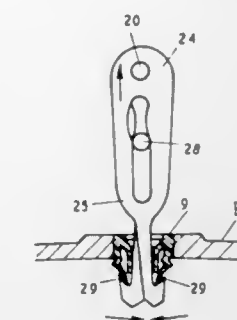
U.S. Cl. 29—427

8 Claims



This disclosure relates to a shive extractor comprising a support stand, actuating means on the support stand

operatively connected to a housing having an extractor assembly mounted therein, said extractor assembly in-



cluding cam operated extracting tongs, and the method of using the extractor to remove shives from containers.

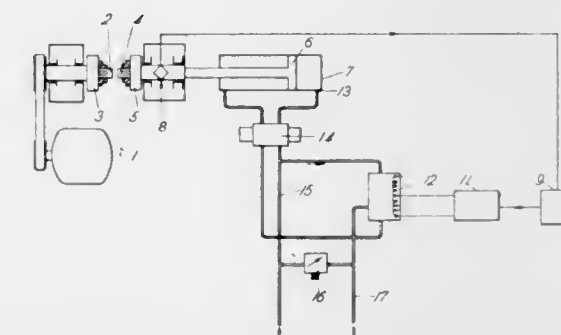
3,538,592 FRICTION WELDING

John Arthur Padilla, Lyn Cottage, Harlton, England, assignor to British Welding Research Association, Cambridge, England, a British body corporate. Filed July 17, 1967, Ser. No. 653,772. Claims priority, application Great Britain, July 18, 1966, 32,187/66

Int. Cl. B23k 27/00

U.S. Cl. 29—470.3

2 Claims



In friction welding, the load on a transmission system responsible for the relative rotation which heats the abutting ends of the workpieces is measured to provide a signal which acts through a closed-loop control system to vary the axial force as a function of the load. This closed-loop control is exerted at least during the initial portion of the friction heating cycle, when without such control the torque reaches a peak substantially in excess of its subsequent steady value and in this way the rating of the transmission system required is reduced.

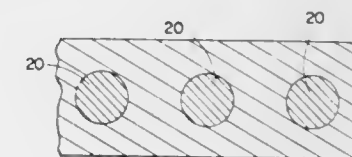
3,538,593 METHOD OF MAKING COMPOSITE STRUCTURE

Julian P. King, Jr., Los Angeles, Norman Klimmek, Palos Verdes Estates, and Phillip A. Beeson, Woodland Hills, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware. Filed Dec. 13, 1965, Ser. No. 513,247

Int. Cl. B23k 31/02

U.S. Cl. 29—471.1

8 Claims



In a process for joining two workpiece components by a solid state joint, the components are subjected to low

compressive force and low temperature for a sufficient period of time to cause creep deformation of the surfaces sought to be joined. Precision machining of the surfaces is avoided, since plastic flow of the material achieves intimate contact therebetween as required for intermolecular exchange across the same. As applied to filamentary composites, the process avoids disarrangement or breakage of the delicate filaments.

3,538,594 METHOD AND APPARATUS FOR IMPROVED WELDING

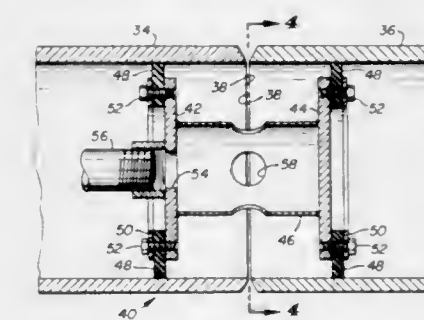
Dan E. Wilkes, 423 Wright Bldg., Tulsa, Okla. 74103

Filed June 30, 1967, Ser. No. 650,274

Int. Cl. B23k 31/02

U.S. Cl. 29—494

3 Claims



This disclosure relates to a method of welding two metal elements, such as lengths of pipe, along juxtaposed edges, including the steps of subjecting one side of such elements, such as the interior of two abutted pipes to be welded, to a vacuum and concurrently welding the juxtaposed edges at the opposite side. The application of a vacuum at the side opposite that being welded functions to assure the penetration of the weld and to achieve the desired configuration of the finished weld. The disclosure has particular application in welding pipes abutted end to end and provides means, of assuring welds having full strength throughout the full 360° periphery of the weld. The invention includes apparatus for use in welding pipelines wherein a vacuum may be applied to the interior of lengths of pipe to be welded during the welding process.

3,538,595 PROCESS FOR FORMING A CONTAINER

Estil N. Barnes, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware. Filed Oct. 27, 1967, Ser. No. 678,752

Int. Cl. B29c 17/14, 25/00; B29f 3/08

U.S. Cl. 29—511

8 Claims



A container is formed by shock cooling the exterior of thin walled plastic tubing at extrusion temperatures to create internal stresses in the walls. When cut, the severed ends of the tubing will flare outwardly, and end pieces are attached thereto to form a container.

3,538,596 METHOD OF MAKING NON-WELDED THERMOCOUPLE JUNCTIONS

Bayard C. Davis, 425 S. Grace St., Lombard, Ill. 60148, and Alvin Singer, 1125 Hohlfelder Road, Glencoe, Ill. 60022

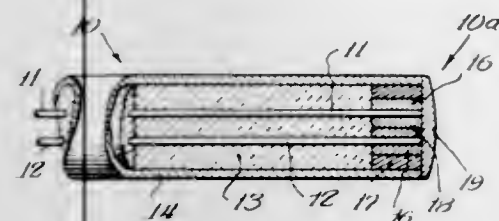
Original application July 28, 1965, Ser. No. 475,495.

Divided and this application Oct. 22, 1968, Ser. No. 769,560

Int. Cl. H01v 1/04

U.S. Cl. 29—573

4 Claims



Methods for manufacturing non-welded thermocouple assemblies of a type specifically adapted for use in high temperature environments are disclosed. Specifically, an electrically conductive plug means is provided with a passageway of dimensions for easily receiving one end of a refractory metal thermocouple wire; after the wire and plug are longitudinally aligned, the plug is swaged into intimate engagement with the wire. A quantity of electrical insulating material of a refractory composition is placed about the remaining portion of the thermocouple wire to complete a sub-assembly that is inserted into a hollow electrically conductive refractory sheath with the plug at one end thereof and with the insulating material maintaining the wire in spaced relation to the sheath.

3,538,597 FLATPACK LID AND METHOD

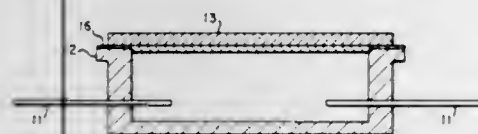
Charles Z. Leinkram, Bowie, and Michael A. Shimkus, Ellicott City, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed July 13, 1967, Ser. No. 653,282

Int. Cl. B01j 17/00; H01j 7/02

U.S. Cl. 29—588

2 Claims



This invention is directed to a method of securing an economical cover to a package which may contain integrated circuits as well as other microelectronic systems. The cover may be formed from a strip of Kovar or other metal with a solder cladding and then applied to the package at a temperature of about 200 degrees centigrade. Such a cover encloses the microelectronic elements within a housing for protection thereof.

ERRATUM

For Class 29—593 see:
Patent No. 3,539,309

3,538,598 METHOD FOR ASSEMBLY OF BALL BEARING ELECTRIC MOTORS

Lawrence W. Wightman, Creve Coeur, and Michael J. Lacy, Florissant, Mo., assignors to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed Sept. 23, 1968, Ser. No. 761,555

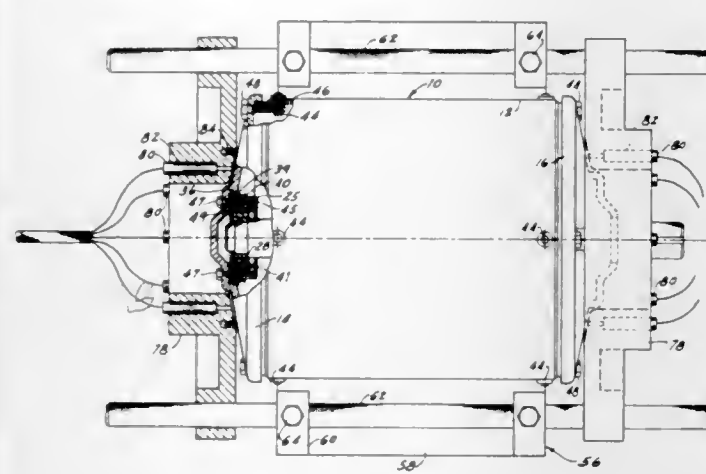
Int. Cl. H02k 15/00

U.S. Cl. 29—596

7 Claims

A method for assembling ball bearing electric motors in which the inner bearing races are fixed on the rotor

shaft and the outer races are slip fitted into locating rings, in which the bearing locating rings are loosely entered into and cemented in central recesses in bearing supporting end shields, which end shields have peripheral surfaces interfitting with peripheral surfaces on the stator assembly concentric with the stator bore; the method consisting in slip fitting the locating rings on the outer bearing races, fixing the rotor concentrically and axially



in the stator bore with shims, applying heat curing cement to the outer surfaces of the locating rings, moving the end shields inward in axial alignment with the stator to enter the locating rings into the recesses therein and to engage the interfitting peripheral surfaces of the end shields and the stator assembly, applying heat locally to the cemented joints to harden the cement and then removing the shims.

3,538,599 METHOD OF MANUFACTURING A PLATED WIRE MEMORY SYSTEM

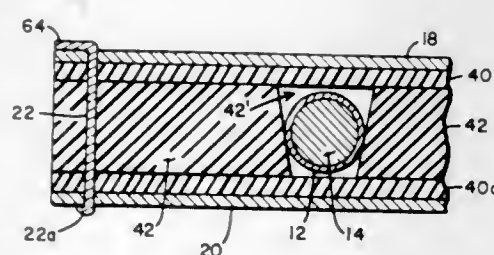
Lawrence J. Michaud, Forest Lake Village, Minn., and Kenneth L. Schoettle, Hudson, Wis., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed June 9, 1967, Ser. No. 644,861

Int. Cl. H01f 7/06

U.S. Cl. 29—604

11 Claims



A plated wire memory structure and manufacturing method are described. A pair of support members having printed circuit drive conductors thereon are arranged orthogonal to the length of the plated wire memory elements on either side thereof, with the plated wires arranged in tunnel structures between the support members. The support members separate the drive conductors from the plated wire memory elements. Improved drive-conductor registration is achieved in the improved manufacturing process by utilizing a single piece of master artwork for making both drive-conductor arrays used in a single memory system.

3,538,600 METHOD OF DEBURRING MAGNETIC CORES

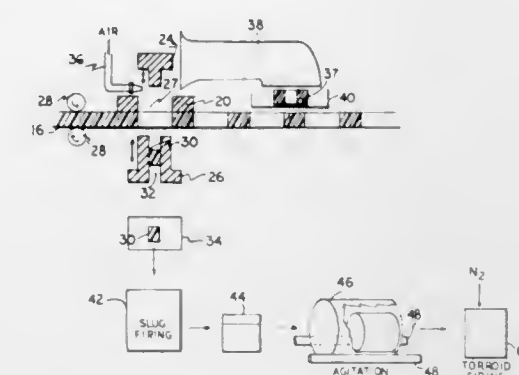
John Farrell and Seamus Gibbons, Dublin, Ireland, assignors to Core Memories, Ltd., Dublin, Ireland, a corporation of Ireland

Filed July 10, 1968, Ser. No. 743,830

Int. Cl. H01f 7/06

U.S. Cl. 29—604

8 Claims



A system for forming magnetic cores is disclosed. The cores are formed by simultaneously stamping green state toroids and center slugs from a sheet containing 70 to 95% by weight of a square loop ferrite and 5 to 30% by weight of a heat pyrolyzable binder. The green state toroids are combined in a closed container with a hard, dense material having a diameter less than the inner diameter of the toroid. The container is agitated for a time between about 5 minutes and 2 hours which is sufficient to remove scratches and burrs from the surface of the toroids. Preferably, the green state slugs are fired to sinter and shrink the slugs and the fired slugs are utilized as the polishing material. The polished toroids are then finally fired to remove the binder to sinter the ferrite particles and to establish the desired square loop characteristics.

3,538,601 METHOD FOR THE MANUFACTURE OF LAMINATED ELECTROMAGNETIC CORES

Patrick J. M. Nérot, Versailles, and Claude P. Vinot, Nanterre, France, assignors to La Telemecanique Electrique, Nanterre, France

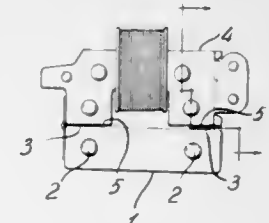
Filed May 20, 1968, Ser. No. 730,439

Claims priority, application France, May 26, 1967, 107,973

Int. Cl. H01f 7/06

U.S. Cl. 29—609

5 Claims



A method for the manufacture of an electromagnet core made of a movable and of a stationary part which comprises assembling punched laminations into two stacks to form the said parts, each defining a polar surface and truing only one of said polar surfaces, by grinding, the other polar surface remaining rough.

An electromagnet core formed of a movable and of a stationary part and made of laminations stacked into the said parts, each part defining a polar surface. One of the polar surfaces is a polished surface whereas the other polar surface is defined by rough edges of the corresponding laminations.

3,538,602 METHOD FOR MAKING STATORS FOR ROTARY ELECTRIC SWITCHES

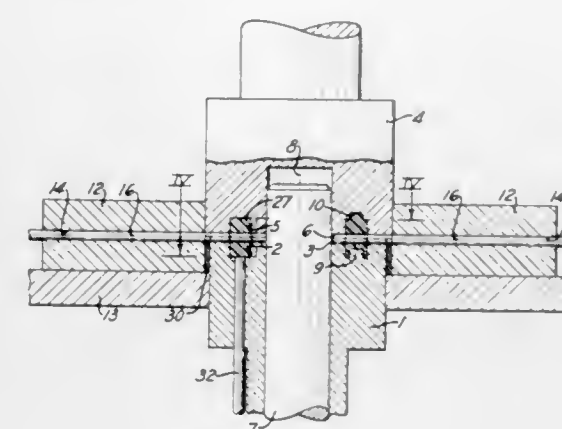
Mogens W. Bang, Ridgway, Pa., assignor to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania

Filed Jan. 15, 1968, Ser. No. 698,015

Int. Cl. H01h 11/00, 11/02, 11/04

U.S. Cl. 29—622

6 Claims



A plurality of wires are fed radially inward toward a common central point and then are stopped a predetermined distance from it. Then a rigid ring of insulating material, concentric with the same point, is molded around the wires near their inner ends, after which the wires are severed a short distance from the outside of the ring. The short lengths of wire left embedded in the ring project from the inside to form electric contact pins, and project from the outside to form electric terminals. The severing of the long wires may be done by lifting the mold, in which the wires are embedded in the insulating ring, to cut the wires where they emerge from wire-guiding means around the mold.

3,538,603 METHOD OF MAKING A TERMINAL BUSHING SUBASSEMBLY

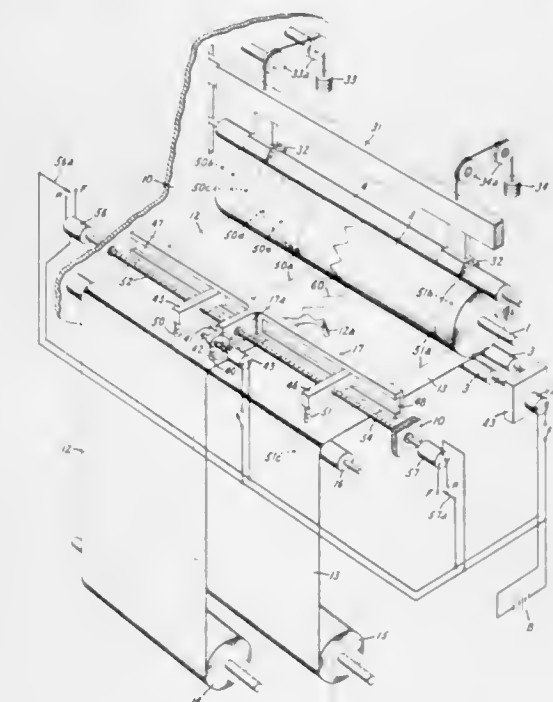
Leonard M. Bejtlich, Lenox, Mass., assignor to General Electric Company, a corporation of New York

Filed May 1, 1968, Ser. No. 725,695

Int. Cl. H01b 19/00

U.S. Cl. 29—631

4 Claims



This application discloses an improved method and apparatus for winding the core sheaths of electric terminal bushings. A wound cylindrical sheath of insulating paper having conical ends is formed by edge slitting of the paper web before winding, retaining the slit edges in planar alignment with the center portion of the web as

the sheath is wound thereby to form precut conical end caps, and finally removing the end caps after winding is complete. The invention is especially useful in the winding of core sheaths having a high degree of asymmetry and/or unusually great axial length. In winding bushings so long that two or more paper webs must be wound in side-by-side axially adjacent relation, a zig-zag center joint is formed by overlapping the inner edges of the webs and then slitting the overlapped portions with a constantly-oscillating knife as the web approaches the winding roll.

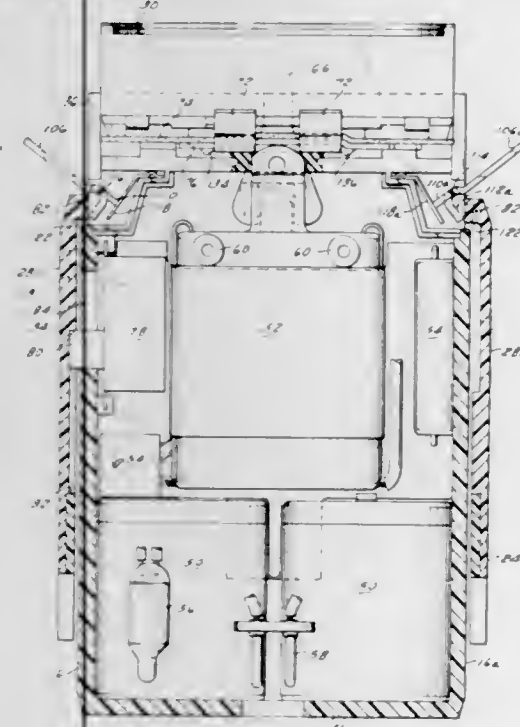
3,538,604

SELF-STORING SHAVER

Henry J. Walter, Lancaster, and Bruce J. Spencer, Strasburg, Pa., assignors to Schick Electric Inc., Lancaster, Pa., a corporation of Delaware
Filed Nov. 27, 1968, Ser. No. 779,490
Int. Cl. B26b 19/38

U.S. Cl. 30—34

15 Claims



An electric shaver is provided with an integral housing adapted to be shifted between a first position wherein the shaver cutting heads are fully enclosed within the housing for storage purposes; a second position wherein the heads are exposed for use; and a third position wherein the heads are further exposed to facilitate cleaning. The housing telescopically fits over the top of the shaver casing and when shifted relative to the shaver casing is adapted to actuate or de-actuate the shaver motor so that the motor is operative when the housing is in the second position and inoperative when the housing is in either the first or third positions.

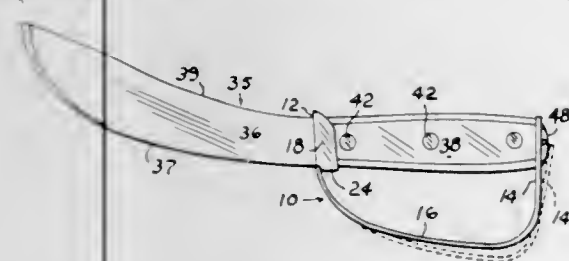
3,538,605

CLIP-ON HAND GUARD FOR KNIVES

Julian G. Smith, 4405 NW, 16th Place,
Oklahoma City, Okla. 73107
Filed Apr. 25, 1968, Ser. No. 724,134
Int. Cl. B26b 29/00

U.S. Cl. 30—295

3 Claims



A stainless steel substantially U-shaped member having a slot adjacent its respective leg end portions surrounds

a butcher knife blade at the respective ends of its handle. Side walls of one leg portion form a socket which is fulcrumed against the knife handle to resiliently maintain the other leg of the member engaged with the blade at the free end of the handle.

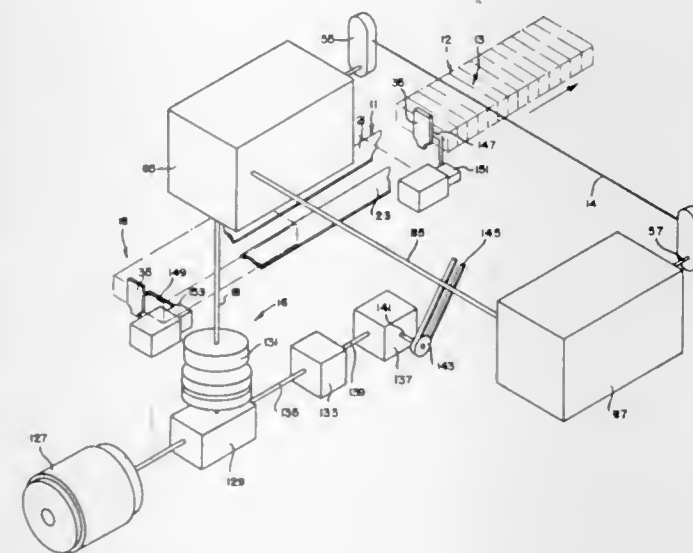
3,538,606

FOOD HANDLING APPARATUS

Robert J. Piatek, Chicago, and Dick A. Miller, Glenview, Ill., assignors to Kraftco Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 8, 1968, Ser. No. 704,118
Int. Cl. A01j 23/00

U.S. Cl. 31—22

10 Claims



An apparatus is disclosed for cutting a segment from a slab of material such as cheese. The apparatus comprises an elongated cutting instrument, supported adjacent one of its ends, and means for moving the cutting instrument from a position above the slab downwardly and in the direction of its length so as to slice the slab while maintaining the longitudinal axis of the cutting instrument generally horizontal and simultaneously moving the cutting instrument horizontally in the direction of movement of the slab as it is being sliced.

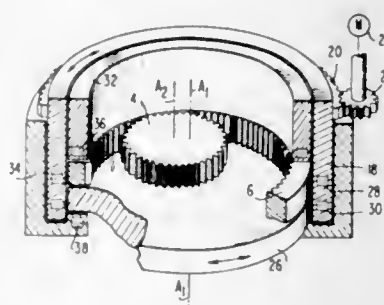
3,538,607

MECHANICAL MOVEMENT FOR DRAWING LINES

Harry D. Montague, 3606 Newark St. NW,
Washington, D.C. 20016
Filed Jan. 2, 1969, Ser. No. 788,530
Int. Cl. B43l 13/00

U.S. Cl. 33—32

18 Claims



A working gear is operatively engaged with a reference gear and carries a working element which moves in a linear path through the axis of rotation of the reference gear. The reference gear is positively rotatable to change the orientation of the linear path of the working element. The axis of the working gear is positively moved in an arcuate path generated from the axis of the reference gear.

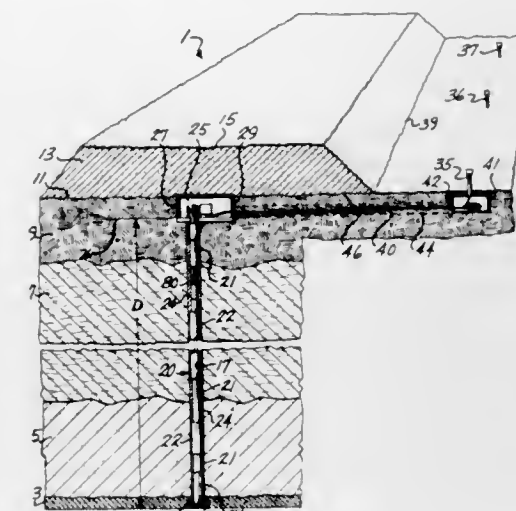
3,538,608

GROUND SETTLEMENT INDICATING APPARATUS

Kenneth E. Bronson, 116 NW, 176th Place,
Seattle, Wash. 98177
Filed Nov. 1, 1967, Ser. No. 679,852
Int. Cl. G01b 3/12, 5/30

U.S. Cl. 33—134

2 Claims



To measure the vertical deflection of a body of material with respect to a stable point on the ground on which the material is supported, one end portion of a flexible cable is anchored to the stable point and the cable is extended upwardly through a telescopic tube and over a wheel freely journaled in a bearing secured to the body on a horizontal axis above the stable point. A tautening weight is applied to the cable so that the cable causes rotation of the wheel as the bearing undergoes deflection with the body. From the wheel and bearing chamber, which may be buried beneath top soil or roadway material, an extensible motion transmission cable leads through a trench with straw slip-packing to an accessible station where a portable monitoring unit may be plugged in to read out the vertical deflection.

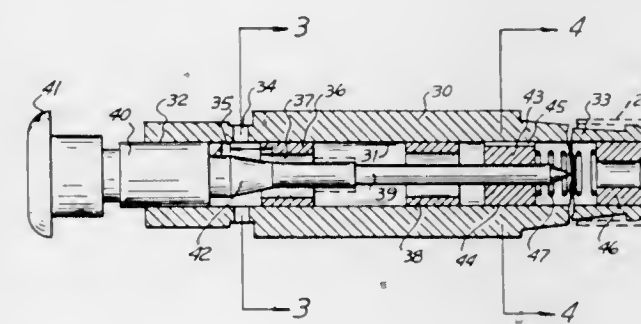
3,538,609

AIR GAUGE CARTRIDGE

William A. Minix, Detroit, Mich., assignor to Freeland Gauge Company, Detroit, Mich.
Continuation-in-part of application Ser. No. 721,272,
Apr. 15, 1968. This application Dec. 29, 1969,
Ser. No. 888,530

U.S. Cl. 33—172

1 Claim



An easy to assemble air gauge cartridge for controlling air bleeding in a pneumatic measuring circuit comprising: a uniform bored outer body with an inlet at one end and a guide bearing at its other end; a series of radial outlets in the outer body adjacent the end guide bearing; an orifice bushing and a stop bushing slidably fitted within the uniform bore and each, respectively, spaced inwardly of the radial outlets; a workpiece engaging stem axially mounted in the uniform bore by the end guide bearing and a fluted air and guide bearing at the opposite end of the stem; a spring, for outwardly biasing the stem, spaced

between a retainer bearing slidably fitted in the inlet, and the fluted air and guide bearing; and an annular tapered air flow control valve on the stem movable into the aperture of the orifice bushing for variably regulating the rate of air flow.

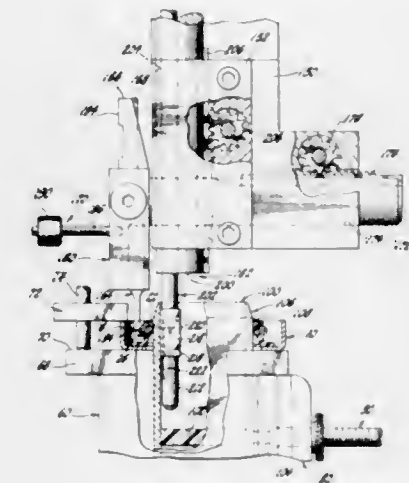
3,538,610

LIP SEAL R-VALUE GAUGE

Vernon M. Zwicker and Carl N. Webb, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 21, 1968, Ser. No. 769,226
Int. Cl. G01b 3/30

U.S. Cl. 33—180

7 Claims



A gauge for nondestructively measuring the R-value of a lip seal having a garter spring inwardly biasing a flexible seal lip wherein the seal is mounted over a transparent sleeve with the seal lip engaging the outer diameter thereof and a first reference device is axially aligned with the center of the garter spring and a second reference device having optical sight means is inserted through the sleeve and aligned at the center of the contact path between the seal lip and the sleeve. A differential indicating device is connected between the first reference device and the second reference device to measure the relative axial distance between the spring and the seal lip or, the R-value for the seal.

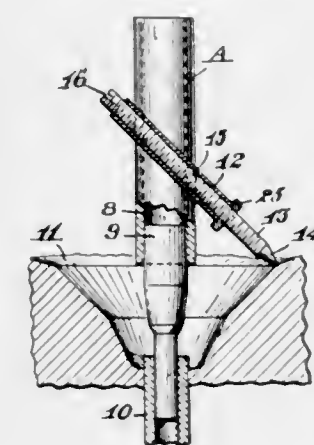
3,538,611

VALVE SEAT GAUGE

Donald E. Nowell, 17428 Chatsworth St.,
Granada Hills, Calif. 91344
Filed Aug. 5, 1968, Ser. No. 750,213
Int. Cl. G01b 3/30

U.S. Cl. 33—180

5 Claims



A valve seat gauge and scriber tool comprising an elongate handle having a pivot receiving aperture in an end thereof, an internally threaded open ended tube means consisting essentially of a welded joint for mounting said tube intermediate its ends tangentially on said

handle and extending diagonally thereof in spaced relation to the pivot receiving end thereof, an elongate stylus extending longitudinally through said tube in screw engagement therewith having a scribing point protruding in inclined relation to the pivot receiving end of said handle; said stylus being adjustable longitudinally of said tube to vary the distance between said point and the axis of said handle.

3,538,612

METHOD OF PRODUCING DRY PRODUCTS WHICH ARE READILY DISSOLVED OR DISPERSED IN A LIQUID AND APPARATUS FOR PERFORMING THE METHOD

Wilhelm Groth, 38 Melweg, 53 Bonn, Germany, and Peter Hussmann, Via Piana 10, Florence, Italy

Filed Apr. 19, 1968, Ser. No. 722,605

Claims priority, application Germany, Apr. 22, 1967, P 41,967; July 18, 1967, P 42,617; Italy, Dec. 12, 1967, 4,850A

Int. Cl. F26b 7/00

U.S. Cl. 34—11

31 Claims



The invention relates to the production of dried products which are quickly and easily dissolved in a liquid. The starting materials which may be food products, condiments and beverages, are liquids containing solids in solution or suspension, or pastes, slurries and the like and are applied as a plurality of superimposed thin permeable layers on a permeable porous carrier. Each layer is dried by passing a drying gas preferably from the layer side through the carrier until it can serve as a porous base for supporting the next succeeding layer, and after applying the final layer the material is dried in a final drying stage until the desired moisture content is achieved.

3,538,613

REGENERATED CELLULOSE SOFTENER RECOVERY

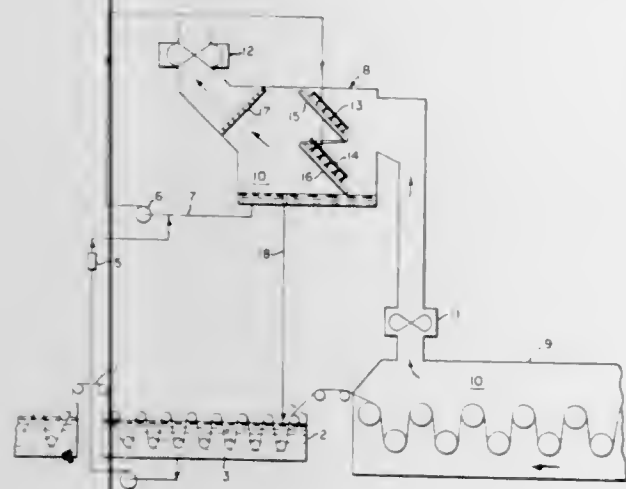
Robert Bruce Perry, Lawrence, Kans., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 27, 1968, Ser. No. 755,679

Int. Cl. F26b 3/00

U.S. Cl. 34—23

14 Claims



Continuous process for the recovery of cellulose softener by scrubbing exhaust air with aqueous softener solution and returning softener solution to the treating bath, and an apparatus therefor.

3,538,614 METHOD AND APPARATUS FOR RECYCLING DRYER STACK GASES

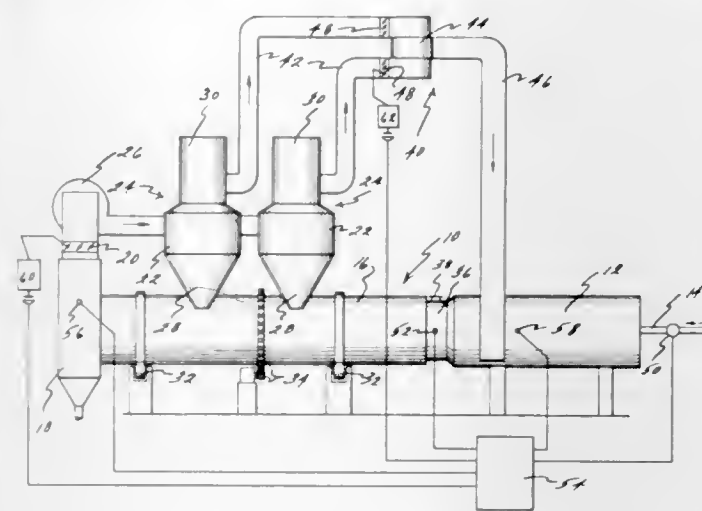
Ervin C. Weimer and Harold W. Shideler, Wheat Ridge, and Stuart M. Porter, Denver, Colo., assignors to The Stearns-Roger Corporation, Denver, Colo., a corporation of Colorado

Filed Sept. 9, 1968, Ser. No. 758,412

Int. Cl. F26b 3/32

U.S. Cl. 34—28

6 Claims



This invention relates to an improved method and apparatus for recycling dryer stack gases wherein said gases, along with the solids entrained therein, are drawn off tangentially from the product-recovery cyclones and returned to the system at a point within the combustion zone near the discharge end of the latter where these oxygen-lean recycled stack gases will not inhibit combustion in the furnace, yet will combine with the primary combustion gases to produce a pre-warmed gas mixture for drying the wet pulp in the dryer that will not support combustion therein and is essentially inert in the sense that it will not bring about oxidative degradation of the product. At the same time, the solids are being burned to eliminate them as atmospheric contaminants and their combustion heat is reclaimed to assist in the drying of the product. An essential feature of the system is that all components thereof, together with the stack gases flowing there-through, be maintained at a temperature above the dew point of the latter so that no condensation can occur.

3,538,615

DRYCLEANING MACHINE WITH ADSORBER

Heinrich Fühling, Augsburg, and Johannes Helmut Sieber, Aystetten, Germany, assignors to Bowe Bohler & Weber KG, Augsburg, Germany, a corporation of Germany

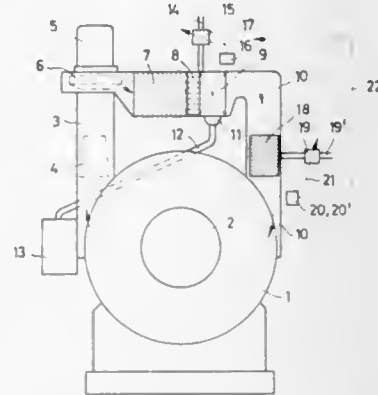
Filed Mar. 25, 1968, Ser. No. 715,648

Claims priority, application Austria, Mar. 23, 1967, A 2,806/67

Int. Cl. F26b 21/06

U.S. Cl. 34—74

7 Claims



To control the moisture content in the atmosphere of a drycleaning drum during a solvent-extraction phase, air

circulated through the drum in a closed path is passed first through an adsorber for the solvent, then through a condenser for the separation of excess moisture, and finally through a heater wherein the air cooled in the condenser is reheated before reentering the drum.

mass. The direction of the air flow is such as to provide a lifting and drying effect on the hair. Preferably, the air is heated and an external source of heated air can be coupled to the brush for providing the heated air flow therefor.

3,538,616

MOISTURE EXTRACTING AND DRYING APPARATUS

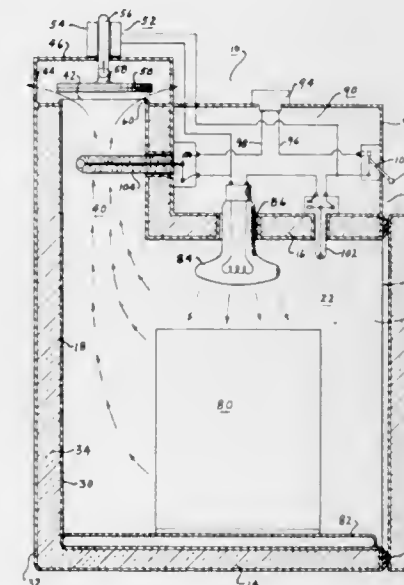
Alfred J. Malling, 902 Woodside, South Bend, Ind. 46614

Filed Sept. 6, 1968, Ser. No. 758,069

Int. Cl. F26b 23/06

U.S. Cl. 34—92

10 Claims



A moisture extracting and drying apparatus having a housing with an enclosed chamber and a door therefor, in which an electrical heating device heats the air in the chamber and the material placed therein for driving off the excess moisture which is dissipated through an opening in or near the top of the housing. The heat generating means and a means for operating the opening and closing of the vent are controlled by an electrical system responsive to temperature and humidity in the chamber.

3,538,617

BRUSH WITH AIR DISCHARGE

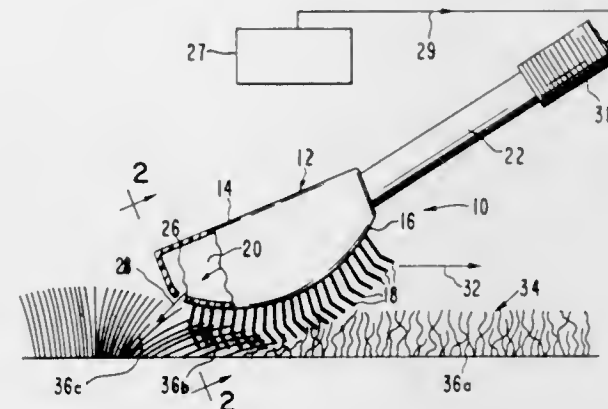
Geraldine S. Walters, 3813 Louis Road, Palo Alto, Calif. 94303

Filed Mar. 29, 1968, Ser. No. 717,197

Int. Cl. A45d 20/00

U.S. Cl. 34—97

10 Claims



A brush having a body provided with a plurality of bristles secured to an outer surface thereof. The body has means for directing a flow of air outwardly of the body and onto a mass of hair or hair-like material immediately after the bristles have passed through the hair

3,538,618 GRAIN DRYING APPARATUS

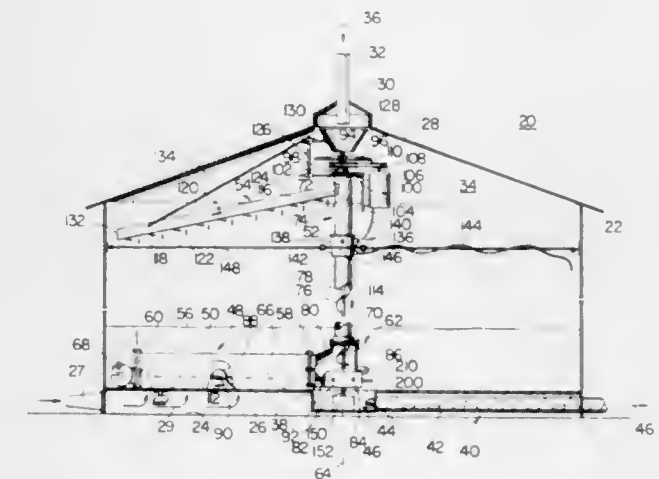
Charles D. Neuenschwander, Indianapolis, Ind., assignor to Farm Fans, Inc., Indianapolis, Ind., a corporation of Indiana

Application July 26, 1968, Ser. No. 756,701, now Patent No. 3,487,961, which is a continuation-in-part of application Ser. No. 581,092, Sept. 21, 1966. Divided and this application Aug. 15, 1969, Ser. No. 850,409

Int. Cl. F26b 25/00

U.S. Cl. 34—102

14 Claims



Grain drying apparatus incorporating a drying and storage bin having a perforated floor through which heated air may flow upwardly and through the grain in the bin. A first elongated auger is provided in the bin extending over the floor adjacent thereto. The first auger is mounted at its inner end for pivotal movement in a plane generally parallel with the floor, and means are provided connected to the first auger for rotating the same about its axis in a direction to move grain toward its inner end, and for propelling the first auger to provide pivotal movement in a predetermined direction about the bin. A second elongated auger is provided in the bin with its lower end positioned adjacent the inner end of the first auger and communicating therewith, the second auger extending upwardly therefrom. Means are provided for rotating the second auger about its axis in a direction to elevate grain from its lower end toward its upper end. Distributing means is provided communicating with the second auger adjacent its upper end for distributing grain elevated thereby in the bin so that the dried strata of grain adjacent the floor of the bin is removed and redistributed over the body of grain in the bin so as to provide a continuous, recirculating flow.

3,538,619

APPARATUS FOR DRYING CONTINUOUSLY MOVING ELONGATED FLEXIBLE MEANS

Franz Kleiner, Remscheid, Germany, assignor to Maschinenfabrik Friedrich Haas GmbH & Co., Remscheid-Lennep, Germany

Filed Oct. 31, 1968, Ser. No. 772,122

Claims priority, application Germany, Nov. 2, 1967, 1,635,277

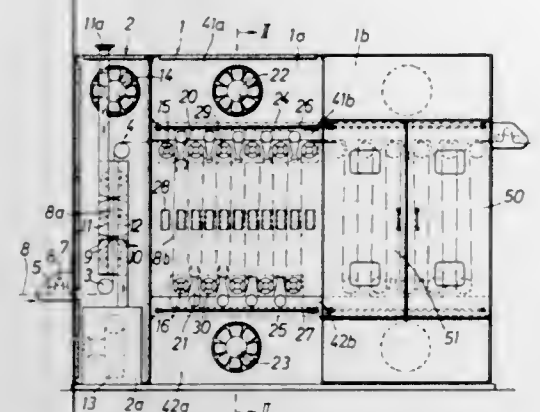
Int. Cl. F26b 13/08

U.S. Cl. 34—159

7 Claims

Elongated flexible means, such as spun cables are wound in open loops about staggered rows of perforated

driven drums and transported by the same. Streams of hot air are blown by nozzles through the leg portions of the open loops in a first drying circuit, while other streams of hot air blown into the interior of the hollow



drums and flow through the perforations of the same past the yoke portions of the open loops so that fast drying is obtained during continuous transport of the elongated flexible means.

3,538,620 SELECTIVELY MANUALLY OPERABLE EDUCATIONAL TOY

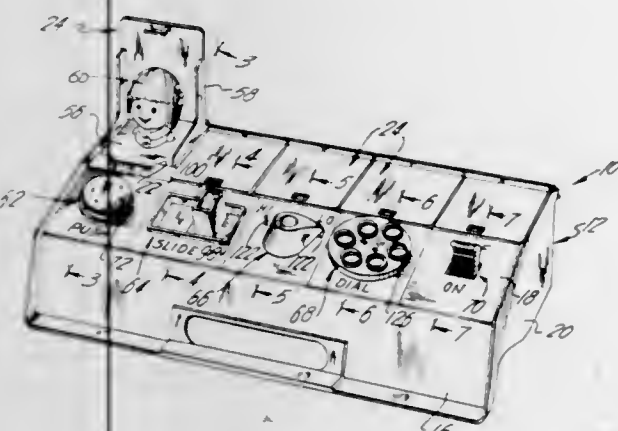
Frank Kohner, Washington Heights, Anthony N. D'Elia, Riverdale, and Edward M. Stolarz, Yorktown Heights, N.Y., assignors to Kohner Bros., Inc., East Paterson, N.J., a corporation of New York

Filed Mar. 18, 1968, Ser. No. 713,817

Int. Cl. G09b 19/00

U.S. Cl. 35—8

11 Claims

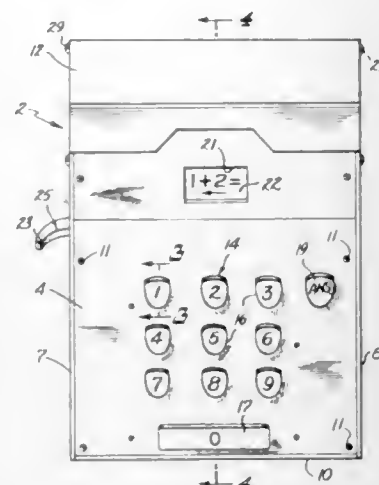


A selectively manually operable educational toy composed of a base pivotally supporting a row of trap doors. Each trap door has fixed at an angle to the door a stand on which a small figure is mounted. The doors are individually held latched to the base under spring loading in positions in which the stands and figures are concealed from view. The doors can be selectively unlatched to allow the springs to snap the figures to exposed positions in response to manual actuation of manipulative control elements associated with the different doors. The control elements are carried by the base, each in physical proximity to the door with which it is associated. The different control elements are secured to the base in a manner such as to permit, for each, a different mode of manipulation that will unlatch the associated door. The control elements and their modes of manipulation simulate common household controls such as a push button, a slide button, an oscillatory knob, a telephone dial and a toggle-switch lever.

3,538,621 TEACHING APPARATUS Wataru Mayeda, 1106 S. Western, Champaign, Ill. 61820 Filed Nov. 16, 1967, Ser. No. 683,664 Int. Cl. G09b 3/02

U.S. Cl. 35—9

6 Claims

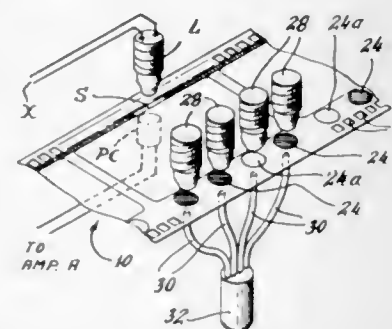


A teaching apparatus comprising a tape and driving means including a manually operated lever for moving the tape past a display station, said tape being imprinted with problems and answers for display and having circuit conditioning means in the form of punched holes operable at a control station to successively condition predetermined electrical circuits to the driving means for completion by closure of switches; and a keyboard, each key of which closes one of said switches. Masking means conceal portions of the tape containing the answers until operation of the proper key energizes the driving means whereby operation of the lever causes the tape to advance from a first position wherein the problem is displayed to a new position wherein both the problem and answer are displayed. The keys must be operated in proper sequence to cause the movement of the tape through the machine and correctly set forth the answer to the problem.

3,538,622 TEACHING DEVICE Ernest A. Zadig, 15 W. 72nd St., New York, N.Y. 10023 Filed Jan. 29, 1968, Ser. No. 701,330 Int. Cl. G09b 7/12

U.S. Cl. 35—9

5 Claims



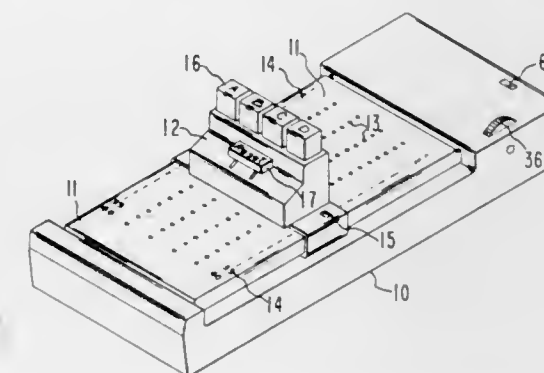
A teaching system comprises a teaching film having thereon in successive frames indicia such as instructions or lesson material and questions and multiple answers relating thereto, and a viewer in which the film is exhibited and transported. The film may be advanced continuously while the student is reading a lesson and then stopped and advanced again in response to the student's selection of the correct one of several button switches associated with the answers respectively. If there are a plurality of questions the film will be stopped for each question and restarted by the selection of the correct answer selection means. The film may be shipped by mail in a film magazine which is inserted in the viewer which is thereby

loaded for transport of the film. Selection of any one of the alternative answer selection means actuates recording means showing in each case whether a correct or incorrect selection has been made. Selection of the correct answer button switch actuates other means controlling the recording means so that a correct answer selection is recorded.

3,538,623 INSTRUCTIONAL DEVICE Lowell B. Johnston, Daly City, Calif., assignor to Dymedia Incorporated, Palo Alto, Calif. Filed May 8, 1968, Ser. No. 727,637 Int. Cl. G09b 3/06

U.S. Cl. 35—9

16 Claims

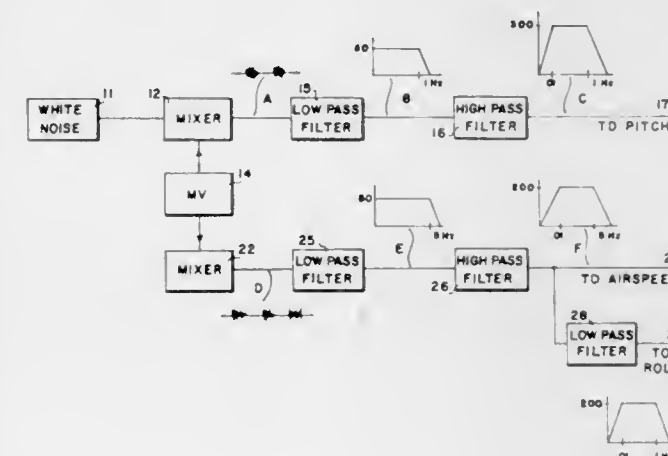


An instructional device to facilitate adjunct auto-instruction is disclosed wherein there is provided an elongated base having rows of holes therein and a movable carriage adapted to slide along the base over the rows of holes. The carriage includes a row of keys and punches for registering the answers to multiple choice questions on a punch card positioned on the opposite side of the elongated base. Means are provided to shift the carriage from a first row of holes corresponding to a first question to a second row of holes corresponding to a second question, only after the correct answer to the first question has been selected by depressing the appropriate key punch.

3,538,624 AIRCRAFT SIMULATION George E. Minnich, Vestal, and Alexander J. Uguhart, Binghamton, N.Y., assignors to Singer-General Precision, Inc., Binghamton, N.Y., a corporation of Delaware Filed Sept. 9, 1968, Ser. No. 758,259 Int. Cl. G09b 9/08

U.S. Cl. 35—12

7 Claims



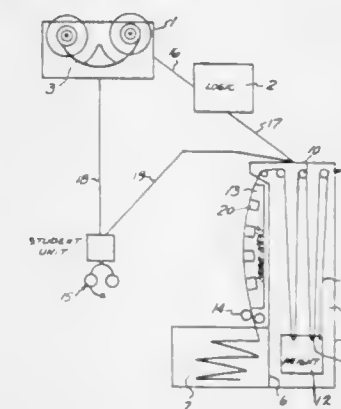
In fixed-base cockpit trainers for simulating the flight characteristics of aircraft, the pitch and roll accelerations are often simulated to produce in the mind of the trainee the impressions he would receive in the actual aircraft. One form of these motions is produced by what is known as "rough air." The effect of rough air is to buffet the trainee in the cockpit. This effect can be introduced by the

instructor, if there is one, or automatically by programming it into the training course. One device for producing the effects of rough air is described in this invention. The scheme devised herein is for use in solid state electronic analog computer systems and includes two channels of transmission through the system. A white noise source is multiplexed into the two channels by means of a free-running multivibrator. Since the energy content of low frequency (below 5 Hz.) random noise is very low, a multiplexing system is employed. The effect of the multiplexing is to mix the output of the multivibrator with the random noise and produce useable noise in the low frequency range. Active filters in each channel filter out all but the low frequency components, the difference components, which are passed-on to the pitch and roll computer sections. In those computer sections, the input signals from the rough air generator are used as inputs to affect the computations of the pitch and the roll. In addition, a slightly higher frequency signal is bled off to control the airspeed indicator to duplicate the effect of rough air on the pitot tube in the aircraft.

3,538,625 INSTANT RESPONSE SYSTEM FOR LANGUAGE LABORATORY AND METHOD Sidney C. Knight, Southfield, Mich., assignor to Instru- matic, Inc., Detroit, Mich., a corporation of Michigan Filed Sept. 17, 1968, Ser. No. 760,265 Int. Cl. G09b 5/04

U.S. Cl. 35—35

5 Claims



In an electronic class room which includes one or more lesson sources, a plurality of student units including amplifiers and head phones and suitable electrical controls, an instant replay system which comprises moveably mounting a fixed length of a magnetic tape to move over guides in one direction past a pick up and into a storage chamber to record the lesson source and the student's response thereto over a portion of its length and a weight on the trailing end of the student tape elevated during said recordings over a portion of the length of said student tape, and controls to release the student tape, the weight dropping by gravity to instantly return the tape to a replay position of the recorded source and student response, and the method of providing said instant rewinding for replay of the recorded lesson source and student response.

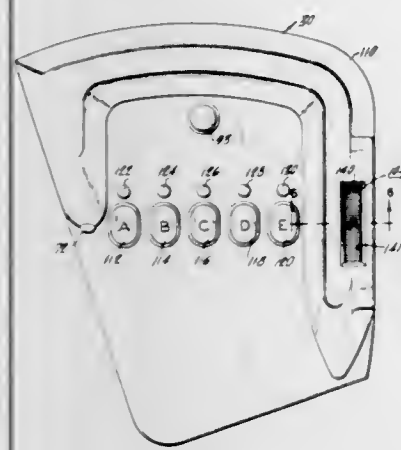
3,538,626 STUDENT-RESPONDER APPARATUS Wallace E. Frank, Westtown, Pa., assignor, by mesne assignments, to Response Systems Corporation, Media, Pa., a corporation of Pennsylvania Filed Feb. 16, 1968, Ser. No. 705,967 Int. Cl. G09b 5/00

U.S. Cl. 35—48

6 Claims

A student-responder system of the type comprising an instructor's console and a plurality of student-responder units connected to the console, the responder units having switch are operated by the students to indicate their

responses to questions, these responses being automatically recorded. An alphabet selector is provided in each responder unit by means of which each student can spell out his name and cause it to be recorded adjacent the records of his responses. The alphabet selector may be an alphabetized wheel which the student turns successively to the successive letters of his name. The corresponding successive positions of the wheel are encoded in parallel binary digital form and read out, letter by letter, by operation of a sequencer which sequentially interrogates



all of the student responder units. The resultant serial read-out signal is supplied to an electric printer in such manner that the successive letters of the names of each student are printed in the same column as are his responses. By operation of appropriate switches, the same coincidence or AND circuits utilized for read-out of student responses may be used for read-out of name-letter data, and a single line used to transmit both response data and name data from each responder to the recording apparatus.

3,538,627

FOOTWEAR EQUIPMENT UNIT FOR SKIING AND OTHER PURPOSES

Andre Pierre Honore Labat-Camy, 8-bis Rue Faldherbe, 94 Saint-Mande, France

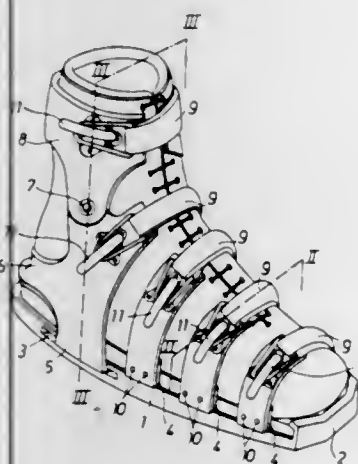
Filed Mar. 3, 1969, Ser. No. 803,677

Claims priority, application France, Mar. 7, 1968, 142,661

Int. Cl. A43b 3/10

U.S. Cl. 36—2.5

10 Claims



Ski equipment including a shoe and an outer strengthening support which fits over the shoe and having two superposed elements pivoted to each other about an axis coinciding with the axis of the tibio-tarsal articulation of the foot. A portion of one of the support elements extends under the sole of the shoe.

3,538,628

FOOTWEAR

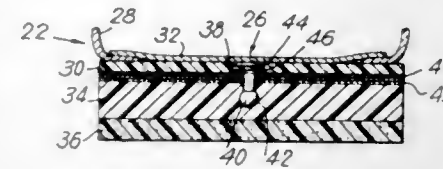
Arthur Einstein, Jr., New York, N.Y., assignor to Lord, Geller, Federico and Partners, Inc., New York, N.Y., a corporation of New York

Filed Sept. 23, 1968, Ser. No. 761,585

Int. Cl. A43c 13/00

U.S. Cl. 36—15

6 Claims



Diverse footwear portions and means enabling the selective separable securement therebetween to define diverse combination footwear assemblies, enabling rapid and easy selection, assembly, disassembly and re-arrangement thereof.

3,538,629

METHOD OF DIGGING MANHOLES

Charles W. Hemphill, Lubbock, Tex.

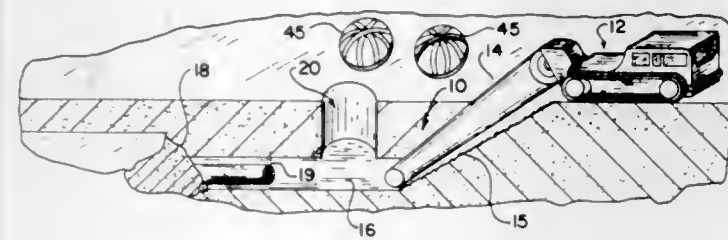
(Rte. 2, Box 30A, Ben Wheeler, Tex. 75754)

Filed Nov. 16, 1967, Ser. No. 683,523

Int. Cl. E02f 1/00, 5/20

U.S. Cl. 37—195

3 Claims



A method of digging manholes which includes providing spaced apart side digging wheels upon the rotating wheel of a ditching machine. The digging wheels are contoured in a manner to cause the main rotating wheel of the ditching machine to cooperate with the side diggers whereupon a cylindrical vertical manhole may be dug at predetermined spaced apart locations along a previously formed ditch. The side diggers are removably affixed to the spaced apart rotating wheels of a conventional trenching machine which may be either the ladder or wheel type.

3,538,630

DISPLAY HOLDERS

Peter DeKorte, Wykoff, N.J., and Edward Ten Hoeve, Pompano Beach, Fla., assignors to Empro Products Company, Inc., Paterson, N.J., a corporation of New Jersey

Filed Mar. 7, 1968, Ser. No. 711,264

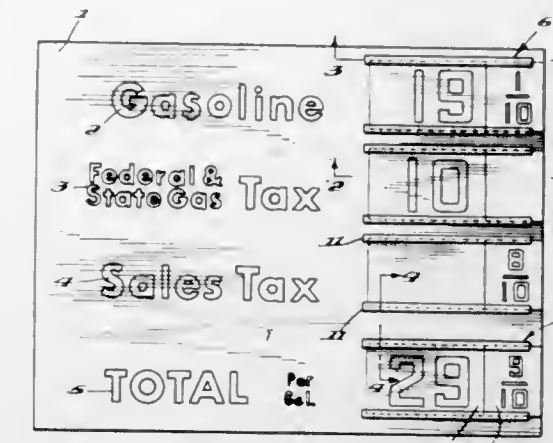
Int. Cl. G09f 3/20

U.S. Cl. 40—5

3 Claims

A display holder having one or more display cards therein, with indicia on the outer face of each card for showing the sale price of a basic commodity, such as gasoline, together with one or more items of tax applicable thereto, such as Federal and State excise tax and sales tax, as well as the total of these items. The display holder card has a plurality of separate holders mounted thereon or secured thereto so as to receive price members indicating the value of these respective items and which

can be inserted and removed at one end of the display holder card, with ribs at the opposite end of each holder



for limiting the insertion of the price members to maintain the vertical alignment thereof on the card.

3,538,631

VARIABLE FORMAT RESTAURANT MENU

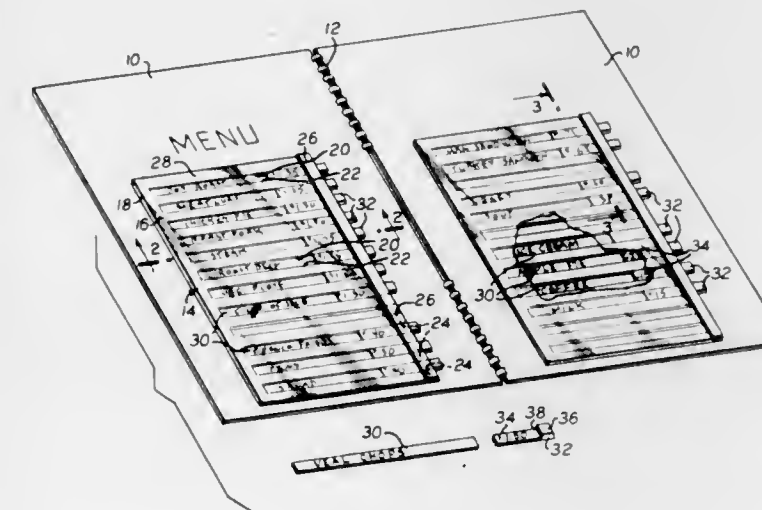
Edward Hammond Boatner, 76 W. 69th St., New York, N.Y. 10023

Filed July 23, 1968, Ser. No. 746,963

Int. Cl. G09f 11/30

U.S. Cl. 40—64

1 Claim



A restaurant menu wherein individual food items and the prices therefor are marked on strips and tabs which are interchangeable to permit variation of the menu format. The menu is structurally formed of a flat base member with a frame mounted thereon. The strips and tabs are interchangeably removably mounted within the frame. The menu is particularly adaptable to be manufactured in kit form comprising designations uniquely suited to a particular restaurant.

3,538,632

LENTICULAR DEVICE AND METHOD FOR PROVIDING SAME

Kay Anderson, New Rochelle, N.Y., assignor to Pictorial Productions, Inc., Mount Vernon, N.Y., a corporation of New York

Filed June 8, 1967, Ser. No. 644,566

Int. Cl. G09f 19/00

U.S. Cl. 40—106.51

7 Claims

A lenticular device having a lens sheet of transparent material with a plurality of parallel lenticular ridges form-

ing lens elements on the upper surface of the sheet. In addition, the device has a carrier sheet positioned under the lens sheet with an upper surface adapted for face to face contact with the undersurface of the lens sheet. The upper surface of the carrier sheet has a plurality of pictures of a subject resolved graphically into a series of



segments in the form of parallel complementary lineations spaced in optical registry for viewing through the lens sheet. Advantageously, the carrier sheet has indicia thereon for coloring various parts of the picture with transparent colored material in accordance with a predetermined color scheme to enhance the effect of the lenticular device.

3,538,633

EXPRESSWAY SIGN

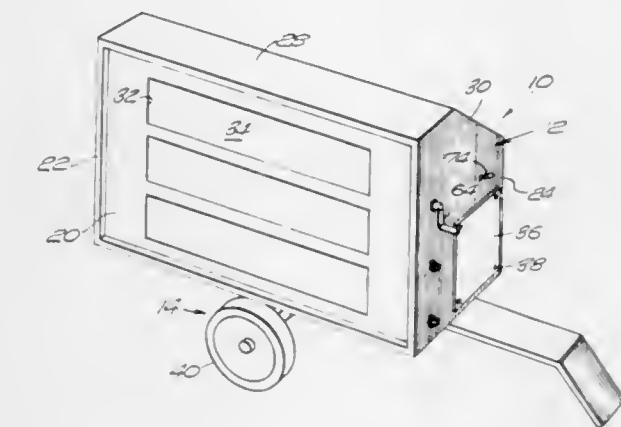
Frederick H. Elliott, Jr., 63 Maplewood Drive, East Greenwich, R.I. 02818

Filed Apr. 15, 1968, Ser. No. 721,337

Int. Cl. G09f 11/18

U.S. Cl. 40—129

4 Claims



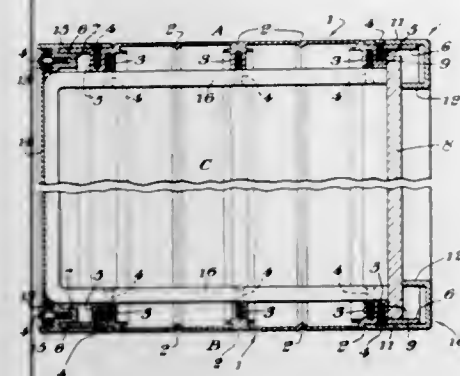
A portable sign including a housing having windows formed therein through which messages are visible, the messages being imprinted on movable tapes located within the housing, illumination means that are located in the housing being provided for illuminating the messages as they appear on the tapes.

3,538,634
BOX SIGNS

Harold Bloom, Flat 3, Ambassador House, Carlton Hill,
London, NW. 8, England
Filed Sept. 14, 1967, Ser. No. 667,824
Int. Cl. G09f 1/12

U.S. Cl. 40—152

4 Claims



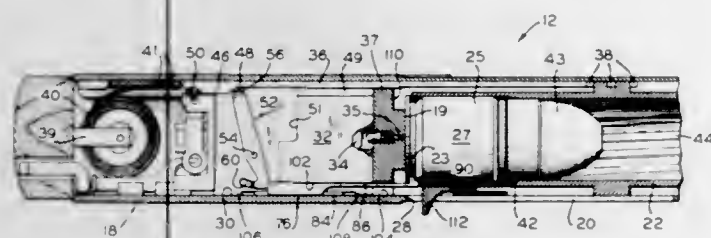
Sign for advertising etc. in the form of a box with a translucent side, and connecting walls between end walls, the connecting walls each having longitudinal projecting ribs on their respective inner surfaces, the ribs having a lengthwise channel, the opposite faces of which are longitudinally serrated to accept screws anywhere along the channel.

3,538,635

COMBINED EXTRACTOR AND EJECTOR MECHANISM FOR AUTOMATIC GRENADE LAUNCHER
Harvey H. Friend, Hamden, Conn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Dec. 26, 1968, Ser. No. 787,008
Int. Cl. F41c 11/00, 15/00

U.S. Cl. 42—10

14 Claims



In a grenade launcher attachment of the type wherein the cartridges are fed from a depending box-type magazine and the functional engagement between the fired projectile and the rifling in the barrel actuates the latter forwardly to open the breech for the insertion of the next cartridge fed from the magazine, an extractor is resiliently mounted in the receiver for longitudinal movement forwardly and rearwardly of a fixed breech face therein. A pivotal lever is transversely mounted in the receiver rearwardly of the extractor and is arranged to be pivoted in opposite directions by spaced cam surfaces on an operating rod connected to the barrel. Movement of this lever in the counterclockwise direction during the return of the barrel to battery position actuates the extractor forwardly into gripping engagement with the chambered grenade cartridge while movement of the lever into the clockwise direction permits the extractor to be biased to the rear so that the fired cartridge case will be pivoted about a fixed fulcrum point in the receiver and out through an ejection port in the side thereof. This rearward movement of the extractor is continued until the cartridge grip-

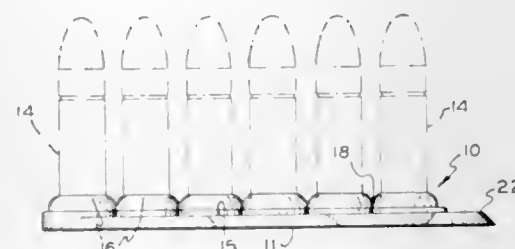
ping end thereof is fully retracted into the receiver out of the feeding path of the next grenade cartridge being advanced from the box magazine.

3,538,636

RESILIENT CARTRIDGE HOLDER HAVING AN ELONGATED BASE CONTAINING A PLURALITY OF CARTRIDGE-RECEIVING RECESSES
Sam W. Roth, 743 Vista Drive,
Redwood City, Calif. 94062
Filed July 18, 1968, Ser. No. 745,840
Int. Cl. F42b 39/04, 39/06

U.S. Cl. 42—87

1 Claim



A cartridge holder having an elongated unitary base member of resilient plastic material and a plurality of circular recesses formed in one side thereof, said recesses being formed in a straight line. Each of the recesses is adapted to receive and seat the flanged butt end of a cartridge. The recesses extend into and below the surface of the base member. A resilient flange extends around each of the recesses and forms a lip to grip the flanged end of the cartridge seated in the recess. Each flange extends above the surface of the base member, and adjacent flanges are disposed so as to touch each other to form a center section along the base member of greater thickness than the rest of the base member. Flexing of the base member about a transverse axis aids in inserting and removing cartridges in and from the recesses. An integral tab is formed at one end of the base member. The tab is provided with an aperture therethrough to receive a display peg to suspend the holder from such end.

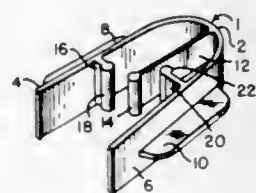
3,538,637

CLICKER TOY

Willard S. Smith, Lindstrom, Minn., assignor to Plastic Products Company, Inc., Lindstrom, Minn., a corporation of Minnesota
Filed Oct. 30, 1968, Ser. No. 771,734
Int. Cl. A63h 5/00

U.S. Cl. 46—189

7 Claims



A clicker toy constructed of relatively hard plastic material molded in the form of a U-shaped member having two arms bendable towards each other and a flexible sounding reed extending lengthwise therebetween. Non-aligned projections depending inwardly from the two arms serve to engage the sounding reed and snap it back and forth between the arms to produce clicking noises as the arms are pressed towards each other and then released.

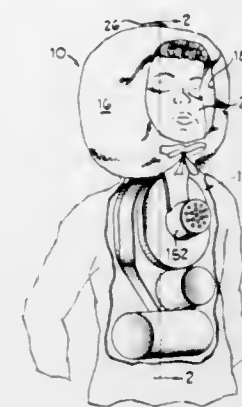
3,538,638

THREE-FACED DOLL WITH PHONOGRAPH

Marvin I. Glass and Burton C. Meyer, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Feb. 8, 1968, Ser. No. 703,961
Int. Cl. A63h 3/12, 3/28

U.S. Cl. 46—232

2 Claims



The doll has a rotatable head having three faces, one laughing, one crying and one sleeping. A hood, open on the front encloses the head, and one or another of the faces is selectively registered with the hood opening. A motor driven phonograph mechanism within the doll's body produces a laughing or a crying sound, and switching mechanism in the doll's neck, responsive to the position of the head, activates the phonograph to produce sound appropriate to the expression on the particular face exposed in the hood opening.

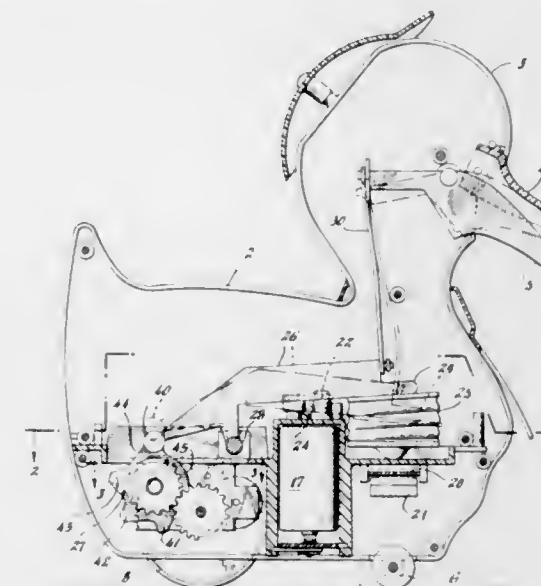
3,538,639

NOVELTY TOY DUCK

Patrick M. Tomaro, Maplewood, N.J., assignor to Remco Industries, Inc., Harrison, N.J.
Filed Jan. 27, 1969, Ser. No. 794,051
Int. Cl. A63h 33/26

U.S. Cl. 46—232

8 Claims



A toy duck is provided which simulates actions and noises of a live duck and which is remotely controlled by a whistle. The duck has a cam-actuated noisemaker controlled by its driving motor which allows it to quack in sequential groups more like a real duck and has a bill action coordinated with the quacking sound. The waddling motion of the duck is controlled by a whistle blown

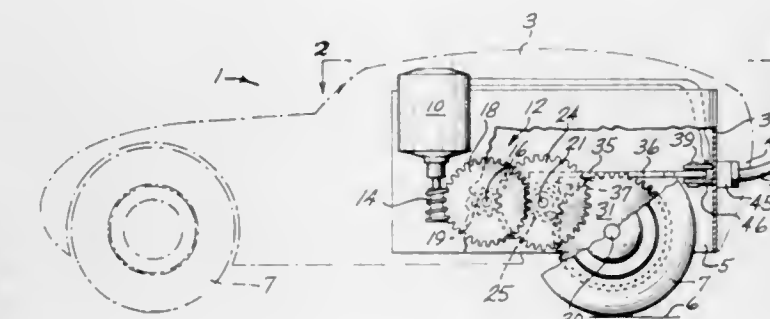
by the child and received by a microphone or the like. The microphone circuit is inactive during the period of action of the duck, and so, is not affected by the quacking.

3,538,640

POWER DRIVE DISCONNECT FOR TOY VEHICLES
William L. Hayes, 12015 NE. 66th, Kirkland, Wash. 98037, and Yukimitsu Matsushiro, Tokyo, Japan; said Matsushiro assignor to said Hayes
Filed Nov. 24, 1967, Ser. No. 685,664
Int. Cl. A63h 29/22

U.S. Cl. 46—243

11 Claims



A toy vehicle having two modes of operation over the ground, the first or "self-power" mode utilizes a windup spring or electric powered drive motor operatively connected through a gear transmission to drive ground engaging wheels to move the vehicle along the ground. The other mode is a "freewheel" mode wherein the power transmission disconnects the drive motor from the ground engaging wheels so that the vehicle can be pushed by the child in the freewheel mode without damaging the gears of the power transmission, or the operating mechanism of the power drive motor. In a preferred embodiment the disconnect mechanism is biased to the freewheel position and is actuated to the self-power mode by a switch, or in the case of remote controlled toys by a portion of the plug connector between the vehicle and the remote control unit.

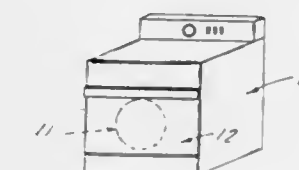
3,538,641

TWO-WAY DRYER DOOR

Lewis L. Miller, Benton Harbor, Mich., and Joseph P. Lux, Marion, Ohio, assignors to Whirlpool Corporation, a corporation of Delaware
Filed June 14, 1968, Ser. No. 737,106
Int. Cl. E05d 15/52

U.S. Cl. 49—192

17 Claims



Apparatus for effecting a multiaxis closure hinging arrangement are provided which comprises a first, second and third hinge means spaced about the closure periphery, an axis selector, a safety lock and a snap action mechanism. The selector is linked to the first and third hinge means whereby on operation by the user the closure may

be swung alternately about either a horizontal axis passing through the first and second hinge means or a vertical axis passing through the second and third hinge means. A leaf spring actuates the snap-action mechanism to assure that the linkage will always travel completely and instantaneously to one or the other of the two linkage positions. The safety lock cooperates with first and third hinge means to allow shifting of the axes only while the door is fully closed and additionally serves a dual function as a door catch. In one embodiment the axis selector includes a finger-tip operated pivotal lever concealed behind a closure traversing handle, while in another embodiment the selector includes a centrally-positioned T-shaped handle attached to a spring-block structure which limits the torque that may be transmitted through the selector and hinge means.

3,538,642

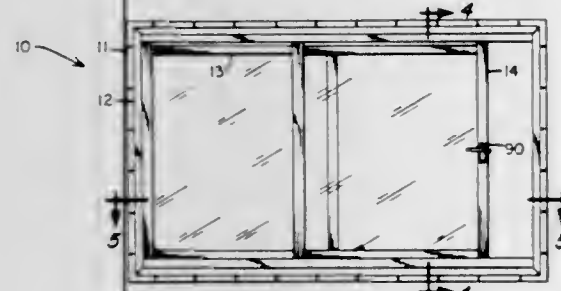
HORIZONTALLY SLIDING SASH WINDOWS
Vern P. Fredricksen, Bayport, Minn., assignor to Andersen Corporation, Bayport, Minn., a corporation of Minnesota

Filed Dec. 18, 1968, Ser. No. 784,586

Int. Cl. E05d 15/10

U.S. Cl. 49—213

2 Claims



A window construction having an extruded track located in the lower portion of the frame for slidably guiding a sash in a weather-sealed relation against the frame.

3,538,643

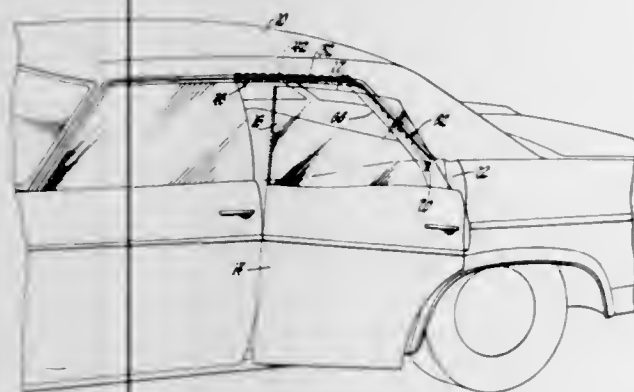
DOOR FLIPPER ARRANGEMENT
Donald E. Omlie, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 7, 1969, Ser. No. 822,635

Int. Cl. E06b 7/20

U.S. Cl. 49—311

3 Claims



A combination door window edge seal and retaining member is pivotally mounted on the vehicle body adjacent the upper portion of the door opening and movable from

an extended position to a retracted sealing and retaining position over the upper window edge portion by a member remote from the door window in response to closing movement of the vehicle door.

3,538,644

PORTABLE SPARK PLUG CLEANER

Sheldon J. Morris, 9930 Edmore Place,

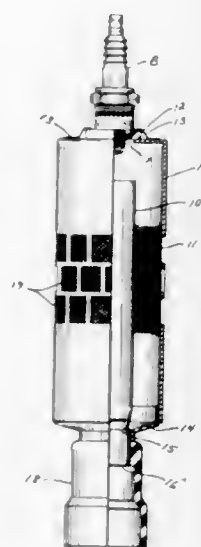
Sun Valley, Calif. 91352

Filed Apr. 15, 1968, Ser. No. 721,423

Int. Cl. B24c 3/06, 3/34

U.S. Cl. 51—8

1 Claim



A portable spark plug cleaner in which a venturi converts a low pressure air stream into a blast to carry abrasive particles against a spark plug which is held in a cylindrical housing having an air filter and an exhaust.

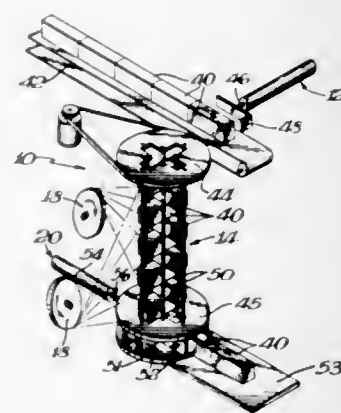
3,538,645

PARTS TREATING APPARATUS
Davis Lee Baughman and James Hugh Carpenter, Jr., Hagerstown, Md., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware
Continuation-in-part of applications Ser. No. 553,183, May 26, 1966, and Ser. No. 592,799, Nov. 8, 1966.
This application June 11, 1968, Ser. No. 736,153

Int. Cl. B24c 3/14

U.S. Cl. 51—15

10 Claims



A parts treating apparatus includes a barrel open at both ends to permit the axial flow of parts therethrough. The barrel rotates to expose different portions of the parts to the treating media as the parts move through the barrel. The barrel is in a non-horizontal orientation so that parts may be fed thereto with the aid of gravity.

3,538,646

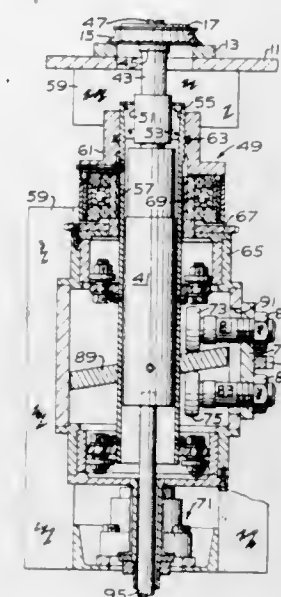
RECIPROCATOR FOR GRINDING WHEEL SPINDLES

Ronald C. Beal, Pekin, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Mar. 26, 1969, Ser. No. 811,692

Int. Cl. B24b 7/00

U.S. Cl. 51—34

6 Claims



A reciprocator for a grinding wheel comprising an air motor mounted within a reciprocable sleeve upon which a cam is fixed. The cam is reciprocally actuated by a pair of rollers mounted on a rotatable housing.

ERRATUM

For Class 51—76 see:
Patent No. 3,539,314

3,538,647

FORMING DEVICE

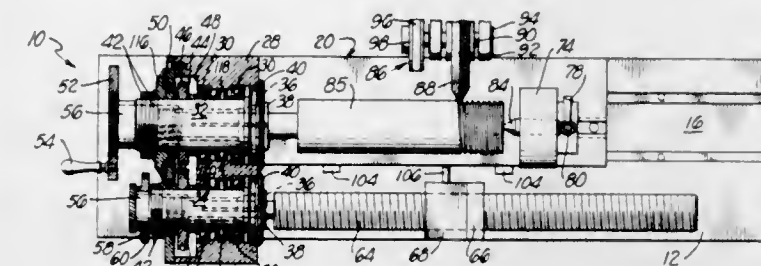
Bronislaw Woloszyn, 638 E. Chester Road,
Covina, Calif. 91722

Filed Jan. 9, 1968, Ser. No. 696,616

Int. Cl. B24b 3/00

U.S. Cl. 51—95

4 Claims



A forming device is disclosed which is primarily intended to be used in grinding or cutting threads. The device has a carriage movably mounted on a base. A threaded member on the base is engaged by a threaded shaft so as to move the carriage as a work piece on the carriage is turned. During such movement the work piece moves with respect to a forming member such as a grinding wheel.

3,538,648

MAGNETIC BOUNCE ELIMINATOR

Hadley H. Bower, Jr., Oklahoma City, Okla., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 22, 1967, Ser. No. 692,997

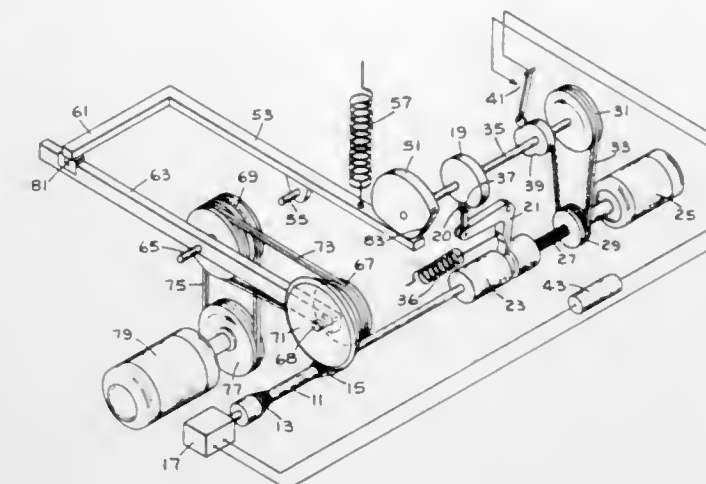
Int. Cl. B24b 17/02

U.S. Cl. 51—99

2 Claims

An apparatus for grinding a helical groove along the body of a carbon-deposited resistor, wherein the grind-

ing wheel is mounted on one lever and having a second, cam-controlled lever engageable therewith to raise and lower the grinding wheel into and out of engagement with the resistor; including means for preventing separation



tion and bounce between the two levers, using magnetic attraction between the levers to hold them together yet permitting separation of the levers under a force greater than their magnetic attraction.

3,538,649

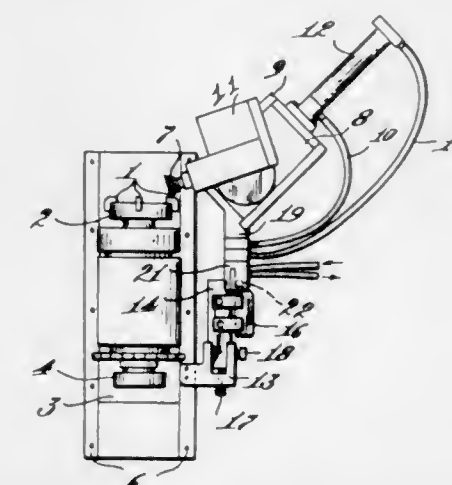
APPARATUS FOR SHARPENING MULTIEDGE TOOLS

Thurston V. Williams, Wilton, N.H.
(% The O.K. Tool Company Inc., Milford, N.H. 03055)
Filed Sept. 23, 1968, Ser. No. 761,630

Int. Cl. B24b 17/00

U.S. Cl. 51—100

4 Claims



For sharpening a tool having cutting edges disposed at an angle to each other, apparatus comprising tool and sharpener carriages movable along intersecting paths, the sharpener path bisecting said angle, a template having guide edges parallel to said cutting edges respectively, a follower to follow the outline of the template, and control means sensing the template for causing the sharpener to follow the outline of the tool, the template being mounted on the tool carriage and the follower on the sharpener carriage.

3,538,650

BELT SANDERS

Abraham Pollak, Fort Pierce, Fla. (% American Machine & Tool Company Inc., Royersford, Pa. 19468)
Original application Mar. 12, 1965, Ser. No. 439,211, now Patent No. 3,406,487, dated Oct. 22, 1968. Divided and this application Dec. 15, 1967, Ser. No. 712,881

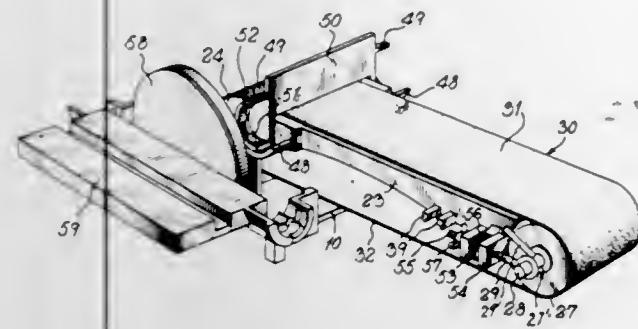
Int. Cl. B24b 21/00

U.S. Cl. 51—148

3 Claims

A belt sander apparatus having a means for individually adjusting the idler pulley with respect to the driving

pulley. The adjusting mechanism comprises a pair of eye-bolts which are mounted in brackets extending from the

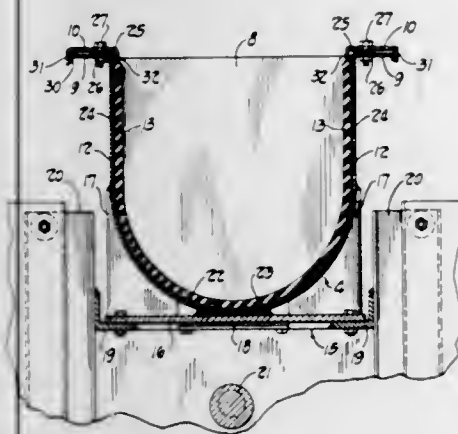


sides of the plate. The stems of the eye-bolts are threaded and an adjusting nut operating against the brackets permit individual adjustment of the idler.

3,538,651
CLAMPING MEANS FOR TUB LINERS
John F. Rampe, 3417 Fairfax Road,
Cleveland Heights, Ohio 44118
Filed Feb. 15, 1968, Ser. No. 705,646
Int. Cl. B24b 13/00

U.S. Cl. 51-163

12 Claims



Clamping means for use in lining a finishing machine tub comprising (a) a plurality of elongated flanges extending horizontally, vertically or at an intermediate angle at approximately the level of the top of the tub; (b) a plurality of elongated clamping pieces coupled thereto by means of fastening elements; and (c) means associated with the clamping pieces for exerting downward pressure on the top edges of the tub lining, thereby forcing the lining into intimate contact with the side walls and bottom of the tub.

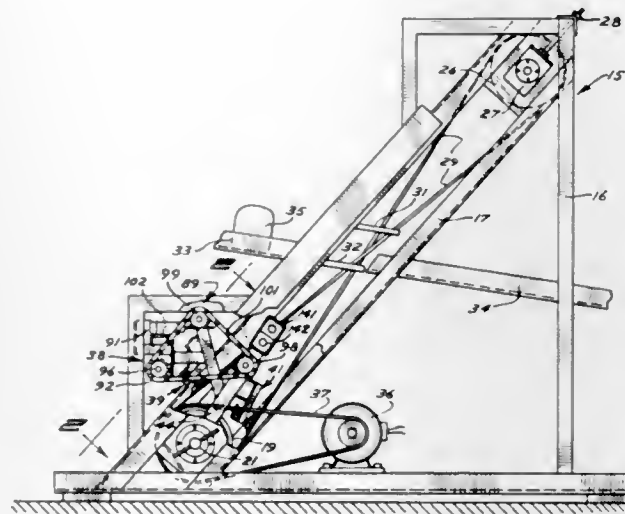
3,538,652
BAND SHARPENER CONTROL
Haryl C. Simmons, Anoka, Minn., assignor to Automated Manufacturing Products, Inc., Anoka, Minn., a corporation of Minnesota
Filed May 29, 1968, Ser. No. 733,026
Int. Cl. B24b 19/00, 1/00

U.S. Cl. 51-249

11 Claims

A sharpening apparatus having a pair of power driven concurrently rotating and laterally moving grinding wheels operable to successively sharpen the cutting edges of moving endless bands of a bread slicing machine. Each grinding wheel is mounted for rotation about an axis extended

generally normal to the plane of movement of the cutting edge and is driven by a motor. A control connected to the motor is operable to vary the speed of rotation of the grind-

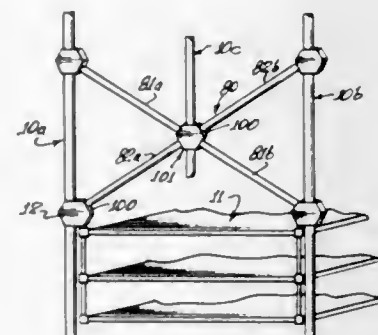


ing wheel providing a variation in the grinding from a heavy grinding action to a light grinding and honing action.

3,538,653
HYDRAULIC CONSTRUCTION SYSTEM
Milton Meckler, 16348 Tupper,
Sepulveda, Calif. 91343
Filed Dec. 30, 1968, Ser. No. 787,688
Int. Cl. E04b 1/36, 1/98, 9/00

U.S. Cl. 52-1

16 Claims



A building system for high rise construction which lends itself to minimum use of structural members permitting larger clear span floor areas by taking advantage of high strength tubular elements to reduce the size and extent of the structure required. The present invention accomplishes this maximized structural strength in all steel columns or in composite columns by utilizing tubular structural members with hollow cores filled with suitable hydraulic fluid and arranged to translate and distribute a sizeable proportion of otherwise normal tension and compression forces into circumferential and longitudinal stresses in the thin walled tubular members which are arranged as steel columns or act also as vertical bars in composite concrete columns or as secondary support (tension) or cross brace members. The tubular primary columns in accordance with the present invention of the building are tubular hollow members which are placed in tension through circumferential stress by means of the hydraulic system of the present invention. The secondary tubular floor support members suspended from the primary column support one or more floors by hydraulic means. Pressure equilibrium of the fluid within the column

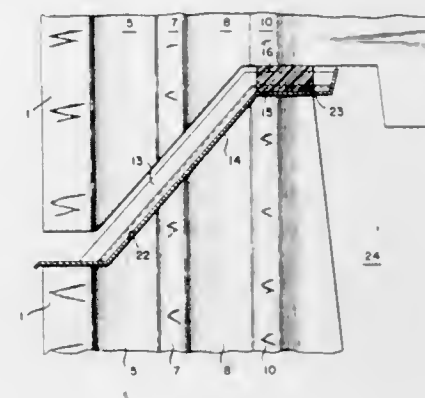
is achieved between the tubular primary and secondary support elements of the building. Other structural elements such as cross-bracing, are coupled to the hydraulic system and are used to restrain column end conditions of the slender tubular columns.

3,538,654
CONNECTING PREFABRICATED PANELS AT THE FACADES OF A PREFABRICATED BUILDING
Luciano Gerola, Milan, Italy, assignor to CSEP S.A., Rovereto, Grisons, Switzerland, a Swiss corporation
Original application May 2, 1967, Ser. No. 635,446.
Divided and this application Aug. 13, 1969, Ser. No. 860,137
Claims priority, application Italy, May 3, 1966, 10,067/66

Int. Cl. E04d 13/00; E04b 1/16

U.S. Cl. 52-97

11 Claims

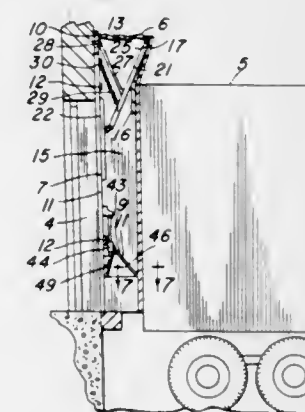


The invention concerns a method of connecting prefabricated panels at the facades of a prefabricated building, by making the panel vertical edges so shaped as to define chambers between two adjacent panels, said chambers being separated from one another by air and water tight sealing members and the horizontal panel edges sloping outwardly for water discharge, and to the building construction thus provided.

3,538,655
LOADING DOCK SHELTERS
Cyril P. Frommelt and Sylvan J. Frommelt, Dubuque, Iowa, assignors to Dubuque Awning & Tent Company, Dubuque, Iowa, a corporation of Iowa
Filed Apr. 11, 1968, Ser. No. 720,582
Int. Cl. E04f 10/04

U.S. Cl. 52-173

6 Claims



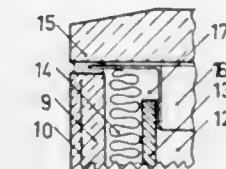
A loading dock shelter having a cover, the lower end of which is partially supported by resilient pads and partially supported by other yieldable members.

3,538,656
PREFABRICATED SECTIONAL ELEMENTS FOR CHIMNEYS AND DROPPING-CHUTES
Hans G. Anger, Ulm-Söflingen, Germany, assignor to Schiedel G.m.b.H. & Co. Kommanditgesellschaft, Germany

Filed June 20, 1967, Ser. No. 647,515
Claims priority, application Germany, June 20, 1966, A 25,930; May 31, 1967, A 55,851
Int. Cl. E04h 12/28

U.S. Cl. 52-219

2 Claims



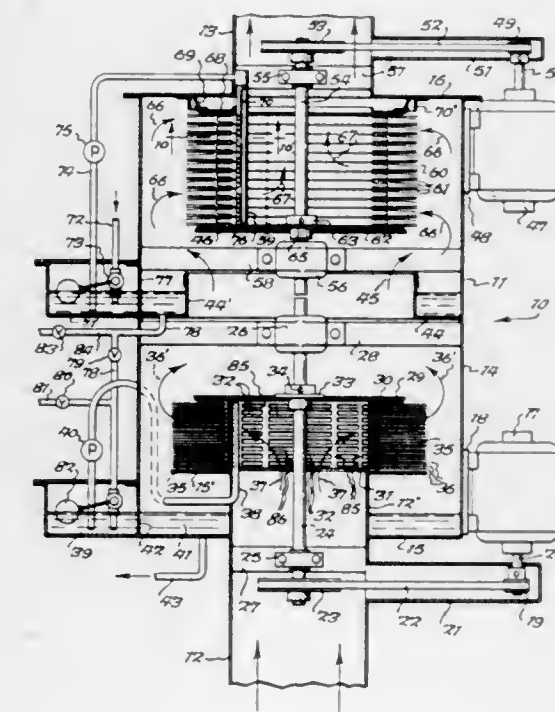
Prefabricated story high chimney and chute elements are provided having a unitary inner tube, a unitary concrete outer jacket and an intermediate isolating layer.

3,538,657
GAS-LIQUID CONTACT APPARATUS
Lawrence Macrow, 481 Chair Factory Road, Elma, N.Y. 14059
Continuation-in-part of application Ser. No. 521,774, Jan. 20, 1966. This application Dec. 26, 1968, Ser. No. 805,067

U.S. Cl. 55-231

Int. Cl. B01f 3/04

27 Claims



A multistage gas-liquid contact apparatus including a housing having two drums therein, the first drum having a first apertured shell with filaments in the form of fan vanes thereon, and means for depositing water on the first drum and causing air to pass through the drum to provide a first stage of gas-liquid contact as well as providing air movement, and a second drum having a second apertured shell with filaments thereon and providing less of a fan effect than the first drum, and means for depositing liquid on the second drum to provide a second stage of gas-liquid contact for the gas being pumped by the first drum, the housing directing the gas radially inwardly into the

second drum thereby to eliminate the liquid therefrom by the centrifugal force produced by the second drum. The second shell may have the filaments extending radially outwardly or may be frusto-conical in shape with the filaments extending along the surface. The second drum may be supplied with liquid or may be caused to run dry and thus function solely as an eliminator. The first gas-liquid contact stage may be eliminated or may be replaced by a fan and the second drum may be run dry, thereby causing the entire device to function as a mist eliminator for separating an entrained liquid from a gas.

3,538,658

FIREPROOF PARTITION FRAMEWORK

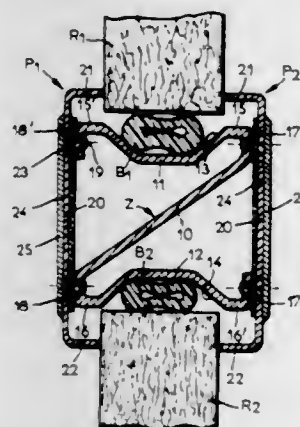
Roger Lavalley, Pantin, and René Tisné, Arcueil, France, assignors to Agence de Realisations et d'Etudes Commerciales (A.R.E.CO.), Paris, France, a company of France

Filed Dec. 11, 1968, Ser. No. 782,916

Claims priority, application France, Dec. 13, 1967, 132,152

Int. Cl. E04b 1/62, 2/62; E04c 2/22

U.S. Cl. 52—232 20 Claims



A framework, the elements of which consist of a Z-shaped sectional member each side of which exhibits along its edges, two longitudinal spaced portions having a total width at least equal to the third of that of said sectional member, and a pair of covering frames fastened by screws or bolts onto two opposite faces of said Z-shaped sectional member with the interposition of a strip of insulating material and the flanges of which hold filling panels by clamping same.

3,538,659

BUILDING CONSTRUCTION

John F. McDermott, Monroeville, Pa., assignor to United States Steel Corporation, a corporation of Delaware

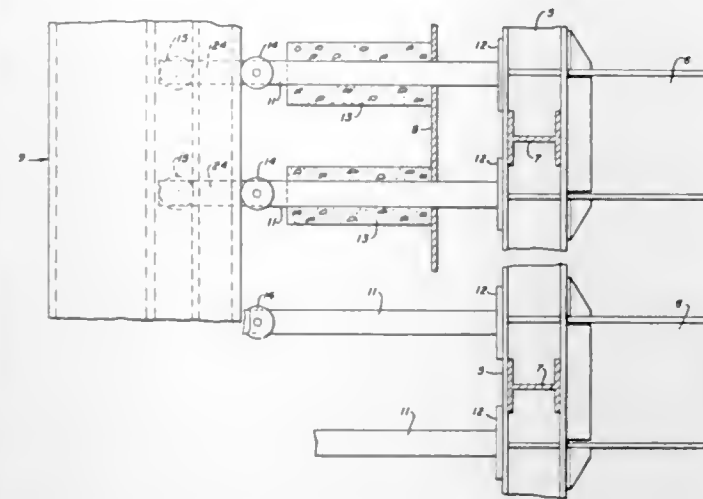
Filed Sept. 19, 1968, Ser. No. 760,802

Int. Cl. E04h 9/00; E04b 1/34, 1/36

U.S. Cl. 52—236 10 Claims

A building construction having an interior steel framework and external supports for bracing it against lateral forces and displacements to thereby enable the use of smaller interior columns in said framework, which need be only of sufficient size to support the weight of the building and its contents. The external supports extend generally parallel to the building walls, usually in a vertical or nearly vertical direction, and are spaced peripherally about the base of the building and outwardly with respect thereto. The interior steel framework and the exterior supports are connected by horizontal struts which operate to transmit to the exterior supports those forces which would otherwise result in bending movement of the building, at least one of the connections at opposite ends of

the horizontal struts being operative to provide for relative vertical movement of the external supports and the



interior steelwork of the building in response to unequal thermal expansion thereof.

3,538,660

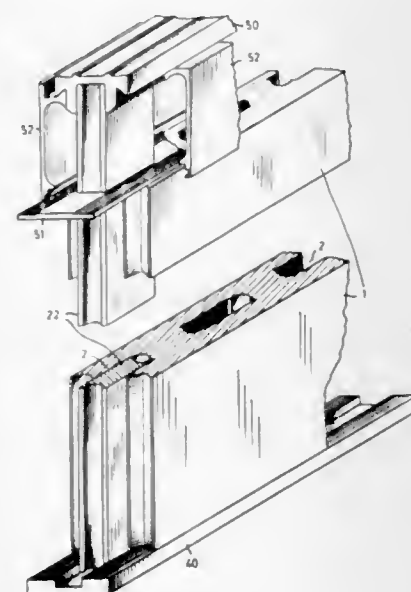
PREFABRICATED WALL ASSEMBLY FOR PARTITIONS AND THE LIKE

Karl Moor, Dupourstrasse 81—8008, Zurich, Switzerland

Filed Nov. 27, 1967, Ser. No. 685,811

Int. Cl. E04b 2/46; E04c 2/52

U.S. Cl. 52—242 23 Claims



Partitions or other walls without major supporting function are assembled from prefabricated rectangular wall elements formed with equispaced vertical channels to accommodate web-shaped connectors designed to secure the wall element to an underlying base molding and an overlying top molding. Upon a cutting of the prefabricated wall element along a vertical mid-plane of one of its channels, a web similar to the aforesaid connectors may be used to couple this wall element to one or more adjoining wall elements.

3,538,661

LIQUID STORAGE CONTAINER

Ardell H. Nelson, Coraopolis, Pa., assignor to Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa., a corporation of Pennsylvania

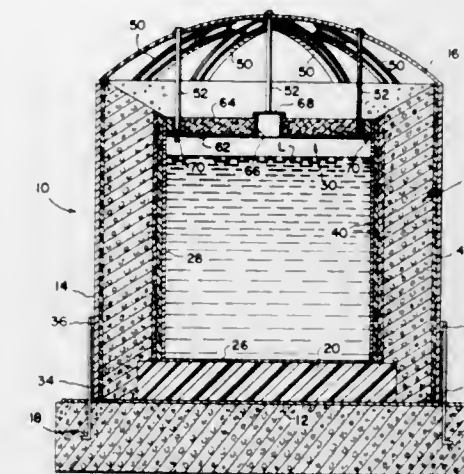
Filed Oct. 4, 1968, Ser. No. 765,269

Int. Cl. E04b 1/32; E04g 11/04

U.S. Cl. 52—246 22 Claims

A liquid storage container includes inner and outer vessels spaced from one another to define an insulating space

therebetween. The side walls of the inner and outer vessels each have resilient blanket means disposed adjacent thereto and defining a space therebetween. The space between the resilient blanket means is filled with a mass of substantially free-flowing lightweight thermal insulating material. The roof of the inner vessel is suspended from the outer surface of the roof of the outer vessel. A modified form of the invention comprises a vessel having



only one side wall and a body of insulation disposed in surrounding relationship to the side wall and held in place adjacent the outer surface thereof. A novel insulating foundation is also provided including a plurality of spaced modules having insulation disposed therebetween for supporting the vessel.

3,538,662

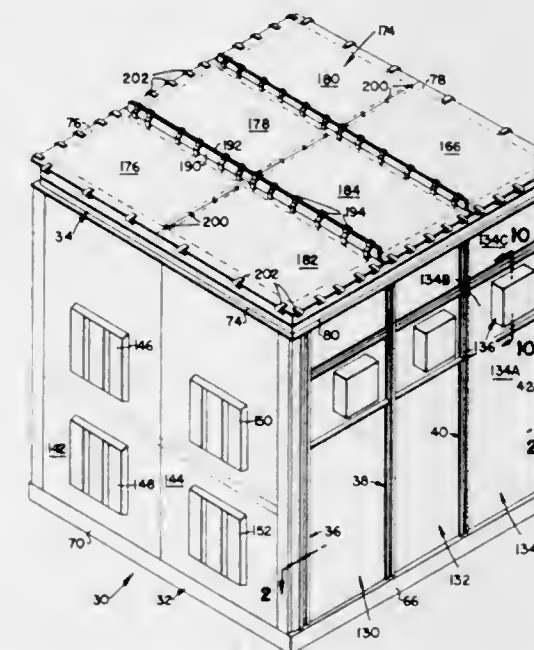
ROOM STRUCTURE

David H. van Tuyl, Palo Alto, Calif., assignor to Clemco-Clementina Ltd., San Francisco, Calif., a general partnership

Filed Mar. 17, 1969, Ser. No. 807,828

Int. Cl. E04b 1/343, 2/62; E04h 5/02

U.S. Cl. 52—262 12 Claims



Disclosed herein is a room structure having a floor framework, a roof framework, and upright beams interconnecting these frameworks. A number of wall plates, each overlapping adjacent upright beams, a portion of the floor framework, and a portion of the roof framework,

form a wall. Strip means are associated with the upright beams and roof framework and, through clamp means, act to force the panels thereagainst. The location of the clamp means is determined only by one fabricated part.

3,538,663

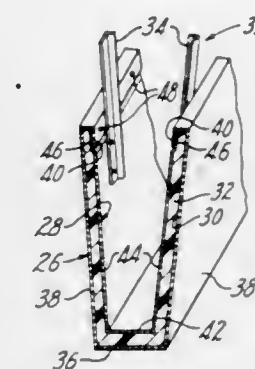
BUILDING WALL FIN UNIT

John H. MacLeod, San Marino, Calif., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 1, 1968, Ser. No. 741,546

Int. Cl. E04f 19/02; E04c 2/38

U.S. Cl. 52—309 8 Claims



A building wall fin unit comprising generally U-shaped inner and outer shells secured together in spaced-apart relation to define a generally U-shaped cavity. A lightweight foamed insulating material is disposed between the shells and maintains the shells in the aforesaid spaced-apart relation. Bracket means secured to the building wall fin unit adapt the fin unit for erection to the building wall. The fin unit serves as a prominent, architectural column-like building feature element.

3,538,664

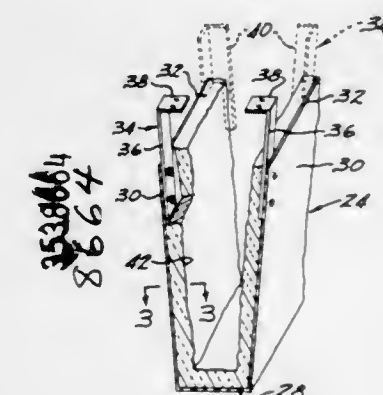
PREFABRICATED PLASTIC BUILDING WALL FIN UNIT

Le Roy Frandsen, San Marino, Calif., Robert G. Lindner, Bridgeville, Pa., and Jack H. MacLeod, San Marino, Calif., assignors to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 1, 1968, Ser. No. 741,547

Int. Cl. E04c 2/38; E04f 19/02

U.S. Cl. 52—309 7 Claims



A prefabricated plastic building wall fin unit comprising a generally U-shaped reinforced plastic shell having bracket means for securing the fin unit to a building wall. Fireproofing material may be applied to the interior surface of the shell. A foraminous reinforcement may be partially embedded in the shell to provide positive connection for the fireproofing material and to provide structural reinforcement for the shell.

3,538,665

PARQUET FLOORING

Paul Gohner, St. Gall, Switzerland, assignor to Bauwerke A.G., St. Gall, Switzerland
Continuation-in-part of application Ser. No. 426,232, Jan. 18, 1965. This application Apr. 15, 1968, Ser. No. 721,490

Int. Cl. E04c 2/26, 2/40

U.S. Cl. 52—391

1 Claim



A floating parquet flooring comprising rectangular-shaped two-layer flooring units composed of a parquet layer and a backing layer, the bottom face of the backing layer being provided with marginal recesses along the four sides of the unit and a strip of backing layer material being inserted in the space formed by said marginal recesses for bridging the joint between adjacent units, the backing layer material having a modulus of elasticity in tension not exceeding 5000 kg./cm.².

3,538,666

FIRE-RETARDANT WOOD ROOF ASSEMBLY

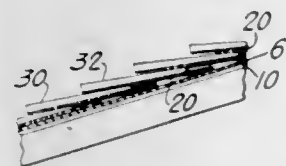
John E. Daly and William J. Oberley, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,625

Int. Cl. B32b 15/10; E04b 1/00

U.S. Cl. 52—409

3 Claims



A fire-retardant wood-roof assembly has a top layer of wood shingles or shakes which have been treated to render them fire-retardant, an intermediate, non-flammable metal foil layer, and a subdeck of untreated wood. The inflammable intermediate layer cooperates with the treated wood to protect the untreated subdeck from ignition.

3,538,667

FLUSH-TYPE PANEL AND SHAFT CONSTRUCTION

Baard Eri, Larvik, Norway

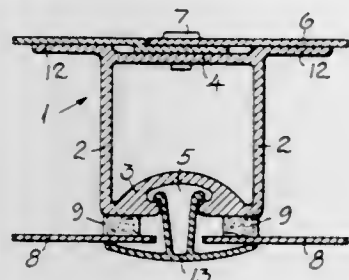
Filed Mar. 12, 1968, Ser. No. 712,529

Claims priority, application Norway, Mar. 16, 1967, 167,313

Int. Cl. E04c 3/30; E06b 3/54

U.S. Cl. 52—489

2 Claims



The panels of a double-walled frame are connected to the opposite walls of a hollow, rectangular bar. One wall has a dove-tailed channel which carries a clamp for fixing one of the panels to this wall. The opposite wall has two laterally projecting flanges which are offset relative to the wall so that the inner surfaces of the flanges are coplanar

with the outer surface of the opposite wall. The other frame panel is secured to the other wall in contact with the outer surface of the flanges.

3,538,668

REINFORCED ARCHITECTURAL SHAPES

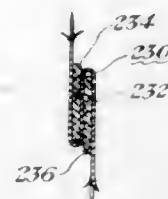
Howard A. Anderson, 2278 Meadow Road, Ingomar, Pa. 15237

Continuation-in-part of application Ser. No. 518,414, Jan. 3, 1966. This application Dec. 1, 1967, Ser. No. 691,101

Int. Cl. E04c 2/26

U.S. Cl. 52—615

3 Claims



A number of architectural shapes are disclosed which can be assembled from a variety of constructional materials including framing lumber, plywood, fiber boards such as Celotex and Homasote, gypsum board, veneered panels and the like. These shapes are arranged in several configurations including beams, studs, and various sizes of panels useful for bearing walls, floors, roofs, partitions, curtain walls, interior and exterior doors, and the like. In the form of beams, the architectural shapes can be utilized in place of conventional wooden beams and in many cases in place of conventional steel beams or angle irons. Each shape includes at least two spaced shape members (which may or may not be co-extensive depending upon the application of the invention) spacedly secured by one or more spacing elements, each of which has uniquely serrated lateral edges which are embedded respectively in the spaced members. The roots of the serrations determine the extent of embedment and the overall thickness of the shape. The junctions among the spaced shaped members and the one or more spacing elements are sufficiently rigid that when beam loadings are applied to the shapes the loading is borne substantially entirely by compressional and tensional stresses (skin stresses) developed in the members. The invention also provides means and/or methods where required for the thermal and sound insulation of the shapes, for edge-wise joining of the shapes, and for assembling the shapes.

3,538,669

METHOD OF PREPARING A PACKAGED STERILE SOLUTION

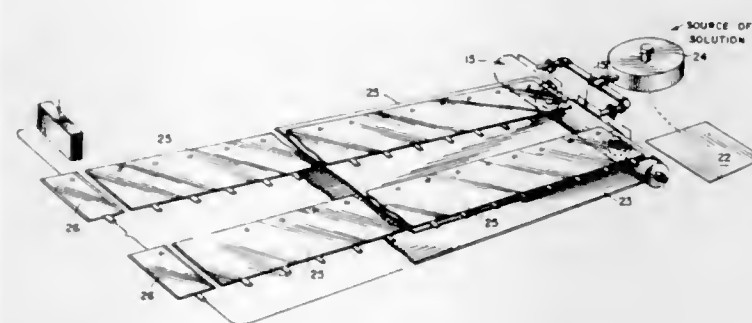
Cyrus R. Broman, McHenry, Ill., and Theodore H. Gewecke, Milledgeville, Ga. 31061; said Broman assignor to said Gewecke

Filed Oct. 7, 1968, Ser. No. 765,576

Int. Cl. B65b 61/00

U.S. Cl. 53—14

5 Claims



In the method, an elongated tube is compacted, gas sterilized, filled with a sterilized solution to elongate the same and then selectively partitioned into discrete units.

3,538,670

METHOD AND APPARATUS FOR FORMING SEALED ARTICLES

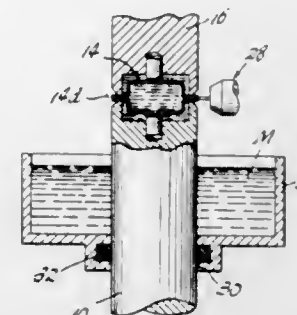
David Luke Morgan, Shelton, Conn., assignor to Seymour-Sheridan, Inc., Stratford, Conn., a corporation of Connecticut

Filed July 10, 1968, Ser. No. 743,732

Int. Cl. B65b 31/04

U.S. Cl. 53—22

6 Claims



The method and apparatus for forming plural-part hollow articles which may be evacuated or filled and thereafter sealed. This is done by positioning the article having projecting flanges in a recess disposed between the ends of opposed arbors or die members with the flanges engaged by the ends of the wall around said recess, evacuating and/or filling the article with a desired material, pressing the flanges together by the arbors with the edges of the flanges exposed, and securing the edges together.

3,538,671

BAGGING MACHINE

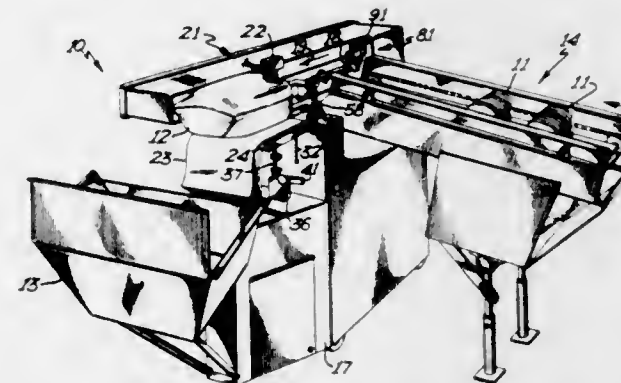
Edward B. Wallace, Minneapolis, Minn., assignor, by mesne assignments, to Hayssen Manufacturing Company, Sheboygan, Wis., a corporation of Delaware

Filed Mar. 11, 1968, Ser. No. 711,928

Int. Cl. B65b 5/06, 57/06, 43/36

U.S. Cl. 53—35

10 Claims



A polyethylene and similar plastic bag opening and holding structure for an automatic bagging machine. High pressure air is used to overcome the internal static electricity of the top bag in a stack on an elevator. Low pressure air inflates the bag fully. Mechanical compound action arms in conjunction with a loading chute and bag stack wicket open the bag mouth squarely and hold it securely while an object is being pushed into the bag. The object pusher releases the mechanical compound action arms so the object pusher pushes the bagged object off the stack of bags to make room for the next bag to be opened.

3,538,672

APPARATUS FOR DELIVERING CLOSURE CAPS TO VIALS

Walter A. Shields, Jamaica, N.Y.

(38—09 24th St., Long Island City, N.Y. 11101)

Filed July 16, 1968, Ser. No. 745,311

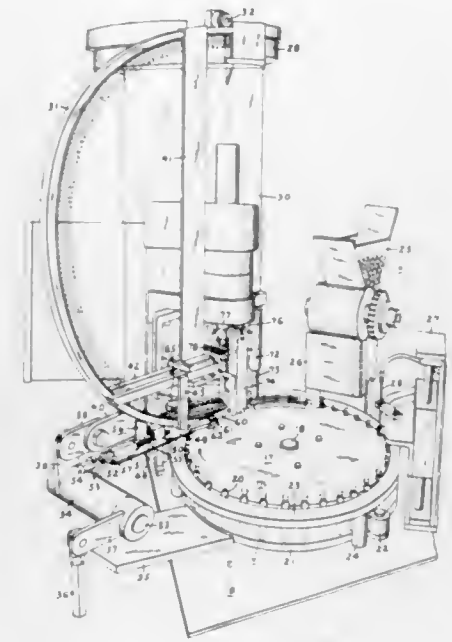
Int. Cl. B67b 57/02; G07f 11/24

U.S. Cl. 53—67

10 Claims

In the present invention, a closure cap delivering chute is reciprocated toward and away from closure cap seal-

ing means and in synchronism with the intermittent travel of vials toward said sealing means. The leading closure cap in the chute is positioned in vertical alignment with and between the closure cap sealing means and a vial. Subsequently the vial is lifted into said leading closure



cap and part of the sealing means engage the closure cap. The closure cap succeeding the leading closure cap in the chute is retained against advancement when the sealing means is in non-sealing position, in the absence of a vial succeeding the vial receiving the leading closure cap, and during the travel of the vials.

3,538,673

FASTENER INSERTING MACHINE

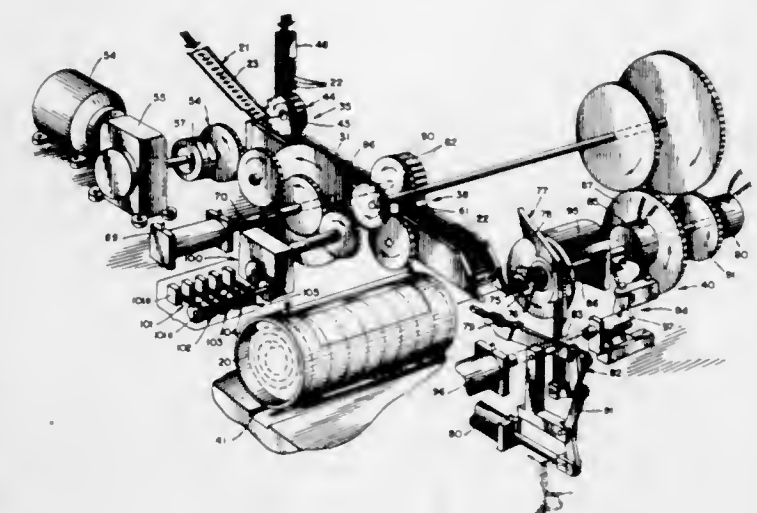
Joseph Mosetich, Westchester, and Ronald J. Mosetich, Lombard, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois

Filed Mar. 20, 1968, Ser. No. 714,666

Int. Cl. B65b 63/04

U.S. Cl. 53—118

13 Claims



There is provided an apparatus for inserting fasteners, such as common nails and the like, into a carrier strip to provide a cartridge or bundle of fasteners. The fasteners are inserted into fastener carrying grooves of the carrier strips by means of a transfer wheel having peripheral grooves, each receiving the shank of a fastener, and driven to align with the respective fastener driving grooves in the carrier strip. The carrier strip is then coiled and cut to provide the complete bundle.

3,538,674

INTERLEAVING OF FOOD SLICES

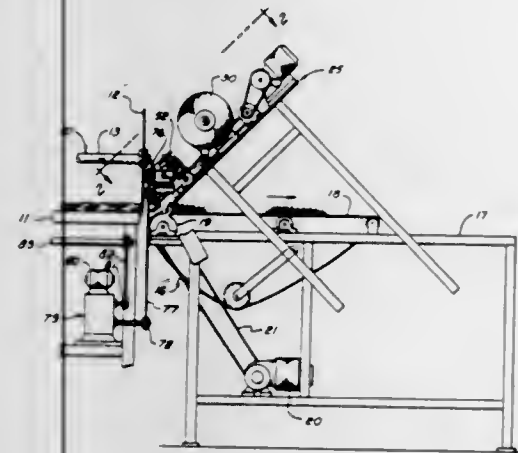
Ogden A. Clemens, Chicago, Thomas R. Schreuder, South Holland, and Mitchell W. Panek, Chicago, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Delaware

Original application Oct. 25, 1966, Ser. No. 589,349, now Patent No. 3,481,746, dated Dec. 2, 1969. Divided and this application Aug. 18, 1969, Ser. No. 850,824

Int. Cl. B65b 61/22, 63/00

U.S. Cl. 53—123

7 Claims



An improved apparatus is herein disclosed for interleaving of food materials sliced at high speed wherein said food material is sliced and thrown forwardly in a given path, said improved method comprising cutting an interleaf, and ejecting said interleaf in a downwardly direction to intersect said path in timed sequence to contact the forward face of a slice just after it is severed. Said disclosed apparatus comprises a slicing means for severing a succession of slices from a body of food product and throwing said slices in a forwardly path, a cutting means for severing interleaves being located forwardly of the slicing means and an ejecting means to accelerate each interleaf into the path of said slice leaving said slicing means.

3,538,675

APPARATUS FOR WRAPPING CANDIES OR THE LIKE

Heinz Schmitz, Effern Kreis Cologne, Germany, assignor to Franz Theegarten, Cologne-Mungersdorf, Germany

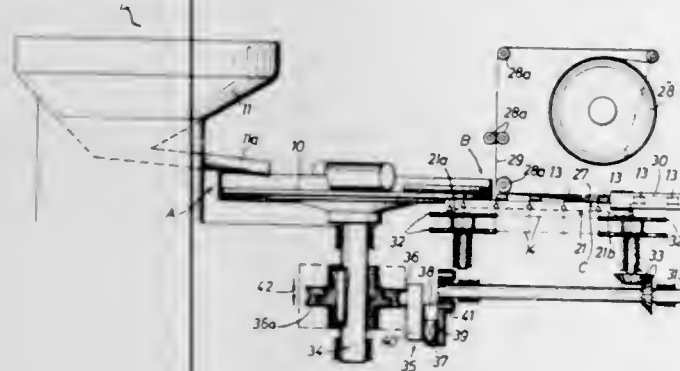
Filed Mar. 7, 1969, Ser. No. 805,224

Claims priority, application Germany, Mar. 14, 1968, 1,611,895

Int. Cl. B65b 9/12

U.S. Cl. 53—180

16 Claims



Apparatus wherein candies are enclosed in an elongated tubular envelope comprises a rotary turntable provided with peripheral pockets for candies, a pair of overlapping endless chains travelling around a pair of coaxial sprocket wheels which are located below a portion of the circular path for the pockets, vertically movable pushers which are

coupled to the chains and travel along an endless path an arcuate portion of which is inwardly adjacent to the teeth of sprockets and a straight portion of which is adjacent to two overlapping straight stretches of the chains. The chains are driven in synchronism with the turntable so that the pushers expel candies from adjoining pockets while they travel close to each other and at a reduced speed along the arcuate portion of their path and that the pushers thereupon move at a higher speed and at a greater distance from each other during travel along the straight portion of their path to deliver candies at predetermined intervals into a partially formed envelope which is transported along the straight portion of the endless path.

3,538,676

PACKAGING MACHINE

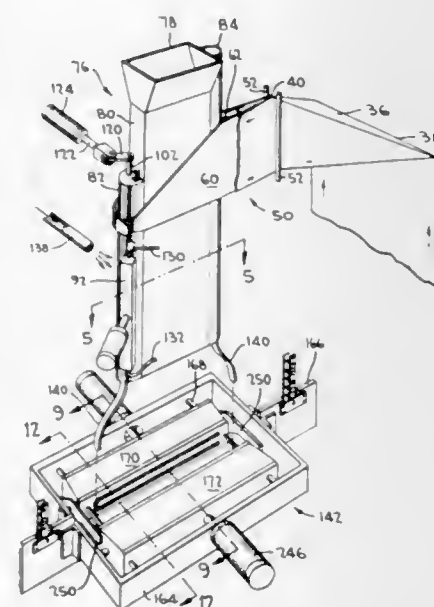
William R. Runo, 78 Hillside Ave., West Caldwell, N.J. 07006; Henry F. Henderson, Jr., Rifle Camp Road, West Paterson, N.J. 07424; and Henry Barabas, 27 Orth Ave., Passaic, N.J. 07055

Filed Mar. 8, 1967, Ser. No. 621,569

Int. Cl. B65b 51/10

U.S. Cl. 53—182

21 Claims



A packaging machine for forming and filling heat sealable sheet material having means for folding the sheet material, means for forming the sheet material into a tubular form with an open overlapping edge, heat seals to seal the overlapping edge, and a horizontal sealing assembly for clamping, sealing and severing the filled tubular formed sheet material to form individual packages. Heated flowing liquid is utilized to provide the heat for the heat seals.

3,538,677

CAPSULE CLOSING AND SEALING APPARATUS

Frank V. Amoroso, Maple Shade, N.J., and Werner L. Tollefsbol, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 5, 1968, Ser. No. 750,149

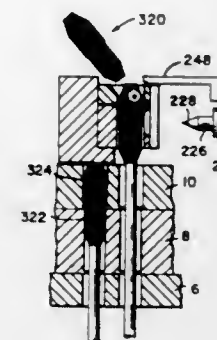
Int. Cl. B65b 7/28

U.S. Cl. 53—299

8 Claims

A member having bores therethrough for the reception of capsules is associated with a pair of mated rings which respectively have bores for the reception of a series of capsule caps and a series of capsule bodies. A capsule stop is mounted adjacent the capsule receiving member. The mated rings are rotated stepwise to successively position their aligned bores with the capsule stop and the bores in the capsule receiving member. Pushers are provided to

close together each capsule cap and body by urging the capsule against the capsule stop and a pusher advances each mated capsule body and cap into a bore of the



capsule receiving member. A heat sealing member is advanced into the bores of the capsule receiving member to seal each capsule cap to the associated body.

3,538,678

BOTTLE STOPPERING MACHINE

Alfred Lefort, Brunoy, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

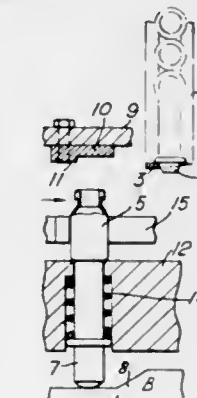
Filed Feb. 16, 1968, Ser. No. 705,964

Claims priority, application France, Feb. 28, 1967, 96,869

Int. Cl. B67b 1/04

U.S. Cl. 53—319

1 Claim



The specification describes a machine for applying stoppers to bottles, in which the bottles are fed continuously to and from peripheral notches in the central plate of a turntable rotating about a vertical axis. An upper plate on the turntable carries extractors which remove the stoppers from a support at the end of a guide channel, while push rods, carried by a lower plate of the turntable and lifted by an annular cam, raise a bottle to engage a stopper in the support.

3,538,679

EGG CARTON CLOSURE MACHINE

Harold W. Voorhis, Upper Nyack, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

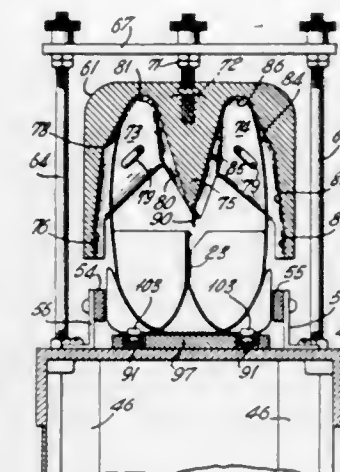
Filed Oct. 31, 1967, Ser. No. 679,415

Int. Cl. B65b 7/26

U.S. Cl. 53—376

25 Claims

This disclosure is directed to an egg carton closure machine which utilizes a rigid tunnel die to partially close a carton by folding opposite carton flaps inwardly as a carton is moved through a die, the machine also using rollers pressing against the carton flaps to complete the folding of the flaps. A primary advantage of this machine is that the rollers are lightly spring-loaded to exert a predetermined pressure against the carton flaps in effecting



to cooperate with cavity surfaces in the tunnel die with a carton flap therebetween to facilitate the folding of each carton flap along a predetermined fold line.

3,538,680

PAPERMAKING APPARATUS AND PROCESS

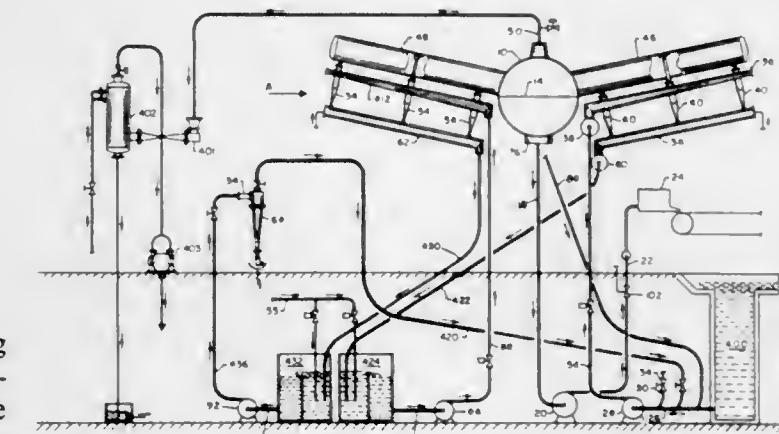
Robert G. Kaiser, Hohokus, N.J., assignor to Clark & Vicario Corporation, North Tarrytown, N.Y., a corporation of New York

Filed Dec. 29, 1967, Ser. No. 694,494

Int. Cl. B01d 19/00

U.S. Cl. 55—41

27 Claims



Apparatus for deaeration of an air-containing aqueous suspension of papermaking stock in which the stock is atomizingly introduced into deaerating chambers extending from a stock receiver and communicating with the interior thereof, the deaerating chambers and receiver being maintained under vacuum. Cleaners may also be employed in advance of the deaerating chambers, and the considerably shorter accepts pipes leading from the cleaners to the chambers contribute substantially to cleaning efficiency.

3,538,681

RECOVERY OF SO₂

Robert R. Cantrell, Memphis, Tenn., and Forrest P. Wiley, Washington, D.C., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Dec. 5, 1968, Ser. No. 781,464

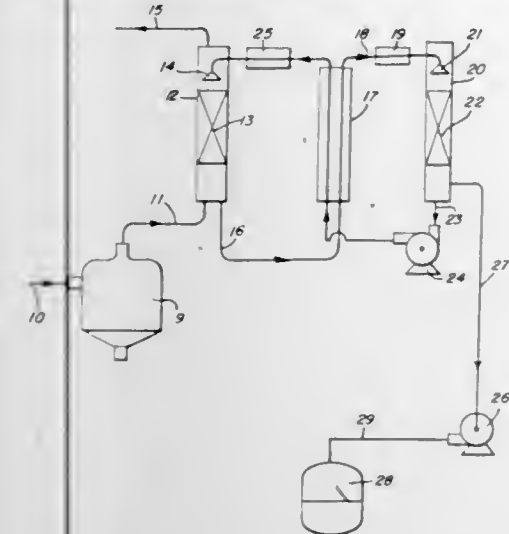
Int. Cl. B01d 19/00

U.S. Cl. 55—48

6 Claims

A method for removing and recovering SO₂ from gaseous mixtures such as power plant flue gases by ab-

sorbing the SO_2 in dimethyl sulfoxide (DMSO), and subsequently desorbing the SO_2 from the DMSO/ SO_2 mix-



ture by contacting the mixture with alumina, or other suitable adsorbent.

3,538,682

SERVICE CART FOR HYDRAULIC SYSTEMS

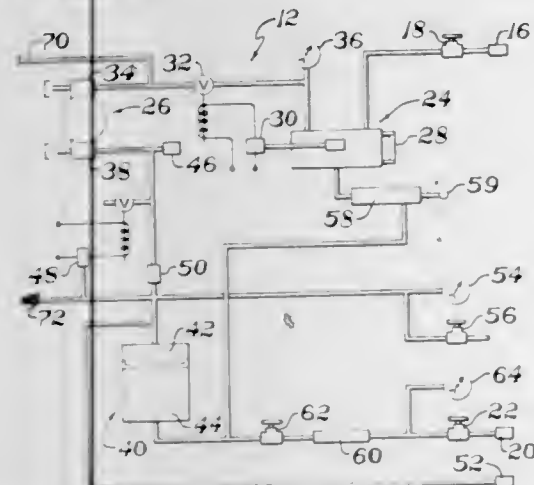
Elmer J. Chattin and Louis F. Fraula, Troy, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Mar. 28, 1968, Ser. No. 716,880

Int. Cl. B01d 19/00

U.S. Cl. 55—51

3 Claims



A vacuum fill service cart and method for bleeding and refilling hydraulic systems featuring a service cart providing for the full vacuum evacuation withdrawing of fluid from the hydraulic system prior to refill and refilling of the hydraulic system while the hydraulic system is vacuum pressurized.

3,538,683

METHOD OF GAS-SOLID CHROMATOGRAPHY

Zdzislaw Krawiec, Ul. PCK 6/4, Tarnow, Poland

Filed May 6, 1968, Ser. No. 726,672

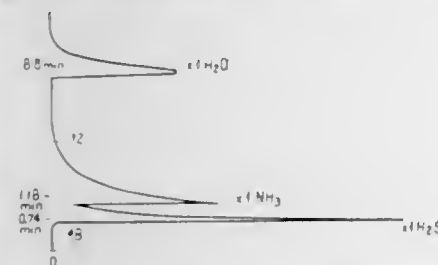
Claims priority, application Poland, May 10, 1967,

P 120,476

Int. Cl. B01d 15/08

U.S. Cl. 55—67

6 Claims



Polyamide granules or grains of highly developed adsorbent surface including imido and carbonyl groups are used as an adsorbent in carrying out a gas-solid chromatography.

3,538,684 LIQUID/GAS SEPARATION PROCESS AND APPARATUS

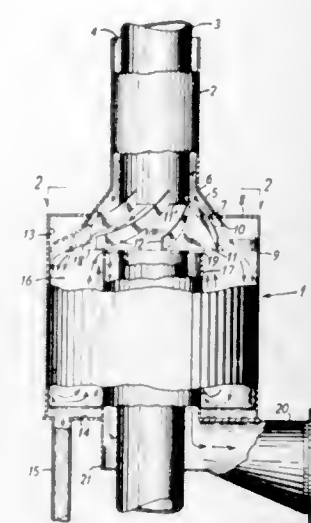
Charles J. Esterhoy, Jr., Morris Plains, and Aubrey W. Michener, Jr., Rockaway, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed May 6, 1966, Ser. No. 552,373

Int. Cl. B01d 47/00; C07c 143/16, 143/24

U.S. Cl. 55—92

6 Claims



Process of separating entrained liquid from a gaseous stream particularly applicable to the separation of gas from liquid at the exit end of a sulfonation reactor of the type employing an annular gaseous sulfonating stream flowing between two concentric falling films of liquid to be sulfonated. The process utilizes a baffle having curved vanes thereon. The vanes direct the flowing gas stream downwardly and outwardly into the interior of a vessel and the baffle and vanes are so designed as to entrain substantially all of the liquid emerging from the sulfonator in the gas stream. The liquid is separated from the gas upon contact with the walls of the vessel.

3,538,685

EXHAUST GAS WASHING APPARATUS

Jack Bremen, Pomona, Calif.

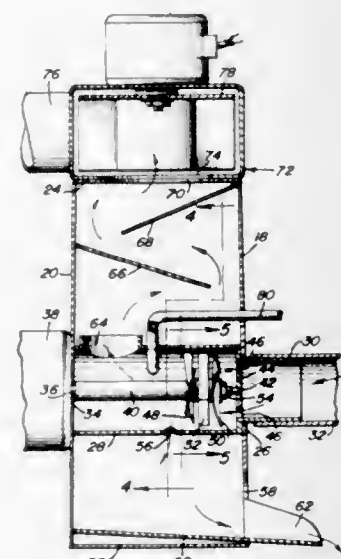
(166 Lucia Lane, Huntington Beach, Calif. 92647)

Filed July 28, 1969, Ser. No. 845,237

Int. Cl. B01d 47/18

U.S. Cl. 55—230

10 Claims



A structure defining an air passage therethrough including a first generally horizontal inlet portion and a

second upstanding outlet portion. The lower end of the outlet portion defines the inlet end thereof and the outlet end of the horizontal section or portion of the passage opens upwardly into the lower end of the upstanding portion. Air pump structure is operatively associated with the passage for pumping air therethrough and the first horizontal portion of the passage includes rotary members for causing turbulence in the gas or air entering the inlet portion of the passage as well as structure operative to discharge jets of a cleaning liquid such as water into the first horizontal portion of the passage for washing the gas and air passing therethrough. The upstanding outlet portion of the passage includes baffle means defining a tortuous path of airflow therethrough and upon which particles of the cleansing fluid used and being carried in the air or gas flow through the passage may impinge and collect for subsequent movement by gravity to a collection and/or discharge point.

ERRATUM

For Class 55—231 see:
Patent No. 3,538,657

3,538,686

SELF-SEALING AND SELF-HOLDING
FILTER FRAME

Louis Schwab, P.O. Box 905,

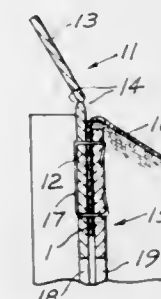
Fern Park, Fla. 32730

Filed Oct. 21, 1968, Ser. No. 769,031

Int. Cl. B01d 46/02

U.S. Cl. 55—377

5 Claims



A filter assembly for filtering out dust or other discrete particles entrained in a gaseous flow such as an air flow the frame of which has laterally protruding flaps which are elastically joined to the frame proper and engageable with the surrounding boundary walls of a holding frame or duct with a frictional pressure fit thereby releasably holding the filter assembly in its operational position or compensating for tolerances in the size of the holding frame or duct.

3,538,687

DEVICE FOR FILTERING SOLIDS FROM A GAS

Josef Pausch, Hopkins, Minn., assignor to Aerodyne

Machinery Corporation, Hopkins, Minn.

Filed July 12, 1968, Ser. No. 744,407

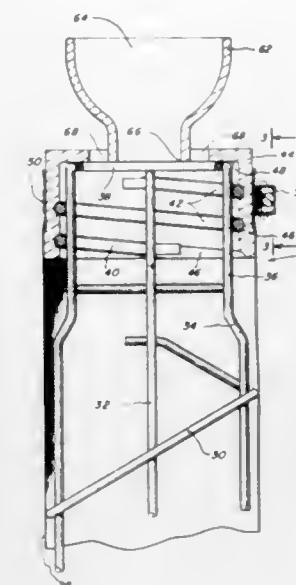
Int. Cl. B01d 46/02

U.S. Cl. 55—379

1 Claim

A filtering element used for separating dust or solids from an air mixture. A cylindrical wire frame, preferably formed with a spiral strand, is adapted to be threadedly connected to the interior surface of a depending collar, either by the spiral strand forming the body of the frame, or an additional spiral strand that is wound about vertical reinforcing strands. A porous envelope circumscribes

both the frame and the collar and is secured to the collar by a flexible band. The arrangement provides for easy



disassembly and rotation of the envelope with respect to the remaining structure.

3,538,688

LOWER FILTER ASSEMBLY

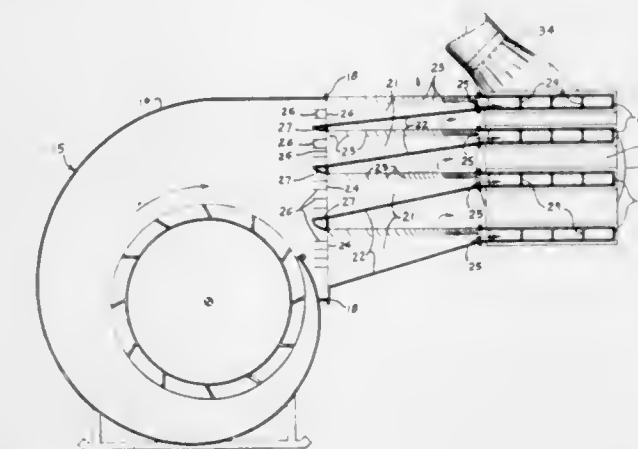
Charles P. Stanley, Jr., and Henry D. Bowen, Raleigh, N.C., assignors to Aeroglode Corporation, Raleigh, N.C., a corporation of North Carolina

Filed June 13, 1968, Ser. No. 736,807

Int. Cl. B01d 45/04

U.S. Cl. 55—418

8 Claims



An apparatus comprising a conduit provided with progressively sized louvered filters having progressively spaced louvers in the louvered walls whereby approximately the same volume of air will enter each of the filters.

3,538,689

COMBINE HARVESTERS

Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland

Filed Sept. 14, 1967, Ser. No. 668,309

Claims priority, application Netherlands, Sept. 29, 1966,

6613707

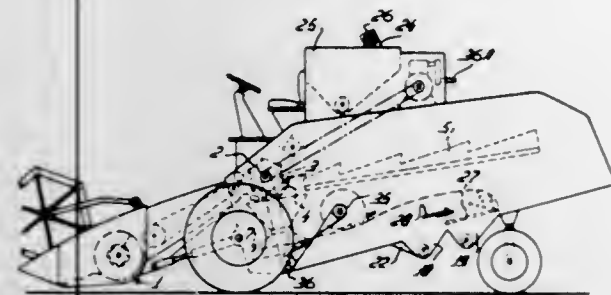
Int. Cl. A01d 41/10; A01f 7/44

U.S. Cl. 56—21

17 Claims

A combine harvester having a mechanism for separating seeds from the other crop material whereby cut crop including the seeds after being threshed is thrown

by an ejector to receiving areas disposed within the combine, the nature of the seeds being such that they are thrown farther and thus received in the most removed receiving area; a closer receiving area largely receiving the crop material other than seeds is conveyed back to the ejector to be thrown a second time so that seeds which may have been received in the closer receiving area have another opportunity to be separated into the



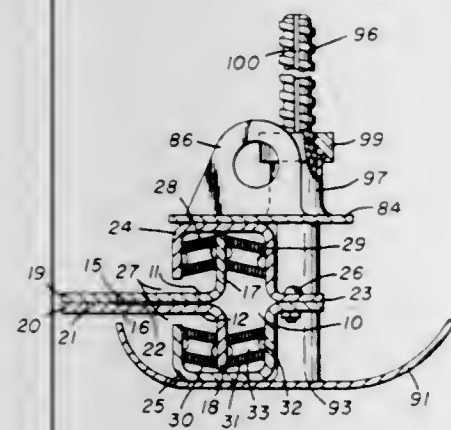
farther receiving area. Air is selectively blown across the path of the thrown material. The farther receiving area may have a conveyor leading therefrom to a storage area on the combine for the storage of the seeds. The ejectors may comprise rotating discs, rotating rollers or rotating belts, the latter having the belt on the under side rotating at a speed greater than that of the upper belt.

3,538,690 SICKLE BAR

William L. Hinks, 2449 Kensington Ave., Bath, Ohio 44210, and Nick D. Diamantides, 2517 14th St., Cuyahoga Falls, Ohio 44223
Filed Mar. 20, 1967, Ser. No. 624,293
Int. Cl. A01d 53/10

U.S. Cl. 56—26.5

14 Claims



A device comprising two tooth-edged bars in a combination suitable for a sickle bar operation powered by mechanical drive means. The two bars are arranged in a manner conducive to a positive contact between the toothed edges through resilient supports. The bar mass in combination with the resilience of the supports may be so selected as to resonate at the speed of the drive means for the purpose of increasing efficiency and dynamic balance, and reducing weight and wear.

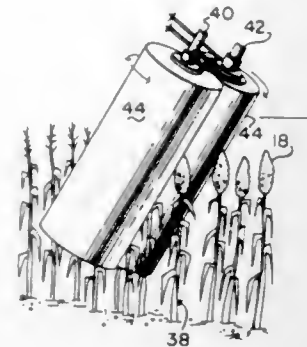
3,538,691
SEED HARVESTING AND SEPARATING METHOD
Rufus J. Purtell, 1217 E. Tate,
Brownfield, Tex. 79316
Filed June 28, 1965, Ser. No. 467,549
Int. Cl. A01d 41/08

U.S. Cl. 56—126

6 Claims

Seed which are encased in husks such as grain sorghum seed are freed from the husk by subjecting the seed

to pressure from an air inflated rubber roller. The rubber roller contacts the seed and as additional pressure is applied to the husk, the stretching of the rubber, due to the pressure, causes the husk to move in relationship

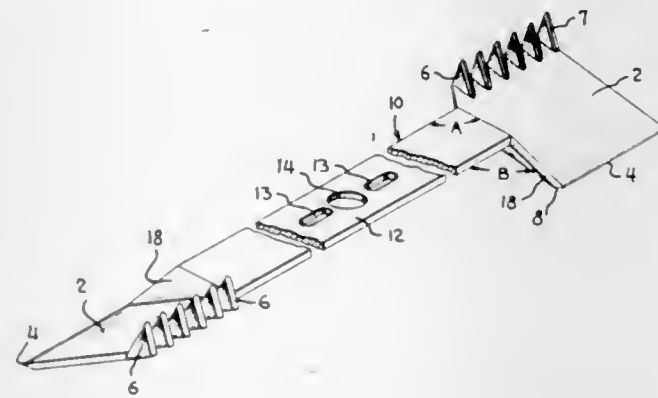


to the seed thus breaking any bond between the husk and the seed and freeing the seed from the husk. After the seed is freed from the husk, it will be separated by conventional equipment.

3,538,692
GRASS MOWING AND MULCHING DEVICE
George Cope, 124 E. Tarpon Ave., and Floyd Les Hornberger, 508 Sunshine Lane, both of Tarpon Springs, Fla. 33589
Filed Mar. 19, 1968, Ser. No. 714,234
Int. Cl. A01d 55/18

U.S. Cl. 56—295

9 Claims



A mower blade for a lawn mower for cutting and mulching grass. The blade is formed inwardly of its ends with an outwardly facing angular wall providing a blower to orient the cut grass with the long axis of the cuttings perpendicular to mulching cutters also carried by the blade; the object being to thereby reduce the cuttings into a fine mulch. In one form of the invention the mower housing is provided with inwardly extending stationary cutting blades which cooperate with the rotating upstanding chopping blades to further pulverize the mulch particles.

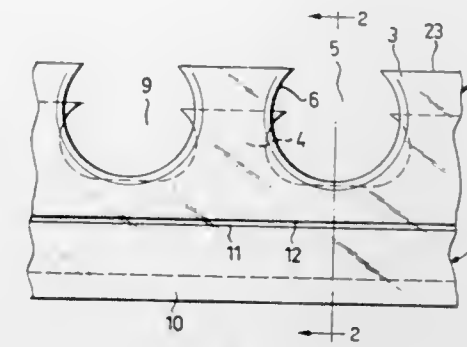
3,538,693
LAWN-MOWERS
Per Sigvard Hast, Hastholmsvagen 10,
Stockholm, Sweden
Continuation of application Ser. No. 599,518, Dec. 6, 1966. This application Aug. 11, 1969, Ser. No. 853,102
Int. Cl. A01d 55/02

U.S. Cl. 56—296

10 Claims

A hedge trimmer blade assembly comprising a longitudinally reciprocable cutting blade having teeth projecting

transversely thereof and terminating in straight aligned edges extending generally parallel to the blade axis; and a fixed bar having transversely extending teeth which also terminate in straight aligned free edges extending parallel

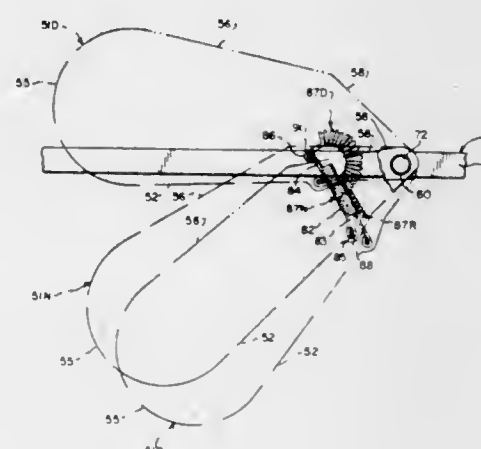


to those of the reciprocable blade. The teeth of the cutting blade project beyond those of the fixed bar and are of a width increasing towards their substantially straight free edges. The teeth of the fixed bar similarly increase in width towards their free straight edges.

3,538,694
FRUIT COLLECTOR APPARATUS FOR
HARVESTERS
Robert L. Holloway, Snyder, N.Y., assignor to Chisholm-Ryder Company, Inc., Niagara Falls, N.Y., a corporation of New York
Filed July 1, 1969, Ser. No. 838,190
Int. Cl. A01g 19/00

U.S. Cl. 56—330

12 Claims

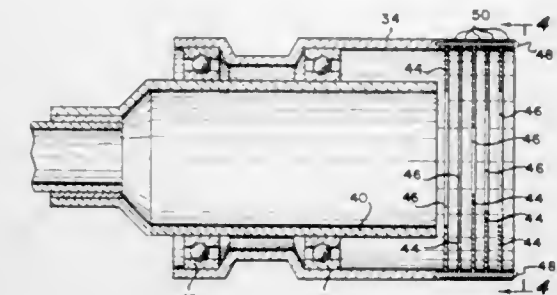


A fruit harvester adapted to travel along a row of fruit bearing plants, such as grape vines mounted on trellis wires strung between posts, which has fruit collector apparatus closing off the space under the upper foliage of the plants which bears the fruit to catch and direct falling harvested fruit toward laterally spaced conveyors, such apparatus including two series of inclined and pivotally mounted shutters overlapping one another in each series and those in one series also overlapping those in the other series, the shutters severally being yieldingly maintained in a normal space-closing position by spring means but displaceable therefrom when encountering a post or plant trunk and when clear of the same returning to said normal space-closing position, characterized by said spring means having a substantially zero spring rate effective to resist such displacement with a substantially constant force and also having a relatively high spring rate effective to resist over-travel on return of the shutter.

3,538,695
FRUIT PICKING DEVICE
Richard M. Carnell, Winter Park, Fla., assignor to Agtech Systems Corporation, Vero Beach, Fla., a corporation of Florida
Continuation-in-part of application Ser. No. 663,400, Aug. 25, 1967. This application Aug. 18, 1969, Ser. No. 850,858
Int. Cl. A01g 19/08

U.S. Cl. 56—332

26 Claims

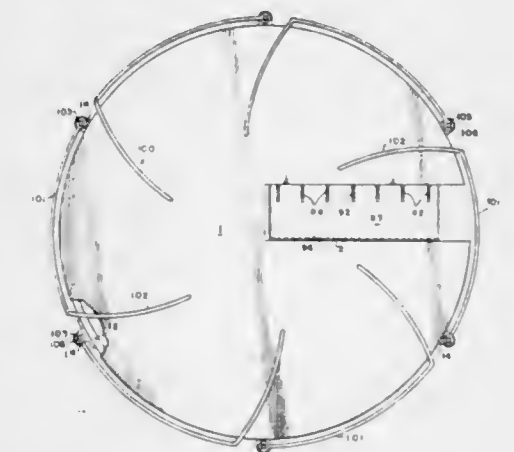


A fruit picking device including a tubular member through which fruit may pass connected at one end to a source of suction, and connected at the other end to a fruit picking head. The fruit picking head includes a means for defining a tortuous path for the fruit as the fruit passes through the head, and the tortuous path provides a twisting motion for the fruit to twist the fruit from its stem.

3,538,696
MACHINE FOR GATHERING, STACKING AND
TRANSPORTING HAY
Raymond R. Carson, 1374 C St.,
Independence, Oreg. 97351
Filed Oct. 10, 1968, Ser. No. 766,532
Int. Cl. A01d 85/00

U.S. Cl. 56—350

4 Claims



A machine for gathering hay from a windrow and stacking it on a superimposed platform on the machine for transportation to a storage building, barn or feed lot. The machine is preferably, though not restrictively, of a trailer type including self-contained power driven circumferentially rotatable sweepers or arms for stacking the gathered hay in a controlled build-up over the top surface of the platform.

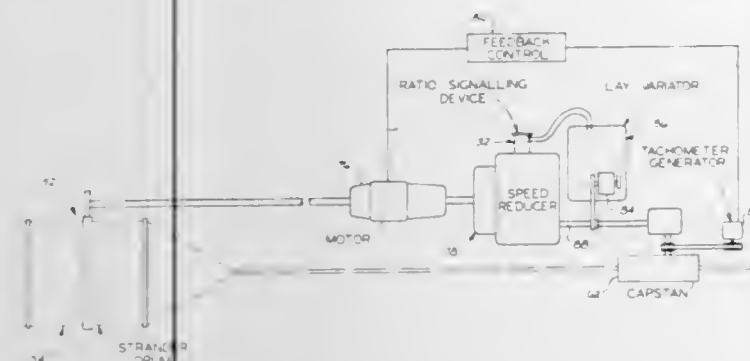
3,538,697
METHODS OF AND APPARATUS FOR MANUFACTURING IMPROVED HIGH-FREQUENCY CABLES
Eugene M. Hornor, Rosedale, and William J. Hyde, Baltimore, Md., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 30, 1968, Ser. No. 756,541
Int. Cl. B65h 81/00

U.S. Cl. 57—6

28 Claims

Methods and apparatus for producing cables are provided in which components of the cable having high-frequency

quency conductors, such as coaxial units or waveguides, are combined with each other or other elements of the cable in a spiral configuration wherein the pitch of the spiral configuration is varied throughout the length of the cable. The variation of pitch of the spiral reduces the potential for the development of regularly spaced impedance discontinuities which can cause high reflection



losses of energy in the coaxial or waveguide-type components in situations where the cable has been slid or rolled across a rigid surface. Undesirable secondary effects associated with a periodicity of variation in the spiral configuration can be reduced by employing a sinusoidal pattern in varying the pitch of the component in the cable.

3,538,698

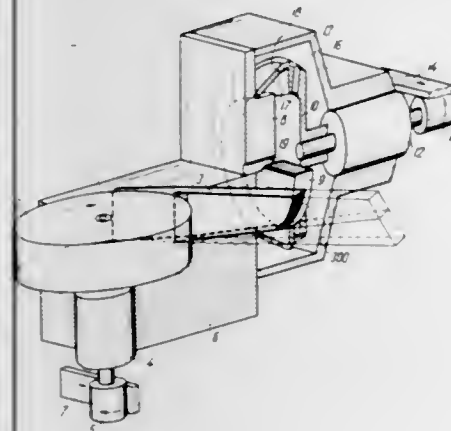
BREAK-SPINNING APPARATUS

Josef Ripka, Frantisek Hortlik, Jan Junek, and Milan Marsalek, Usti nad Orlice, Czechoslovakia, assignors to Vyzkumny Ustav Bavlnarsky, Usti nad Orlice, Czechoslovakia

Filed Aug. 11, 1969, Ser. No. 848,792
Claims priority, application Czechoslovakia,
Aug. 10, 1968, Ser. No. 5,819/68
Int. Cl. D01h 1/12

U.S. Cl. 57—58.95

18 Claims



A break-spinning apparatus comprises a rotary spinning chamber having an axis of rotation and an internal cavity provided with an open side and bounded at least in part by an inner circumferential slip surface which is concentric with the axis of rotation. Fiber supply means supplies fibers for deposition onto the slip surface. Wall means includes a wall portion which extends through the open side into the cavity and has an outer surface juxtaposed with the inner circumferential surface. Channel means is provided in the wall means and communicates with the supply means to receive fibers therefrom. An outlet of the channel means is provided in the outer surface of the wall means and penetrates the same eccentrically with reference to the axis of rotation and on a

penetration curve a projection of which, taken in the direction towards the slip surface along the surface lines of the channel, defines on the slip surface a fiber impingement area whose limits in the direction of the axis of rotation correspond substantially to predetermined contour lines of the slip surface.

3,538,699

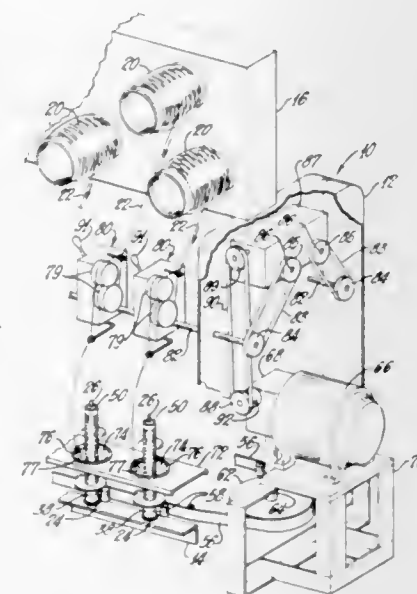
METHOD AND APPARATUS FOR CONTROLLING DELIVERY OF FILAMENTARY MATERIAL TO ROTATABLE COLLECTORS

Cecil R. Cunningham, Alken, S.C., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Feb. 28, 1969, Ser. No. 804,054
Int. Cl. D01h 13/10; B65h 59/38

U.S. Cl. 57—90

15 Claims



The disclosure embraces a method of and apparatus for feeding strands of yarns of rubber-coated fibers or filaments from supply packages and collecting them on bobbins of a twist frame and involves initiating rotation of the collector bobbins prior to initiating operation of the feed rolls to take up the slack strand or yarn between the feed rolls and the bobbins to eliminate tendency for the strands or yarns to adhere or lick to and wrap around the feed rolls and thereby reduce break-outs or fracture of the strands or yarns during start-up.

3,538,700

GLASS ROVINGS IMPREGNATED WITH THERMOPLASTIC POLYURETHANE RESINS

Peter H. Hofer, Berkeley Heights, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 502,364, Oct. 22, 1965, and Ser. No. 693,460, Dec. 26, 1967. This application July 16, 1968, Ser. No. 745,131
Int. Cl. D02g 3/18; C03c 25/02

U.S. Cl. 57—139

8 Claims

This invention relates to glass rovings, impregnated with thermoplastic polyurethane resins, which are characterized by a low weight-high tensile strength ratio, by relatively low elongation, by excellent flexibility characteristics and by excellent abrasion resistance and are excellently suited for use in nonwoven, nonbraided rope, in aerial antenna systems and also a buoyant submarine cables such as submarine antenna systems capable of transmitting and receiving radio signals while the submarine is submerged at greater than periscope depth.

3,538,701

BULKY YARN

Cyril G. Cannon, Usk, Alan Selwood, Llanyravon, Cwmbran, Barrie L. Davies, Langstone, and Roy A. Williams, Llansapley, England, assignors to British Nylon Spinners Limited, Pontypool, England

Continuation of application Ser. No. 461,435, June 4, 1965. This application Mar. 21, 1969, Ser. No. 809,435
Claims priority, application Great Britain, June 9, 1964, 23,760/64
Int. Cl. D02g 3/24

U.S. Cl. 57—140

2 Claims



A continuous filament yarn possessing a compact core region composed of longitudinally extending overlapping loops and a less compact peripheral region formed by stray loops which emerge from the core region.

3,538,702

REINFORCING ELEMENT

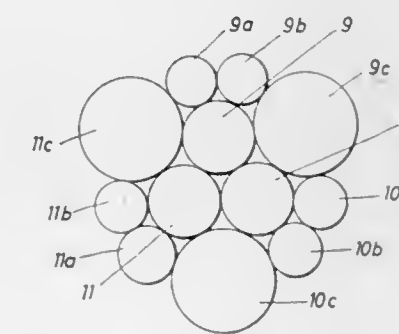
Gustav Horst Wolf and Fritz Singenstroth, Gutersloh, Germany, assignors to Firma Gustav Wolf, Seil- und Drahtwerke, Gutersloh, Germany

Filed Oct. 9, 1969, Ser. No. 865,217
Claims priority, application Germany, Oct. 16, 1968, 1,803,316

Int. Cl. D07b 1/00, 1/22

U.S. Cl. 57—145

19 Claims



An elongated parallel-stranded element has a cross-section resembling a polygon with a predetermined number of corners and includes a first plurality of inner strands corresponding to the predetermined number of corners of the polygon and a second plurality of outer strands together surrounding the inner strands and corresponding to triple this predetermined number. A plurality of such elements may be united to form a rope or cable, and in this case the elements are arranged with reference to one another in the same way in which the strands are arranged in each element, that is the inner elements

making up the rope or cable correspond in number to the number of corners of the polygon resembled by the cross-section of the cable, and the outer elements correspond to triple that number.

3,538,703

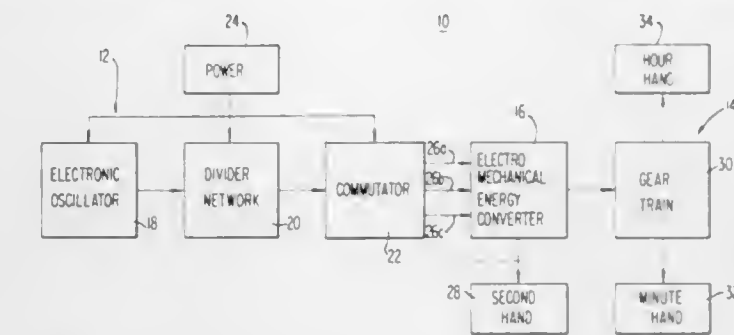
ELECTRONIC TIMEPIECE CONSTRUCTION EMPLOYING A FLAT STEP-BY-STEP ELECTROMECHANICAL ENERGY CONVERTER

Richard S. Walton, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania

Filed May 2, 1968, Ser. No. 726,090
Int. Cl. G04c 3/00

U.S. Cl. 58—23

12 Claims



There is disclosed herein an electrical timepiece including electronic circuitry for generating timing pulses, an electromechanical energy converter driven in stepwise fashion by the timing pulses and a mechanical movement having a second hand driven directly by the energy converter and gear train also driven by the energy converter to drive indirectly the hour and minute hands. The electromechanical energy converter disclosed is characterized by a wound stator having a plurality of magnetic circuits separately excitable to complete a magnetic path with a rotor. As the magnetic circuits are energized in succession, the rotor is attracted from one magnetic circuit to the next, producing stepwise rotation in synchronism with the excitation. A particular feature of the energy converter is the fact that its axial dimension is substantially less than its radial dimension, resulting in a flat configuration especially useful in a wrist watch.

3,538,704

BALANCE WHEEL MOTOR IN A TIMEPIECE

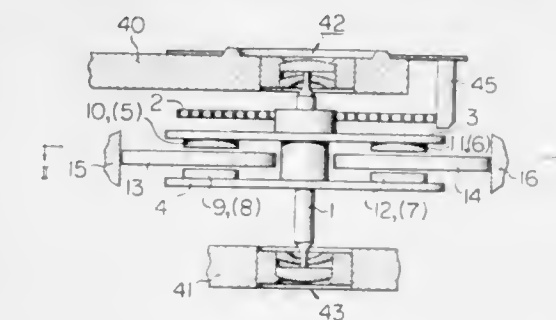
Hiroshi Kawanaka and Toyohji Kanazawa, Tokyo, Japan, assignors to Citizen Watch Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed May 15, 1968, Ser. No. 729,181
Claims priority, application Japan, May 15, 1967, 42/30,728

Int. Cl. G04c 3/04

U.S. Cl. 58—28

4 Claims

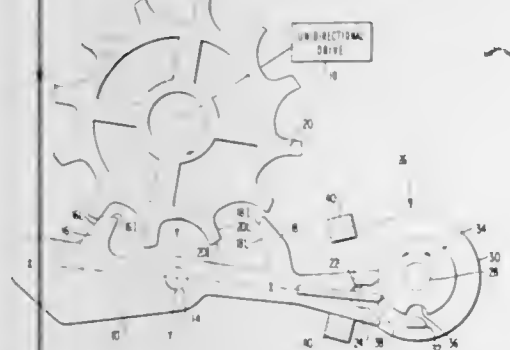


A balance wheel assembly for a very small electronic wrist watch. A balance wheel is formed by two magnetic discs spaced axially along the rotatable shaft of the wheel. Each disc carries four permanent magnets symmetrically arranged around the shaft. A pair of fixed coils are mounted in the axial space between the two discs and are

electromagnetically coupled to the magnets. The coils are connected respectively in the load circuits of two transistors which are the active elements in an astable multivibrator. The two coils are thereby alternately energized and drive the balance wheel in an oscillatory fashion.

3,538,705 ESCAPEMENT

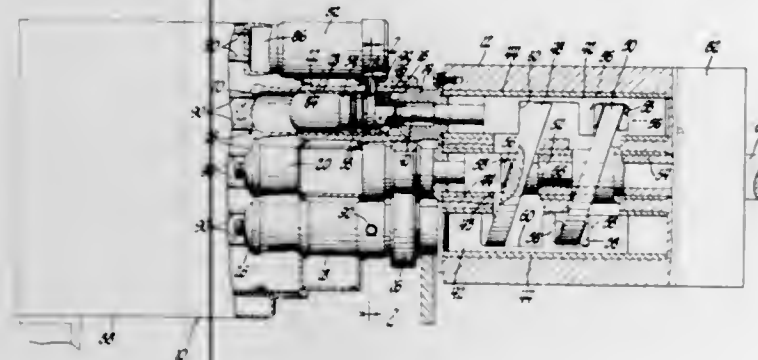
Malcolm R. Perry, Lancaster, Pa., assignor to Hamilton Watch Company, a corporation of Pennsylvania
Filed Nov. 7, 1968, Ser. No. 774,123
Int. Cl. G04b 15/00; F16h 27/00
U.S. Cl. 58—116 16 Claims



The present escapement includes a pallet and escape wheel manufactured to accept broad tolerances with the pallet and escape wheel having flat configurations. The locking and impulse surfaces on the pallet, as well as on the escape wheel teeth, are formed with corner radii. The present escapement provides for an effective deep lock of about 3°, a drop of about 4°, neutral draw, and high impulse energy near the zero beat position, to improve self-starting characteristics, minimize input torque motions sensitivity and substantially eliminate the possibility of setting or locking on an impulse surface.

3,538,706 MULTICYLINDER HOT GAS ENGINE WITH POWER CONTROL

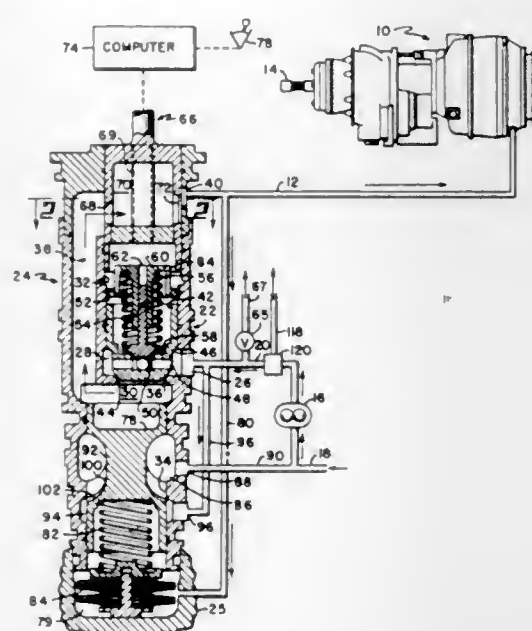
Richard R. Toepel, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 2, 1968, Ser. No. 749,768
Int. Cl. F03g 7/08; F04d 15/00
U.S. Cl. 60—24 7 Claims



In a preferred embodiment, a four-cylinder double acting hot gas engine has annularly arranged axially disposed cylinders interconnected to form four working spaces each defined by two adjacent pistons. The pistons are alternately connected to a pair of swash plates which drive an output shaft through a phase changing gear box. Relative rotation of the swash plates by the phase changer adjusts the phase relationships of the various pistons to control the engine power output.

3,538,707 FUEL FLOW CONTROL VALVE FOR GAS TURBINE

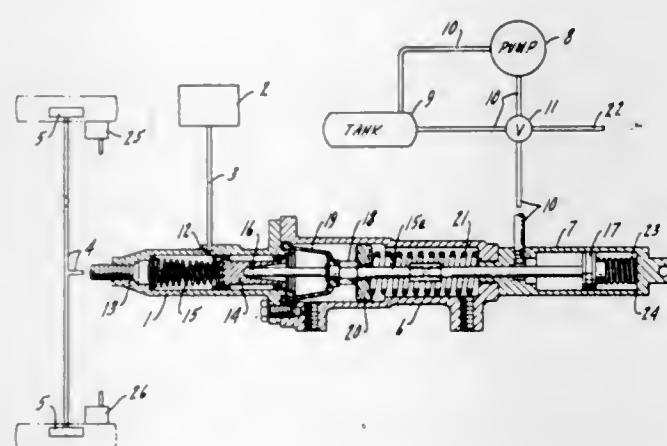
Joseph A. Karol, Woodbridge, Conn., assignor to Avco Corporation, Stratford, Conn., a corporation of Delaware
Filed Apr. 1, 1969, Ser. No. 812,273
Int. Cl. F02c 9/04
U.S. Cl. 60—39.28 11 Claims



The disclosure illustrates a compact, multiple-function flow control valve assembly for use in a fuel control system of a gas turbine engine. The valve assembly has, in a single elongated cylindrical housing, a flow-compensated pressure-regulating valve, a pressurizing valve, cutoff valve, relief valve, and a force-balanced metering valve. The metering valve is linearly displaceable primarily as a function of operator demand and angularly displaceable primarily as a function of the altitude of the engine so that the metering area of the valve is a product of the two displacement inputs.

3,538,708 AUTOMATIC CONTROL FOR HYDRAULIC MECHANISM

William T. Salam, Highland Park, and Charles G. Middleton, Addison, Ill., assignors to Stromberg Hydraulic Brake and Coupling Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 4, 1968, Ser. No. 773,054
Int. Cl. F15b 7/08; F16d 65/14
U.S. Cl. 60—54.5 2 Claims

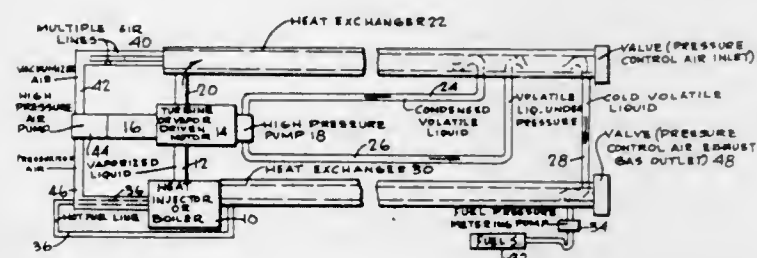


An operator-actuated hydraulic master cylinder, a power cylinder, a hydraulic connection between them, a selector in series with the hydraulic connection permitting, when in one position, free hydraulic flow between the

cylinders and, when in another position, interrupting the connection to the master cylinder and separately applying pressure to the power cylinder, means for biasing the selector into disconnect position and means, including a source of hydraulic power independent of the master cylinder, for overcoming the bias to hold the selector in free flow position together with means for rendering the source of hydraulic power ineffective to permit the bias to move the selector into disconnect position.

3,538,709 VAPOR DRIVEN ENGINE

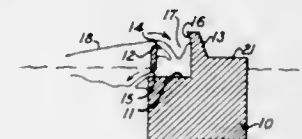
Donald G. Pensel, R.D. 1, Lake George, N.Y. 12845
Filed Aug. 12, 1968, Ser. No. 751,982
Int. Cl. F01k 19/10
U.S. Cl. 60—96 5 Claims



A vapor driven engine such as a turbine provided with auxiliary heat exchange equipment for condensing the engine exhaust and heating the fuel and air to a vapor generator which enables most of the heat, which would normally be wasted, to be conserved and utilized or transferred within the working mechanism of the engine whereby the efficiency of the engine is sharply increased.

3,538,710 BREAKWATER STRUCTURE

Louis Tourmen, Grenoble, France, assignor to Societe Grenobloise d'Etudes et d'Applications Hydrauliques, Grenoble, France, a corporation of France
Continuation-in-part of application Ser. No. 630,873, Apr. 14, 1967. This application Apr. 7, 1969, Ser. No. 822,818
Claims priority, application France, Apr. 16, 1966, 4,920
Int. Cl. E02b 3/04, 3/14
U.S. Cl. 61—4 19 Claims



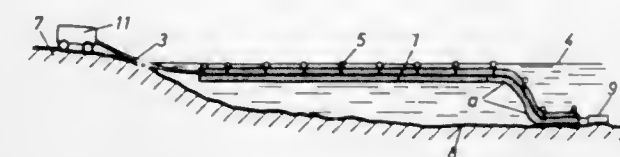
A breakwater composed of two vertical, spaced parallel walls exposed to wave attack and forming therebetween a drain basin capable of holding back water from each incoming wave, and the landward wall being higher than the seaward wall. The landward wall is preferably curved seawardly to function as a wave deflector.

3,538,711 DEVICE FOR CONTROL AND PREVENTION OF COAST EROSION

Erik Nielsen, Frederikshavn, Denmark, assignor to Fyens Sædekompagni A/S, Odense, Denmark
Filed Mar. 5, 1968, Ser. No. 710,529
Claims priority, application Denmark, Mar. 7, 1967, 1,170/67
Int. Cl. E02b 3/12
U.S. Cl. 61—38 2 Claims

Effective seabed protection of coasts is achieved at low cost by perforated or pervious flexible tubes or hoses laid out in lengths and filled selectively with sand and small

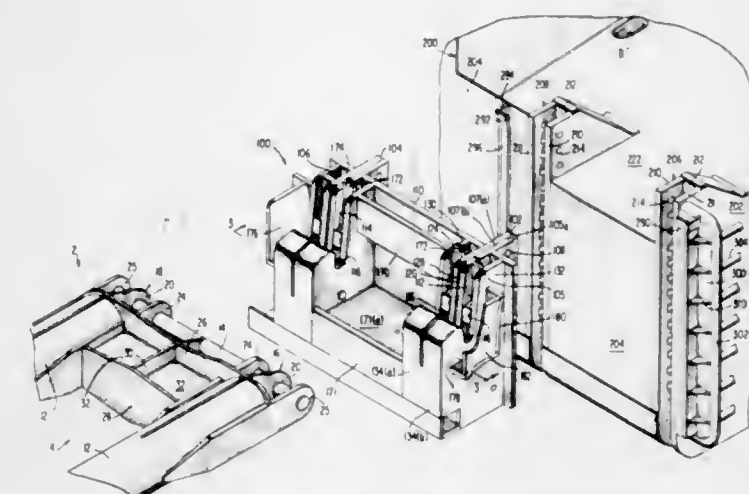
stones without any binding agents. Length of the tube is very large compared to the cross section filled to lie the same throughout its length. Since no hardeners are used, the filled tube is able to follow possible movements or



changes in the seabed without showing any cracks. Sealing of one end of the tube occurs and filling of at least a small length continues while progressively moving the tube or hose during the filling to place the same along the path where the coast protecting means is being deposited.

3,538,712 METHOD AND APPARATUS FOR CONNECTING A RIGID RAMP USED FOR PIPELAYING OPERA- TIONS TO A MARINE VESSEL

Joe C. Lochridge, William R. Rochelle, and Ardeshir Rustomji Desai, Houston, Tex., assignors to Brown & Root, Inc., Houston, Tex., a corporation of Texas
Filed Nov. 8, 1968, Ser. No. 774,476
Int. Cl. B63b 35/04; B63c 11/00
U.S. Cl. 61—72.3 14 Claims



A connecting assembly which is intended for connecting a longitudinally extending, pipelaying ramp to a marine vessel floating on a body of water. The connecting assembly includes connector means adapted for connection with the ramp and latching means releasably engageable with the connector means. Means is provided for releasably connecting the latching means with the vessel. This means includes first engaging means connected with the latching means and second engaging means adapted for connection with the vessel. The second engaging means is adapted to be actuated by a diver positioned adjacent the second engaging means to releasably engage the first engaging means. A compartment is mounted on the vessel in fluid communication with the body of water. The compartment surrounds the second engaging means to provide a sheltered water environment thereabout. Access means is connected with the compartment to permit the diver to enter and leave the compartment to actuate the second engaging means in the sheltered water environment.

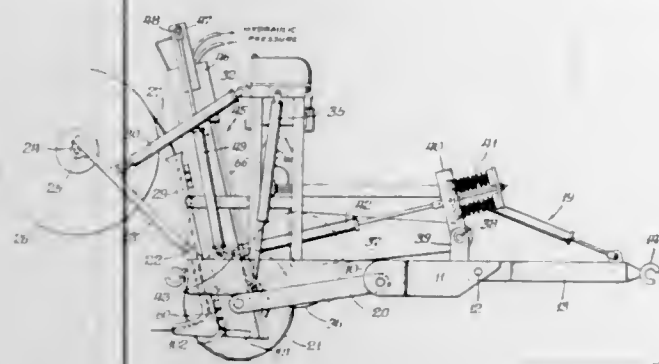
A connecting assembly including a buoyant pontoon, a hitch, and a vessel stern, all provided with force distributing, reticulated grid networks and with the force transmitting connection between the hitch and vessel stern being recessed forward of the stern.

3,538,713

HIGH-IMPACT PLOW WITH RECIPROCATING CUTTING BLADEDonald J. Killoren, Appleton, Wis., assignor to Ken-Tel Equipment Company, a corporation of Delaware
Filed Sept. 12, 1968, Ser. No. 759,378
Int. Cl. F16I 1/00; A01b 17/00

U.S. Cl. 61—72.6

9 Claims



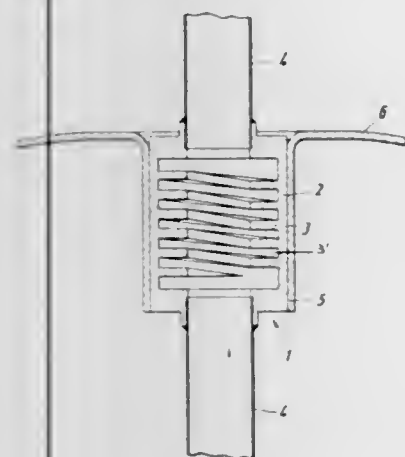
A plow is mounted on a wheeled frame and adapted to be pulled through the ground to cut a slit of predetermined depth. The plow includes an elongated tooth or shank having an upright slot at its forward edge and an enclosed channel or void behind the upright slot. A cutting blade is slidably received in the forward slot of the tooth for reciprocating action in a generally horizontal direction. The walls of the forward slot of the plow tooth and the rear surface of the cutting blade cooperate to define an expansion chamber which receives a sealed, flexible conduit filled with pressurized fluid. A return conduit for the fluid is received in the rear channel of the plow. As the plow is pulled through the ground, the fluid pressure is pulsated at a predetermined repetition rate under high pressure, thus expanding the flexible conduit to engage the rear surface of the cutting blade and causing it to punch forward in a chopping motion when the pressure is abruptly increased. As the pressure in the flexible conduit subsides, the pulling of the plow causes the expansion chamber to constrict; and the next pressure pulse causes another forward punching of the blade.

3,538,714

LOW TEMPERATURE LIQUID STORAGE DEVICES
Gustav Klipping, Frithjof Schmidt, and Harry Walter, Berlin, Germany, assignors to Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V., Göttingen, GermanyFiled Feb. 12, 1969, Ser. No. 798,754
Claims priority, application Germany, Feb. 13, 1968, 1,601,908
Int. Cl. F17c 13/00

U.S. Cl. 62—54

8 Claims



In low temperature liquid storage apparatus including an inner container connected to a waste gas pipe and surrounded by radiation shields which are to be cooled by their heat conductive connection to the pipe, heat exchange elements connected in series in the pipe to be

traversed by the gas flowing through the pipe and defining a gas flow path whose cross-sectional area is greater than that of the pipe, the outer surface of each element contacting one radiation shield to define the surface via which heat is transferred from the shield.

3,538,715

HUMIDITY CONTROLLER

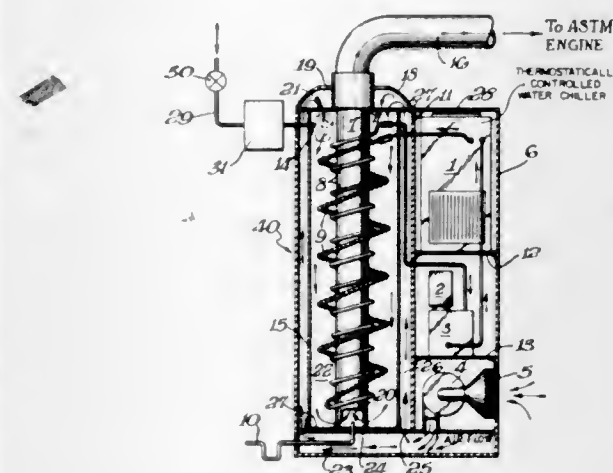
William C. Ludt, Yonkers, and John T. Jones, Ardsley, N.Y., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

Filed Apr. 3, 1968, Ser. No. 718,423

Int. Cl. F25d 17/00

U.S. Cl. 62—177

6 Claims



Humidity of air supplied to intake of octane rating engine is automatically controlled by controller having mechanical refrigeration unit cooling a body of liquid like water to thermostatically controlled 32° F., and having cooling coil in heat exchange relation with the liquid and with an air supply conduit to cool the engine intake air to that temperature. Air filter unit can be connected to supply a substantial excess of filtered air to the space from which air moves into the conduit to assure that intake air is filtered. Also steam supply can be provided in the conduit near its inlet to assure that the incoming air is saturated with moisture when cooled to 32° F. Thermostat can be omitted where body of liquid is water and is so large that continuous running of refrigeration unit will not freeze it completely.

3,538,716

HEAT PUMP SYSTEM

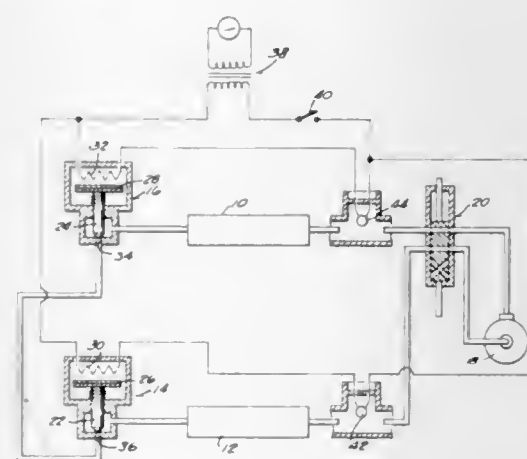
Alan A. Matthies, Milwaukee, Wis., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Dec. 4, 1968, Ser. No. 781,140

Int. Cl. F25b 41/00

U.S. Cl. 62—206

6 Claims



A heat pump system has two heat motor operated expansion valves connected in series between the two coils of the system. On the reversing valve side of the system a

thermistor is connected between each coil and the compressor and each thermistor controls the heat motor of one of the valves. In one state of heat pump operation one expansion valve is driven full open while the other maintains control and the expansion valve operation is reversed in the other state of heat pump operation.

3,538,717

REFRIGERATION SYSTEM CONTROL ARRANGEMENT INCLUDING HEAT MOTOR OPERATED EXPANSION VALVE

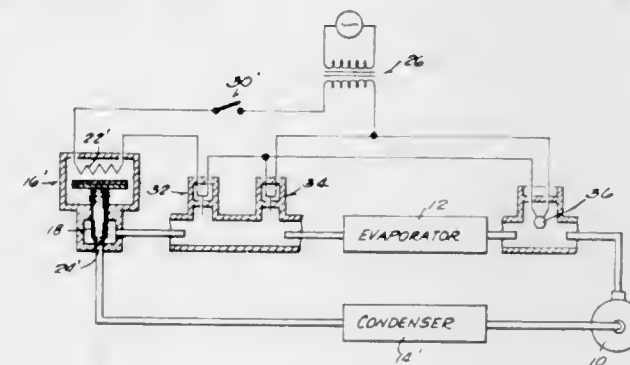
Alan A. Matthies, Milwaukee, Wis., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Dec. 4, 1968, Ser. No. 781,227

Int. Cl. F25b 41/04

U.S. Cl. 62—212

4 Claims



A heat motor operated expansion valve for a refrigeration system is controlled by a condition responsive member, a pressure switch, which is exposed to the system and controls on the basis of a sensed system condition. In one aspect, a pressure switch is connected to energize and de-energize the heat motor on the basis of system pressure in the system. In another aspect, two pressure switches are connected in series with each other and the heat motor, one of the pressure switches is selected to operate at a particular pressure level and the other at a lower pressure level. A thermistor exposed to and responsive to the condition of the refrigeration system is connected in parallel with the pressure switch set to operate at the lower level so that below the lower level the pressure switch shunts the thermistor but above the lower level the thermistor is connected in the heat motor control circuit and thereby controls expansion valve operation between the upper and lower pressure levels.

3,538,718

REFRIGERATION EVAPORATOR HEAT EXCHANGER

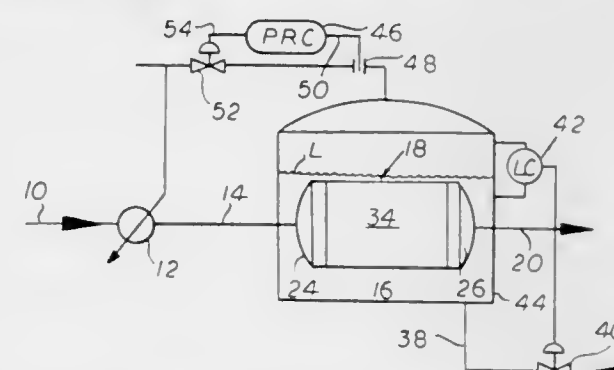
Joseph T. Karbosky, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 26, 1968, Ser. No. 792,892

Int. Cl. F25b 41/04

U.S. Cl. 62—217

3 Claims



A heat exchanger having conducting passageways for a fluid to be cooled, has disposed therebetween and at substantially right angles thereto, openings comprising

conducting passageways for a low-boiling liquid refrigerant. The heat exchanger is immersed to a predetermined depth in said liquid refrigerant; both said heat exchanger and refrigerant are housed within an evaporator chamber. The liquid refrigerant disposed about the heat exchanger passageways for the fluid material to be cooled vaporizes, forming a circulating, vapor-liquid mixture in the chamber which effects efficient heat exchange with such fluid to be cooled.

3,538,719

METHOD FOR MAKING THE SUBSTRUCTURE OF AN ICE-SKATING RINK

Henri Pradel, 19 Rue des Allies, Pau, France

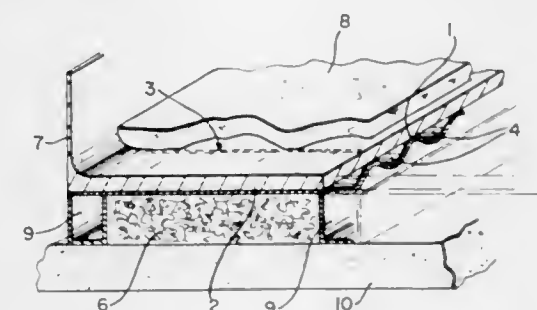
Filed May 31, 1967, Ser. No. 642,456

Claims priority, application France, June 15, 1966, 66,368

Int. Cl. A63c 19/10

U.S. Cl. 62—235

4 Claims



A substructure of an ice-skating rink comprises a corrugated plate of glass-resin laminate covered by and bonded to a flat plate also made of glass-resin laminate to form refrigerant passages between the plates for circulating a refrigerant, the corrugated plate resting on a conforming sub-base of polyurethane foam.

3,538,720

ICE CUBE MAKER ASSEMBLY

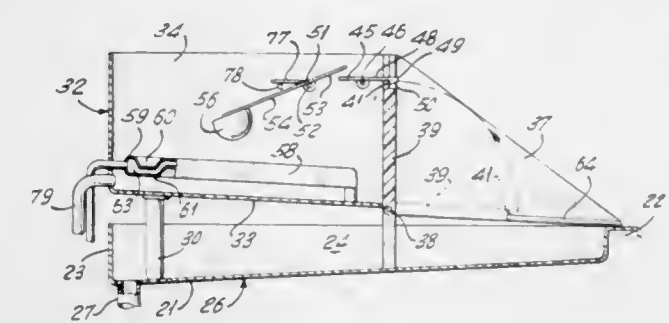
Valentine Feola, 1515 Castle Hill Ave., Bronx, N.Y. 10462

Filed Dec. 11, 1968, Ser. No. 782,901

Int. Cl. F25c 1/08

U.S. Cl. 62—352

10 Claims



An ice cube producing apparatus includes a tank having an end wall swingable along its bottom edge to an open position in alignment with a forwardly extending perforate drain plate and urged to and releasably latched in closed position. A float in the tank releases the front wall to open position under tank water pressure. A jacketed compartmented freezing tray is located proximate the tank bottom and defines an expansion chamber through which an evaporable refrigerant is circulated. Upon freezing and solidifying of the ice cubes, water is fed into the tank to separate the cubes from and to refill the tray, trip the latch and release the tank water which floats the separated ice cubes along the drain plate.

3,538,721

UNIVERSAL JOINT

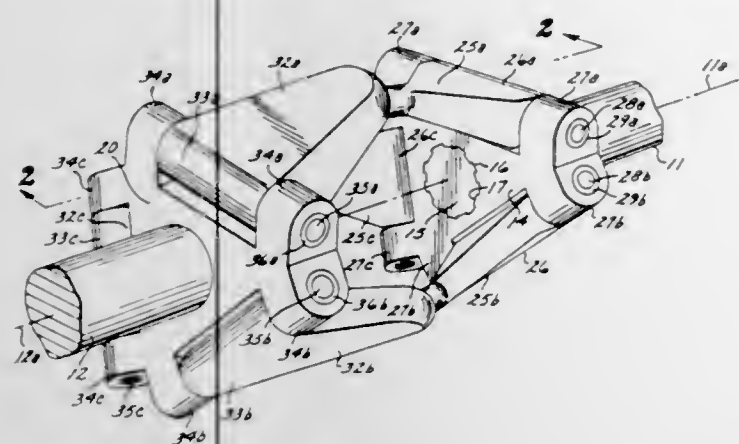
Robert R. Reddy, Pasadena, Calif., assignor of one-third to Joseph W. Wiechowski, San Clemente, Calif., and Salvatore Pirozzi, Garden Grove, Calif.

Filed Mar. 28, 1969, Ser. No. 811,447

Int. Cl. F16d 3/30

U.S. Cl. 64—21

6 Claims



A universal joint including a first and second cross member on juxtapositioned ends of first and second rotatable shafts and including a plurality of pairs of first and second arms disposed in a circle around the rotation axes of said shafts, said first and second arms being swingably connected to said first and second cross members respectively about axes perpendicular to the rotation axes of said shafts; each pair of arms having a pivotal connection together including a partial sphere on a first arm of each pair, which partial sphere has a flat surface facing the rotation axes of said shafts and a flat surface on the opposite side of said sphere from said last mentioned surface. Said second arm of each pair having a spherical cavity in which said partial sphere is received, which cavity opens through a second arm face facing the rotation axes of said shafts, which opening has a length extending at a right angle to the axis about which the arm swings equal to the diameter of the cavity and a width extending at a right angle to said last mentioned length, which last mentioned width is less than said length and at least equal to the thickness of the partial sphere.

3,538,722

METHOD FOR PRODUCING CURLY GLASS FIBERS

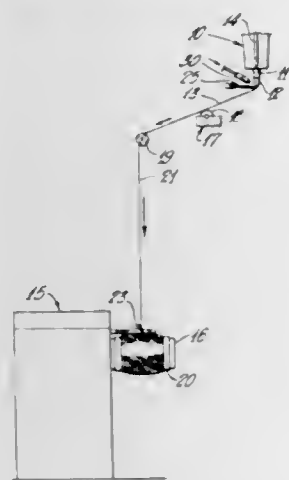
Ralph M. Stream, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Mar. 27, 1967, Ser. No. 626,301

Int. Cl. C03b 37/02

U.S. Cl. 65—2

4 Claims



The method and apparatus for forming continuously curled fine fibers from streams of flowable material such

as molten glass where attenuating the streams forms a cone thereof diminishing in size to an apex region and the path of the stream is changed in the apex region to form a fiber having one side longer than the opposite side.

3,538,723

HOLDING AND TRANSPORT APPARATUS FOR VARIABLE-THICKNESS SHEET MATERIAL, PARTICULARLY TANNED SKINS

Otto Imgrund, Mulheim (Ruhr), Albert Muth, Oberursel, and Hans Helmut Brendel, Arnoldshain, Germany, assignors to Maschinenfabrik Turner AG, Oberursel, Taunus, Germany, a corporation of Germany

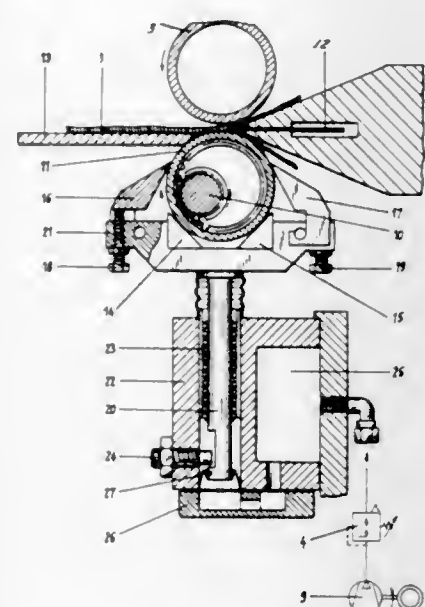
Filed Mar. 4, 1969, Ser. No. 804,096

Claims priority, application Germany, Sept. 11, 1968, 1,785,325

Int. Cl. C14b 1/18

U.S. Cl. 69—10

9 Claims



To hold, or transport material having randomly varying thickness, such as tanned hides, for example steer hide, cow hide and the like, in which the skin is placed on a support and held thereagainst by means of sectionalized support pads, or transport rollers, each one of the support pads or rollers being separately movable against the skins and pressed resiliently thereagainst by compressed air, the pressure for each support pad or roller being variable in accordance with sensed thickness of the material thereunder.

3,538,724

COIN VAULT LOCK ASSEMBLY

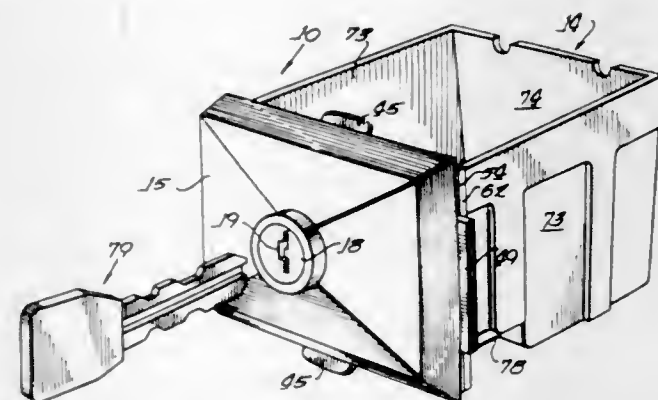
Robert L. Dauenbaugh, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware

Filed July 26, 1968, Ser. No. 747,929

Int. Cl. E05b 65/44; E05c 5/00; A47b 88/04

U.S. Cl. 70—86

19 Claims



A lock assembly for a coin box or vault utilized in a vending machine or other application including a coin

box secured to a face plate having locking means to lock the face plate in an opening in the machine with the coin box positioned therein to receive deposited coins. The lock assembly includes a security bushing and a plate tumbler lock having a rotatable plug rotating a driver connected to a cam plate to advance and retract lock bolts extending outwardly from the sides of the face plate to engage the edges of the opening in the machine. The assembly also includes a lock retainer plate normally in an inoperative position, but when shifted to operative position allows removal and replacement of the tumbler lock and driver.

3,538,725

HOOD LOCKING DEVICE

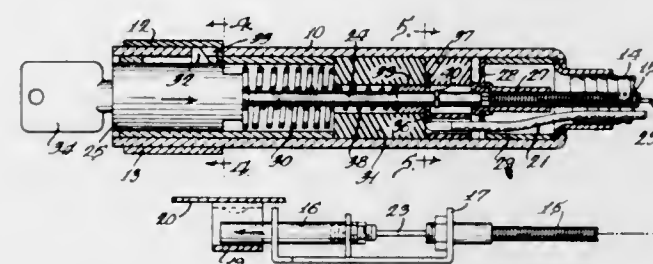
Louis F. Guenther, Park Ridge, and Charles P. Barcik, Franklin Park, Ill., assignors to CFC Enterprises, Park Ridge, Ill., a partnership

Filed Oct. 31, 1968, Ser. No. 772,100

Int. Cl. E05b 65/12

U.S. Cl. 70—241

2 Claims



An automobile locking device comprising a remotely controllable bolt for locking the hood to the automobile body and associated electrical means for alternately rendering the ignition system of the automobile operative and inoperative in response to reciprocable movement of said bolt and independently of the automobile starter system.

3,538,726

METHOD AND APPARATUS FOR CONTROLLING THE CROP SHEAR OF A HOT STRIP MILL

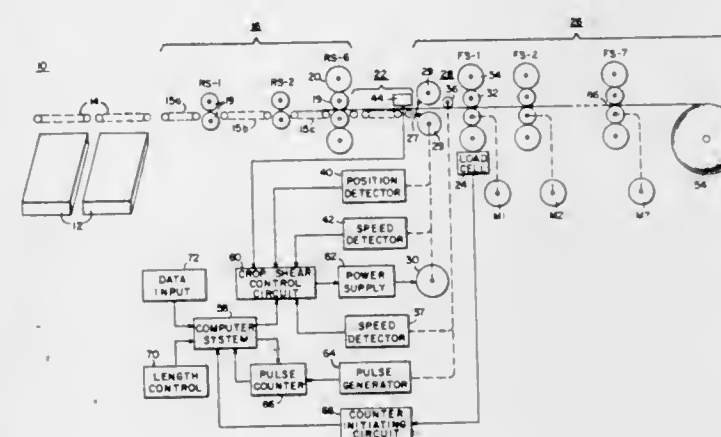
John W. Cook, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 16, 1968, Ser. No. 698,183

Int. Cl. B21b 1/00

U.S. Cl. 72—7

6 Claims



This invention relates to the method and control system for operating a steel mill and proposes in particular to operate a crop shear normally used in the finishing mill to remove the rough ends of the strip, to cut a strip derived from a single slab to provide multiple coils.

3,538,727

DEVICE FOR REGULATING THE THICKNESS OF ROLLING-MILL PRODUCTS AND ROLLING-MILLS EQUIPPED THEREWITH

Claude Guillot, St. Chamond, France, assignor to Compagnie des Ateliers et Forges, de la Loire St. Chamond, Firminy, St. Etienne, Jacob Holtzer and Hydro-mecanique et Frottement, Paris, and St. Etienne, France

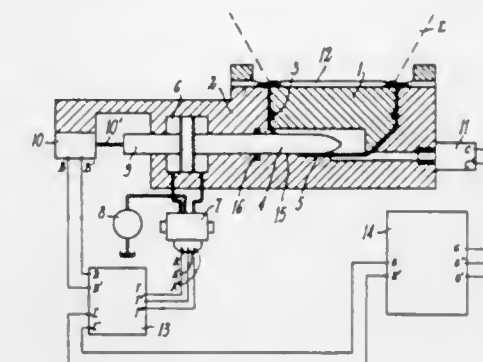
Filed Nov. 14, 1967, Ser. No. 682,788

Claims priority, application France, Dec. 19, 1966, 87,948

Int. Cl. B21b 37/12, 37/08

U.S. Cl. 72—8

6 Claims



A regulating device for the thickness of a rolled product having a regulator jack whose piston can be displaced under the effect of pressure variations of a grease filling the space between said piston and a bore in which it is displaced. A piston projects into the grease and its entrance and retreat brings about displacements of the piston of the jack. A hydraulic jack actuated by a servovalve controls the plunger piston. Means are provided for capturing the variations of the position of the plunger piston and consequently the variations of the screwing down of the rolling mill. Means capture the value of the pressure of the grease and therefore the variations of the effort of the rolling. Means determine the real position of the plunger piston to its desired position and means give a compensation signal defining such desired position.

3,538,728

METHOD AND APPARATUS FOR PRODUCING FLEXIBLE METAL DUCTS

John Massey Trihey, Harkaway, Victoria, Australia, assignor, by mesne assignments, to Johns-Manville Corporation, New York, N.Y., a corporation of New York

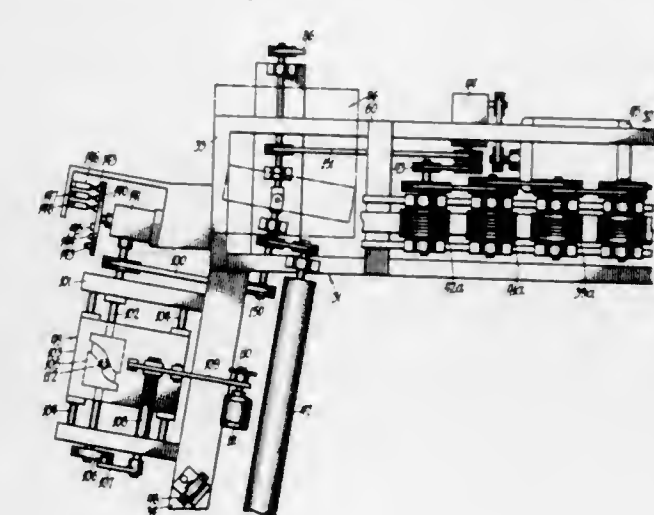
Filed May 15, 1967, Ser. No. 638,393

Claims priority, application Australia, May 16, 1966, 5,601/66

Int. Cl. B21j 7/26

U.S. Cl. 72—23

5 Claims



A method of forming flexible corrugated tubing from strip material in which the strip is corrugated, convoluted about a mandrel and seam locking adjacent edges by

means of a seam which is doubled over to form a double locked seam.

Apparatus for forming flexible corrugated tubing from strip material, having corrugated rollers to corrugate the strip, a mandrel about which the strip is convoluted by forming rollers, seaming rollers to form a locked seam between the edges of adjacent convolutions of the strip to form the tube and a spiked roller to perforate the tube as it leaves the mandrel.

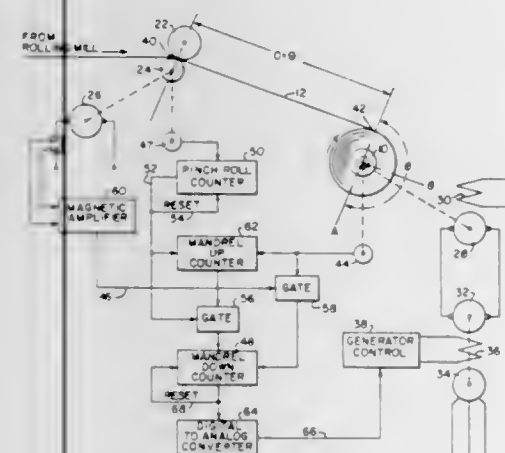
3,538,729 CONTROL SYSTEM FOR STRIP COILING APPARATUS

John D. Sterrett, Jr., Williamsville, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 11, 1967, Ser. No. 652,454
Int. Cl. B30b 15/00

U.S. Cl. 72-30

1 Claim



Described is apparatus for controlling strip coiling apparatus whereby the trailing end of the strip will come to rest at a preselected angular position about the mandrel on which it is coiled. The invention finds utility, for example, in controlling a downcoiler for a hot strip rolling mill where it is desired to position the end of the strip beneath the coil prior to its removal from the mandrel.

3,538,730 EXTRUSION METHOD AND APPARATUS

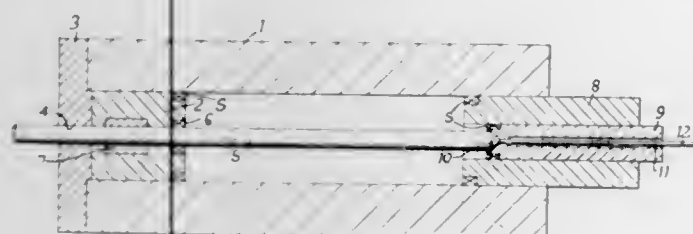
John Malcolm Alexander and Bela Lengyel, London, England, assignors to National Research Development Corporation, London, England

Filed Dec. 11, 1967, Ser. No. 689,637
Claims priority, application Great Britain, Dec. 15, 1966, 42,249/66

Int. Cl. B21c 23/08

U.S. Cl. 72-40

5 Claims



Apparatus for the cyclic extrusion of a continuous length of feedstock billet comprising a high pressure chamber, an inlet with clamping and sealing means for the billet material, an extrusion die and outlet for the extrusion and means for cyclically developing high hydrostatic pressure within the chamber, has additional means such as an annular plunger surrounding the inlet or outlet for maintaining the pressure at a required value during

relative movement of the inlet and extrusion die towards each other. This enables the feedstock billet and extrusion to extend along a straight line through the container.

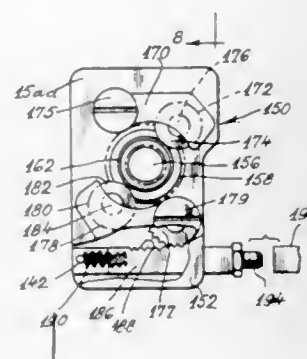
3,538,731 KNURLING TOOL

Joseph B. Plevyak, 57 Madison St., Newton, N.J. 07860
Continuation-in-part of application Ser. No. 345,200, Feb. 17, 1964. This application Oct. 24, 1967, Ser. No. 677,675

Int. Cl. B21d 37/06

U.S. Cl. 72-108

2 Claims



Cam actuated machine tools and spindles comprising in combination a plate body for supporting multiple operations tool assemblies such as a combined swing knurl, thread roll and adjustable knurl tool assembly and a two-spindle cross drill tool assembly, both assemblies having rectangular shaped bodies with a shank radiating from one side of each body, for attachment to a turret, means for supporting a workpiece on the plate body, at least one assembly having shafts rotatably mounted in the body, arms fixed at one end to said shafts, rotatable knurl rolls carried on the free ends of the arms, and means for pivoting said shafts whereby said rolls are swung into engagement with a workpiece therebetween, said means including a spring-pressed slidable rack bar operatively connected to the arms, an actuating rod engaging said rack bar and a guide member of a cam-actuated cross slid movable against the actuating rod.

3,538,732 METHOD AND APPARATUS FOR PRODUCING CHANNEL STEELS

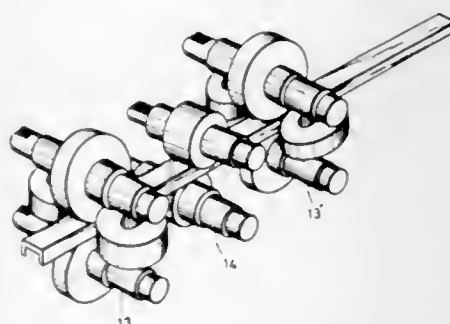
Ikuya Noda, Iwate-ken, Akira Yamamoto, Hyogo-ken, Takashi Ueta, Tokyo, Hisao Minami and Ryo Hirano, Hyogo-ken, and Ken Ishiguro, Shinichi Inoue, Fujio Someno, Sadao Hokari, and Goro Abe, Tokyo, Japan, assignors to Nippon Steel Corporation, Tokyo, Japan

Filed June 15, 1967, Ser. No. 646,214
Claims priority, application Japan, June 21, 1966, 41/40,220

Int. Cl. B29b 1/08, 39/00

U.S. Cl. 72-226

18 Claims



In a method of forming channel steels or sections, the channel steels or sections, as roughly shaped in a reversing blooming mill and a break down mill, are delivered to a universal rolling mill group including at least one universal rolling mill and an edging mill. The roughly shaped

channel steel or sections are given a number of forward and backward passes through the universal rolling mill group and are then transferred to a finishing mill where they are again given a number of forward and backward passes. The universal rolling mill group may include two universal rolling mills with an edging mill positioned between the two universal rolling mills. In the universal rolling mill group, the workpieces are formed into roughly channel shaped steel or sections having the desired web thickness, flange thickness, flange width and contour. Special designs of rolls provide for substantial reduction or complete elimination of shoulders projecting at the junctures between the flanges and the webs of the channel steels or sections.

3,538,733 PRESTRESSED ROLLING MILL WITH REVERSED CLAMPING

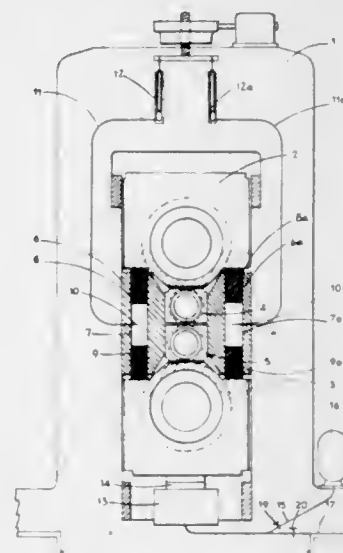
Lucien Diolot, Neuilly-sur-Seine, France, assignor to Societe Nouvelle Spidem, Paris, France

Filed May 24, 1967, Ser. No. 640,972
Claims priority, application France, May 24, 1966, 62,716

Int. Cl. B21b 31/32

U.S. Cl. 72-245

8 Claims



Regulating device for controlling the spacing of cylinders in a rolling mill with prestressing jacks and jacks with a determined quantity of liquid controlled by jacks having a small cross-section and long piston stroke. Each of the last mentioned jacks being capable of being maneuvered individually, the necessary motor reduction gears for driving said jacks being mounted in line with disengaging clutches connected therebetween.

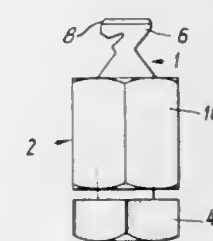
3,538,734 TOOL FOR FORMING EXTERNAL COLLAR AT A SIDE OPENING IN A PIPE

Kauno Koskinen, Hartola, Finland
Filed Jan. 22, 1968, Ser. No. 699,424
Claims priority, application Finland, Jan. 26, 1967, 219/67

Int. Cl. B21d 41/02

U.S. Cl. 72-316

7 Claims



Tool for forming an external collar at a side opening in a pipe. The tool comprises an inner part having an

external thread and an expansion head at one end, and also an outer part having an internal thread engaging the external thread on the inner part. The expansion head is specially shaped to enable it to be slipped through the side opening into the pipe. Adjustment of one part of the tool with respect to the other forces the expansion head out the side of the pipe. As a consequence, the expansion head expands the material of the pipe around the side opening so as to form an external collar at the opening.

3,538,735 MULTIPLE SIDE PUNCHING MACHINE

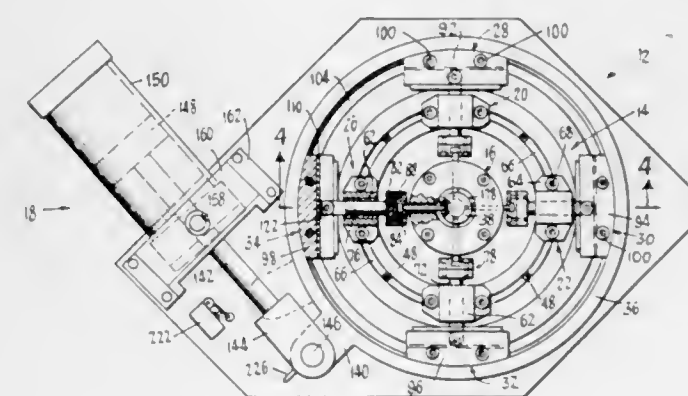
Sanford S. Zimmerman, Westport, Conn., assignor to Nathan Dolberg, Fairfield, Conn.

Filed Apr. 27, 1967, Ser. No. 634,217

Int. Cl. B21d 43/28; B26d 7/06

U.S. Cl. 72-324

8 Claims



An apparatus for simultaneously punching or forming apertures or shaped depressions in the side wall of tubular parts, the apertures or depressions being formed in a variety of patterns of circumferential and/or axial rows. A plurality of tool carrying, radially movable rams are driven inwardly and outwardly in response to unidirectional movement of actuating cams carried by an oscillating cam carrier, and automatic power means actuate both the carrier and an ejecting mechanism when an operating cycle is completed.

3,538,736 HAND SHAPER TOOL FOR FORMING ELONGATED STRIPS

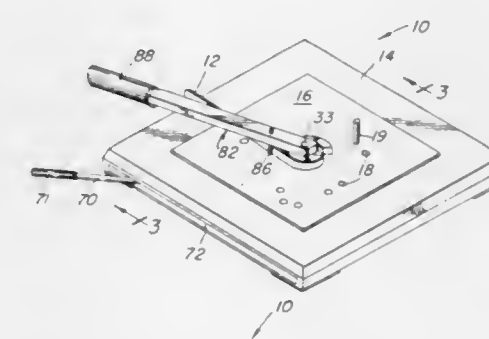
Robert H. Nygren, 2310 W. Arthur, Chicago, Ill. 60645

Filed Aug. 25, 1967, Ser. No. 663,364

Int. Cl. B21d 7/02

U.S. Cl. 72-388

6 Claims

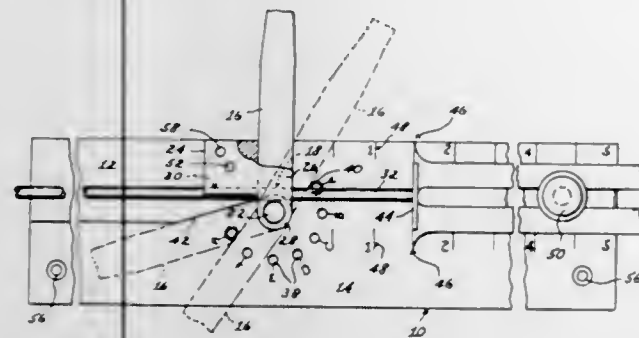


A shaper tool comprising an inner shaper member and an outer shaper member having curved surfaces for forming elongated strips of material into various shapes and configurations. Means are provided to predetermine the length of said surfaces used in the forming of the strips.

3,538,737
BENDER FOR WIRE AND FLAT STOCK
 Peter P. Del Monica, 10 Landon Drive,
 Bordentown, N.J. 08505
 Filed Nov. 12, 1968, Ser. No. 774,644
 Int. Cl. B21d 7/02

U.S. Cl. 72—388

9 Claims

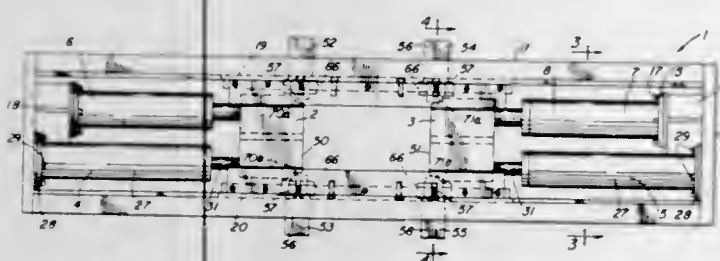


A small bender designed to perform the accurate bending of both wire and flat linear stock, and in which the width of the pivoted bending lever and the diameter of an adjustable stop pin therefor are cooperative with visual indicator means at the several lever stop positions to show the precise angle of bend of the stock when the lever is moved into abutment with the stop pin at one of said positions.

3,538,738
HIGH ENERGY RATE MACHINES
 Gerald J. Farrell, Elmhurst, Ill., assignor to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware
 Filed June 22, 1967, Ser. No. 647,985
 Int. Cl. B21j 7/24

U.S. Cl. 72—436

18 Claims

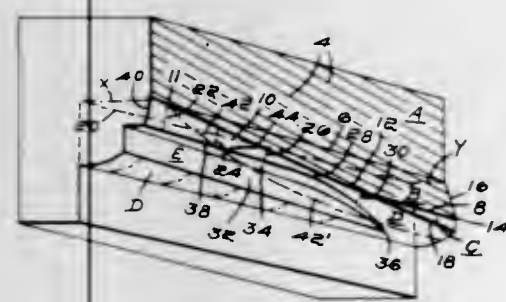


A high energy rate machine wherein the machine is fired by releasing latching mechanism to thereby free the piston for movement.

3,538,739
THREAD ROLLING DIE WITH CYLINDRICAL SLUG FORMING AND REMOVAL SURFACE
 Roger W. Orlomoski, Paxton, Mass., assignor to Reed Rolled Thread Die Co., Holden, Mass., a corporation of Massachusetts
 Filed Apr. 1, 1968, Ser. No. 717,699
 Int. Cl. B21d 13/04

U.S. Cl. 72—469

7 Claims



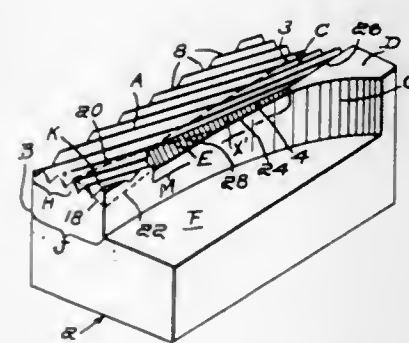
The disclosure comprises a pair of matched thread rolling dies capable of producing a gimlet pointed screw from a cylindrical blank of which the lower portion (the slug)

is gradually forced away and finally severed from the screw as the point is being created. The disclosure feature is the configuration of that surface of the die which acts to produce the slug. This surface is in a preferred form part of a cylinder which intersects the point producing surface along a diagonal line at a changing angle.

3,538,740
THREAD ROLLING DIE WITH STABILIZING PORTION
 Roger W. Orlomoski, Paxton, Mass., assignor to Reed Rolled Thread Die Co., Holden, Mass., a corporation of Massachusetts
 Filed Apr. 1, 1968, Ser. No. 717,700
 Int. Cl. B21h 3/06

U.S. Cl. 72—469

8 Claims

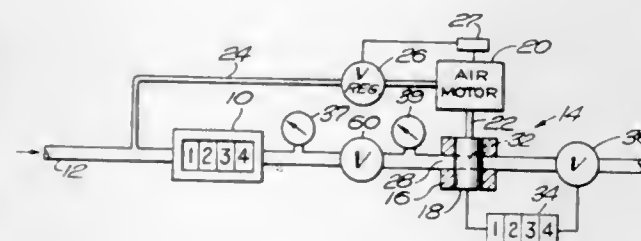


This invention is directed to thread rolling dies of the type capable of producing gimlet pointed screws from headed cylindrical blanks. When the screw is relatively short, having only one to a few turns of the thread on the body, it is often difficult to start the blank properly between the dies. Accordingly, in this invention the vertical portions of the dies at the leading ends are widened to provide enough thread grooves to insure initial stabilization of the blank in proper rotating attitude before the blank reaches the conventionally sized pointing and slug producing portions of the dies.

3,538,741
FLUID CONTROL SYSTEM
 Isadore Ludwin, 1073 Centre St.,
 Newton Center, Mass. 02159
 Continuation-in-part of application Ser. No. 426,771,
 Jan. 21, 1965. This application Aug. 7, 1968, Ser.
 No. 750,875
 Int. Cl. G01f 3/24, 25/00

U.S. Cl. 73—3

6 Claims

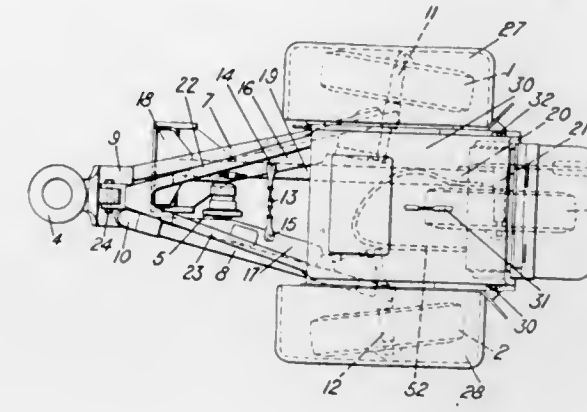


A fluid control system is provided for metering fluids by converting a steady fluid flow into a series of uniform pulses and counting the pulses. The system is particularly useful in calibrating conventional fluid meters. A rotary valve is employed which cyclically opens and closes to pass the fluid in pulse form through the line. A cutoff valve is operatively connected to the counter to terminate the flow at the end of each counting period and the counter reading is compared with that of the fluid meter.

3,538,742
FRICTION MEASUREMENT
 Vernon A. Benning, Slough, England, assignor to M. L. Aviation Company Limited, Slough, England, a British company
 Filed Oct. 14, 1968, Ser. No. 767,446
 Claims priority, application Great Britain, Nov. 9, 1967,
 51,119/67
 Int. Cl. G01n 19/02

U.S. Cl. 73—9

10 Claims

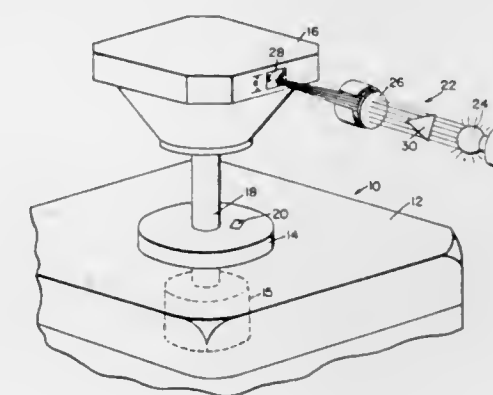


A vehicle for use in determining the coefficient of friction between a vehicle wheel and a surface includes a pair of supporting wheels rotatably mounted so as to have either a "toe-out" or a "toe-in." Accordingly when the vehicle is moved on the wheels over a surface, a force is produced tending to move the wheels relatively to one another in a generally axial direction. The vehicle includes a force measuring device for measuring this force which is dependent on the coefficient of friction between the wheels and the surface.

3,538,743
SHOCK-TESTING MACHINE CONTROL SYSTEM
 Ramon Luis Glidden, Tulsa, Okla., assignor to Avco Corporation, Tulsa, Okla., a corporation of Delaware
 Filed Sept. 3, 1968, Ser. No. 756,930
 Int. Cl. G01n 3/00; G01f 9/00; G01p 3/68

U.S. Cl. 73—12

8 Claims

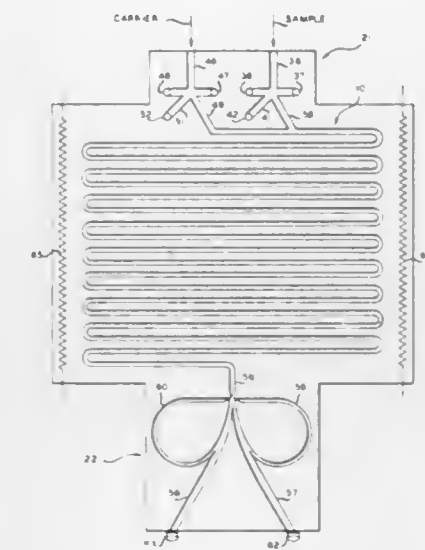


The disclosure illustrates an electronic signal-generating device for use in a shock-testing machine having a specimen-supporting carriage that is accelerated against an impact pad to provide a shock impulse on the specimen. The position of the carriage and its velocity adjacent the impact pad is sensed by a photosensitive amplifier which receives a light beam from a reflected surface mounted on the carriage. The output of the photosensitive amplifier is modified to provide a signal proportional to the velocity of the carriage. The output is also used to actuate time-delay devices which are used to control various auxiliary components of the shock-testing machine.

3,538,744
CHROMATOGRAPHY APPARATUS
 Francis W. Karasek, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
 Filed Nov. 9, 1967, Ser. No. 681,822
 Int. Cl. G01n 31/08

U.S. Cl. 73—23.1

4 Claims

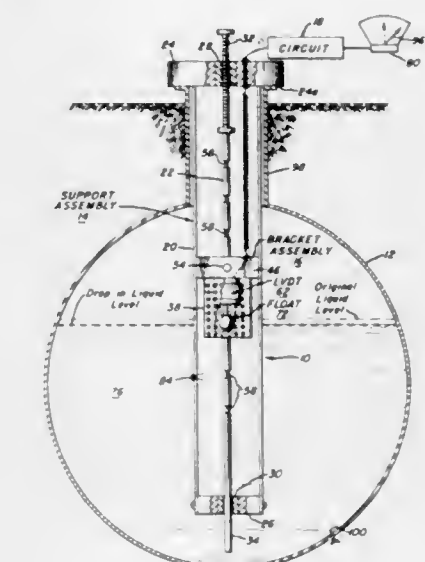


A chromatographic apparatus comprising a microchannel etched in the surface of a glass or metallic plate to which a top plate is secured in fluid-tight relationship to form a column. The internal dimensions and length of the fluid flow passage are such that the components from a fluid mixture moving through the column are detained for characteristically different periods of time. The plate can include a sample switch, detector, and like components in the form of fluidic or solid state devices to miniaturize an entire chromatography system.

3,538,745
APPARATUS FOR DETECTING LEAKS IN TANKS STORING LIQUIDS
 Lawrence T. Wright and Sixt Frederick Kapff, Homewood, and Irwin Ginsburgh, Morton Grove, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
 Filed Nov. 29, 1968, Ser. No. 779,936
 Int. Cl. G01m 3/00

U.S. Cl. 73—49.2

11 Claims



The apparatus of our invention includes a support rod, which preferably is made of a material having virtually a

zero coefficient of expansion at normal ambient temperatures. Mounted on this rod is an adjustable bracket assembly housing a linear-variable-differential-transformer (LVDT) and a float operably connected to the movable core of the LVDT. The bracket assembly is moved to a position on the rod which brings the float into floating relationship with the liquid contained in the tank. Any movement thereafter by the float regulates the character of a signal being generated by a circuit which includes the LVDT. Since either tank leakage or a change in the temperature of the stored liquid is responsible for changes in liquid level, the circuit of our invention includes means for providing a temperature-compensated signal which only represents a change in liquid level due to leakage. This feature is optional.

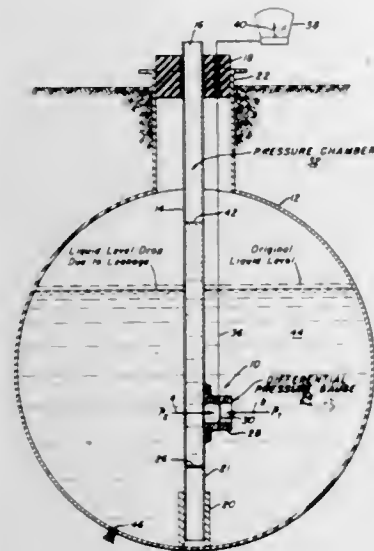
3,538,746

LEAK DETECTING METHOD AND APPARATUS
Robert B. Jacobs and Sixt Frederick Kapff, Homewood, and Irwin Ginsburgh, Morton Grove, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Oct. 31, 1968, Ser. No. 772,274
Int. Cl. G01m 3/00

U.S. Cl. 73-49.2

10 Claims



This invention concerns a method and apparatus for detecting whether means containing fluid leaks. The method comprises the steps of inserting into the containing means a chamber in which a reference pressure is maintained, sensing the difference between the reference pressure within the chamber and the pressure within the containing means, and then providing, whenever said difference changes, a signal to indicate that the containing means leaks. The apparatus comprises (a) an elongated, hollow, tubular member having an open end and a closed end, and (b) a differential pressure gauge attached to said member in a manner enabling the gauge to simultaneously sense the pressure within the interior of the member and the pressure exterior to said member. Filling the interior of the member with a liquid establishes therein a reference pressure.

3,538,747

CAVITATION MEASUREMENT METHOD
Ralph H. Munch, Webster Groves, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

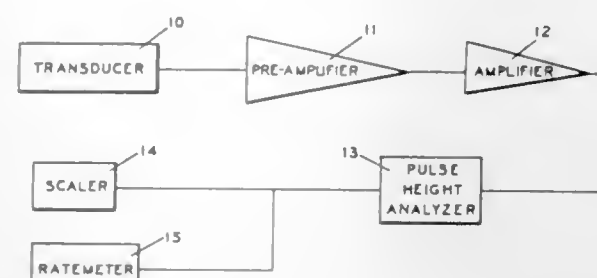
Filed Jan. 22, 1968, Ser. No. 699,667
Int. Cl. G01n 9/00, 11/00

U.S. Cl. 73-53

10 Claims

Method and apparatus for measuring the energy emanating from a cavitating fluid. Cavitation energy is con-

verted into electrical pulses, the height of the pulses is discriminated by pulse height analysis, and the number



or rate of pulses produced within a determined range of pulse heights is observed.

3,538,748

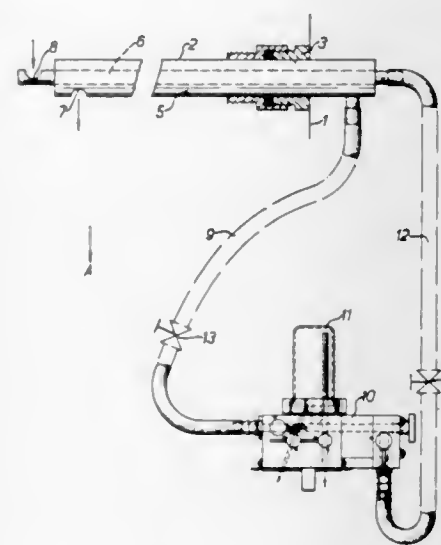
APPARATUS FOR DETERMINING CONTAMINATION OF FLOWING LIQUIDS IN A PIPE
Russell Frederick Linsell, Lymington, and George Parsley, Southampton, England, assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed May 6, 1968, Ser. No. 726,764
Claims priority, application Great Britain, May 5, 1967, 21,048/67

Int. Cl. G01n 21/04; G01m 3/02

U.S. Cl. 73-61.1

2 Claims



A probe having two passages, one facing upstream the other downstream, is suitably inserted into a pipeline so that a pressure differential, between the two openings, is created by the flowing fluid in the pipeline. The difference in pressure allows a small stream of the flowing fluid to flow into the upstream opening and be trapped in a container and examined for contamination. Tubular extensions connect the upstream opening with the container and the container with the downstream opening so as to form a closed flow path.

3,538,749

CONTROL FOR FREEMESS TESTER
Donald W. Danforth, Andover, Mass., assignor to Bolton-Emerson, Inc., Lawrence, Mass., a corporation of Massachusetts

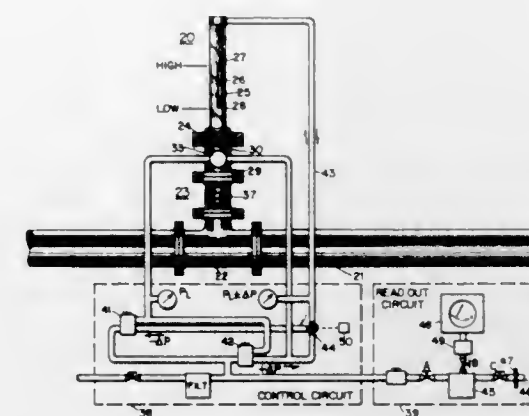
Filed Mar. 6, 1969, Ser. No. 804,884
Int. Cl. G01n 33/34

U.S. Cl. 73-63

10 Claims

A paper stock freeness tester of the automatic, closed stock line, standpipe type, periodically admitting, screening and discharging to measure stock drainage rate, has

an electro-pneumatic system to compensate for stock line pressure variation and maintain influent stock velocity at zero at the screen. It also has with adjustable electro-



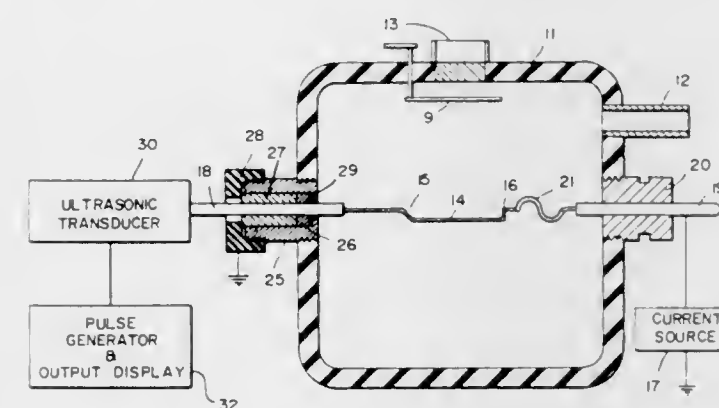
3,538,750
HIGH TEMPERATURE ULTRASONIC MEASURING SYSTEM

Lawrence C. Lynnworth, Waltham, Mass., assignor to Panametrics, Inc., Waltham, Mass., a corporation of Massachusetts

Filed Apr. 26, 1968, Ser. No. 724,450
Int. Cl. H04r 25/00, 27/00

U.S. Cl. 73-67.7

19 Claims



A system for measuring the ultrasonic transmission characteristics of a specimen as a function of temperature. The specimen is electrically heated and pulses of ultrasonic energy are coupled to it, while it is so heated. Means for determining the average temperature are also provided. The cross section of the specimen must be small enough to have no thermal gradient transverse to the specimen upon Joule heating and the ultrasonic energy must have a wave length long compared to the cross sectional dimensions required for transmission of the ultrasonic pulses.

3,538,751

DIRECT READING ULTRASONIC THICKNESS GAGE

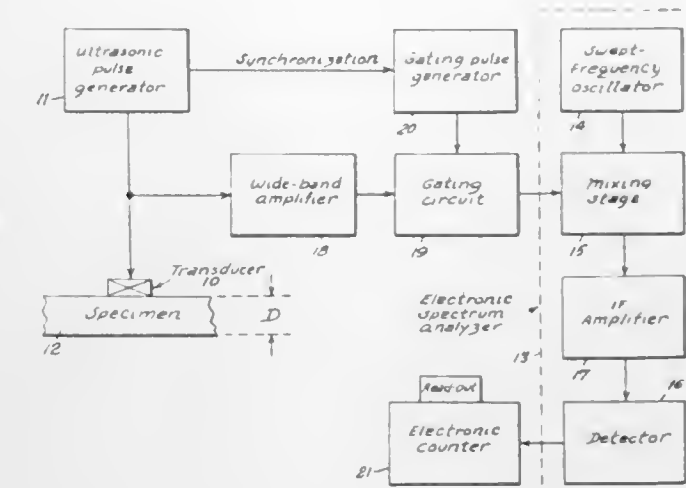
Otto R. Gericke, Medfield, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed May 17, 1968, Ser. No. 730,187
Int. Cl. G01n 29/00

U.S. Cl. 73-67.8

3 Claims

A direct reading ultrasonic thickness gage that requires no manual operation of the electronic circuitry consisting of an ultrasonic pulse excited piezoelectric transducer



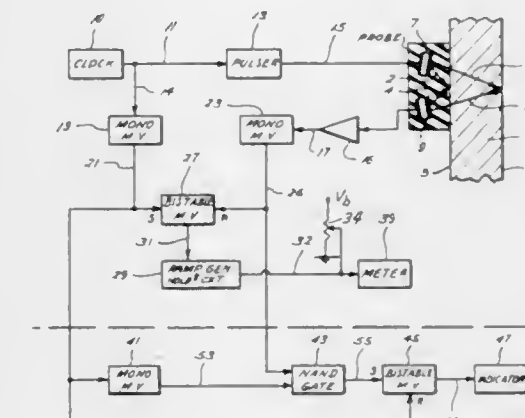
3,538,752
ULTRASONIC THICKNESS MEASURING APPARATUS

Hillel Weinbaum, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 2, 1966, Ser. No. 598,774
Int. Cl. G01n 29/04

U.S. Cl. 73-67.9

3 Claims



The present invention pertains to ultrasonic inspection equipment for using the output of a ramp generator and hold circuit as a means for indicating the thickness of an article, the on-time of the ramp generator being controlled by a signal derived directly from an energizer and the off-time of the ramp generator being controlled by a signal reflection from the back surface of the article following transmission into the article by appropriate means of the signal from the energizer, provisions being made to ignore the front surface reflection.

3,538,753

ULTRASONIC SPECTROSCOPE

Otto R. Gericke, Medfield, Mass., assignor to the United States of America as represented by the Secretary of the Army

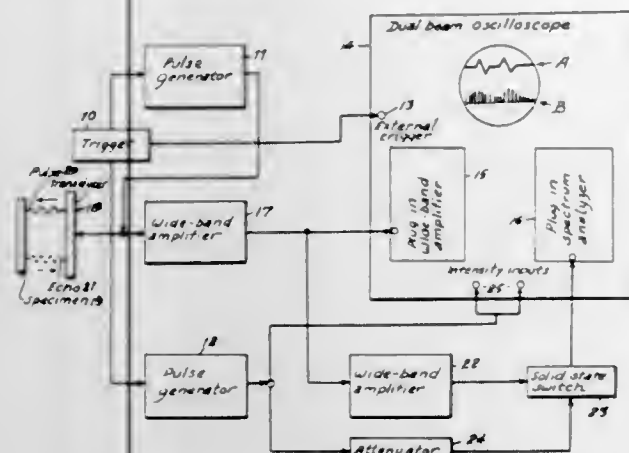
Filed Apr. 24, 1968, Ser. No. 723,802
Int. Cl. G01n 29/00

U.S. Cl. 73-67.9

3 Claims

An ultrasonic spectroscopy utilizing a pulse excited piezoelectric transducer coupled to and energizing a test specimen and which picks up ultrasonic echoes from internal discontinuities or specimen boundaries which are amplified and applied to one beam of a dual-beam oscillo-

scope whereby a stationary pattern of a selected echo pulse is displayed. The output of piezoelectric transducer is also applied to a second beam of the oscilloscope through



amplifier means and a spectrum analyzer resulting a display of spectrum of the selected echo. Both displays are simultaneously presented.

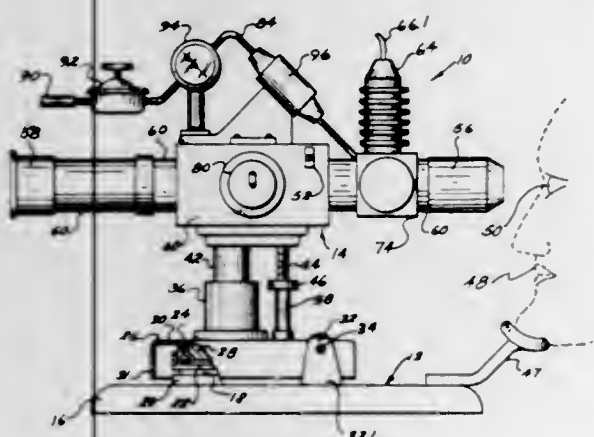
3,538,754

METHOD FOR MEASURING INTRAOCULAR PRESSURE

Bernard Grolman, Worcester, and Michael L. Polanyi, Webster, Mass., assignors, by mesne assignments, to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Continuation of application Ser. No. 313,804, Oct. 4, 1963. This application Jan. 15, 1969, Ser. No. 802,713
Int. Cl. A61b 3/16

U.S. Cl. 73—80

2 Claims



A tonometer having a source of fluid for projection against a patient's eye. The fluid source is positioned in front of the eye by focusing a light source at the center of curvature of the corneal surface. The amount of light reflected from the eye while it is distorted by the fluid is a measure of the intraocular pressure.

3,538,755

DEVICE AND METHOD FOR DETERMINING ROCK STRESS

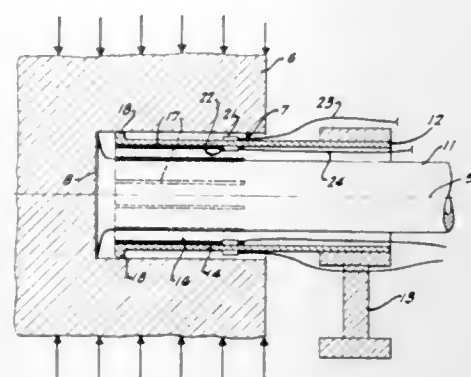
Rodolfo v. de la Cruz and Richard E. Goodman, Berkeley, Calif., assignors to The Regents of The University of California, Berkeley, Calif.
Filed Sept. 16, 1968, Ser. No. 760,035
Int. Cl. G01n 3/00

U.S. Cl. 73—88

8 Claims

Stress in rock in situ is determined by cutting a hole into the rock and measuring the diameter of the hole adjacent to the cutting tool and also at a location remote

from the cutting tool and comparing the measurements. Measurement is done by a deflecting or resilient sleeve positioned in the hole around and behind the cutting tool. The method includes the steps of measuring the diameter



of a hole in rock immediately adjacent to the hole cutting tool, measuring the deflected diameter of the hole wall away from the hole cutting tool and relating the measurements as an indication of rock stress.

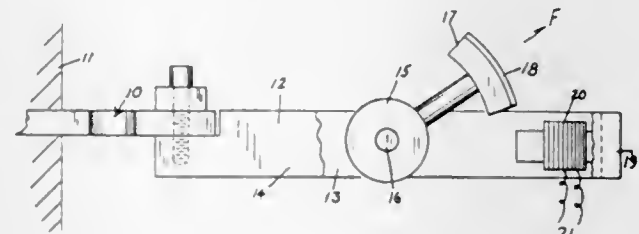
3,538,756

ECCENTRIC MASS-ROTOR-MOTOR MECHANICAL TESTING DEVICE

Verner D. Coombs, 230 Meadowbrook Lane, Vestal, N.Y. 13850
Filed Oct. 7, 1968, Ser. No. 765,276
Int. Cl. G01n 3/32

U.S. Cl. 73—91

22 Claims



This application describes a method and apparatus for producing periodically-alternating forces, to be used in the testing-to-mechanical-failure of specimens of materials and of parts of machines. The force-generating device consists of a freely-rotating mass, which is excited to rotate by periodic magnetic pulses upon a magnetically-permeable portion of the mass. The device operates in the manner of a simple synchronous motor with an unbalanced rotor. The low level of power required to maintain the rotation and the small masses of the stationary parts of the motor permit great versatility in the types of mechanical-failure tests which can be performed, in the ease of preparing such tests and in the manner of detecting and recording the mechanical failure "lives."

3,538,757

STEADY STATE FRACTURE DEVICE

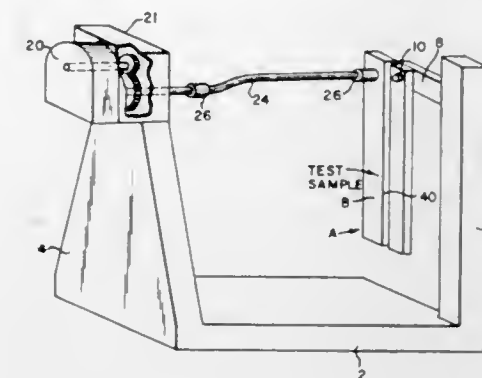
Phillip W. Osborne, Mayaguez, Puerto Rico, assignor to Commonwealth of Puerto Rico
Filed Aug. 23, 1968, Ser. No. 754,826
Int. Cl. G01n 3/22

U.S. Cl. 73—100

1 Claim

Apparatus for determining directly the variable factors, such as load, velocity of crack propagation, effect of temperature, and the like, involved in the propagation of a

crack in a material. A test frame is provided to support a specimen of the material in such a way that part of the specimen can be torn by crack propagation from the supported part. The part to be separated is connected by a



shaft to a motor, static load or the like which applies a torque tending to separate the parts of the specimen, and the crack propagating force is measured by strain gauges or the like in the torque-transmitting shaft.

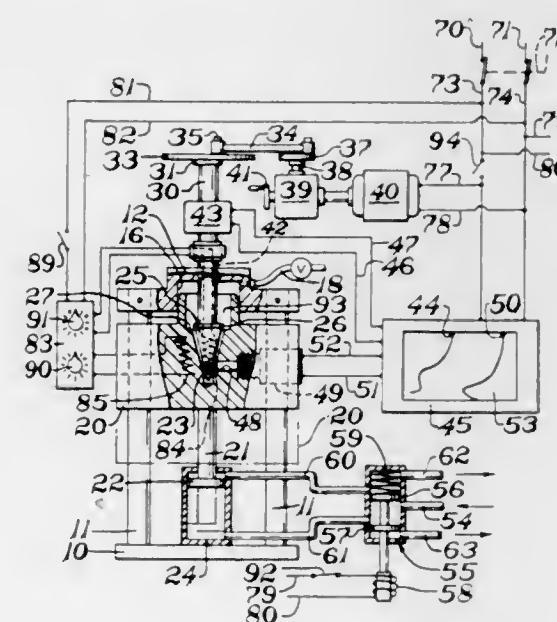
3,538,758

TEST INSTRUMENT FOR DETERMINING THE PHYSICAL PROPERTIES OF SOLID AND LIQUID VULCANIZABLE ELASTOMERIC MATERIALS

Paul W. Karper, Stow, and John P. Porter, Cuyahoga Falls, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Aug. 19, 1968, Ser. No. 753,628
Int. Cl. G01n 3/24

U.S. Cl. 73—101

9 Claims

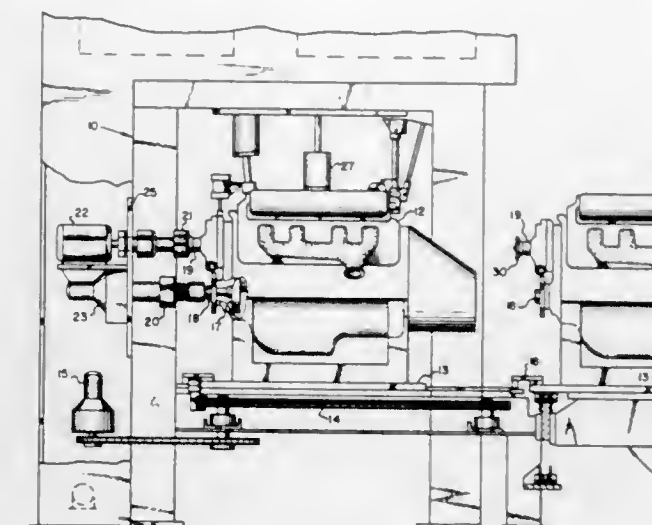


An apparatus for determining the physical properties of solid and liquid vulcanizable elastomeric materials utilizing an oscillating cone shaped projection that is operative in a cone shaped cavity cooperative to define a thin walled hollow cone test chamber which is subject to an air pressure dome. The walls of the test chamber are heated during cure while a torque sensing device is connected to such cone shaped projection to measure the variation in force required to oscillate such cone shaped projection while a pressure gauge is connected to the cone test chamber to measure pressure change. A recorder is connected to the output of the torque sensing device and the pressure gauge to record the outputs simultaneously.

3,538,759
TEST STAND FOR VEHICLE ENGINES
Andrew F. Schrom, Livonia, Mich., assignor to Scans Associates, Inc., Livonia, Mich., a corporation of Michigan
Filed July 18, 1968, Ser. No. 745,925
Int. Cl. G01m 15/00

U.S. Cl. 73—116

7 Claims



The application discloses an improved test stand for motor vehicle engines, which stand receives test engines automatically, and which includes a device for starting such engines from its front end by a direct drive connection with its crankshaft and without the use of any speed reducing device; with engagement of the engine crankshaft, starting the engine, and disengagement of the engine from the starting device after starting being done automatically.

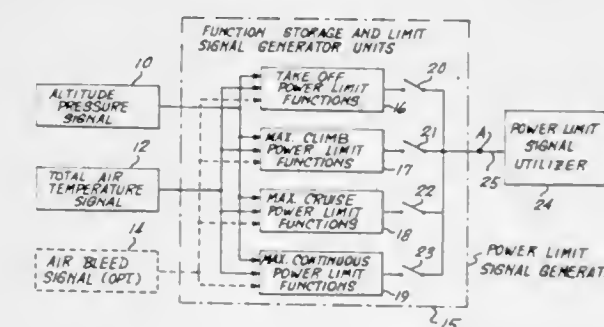
3,538,760

SYSTEM FOR INDICATING GAS TURBINE ENGINE POWER OUTPUT CONTROL PARAMETER LIMITS

Eric N. Atkey, Bellevue, Walter K. Bauermeister, Mercer Island, and Willis R. Lambert, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 712,162
Int. Cl. G01l 5/13

U.S. Cl. 73—117.4

13 Claims



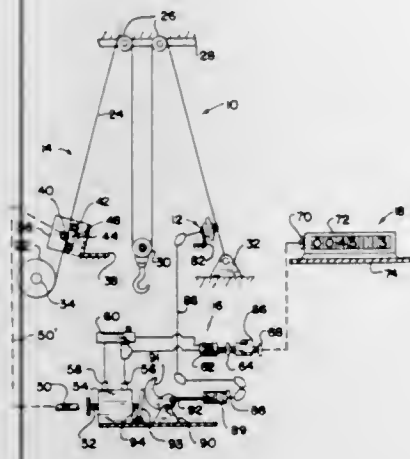
A system is disclosed for providing signals indicating predetermined power output limits for a gas turbine engine as a function of ambient pressure and temperature conditions and for different selected modes of operation, such as, in the case of an aircraft engine, take-off, maximum continuous, climb or cruise operation. The system includes means responsive to pressure and temperature conditions and programmed to generate automatically in response thereto a signal indicating the maximum value of a power output control parameter for those conditions. The signal is further determined in accordance with the selected mode of operation, and means are provided for displaying or otherwise utilizing the generator output signal.

3,538,761 TON MILEAGE RECORDER

Herbert D. Horton and Earl K. Knight, both of
P.O. Box 6434, Odessa, Tex. 79760
Filed Mar. 22, 1968, Ser. No. 715,214
Int. Cl. G011 5/00

U.S. Cl. 73-133

8 Claims



A ton mileage recorder for integrating work to which the wire rope and related apparatus of the draw works of a drilling rig is subjected. A travel sensor in the form of a hydraulic pump which is actuated by the traveling wire rope provides power fluid which drives a hydraulic motor. A weight sensor actuates a cam which in turn controls fluid flow from the motor. The motor drives a gear box which in turn is connected to an odometer having indicia thereon in the usual manner. Hence the weight sensor cooperates with the travel sensor by means of the cam which is associated with the pump to thereby integrate the distance which the wire rope travels while being subjected to a finite weight.

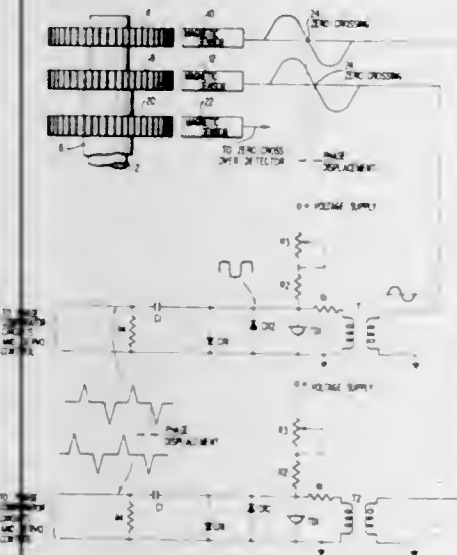
3,538,762 PHASE DISPLACEMENT TORQUE MEASURING SYSTEM WITH SHAFT MISALIGNMENT COMPENSATION TECHNIQUE

James R. Parkinson, Vergennes, and George A. Gallant and Syderus Van Manen, Middlebury, Vt., assignors to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York

Filed Mar. 8, 1968, Ser. No. 711,678
Int. Cl. G011 3/10

U.S. Cl. 73-136

7 Claims



A phase displacement torque measuring system utilizing a pair of exciter wheels mounted in spaced relationship on the shaft and having a pair of transducers mounted adjacent the wheels for generating alternating signals having a phase displacement indicative of the torsional deflection of the shaft; a third wheel is mounted on the

shaft such that all the wheels are equally spaced from each other and an additional transducer is mounted adjacent the third wheel to generate an alternating signal having a phase displacement indicative of the misalignment of the shaft with respect to a centerline extending through the three transducers. A phase detection circuit is connected to each of the transducers and is provided with a voltage triggering means and a differentiator circuit for producing a D.C. pulsed output indicative of the phase displacement between the alternating signals.

3,538,763 PNEUMATIC NUT-RUNNER HAVING A TORQUE SENSING DEVICE

Lester A. Amsberg, Utica, and William K. Wallace, Barneveld, N.Y., assignors to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 31, 1968, Ser. No. 788,220
Int. Cl. G011 5/24

U.S. Cl. 73-136

6 Claims



A torque sensing device is attached to a bearing mounted housing of a pneumatic nut-running tool. The device utilizes torque reaction transmitted through the tool to the housing to cause actuation of an external push rod to operate a micro-switch in a signal circuit when torque of a pre-set value has been delivered to the work. As the reactionary torque in the tool is relaxed, the torque sensing device progressively automatically returns to normal condition. The tool is bearing mounted in a supporting block that is fixed to a gang-plate adapted to be held stationary. The gang-plate is adapted to carry a plurality of such tools, the torque sensing device of each of which is associated with a separate micro-switch in a common signal circuit.

3,538,764 WEIGHT INDICATOR AND DRILLING CABLE ANCHOR

Ion Nicolau, Cimpina, Rumania, assignor to Institutul de Cercetare si Proiectare Technologica Pentru Industria Extractiva de Titei

Filed Nov. 21, 1967, Ser. No. 684,672
Claims priority, application Rumania, Nov. 22, 1966, 52,571

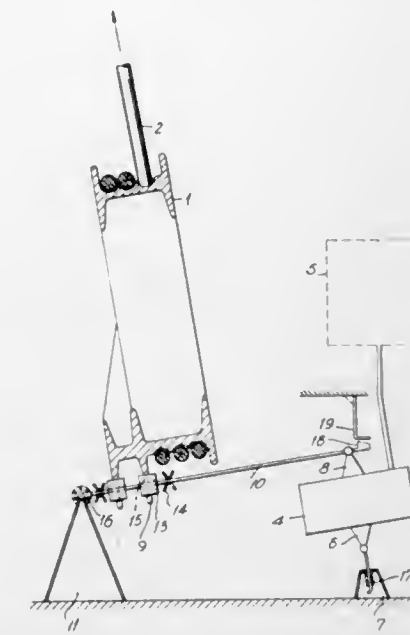
Int. Cl. G011 5/04

U.S. Cl. 73-143

11 Claims

A device for measuring the load imposed on the dead end of a hoisting line and for anchoring the line on a snubbing drum which is anchored to the rig floor via a dynamometer transducer either directly or by means of an adjustable reduction lever, an eccentric linkage being

provided which is integral with the snubbing drum and is disc through a floating ring controlled in response to fluid temperature. An output drum is driven by the disc



and is connected to the transducer in alignment with the cable extending from the drum.

3,538,765 DEVICE FOR THE DETERMINATION OF TENSILE FORCES OCCURRING IN THIN COLD ROLLED STRIP

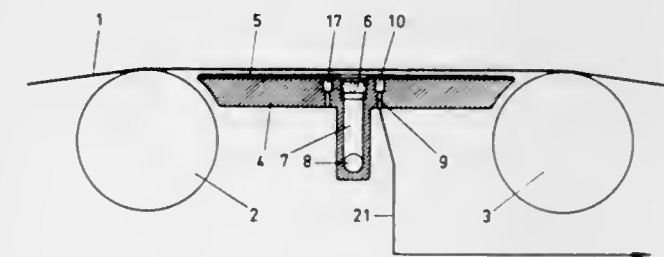
Rudolf Jesinghaus, Dahlbruch, and Horst Scholten, Buschbitten, Germany, assignors to Siegner Maschinenbau G.m.b.H., a corporation of Germany

Filed Sept. 1, 1967, Ser. No. 665,092
S 105,676

Int. Cl. G011 5/04, 5/08, 5/10

U.S. Cl. 73-144

8 Claims



The present invention relates to a device for determining the tensile forces in a rapidly moving cold rolled strip in a manner that does not require any physical contact between the determining means and the strip. It provides a means for producing an energy field and directing the energy field perpendicular to the strip. Signal transmitters are provided which measure the characteristics of the energy field, which measurements are related in such a way to determine the tensile forces in the strip.

3,538,766 FLOW METERING APPARATUS WITH COMPENSATOR

Carl J. Kugler, Philadelphia, Pa., assignor to American Meter Company, Philadelphia, Pa., a corporation of Delaware

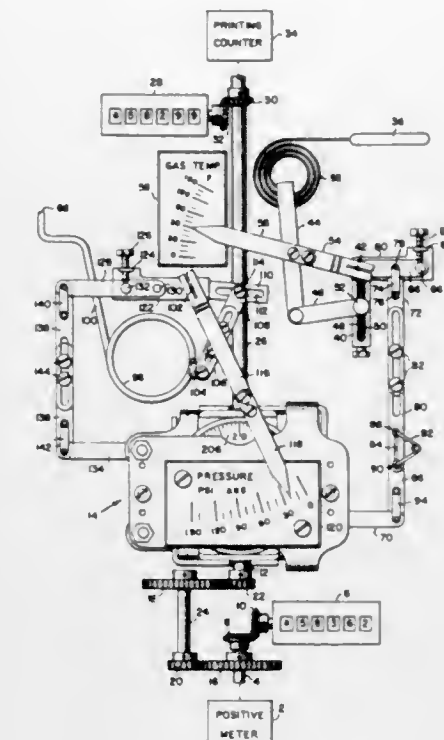
Filed Aug. 25, 1967, Ser. No. 663,351

Int. Cl. G01f 1/02

U.S. Cl. 73-194

2 Claims

The output shaft of a volumetric meter for elastic fluid drives a first drum, which, in turn, drives a rotatable



through a second floating ring adjusted in response to fluid pressure.

3,538,767 FLOWMETER FLUID DRIVE

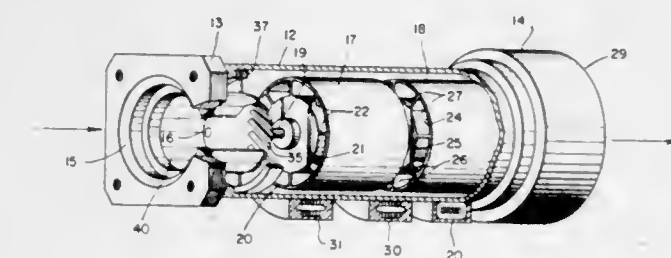
Robert A. Pustell, Melrose, and Richard A. Pfuntner, Tewksbury, Mass., assignors to General Electric Company, a corporation of New York

Filed Dec. 4, 1968, Ser. No. 781,158

Int. Cl. G01f 1/00

U.S. Cl. 73-194

9 Claims



A mass flowmeter of the angular momentum type having a flow-regulated swirl generator for imparting angular velocity to the metered fluid. The swirl generator has a set of fixed vanes in the fluid flow stream and means for causing part of the fluid to flow around the vanes at high flow rates to avoid excessive swirl velocity.

3,538,768 MILK MEASURING DEVICE

Lloyd P. Duncan, Washington, Mo., assignor to Zero Manufacturing Company, Washington, Mo., a corporation of Missouri

Continuation-in-part of application Ser. No. 611,415, Jan. 24, 1967. This application Nov. 13, 1967, Ser. No. 684,897

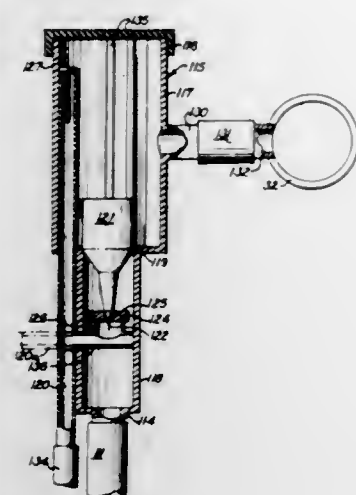
Int. Cl. A01j 7/00

U.S. Cl. 73-202

13 Claims

A measuring device for registering the quantity of milk received from a farm animal during the milking process

wherein the quantity of milk from the farm animal is measured by segregating a predetermined portion of such



milk as it is conveyed from the milker to the milk pipeline.

3,538,769

MOVABLE TUBE FLOWMETER OF ANGULAR MOMENTUM TYPE

Kamekichi Shiba, 9-23 Moto-Komagome 6-chome, Bunkyo-ku, Tokyo, Japan

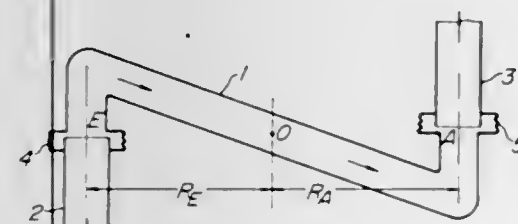
Filed Oct. 9, 1967, Ser. No. 673,679

Claims priority, application Japan, Oct. 14, 1966, 41/67,164

Int. Cl. G01f 1/00, 15/02

U.S. Cl. 73-228

10 Claims



A movable tube flowmeter of angular momentum type having a movable tube connected to stationary pipes by flexible joint means through which a fluid can freely flow. The movable tube is capable of making rotary displacement about a fixed axis in response to variation in the angular momentum of a fluid flowing through the tube so that the resulting rotary displacement of the tube is utilized to measure the flow rate of the fluid independently of the viscosity of the fluid.

3,538,770

HUMIDITY METERS

Edwin Lawrence Hawley, Sittingbourne, Kent, England, assignor to E.P.S. (Research & Development) Limited, Kent, England, a British company

Filed Mar. 14, 1969, Ser. No. 807,214

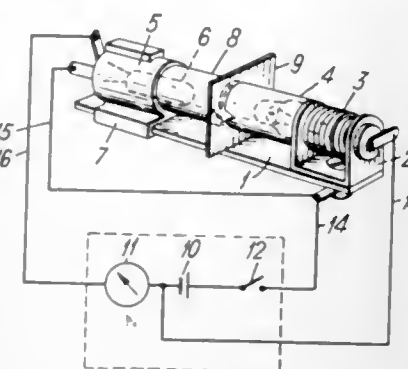
Int. Cl. G01n 21/10

U.S. Cl. 73-336.5

4 Claims

A humidity meter comprising a light transmitting source and a humidity sensitive indicator element. The indicator element has at least one characteristic which changes with a change in humidity and is adapted to be positioned in said meter so that light emitted from said source is cast thereon. A light sensitive element is provided to sense light passing from said source via said

indicator element and is connected to measuring means adapted to be controlled by said light sensitive element



indicating a change in said characteristic of the indicator element.

3,538,771

TEMPERATURE INDICATION CIRCUITRY UTILIZING A THERMISTOR SENSOR AND A RATIOMETER INDICATOR

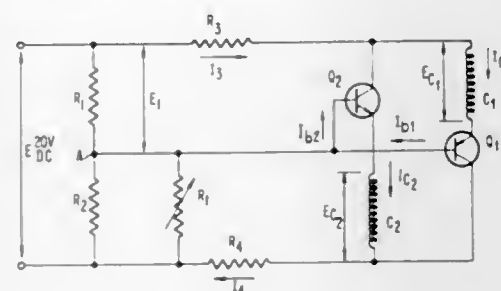
Lloyd T. Akeley, Charlestown, N.H., assignor to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York

Filed July 22, 1968, Ser. No. 746,547

Int. Cl. G01k 7/24

U.S. Cl. 73-362

4 Claims



A temperature indication circuit employing a voltage divider network having a thermistor probe in one branch thereof and the output of which is connected to a pair of complementary transistors connected in an emitter-follower configuration with a pair of coils of a ratiometer. The rotor-pointer position of the ratiometer varies with the current ratio in the coils and hence with the resistance across the thermistor probe.

3,538,772

MONITORING APPARATUS

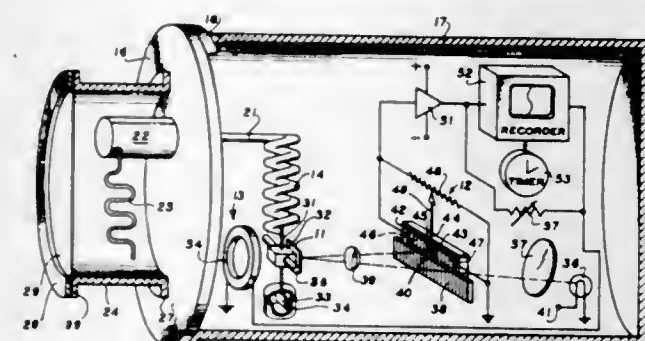
Jean H. Filloux, La Jolla, Calif., assignor to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

Filed Mar. 14, 1968, Ser. No. 713,123

Int. Cl. G01l 9/00

U.S. Cl. 73-398

9 Claims



Apparatus is described for monitoring a variable physical quantity. Movement of an indicating element is sensed and a cyclical output signal is produced having a

series of null points corresponding to reference positions distributed over a range of movement of the indicating element. A feedback system exerts a force on the indicating element which tends to return the indicating element to a position corresponding to the closest of selected ones of the null points. The result is an output signal which indicates the displacement of the indicating element in a given direction from each of a series of positions over its total range of movement.

3,538,773

HYDROMETER

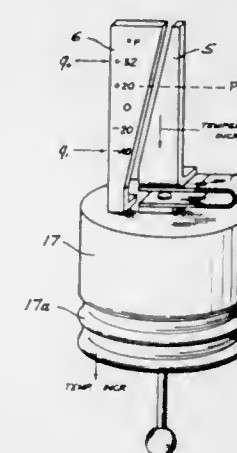
Herbert E. Goldberg, Keene, N.H., assignor to American Optical Corporation, Southbridge, Mass., a corporation of Delaware

Filed Mar. 16, 1967, Ser. No. 623,737

Int. Cl. G01n 9/12

U.S. Cl. 73-451

3 Claims



A hydrometer for measuring properties related to the densities of at least two liquids which densities are different from each other and change with the temperature of measurement at different rates, has a stem and a bulb. The stem assumes depths of immersion related to the properties to be measured as the hydrometer floats in the liquids and carries a scale having a first mark for reading the depth of immersion related to the larger one of the densities and a second mark for reading the depth of immersion related to the smaller one of the densities. The bulb has a volume extending to the first mark and the stem has a volume comprised between the first mark and the second mark. An actuating means such as a bellows portion of the bulb increases the bulb volume and an actuating means such as a bimetal strip decreases the stem volume as the temperature of the measurement increases thereby rendering both readings substantially independent of the temperature of the measurement.

3,538,774

VIBRATING STRING REFERENCE APPARATUS

William H. Quick, La Mirada, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed June 15, 1967, Ser. No. 646,240

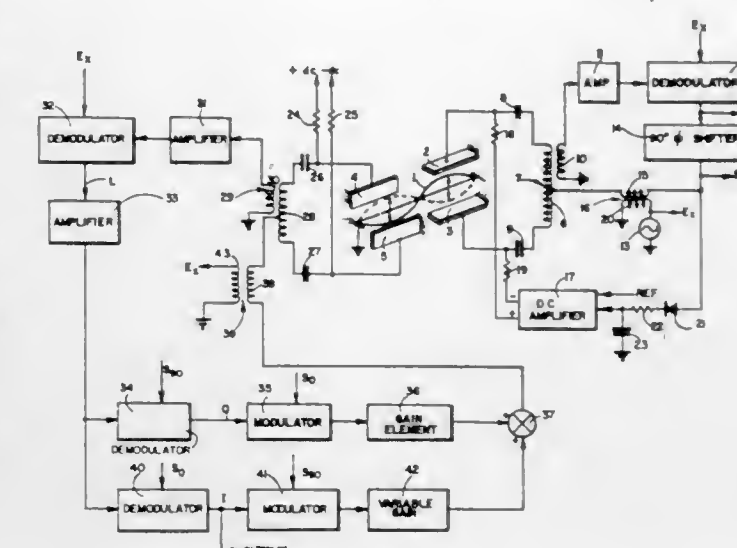
Int. Cl. G01p 9/04

U.S. Cl. 73-505

19 Claims

A string which is secured between fixed end supports is driven laterally in a first direction by an oscillator coupled to a first pair of electrostatic drive plates. A second pair of electrostatic plates are arranged substantially perpendicular to the first pair to provide a signal which varies as a function of the motion of the string in a direction perpendicular to the first direction. The signal is separated into a first component due to the string vibrating in an elliptical path and a second component

due to the direction of vibration of the string being displaced from the first direction. A negative feedback loop is utilized to feed the first component back to the second



pair of plates to squash the elliptical path and an oscillation loop is utilized to feed the second component back to the second pair of plates to compensate for the tipping of the plane of vibration.

3,538,775

ROTATIONAL SPEED SENSING METHOD AND APPARATUS

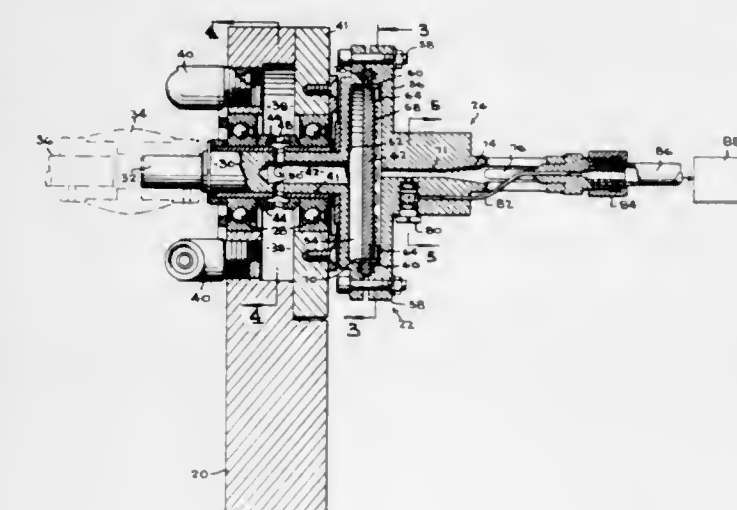
John F. Burke, Beltsville, and Arthur J. Ostdek, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Army

Filed July 29, 1968, Ser. No. 748,466

Int. Cl. G01p 3/26

U.S. Cl. 73-521

8 Claims



A vortex type rotational speed sensor apparatus and method employing a vortex chamber rotatably mounted and formed with a peripheral wall formed of a removable nozzle ring having a plurality of nozzles communicating with the interior of the chamber to provide fluid flow through the nozzles of a given fluid vorticity to exhaust through an axial exhaust conduit with the nozzle ring being removable to allow replacement with another nozzle ring having nozzles oriented at a different angle with respect to the chamber to provide a different vorticity of flow with pressure detector means in the exhaust conduit to detect significant pressure level changes through a critical pressure level caused by changes in rotational speed of the sensor through critical speeds of different values in accordance with the particular nozzle ring being employed.

3,538,776

METHOD AND MEANS FOR CALIBRATING SPRING RATE AND GIMBAL UNBALANCE IN FREE-ROTOR FLEXURE-SUSPENDED GYROSCOPES

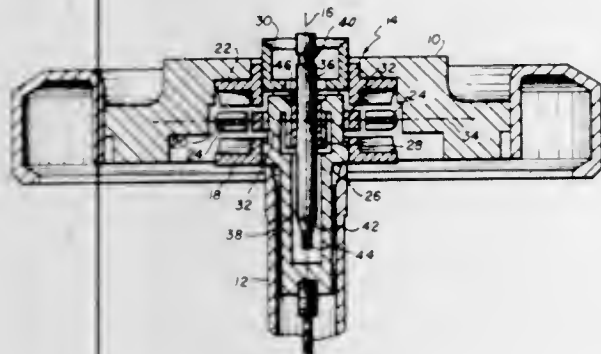
George S. Macor, Bloomfield, Walter J. Krupick, Succasana, and Richard F. Citera, Fairfield, N.J., assignors to Singer-General Precision, Inc., Little Falls, N.J., a corporation of Delaware

Filed Sept. 20, 1968, Ser. No. 761,148

Int. Cl. G01c 19/04

U.S. Cl. 74—5

4 Claims



A slim, elongated rod is adjustably and axially supported within the middle gimbal of the gyroscope's flexure hinge assembly. The length of the rod is calculated so that its moment of inertia is sufficient to cancel the hinge assembly's positive spring rate. The axial position of the rod is then adjusted to cancel gimbal unbalances produced by misalignments between the flexure hinge axes and mass unbalances in the inertial flywheel and gimbal structure. Spring rate vernier adjustment is provided by removing the rod and machining-off a portion thereof.

3,538,777

AIR CUSHION COUNTERBALANCE FOR LONG-STROKE WELL PUMPING APPARATUS

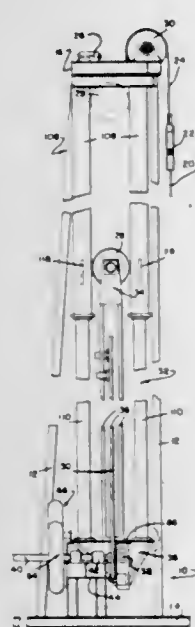
Emil A. Bender, P.O. Box 52, Bakersfield, Calif. 93307

Filed July 1, 1969, Ser. No. 844,724

Int. Cl. F16h 19/06

U.S. Cl. 74—37

20 Claims



The invention disclosed is a continuously driven long-stroke oil well pumping unit which is counterbalanced by an air cushion cylinder and piston rod assembly so

that the energy required of the power source for the pumping unit tends to equalize whether the pump is on a power stroke or a return stroke. The pump comprises a vertically reciprocating rod string having a stroke of about 32 feet and designed to reciprocate up to about 5 strokes per minute, a tower for mounting the pump, reciprocative motive means for the rod string including a reciprocating member connected to the rod string and a power source for the reciprocating member, air cushion means comprising a dual-cylinder and piston assembly connected to the reciprocating member, and connective means from the reciprocating member to the rod string including a first pulley mounted on the reciprocating member, a second pulley mounted on top of the tower, and a flexible belt trained under the first pulley and over the second pulley with one end secured to the tower and the other secured to the upper end of the rod string so that a simple pulley and line arrangement is provided whereby the reciprocating member moves one-half the distance of the rod string during a pumping stroke. A drive train is provided between the power source and the reciprocating member including a pair of endless drive chains each having a universal coupling attached to the reciprocating member, which is formed as a pair of cross-head blocks having horizontally sliding connective members therein, one for each universal coupling. A pneumatic tire transmission provides drive power to the two endless chains, and a tensioning assembly is provided for each drive chain.

3,538,778

APPARATUS FOR ACCURATELY ALIGNING A DEVICE WITH A WORKPIECE

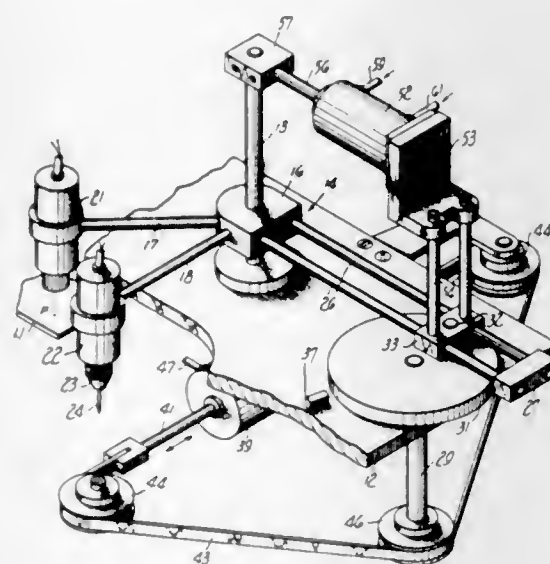
Richard A. Harris, High Point, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 9, 1968, Ser. No. 719,910

Int. Cl. G05g 5/02; B23b 39/12

U.S. Cl. 74—96

7 Claims



An apparatus for accurately aligning a tool with a workpiece includes a support, mounted for pivoting movement about a fixed axis, on which a sensing device and the tool are mounted at equal radial distances from the fixed axis. A guide rod connected to the support and extending in a radial direction from the fixed axis is slidably engaged by a drive member which is pivotally mounted on a disc. Rotation of the disc between first and second angular positions results in pivoting of the support to alternately move the sensing device and the tool into alignment with the workpiece.

3,538,779

MANUAL AND AUTOMATIC MAGNETIC HEAD MOVING MECHANISM IN MAGNETIC RECORDING AND REPRODUCING APPARATUS OF MOVABLE HEAD TYPE

Kozo Yamamoto, Hirakata-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

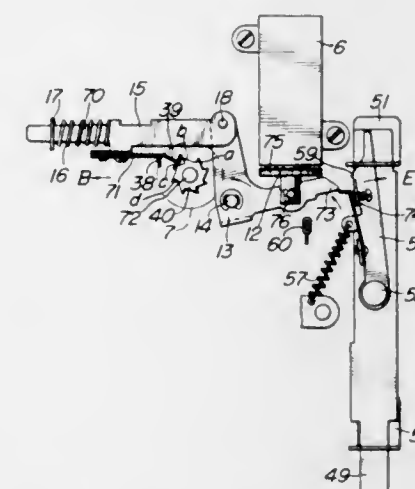
Filed Aug. 28, 1967, Ser. No. 663,634

Claims priority, application Japan, Apr. 12, 1967, 42/31,301

Int. Cl. F16h 27/02; G11b 21/08

U.S. Cl. 74—128

4 Claims



A magnetic head moving mechanism in magnetic recording and reproducing apparatus of movable head type having a slidable actuating lever, a rocking lever pivoted to the actuating lever, an abutment member fixed to the rocking lever, a plunger lever pivoted to a base plate to engage the abutment member, and a shift lever associated with an energy accumulating spring and the plunger lever. In the mechanism, a constant rotating force is always imparted to a rotary cam for shifting the magnetic head, and the plunger lever is associated with a solenoid for common use in both the automatic and manual operations.

3,538,780

VARIABLE DIRECTION TRANSMISSION

Erich Anton Wunsch, Im Hofrain, Germany, assignor to Friedgard Wunsch, Im Hofrain, Germany

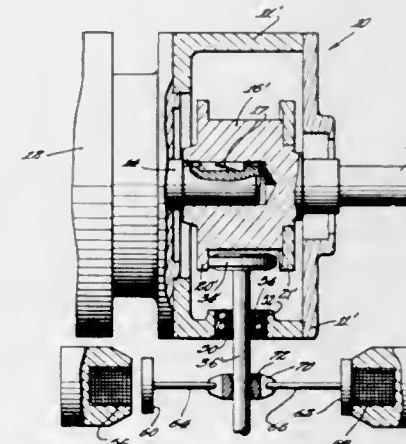
Filed Mar. 18, 1968, Ser. No. 713,939

Claims priority, application Germany, Sept. 27, 1967, W 44,860; Dec. 30, 1967, W 45,442

Int. Cl. F16h 13/12, 15/10

U.S. Cl. 74—202

3 Claims



An electromechanical take-off drive device including an axially slidable wheel mounted on a drive shaft, a plurality of annular electromagnets to control the axial

movement of the wheel, and a friction wheel operatively disposed with respect to the wheel to be driven at varying speeds bidirectionally with a constant drive shaft rotational speed.

3,538,781

AIRCRAFT LEVERAGE SYSTEM

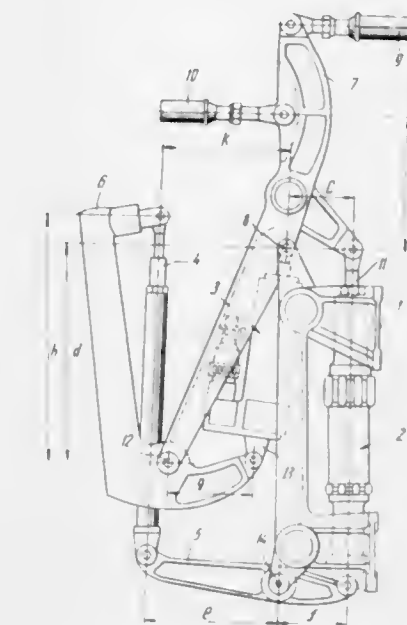
Mikhail Gavrilovich Ovchinnikov, Leningradsky prospekt 19, kv. 38, and Anatoly Mikhailovich Titov, Leninsky prospekt 37, kv. 75, both of Moscow, U.S.S.R.

Filed Nov. 1, 1968, Ser. No. 772,534

Int. Cl. G05g 7/00

U.S. Cl. 74—469

2 Claims



An aircraft leverage system including an irreversible booster, a stationary housing, a turning member hinged to said housing, said booster being hinged to said turning member, and a series of interconnecting links interconnecting a control handle, a reversible charging arrangement and a device actuating gear for operating on said turning member.

3,538,782

GEAR SELECTOR MECHANISMS

Thomas Charles Felix Stott, Harpenden, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

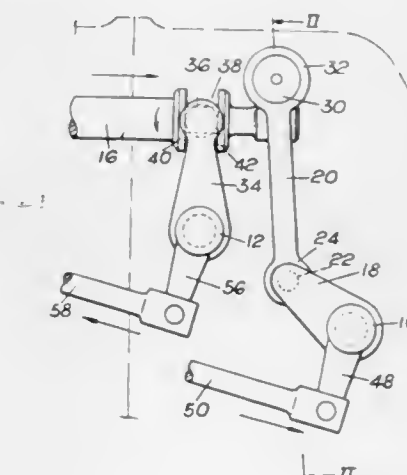
Filed Sept. 16, 1968, Ser. No. 762,305

Claims priority, application Great Britain, Oct. 13, 1967, 47,039/67

Int. Cl. G05g 13/04

U.S. Cl. 74—473

7 Claims



A gear selector mechanism, primarily for use in conjunction with a gearbox of a motor vehicle, includes first

and second cross shafts which are rotatably mounted in a housing, transversely to a selector shaft which is mounted for both rotary and axial movement. For producing the rotary and axial movements of the selector shaft there are, respectively, first and second crank arm connections from the respective cross shafts. The first crank arm connection also includes a link member having at one end a hinge connection to the crank arm of the respective cross shaft allowing movement of the link member only in a plane substantially radial to this cross shaft; the other end of the link member includes a socket in which a bushing is slidable in a direction normal to the said radial plane, and the socket accommodates a ball end of a crank arm fixed to the selector shaft.

A pair of longitudinally movable rods are pivotally connected to crank-arm actuator levers of the two cross shafts, for producing selective rotary movement of the cross shafts.

3,538,783

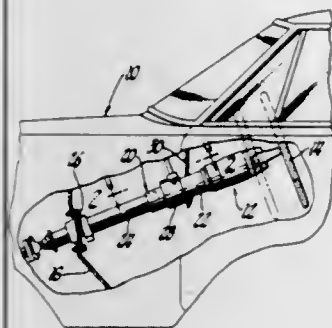
ENERGY ABSORBING DEVICE AND METHOD OF ASSEMBLY THEREOF

Donald A. Butts, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 6, 1968, Ser. No. 734,920
Int. Cl. B62d 1/18

U.S. Cl. 74—492

4 Claims



In an energy absorbing device of the type including a pair of telescopic tubular members and a plurality of deformer balls or like bodies engaged between the members with substantial interference fit so as to roll and cause localized deformation in the members under telescopic movement thereof, improvement is had in the use of an intermediate sleeve member perforated to receive the various deformer balls and hold them to roll in fixed relationship during telescoping of the tubular members. In assembly of the device, the balls are press-fitted into the perforations of the sleeve and the sleeve and ball unit is placed to be forced between the members by telescopic insertion of one member relative to the other to the desired assembled position.

3,538,784

STEERING GEAR FOR MOTOR VEHICLES

Enzo Frauchini, Turin, Italy, assignor to Fiat Societa per Azioni, Turin, Italy, an Italian joint-stock company

Filed Aug. 27, 1968, Ser. No. 755,571

Claims priority, application Italy, Sept. 5, 1967, 52,924/67

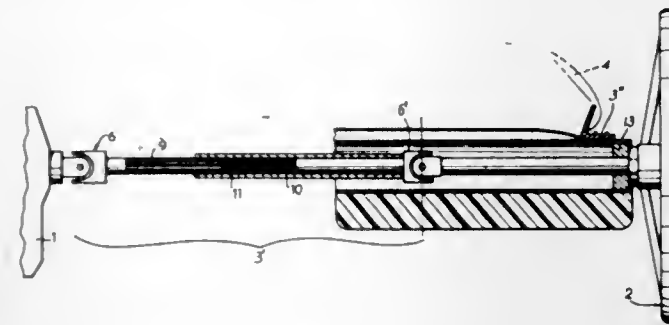
Int. Cl. B62d 1/18

U.S. Cl. 74—492

2 Claims

A safety steering gear has a steering shaft with an axially collapsible portion between the steering box and the vehicle mounting point (e.g. the instrument panel). Yieldable joints, for example universal joints or weakened shaft regions, are provided at opposite ends of said col-

lapsible portion, so that rearward displacement of the steering box upon frontal impact can occur without the



transmission of the impact force to the steering wheel along the shaft.

3,538,785

ENERGY ABSORBING DEVICES

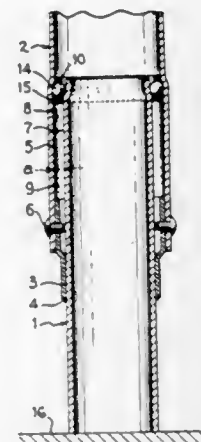
Michel Grançon, Marnes-la-Coquette, France, assignor to Automobiles Peugeot, Paris, France and Regie Nationale des Usines Renault, Billancourt, France, both French bodies corporate

Filed Apr. 16, 1968, Ser. No. 722,462
Claims priority, application France, June 12, 1967, 109,944

Int. Cl. B62d 1/18

U.S. Cl. 74—492

3 Claims



Device for absorbing energy by creation of an opposing force which absorbs and dissipates said energy, said device comprising two tubular elements which are telescopically movable relative to each other and define therebetween an annular space, and rolling members disposed in said space, said rolling members having a diameter exceeding the radial width of said space and being capable of rolling in said space only by bringing about a permanent upsetting deformation of the walls of said tubular elements.

3,538,786

MULTIPLE CORE FLEXIBLE CABLE CONTROL

John E. Coordes, Birmingham, and Walter N. Shaw, Franklin, Mich., assignors to the United States of America as represented by the Secretary of the Army

Filed May 13, 1969, Ser. No. 824,152

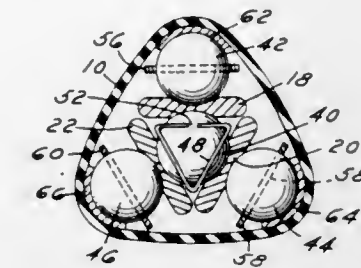
Int. Cl. F16c 1/10

U.S. Cl. 74—501

7 Claims

A force-transmitting device in which a plurality of flexible force transmitting core members extend through a flexible tubular casing member for limited axial dis-

placement with respect to the casing. The device provides a linear array of ball bearings in rolling engagement with each of the outwardly facing surfaces of the core members and a single linear array of ball bearings



in common rolling engagement with each of the inwardly facing surfaces of the core members to provide for multiple remote control core members operable in a unitary casing.

3,538,787

REMOVABLE OPERATING LEVER FOR ELECTRIC CAN OPENER

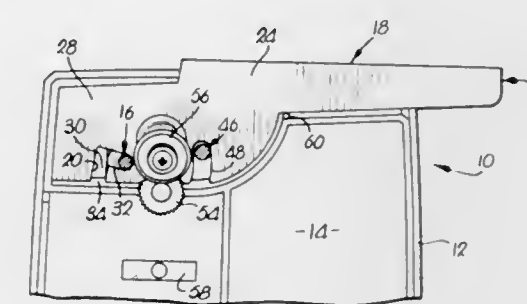
Jack E. Briar, Shawnee Mission, Kans., and Alvin E. Conner, Raytown, Mo., assignors to Dazey Products Company, Kansas City, Mo., a corporation of Missouri

Filed May 21, 1969, Ser. No. 826,447

Int. Cl. G05g 1/04

U.S. Cl. 74—523

9 Claims



A removable operating lever for electrically powered can openers has an L-shaped slot which receives a pin on the opener, there being an arcuate notch formed in the lever and spaced from said slot for receiving a peg on the opener, whereby the pin and the peg cooperate to properly locate the lever, when it is positioned on the opener, for functioning and holding it against displacement relative to the opener.

3,538,788

SIX THROW BALANCED CRANKSHAFT

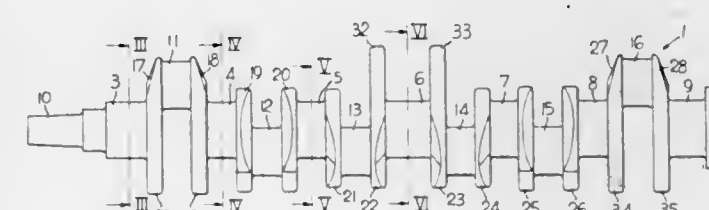
Paul J. Patchen, Chicago, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Mar. 13, 1969, Ser. No. 807,053

Int. Cl. F16f 15/00

U.S. Cl. 74—603

10 Claims



A six throw balanced crankshaft using a six weight counterbalancing system.

880 O.G.—16

3,538,789

TRANSMISSION CONTROL

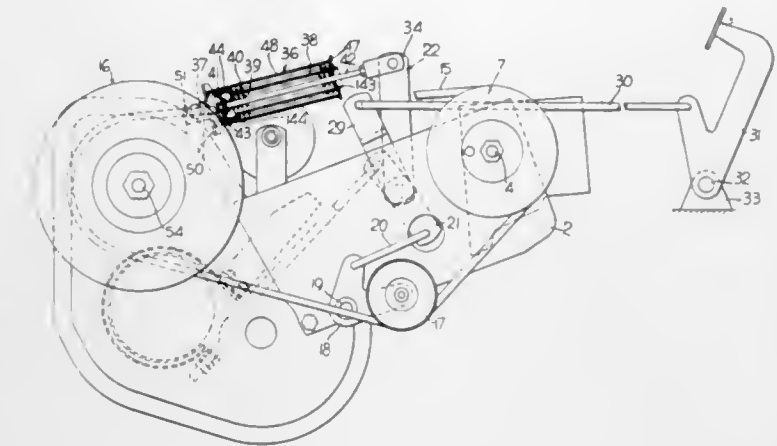
David C. Quick, New Berlin, and James E. Marsch, West Allis, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Oct. 1, 1968, Ser. No. 764,087

Int. Cl. F16h 37/02, 7/12; F16d 67/00

U.S. Cl. 74—689

10 Claims



A variable speed vehicle transmission having a constant speed input drive and a variable speed input drive with a mechanical linkage operating a variable speed belt drive with a tension control.

3,538,790

POWER TRAIN

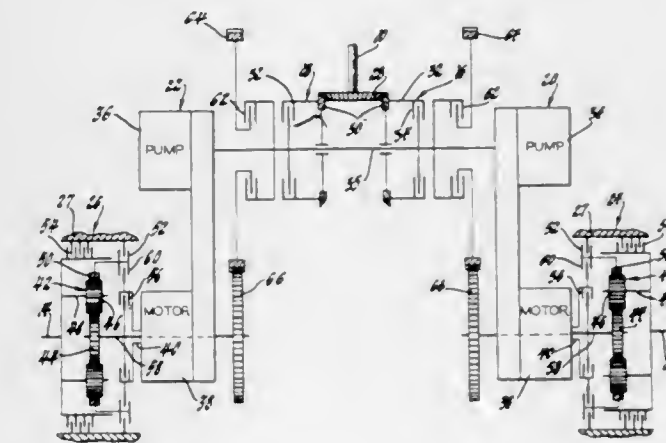
James C. Polak, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 2, 1968, Ser. No. 764,396

Int. Cl. B60k 19/00; F16h 47/04

U.S. Cl. 74—720.5

8 Claims



A power train is shown having a variable ratio hydrostatic drive unit driven by the power train's input shaft. A drive establishing-power combining planetary gear unit is connected to drive the power train's output shaft and is operatively connected to be selectively driven singularly through one power input member by the hydrostatic drive unit and simultaneously driven through this same power input member by the input shaft and another power input member by the hydrostatic drive unit to provide a low and high drive range, respectively. This arrangement provides full hydrostatic drive in the low drive range and hydrostatic-mechanical drive in the high drive range. For use in track-laying vehicles, the power train is shown having two of the above drive train arrangements combined to provide two separate output drives which are

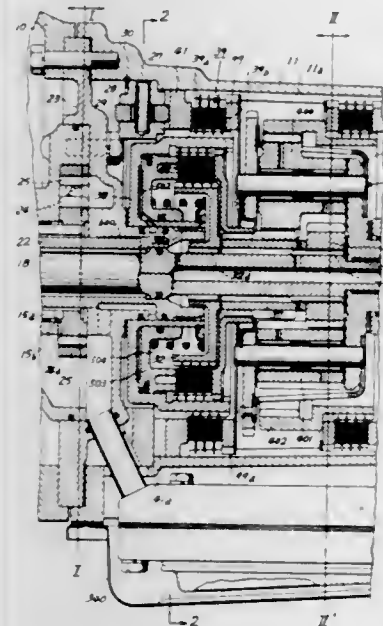
driven in the same direction at the same speed for straight ahead vehicle drive and driven at differential speeds for steering operation through control of the hydrostatic drive units.

3,538,791 AUTOMOTIVE AUTOMATIC SPEED CHANGE UNIT

Tadao Asano, Hiroji Yamaguchi, Shigetoshi Kurahashi, and Koichi Hirozawa, Kariya-shi, Japan, assignors to Aisin Seiki Company Limited, Kariya-shi, Aichiken, Japan, a corporation of Japan

Filed Sept. 16, 1968, Ser. No. 759,929
Claims priority, application Japan, Sept. 16, 1967, 42/79,359
Int. Cl. F16h 57/10; B60k 19/14
U.S. Cl. 74—781

6 Claims



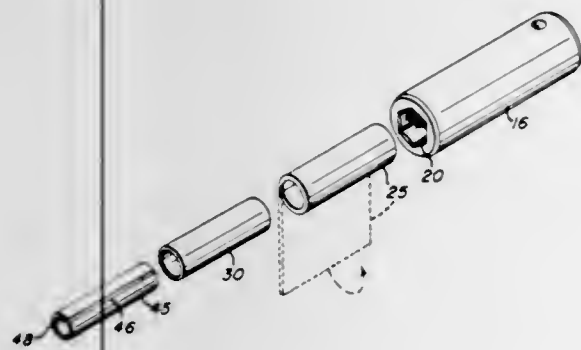
In an automatic automotive transmission having two or three speed change stages, a brake means of the multiple friction disc type is provided which means is attached in turn with an inclined cam surface intended for actuating said brake means, thereby establishing an optimum ratio between the self-energizing brake torque and the de-energizing torque appearing in the brake means in the course of each speed change operation.

3,538,792 METHOD OF MAGNETIZING A DRIVING TOOL

George B. Stillwagon, Jr., Dayton, Ohio, assignor to Gardner-Denver Company, Dayton, Ohio, a corporation of Delaware

Filed Feb. 5, 1968, Ser. No. 703,021
Int. Cl. B21k 21/00
U.S. Cl. 76—101

6 Claims



A fastener driving magnetic tool has an annular inner pole piece and an annular outer pole piece concentrically

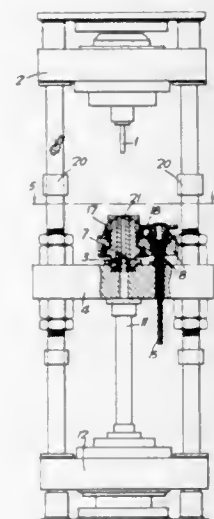
spaced with an annular thickness-orientated elastomeric strip magnet disposed therebetween. The inner pole piece is in radially expanded compressing relation against the magnet for retaining both the magnet and the inner pole piece, and an axially adjustable inner pole piece extension member or a non-magnetic tube member is disposed within the inner pole piece.

3,538,793 EXTRUSION OF HELICALLY FLUTED CUTTING TOOLS

William Shiel Caisley, 22 Farm View Road, Kimberworth, Rotherham, Yorkshire, England

Filed Dec. 12, 1967, Ser. No. 689,890
Claims priority, application Great Britain, Dec. 22, 1966, 57,504/66
Int. Cl. B21k 5/02
U.S. Cl. 76—108

7 Claims



A method of producing, by extrusion, helically fluted cutting tool bodies possessing a shank, comprises partially extruding a blank through a die of requisite helical form, withdrawing the extruded product from the die by linear movement accompanied by positive relative rotation between the product and the die about the product axis, the rate of relative rotation being so related to the rate of linear movement that a point on the surface of the product moves along the desired helix, relative to the die. There is also provided apparatus for producing tool bodies by the above method, comprising means for simultaneously withdrawing the extruded product from the die and for effecting positive rotation of the product relative to the die.

3,538,794 PORTABLE TOOL ATTACHMENT

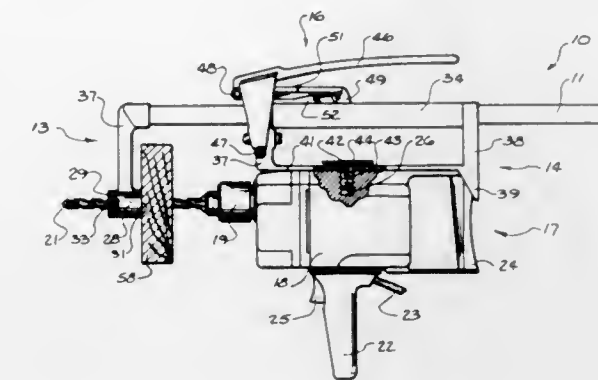
Conrad J. Grundmeyer, Strawberry Point, Iowa, assignor of one-fourth to Leonard W. Sandman, Omaha, Nebr.

Filed Apr. 5, 1968, Ser. No. 719,204
Int. Cl. B23b 45/14, 47/00
U.S. Cl. 77—55

9 Claims

This invention relates to a portable tool attachment which is adapted to feed a drill bit or the like into a workpiece by either pulling or pushing a tool thereto; the apparatus having a feed bar, an arm element secured to one end of the bar and having a guide block member disposed thereon, a frame slidably mounted on the bar and adapted to hold the tool, and an actuator mechanism connected to the frame which is operable to engage the bar for moving the frame therealong, wherein the bit is moved axially of

the guide block member, and further wherein, in the event of a torque action caused by the stopping of the



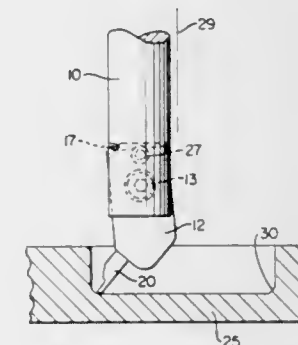
bit, the bar acts as a stop to prevent the tool from twisting in the hands of the operator.

3,538,795 CUTTING TOOL

Merrill G. Fout, South Solon, Ohio
(721 Springfield St., P.O. Box 893, Dayton, Ohio 45401)
Filed Apr. 22, 1968, Ser. No. 723,178
Int. Cl. B23b 29/03

U.S. Cl. 77—58

7 Claims



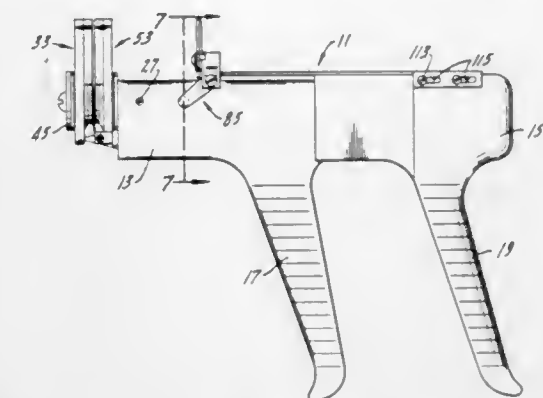
A cutting tool for undercutting a recess in a workpiece in which a cutting tool bit is pivotally carried by a tool arbor and automatically swings outwardly with respect to the arbor axis as the arbor is moved axially with relative rotation of the workpiece and the tool arbor.

3,538,796 WIRE STRIPPING MECHANISM

Irving R. Metcalf, St. Charles, Ill., assignor to Ideal Industries, Inc., Sycamore, Ill., a corporation of Delaware
Filed Apr. 23, 1968, Ser. No. 723,421
Int. Cl. H02g 1/12

U.S. Cl. 81—9.5

14 Claims



A precision wire stripper having a pair of actuating handles which are moved together in a straight line motion for stripping insulation from a wire. The initial movement of the handles towards each other pivots slug pullers and insulation cutting members to both contact the insulation and to sever a portion of insulation from the wire. Pivotal movement of the slug puller and insulation cutter members is brought about by a rod which remains stationary relative to at least one of the movable handles. Continued movement of the handles towards each other moves the slug puller and insulation cutter members apart to separate the severed portion of the insulation from the remainder of the insulation on the wire. Relative linear movement of the slug pulling and insulation cutter members is accomplished by mounting one of the members on the front handle housing and the other member on a shaft extending through this housing. This shaft is free to move relative to the front handle housing except during the initial movement of the handles when a detent holds the shaft. The detent is released when the shaft and front handle housing move a limited distance relative to the second handle housing. A scissors type wire cutter is mounted on the front handle housing, and an actuating rod is mounted on the rear handle housing. The actuator rod has a tapered portion which engages the cutter members to force the scissor type blades together when the handle housings are moved towards each other.

3,538,797

APPARATUS FOR PUNCHING ACOUSTICAL BOARD

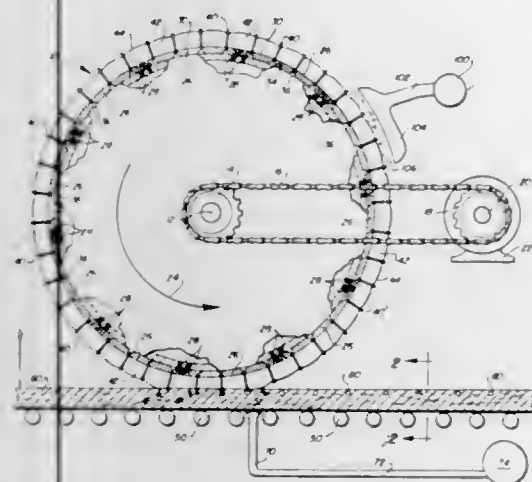
Halvor Paul Wagttskjold, Cloquet, George H. Sundin, Duluth, and Lorian A. Carlson, Cloquet, Minnesota, assignors to Conwed Corporation, St. Paul, Minnesota a corporation of Delaware

Original application Nov. 22, 1968, Ser. No. 778,100, now Patent No. 3,470,978, dated Oct. 7, 1969. Divided and this application Feb. 12, 1969, Ser. No. 798,602

Int. Cl. B26f 1/124; B26d 1/56

U.S. Cl. 83-2

11 Claims



A rotatable drum having a multiplicity of pins projecting radially therefrom is used to punch acoustical openings in a mineral fiber board. The drum is equipped with a sponge rubber stripper for the pins and the acoustical openings produced in the board are of a unique shape beneath the surface permitting shallower openings to achieve equivalent acoustical effect.

3,538,798
FLYING SHEAR

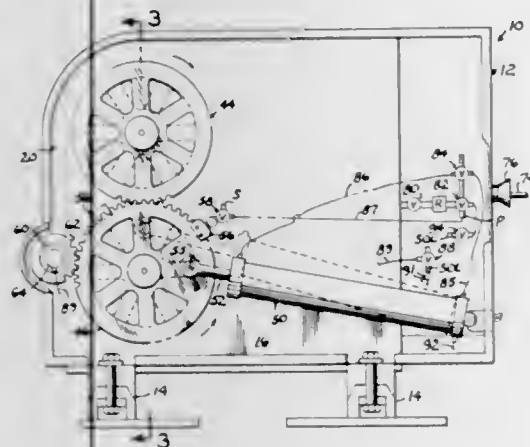
Julian S. Taylor, 8600 SW. 8, Oklahoma City, Oklahoma 73108

Continuation-in-part of application Ser. No. 590,415, Oct. 28, 1966, now Patent No. 3,410,163. This application Nov. 7, 1968, Ser. No. 774,112

Int. Cl. B26d 1/56

U.S. Cl. 83-289

7 Claims



In a flying shear an upright hollow frame forms an air pressure reservoir. A pair of shafts, extending through and horizontally journaled by the reservoir, are secured at one end to cooperating shear blades and are secured at their other ends to meshed cog wheels. A brake equipped one-way cam clutch, having a toothed gear meshing with one of the cog wheels, is journaled by the frame. A frame supported power cylinder, connected with one of the cog wheels, is controlled by a centrifugal switch and a series of solenoid and pressure operated valve means for initiating a shear in response to a shearing signal and returning the shear blades to start position.

3,538,799

FABRIC CUTTING APPARATUS

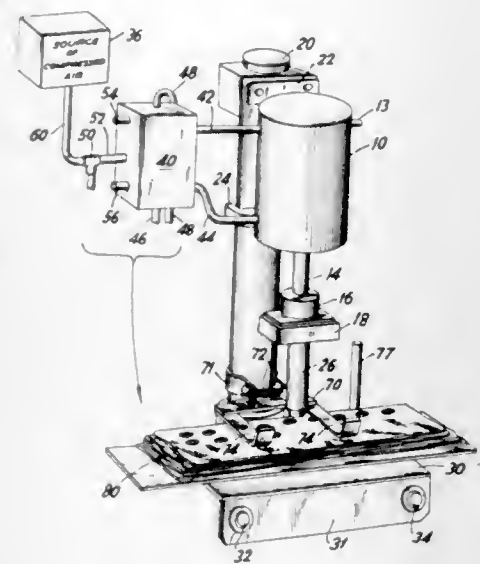
John B. Orlando, Scarsdale, New York, assignor to Defiance Button Machine Company, New York, New York a company of New York

Filed April 16, 1968, Ser. No. 721,806

Int. Cl. B26d 7/02, 5/12

U.S. Cl. 83-109

1 Claim



Fabric disc cutting pneumatic apparatus includes a double acting cylinder for operating a cutting member secured thereto by a magnetic chuck. The fabric is retained in place under urging of a spring biased clamp, and cut into discs when a cylinder actuating valve detects the coincident enabling of two spaced, manually operated controls.

3,538,800

AUTOMATIC LINE FOR THE LATERAL CUTTING OUT OF A STEEL BAND INTO PLATES FOR MAGNETIC CIRCUITS OF TRANSFORMERS

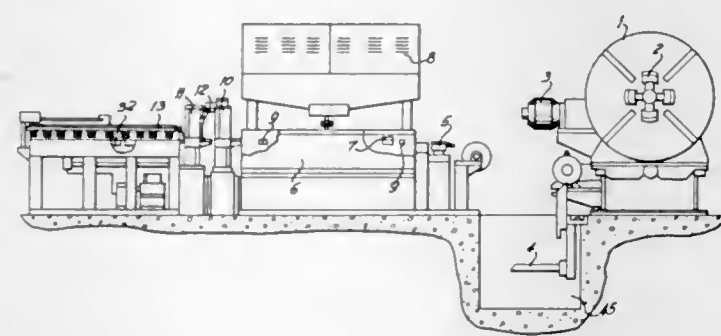
Gennady Ivanovich Pshenichny, Ulitsa Kremleuskaya 27, kv. 8, Yakov Zinovievich Checheljik, Ulitsa Scherbakova 42, kv. 38; Mikhail Andreevich Afanastiev, Ulitsa Dnepropetrovskoe shosse 48, kv. 17 and Nikolai Nazarovich Khmara, Ulitsa Kremleuskaya 33, kv. 7, Zaporoshie, U.S.S.R.

Filed Dec. 20, 1967, Ser. No. 692,209

Int. Cl. B26d 5/20, 29/10

U.S. Cl. 83-153

2 Claims



An apparatus for cutting a continuous steel band into plates comprises means for feeding the band to a first guillotine which transversely cuts the band to separate plates therefrom, after which the plates are transported to a second guillotine where sharp corners thereof are removed, the plates then being transported laterally by further electromagnets for discharge from the apparatus.

3,538,801

STAMP VENDING MACHINE

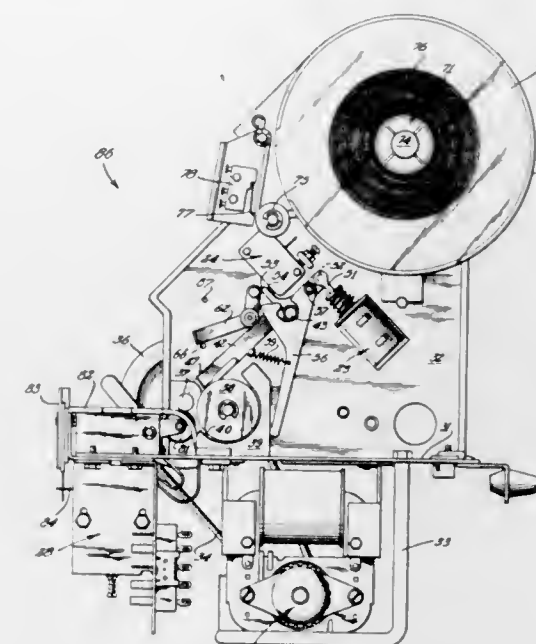
Charles H. Flubacker, Barrington, Illinois, assignor to Artag Plastics Corporation, a corporation of Illinois

Filed March 27, 1968, Ser. No. 716,539

Int. Cl. B26d 5/24

U.S. Cl. 83-205

13 Claims



A new and improved stamp vending machine which utilizes an initiating pulse which raises a pawl from a tooth counting wheel and the pawl in turn closes a switch which energizes a driving motor and a cutter solenoid which frees the stamps so that they may be delivered by a machine. An antijack-potting pawl also is in operative combination with the main timing pawl so as to prevent the machine from delivering more stamps than ordered.

3,538,802

GANG SLITTER SAW FOR PAPER PRODUCTS

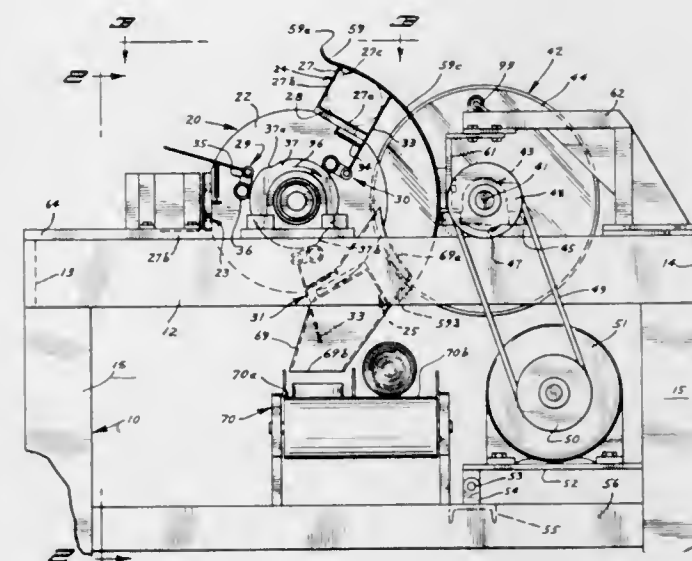
Jack D. Helm, Maple Plain; Thomas F. Shovlin; Harold K. Fox, Minneapolis and Ralph H. Livingston, Excelsior, Minnesota, assignors to Bemis Company, Inc., Minneapolis, Minnesota a corporation of Missouri

Filed April 25, 1968, Ser. No. 724,072

Int. Cl. B26d 1/14, 3/16, 7/06

U.S. Cl. 83-411

11 Claims



Apparatus for severing logs of paper products into specified lengths that includes log feeding mechanism for receiving an unsevered log at a loading station, and then clampingly retaining the log as it moves the log through an arcuate path into contact with a plurality of continuously

3,538,803

CAVITATION MACHINING APPARATUS

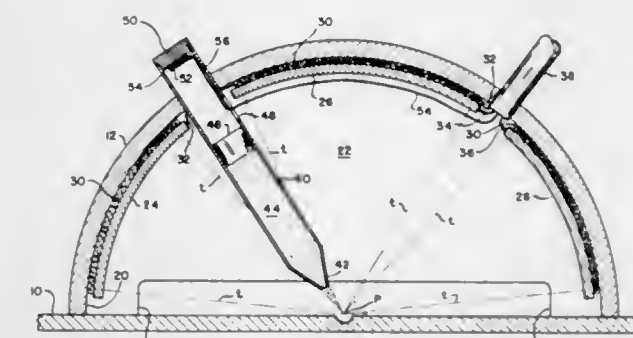
Phillip J. Joseph, North Tonawanda and Paul Rosenthal, Amherst, New York, assignors to Cornell Aeronautical Laboratory, Inc., Buffalo, New York a corporation of New York

Filed April 3, 1969, Ser. No. 813,021

Int. Cl. B26f 1/26

U.S. Cl. 83-701

8 Claims



A cavitation machining apparatus contained in a hemispherical shell, a high-pressure liquid environment; ultrasonic transducers attached to the interior of the shell, the ultrasonic waves emanating from which being focused at a common point; and a container for delivering small non-wetting particles adjacent said common point.

3,538,804

ELECTRONIC SOLO INSTRUMENT HAVING HIGH-NOTE GUARD CIRCUIT

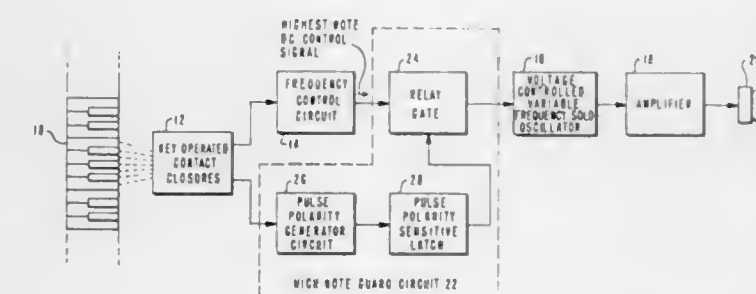
Thomas J. George, Burbank, California, assignor to Hammond Organ Company, a corporation of Delaware

Filed June 6, 1968, Ser. No. 735,095

Int. Cl. G10h 1/02

U.S. Cl. 84-1.01

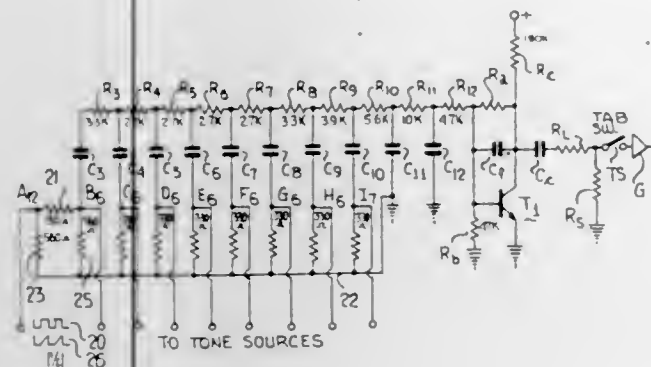
19 Claims



An electronic solo instrument is provided in which an electrical signal corresponding to the highest played key is selectively passed to audio circuitry to provide the desired sound. The electrical signal, which may comprise a DC signal of selected magnitude or an AC signal of selected frequency, is applied to the audio circuitry via a gate circuit, the operation of which is determined by a pulse polarity sensitive latch. The latch operates in accordance with the polarity of generated pulses, such polarity being determined by the playing or release of one or more keys. In the event the highest key of the played chord is inadvertently released by the player, the gate circuit opens to prevent undesired high-note drop-down.

3,538,805

RC DISTRIBUTED FILTER FOR ELECTRONIC ORGAN
Dale M. Uetrecht, Cincinnati, Ohio, assignor to D.H. Baldwin Company, Cincinnati, Ohio a corporation of Ohio
Filed June 18, 1968, Ser. No. 738,024
Int. Cl. G10h 1/06; H03h 7/14
U.S. Cl. 84-1.11 7 Claims

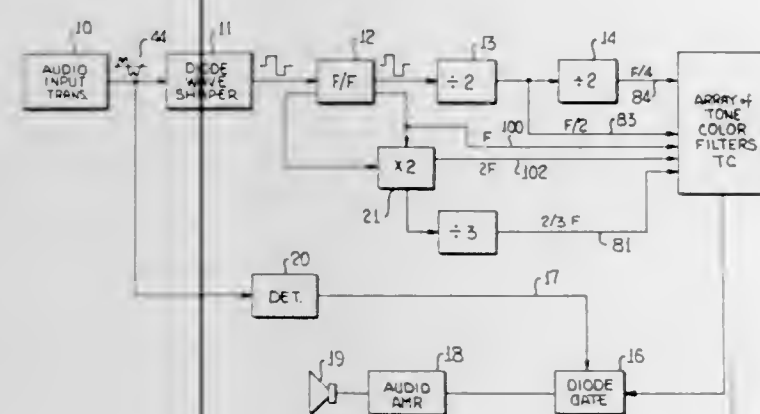


An RC distributed low pass filter employable as a tone coloring filter of an electronic organ, groups of tone signals being introduced at diverse sections of the filter, so that multiple inputs exist, and the entire output of the filter being taken from one point. The inputs are applied across resistances in the shunt paths of the filter.

3,538,806

TONE PROCESSING SYSTEM

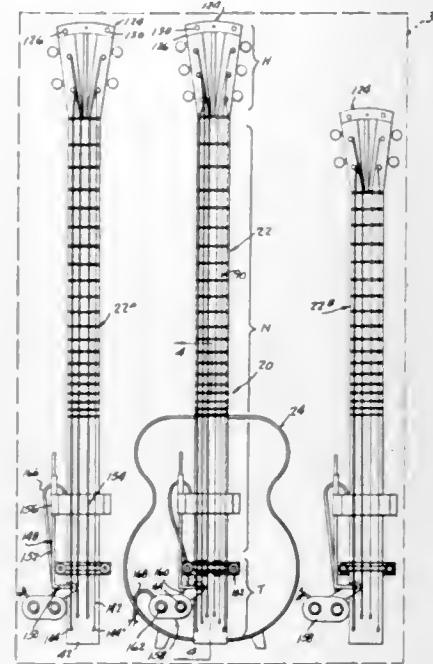
David A. Bunker, Cincinnati, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio a corporation of Ohio
Filed March 11, 1968, Ser. No. 712,117
Int. Cl. G10h 3/00, 1/02, 1/06
U.S. Cl. 84-1.12 7 Claims



A tone derived from a conventional musical instrument, such as a clarinet, is converted to a square wave signal having the same fundamental frequency as the fundamental frequency of the tone. The square wave signal frequency is divided by two, and again by two, and is also multiplied by two-thirds, to provide three waves, each of which may be processed by tone color filters to have a variety of musical sounds, as the sounds of the oboe, tuba, flute, etc. The original tone is detected to provide a DC gain control signal, which controls the conductivity of a diode gate through which the processed tone passes. Conversion to a square wave signal is accomplished by oppositely poled diode peak detectors, each including a diode and a capacitor in series with the diode, the capacitors having a common resistive path to ground, so that charging of one capacitor is always accompanied by discharging of the other. The conversion system is thus capable of responding to alternate half cycles of complex waves, over a very wide range of frequencies, say from about 50 c.p.s. to about 5,000 c.p.s.

3,538,807

INTERCHANGEABLE STRINGED INSTRUMENT
Louis Francis, 650 NE 64th St., Miami, Florida 33138
Filed June 19, 1968, Ser. No. 738,308
Int. Cl. G10d 1/08, 3/06
U.S. Cl. 84-267 7 Claims

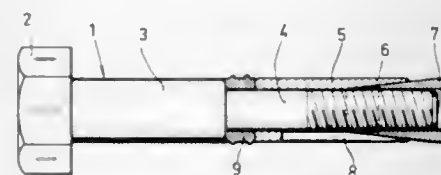


A self contained and complete stringed electric musical instrument in the nature of a guitar, mandolin, banjo and similar stringed instruments, a support for the instrument, and means for releasably securing the instrument on the support.

3,538,808

EXPANSION ANCHOR

Artur Fischer, 133 Grunmettstetterstrasse D-7241, Tumlingen, Germany
Filed Nov. 7, 1968, Ser. No. 773,991
Claims priority, application Germany, Nov. 13, 1967, 1,625,337
Int. Cl. F16b 13/06
U.S. Cl. 85-70 7 Claims



An expansion anchor having an elongated expansible sleeve of predetermined outer diameter. A conical expander member is insertable into the front end of the sleeve. An actuating member, such as a screw, is insertable into the rear end of the sleeve and connectable with the expander member which extends into the front end of the sleeve for the purpose of drawing the expander member deeper into the sleeve and thereby spreading the latter radially. The trailing portion of the actuating member which remains located outside the sleeve has a diameter which corresponds to the outer diameter of the sleeve.

3,538,809

PROCESS FOR ATTACKING A GROUND TARGET FROM AN AIRPLANE

Ignaz Von Maydell, Munich, Germany, assignor to Entwicklungsring Sued GmbH, Munich, Germany a corporation of Germany
Filed Oct. 13, 1966, Ser. No. 586,499
Claims priority, application Germany, Oct. 15, 1965, E 30,284
Int. Cl. F41f 5/02
U.S. Cl. 89-1.5 14 Claims

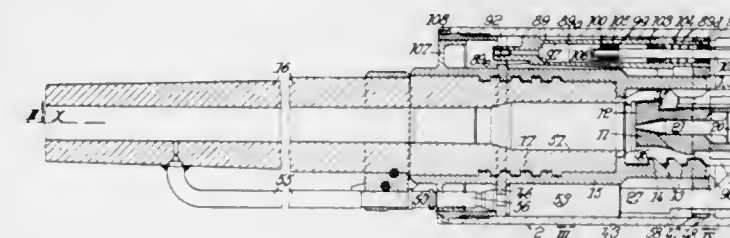
A method for attacking a ground target from an airplane including the steps of releasably securing a winged missile

having adjustable control surfaces to an upper surface of the airplane, flying the airplane at a low substantially constant elevation and at a high speed past the target, setting the control surfaces on the missile for a flight pattern looping upwardly and rearwardly of the airplane and releasing the missile from the airplane after passing the target while the airplane is at the same low substantially constant elevation.

3,538,810

BARREL ATTACHMENT FOR A FIREARM

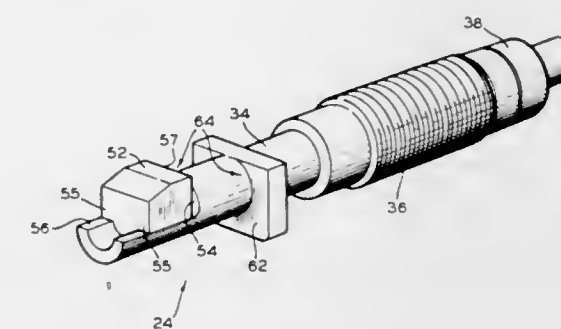
Bernard Maillard, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland a society of Switzerland
Original application April 1, 1968, Ser. No. 717,524, now Patent No. 3,447,418, dated June 3, 1969. Divided and this application Oct. 21, 1968, Ser. No. 810,862
Claims priority, application Luxembourg, July 31, 1967, PV 54,210
Int. Cl. F41d 1/06
U.S. Cl. 89-159 7 Claims



A firearm comprising at the interior of the breechcase a gas conducting element, a sleeve to which the barrel of the firearm is fixed by a bayonet joint, and a nut which is screwed into the front of the breech case and which serves to maintain the sleeve in the breech case. The sleeve is adapted to recoil with the barrel with respect to the breech case and is guided in recoil by the nut. The sleeve has two successive collars: a front collar of a diameter equal to the interior diameter of the nut and a rear collar of a diameter equal to the interior diameter of the breech case, which is greater than the diameter of the front collar. The rear collar is disposed behind the nut for maintaining the sleeve longitudinally with respect to the nut, and transversely with respect to the breech case. The interior diameter of the nut is sufficiently large so that the gas conducting element can pass therethrough without touching it.

3,538,811

DOUBLE ACTING BOLT-SLIDE COUPLING BUFFER
David A. Poole, Groton, Connecticut and Frederick P. Reed, Davenport, Iowa, assignors to The United States of America, as represented by the Secretary of the Army
Filed Oct. 23, 1968, Ser. No. 769,984
Int. Cl. F41d 5/04; F41 11/12
U.S. Cl. 89-198 9 Claims

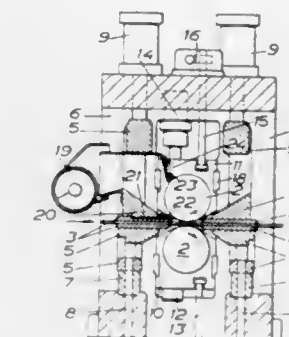


A firearm bolt actuated for cyclic reciprocation by impact of an energized slide thereagainst is releasably coupled to the slide by a coupling with a double-acting buffer which acts to cushion the impact between the slide and bolt by absorbing a part of the energy in the slide and then restores the stored energy to the coupled bolt-slide assembly for continued operation without repeated impacts between the bolt and slide.

3,538,812

MILLING MACHINES

Jean Morel, Paris, France; Gerard Durand-Texte, Paris, France; Josef Frohling, Olpe, Germany and Heinz Dittmann, Olpe, Germany, assignors to Firma Josef Frohling, doing business as Firma Josef Froehling, Westphalia, Germany, a Sole Proprietorship of Germany
Filed Jan. 5, 1968, Ser. No. 695,929
Claims priority, application Germany, Sept. 25, 1967, F-53,585; Jan. 9, 1967, F-51,206
Int. Cl. B23c 1/12, 9/00
U.S. Cl. 90-16 11 Claims

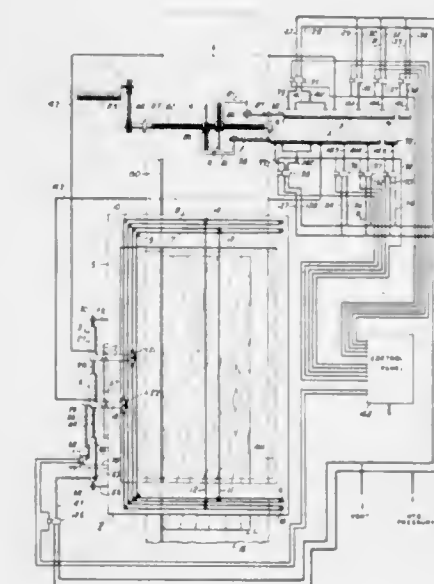


A milling machine having opposed rotary cutters for milling both sides of an elongated workpiece simultaneously as the work piece passes through the machine. Guides are provided before and after the cutters which extend in close proximity to the cutting region, to grip the workpiece on either side of the cutters to prevent unwanted movement of the workpiece during milling. By incorporating suitably shaped cutters and guides and suitable workpiece feeding means, workpieces of other than flat cross section can be accommodated by the machine.

3,538,813

REMOTE CONTROL SYSTEM

Jeff Y. Cromeens, Mesquite and Thomas E. Clyde, Garland, Texas, assignors to Industrial Woodworking Machine Co., Inc., Garland, Texas a corporation of Texas
Filed Oct. 7, 1968, Ser. No. 765,290
Int. Cl. F01b 31/12
U.S. Cl. 91-1 6 Claims



Electrohydraulic remote control system for positioning a gang of saws or other group of related elements or mechanisms relative to one another and including a hydraulic actuator for setting each saw blade in accordance with the desired positioning of a guide or shadow line of a remote indicating assembly relative to the lumber to be sawn.

3,538,814

DOUBLE-ACTING HYDRAULIC CYLINDER AND CONTROL THEREFOR

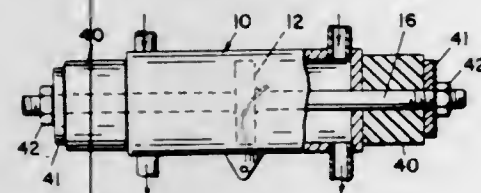
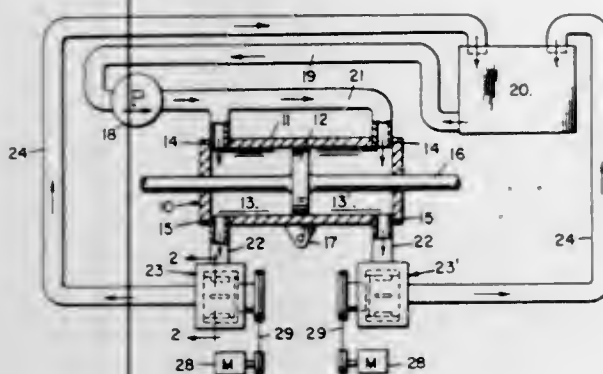
Earl H. Fisher, 630 Casgrain Avenue, St. Laurent, Montreal 9, Quebec, Canada

Continuation-in-part of application Ser. No. 423,073, Jan. 4, 1965, now Patent No. 3,369,459. This application Dec. 15, 1967, Ser. No. 691,001

Int. Cl. F15b 21/02, 13/04

U.S. Cl. 91-39

2 Claims



A double-acting hydraulic cylinder having separate fluid inlet and exhaust ports at each side of its piston. Pump means deliver fluid into the cylinder through the inlet ports and valve means on the exhaust ports control fluid flow and application of fluid pressure to opposite sides of the piston. The valve means are power-actuated entirely independently of relative cylinder and piston movement.

3,538,815

RECIPROCATING PISTON ENGINE

Michael E. Clarke, Kingston and Bryan Morrell, Tadworth, England, assignors to The British Oxygen Company Limited, a British Company

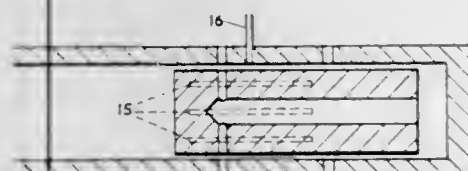
Continuation of application Ser. No. 656,787, July 28, 1967, now abandoned. This application April 17, 1969, Ser. No. 817,297

Claims priority Great Britain, Aug. 4, 1966, 35,045/66

Int. Cl. F01n 1/00; F01b 31/10; F01n 9/00

U.S. Cl. 92-127

2 Claims



A cyclically reciprocating piston engine for effecting work producing expansion of a compressed gas, in which a piston is slidably mounted in a cylinder, to define an expansion space and to establish therein alternating high and low-pressure conditions. The cylinder is provided with at least three grooves disposed longitudinally along the cylinder wall, in such a way that they are not uncovered by the piston when low-pressure conditions exist in the expansion space. The grooves are in communication with the supply of compressed gas and are effective to provide a self-centering action for the piston. The grooves are of sufficiently small cross section such that the pressure of the compressed gas in the grooves falls rapidly in the direction of the expansion space. It is thereby possible to provide efficient self-centering for the piston by utilizing the high pressure of the compressed gas, without experiencing large leakage thereof into the expansion space.

3,538,816

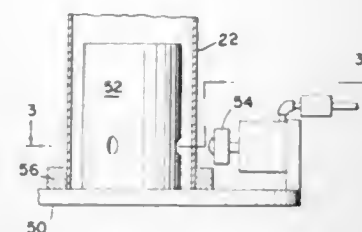
METHOD AND APPARATUS FOR FORMING DETENTS IN CONTAINER DISPERSING STRUCTURE

Milton Blum, New York, New York, assignor to Ultra Custom Pak, Inc., New York, New York a corporation of New York

Continuation-in-part of application Ser. No. 548,170, May 6, 1966, now Patent No. 3,411,665. Int. Cl. B31d. This application Aug. 16, 1968, Ser. No. 753,203

U.S. Cl. 93-1

13 Claims



A sleeve in a container packaging and dispensing structure has detents formed in it by placing it in contact with an engraving support and spaced from an axial die means having cavities in its surface. Moveable die means surrounding the sleeve coact with the axial die to form indents in the sleeve.

3,538,817

APPARATUS FOR FORMING SPIRAL TUBING

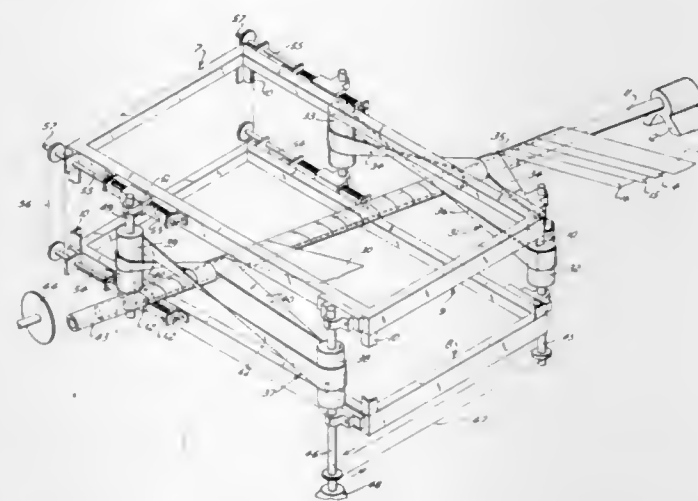
Erik Brown, Amherst, New Hampshire, assignor to Brown Products, Inc., a corporation of New Hampshire

Filed Oct. 28, 1968, Ser. No. 771,095

Int. Cl. B31c 3/00; B31f 1/00; B31b 1/58

U.S. Cl. 93-80

4 Claims



Apparatus for winding spiral tubing of crushable, i.e. deformable, cushioning material in a continuous manner in which a plurality of strips of primary wrapping material are first wound upon a stationary mandrel of the desired diameter to form a multilayer spiral tube of predetermined length. Two similar power driven winding or driving belts are arranged in spaced relation crosswise of the mandrel and one side section of each belt encircles the formed spiral tube. A strip of final wrapping or sheathing material is delivered to the tube at a position between the two driving belts.

3,538,818

CONVEYOR FOR NEWSPAPERS OR SIMILAR ARTICLES

Bjorn Erland Bengt Birath, Trangsund, Sweden, assignor to AB Bonnierforetagen, Stockholm, Sweden a corporation of Sweden

Filed April 26, 1968, Ser. No. 724,524

Claims priority, application Sweden, April 28, 1967, 6083/67

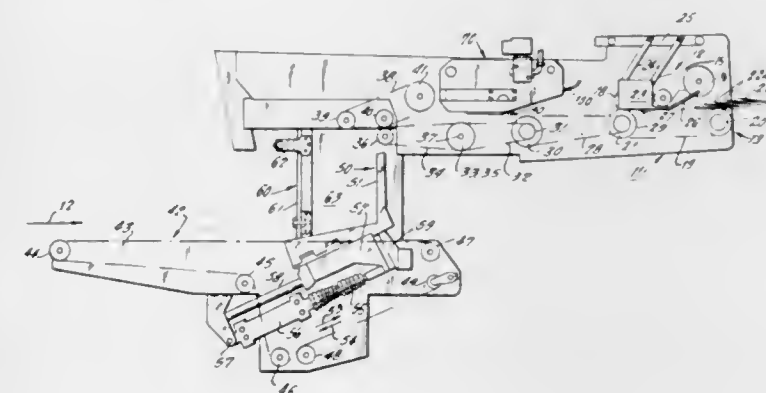
Int. Cl. B65h 33/02

U.S. Cl. 93-93

10 Claims

A device for stacking newspapers and other like signatures which are fed to the device in overlapping fashion. A gap in the signature stream is formed by rotating a pivotally mounted shovel member into an intercepting position with

the signature stream in order to restrain the intercepted signature and signatures immediately behind the intercepted signature from being fed toward a stacking position. The shovel member, which is further mounted for reciprocating movement, is rapidly moved in the direction of signature flow at a rate faster than the signature stream to remove the shovel member from its intercepting and blocking position. The shovel member is then pivotally moved out of the engaged position and the reciprocally mounted carriage is returned to its normal position in readiness for intercepting the signature stream to form the next gap. The number of signatures between adjacent gaps is controlled by a sensing member which counts the inflow of signatures to the stacking device and automatically operates the shovel member and the carriage therefore.



The signature stream is fed to an outfeed conveyor section having reciprocally mounted blocking plates for preventing the movement of the signatures deposited thereon until all of the signatures between two adjacent gaps have been fed to the outfeed conveyor section. At this time the blocking plates are withdrawn from blocking the signature stack and substantially simultaneously therewith a kicker accelerates the signature bundle rapidly toward the downstream end of the outfeed conveyor. The kicker and reciprocally mounted blocking plates are abruptly reset to their initial position in readiness for dispensing the next signature bundle.

3,538,819

AIRFIELD MATTING LOCKING PIN

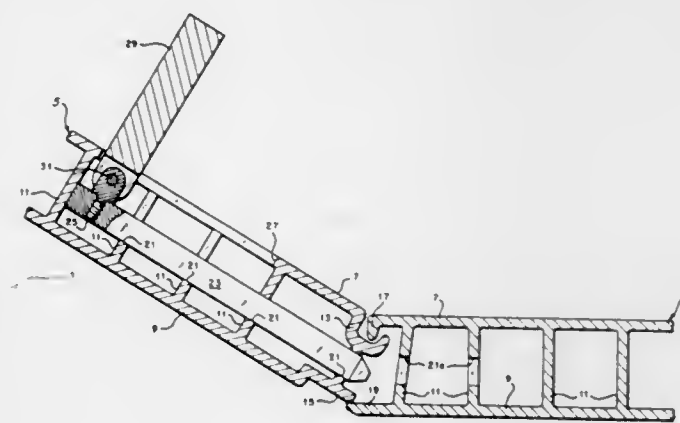
John F. Gould, Jr., North Little Rock, Arkansas and William J. Petrasky, Lansdowne, Pennsylvania, assignors to The United States of America, as represented by the Secretary of the Navy

Filed July 26, 1968, Ser. No. 748,086

Int. Cl. E01c 5/00

U.S. Cl. 94-13

3 Claims



The present invention relates to a novel and improved assembly of matting elements that provide a suitable structural planar surface for aircraft takeoff and landing operations. The component mats or modules of the assembly are interconnected and interlocked to restrict relative movement therebetween by providing each mat with one or more

locking pins that are disposed between upper and lower planar surfaces of each mat and slide between a nonlocking position where the pin is fully withdrawn in the mat and a locking position where the pin projects outwardly from its associated mat and engages an adjoining mat.

3,538,820

METHOD FOR SEALING CONCRETE JOINTS WITH ELASTOMER STRIPS

Burl D. Tonjes, Malinta, Ohio, assignor to The D. S. Brown Company, North Baltimore, Ohio a corporation of Ohio

Original application Jan. 3, 1966, Ser. No. 518,444, now

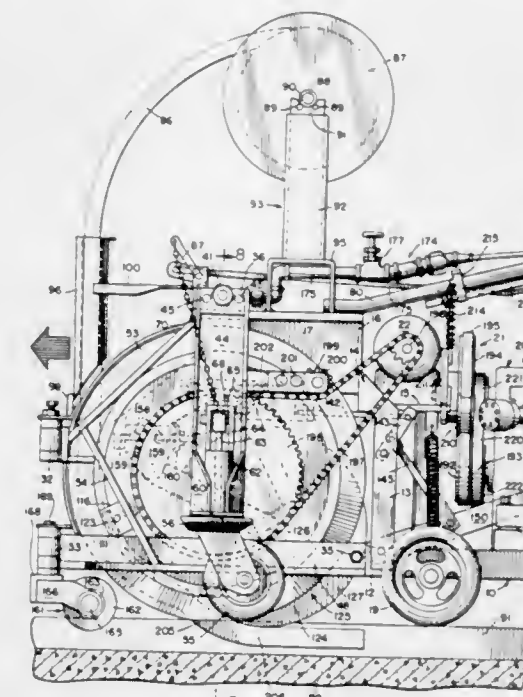
Patent No. 3,368,465, dated Feb. 13, 1968. Divided and this

application Oct. 31, 1967, Ser. No. 679,367

Int. Cl. E01c 21/00

U.S. Cl. 94-22

7 Claims



Inserting laterally compressible elastomer strips in concrete joints by rearward conveyance of laterally compressed strip between compression faces above joint, forcing compressed strip downwardly into joint, and advancing faces and strip along joint by rearward thrust of strip against portion previously seated in joint.

3,538,821

IMPLEMENT, IN PARTICULAR A TAMPER, WITH VIBRATING TOOL

Hans-Baumeiers, Dusseldorf; Hans-Reinhard Lambertz, Kaarst and Hans-Georg Waschulewski, Dusseldorf, Germany, assignors to Losenhausen Maschinenbau AG, Dusseldorf, Germany

Filed Oct. 21, 1968, Ser. No. 769,139

Claims priority, application Germany, Oct. 21, 1967,

1,558,851

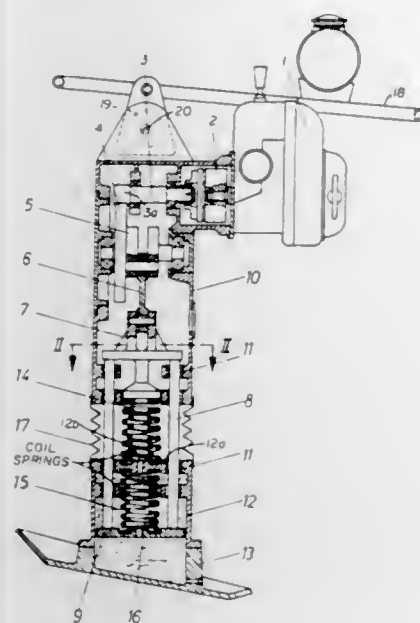
Int. Cl. E01c 19/30

U.S. Cl. 94-49

3 Claims

A prime mover is mounted on a main implement frame. A crank in the main frame is operatively connected to the prime mover to be rotated thereby. Positioned a spaced distance from the lower end of the main frame is a housing having an internal chamber filled with oil. A bellows encloses the space between the housing and the main frame. An oil aperture extends through the top of the housing to the space within the bellows. A reciprocating frame comprises four rods mounted for longitudinal movement in the lower end of the main frame and in the upper, adjacent, wall of the housing. The reciprocating frame has a crossmember within the main frame at the upper ends of the rods, and a plate within the housing at the lower ends of the rods. The upper crossmember is connected to the crank so as to reciprocate the reciprocating frame. A compression spring extends between

the upper crossmember and the upper wall of the housing. A second compression spring extends between the upper wall



of the housing and the plate in the housing. The bottom of the housing forms a tamping foot.

3,538,822 ATTRACTING LIGHT

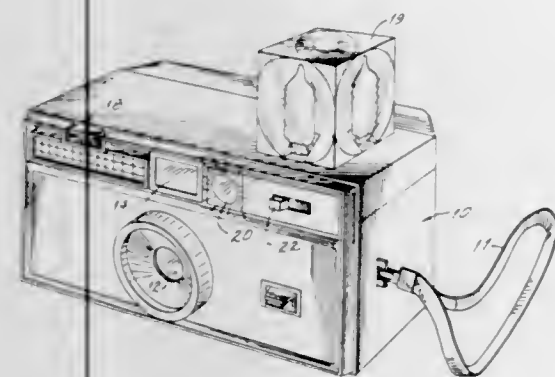
Deward W. Gilmer, 4747 8th Ave. S., St. Petersburg, Florida 33711

Filed Sept. 15, 1967, Ser. No. 667,887

Int. Cl. G03b 19/00

U.S. Cl. 95-1

4 Claims



An independently controlled attracting light for a camera or as an attachment thereto for getting the attention of the subject being photographed. The light is connected to the battery power source of the camera and a switch is connected between the light and the battery power source to actuate the light independently of any other mechanism of the camera.

3,538,823 EXPOSURE CONTROL FOR PHOTOGRAPHIC CAMERAS

Karl Wagner, Ottobrunn near Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed April 30, 1968, Ser. No. 725,341

Claims priority, application Germany, May 5, 1967, A 55,630

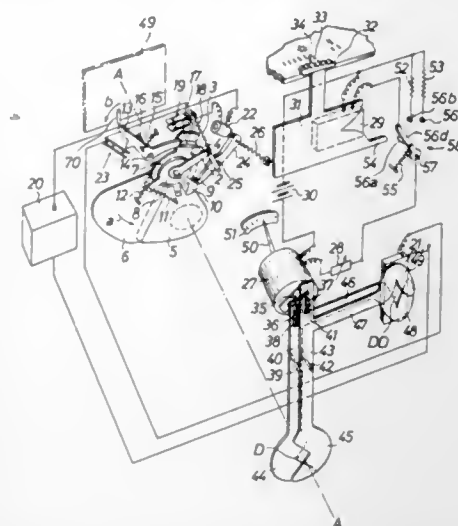
Int. Cl. G03b 7/08

U.S. Cl. 95-10

9 Claims

An exposure control for photographic cameras wherein the shutter is adjustable by a delay circuit which includes a photosensitive resistor located behind an auxiliary diaphragm whose aperture size varies as a function of the aperture size in the main diaphragm. The latter is adjustable by an exposure meter, either as a function of scene brightness or as a function of the resistance of one of several fixed resistors which can be substituted for a second photosensitive receiver in the circuit of the exposure meter when the user wishes to make exposures with a flashgun or with an electronic flash. The resistances of fixed resistors indicate various light values.

A mask is movable by hand to change the sensitivity of the second photosensitive resistor by controlling the amounts of scene light which can reach the second resistor, and this



mask also actuates a switch which can connect the second photosensitive resistor or a selected fixed resistor into the circuit of the exposure meter.

3,538,824 PHOTOGRAPHIC CAMERA WITH MUTUAL TRANSPORT AND EXPOSURE LOCK

Karl Heinz Lange, Bunde-Ennigloh, Westphalia, Germany, assignor to Balda Werke Photographische Geräte und Kunststoff, R. Gruter Kommanditgesellschaft, Westphalia, Germany a German company

Filed Jan. 22, 1968, Ser. No. 699,659

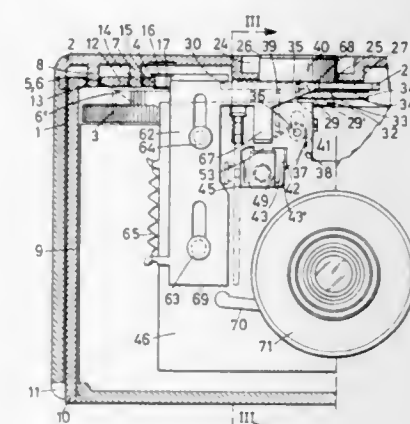
Claims priority, application Germany, Jan. 24, 1967,

B 890,855

Int. Cl. G03b 19/04

U.S. Cl. 95-11

14 Claims



A film camera has the conventional winding and unwinding film spools and has a combined mutual locking mechanism for the film transport and the exposure mechanism. The film transport mechanism automatically advances a flashbulb receptacle. The film transport locking mechanism is unlocked when a new film is loaded and when a film is present in the camera. The locking device is locked after each full advancement of the flashbulb receptacle and in the case of the absence of a film or when a perforation of the film is in the correct place after the film has been advanced after an exposure has been made. The film transport mechanism is locked when the film exposure mechanism is actuated.

3,538,825 PHOTOGRAPHIC FLASH APPARATUS

Daniel G. Taylor, Minneapolis, Minnesota, assignor to Honeywell Inc., Minneapolis, Minnesota a corporation of Delaware

Filed Feb. 12, 1968, Ser. No. 704,597

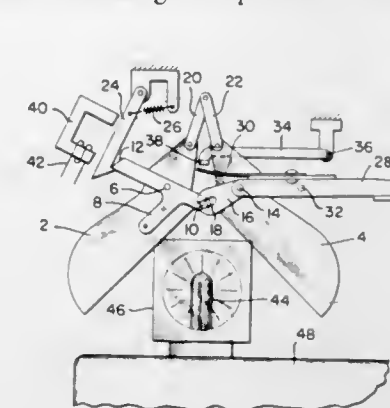
Int. Cl. G03b 15/03

U.S. Cl. 95-11

7 Claims

A photoflash device having a light-blocking member for controlling the effective light output of a flashlamp during an exposure. The light-blocking member includes a pair of

pivotably mounted shutter blades, a latch element, and a control circuit for initiating movement of the shutter blades to the light-blocking position. The shutter blades are mounted between the flashlamp and the object being photographed, and are held in the open or light-transmitting position by the latch element. The control circuit has a light-sensing element for sensing that portion of the light which is



emitted by the flashlamp and reflected from the object being photographed, and an electromagnet for moving the latch element to its release position in response to the signal produced by the light-sensing element. Upon release of the latch element, the shutter blades move to the light-blocking position to prevent further passage of any light which may be emitted by the flashlamp toward the object.

3,538,826 FLASH SYNCHRONIZATION DEVICE FOR USE WITH A SINGLE LENS REFLEX CAMERA

Sakae Fujimoto, Chofu, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan a corporation of Japan

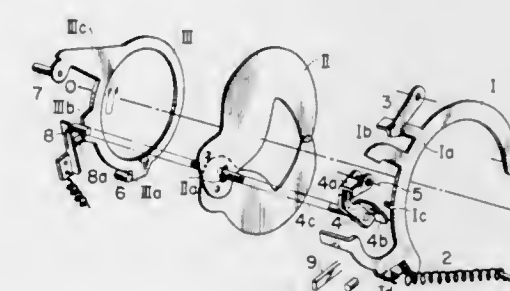
Filed Dec. 12, 1967, Ser. No. 690,011

Claims priority, application Japan, Dec. 17, 1966, 41/82,608

Int. Cl. G03b 9/70

U.S. Cl. 95-11.5

1 Claim



A flash synchronization device having a rotatable ring, a conductive contact piece adjacent to the ring, an intermediate element, and a bow-shaped lever. The intermediate element has a pin member which extends along an axis parallel to the optical axis of the camera and engages a cam edge on the ring. The pin member serves to open and close the shutter blades of the camera, and forms a part of the switching mechanism for the flash circuit. When the reflecting mirror moves out of the optical path, the bow-shaped lever strikes the intermediate element to move the pin member toward the cam edge to subsequently open the shutter blades and bring the pin member into contact with the conductive contact piece to actuate the flash circuit.

3,538,827 X SYNCHRONIZATION MECHANISM FOR ELECTRIC SHUTTER CAMERA

Zyoichi Fuwa, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan a corporation of Japan

Filed Oct. 12, 1967, Ser. No. 674,778

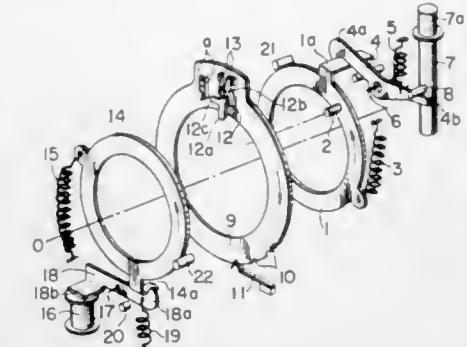
Int. Cl. G03b 9/70

U.S. Cl. 95-11.5

1 Claim

A flash synchronization mechanism for a photographic camera having an electric shutter device. The synchronization mechanism has a synchronization switch mounted on a first rotatable ring member which may be adjustably posi-

tioned to correspond to various aperture settings of the shutter device. The opening blades of the shutter device are mounted on a second ring member which is rotatable coaxially with the first ring member. The second ring member has a pin element thereon which projects into the path of the



synchronization switch to close the switch in response to operation of the shutter device. The mechanism also has an arresting element for maintaining the synchronization switch in one of a number of predetermined positions during camera operation.

3,538,828 HIGH RESOLUTION MULTIPLE IMAGE CAMERA

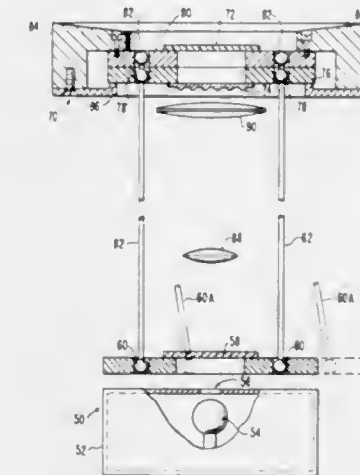
Frank C. Genovese, Yonkers, N.Y., assignor to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed June 26, 1967, Ser. No. 648,769

Int. Cl. G03b 19/16, 27/44

U.S. Cl. 95-18

9 Claims



A high resolution apparatus for forming an image in a photosensitive medium from an object. Both optical and structural linkages are provided between the object and the medium. The optical and structural linkages are matched. A device scans the object to sequentially expose the photosensitive medium at high resolution. The linkages may be constructed to either magnify or minify the exposed object. The apparatus is a high resolution multiple image camera and is preferably used for fabricating microelectronic circuit masks. The master pattern is sequentially scanned and the photosensitive medium is sequentially exposed over the entire masked pattern to obtain the highest possible resolution in the images formed in the photosensitive medium.

3,538,829 MACHINE FOR LOADING AND UNLOADING A CASSETTE WITH A PHOTOSENSITIVE SHEET

Karl Munnich and Hans W. Minikes, Siegen, Germany, assignors to Eurograph Gesellschaft für Photomechanik G.m.b.H., Siegen, Germany a corporation of Germany

Filed Oct. 25, 1967, Ser. No. 678,072

Claims priority, application Germany, Oct. 28, 1966,

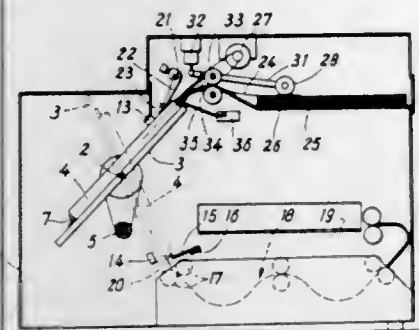
M 71,480

U.S. Cl. 95-27

12 Claims

A machine having a rocking cassette holder which can be rocked to one position to receive a photosensitive sheet fed from a stack thereof, and which can be rocked to a second

position to discharge an exposed photosensitive sheet from said cassette into a processing apparatus, the machine in one



embodiment including means for exposing the photosensitive material with the cassette rocked to a third position.

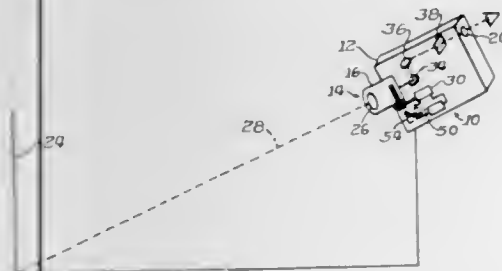
3,538,830

SEMI-AUTOMATIC MOTOR-DRIVEN LENS FOCUSING MECHANISM

Elmer C. Henriksen, Chicago, Illinois and Carl P. Tinebra, Mountain View, California, assignors to Bell & Howell Company, Chicago, Illinois a corporation of Illinois
Filed June 7, 1968, Ser. No. 735,285
Int. Cl. G03b 13/20

U.S. Cl. 95-44

10 Claims



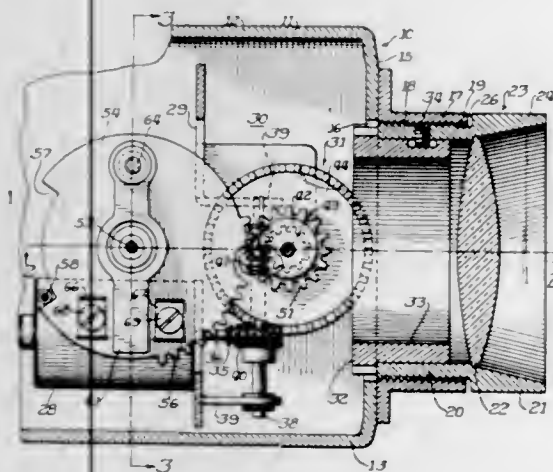
A distance determining mechanism for a camera having a focusable objective, the mechanism including a pendulous member mounted for orientation by gravity to cause adjustment of the objective into focus on a remote subject. The distance is determined by triangulation based on orientation to an angular aspect of the pendulous member upon alignment of the axis of the objective at the base of the remote subject. The objective is adjusted by a motor for a time determined by a control circuit responding to orientation of the pendulous member through resistance variations as that member is oriented relative to a resistive element in the control circuit.

3,538,831

ELECTRICAL CAMERA FOCUSING MECHANISM
Arthur C. Mueller, Niles, Illinois, assignor to Bell & Howell Company, Chicago, Illinois a corporation of Illinois
Filed June 7, 1968, Ser. No. 735,284
Int. Cl. G03b 3/00

U.S. Cl. 95-44

10 Claims



A pendulous member tends to rotate relative the camera into an electrical circuit-closing condition toward a position

corresponding to focal distance as the camera is rotated for sighting the base of a subject. The circuit thus energized operates a motor to restore the pendulous member to circuit open position and simultaneously drive the objective of the camera to "in focus" condition.

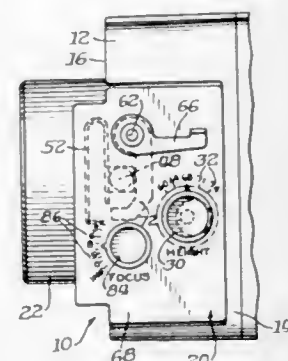
3,538,832

SEMI-AUTOMATIC CAMERA FOCUSING DEVICE WITH HEIGHT COMPENSATION

Henry J. Koeber, Jr., Deerfield, Illinois, assignor to Bell & Howell Company, Chicago, Illinois a corporation of Illinois
Filed June 7, 1968, Ser. No. 735,278
Int. Cl. G03b 3/00

U.S. Cl. 95-44

10 Claims



A distance determining mechanism, for use in a camera having a focusable objective, the device utilizes a pendulous cam member for computing subject distances by virtue of its particular angular orientation within the camera. The pendulous member is used through the principal of triangulation to determine the required distance, wherein the angle from which the photographer views the subject is critical. The novelty resides in a height compensating device for correcting the angular orientation of the pendulous member for differences in the height of users.

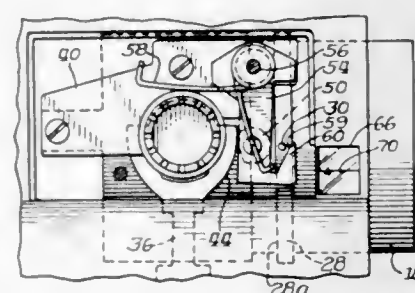
3,538,833

MANUAL CONTROL FOR SEMI-AUTOMATIC FOCUSING MECHANISM FOR A CAMERA

Henry J. Koeber, Jr., Deerfield, Illinois, assignor to Bell & Howell Company, Chicago, Illinois a corporation of Illinois
Filed June 7, 1968, Ser. No. 735,232
Int. Cl. G03b 3/00

U.S. Cl. 95-44

8 Claims



An improved rangefinding mechanism for a camera having a focusable objective, the mechanism including a pendulous member operable on the principle of triangulation and releasable by an external control for orientation by gravity, and lockable in an oriented position. A spacer member is provided between a cam surface of the pendulous member and a control surface to maintain the objective at a predetermined distance from the cam surface to focus on a subject at a distance from the camera in response to orientation of the pendulous member. The mechanism also permits manual adjustment of the pendulous member.

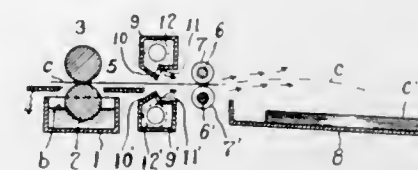
3,538,834

DRYING AND PILING DEVICE FOR WET DEVELOPED SENSITIZED PAPERS

Ryutaro Yamagata, 86 Ohara Ashiya, Hyogo; Koso Nakamune, 1-78 Kitanakamichi-cho Higashinari-ku and Tatsuo Aizawa, 6-34 Kuwazo-cho Higashiumiyoshi-ku, Osaka, Japan
Filed July 2, 1968, Ser. No. 742,088
Int. Cl. G03d 15/02, 3/12

U.S. Cl. 95-89

4 Claims



Apparatus for drying an exposed wet developed sensitized paper sheet and piling the dried sheets in a tray with the apparatus including developing applying rollers with disclike feeding rollers spaced in the direction of feed therefrom and manifold directing drying air on one or both surfaces of the sheets as they are being fed with the air currents serving to direct the sheets into a receiving tray in which they are neatly piled.

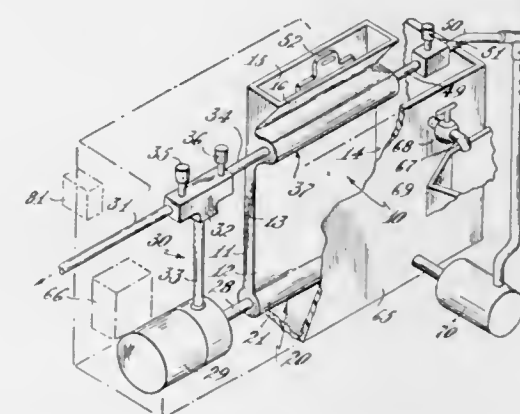
3,538,835

PHOTOGRAPHIC FILM AND PAPER PROCESSING APPARATUS

Samuel Needleman, 177 Louis St., Maywood, N.J. 07607
Filed Aug. 12, 1968, Ser. No. 751,861
Int. Cl. G03d 3/00

U.S. Cl. 95-89

2 Claims



An apparatus and method for processing sensitized photographic film and paper material is described. The sensitized material is immersed and supported within a substantially closed, temperature-controlled fluid system, and chemical processing solutions are recirculated over the surface of said material by manipulation of the system in a simplified, programmed sequence of pulsating and other fluid flowing processing steps, thereby to obtain even, uniform development of and across the entire length and width of the sensitized material.

3,538,836

APPARATUS FOR PROCESSING LIGHT-SENSITIVE SHEET MATERIAL BY MEANS OF A PROCESSING SOLUTION

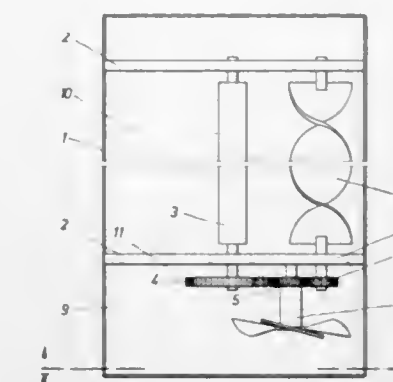
Karl Schleifenbaum, Haiger, Germany, assignor to Meteor-Siegen Apparatebau Paul Schmeck G.m.b.H., Siegen, Germany a corporation of Germany
Filed Oct. 4, 1968, Ser. No. 765,087
Claims priority, application Germany, Oct. 11, 1967, 1,597,710
Int. Cl. G03d 3/00

U.S. Cl. 95-89

5 Claims

A processing tank for light sensitive sheet material is divided into adjacent mixing and processing chambers by an

intermediate apertured partition. A relatively high speed agitator is located in the mixing chamber while there is a relatively low speed circulating device in the processing chamber. The apertures of the partition are such that the



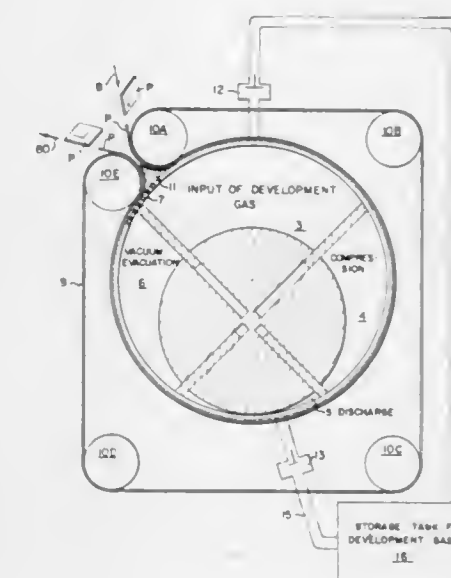
uniformly mixed solution in the mixing chamber is circulated without violent flow to the processing chamber where it is moved by the circulating device over the sheet material to be processed.

3,538,837

PHOTOCOPY DEVELOPMENT METHOD AND DEVICE
Roland Moraw, Wiesbaden-Biebrich, Germany, assignor, by mesne assignments, to Keuffel & Esser Company, Hoboken, New Jersey
Filed May 21, 1968, Ser. No. 730,699
Claims priority, application Germany, May 26, 1967, 1,572,289
Int. Cl. G03d 3/12

U.S. Cl. 95-94

12 Claims



A device and continuous method of developing photocopies with a developing vapor wherein a photocopy bearing a latent image is exposed to such vapor under varying operating pressures during development. Diazotype material may thus be conducted through a developing cycle and sequentially exposed, through a series of development chamber segments, to ammonia gas of increasing pressure to accelerate development and then to partial vacuum to remove entrained ammonia from the developed copy. A preferred device embodying the invention includes a vane rotor located within the internal chamber and through rotation of the rotor effects a cycling expansion and reduction in the volumes of individual chamber sections. Ammonia gas within such chamber sections are thereby caused to be cyclically reduced and increasing in pressure during the development cycle. Exposed photocopy sheets are conveyed through the development cycle between an inner pervious belt and an outer impervious belt.

3,538,838

FUME EVACUATION SYSTEM FOR AN ETCHING MACHINE

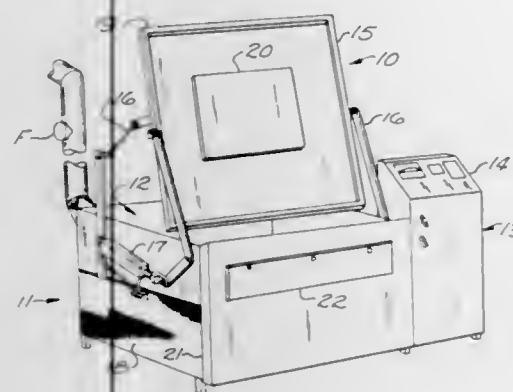
Charles Ray Hillhouse, Aurora, Missouri, assignor to Tasope Limited, Aurora, Missouri a corporation of Missouri

Filed Dec. 16, 1968, Ser. No. 783,854

Int. Cl. F24f 13/00

U.S. Cl. 98—33

10 Claims



The fume evacuation system includes a tank for an etchant bath, the tank housing rotating paddles which agitate the etchant bath, throwing it into contact with the workpiece causing a fume blanket to form above the etchant level. The tank includes front and rear hollow sidewalls provided with air inlet vents admitting fresh air from the atmosphere, and an exhaust outlet vent serviced by an exhaust fan. Fresh air is drawn from the inlet vents over the etchant bath, replacing the exhausted fumes. Switching means actuate the paddles and the exhaust damper in sequence, so that the lid may then be safely opened after etching.

3,538,839

STOVE EXHAUST ASSEMBLY

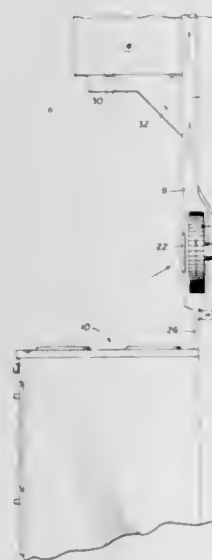
James E. Stalker, Richardson, Texas, assignor to Home Metal Products Company, Plano, Texas a corporation of Texas

Filed July 19, 1968, Ser. No. 746,222

Int. Cl. F23j 11/02

U.S. Cl. 98—115

3 Claims



A fan is mounted for rotation about a horizontal axis within a narrow enclosure which is mounted on the wall above and behind a kitchen stove. An aperture is defined in the front of the narrow enclosure for drawing warm air from the region over the stove into the narrow enclosure when the fan is operated. The warm air is exhausted away from the stove by a vent conduit leading from the narrow enclosure upwardly along the wall.

3,538,840

METHOD OF MAKING A FILLED FOOD ITEM

Richard L. Nelson, 669 Riverside Drive, and Walter P. Nelson, 154 Fuller Road, both of Battle Creek, Michigan 49015

Continuation of application Ser. No. 650,137, June 29, 1967, which is a continuation of application Ser. No. 356,874, April 2, 1964. This application Jan. 10, 1969, Ser. No. 793,220

Int. Cl. A21d 13/00

U.S. Cl. 99—88

6 Claims

A method is described for producing a filled edible product such as a bread stick which is at least initially brittle, substantially unyielding and incompressible. The product is inserted in a holding means which contains a resilient product support member for resiliently gripping and supporting the stick after which an elongated cavity is first formed in the product to be filled and the cavity is subsequently filled with an extrudable material such as cheese, whipped cream, custard, fruit preserves and jelly.

3,538,841

DEVICE FOR THE DOSAGE AND THE INTRODUCTION OF BLACK CUMMIN SEEDS (NIGERIA SATIVA) INTO TELEMEEA CHEESE

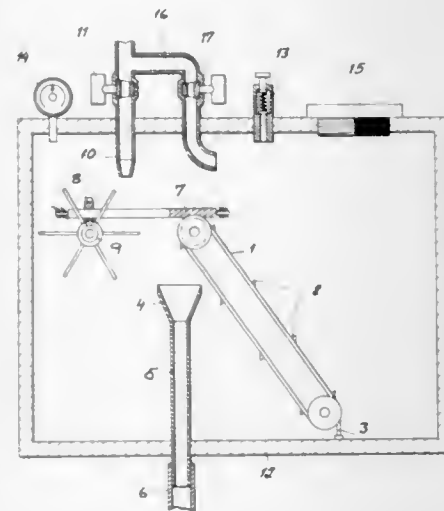
Vasile Nikolic, Bucharest, Rumania, assignor to Ministerul Industriei Alimentare, Bucharest, Rumania, a corporation of Rumania

Filed July 10, 1967, Ser. No. 652,235

Int. Cl. A23c 19/10

U.S. Cl. 99—243

3 Claims



Device for treating cheese with grains of a condiment seed, in which the cheese body or curd is passed across the opening of a tube connected with a vessel under air pressure and through which an air stream is directed at the cheese. Individual seeds are successively positioned ahead of the tube and are carried by the air stream therethrough to penetrate the curd.

3,538,842

FIXTURES FOR CLOSETS

Rocco Labbato, 2341 S. Chadwick St., Philadelphia, Pennsylvania 19145

Filed June 25, 1968, Ser. No. 739,797

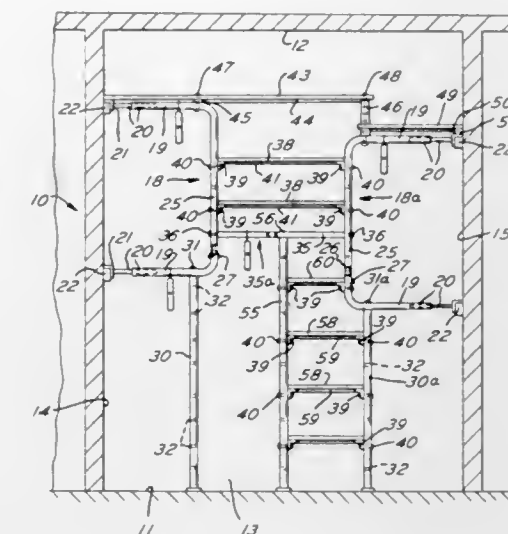
Int. Cl. A47b 61/00

U.S. Cl. 108—29

6 Claims

Fixtures for closets which include one or more U-shaped brackets with their legs horizontally disposed and vertically

spaced to provide for clothes hanger reception, the brackets being secured at their ends to a wall and supported from



below and having spaced horizontal shelves carried thereby at desired locations.

3,538,843

TRUSS FORMING APPARATUS

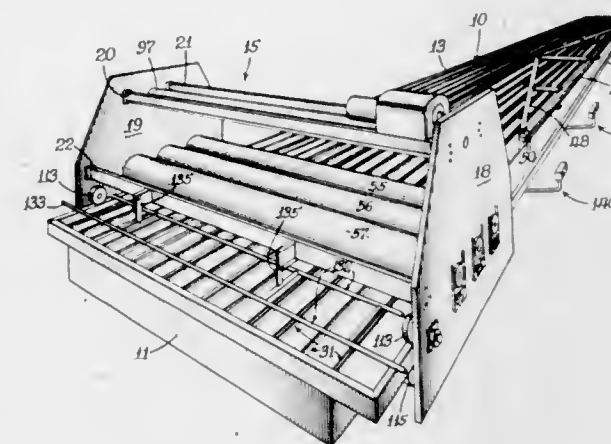
Adolph H. Lubin, 718 S. 7th St., Springfield, Illinois; assignor Rose Lubin and Robert L. Lubin, executors of said Adolph H. Lubin, deceased

Filed Oct. 15, 1968, Ser. No. 767,744

Int. Cl. B30b 15/14

U.S. Cl. 100—53

13 Claims



A machine is described for securing together separate wood members by means of nail plates to form a completed truss in one step. The machine includes a large, elongated, flat bed of high strength concrete for supporting the individual members of the truss in a desired configuration. Nail plates are placed above and beneath the abutting locations of each of the individual truss members to overlap adjacent edges. A carriage is mounted at the sides of the bed for travel along the bed; and it includes a first roller mounted for rotation about a horizontal axis extending transverse of the direction of travel of the machine for rolling over the wood members formed into the desired truss configuration and driving the nail plates to a first predetermined depth into the wood members. A second, similar roller is mounted to the carriage; and it follows the first roller for completely driving the top and bottom nail plates into the truss members to thereby firmly secure individual members together in the desired truss configuration. The carriage is power-driven; and the same source of power drives the rollers about their axes during operation. Electrical circuitry permits starting, stopping and reversing of the carriage.

3,538,844

WASTE COMPRESSOR INCLUDING EJECTOR CHUTE

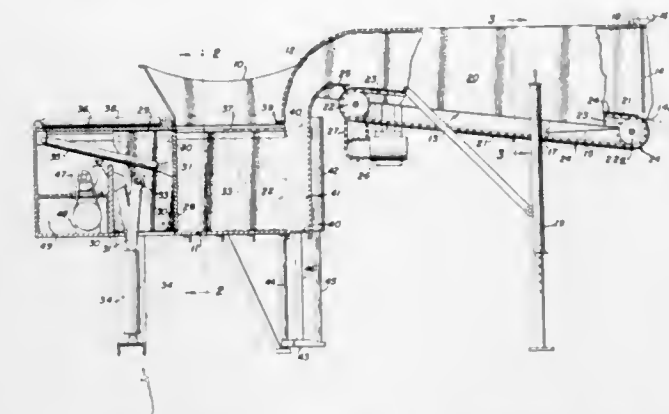
Billy C. Howard, Paragould, Arkansas, assignor to 50 percent Clyde R. Ashworth, Arlington, Texas

Filed March 21, 1969, Ser. No. 809,285

Int. Cl. B30b 15/32

U.S. Cl. 100—98

3 Claims



A combined trash compressor, accumulator and loader wherein a hydraulically operated pressure plate is linked to gain a mechanical advantage as the required pressure increases in its extended position.

3,538,845

APPARATUS FOR PRINTING CIRCULAR BASE CONTAINERS

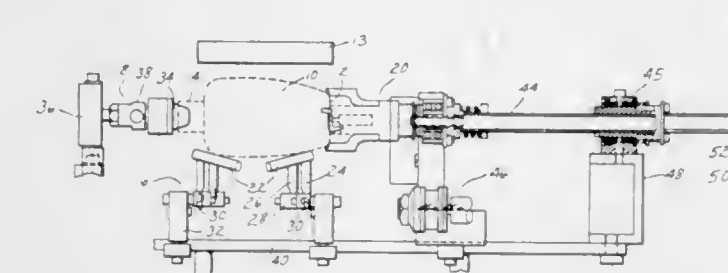
Arthur C. Peck, Fairfield, Connecticut and Roger E. Knapp, Westerly, Rhode Island, assignors to Monsanto Company, St. Louis, Missouri a corporation of Delaware

Filed Nov. 16, 1967, Ser. No. 683,548

Int. Cl. B41f 17/18

U.S. Cl. 101—38

1 Claim



Apparatus for positively aligning articles in a selected reproducible position in a printing operation. The apparatus includes a rotatable housing for turning the article until a pawl within the housing engages a notch in the base of the article to orient the article with respect to the printing apparatus. The indexed article is then raised into printing position whereupon it is positively driven by means of a central shaft connected to the coating pawl rotating in the opposite direction from the indexing movement.

3,538,846

SHEET EJECTOR SYSTEM FOR A PRINTING MACHINE

Matthew L. Jaffa, 92 Clark St., Rutherford 07070, and David Jaffa, 38-26 Allwood Place, Fairlawn New Jersey 07410

Filed Aug. 7, 1968, Ser. No. 750,950

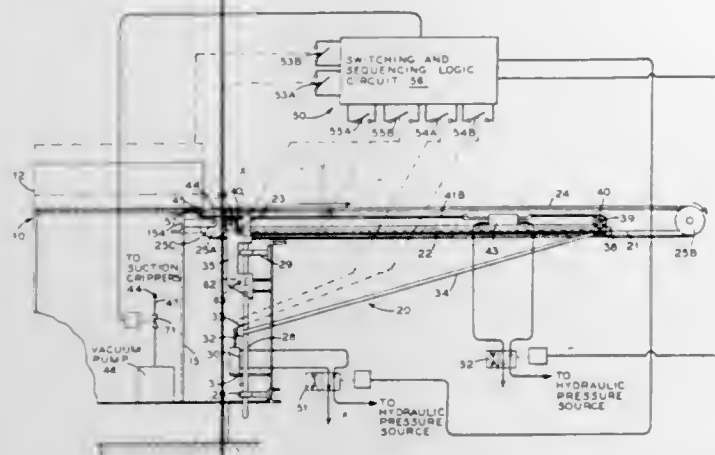
Int. Cl. B41f 13/14; B65h 29/24

U.S. Cl. 101—123

10 Claims

A sheet ejector system for a printing machine including a conveyor having multiple, spaced-apart parallel running endless belts which carry sheets from a table surface of the printing machine to a point of deposit, and suction grippers aligned with the interbelt spaces and movable along a carriage which can be raised and lowered underneath the belts. The carriage is raised with the suction grippers positioned toward the table to grip a sheet thereon, and with the carriage in the raised position, the suction grippers are moved between the belts and away from the table to drag the sheet onto the belts. The carriage is then lowered to break the grip

upon the sheet, thereby allowing it to be carried by the belts, and the suction grippers are repositioned toward the table in



preparation for gripping the next sheet when the carriage is raised again.

3,538,847

METHOD OF MAKING A SCREEN STENCIL

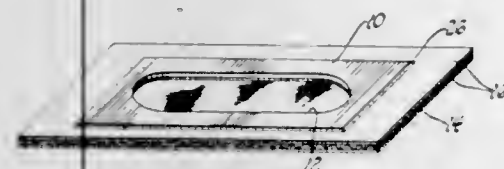
David C. Heilman, Kokomo, Indiana, assignor to General Motors Corporation, Detroit, Michigan a corporation of Delaware

Filed April 11, 1968, Ser. No. 720,552

Int. Cl. B30b 9/06

U.S. Cl. 101-128.3

5 Claims



A stencil is formed in a sheet of metal and secured to a silk screen coated with a photoresist emulsion. The emulsion serves as the bonding agent. The stencil is applied to the screen while the emulsion is wet and pressure is applied until the emulsion dries. The emulsion is then removed in the areas corresponding to the stencil openings.

3,538,848

LATCH MEANS FOR A TRAVELING ROLLER PLATEN ON A SWINGABLE CARRIAGE

William P. Barbour, Alexandria, Virginia, assignor to Control Data Corporation, Washington, District of Columbia a corporation of Delaware

Filed April 22, 1969, Ser. No. 818,256

Int. Cl. B41f 3/20

U.S. Cl. 101-269

10 Claims



A rolling platen imprinter for portable printing plates, employing a positive action latch to hold the platen lowered to a precise distance above the imprinter bed plate during the imprint stroke and enabling the roller platen to be elevated a considerable distance above the bed plate during the non-printing return stroke. The load bearing and load distributing geometry existing between the imprinter base and platen-supporting carriage contribute to ease of operation, high quality imprints and importantly, to preserving that ease of operation and high print quality over long sustained use of the imprinter.

3,538,849
OSCILLATOR INK ROLLER MOUNTING AND CONTROL MEANS

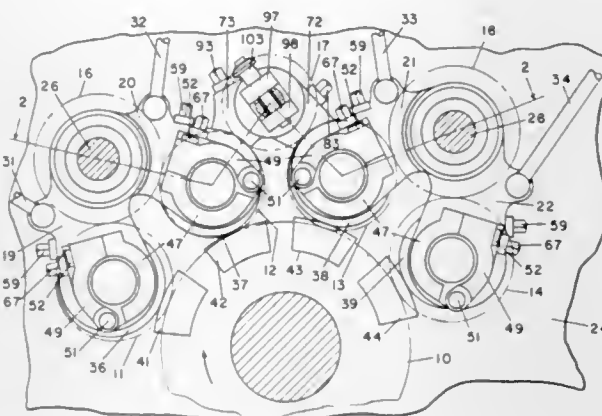
Carl E. Bohman, Chicago, Illinois, assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Illinois a corporation of Delaware

Filed Jan. 24, 1968, Ser. No. 700,171

Int. Cl. B41f 31/34

U.S. Cl. 101-352

9 Claims



A self-oscillating roller which is adapted to coast with two form rollers mounted for pivoting motion about respective spaced axes, has its journals mounted in sockets which are supported by rigid links pivotally connected to the respective form roller brackets and to said sockets. Adjustable eccentrics provide adjustability for establishing and thereafter maintaining the desired contact relation between the oscillator roller and the respective coasting form rollers.

3,538,850

PRINTING PLATE CLAMP MECHANISM

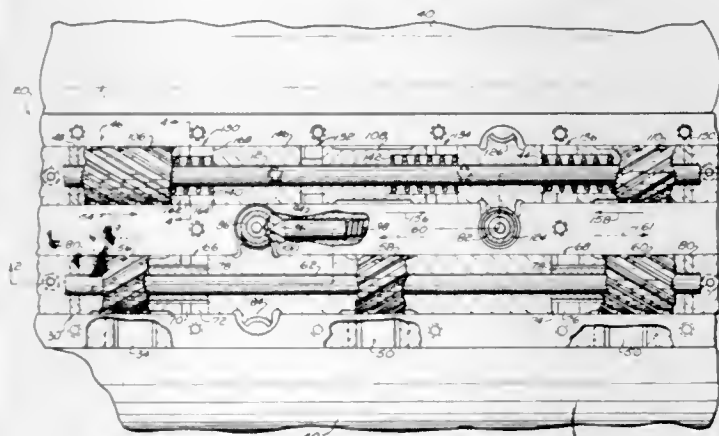
Hans J. Luehrs, Westerly, Rhode Island, assignor to Harris-Intertype Corporation, Cleveland, Ohio a corporation of Ohio

Continuation-in-part of application Ser. No. 428,650, Jan. 28, 1965, now abandoned. This application Dec. 28, 1967, Ser. No. 695,316

Int. Cl. B41f 27/10

U.S. Cl. 101-378

5 Claims



Disclosed herein is a clamp assembly for mounting a printing plate on the cylinder of a rotary printing press. The clamp assembly includes springs which resiliently bias a drive assembly to maintain a predetermined clamping force against the printing plate during operation of the printing press. The drive assembly is selectively operated through a passage having a relatively large inlet or mouth which provides access to the drive assembly even when the inlet to the passage is partially blocked by a printing plate. One end portion of the printing plates is advantageously undercut to enable closely adjacent printing plates to be removed from the cylinder without moving clamp members which position the printing plates on the cylinder.

3,538,851

ESCAPEMENT TIMING MECHANISM

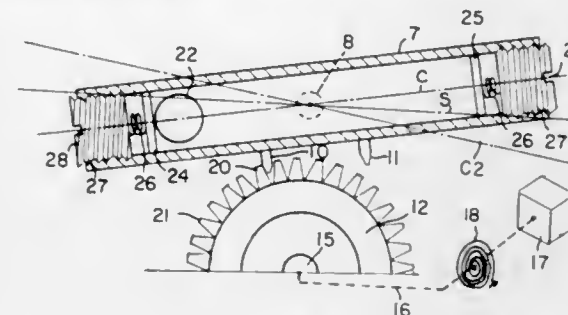
Abraham L. Korr, 8712 Hickory Drive, Philadelphia, Pennsylvania 15340

Filed Oct. 15, 1968, Ser. No. 767,740

Int. Cl. F42c 9/02; G04b 15/14

U.S. Cl. 102-83

7 Claims



An escapement wheel, connected with a timing shaft powered to rotate in one direction, is confined to step-by-step rotational movement by an escapement or pallet lever pivoted to move through a small angle on either side of the spin axis of a projectile in flight. The lever is tubular and contains a ball of resilient material which bounces between cushioned end plates therein along the axis to provide the oscillating movement thereof and thereby replacing the usual escapement spring.

3,538,852

PROJECTED LINE CHARGE

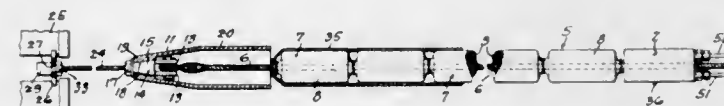
Alfred G. Hoel, Jr., 507 Boston Bldg., Denver, Colorado 80207 now by change of name Alfred G. Hoyl

Filed Oct. 13, 1953, Ser. No. 385,899

Int. Cl. F42b 13/56, 15/06

U.S. Cl. 102-89

6 Claims



A flexible linear explosive charge comprising a length of flexible rope, a plurality of separate high explosive units encircling said rope and molded thereto in equally spaced end-to-end relationship to each other longitudinally of said rope, a flexible tubular cover enclosing said plurality of explosive units, means binding said cover to said rope intermediate said explosive units, and means to propel said rope.

3,538,853

CAR ACTUATED SELECTIVE SWITCH OPERATING MECHANISM FOR CONVEYORS

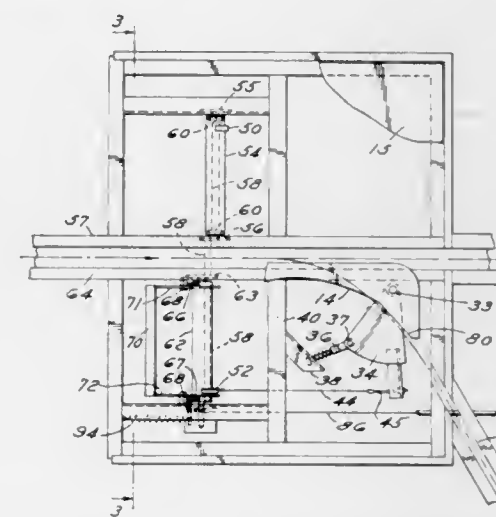
Clarence A. Dehne, Farmington, Michigan, assignor to Jervis B. Webb Company, a corporation of Michigan

Filed Sept. 21, 1967, Ser. No. 669,485

Int. Cl. B61j 3/04; B61k 1/00; E01b 25/15

U.S. Cl. 104-88

8 Claims



Mechanism for changing the position of a switch in response to engagement of a switch controlling probe by a

selector member positionable in coded relation on a conveyor carrier, in which the controlling probe is normally urged to a nonoperable position relative to a selector member and is moved to an operable position by probe setting means actuated by an approaching carrier. The setting means may be an actuator engaged by some portion of the carrier, or a second probe engageable by a second selector member on the carrier, for binary route coding, or by a combination of actuator and second probe.

3,538,854

TOW LINE CONVEYOR

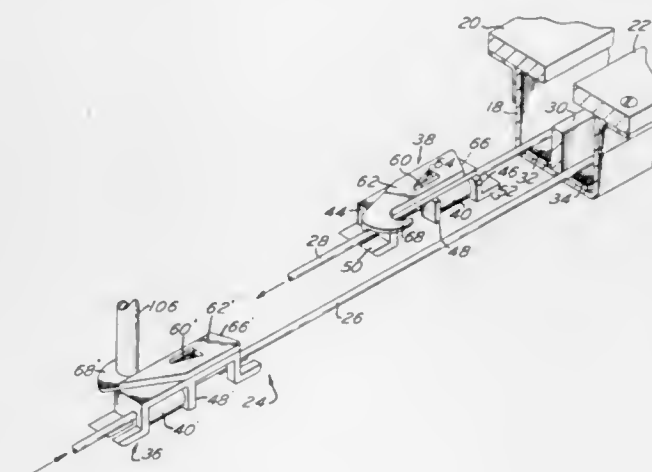
Ronald Oranczak, Easton; Charles E. Jacoby, Bethlehem and Allen R. Lewis, Easton, Pa., assignors to SI Handling Systems, Inc., Easton, Pa., a corporation of Pennsylvania

Filed May 31, 1968, Ser. No. 733,460

Int. Cl. B65g 35/06, 23/42

U.S. Cl. 104-147

11 Claims



A tow line conveyor is disclosed which uses a pair of reciprocating cables having pusher dogs thereon instead of an endless conveyor chain. The cable pusher dogs are spaced apart so that a tow pin on a vehicle may be smoothly transferred from the dog on one cable to the adjacent dog on the other cable as the cables reciprocate in opposite directions.

3,538,855

TOWING ARRANGEMENT HAVING SELECTIVELY ADJUSTABLE STANDARDS

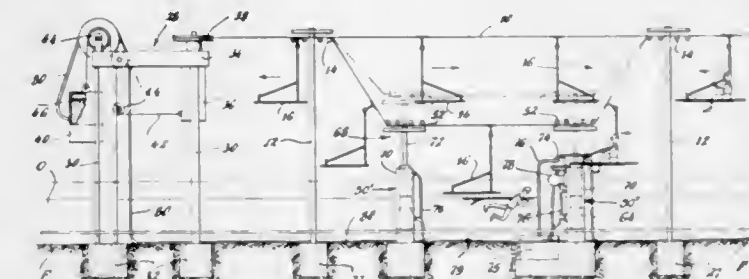
Napoleon St. Cyr, 10 Overland Drive, Stratford, Connecticut

Filed May 6, 1968, Ser. No. 726,676

Int. Cl. B61b 7/00; E04h 12/18

U.S. Cl. 104-123

7 Claims



The disclosure relates to a marine towing arrangement for transporting surfboards and riders from an onshore location to an offshore location. The arrangement includes a continuous cable, having spaced tow bars depending therefrom extending in a circuit over the beach and the ocean, carried atop spaced supporting standards. Loading and unloading stations located near the onshore and offshore locations, respectively, are defined by shorter supporting standards which draw the cable and tow bars closer to the surface of the water for ease of mounting and dismounting. The shorter supporting standards are selectively vertically adjustable to compensate for all normal tidal conditions.

3,538,856

ELASTOMERICALLY SPRUNG TRANSOM AND BOLSTER CAR TRUCK

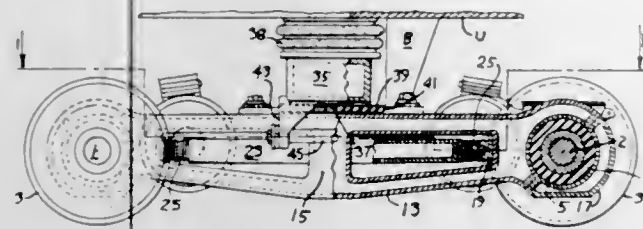
Richard L. Lich, Town and Country, Missouri, assignor to General Steel Industries, Inc., Granite City, Del., a corporation of Delaware

Filed April 11, 1968, Ser. No. 720,585

Int. Cl. B61c 3/00; B61f 3/04, 5/00

U.S. Cl. 105—182

19 Claims



Railway vehicle trucks having framing comprising separate side frames supported at their ends on the axles, and a transverse frame member supported on the side frames by rubber pad devices of V-shape in plan spaced apart longitudinally of the truck, with their apices pointed in opposite directions lengthwise of the truck for permitting differential equalizing movements of the side frames relative to each other through vertical shear in the pads while maintaining the side frames and transverse frame member in substantially fixed relation in the horizontal plane by the resistance of the pads to compression. A transverse bolster is pivoted on a vertical axis to the center of the transverse frame member and is slidably supported on the framing at the sides. At its ends the bolster mounts body support springs and means for transmitting longitudinal forces between the bolster and a supported body. This arrangement permits free differential equalization by separate side frames while maintaining the side frame in-tram by providing a rigid transverse frame member, yet permits the use of a transverse frame member of minimum weight by supporting the bolster at the sides rather than at the center of the transverse frame member. Improved means is also disclosed for adjusting the height of the transverse frame to compensate for wheel wear.

3,538,857

CENTER SILL HOUSING MEANS FOR HOPPER CAR

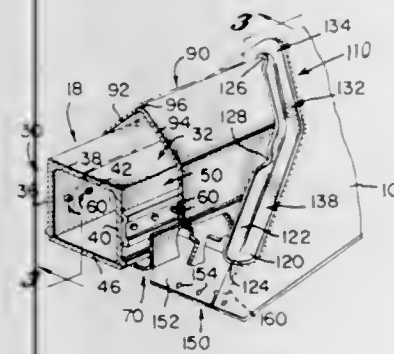
Rolf Mowatt-Larsen, Kinnelon, New Jersey, assignor to Magor Railcar Division, Fruehauf Corporation, Clifton, New Jersey a corporation of Michigan

Filed April 18, 1968, Ser. No. 722,460

Int. Cl. B61d 7/00, 17/00; B61f 1/02

U.S. Cl. 105—247

8 Claims



A center sill extends longitudinally through the floor sheet structure of a hopper in a railway car and has a reinforcing plate secured to the bottom portion thereof. Support members are secured to opposite sides of the center sill and a center sill bottom closure member and a longitudinal hood are secured to the support members in spaced relationship to the center sill. A collar fits over the joint between the hood and floor sheet structure and is connected therebetween. A floor sheet bottom closure plate is connected with the under-surface of the center sill bottom closure member and adjacent floor sheet portions.

3,538,858

SELECTIVE DROP END DOOR BALANCER

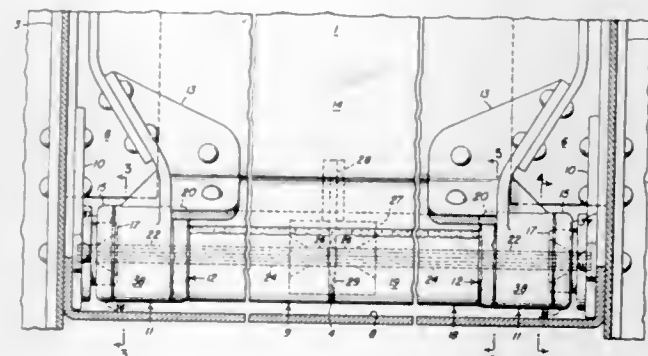
Orville Ingram, Toledo, Ohio, assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 14, 1967, Ser. No. 616,017

Int. Cl. B61d 17/00, 25/00

U.S. Cl. 105—406

10 Claims



A balancer for assisting in closing a drop end door, using both main and compensating torsion springs, the former acting over the full range of movement of the door and the latter over only part of that range.

3,538,859

HOLLOW BAKERY SHELLS

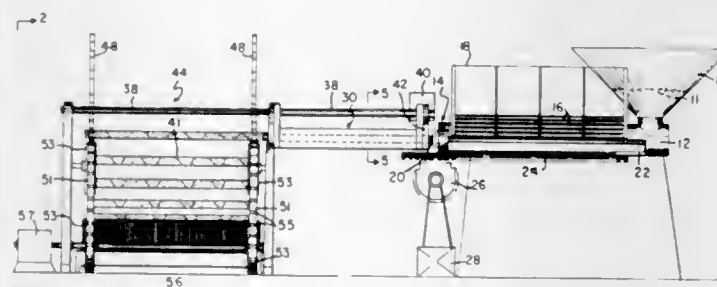
Rudolph Alt, Methuen, and Pasquale Giuffrida, Salisbury, Massachusetts, assignors to Advance Bakery Corporation, Lawrence, Massachusetts a corporation of Massachusetts

Filed Nov. 20, 1967, Ser. No. 684,410

Int. Cl. A21c 3/10, 11/10

U.S. Cl. 107—4

4 Claims



A method and apparatus for producing hollow tubelike bakery shells wherein a uniform layer of dough is extruded from an extrusion die onto the surface of a center support which is passed through the die and thereafter the layer of dough is cut into a plurality of sections and cooked while held on the support.

3,538,860

REFRIGERATOR SHELF ARRANGEMENT

Richard D. Fisher, Worthington, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pennsylvania a corporation of Pennsylvania

Filed Aug. 19, 1968, Ser. No. 753,374

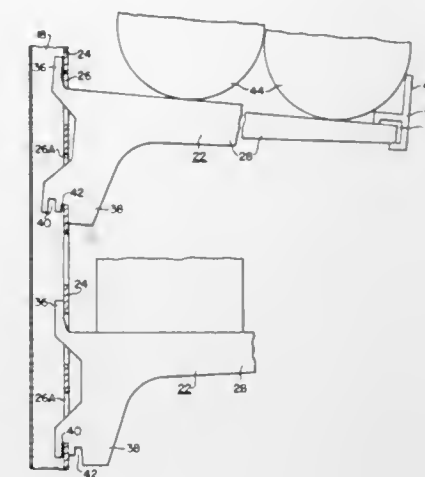
Int. Cl. A47f 3/06, 7/28

U.S. Cl. 108—1

4 Claims

An adjustable refrigerator shelf supported in cantilever

fashion at the rear of the refrigerator and adjustable from a horizontal position to a forwardly inclined position to permit



forward feeding of cylindrical objects such as beverage cans and bottles by gravity.

ERRATUM

For Class 108—29 see:
Patent No. 3,538,842

3,538,861

MATERIALS HANDLING PALLET

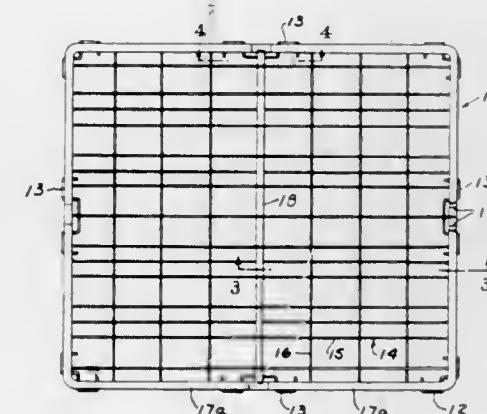
Stanley J. Jurasek, Albion, Michigan, assignor to Union Steel Products Company, Albion, Michigan, a corporation of Michigan

Filed Nov. 15, 1967, Ser. No. 683,255

Int. Cl. B65d 19/20

U.S. Cl. 108—51

11 Claims



The materials handling pallet disclosed herein comprises spaced platform assemblies connected by spacer elements. Each platform assembly comprises a grid-like mat of wires interposed between frame members of heavier gauged metal rod. The spacer elements are made of sheet metal and comprise parallel wall portions connected by longitudinal wall portions, the parallel transverse wall portions having notches therein for receiving the frame members.

3,538,862

DISPLAY ASSEMBLY

Dirk R. Patriarca, Providence, Rhode Island, assignor to Patriarca Products Inc., Providence, Rhode Island a corporation of Rhode Island

Filed Aug. 5, 1968, Ser. No. 750,126

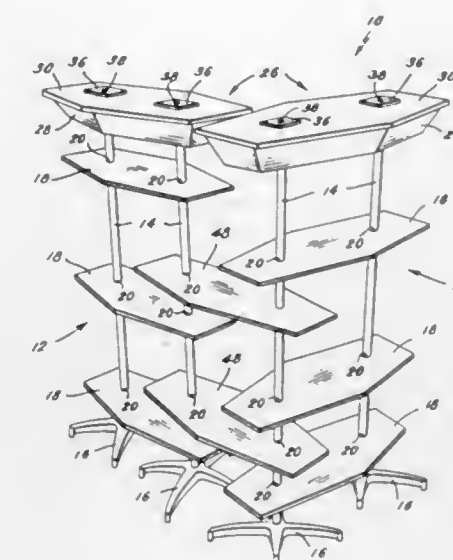
Int. Cl. A47b 57/04

U.S. Cl. 108—59

6 Claims

A display assembly for displaying articles of merchandise in a retail establishment or the like, comprising a pair of individual free-standing units, each of which has a pair of verti-

cal supporting posts on which there are mounted a plurality of vertically spaced display shelves. The units are interconnected by means of additional display shelves which are pivotally connected to one of the supporting posts of each of



3,538,863

ROTATABLE DISPLAY, STORAGE AND MERCHANDISE DISTRIBUTION CABINET

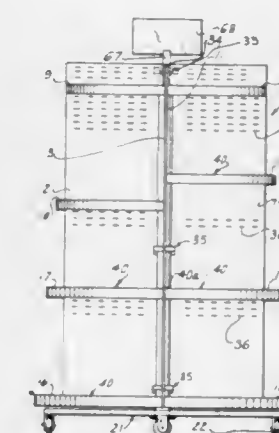
Fred Howard and Edmund Lee Brandon, New York, New York, assignors to Howard Displays, Inc., New York, New York

Filed Dec. 24, 1969, Ser. No. 887,931

Int. Cl. A47b 57/20

U.S. Cl. 108—94

10 Claims



The invention concerns a rotatable display cabinet on which may be stored a great variety of goods and wares to be used for distribution and sale especially in supermarkets and larger stores. The cabinet possesses great flexibility, stability and sturdiness in design and construction, as the cabinet can be readily adjusted to intended purposes and subdivided by sectional walls, on which are fitted suitably shaped trays to reinforce and prop the walls and to contribute to increased tray carrying capacity due to their particular components, through which the trays are releasably coupled with said walls and anchored or locked thereon at selected heights of and between adjacent walls. The support structure for the cabinet works highly efficiently substantially without friction by means of a combination suspension thrust bearing arrangement, may be moved from location to location by means of casters or rollers and its robust and sturdy operational condition will be always maintained despite possibly rough handling of the cabinet during use by unskilled persons.

3,538,864

CALCINATION CREMATOR

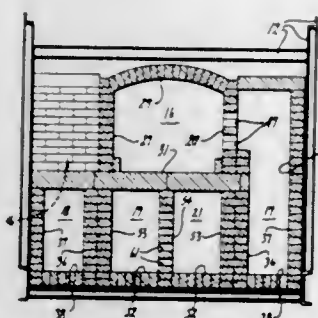
William W. Segrist, Maitland, Florida, assignor, by mesne assignments, to No Flame Process, Inc., Miami, Florida, a corporation of Florida

Filed Aug. 26, 1968, Ser. No. 755,038

Int. Cl. F23g 1/00

U.S. Cl. 110-3

7 Claims



Calcination cremator having means forming a calcinating and cremating chamber, means forming a chamber for creating hot gases and means forming a mixing chamber and in which burner means is provided in the calcinating and cremating chamber and additional burner means is provided in the means for forming a chamber for creating hot gases and control means for controlling the first named and additional burner means to determine whether calcination or cremation will take place.

3,538,865

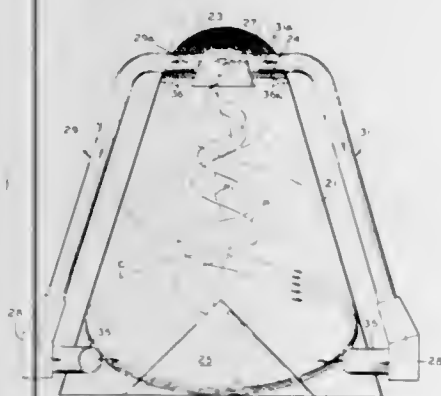
BURNER MEANS FOR ELIMINATING SMOKE

Jerry S. Lausmann, P.O. Box 1608, Medford, Oregon 97501
Continuation-in-part of application Ser. No. 729,154, May 15, 1968. This application May 26, 1969, Ser. No. 828,113

Int. Cl. F23g 7/00

U.S. Cl. 110-18

17 Claims



A tepee burner having means for concentrating at the burner axis the particulate matter which is produced in the combustion process, and means at the tepee outlet for collecting and drawing off the axial column of particle bearing gases while allowing the clean peripheral combustion gases to be discharged into the ambient air. Duct means return particle bearing gases to the lower portion of the burner where fan means inject such gases into the burner through a wall of flame to incinerate much if not all of the particulate matter, with the injection being carried out so as to aid the concentration of the particulate matter in the axial columnar portion of the rising combustion gases. Control means are provided for regulating the temperature of the returning combustion gases in relation to the temperature at the tepee outlet so as to maintain the temperature of the burning pile at or near an optimum value, whereby to decrease the amount of particulate matter produced in the combustion process. The present invention also contemplates a method of burning waste products in a frustoconical burner comprising concentrating the particulate matter in the products of combustion at the vertical axis zone of the burner and drawing off the central columnar portion of the combustion gases whereby to remove substantially all of the particulate matter while allow-

ing the clean gases to escape to the ambient air, returning the drawn off gases to the lower portion of the burner while incinerating much if not all of the particulate matter, the incineration being carried out at a temperature which is higher than, regulated by and related to the outlet temperature of the burner so as to maintain the burning pile at an optimum temperature whereby to decrease the amount of particulate matter produced in the combustion process.

3,538,866

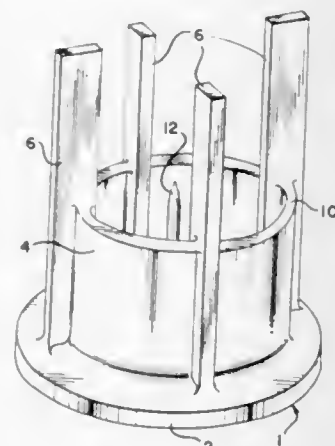
DISPENSER FOR FUMIGANTS AND METHOD OF APPLYING SAME

Floyd C. Gaines, Grapevine, Texas, assignor to Pan American Hydroponics, Inc., Grapevine, Texas a corporation of Texas
Filed Dec. 21, 1967, Ser. No. 697,551

Int. Cl. A01n 7/04; B67b 7/24; A01m 13/00, 17/00

U.S. Cl. 111-6

1 Claim



A dispenser and method of applying fumigants including an evaporating tray with upstanding guide members spaced around the walls thereof and a perforating pin centrally located therein for perforating the fumigant cannister when a downward force is exerted upon a cover disposed over the cannister, preventing manual contact with and release of fumigants in undesired areas.

3,538,867

FERTILIZING METHOD

Richard L. Every and Richard M. Tillman, Ponca City, Oklahoma, assignors to Continental Oil Company, Ponca City, Oklahoma a corporation of Delaware
Filed Feb. 14, 1968, Ser. No. 705,270

Int. Cl. C05g 1/00; C05c 3/00, 9/00; A01c 23/02, 21/00

U.S. Cl. 111-6

1 Claim

Penetrability of ammonia into soil by high pressure injection is improved by dissolving therein a soluble salt.

3,538,868

ACTUATING DEVICE ON SEWING MACHINES FOR A BINDING APPARATUS

Erich Ruchser, Forchheim, and Erick Trampler, Karlsruhe, Germany, assignors to Industrie-Werke Karlsruhe Aktiengesellschaft, Karlsruhe, Germany, a corporation of Germany
Filed Feb. 4, 1969, Ser. No. 796,341

Claims priority, application Germany, March 7, 1968,

1,660,888

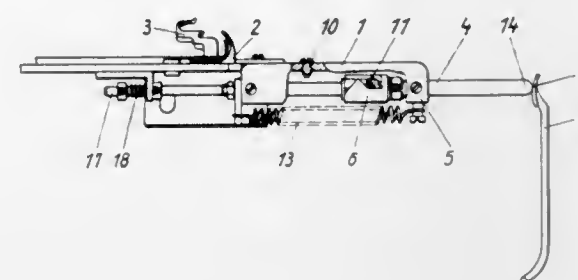
Int. Cl. D05c 7/08

U.S. Cl. 112-139

6 Claims

An actuating device on a sewing machine for a binding apparatus used for forming and sewing a tubular binding containing a rubber band on a piece of clothing. A horizontal base plate has mounted thereon a fixed guide part and a slidable guide part, the latter moving under the action of a horizontal operating rod arranged below said base plate into an open position to receive between said guide parts the binding and the edge of clothing to be sewed together. The movement of said slidable part is controlled by a cylindrical

control member mounted on said operating rod and having recessed cam guides therein, into which extends a guide pin fixed to said base plate. Only a short push on one end of the



operating rod by a knee-operated lever is required to move the slidable guide part into its open position and to arrest it in this position.

3,538,869

BASTING STITCH DEVICE IN A ZIGZAG SEWING MACHINE

Takeshi Ono and Toshio Sawada, Kariya, Japan, assignors to Aisin Seiki Kabushiki Kaisha, Kariya, Aichi Prefecture, Japan

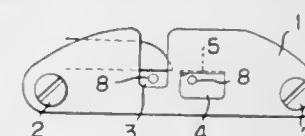
Filed May 10, 1968, Ser. No. 728,293

Claims priority, application Japan, May 13, 1967, 42/30,280

Int. Cl. D05b 3/02, 5/14

U.S. Cl. 112-158

1 Claim



A device for obtaining a basting stitch in a zigzag sewing machine, comprising an improved shuttle race cap having holes or recesses through which a needle passes, and a shuttle body having a hook for seizing the loop of the upper thread, and characterized by that there is provided at one edge of said holes or recesses a downwardly bent wall to be inserted between the needle and the hook of the shuttle body, said bent wall being adapted to act as a barrier for preventing said hook of the shuttle body from seizing the loop of the upper thread at the right-hand or left-hand needle position.

3,538,870

LOOPKAKER DRIVE MECHANISM FOR CHAINSTITCH SEWING MACHINES

Helmut Gross, Kaiserslautern Pfalz, Germany, assignor to G. M. Pfaff A G, Kaiserslautern Pfalz, Germany a corporation of Germany

Filed March 11, 1969, Ser. No. 806,158

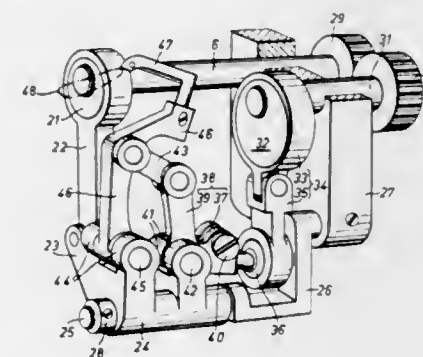
Claims priority, application Germany, March 20, 1968,

1,31,128

Int. Cl. D05b 1/06

U.S. Cl. 112-200

8 Claims



In a chainstitch sewing machine having a looptaker moving along an elliptical operating path during a stitch-forming cy-

cle, drive mechanism to produce component oscillating movements of the looptaker at right angle and parallel, respectively, to the stitching direction, comprises a first carrier rotatively mounted upon the frame of the machine about an axis being at right angle to the stitching direction, and a second carrier supporting said looptaker and rotatively mounted upon said first carrier about an axis parallel to the stitching direction. The first carrier is oscillated via first motion-transmitting and conversion means operably connecting the same with the drive shaft of the machine and the second carrier is oscillated via second motion-transmitting and conversion means operably connecting the same with said shaft and including a double-arm lever pivoted upon said first carrier and having an input arm forming part of the respective motion transmitting means and an output arm forming a knuckle joint together with a link connecting the same to a point of said second carrier.

3,538,871

SEWING MACHINE NEEDLE POSITIONER

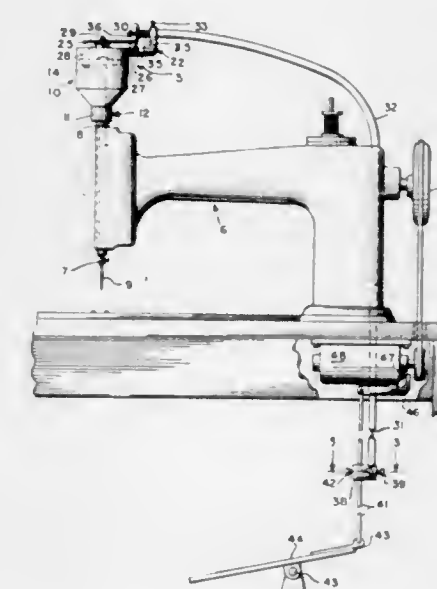
Paul C. Trilli, 213 Alpha Ave., Wind Gap, Pennsylvania 18091

Filed June 11, 1969, Ser. No. 832,153

Int. Cl. D05b 69/22

U.S. Cl. 112-219

5 Claims



An attachment for an otherwise conventional single needle sewing machine which functions automatically to effect stopping of the needle in a raised position when operation of the machine is interrupted, to enable the operator to thread the needle or to remove the material being sewed without manually turning the hand wheel, to thus save time and labor.

3,538,872

ADJUSTABLE JUMP STITCH ATTACHMENT

Paul D. Pell and Richard P. Benedict, Grand Haven, Michigan, assignors to Grand Haven Screw Products, Grand Haven, Michigan a corporation of Michigan
Filed Jan. 13, 1969, Ser. No. 790,768

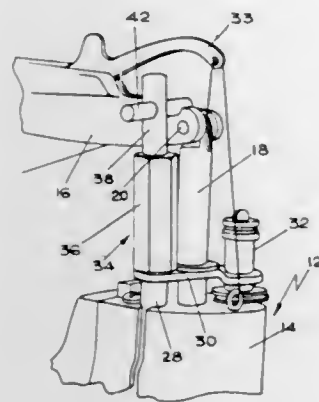
Int. Cl. D05b 29/00

U.S. Cl. 112-239

9 Claims

This disclosure relates to an adjustable jump stitch attachment for a sewing machine. The attachment has a body which is fixed to an upper part of the presser foot bar, and has cross pin means rotatably mounted on the body for engaging the needle bar mechanism during a portion of its lifting cycle to lift the presser foot synchronously therewith. The

cross pin means have outer surfaces which contact the needle bar mechanism at different distances above the body so that



the extent to which the presser foot is raised by the cross pin means is adjustable.

3,538,873

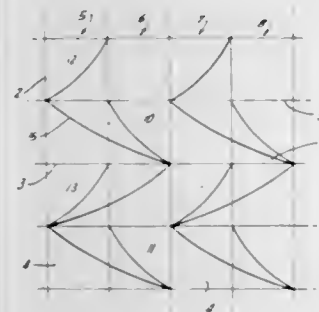
FABRIC WITH DECORATIVE SURFACE

Michiko D. Bisuego, Roselle Park, New Jersey, assignor to Mitzi Co., Inc., Fairfield, New Jersey a corporation of New Jersey

Filed May 23, 1969, Ser. No. 827,408
Int. Cl. D05c 3/00

U.S. Cl. 112-266

6 Claims



One surface of a fabric is provided with the appearance of a braid or weave by connecting opposite corners of lined squares, actual or imaginary, on the opposite surface, connecting the joined points in a predetermined manner, and providing a resilient material between the fabric and the connecting means within the folds formed by connection.

3,538,874

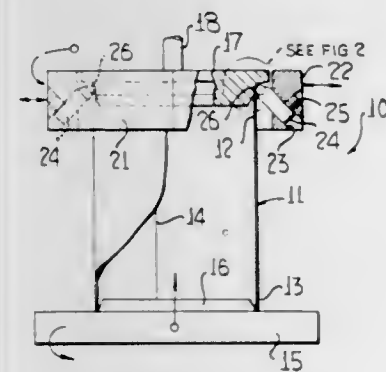
COMPRESSIVE STRESS FORMING OF CONTAINER FLANGES

Walter Sawert, La Grange, Illinois, assignor to Continental Can Company, Inc., New York, New York a corporation of New York

Filed Jan. 3, 1968, Ser. No. 695,471
Int. Cl. B21d 51/00

U.S. Cl. 113-120

18 Claims



This disclosure is directed to a novel method of cold forming metallic container flanges by subjecting a peripheral end

portion of a tubular metallic body to multiaxial compressive stresses which progressively axially lengthen the peripheral end portion and reduce the wall thickness thereof during the radial outward guiding of the peripheral end portion to thereby transform the peripheral end portion into a radially outwardly directed peripheral flange. The peripheral end portion is subjected to the compressive stresses by forcing the peripheral end portion between opposed working surfaces which define a progressively diminishing gap which over at least a part of its length is narrower than the initial wall thickness of the peripheral end portion.

3,538,875

HOPPERBARGE

Jan de Koning, Amsterdam, Netherlands, assignor to N.V. Ingenieursbureau voor Systemen en Octrooien "Spanstaal", Rotterdam, Netherlands, a Dutch contracting company

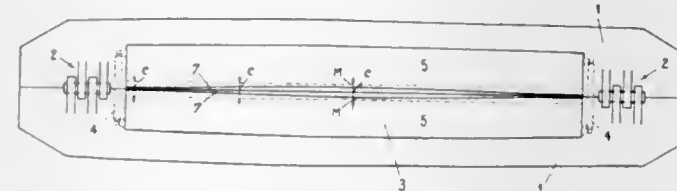
Filed Nov. 18, 1968, Ser. No. 776,561

Claims priority, application Netherlands, Dec. 7, 1967, 6 716 647

Int. Cl. B63b 35/30

U.S. Cl. 114-29

2 Claims



With a hopper barge, comprising two air cases swinging with respect to each other and together bordering the hold, sealing the lower side of the hold is difficult, because the lower edges of the air cases, owing to deformation under influence of the load deflect more in the middle than at their ends. The opposed lower edges of the air case being arched and elastic means being mounted between them result in a good seal.

3,538,876

SHIP SALVAGING SYSTEM AND METHOD

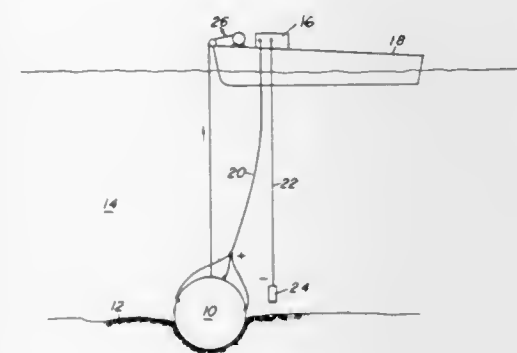
Willard Bascom, Washington, District of Columbia, assignor to Ocean Science & Engineering, Inc., Washington, District of Columbia a corporation of Delaware

Filed Dec. 6, 1967, Ser. No. 688,543

Int. Cl. B63c 7/24

U.S. Cl. 114-55

3 Claims



A system and method of reducing the forces resisting motion between water saturated or wet earthy material and a body partially embedded therein by creating a layer of bubbles formed by electrolytic decomposition of water between their contacting surfaces.

3,538,877

KIT FOR CONVERTING BOAT TO CATAMARAN

Orval E. Moore, 1514 Moffett St., Joplin, Missouri 64801

Filed July 19, 1968, Ser. No. 746,101

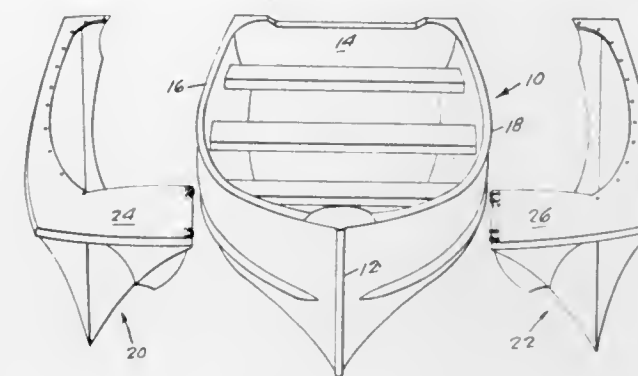
Int. Cl. B63b 1/02

U.S. Cl. 114-61

7 Claims

A kit for converting a conventional boat into a catamaran, said kit comprising: a pair of pontoonlike structures each

having a keel, a bow portion and a stern portion joined by the keel, an outer hull portion joining said keel; bow and stern portions; an inner hull portion contoured in part to fit the upper gunwale of the boat to which it is to be attached and having a lower margin contoured to fit the hull of the



boat to which it is to be attached, said inner hull portion joining said keel, bow and stern portions and at least one member joining both of said bow sections and overlying partly, at least, bow portions of the boat to which the hull sections are to be joined.

3,538,878

APPARATUS FOR MAKING A SHIP UNSINKABLE

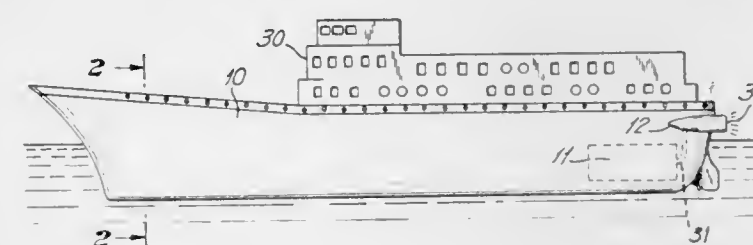
Solomon Zalman, 101-20 99th St., Ozone Park, New York 11416

Filed Oct. 30, 1968, Ser. No. 771,883

Int. Cl. B63b 43/10; B63h 11/00

U.S. Cl. 114-68

4 Claims



A method and apparatus for providing an unsinkable ship containing a plurality of closed cell compartments which completely surround the hull of the ship, and extend from its keel, to beneath its upper deck. The cells are staggered apart from one another to provide additional strength to the hull, and may be filled with a plastic material to aid the buoyancy of the ship. The lower compartments adjacent to the keel may be filled with water for ballast.

3,538,879

SAILBOAT CENTERBOARD

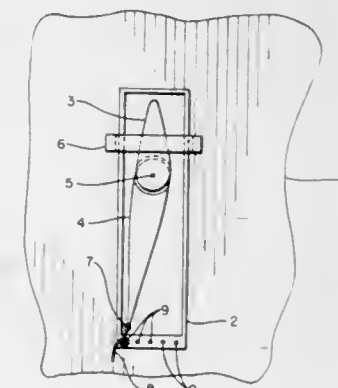
Richard D. Fuerle, Bryn Mawr, Pennsylvania (263 Filbert Ave., Elsmere, Del. 19805)

Filed Sept. 30, 1968, Ser. No. 763,775

Int. Cl. B63b 41/00

U.S. Cl. 114-132

1 Claim



A sailboat centerboard having a shape capable of generating a net hydrofoil effect. Because of the shape of the center-

board a force is generated by the motion of the boat through the water which acts so as to right the boat.

3,538,880

APPARATUS FOR TRANSFERRING FLUIDS BETWEEN A VESSEL AND THE SHORE

August Hendrik Maria Smulders, Wassenaar, Netherlands, assignor to N.V. Industriële Handelscombinatie Holland te Rotterdam, Rotterdam, Netherlands

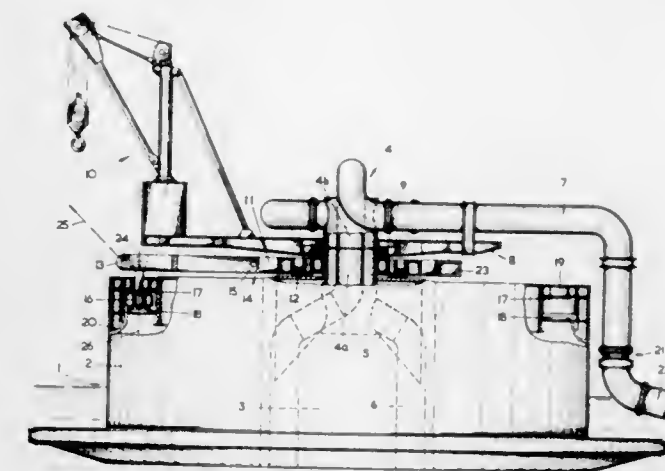
Filed Dec. 16, 1968, Ser. No. 783,797

Claims priority, application Netherlands, Dec. 28, 1967, 6 717 744

Int. Cl. B63b 21/00, 21/52

U.S. Cl. 114-230

7 Claims



Apparatus for transferring fluids between a vessel and the shore comprises a buoy anchored to the bottom of the body of water on which it floats, and a pair of individually rotatable turntables carried by the buoy. One turntable provides mooring for the vessel, while the other turntable provides a connection for the conduits through which the fluid passes.

3,538,881

HORIZONTAL SITUATION INDICATOR WITH NONLINEAR COMPASS CARD

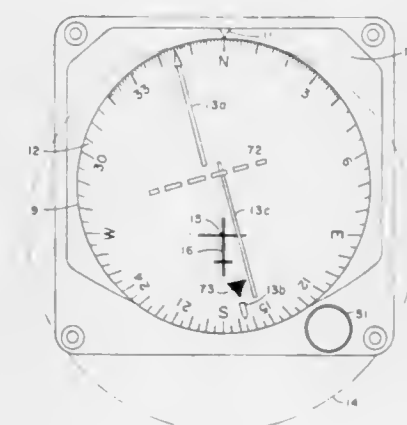
Charles A. Fenwick, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa a corporation of Iowa

Filed April 30, 1969, Ser. No. 820,402

Int. Cl. G09f 9/00

U.S. Cl. 116-129

8 Claims



A horizontal situation indicator type of instrument, or other type of instrument employing a compass ring, is provided with a built-in magnification feature as concerns the area of readout in the vicinity of the reference lubber line. A magnification of the readout in the vicinity of the lubber line is achieved while maintaining pictorial validity as concerns the overall integrated display by displacing a normally centered aircraft reference symbol from the center toward the bottom of the display with the compass card divisions being displayed as projected points from the angular division points of a phantom compass card whose center is at the lower aircraft symbol location and whose radius is equal to the

distance between the lower center point and the lubber line. An implementation is described which embodies a stretchable cylindrical section as the compass scale carrying member with means for driving the ring and controlling the stretch of the ring in a manner to implement the geometry imposed by the display technique.

3,538,882

RESERVED PARKING INDICATOR

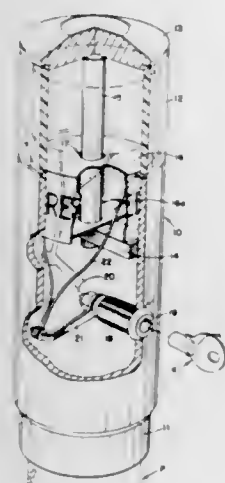
Douglas Albert John Price, 25 Bonacres Ave., West Hill, Ontario, Canada

Filed June 25, 1969, Ser. No. 836,418

Int. Cl. G09f 9/00

U.S. Cl. 116—135

6 Claims



A reserved parking indicator device having an indicator member or flag movable between two positions, and locked in both positions by means of a lock and key and a locking linkage, so that the person who is authorized to use the particular reserved parking space may park his car and then use the key to move the indicator device or flag from one position to the other, and in this way the parking attendant may immediately check on cars which appear to be parked without authorization since in those cases the car owners will be unable to operate the indicator device or flag.

3,538,883

VACUUM CHUCK WITH SAFETY DEVICE

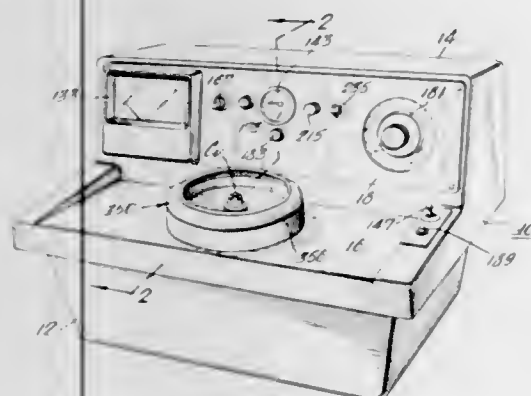
Jerry Polin, Melrose Park, Pennsylvania, assignor to Alco Standard Corporation, Cheltenham, Pennsylvania a corporation of Ohio

Filed Dec. 12, 1967, Ser. No. 690,012

Int. Cl. B05c 11/08

U.S. Cl. 118—6

7 Claims

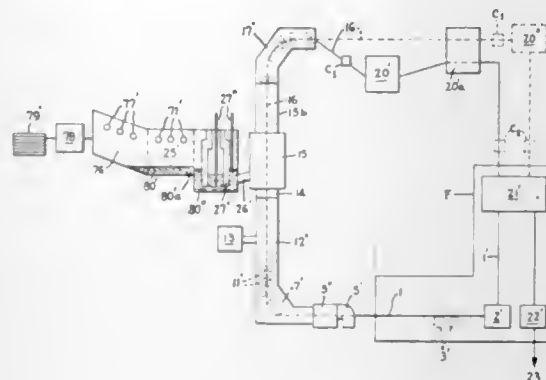


A rotary vacuum chuck including a support surface for retaining a workpiece thereon by vacuum effect, is combined with means to rotate the chuck at high rates of speed, means to sense a decrease in vacuum below a predetermined level and means, in response to such detection, to stop rotation of the chuck. A vacuum reservoir applies a sufficient work-holding force between the period of said detection and chuck stoppage.

3,538,884
CONTINUOUS FORMATION OF INTERMEDIATES
Roland P. Carreker, Jr., Schenectady and Ralph Hurst, El-nora, New York, assignors to General Electric Company, a corporation of New York
Original application June 1, 1965, Ser. No. 460,020, now Patent No. 3,365,037, which is a continuation-in-part of application Ser. No. 98,087, March 24, 1961, now Patent No. 3,235,960, which is a continuation-in-part of application Ser. No. 530,283, Aug. 24, 1955, now Patent No. 3,008,201. Divided and this application March 4, 1968, Ser. No. 710,253
Int. Cl. B05c 11/10

U.S. Cl. 118—7

4 Claims



In apparatus apparatus for the continuous casting of metal by passing an elongated solid body upwardly through a bath of molten metal maintained in a crucible, there is provided a melting furnace, preferably having an inclined premelt section and an integral horizontal section. A holding chamber receives molten metal from the furnace and includes means for controlling molten metal in the chamber to maintain a selected level of metal in the crucible irrespective of variations between the inflow rate to the holding chamber and the outflow rate from the crucible.

3,538,885

COATING APPARATUS

Yoshiaki Tamura and Toshimitsu Yamaguchi, Minami Ashigara-Machi, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

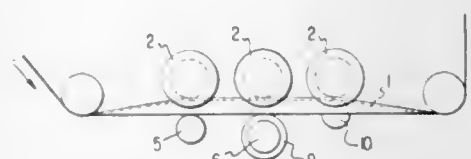
Filed Nov. 22, 1967, Ser. No. 684,977

Claims priority, application Japan, Nov. 22, 1966, 41/76,570

Int. Cl. B05c 11/00

U.S. Cl. 118—44

3 Claims



An apparatus for applying a coating composition to both side edges of a coating support involves bending the support into U-shape and applying the coating composition to the side edges while maintaining the support in bent position.

3,538,886

ULTRASONIC CLEANING APPARATUS FOR PREPARING ARTICLES FOR COATING

Wayne D. Patterson, Nashua, Iowa, assignor to Hydrotile Machinery Company, Nashua, Iowa, a corporation of Iowa

Filed Jan. 24, 1968, Ser. No. 700,170

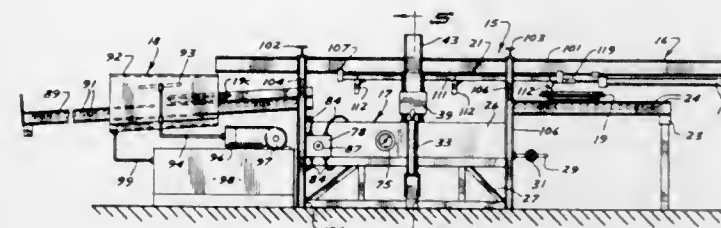
Int. Cl. B08b 3/10; B05c 11/16

U.S. Cl. 118—73

10 Claims

An apparatus and method for cleaning concrete from a pallet or tongue former used in the production of concrete pipe. The apparatus has a conveyor which sequentially moves pallets to a soaking position to a scrubbing position and to a coating position. In the soaking position the pallet is immersed in a liquid solvent chemically operable to weaken the structure of the concrete on the pallet. From the soaking

position the pallet is moved to the scrubbing position onto a rotatable turntable located in the liquid solvent. Ultrasonic energy units are positioned in the liquid in close proximity to the pallet on the turntable. The ultrasonic energy units subject the concrete on the pallet to cavitation action which removes the concrete from the pallet. The cleaned pallet is



raised from the liquid and discharged onto a rotatable floor which directs the pallets through a coating chamber. In the coating chamber the cleaned pallets are covered with a coating material to protect the pallets for temporary storage, neutralizes the cleaning chemical residue and provides a release surface for the concrete in further use of the pallet.

3,538,887

ELECTROSCOPIC TONER POWDER DISPENSER

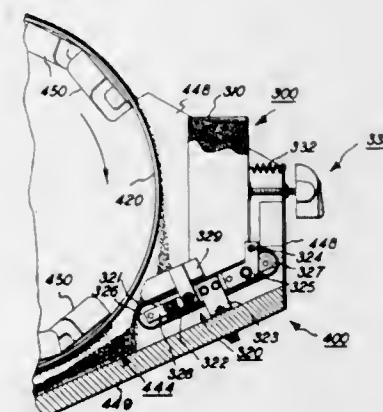
Ronald Frederick Rueckwald, San Mateo, California, assignor to Xerox Corporation, Rochester, New York a corporation of New York

Filed June 3, 1968, Ser. No. 733,879

Int. Cl. B05c 11/00

U.S. Cl. 118—602

6 Claims



Apparatus for dispensing electroscopic toner powder into a dynamic developer mixture including a hopper for containing toner powder, pivotally supported from a conveyor unit and adapted to be adjustably positioned relative thereto to form an outlet for regulating the amount of toner powder forwarded by the conveyor belt into contact with the moving developer mixture, the total mixture being dispensed from the conveyor belt into a reservoir within which is disposed developer means.

3,538,888

FISH CARE AND HANDLING MEDIA

Reuben Fred Speshyock, 3221 Mills Ave., La Crescenta, California 91214

Filed July 5, 1968, Ser. No. 742,742

Int. Cl. A01k 63/00

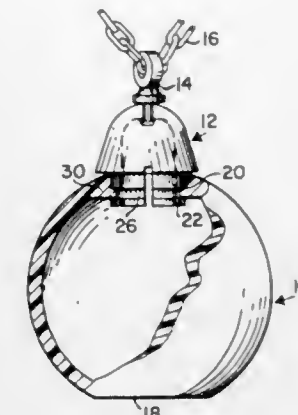
U.S. Cl. 119—5

4 Claims

Disclosed herein is a fish care and handling media comprising an ornamental necklace for displaying a small, live and swimming, fish, such as a guppy, including a clear, hollow, substantially spherical bowl with a relatively large opening and a breathing tower which cooperates therewith to permit air to freely enter the bowl. The breathing tower connects the necklace bowl to a necklace chain and is provided with a snap-on, snap-off connection to the necklace bowl which as functions to permit the air to enter the necklace bowl as

foresaid through small controlled openings which, at the same time, will not permit water leakage.

The fish care and handling media also includes a funnel-shaped plastic apertured net provided with a manually opera-



ble closure plug which enables the user to net a fish from an aquarium and to easily insert it into the necklace bowl without touching the fish and without diluting or mixing the water, if need be.

3,538,889

PORTABLE LOADING CHUTE STRUCTURE

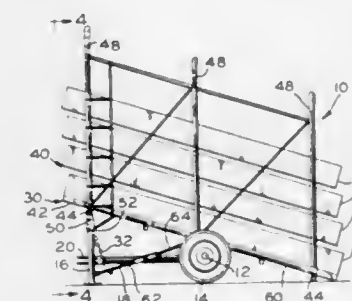
Lu Verne W. Keller and La Mont E. Keller, Wisner, Nebraska 68791

Filed April 29, 1968, Ser. No. 724,989

Int. Cl. A01k 29/00

U.S. Cl. 119—82

9 Claims



A loading chute 10 pivotally mounted on a trailer axle 12 carried by wheels 14 is slightly overbalanced forwardly and is movable between a horizontal traveling position in which legs 16 and braces 18 are folded up to the bottom of the chute and a loading position in which the legs engage the ground and the braces are overcenter locked. The legs may be partly unfolded to engage the ground and the trailer then moved rearwardly to fully unfold the legs and braces.

3,538,890

AUTOMATIC ANIMAL CATCHING GATE

Clark R. Torell, Wells, Nevada (c/o University of Nevada Knoll Creek Field Lab., Jackpot, Nevada 89825)

Filed May 29, 1968, Ser. No. 733,013

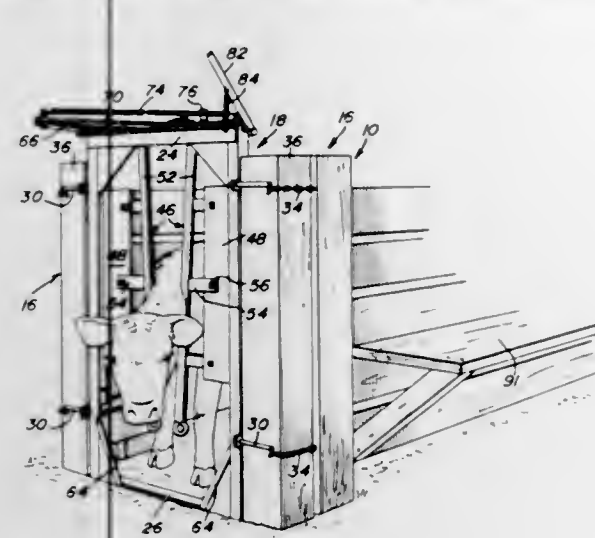
Int. Cl. A61d 03/00

U.S. Cl. 119—98

6 Claims

A pair of opposite side gate members pivotally supported for swinging movement about spaced generally parallel axes toward generally coplanar animal retaining positions extending toward each other with at least portions of their free swinging edge portions spaced slightly apart to snugly receive the neck of an animal therebetween, the gate members being swingable from the animal retaining positions thereof to animal releasing positions with the free swinging edge portions spaced outwardly of one side of the plane containing the axis of rotation of said gate members and said portions of the free swinging portions based wide apart to pass an animal therebetween. The gate members are also swingable from the animal releasing positions to animal catching positions with

the free swinging edge portions spaced slightly further apart than when the gate members are in the animal retaining position so as to receive the head but not the shoulders of an animal therebetween when the animal is advanced headfirst



toward the free swinging edge portions of the gate members from the side of the coplanar positions of the gate members to which the free swinging edge portions of the gate members are swingable.

3,538,891

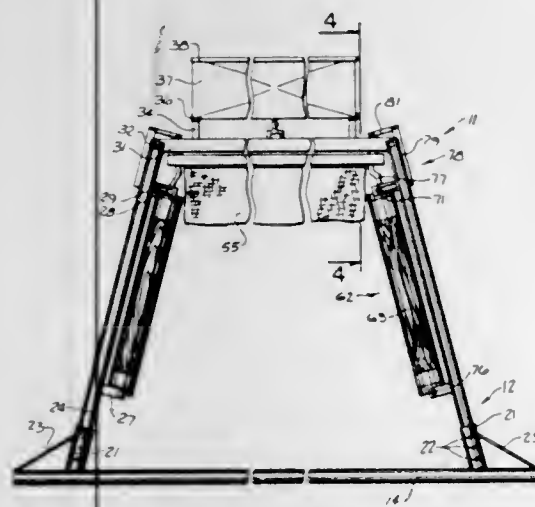
ANIMAL OILER

Richard R. Williams, Memphis, Nebraska 68042
Filed Jan. 9, 1969, Ser. No. 790,106

Int. Cl. A01k 29/00

U.S. Cl. 119—157

10 Claims



This invention relates to an animal oiler comprising a frame member having a tank mounted on the upper portion thereof and rubbing posts pivotally and rotatably mounted on the sides thereof. Distributing pipes having normally closed valves connected thereto extend downwardly from the reservoir. A trough having spaced openings formed therein is disposed below the valves. Means linking the posts and the valves are provided to open the valves when the posts are pivoted from their normal position.

3,538,892

HOT WATER SYSTEM

Richard H. Salews, Oswegatchie Hills Road, Niantic, Connecticut 06357

Filed July 8, 1968, Ser. No. 743,087

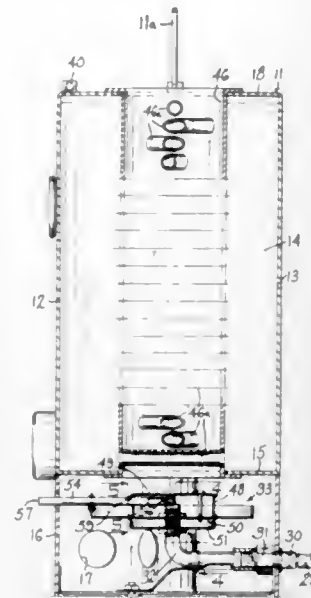
Int. Cl. F22b 7/06

U.S. Cl. 122—177

10 Claims

This disclosure relates to a hand portable pressurized hot water system including self-contained heat and pressure sources. The apparatus generally comprises a housing defining a liquid reservoir and a substantially central flue vertically therethrough. A plurality of lateral tubes extend sub-

stantially diametrically across the flue in liquid communication with the reservoir. A heat source is positioned below the flue and heat energy emanating therefrom travels up the flue



3,538,893

ROTARY ENGINE

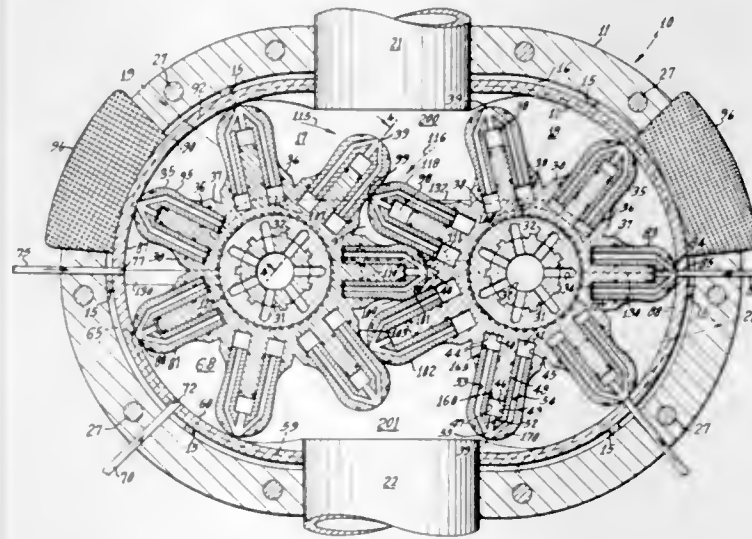
Henry E. Tinsley, 11250 Soforenko Drive, Jacksonville, Florida

Filed March 6, 1969, Ser. No. 804,911

Int. Cl. F02b 53/00, 55/16

U.S. Cl. 123—8.09

21 Claims



The four-cycle rotary combustion engine includes a pair of counter-rotating rotors each having radially extending portions intermeshing with valley portions on the other. Each valley portion includes a primary combustion chamber for receiving the combustible mixture and to compress same as the radially extending portion becomes meshed with a corresponding valley portion. A secondary combustion chamber is within each radially extending portion and a passage means in such portion communicates between the primary and secondary combustion chambers when the portions are intermeshed. Ignition means extend into the cavities substantially aligned with the positions of the primary combustion chambers when the volume capacities are minimized for igniting the mixture within the primary and secondary combustion chambers and corresponding passage means. Each radially extending portion includes a cylinder and a reciprocating piston assembly. A magnetic means radially forces each piston outwardly during the suction or intake stroke at cranking speeds of the engine. Another ignition means are substantially aligned with the positions of the primary combustion chambers prior to when the volume capacities are minimized but after the compression stroke has been initiated. The en-

gine ignition means ignites the mixture in the primary and secondary combustion chambers prior to exhausting of the immediately preceding primary and secondary combustion chambers to provide an overlap in the power cycle of the engine.

3,538,894

SELF-ADJUSTING VALVE DRIVE FOR INTERNAL COMBUSTION ENGINES

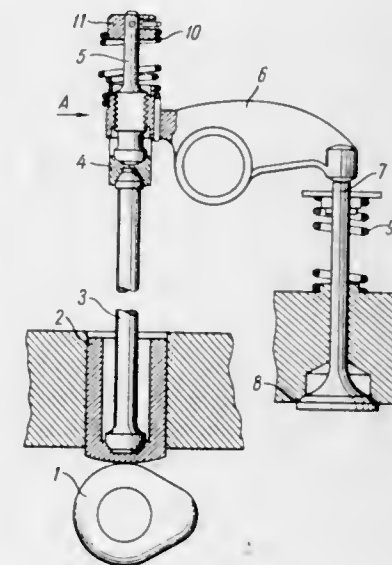
Jury Alexandrovich Kogan, Moscow, U.S.S.R., assignor to Tsentralny Ordena Trudovogo Krasnogo Znami Nauchno, Issledovatel'sky avtomobilny i avtomotorny Institut, Moscow, U.S.S.R.

Filed July 11, 1968, Ser. No. 744,012

Int. Cl. F01I 1/18, 1/22

U.S. Cl. 123—90

2 Claims



A valve drive of an internal combustion engine includes an adjusting screw screwed into a threaded opening of a valve rocking arm and loaded with a torsional spiral spring. The adjusting screw has a nonthrust thread, i.e., a thread whose lead angle is greater than the angle of friction and the adjusting screw is provided with a limiter of the angle of its turn, the limiter being essentially a U-shaped member spanning the threaded end of the valve rocking arm. When a cam on the cam shaft displaces a pusher, the adjusting screw turns under the effect of load overcoming the force of the preloaded spring and takes along the limiter. Having turned through a small angle, the limiter stops. Simultaneously, the adjusting screw, which is frictionally connected with the limiter, also stops. Upon seating of the valve, the spring unwinds and drives the adjusting screw back to the stop, and the limiter is turned to its initial position.

3,538,895

ADJUSTABLE MECHANICAL TAPPET FOR AN ENGINE VALVE TRAIN ASSEMBLY

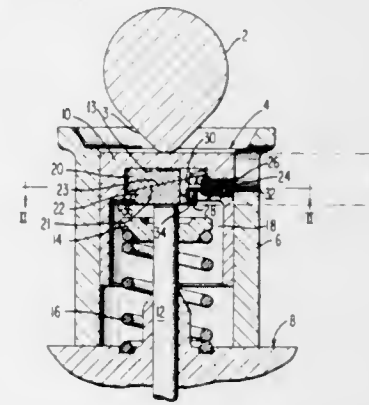
Charles L. Jensen, Muskegon, Michigan, assignor to Johnson Products, Inc., Muskegon, Michigan a corporation of Michigan

Filed July 25, 1968, Ser. No. 747,633

Int. Cl. F01I 1/20; F16h 53/06

U.S. Cl. 123—90.27

4 Claims



This disclosure relates to a mechanical tappet for an internal combustion engine wherein adjustable mating wedge

3,538,896

PURGING GASOLINE STREAMS EMPLOYING A BYPASS

George S. Tobias, Sewickley, and Jonathan C. Cooper, Pittsburgh, and George R. Stoneburner, Corapolis, Pennsylvania, assignors by mesne assignments to Calgon Corporation, a corporation of Delaware

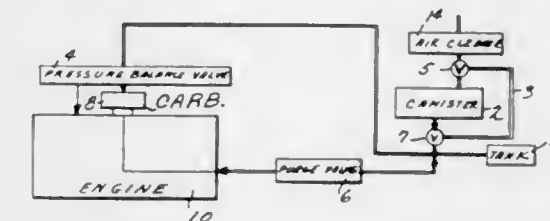
Continuation of application Ser. No. 639,418, May 18, 1967.

This application March 25, 1969, Ser. No. 810,933

Int. Cl. F02m 21/02

U.S. Cl. 123—136

2 Claims



An evaporative loss control device for automobiles is modified to provide a variable purge rate and thereby improve the efficiency of said device. To smooth out the air fuel ratio a bypass of the adsorbing media is provided for a portion of the entering air.

3,538,897

FUEL INJECTION PUMP FOR INTERNAL COMBUSTION ENGINES

Karl Konrath, Ludwigsburg-Hoheneck, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany

Filed Jan. 29, 1969, Ser. No. 794,878

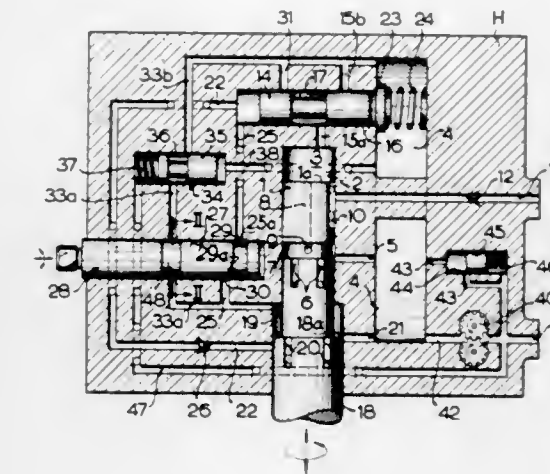
Claims priority, application Germany, Feb. 16, 1968,

1,601,397

Int. Cl. F04b 13/02, 49/00; F02d 1/04

U.S. Cl. 123—140

5 Claims



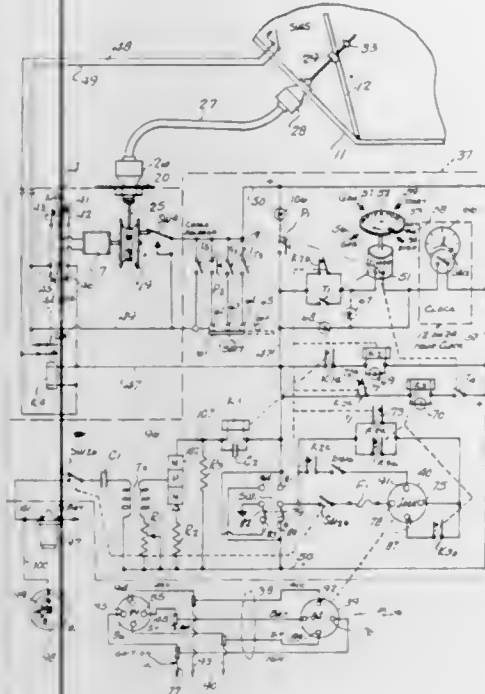
In a fuel injection pump for internal combustion engines there is provided a throttle plunger which is operable by the driver in unison with the accelerator of the engine and which simultaneously performs two functions:

1. it varies a first flow passage section for controlling the flow of liquid between an auxiliary pump and a control plunger which is displaceable by a liquid pressure to interrupt fuel delivery during pressure strokes of the pump by detouring varying parts of the fuel into discharge means, and

2. it varies in the same sense a second flow passage section of a bypass channel for detouring, to a greater or lesser extent, liquid into discharge means thus bypassing said first flow passage section and said control plunger.

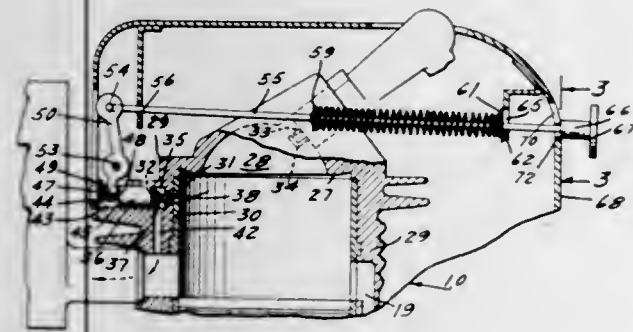
3,538,898 TIMED CAR STARTER

Enis C. Egdemir, Box 295, Rte. 2, Kingston, New York
Filed Oct. 18, 1968, Ser. No. 768,857
Int. Cl. F02n 15/00, 11/00
U.S. Cl. 123-179 10 Claims



An automatic presettable car-starting system to warm up a car any time during a future 24-hour period by presetting a clock device. The starting system uses a timer, a motor, a clock-controlled switch mechanism, and a transistorized starting detector circuit. The timer is activated by the clock-controlled switch mechanism and, in turn, controls the sequence of operation during a starting cycle. The system includes a mechanism for depressing the car gas pedal a selected predetermined number of times during the starting cycle.

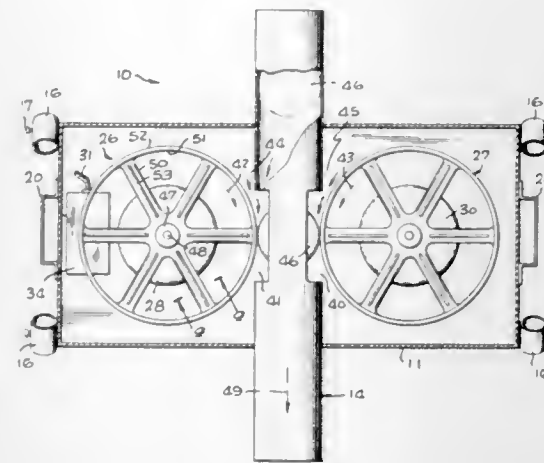
**3,538,899
COMPRESSION RELIEF MECHANISM FOR STARTING
INTERNAL COMBUSTION ENGINES**
Wilford B. Burkett, Pacific Palisades, California, assignor to McCulloch Corporation, Los Angeles, California a corporation of Wisconsin
Continuation of application Ser. No. 512,860, Dec. 10, 1965, now abandoned. This application March 1, 1968, Ser. No. 709,737
Int. Cl. F01I 13/08
U.S. Cl. 123-182 6 Claims



An internal combustion engine having a cylinder and piston operative therein, the cylinder wall having an opening with a cylindrical portion connected to the exterior of the cylinder wall, a valve seat at its inner end and a port extending therefrom to the cylinder, a reciprocable valve in the opening having a sealing surface for engaging the seat under the action of a spring, said valve having a protrusion which extends into and fills the port when the valve is seated, the valve being manually operable to an unseated position with the protrusion withdrawn from the port to decompress the cylinder.

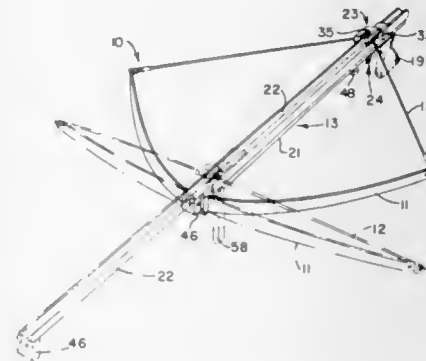
3,538,900 BELL PROJECTING DEVICE HAVING TWO ROTATABLE WHEELS

Carl E. Samuels, 18121 Napa St., Los Angeles, California
(1812 Napa St., Northridge, Calif. 91324)
Filed March 7, 1968, Ser. No. 711,271
Int. Cl. F41b 15/00
U.S. Cl. 124-1 14 Claims



A portable ball pitching machine is disclosed herein which includes a case having a removable lid that encloses a pair of spaced counterrotating drive wheels driven by independent motors in a horizontal plane. A portion of each of the wheel peripheral edges project through opposite aligned side openings of an open-ended guide tube so that the distance between the confronting wheel edges is slightly smaller than the diameter of a ball adapted to be inserted into one end of the guide tube. Rotation of the wheels creates sufficient suction in the tube so that the ball is drawn into force imparting engagement with the opposing wheel peripheries whereby the frictional force of the engagement forcibly urges the ball through the remainder of the tube and delivers the ball at a relatively high velocity to an awaiting player.

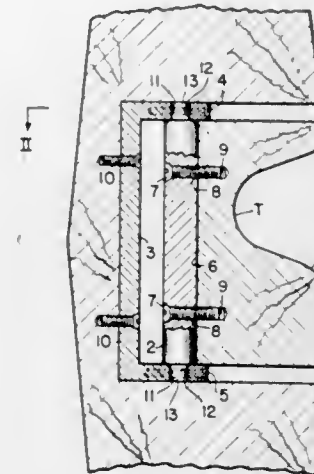
**3,538,901
CROSSBOW**
John W. Switack, 9901 Calvin Ave., Northridge, California 91324
Filed Jan. 17, 1969, Ser. No. 791,919
Int. Cl. F41b 5/00
U.S. Cl. 124-25 11 Claims



A crossbow including a stock having a bow mounted on one end. A launching slide for supporting the arrow and for guiding the latter during launching is mounted for lengthwise movement on the stock and includes a releasable bowstring retention means. The slide is movable from a first position extending beyond the bow-mounted end of the stock wherein the bowstring retention means engages the bowstring and to a cocked or second position overlying the stock wherein a trigger mechanism releases the bowstring retention means to thereby launch the arrow. A slide-locking mechanism is operative to hold the slide in the cocked position.

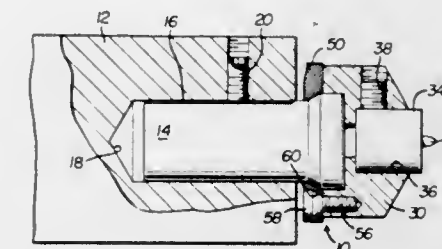
3,538,902 BOW GRIP ASSEMBLY

Clarence F. Fowkes, 904-7th St., Verona, Pennsylvania 15147
Filed Sept. 14, 1967, Ser. No. 667,772
Int. Cl. F41b 5/00
U.S. Cl. 124-30 2 Claims



A grip assembly within the riser of a bow having a grip attached to a pivot rod mounted in a bracket attached to the bow to permit rotary movement of the grip relative to the bow.

**3,538,903
CUTTING TOOL HOLDER**
Louis Small, Huntington Woods, Michigan, assignor to Service Diamond Tool Company, Ferndale, Michigan a corporation of Michigan
Filed March 8, 1968, Ser. No. 711,622
Int. Cl. B28d 5/04; B24b 53/00
U.S. Cl. 125-39 9 Claims

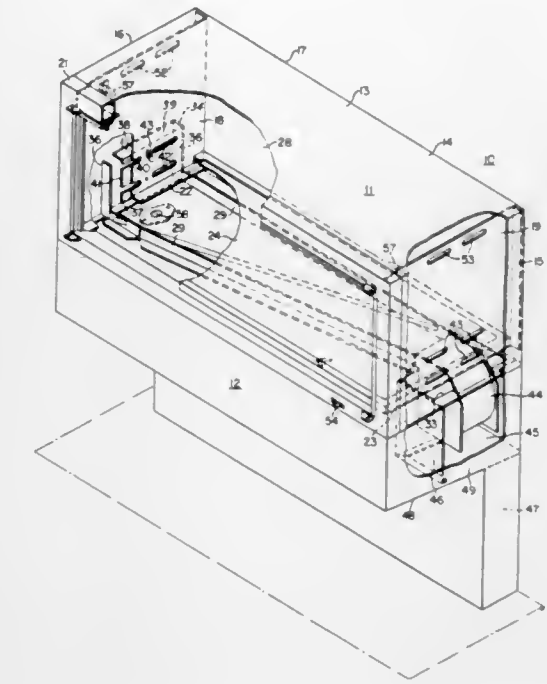


A holder for a diamond tool used in a machine for dressing wheels or the like and in which the holder includes a first portion or shank connected to the machine and a diamond tool supporting member rotatably connected to the shank. Means are incorporated between the shank and the supporting member which allows for a predetermined torque setting between the member and the shank to preset the force required for rotational adjustment of the member on the shank.

**3,538,904
COMBINATION FOOD PREPARATION DEVICE**
Gerald E. Baker, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pennsylvania a corporation of Pennsylvania
Filed Sept. 16, 1968, Ser. No. 759,995
Int. Cl. F24c 15/32
U.S. Cl. 126-21 6 Claims

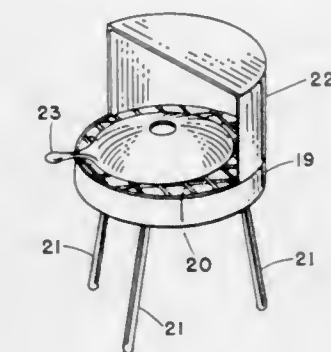
A combination food warming and thawing cabinet characterized by the employment of a fan, heater structure and control therefor which control provides for selectively circulating either heated air or air at substantially ambient or room temperature. Structures provided for controlling the flow

path as well as the velocity of the air such that nonheated air at high velocities can be utilized for the thawing mode of



operation and heated air circulated at relatively lower velocities can be utilized for the food warming mode of operation.

**3,538,905
HOME TYPE BARBECUING**
Roy E. Reichenbach, 38 Seca Place, Salinas 93901, and Joseph A. Talladira, 618 Walnut St., Apt. 6, Inglewood, California 90301
Filed Aug. 8, 1967, Ser. No. 659,085
Int. Cl. A47j 37/00
U.S. Cl. 126-25 3 Claims

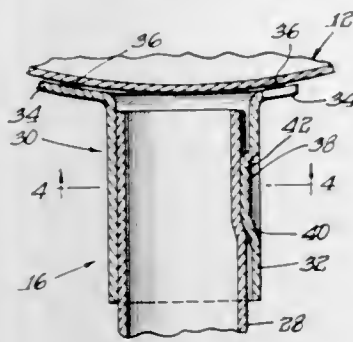


A barbecue grill has a removable dome-shaped cover with a heat reflective inner lining for reflecting and concentrating heat in the firebowl. A hole at the apex of the cover aids combustion, and the lining may be disposable.

**3,538,906
BARBECUE SUPPORT ARRANGEMENT**
Francis M. Heraty, Westchester and Richard T. Ver Halen, River Forest, Illinois, assignors to Weber-Stephen Products Co., Arlington Heights, Illinois a corporation of Illinois
Filed Nov. 22, 1968, Ser. No. 778,055
Int. Cl. A47j 37/00; F24b 3/00; F24c 15/08
U.S. Cl. 126-25 3 Claims

A support arrangement for use with outdoor barbecue equipment includes a smooth-walled tubular leg and a mounting element interference fit to one end of the leg. The

mounting element itself comprises a tubular coupling portion which telescopes with the leg end and detent means project-



ing from the wall of the coupling portion to engage the leg end in an attachably deformable manner.

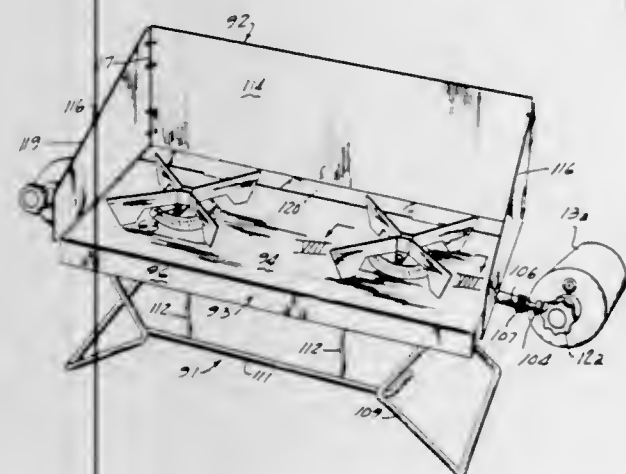
3,538,907

CAMP STOVE AND BURNER CONSTRUCTION THEREFOR

Cadet E. Bowman and William J. Rohde, Sycamore, Illinois, assignors, by mesne assignments, to Olin Corporation, Stamford, Connecticut, a corporation of Virginia
Filed Dec. 11, 1968, Ser. No. 783,007
Int. Cl. F24c 5/20, 15/10

U.S. Cl. 126—38

13 Claims



A burner assembly constructed to be a self-contained, unitary structure made of simple economically produced elements and having wide utility in different forms of camp stoves. The burner assembly includes a base member forming a coupling connector, a reflector attached to the base member and having an inlet passageway for connection with a fuel source, and an inverted dish shaped, apertured burner engaging said reflector for cooperating therewith to form a chamber for receiving the fuel from the supply source. The burner grill is formed by two simple strip form members shaped to provide a support for cooking utensils above the flame area. The reflector may be eliminated in favor of a flat supporting surface in a multiple burner stove arrangement

3,538,908

GAS-FUELED HEATING ELEMENT AND CONTROL

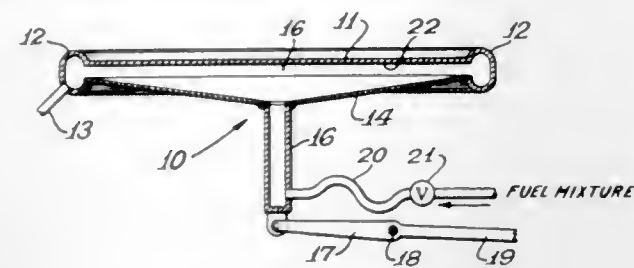
Sanford A. Weil; William R. Staats and Jack M. Reid, Chicago, Illinois, assignors to Institute of Gas Technology, a non-profit corporation of Illinois
Filed March 10, 1969, Ser. No. 805,475
Int. Cl. F24c 3/00

U.S. Cl. 126—39

6 Claims

An apparatus and method for heating a work load by oxidation of hydrogen wherein the heat input is continuously controllable from zero to maximum and the area of heating surface is independently continuously controllable. The apparatus is made of a base for supporting and heating a load, the underside of the base being coated with an oxidation catalyst which is capable of initiating the oxidation of hydrogen in a proper hydrogen-air mixture, a conduit formed beneath said base for conducting said hydrogen-air mixture

into contacting relationship with said catalyst-coated surface, means for admitting said hydrogen-air mixture into said conduit and means for removing exhaust gases from said con-



duit, and adjusting means for the continuous adjustment of the clearance within said conduit to thereby control the size of the area of the base which is being heated.

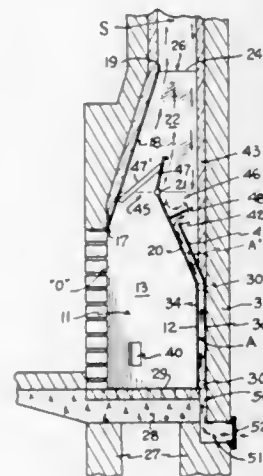
3,538,909

PRE FAB FIREPLACE LINER

Gordon Joseph Miguez, 3518 Julio Ave., San Jose, Calif. 95124 and Ray Gene Williams, 3374 Nesta Drive, San Jose, California 95118
Filed April 17, 1969, Ser. No. 816,975
Int. Cl. F24b 1/18

U.S. Cl. 126—120

8 Claims



A unitary fireplace liner and cooling adjuncts for the firebox providing gauge lines for exterior building construction resulting in peripheral air circulation ventilation and stack exhausting thereof as well as exterior cold air inlets therefor.

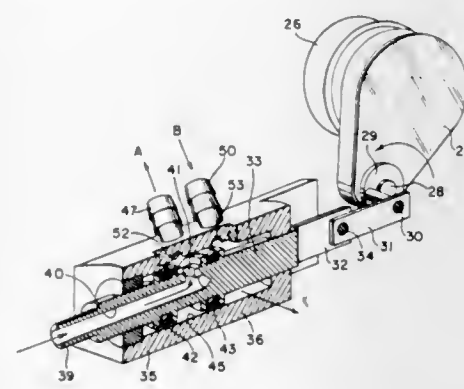
3,538,910

PNEUMATIC PULSATING BODY SUPPORTING CONSTRUCTION

Henry Geneste de Besme, Buffalo, New York, assignor, by mesne assignments, to O.E.M. Medical, Inc., Princeton, New Jersey, a corporation of New Jersey
Continuation of application Ser. No. 333,510, Dec. 26, 1963, now abandoned. This application Nov. 13, 1967, Ser. No. 682,018
Int. Cl. A61h 1/00

U.S. Cl. 128—24

3 Claims



A pulsating air mattress having first and second sets of alternate air cells, the first set of air cells having air directed to

them through a first inlet conduit and the second set of air cells having air directed to them through a second inlet conduit; the air inlet to the mattress is connected with a bore within which is positioned an axially slidable spool that includes a compressed air inlet conduit which empties into a space between two air seals; the seals are spaced apart a greater distance than the spacing between the two inlet conduits, whereby axial shifting of the spool permits compressed air to pass into either of the inlets alone, or into both of the inlets; and when the spool is in position to permit compressed air to pass into both inlets, transfer of air occurs from the more inflated cells to the less inflated set of cells.

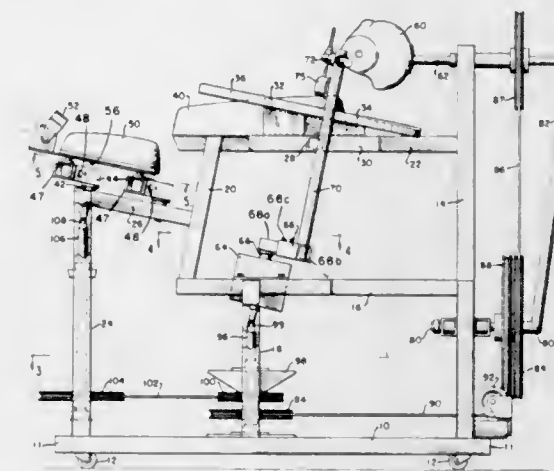
3,538,911

THERAPEUTIC AND/OR REHABILITATION APPARATUS

Paul C. Emmons, 71 Le Brun Road, Buffalo, New York 14215
Filed May 31, 1968, Ser. No. 733,541
Int. Cl. A61h 1/02

U.S. Cl. 128—25

8 Claims



A therapeutic apparatus for treating patients suffering from brain damage or other immobilizing injuries, diseases or illnesses; the apparatus being of the type which is adapted for use in connection with rehabilitation or teaching programs wherein externally induced movements of the patient's body are employed to teach "patterns" of natural movements. The invention features an apparatus whereby a single attendant may perform "patterning" exercises on a patient with improved facility.

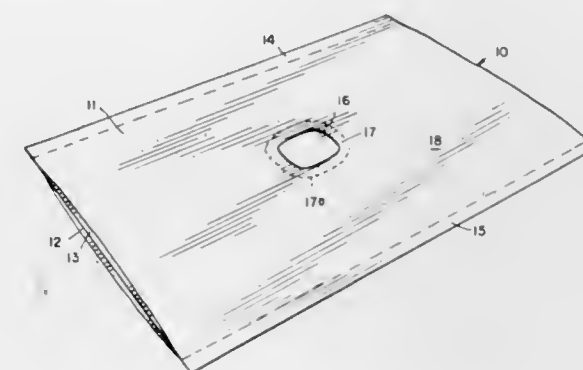
3,538,912

FENESTRATED SURGICAL DRAPE AND METHOD OF FORMING THE SAME

Fred R. Becker, III, Millington, New Jersey, assignor to American Hospital Supply Corporation, Evanston, Illinois a corporation of Illinois
Filed Aug. 26, 1968, Ser. No. 755,027
Int. Cl. A61f 13/00

U.S. Cl. 128—132

10 Claims



A fenestrated surgical drape formed of top and bottom layers of soft, porous and liquid-absorbent nonwoven cellulosic material and an intermediate barrier layer of thermoplastic material. Substantial areas of the respective sheets

are unsecured to each other to define spaces therebetween for the absorption and retention of liquid. In the immediate zone about the fenestration, the material of the barrier sheet extends into the pores of the cellulosic sheets or layers to bond all of the layers together in such zone. The fenestration is formed by die-cutting the sandwiched sheets after they have been compressed and secured together in the zone of attachment so that the fenestration is defined by a clean, sharp and reinforced edge portion.

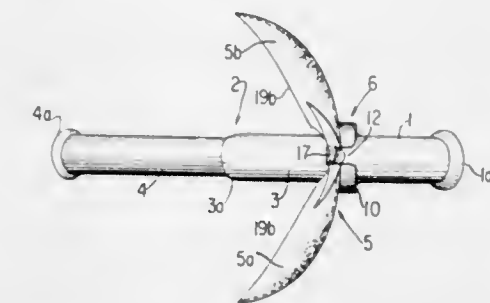
3,538,913

COLLAPSIBLE AIRWAY FOR RESUSCITATION

Julius E. Stolfi, 116 79th St., Brooklyn, New York 11209
Filed Jan. 9, 1968, Ser. No. 696,597
Int. Cl. A62b 7/00

U.S. Cl. 128—145.5

4 Claims



A collapsible airway to be kept available as in one's pocket for resuscitation as by mouth-to-mouth respiration, consists of an arcuate tube having mouthpiece and oropharyngeal sections and having secured to it between those sections hinged, dish-shaped leaves which are contractible toward the tube from an open position in which they will cover and be sealable about a patient's mouth; and the oropharyngeal section comprises telescoping arcuate tube portions contractible to a position entirely within the confines of the closed leaves.

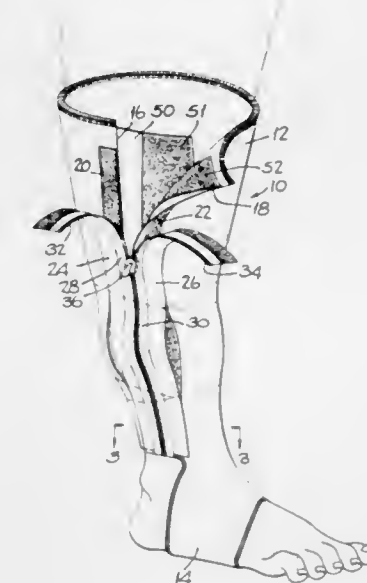
3,538,914

ADJUSTABLE FASTENING DEVICE

Harvey Lester Myers, 885 North Village Ave., Rockville Centre, New York
Filed July 11, 1967, Ser. No. 652,467
Int. Cl. A61f 13/00

U.S. Cl. 128—165

11 Claims



An adjustable fastening device useful for securing together an opening in an article which has as a combination an adjustable fastening material positioned to cooperate with a complementary releasable fastening material either on the other side of the garment or on a releasable fastening device such as a zipper. The opening in the article may also be provided with a tongue which is fitted with complementary pairs of the adjustable fastening material.

3,538,915

INFUSION DEVICE AND METHOD

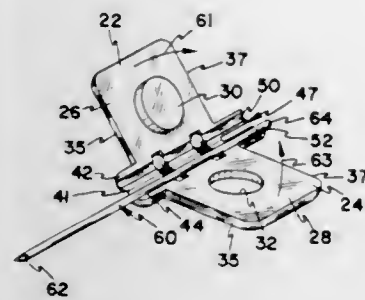
Darrell N. Frampton, Pleasant Grove and James C. Loveless, Midvale, Utah, assignors to Deseret Pharmaceutical Company, Inc., Sandy, Utah

Filed Sept. 12, 1968, Ser. No. 759,326

Int. Cl. A61m 5/00, 5/32

U.S. Cl. 128—214

11 Claims



An infusion device and method, the device including an infusion needle received by and cemented in fixed relation to a one-piece needle-holding member or inserter which has been folded as separate halves about one end of the needle and remains in the folded state when the cement or bonding agent has cured. This final product presents a unitary tab which may be grasped by the fingers for precise, easy joint manipulation of the needle, the tab being formed of two wing portions or halves initially disposed on opposite sides of the fold line, which when oppositely arcuately displaced about the fold line into contiguous bonded relation present the unitary tab offset to one side of the needle.

ERRATUM

For Class 128—221 see:
Patent No. 3,539,034

3,538,916

INJECTION PISTOL

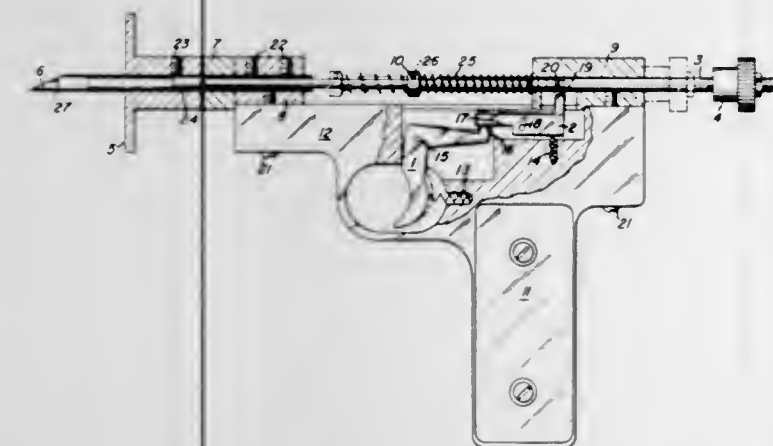
Joseph S. Wiles, Baltimore and Herbert R. Groff, Street, Maryland

Filed Dec. 19, 1968, Ser. No. 785,188

Int. Cl. A61m 05/00, 05/22, 31/00

U.S. Cl. 128—217

13 Claims



An injection pistol for intramuscular implantation of encapsulated liquid or solid chemical material into animals. An injection needle is removably mounted on a frame, the depth of injection of the needle into the animal muscle is controlled by an injection depth gauge mounted on the injection needle. A shaft means having a slidable plunger means integral therewith is mounted on the frame and is utilized to eject the chemical material from within the injection needle and implant the chemical material into the animal muscle after the needle is thrust into the muscle. The travel of the plunger means within the injection needle is limited by a threadably adjustable depth stop means mounted on the end of the shaft means opposite to the plunger.

3,538,917

BALLOON OCCLUSION CLIP

Robert G. Selker, 900 Castle Drive NE, Atlanta, Georgia 30328

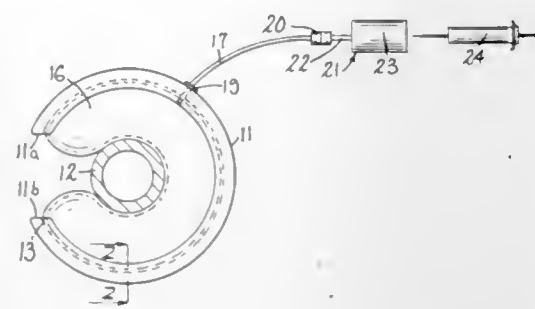
Continuation-in-part of application Ser. No. 683,843, Nov. 17, 1967, now abandoned. This application April 12, 1968,

Ser. No. 720,880

Int. Cl. A61b 17/12

U.S. Cl. 128—326

6 Claims



An occlusion clip for occluding a blood vessel or the like, said clip having a supporting member adapted to be positioned about the vessel and an inflatable member positioned within said supporting member, said inflatable member shaped to surround at least a portion of the vessel.

3,538,918

TRACHEO-BRONCHOSTOMY TUBE

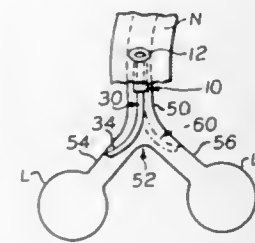
Harvey J. Engelsheer, Yonkers, New York; Peter C. Hofstra, Paterson, New Jersey and Robert W. McKirdy, Scarsdale, New York, assignors to Horizon Industries, Ltd., New York, New York a corporation of New York

Filed Oct. 9, 1968, Ser. No. 766,248

Int. Cl. A61m 25/00

U.S. Cl. 128—351

4 Claims



A tracheo-bronchostomy tube assembly that includes outer and inner flexible tubes made of preformed plastic material. The outer tube is inserted into the trachea of the user and the inner tube is inserted into the outer tube in telescopic mating relation therewith. The elongated inner tube is formed having a compound degree of curvature with the inner projecting end portion thereof lying in a plane angularly offset to that of the outer end portion. The construction is such that when the tubes are in mated relation, the inner projecting end portion of the inner tube is readily located within a selected bronchial tube of the user.

3,538,919

DEPILATION BY MEANS OF LASER ENERGY

Robert G. Meyer, Aurora, Indiana, assignor to Gregory System Incorporated, Houston, Texas a corporation of Colorado

Filed April 7, 1967, Ser. No. 629,322

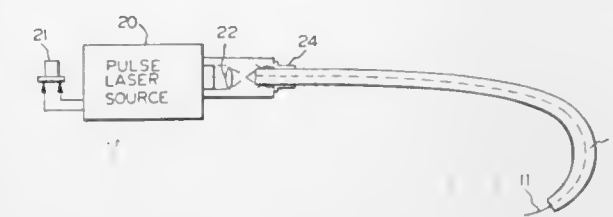
Int. Cl. A61n

U.S. Cl. 128—398

4 Claims

This application discloses a method of depilation wherein the lower portion of a hair is destroyed by metered amount of laser energy sent to the end of a fiber optics rod penetrating into the follicle. The probe is a flexible fiber optic rod of about .002 inches in diameter enclosed within a catheter and terminating in a tapered metallic tube of about .005 inches in diameter. The rod is coupled to a laser energy source for

receiving a specified metered amount of energy such as the order of 40 joules per square centimeter to destroy the lower



portion of a hair over a period of the order of one to two milliseconds such as obtainable from a pulsed laser source.

3,538,920

POLYAMIDE SMOKE FILTER

William J. Davis, Wyomissing, Pennsylvania, assignor to The Polymer Corporation, a corporation of Pennsylvania

Filed Aug. 9, 1967, Ser. No. 659,303

Int. Cl. A24d 01/06

U.S. Cl. 131—10

2 Claims

A filter made of finely divided polyamide such as nylon useful for removing contaminating substances from gases as in a cigarette filter. Finely divided nylon is prepared by dissolving nylon at an elevated temperature, cooling to produce a precipitate, and washing and drying the precipitate. The precipitate which comprises agglomerates of the polyamide is heat treated and thereafter the resultant product is ground to a mesh size of less than 100.

3,538,921

METHOD OF PRODUCING A BUNCH FOR MANUFACTURING CIGARS, CIGARILLOS OR THE LIKE

Dieter Neuber, Folkungavagen 10, Jakobsberg, Sweden

Filed Jan. 29, 1968, Ser. No. 701,270

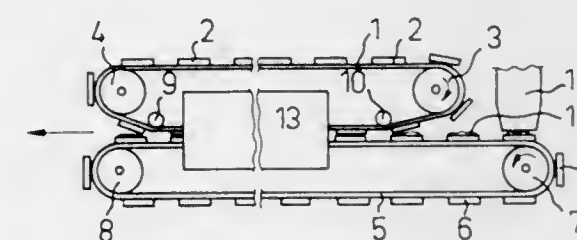
Claims priority, application Sweden, May 18, 1967,

6,960/1967

Int. Cl. A24c 01/16

U.S. Cl. 131—20

1 Claim



The purpose of the invention is to provide an improved method of producing a novel cigar bunch. Conventional bunches comprise a batch of filler tobacco wound in a binder of natural tobacco or reconstituted tobacco. The winding process is time consuming and therefore the main object is to provide a method of making a bunch without a binder and in which the filler tobacco leaf parts are bound to one another so that the bunch maintains its shape and can be overrolled in a cigar machine and provided with a wrapper. According to the new method the individual tobacco leaves of the filler are provided with at least randomly distributed spots of a wet binding agent which is solidified so that the tobacco leaves of the bunch formed adhere to one another or are supported by a matrix constituted by the solidified binding agent. Preferably, the binding agent comprises water which has been frozen.

880 O.G.—17

3,538,922

BOWL FOR SMOKING PIPES AND METHOD OF MAKING SAME

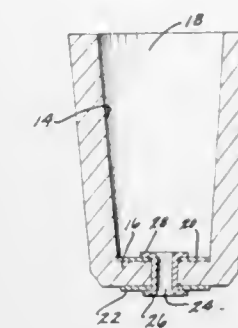
Joseph W. Zarikta, 1829 Doris St., Grand Haven, Michigan 49417

Filed Dec. 30, 1968, Ser. No. 787,861

Int. Cl. A24f 1/18, 5/06

U.S. Cl. 131—172

13 Claims



A smoking pipe bowl having an aperture in its bottom wall, with relatively thin plates of metal or the like secured in place on each side of the bottom wall in relative alignment, with central openings in each plate aligned with the bottom wall aperture. The plates are secured in place by a generally tubular metal eyelet extending through the aligned openings and having enlargements at either end sandwiching the plates and bottom wall together.

3,538,923

SMOKING PIPE HOLDER

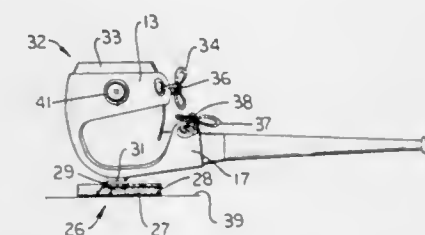
Heyward O. Dunham, P.O. Box 125, Mooresville, Indiana 46158

Filed Sept. 18, 1968, Ser. No. 760,518

Int. Cl. A24f 9/14, 13/22

U.S. Cl. 131—186

4 Claims



Sheet vinyl is formed to provide two pairs of arms, one pair with eyelets and a draw string for attachment to a pipe bowl, the other pair with eyelets and a draw string for attachment to a pipe stem, and a magnet snapped onto a base strip between said arms for mounting to a ferromagnetic surface. One embodiment mounts a magnet in a recess in the pipe bowl itself.

3,538,924

CIGARETTE FILTER

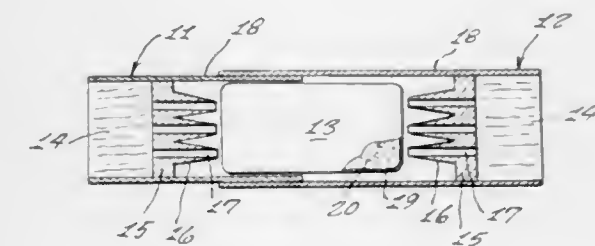
Cornelis H. Pruyssers, 517 Fruitvale Ave., Yuba City, California 95991

Filed Nov. 9, 1967, Ser. No. 681,778

Int. Cl. A24f 25/00; A24d 1/06

U.S. Cl. 131—261

1 Claim



A filter device for a cigarette comprising a pair of inter-fitting sections between which there is located a cartridge

containing material that will absorb nicotine and other harmful substances from the smoke of the cigarette fitted upon one end of the filter device. The cartridge is separate from the sections, has a sealed case and is adapted to be positioned within the sections. The end portions of each section has a transversely positioned disc having hollow tapered projections extending toward the adjacent end of the cartridge, the tapered portion has sharp ends adapted to penetrate the ends of the cartridge when one section is tapped toward the other. The discs have smoke passing apertures such that smoke passing through the hollow projections can pass through the discs.

3,538,925

HAIR ROLLER INCLUDING INTERNAL CYLINDRICAL INSERT CONTAINING A HEAT STORAGE MEDIUM

Kenneth Reiner, Pico Rivera, California (2348 Fargo St., Los Angeles, Calif. 90039)

Filed Nov. 9, 1967, Ser. No. 681,760

Int. Cl. A45d 2/12

U.S. Cl. 132-39

4 Claims



A hair roller device comprising a tubular plastic sleeve sealed at both ends and containing a wad of absorbent material which is saturated with a substance such as paraffin wax having a high heat of fusion and being characterized by a change of phase from a solid to a liquid at a temperature below the boiling point of water.

3,538,926

WASHER-DRYER FOR AUTOMOTIVE TYPE AIR FILTERS

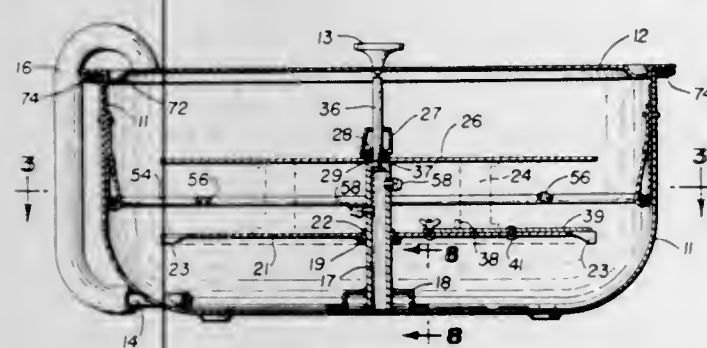
George G. Nesbitt, Denver, Colorado, assignor to Denver Wood Products Co., a corporation of Colorado

Filed Nov. 28, 1967, Ser. No. 686,095

Int. Cl. B08b 3/02, 5/02, 9/00

U.S. Cl. 134-102

4 Claims



Apparatus to clean automotive type air filters by washing them to remove dust accumulations and for drying them for reuse. The unit provides a filter receiving rotatable platform disposed in a liquid retaining receptacle. A water or cleaner level adequate to submerge the filter is useable with fluid being introduced through nozzles disposed to impinge against the filter for washing agitation or against impeller vanes on the platform to cause rotation thereof. After washing is completed and the cleaner solution is removed, the fluid rotated platform centrifugally spins and dries the filter. Air selectively introduced through provided fluid nozzles that are directed outwardly through the filter can supplement the centrifugal drying and, additionally or alternately, air impinging on the filter surfaces from the fluid nozzles can be used for further drying.

3,538,927

DISHWASHING MACHINE

Harald Anton Ake Wallgren, Alvsjo, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden a corporation of Sweden

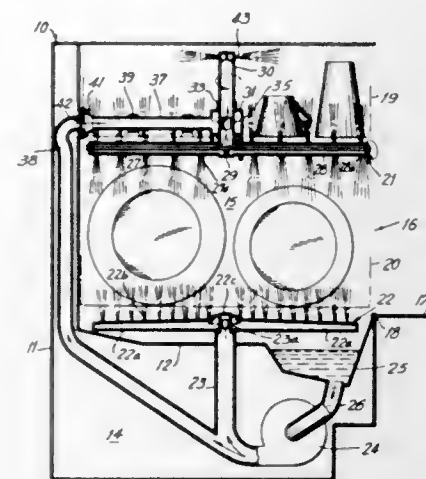
Filed April 19, 1968, Ser. No. 722,602

Claims priority, application Sweden, April 27, 1967, 6019/67

Int. Cl. B08b 3/02

U.S. Cl. 134-144

4 Claims



Dishwashing apparatus having a spraying device rotatable about an axis and to which liquid under pressure is supplied through a supply line, the spraying device including an elongated hollow member connected to receive liquid from the supply line and having openings therein from which liquid jets are discharged toward dishes to be washed, the hollow member being rotatable about its longitudinal axis, and mechanism for effecting movement of the hollow member about its longitudinal axis responsive to rotation of the spraying device to change the direction of the liquid jets discharged from the openings and direct the liquid in a multiplicity of directions toward the dishes to be washed.

3,538,928

COLLAPSIBLE UMBRELLA

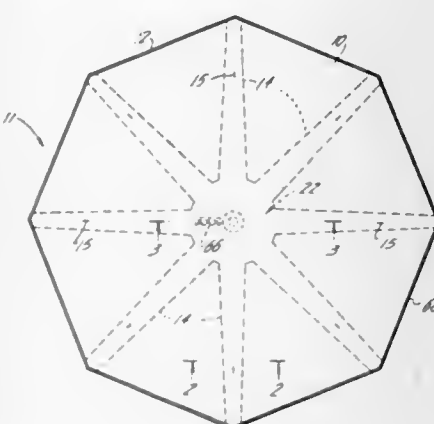
Howard Price, Kings Point, and Bela Szilagyi, Flushing, New York, assignors, by direct and mesne assignments, to International Patents & Development Corp., a corporation of Delaware

Filed Oct. 10, 1968, Ser. No. 766,564

Int. Cl. A45b 19/02, 25/06

U.S. Cl. 135-20

11 Claims



A miniaturized collapsible umbrella which may be conveniently carried in the pocket of the user. The protective or shielding member has a plurality of air ducts which when filled with compressed air become rigid and expand the member to provide protection against the rain. The compressed air is derived from the handle comprised of a plurality of tubes fitted telescopically into each other. The handle is simultaneously used as an air pump for providing the compressed air. When in use, the handle is fully extended, whereas it is contracted through its telescopic construction, when not in use.

3,538,929

VALVE ACTUATOR

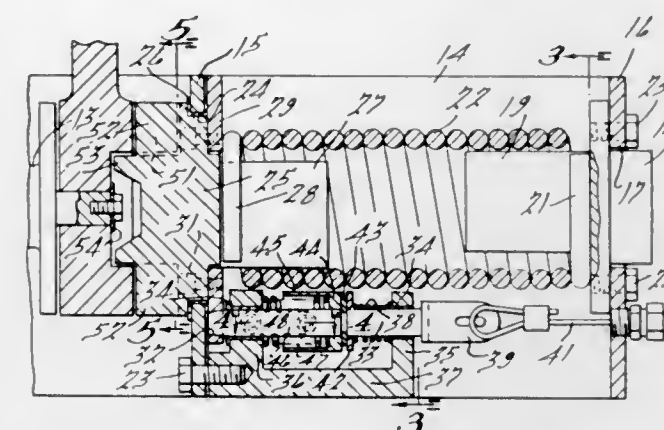
Lawrence A. Botkin, Omaha, Nebraska, assignor to Fruehauf Corporation, Detroit, Michigan a corporation of Michigan

Filed Sept. 16, 1968, Ser. No. 760,025

Int. Cl. F16k 31/00

U.S. Cl. 137-77

7 Claims



The valve actuator is spring operated to rotate a valve handle when the tension of the spring is released. When the actuator is locked, the handle is moved in the normal manner to operate the valve. The spring tension is released either remotely by manual means or by fusible means located adjacent to the tensioned spring and valve.

3,538,930

DIFFERENTIAL PRESSURE REGULATOR FOR DUAL SHUT-OFF VALVES

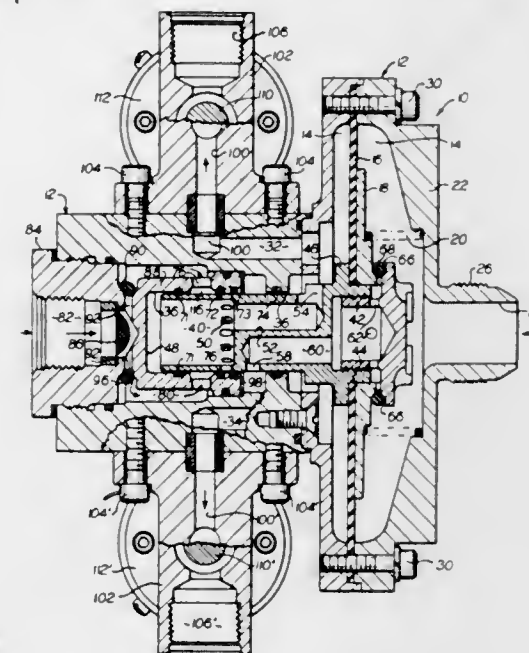
Slawomir Kowalski, Rockaway, New Jersey, assignor to Morotta Valve Corporation, Boonton, New Jersey a corporation of New Jersey

Filed Jan. 29, 1968, Ser. No. 701,410

Int. Cl. F16k 31/145

U.S. Cl. 137-81

7 Claims



This specification discloses a pressure regulator having a pressure-responsive slide valve for controlling the flow of high-pressure gas into the regulator and for venting the gas above a maximum value. The slide valve is operated by a movable wall of a pressure chamber, specifically a diaphragm, and the venting is effected through a passage of the slide valve which leads through the diaphragm to the side remote from the valve. The diaphragm is loaded by the combined pressure of a spring and a fluid loading pressure, such as sea water, which enters the regulator through an open port so that the pressure changes as the depth of immersion of the regulator in the sea water increases or decreases. By having the loading pressure chamber of the regulator open to the sea water, the regulator is adjusted automatically for changes in environment. The regulator uses check valves comprising O-rings in circumferential grooves to which gas is supplied

3,538,931

FLUIDIC CONTROL SYSTEMS

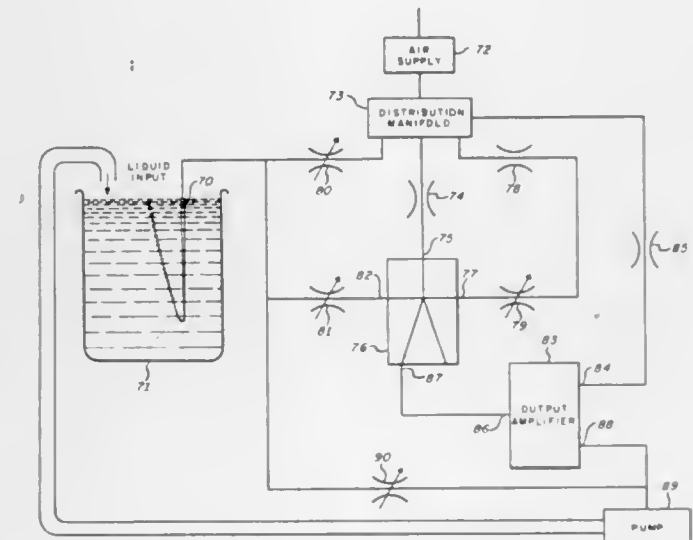
Robert L. Blosser, Jr., Bountiful, Donald F. Folland, Salt Lake City and Wayne P. Russon, American Fork, Utah, assignors to Sperry Rand Corporation, a corporation of Delaware

Filed Oct. 2, 1967, Ser. No. 672,062

Int. Cl. F15c 1/12

U.S. Cl. 137-81.5

8 Claims



Fluidic control systems having a minimum of moving parts for controlling variables such as liquid level, flow and density in response to low initial pressure signals.

3,538,932

PURE FLUID AMPLIFIER WITH IMPROVED GAIN CHARACTERISTICS

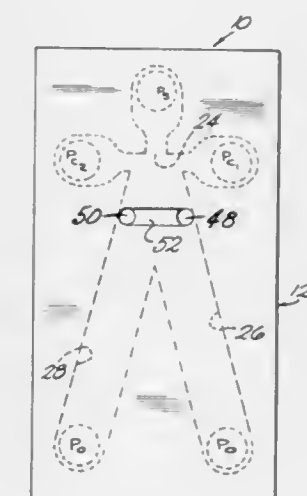
Robert W. Young, Detroit, Michigan, assignor to The Bendix Corporation, a corporation of Delaware

Filed April 3, 1968, Ser. No. 718,571

Int. Cl. F15c 1/08

U.S. Cl. 137-81.5

8 Claims



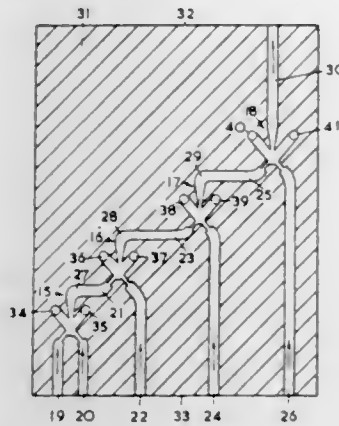
A pure fluid amplifier which includes a pressure equalizing passage that communicates with opposite sides of the deflectable jet in the amplifier so as to reduce the pressure differential across the jet thereby enabling deflection of the jet by means of a control fluid stream at a lower pressure and flow.

3,538,933 FLUID MIXING DEVICE

Robert E. Miller, Welwyn Garden City, England, assignor to The British Oxygen Company Limited, a British Company
Filed Aug. 5, 1968, Ser. No. 750,167
Claims priority, application Great Britain, Aug. 7, 1967, 36,163/67; Sept. 14, 1967, 41,938/67
Int. Cl. F15c 1/14

U.S. Cl. 137—81.5

4 Claims



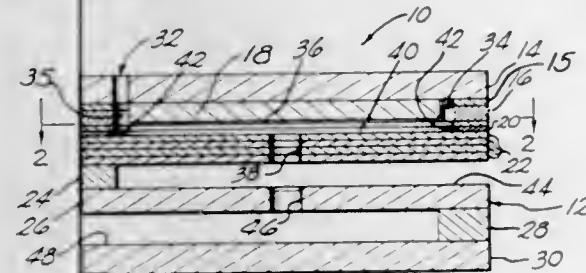
A fluid-mixing device comprises two inlet channels, one for each of the fluids to be mixed, converging towards an interaction zone, an outlet channel leading from the zone, and two sensing channels one on either side of the outlet channel.

3,538,934 VORTEX AMPLIFIER

Louis R. Erwin, Livonia, and Roger H. McFall, Milford, Michigan, assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 13, 1968, Ser. No. 759,577
Int. Cl. F15c 1/16

U.S. Cl. 137—81.5

7 Claims



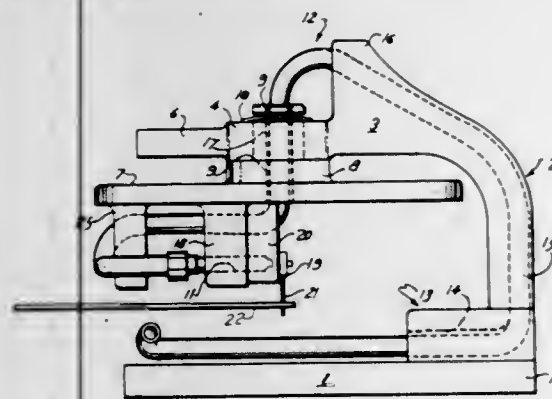
A laminated vortex amplifier in which the vortex chamber is constructed to reduce the unstable flow conditions that occur at an input control pressure near the valve required to achieve cutoff of supply flow. In the disclosed embodiment this is accomplished by providing an interruption in the form of a slot in one end wall of the vortex chamber.

3,538,935 PNEUMATIC CONTROL MECHANISM

Kenneth L. Shelter, Chili, New York, assignor to Sybron Corporation, Rochester, New York a corporation of New York
Filed Oct. 15, 1968, Ser. No. 781,295
Int. Cl. G05d 16/00; F15b 5/00

U.S. Cl. 137—82

10 Claims



A baffle-nozzle motion detector is mounted for rotation about the axis of a cylindrically bored sleeve. The nozzle is

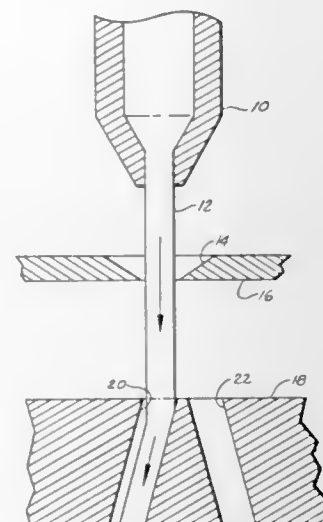
coupled to an air supply by a torsionally deformable, flexible cylindrical pipe running coaxially through the sleeve.

3,538,936 MECHANICALLY DEFLECTED FLUID STREAM SERVOVALVE

Douglas M. Longyear, Pasadena; and Donald R. Cooper, North Hollywood, California, assignors to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 641,547, May 26, 1967. This application June 16, 1969, Ser. No. 837,996
Int. Cl. F15b 5/00; G05d 16/00

U.S. Cl. 137—83

13 Claims



A servovalve device for providing an output varying in proportion to an input condition including a stationary nozzle for directing a control flow toward a pair of receiver passages communicating with a controlled device. A deflector member is moved into the control stream by means responsive to the input condition, such as a torque motor or bellows device, in such manner as to produce a small deflecting stream which deflects the main control stream to vary the relative fluid pressures in the receiver passages.

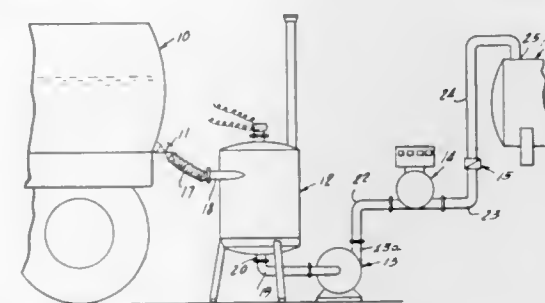
3,538,937 LIQUID TRANSFER APPARATUS

Lothar Diessel; Joachim Sonnberg, Hildesheim and Reinhard Heineke, Neuhoof, Germany, assignors to Diessel GmbH & Co., Hildesheim, Germany a corporation of Germany
Filed Dec. 5, 1967, Ser. No. 688,240

Claims priority, application Germany, Dec. 10, 1966, D 51,781
Int. Cl. G01f 1/00

U.S. Cl. 137—195

3 Claims



A system for unloading bulk liquids from a truck to a storage vessel and volumetrically measuring the quantity of liquid unloaded wherein a pump is used for speeding up the unloading process and means are provided for eliminating gas bubbles from the liquid in its passage from the truck to and through the volumetric measuring apparatus on its way to the storage vessel.

3,538,938 AUTOMATIC SEALANT SEALED VALVES

Alexander S. Volpin, Miami Beach, Florida; Harriet F. Kahn, executrix of said Alexander S. Volpin, deceased
Filed April 8, 1968, Ser. No. 719,435
Int. Cl. F16k 5/22

U.S. Cl. 137—246.2

9 Claims

An automatic sealant sealed valve having removable seat members adapted for installation in a cylindrical closure

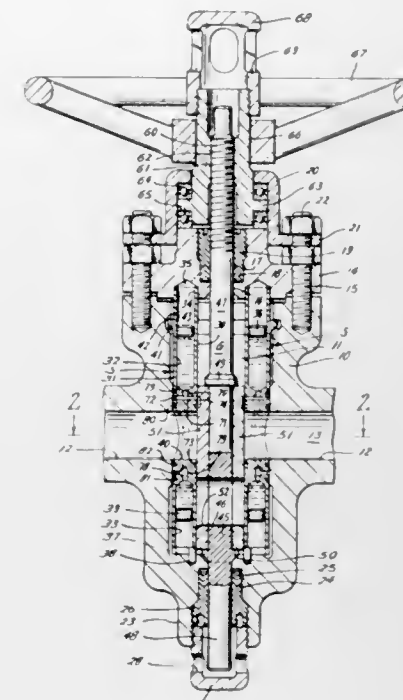
3,538,940 FITTING ASSEMBLY

Charles H. Graham, Mountain View, California, assignor to Gra-Tec, Inc., Los Altos, California a corporation of California
Continuation-in-part of application Ser. No. 617,145, Feb. 20, 1967, which is a continuation of Ser. No. 515,848, Dec. 23, 1965, abandoned, which was a continuation-in-part of Ser. No. 432,598, Feb. 15, 1965, abandoned. This application Sept. 15, 1967, Ser. No. 668,073

U.S. Cl. 137—271

Int. Cl. F16k 51/00

15 Claims



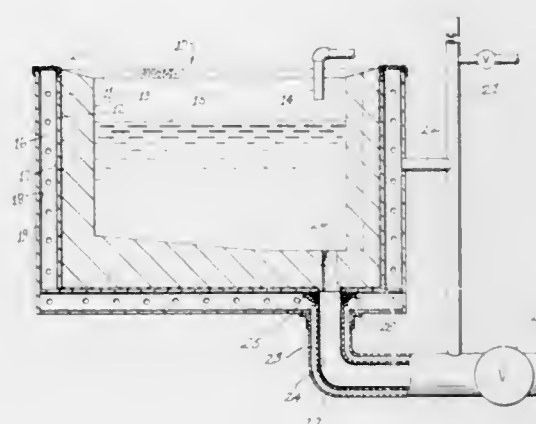
member and between the seat member and the surrounding wall of the closure chamber with sealant transmitted from a common sealant reservoir.

3,538,939 WATER JACKETED, ACID CONTAINING VESSELS

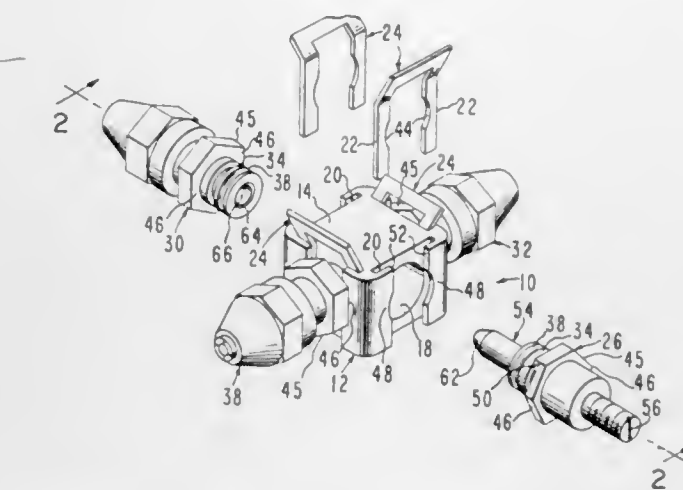
Ralph J. Hoffman and Allen D. Sheakley, Butler, Pennsylvania, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Aug. 6, 1968, Ser. No. 750,651
Int. Cl. B65d 87/00

U.S. Cl. 137—264

6 Claims



Tanks, pipes and other vessels normally containing acids or other corrosive liquids are provided with an outer shell which, in cooperation with the vessel it surrounds, forms a space which is filled with water or other suitable fluid. The fluid within the space created by the outer shell, that is, the jacket, is maintained under a pressure which is greater than that of the liquid within the vessel itself. Should a pinhole leak or the like occur in the vessel wall it will immediately be prevented from getting any larger by reason of the fact that the fluid in the jacketed area will flow into the vessel rather than will the liquid within the vessel continue to flow out.



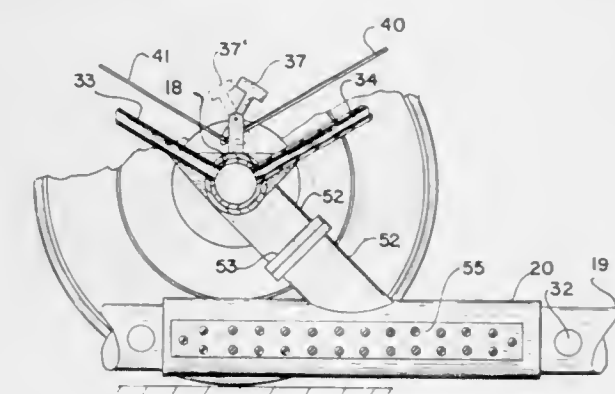
An improved fitting or coupling assembly of the type having a distribution block provided with a number of interconnected bores extending thereinto from respective outer faces of the block for interchangeably receiving a number of fitting members with the latter being releasably locked to the block by respective clips inserted in slots at the corresponding faces of the block. One of the fitting members has means for preventing rotation of the same relative to the block so that a valve stem or other structure can be carried by the one fitting member and maintained against rotation relative to the block as one or more of the other fitting members are permitted to rotate relative to the block. When the valve stem is used, the coupling assembly provides a valve whose fluid flow path extends through a pair of the other fitting members. The assembly further includes an improved locking clip mounted on the block and having means biasing it into its locking position.

3,538,941 TRAVELING IRRIGATION APPARATUS

Marcus L. Bates, 6904 N. Russell Ave., Odessa, Texas 79760
Continuation-in-part of application Ser. No. 698,186, Jan. 16, 1968, now Patent No. 3,473,564. This application May 14, 1968, Ser. No. 729,074
Int. Cl. B05b 9/02; E01h 3/02

U.S. Cl. 137—344

10 Claims



A traveling irrigation apparatus having a water distribution means connected to a source of water. Spaced-apart wheels support the distribution means. One embodiment of the apparatus includes a motor and transmission means for propelling the wheels in a manner to cause the irrigation apparatus to travel along the surface of the ground. The motor includes buckets which are supported from the water distribution means by upwardly depending cantilever flow con-

duits. The buckets are spaced apart, fore and aft, from the distribution means with one bucket being emptied while the other is being filled, and vice versa. This action induces a rotational motion into the wheels due to the unbalanced weight of the buckets. The buckets reciprocatingly rotate in an arcuate manner about the distribution means whereupon the filled bucket is emptied while simultaneously the empty bucket is filled to thereby return the buckets in an opposite rotational direction. This arcuate reciprocatory motion of the motor is utilized to drive the wheels by means of a transmission comprised of a rack and pawl, with the rack being attached to the wheel and the pawl being attached to the bucket support means, or vice versa. Valve means associated with each bucket more efficiently promotes fluid flow thereto with each valve means being actuated by an over-the-center motion of a weight which is suitably suspended to part of the device, or alternatively, the valve means can be actuated by the action of the bucket striking the ground.

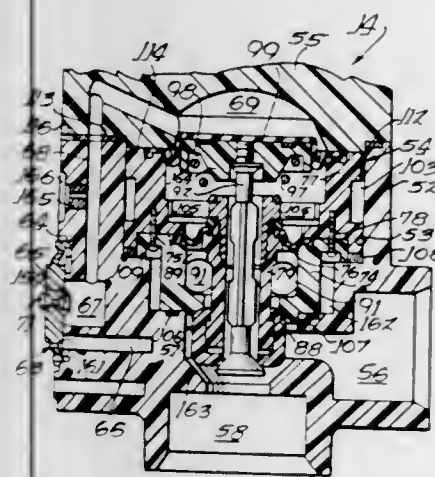
3,538,942

CONTROL VALVE AND CARTRIDGE UNIT

Charles E. Lyall, Deerfield, Edwin A. Morrison, Highland Park, and Robert B. Vesely, Lombard, Illinois, assignors to Culligan Inc., Northbrook, Illinois a corporation of Delaware
Original application Feb. 13, 1963, Ser. No. 258,204, now Patent No. 3,441,047, dated Apr. 29, 1969. Divided and this application June 19, 1968, Ser. No. 778,871
Int. Cl. F16k 31/48

U.S. Cl. 137-454.6

11 Claims



A directional control valve for a water conditioner or the like including a valve housing having an inlet, an outer and a central chamber, a cartridge unit adapted to be inserted in the central chamber and having a shoulder cooperating with a shoulder in the housing and a lower surface cooperating with a second spaced shoulder, and a cap closing the upper end of the housing and retaining the cartridge unit therein. The cartridge unit includes spaced upper and lower diaphragms clamped therein, with the cap clamping the upper diaphragm and forming a pressure chamber thereabove, and a two-part reciprocable valve unit actuated by the diaphragms to control liquid flow in the valve housing and valve cartridge. The valve housing and cartridge also provide for a drain chamber and a bypass chamber, and a diaphragm-actuated pilot valve controls liquid flow to the pressure chamber in the cap.

3,538,943

RELIEF VALVE

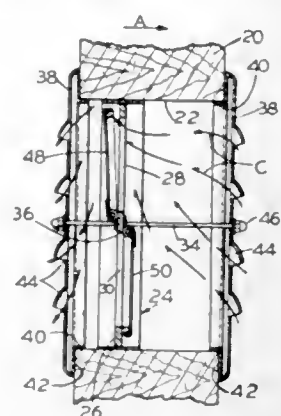
Thomas Losito, 220 Tower Ave., Syracuse, New York 13206
Filed May 28, 1969, Ser. No. 828,544
Int. Cl. F16k 17/26

U.S. Cl. 137-493.8

1 Claim

Door vent having valve plate for insertion into a circular door aperture, having two semicircular apertures, and semicircular valves hinged on a divider on opposite sides of

the plate yieldingly closing the apertures, a center rod affixed to the divider member and extending in opposite directions,



and circular louvered members on each end of the rod, to close off the door aperture.

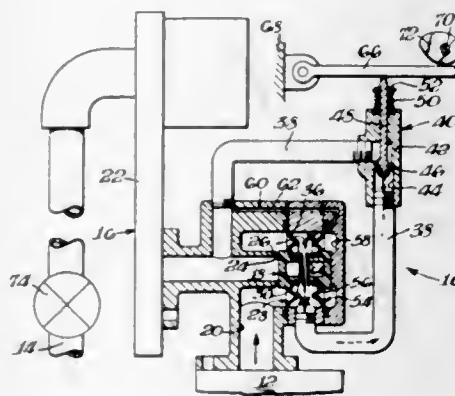
3,538,944

PILOT-ACTUATED SHUT-OFF VALVE

Robert Michael Riordan, Simsbury, Connecticut, assignor to Dresser Industries, Inc., a corporation of Delaware
Filed Feb. 28, 1968, Ser. No. 708,998
Int. Cl. F16k 7/17

U.S. Cl. 137-496

6 Claims



A fluid control system comprising a fluid supply source, an outlet and a conduit connecting the supply source to the outlet. A shutoff valve in the conduit is connected to a flexible pressure responsive diaphragm that operates to open and close the valve. One side of the diaphragm communicates directly with the fluid supply source and a chamber on the opposite side of the diaphragm communicates with the fluid supply source through a vent hole in the diaphragm. A bypass line connects the chamber to the conduit portion downstream of the shutoff valve and a pilot valve in the bypass line has a flow area greater than that of the vent hole in the diaphragm. When the pilot valve is closed, pressure in the fluid supply source provides substantially equal pressures on opposite sides of the diaphragm to maintain the shutoff valve closed, and when the pilot valve is open, fluid pressure in the chamber is relieved and the greater pressure on the side of the diaphragm opposite the chamber functions to cause the diaphragm to open the shutoff valve.

3,538,945

CONSTANT VOLUME REGULATOR FOR AIR DUCT SYSTEMS

Frank J. Dean, Jr., Kansas City, Missouri, assignor, by mesne assignments, to First Missouri Development Finance Corporation
Filed Dec. 21, 1967, Ser. No. 692,539
Int. Cl. F16k 31/36; F16f 1/12; F24f 13/10

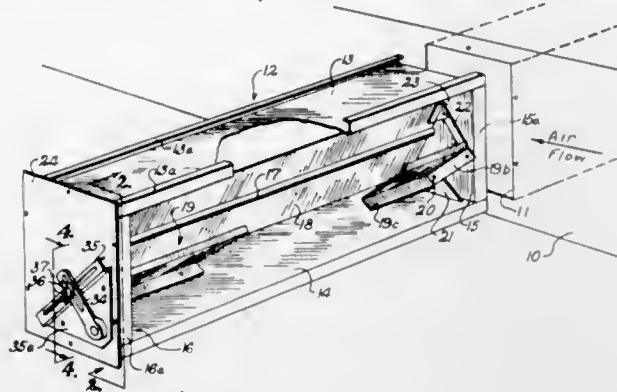
U.S. Cl. 137-499

8 Claims

A pivotal butterflylike valve is interposed in the air duct. Upstream of the valve is a pivotal sail member which is connected by a link to one wing of the valve. The sail is permanently biased toward an open position for the valve and as

the velocity pressure differential ahead of the valve increases, the sail tends to close the area through the valve structure

the ends thereof. The holding members are provided with channels which communicate with the openings in the valve bodies, and, if necessary, interconnect the openings of two or more valve bodies.



3,538,948

GATE VALVE HAVING GATE POSITION INDICATING MEANS

Norman A. Nelson and Jerry B. Tomlin, Houston, Texas, assignors to ACF Industries Incorporated, New York, New York a corporation of New Jersey
Filed Nov. 12, 1968, Ser. No. 775,090
Int. Cl. F16k 37/00; G08b 21/00

U.S. Cl. 137-554

12 Claims

open to flow, the degree of closure being determined by the amount of the change in pressure differential.

3,538,946

CHECK VALVE

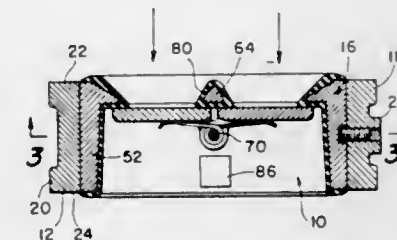
George W. Hilsheimer, P.O. Box 1647, Tulsa, Oklahoma 74101

Filed Oct. 9, 1967, Ser. No. 673,878

Int. Cl. F16k 15/03

U.S. Cl. 137-512.1

7 Claims



A quick-acting check valve comprising an insert member having a divided closure member hingedly secured therein, said insert member being adapted for disposition within a body in coaxial alignment therewith and secured therein in such a manner that the insert floats within the body. In addition, the exposed surfaces of the insert are coated with a molded elastomeric material to prevent corrosion and reduce damage from abrasion. This permits the construction of this type of valve from less expensive materials.

3,538,947

MULTIPLE VALVE ARRANGEMENT

Heinz Leiber, Leimen, and Dietrich Brunner, Edingen, Germany, assignors to Teldix G.m.b.H., Heidelberg, Germany
Filed Nov. 25, 1968, Ser. No. 778,456

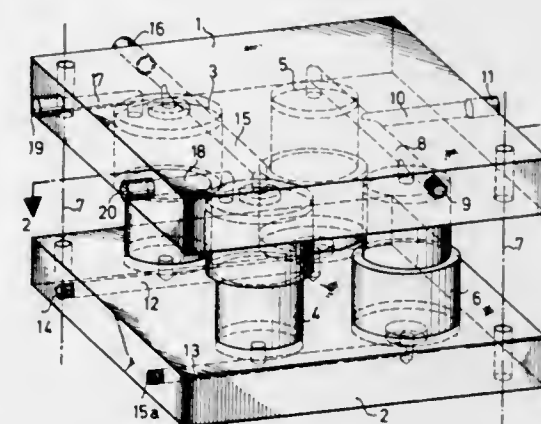
Claims priority, application Germany, Nov. 27, 1967,

T 23,382

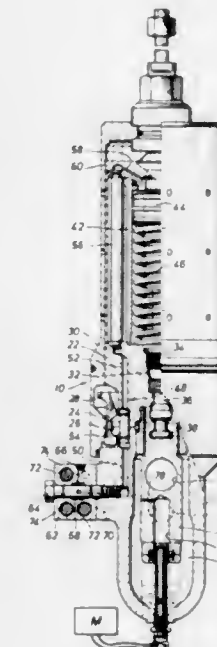
Int. Cl. F16k 11/20

U.S. Cl. 137-550

9 Claims



A multiple valve arrangement suitable, for example, for controlling the flow of brake fluid in a vehicle brake control system for preventing braked wheels from locking. The arrangement includes a plurality of valve elements, each having a valve body with opposite ends and at least one fluid opening at each end, and two plate-shaped holding members which clamp the valve elements between them and engage



A gate valve having position indicator mechanism which includes magnetically actuated switches which are actuated by permanent magnets either carried by the gate to cause the transmission of an electrical signal to a remotely located monitoring facility to positively indicate the position of the gate. As the gate moves to the proper open or closed position, one of the switches will be actuated by the magnetic field of the permanent magnet or magnets and will close an electric circuit thereby relaying a signal to a remotely located monitoring facility so that the precise position of the gate can be positively ascertained at all times.

3,538,949

FLUID FLOW CONTROL APPARATUS

Manfred Kramer, Fellbach-Lindle and Heinz Kleinschmidt, Stuttgart, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed April 11, 1969, Ser. No. 815,433

Claims priority, application Germany, Oct. 25, 1968,

1,805,089

Int. Cl. F16k 11/10, 11/07

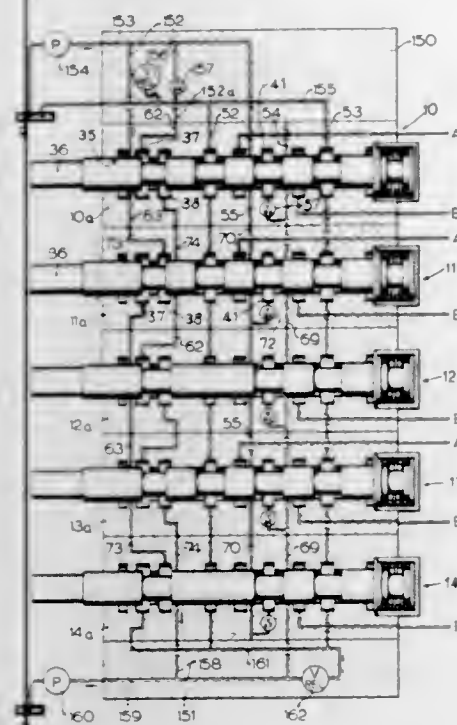
U.S. Cl. 137-596

10 Claims

A fluid flow control apparatus wherein two groups of sliding spool directional control valves can be arranged in random distribution and serve to regulate the flow of hydraulic fluid to discrete loads. The bodies of the valves are disposed side-by-side between two channelled blocks each of which is connected to a pump and each of which is formed with a pressure line serving to convey fluid from the respective pump to channels in the bodies of the valves. Such channels form two fluid circulating passages both of which are connected to one of the pressure lines and one of which is connected to the other pressure line, and two connecting

passages each of which is connected to a different pressure line. The other fluid circulating passage is connected to a col-

opened and closed by a valve plunger while the other end is entered by a tapering control member; the position of which



lecting line which communicates with a reservoir by way of return channels provided in the valve bodies.

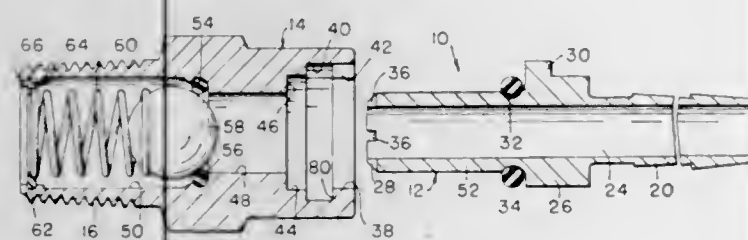
3,538,950

QUICK CONNECT LUGGED COUPLING

Wilhelm L. Porteners, Pontiac, Michigan, assignor to Locking Devices, Inc., Pontiac, Michigan a corporation of Michigan
Filed April 16, 1969, Ser. No. 816,739
Int. Cl. F16I 37/28

U.S. Cl. 137-608

14 Claims



A coupling including male and female elements which are secured together by means of lugs on the male element which extend through notches to be received in a groove in the female element. An interior surface of the groove is provided with protuberances which assure proper rotation of the elements when engaged and provide a stop for the lugs. A spring biased valve is provided for normally closing the female element to the passage of fluid. The coupling is integrated into a panel forming part of a fluid manifold.

3,538,951

FLUID-CONTROLLING VALVE MEANS

Norris Bowdass, Stevenage, England, assignor to Ether Limited
Filed March 28, 1968, Ser. No. 716,753
Claims priority, application Great Britain, March 30, 1967, 14,655/67
Int. Cl. F16k 1/54

U.S. Cl. 137-614.21

8 Claims

Fluid controlling valve means include a hollow body member having inlet and outlet ports connected for fluid flow therebetween by conduit means within the body. The conduit includes a passageway of which one end is selectively

along the axis of the passageway determines the fluid flow rate when the valve is open.

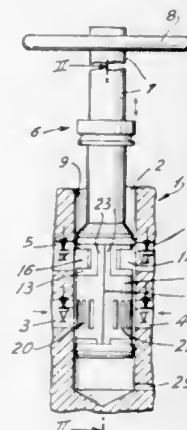
3,538,952

VALVE

Friedrich Bayer, Deilinghofen, Germany, assignor to Friedrich Grobe Armaturenfabrik, Hemer, Germany
Filed Feb. 23, 1968, Ser. No. 707,629
Claims priority, application Germany, Feb. 23, 1967, G 49,369; July 5, 1967, G 50,560
Int. Cl. F16k 11/00

U.S. Cl. 137-625.17

16 Claims



A valve whose valve member is rotatable and/or reciprocable in a cylindrical surface of the housing and is surrounded by a slotted flexible wear-resistant plastic sleeve biased radially against the housing by elastic members inserted between the valve member and sleeve. The sealing action of the elastic members can be enhanced by forming the valve member with recesses receiving pressurized fluid from the inlet of the housing when the valve is closed so that the fluid bears against the internal surface of the sleeve and maintains it in sealing engagement with the housing.

3,538,953

ROLLER SEAL VALVE

Marion J. Berger, Sepulveda, California, assignor to Schurz Controls Corporation, Los Angeles, California a corporation of California
Filed Jan. 9, 1968, Ser. No. 696,615
Int. Cl. F16k 11/08, 13/00

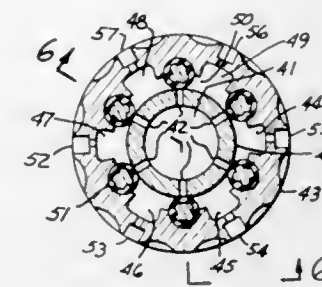
U.S. Cl. 137-625.46

2 Claims

This invention comprises a valve for the handling of fluids which utilizes a housing containing fluid passages, a valve-actuating member, and a sealing member actuated by said valve-actuating member to seal off or open selectively at least one of the ports. The sealing member is in the form of a roller which may optionally have an elastomeric peripheral

surface. The roller eliminates sliding friction with the valve housing. Various of the embodiments include a valve-actuat-

ing member mounted for linear movement in the housing, and others for rotary movement.



ing member mounted for linear movement in the housing, and others for rotary movement.

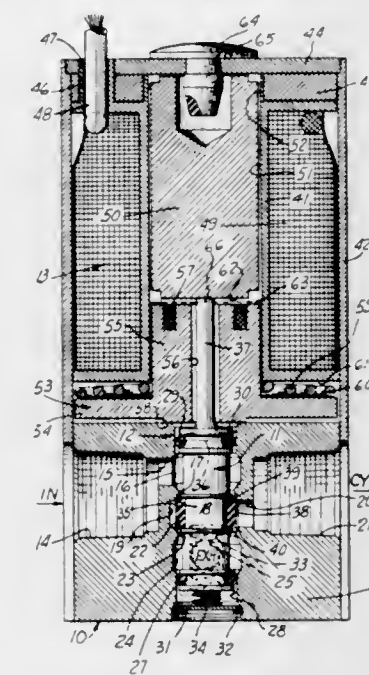
3,538,954

SOLENOID VALVE HAVING A POPPET STEM AND SPRING BIASED FLOATING POLE PIECE

Richard A. Fagerlie, Union Lake; James R. Bowsher, Warren, Mich. and James A. Neff, Bloomfield Township, Oakland County, Michigan, assignors to MAC Valves, Inc., Oak Park, Michigan a corporation of Michigan
Continuation-in-part of application Ser. No. 657,813, Aug. 2, 1967, now abandoned. This application Oct. 14, 1968, Ser. No. 772,456

Int. Cl. F16k 11/02, 31/02; H01f 2/08
U.S. Cl. 137-625.65

21 Claims



A solenoid-operated reversing valve having a poppet stem normally biased to a first position by a return spring and shiftable to a second position in opposition to the bias of the return spring by a solenoid plunger to effect a fluid seal at said second position, and which solenoid plunger is adapted to coact with a spring-biased floating solenoid pole piece which compensates for variations between the magnetic seal position of the solenoid plunger and the fluid seal position of the poppet stem so as to effect a substantially simultaneous magnetic seal between the solenoid plunger and the pole piece when the poppet stem effects the fluid seal between a poppet valve carried on the poppet stem and a valve seat.

3,538,955

SUSPENDED SUBMARINE PIPE CONSTRUCTION

James H. Anderson, 1615 Hillock Lane, York, Pennsylvania 17403

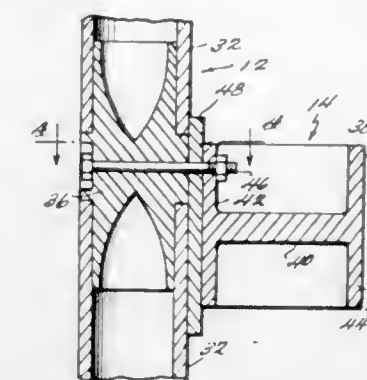
Filed Oct. 16, 1967, Ser. No. 675,680

Int. Cl. F16I 55/00

U.S. Cl. 138-103

8 Claims

A submerged, large diameter, buoyant pipe suspended from its upper end and having a lower end open to the sea for drawing in sea water. The wall of the pipe is constructed



another along their lengths. Exterior stiffening rings are provided at intervals along the pipe.

3,538,956

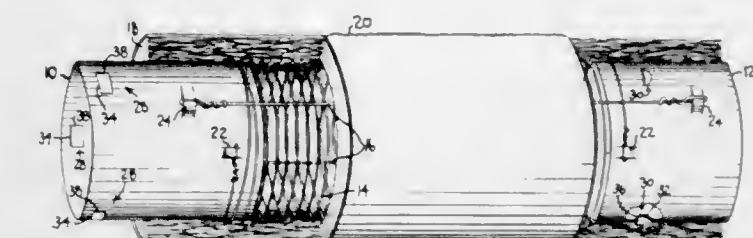
FLEXIBLE DUCT WITH INTERLOCKING-TYPE COUPLING

Clarence H. Helbing; Frank E. Wilson, Shelbyville, Indiana; Alphonso C. Pecora, Allison Park; Richard J. Bennett; Malcolm Hay, Jr. and Winfield T. Irwin, Pittsburgh, Pennsylvania, assignors to PPG Industries, Inc., Pittsburgh, Pennsylvania a corporation of Pennsylvania
Filed Dec. 17, 1968, Ser. No. 784,456

Int. Cl. F16I 11/00, 9/22

U.S. Cl. 138-120

11 Claims



A flexible insulated duct comprising a wire helix wrapped with insulating material, encased in a fluid-impermeable sleeve and terminated with interlocking-type connector members. The interlocking-type connector members are provided with coupling means that permit rapid and positive interlocking of adjacent duct sections, yet means capable of being manually manipulated to permit ready uncoupling of adjacent duct sections, if desired.

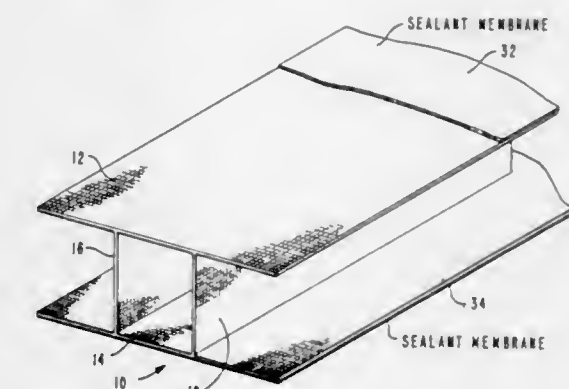
3,538,957

THREE-DIMENSIONAL WOVEN FABRIC

Walter A. Rheame, Los Angeles, California, assignor to Hitco, a corporation of California
Filed Aug. 19, 1968, Ser. No. 753,390
Int. Cl. D03d 3/00, 11/00

U.S. Cl. 139-384

9 Claims



A three-dimensional fabric suitable for forming part of a hollow walled structure is woven in the form of longitudinally extending dual-layered fabric having integrally woven longitudinal ribs between the layers. The layers may have different lengths by virtue of different fiber densities in the top and bottom layers or by different total fiber counts in the two layers.

3,538,958

PIANO STRINGING APPARATUS

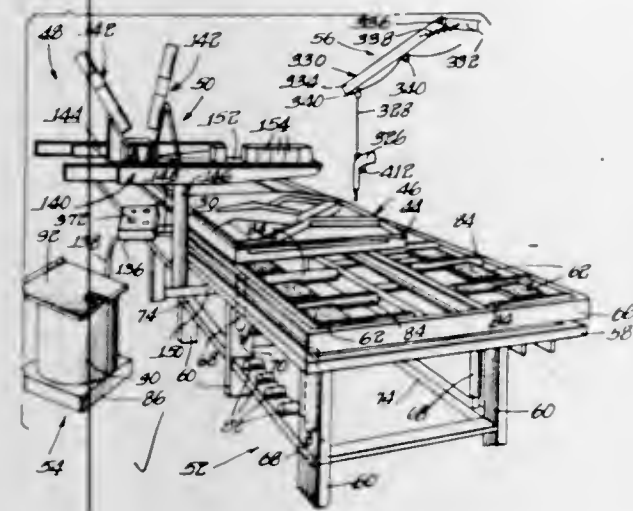
Clifford W. Andersen, and William A. Wahl, DeKalb, Ill., assignors to the Wurlitzer Company, Chicago, Illinois, a corporation of Delaware

Filed Sept. 10, 1968, Ser. No. 758,902

Int. Cl. B21f 45/00; G10c 9/00

U.S. Cl. 140-1

15 Claims



Apparatus for use in stringing pianos and like musical instruments combines at a single work station a string forming unit, a work table arrangement and tuning pin driving means. The string forming unit includes a winder for coiling piano wire on tuning pins to produce string assemblies and a loop kinker for permanently deforming a midportion of the wire of the string assembly into a hitch pin loop. The work table arrangement includes platens for supporting a piano plate in fixed position during installation of the string assemblies, and the pin driving unit is arranged for setting the pins of the string assemblies in a piano plate supported by the platens.

3,538,959

APPARATUS FOR WINDING MULTITURN, SINGLE LAYER COILS

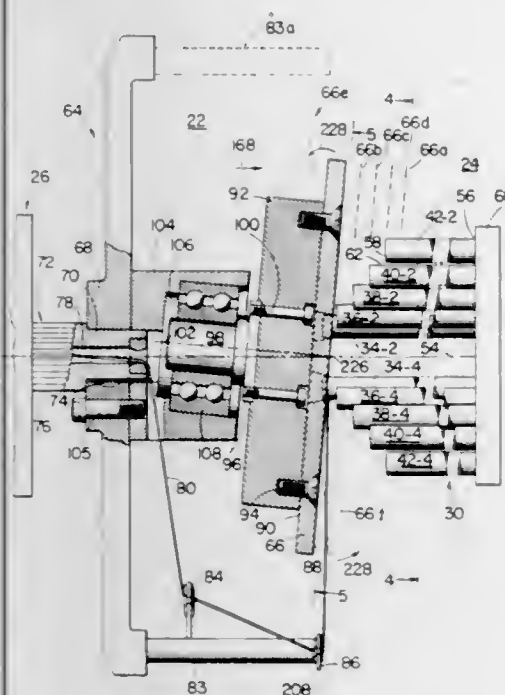
Robert J. Eminger, Fort Wayne, Indiana, assignor to Fort Wayne Tool & Die, Inc., Fort Wayne, Indiana a corporation of Indiana

Filed Dec. 13, 1968, Ser. No. 783,525

Int. Cl. B21f 3/04

U.S. Cl. 140-92.1

23 Claims



Apparatus for winding a multiturn, single layer coil including a coil form which is longitudinally elongated and has a substantially uniform, coil-defining, transverse cross-sectional configuration throughout its length, the coil form having opposite ends and a longitudinal axis. A flyer is provided rotatable about the axis for winding a wire on the coil form in a fixed plane which is transverse to the axis and spaced from

one of the coil form ends. A wobble plate is provided having an aperture therein for receiving the distal end of the coil form, the surface of the plate which surrounds the coil form defining a wire pushing surface. The wobble plate is inclined with respect to the axis and faces in a direction toward the proximal end of the coil form and toward the flyer. The wobble plate is coupled to the flyer so that a rotary wobbling motion is imparted thereto with respect to the axis in synchronism with rotation of the flyer. The positioning of the distal end of the coil form within the aperture of the wobble plate restrains the rotation of the wobble plate with respect to the coil form so that the wire is pushed, as it is wound, in response to the wobbling motion of the wobble plate, longitudinally on the coil form toward the proximal end, thus pushing previously wound turns on the coil form toward the proximal end to form the single layer coil.

3,538,960

TWIST-TIE BAG CLOSING MACHINE

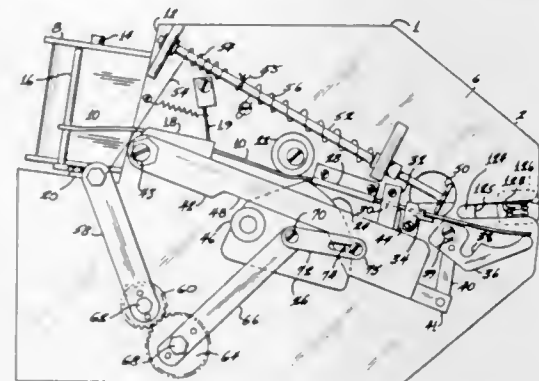
John D. Tetrick, White Bear Lake, Minnesota, assignor to Doughboy Industries, Inc., New Richmond, Wisconsin a corporation of Wisconsin

Filed Feb. 19, 1968, Ser. No. 706,572

Int. Cl. B21f 15/00

U.S. Cl. 140-93

7 Claims



A machine for closing the open, gathered ends of flexible bags incorporates a rotatably mounted cam plate and roller assembly which serves to carry out the several functions of feeding a length of tying strip into position, actuating a knife which cuts off the desired length of tying strip, drives a forming arm which forms the ribbon in a loop around the neck of the bag to be closed, and actuates the drive mechanism for rotating the hooked twister which twists the ends of the tying strip together. A clutch mechanism connected to the drive shaft for the cam plate and roller assembly is arranged to be engaged and disengaged by a movable member which is actuated by the neck of a bag when it is moved into position to be closed by the tying machine.

3,538,961

REFRIGERATION SYSTEM SERVICING UNIT WITH DISPENSING PUMP AND CONNECTOR

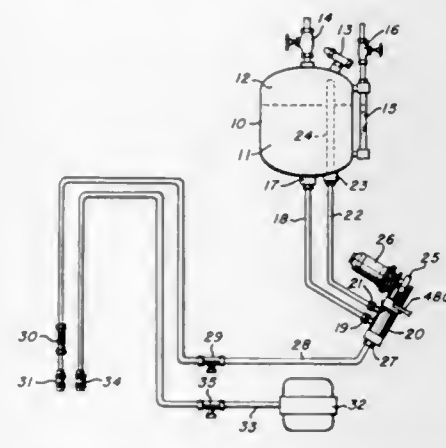
Ralph E. Bruce, 6342 Seton Hill, Dayton, Ohio

Filed Aug. 23, 1968, Ser. No. 754,917

Int. Cl. B67d 5/08; G01f 5/00

U.S. Cl. 141-61

11 Claims



A servicing apparatus for a refrigeration system, particularly automotive air-conditioners, comprising a refrigerant supply

reservoir, a novel metering liquid refrigerant dispensing pump characterized by a circumferentially split cylinder surrounded by a fluid chamber having two ports intermediate by conduits to said supply one of the a vacuum pump, and a connector yoke assembly. The connector assembly comprises a high-pressure chamber and a low-pressure chamber, each of which is associated with a pressure gauge and with a fitting for portion respectively with the high-pressure and sides of the refrigeration system, a connector fitting and passage in communication with both of said chambers and adapted for selective association with the said liquid dispensing pump and said vacuum pump, and a valved passage allowing communication between said chambers when there is no pressure in either of them and for isolating the two chambers when a relatively higher pressure exists in the high-pressure chamber. The refrigerant dispensing pump is of the positive displacement volumetric variety wherein the total volume of refrigerant dispensed is dependent upon the number of cycles of pump operation, and automatic means are employed for counting such cycles and automatically stopping the pump when the proper number has been reached. The refrigerant dispensing pump may be provided with temperature responsive means for changing the effective volume of the cylinder within which the pump piston operates, whereby a constant weight of refrigerant may be dispensed for a given number of cycles, regardless of thermally induced changes in the density of the refrigerant.

3,538,962

COUPLED ARTICULATED CONTAINERS AND APPARATUS UTILIZING SAME

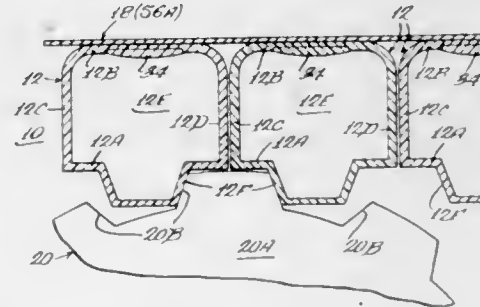
Warren E. Gilson, 4801 Sheboygan Ave, Madison, Wisconsin

Filed Feb. 1, 1968, Ser. No. 702,419

Int. Cl. B65b 43/42

U.S. Cl. 141-131

17 Claims



Containers for liquids detachably coupled in hinged or articulated manner and utilizable, for example, with fraction collecting apparatus. The containers have driven means such as gear teeth formed thereon for cooperation as with a drive gear on associated apparatus so that the containers may be driven past a filling or other operating station. The coupling means enables the containers to be formed into arcs so that they can be coiled at the two sides of the station as on supply and takeup spools and remain in vertical position when in use. The containers have positioning stops and also lips at their upper ends that extend over adjacent containers to hold the containers in vertical alignment and to eliminate spillage as the containers are moved past the station. The apparatus includes removable supply and takeup spools to which the containers can be attached and which can be used for storage and transport of the containers. The spools may be driven by power or by hand. The drive can be engaged and disengaged from the containers by a movable supporting and guiding plate and by a pivotally movable plate upon which disengaging means are mounted. The latter also locates light sensitive control apparatus relative to the containers, which are made of transparent material.

3,538,963

LUMBER COMPONENT CUTTING MACHINE

James D. Adams, Colorado Springs, Colorado, assignor to J. D. Adams Co., Colorado Springs, Colorado a corporation of Colorado

Filed Nov. 16, 1967, Ser. No. 683,643

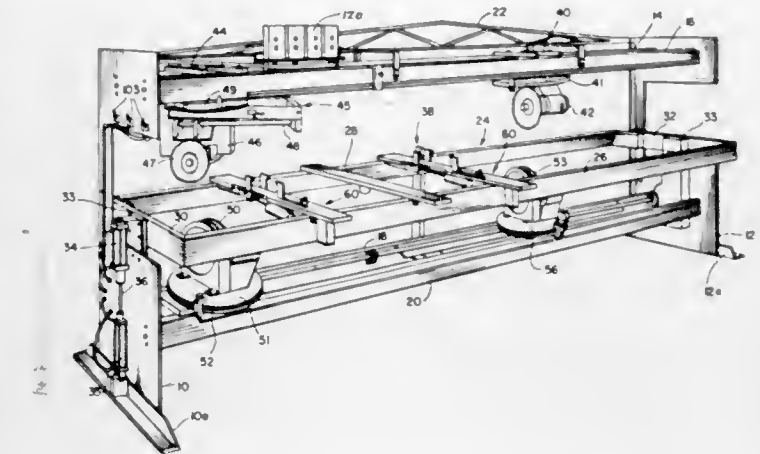
Int. Cl. B27g 5/02

U.S. Cl. 143-6

6 Claims

A machine for cutting lumber members into component parts of prefabricated construction members, such as trusses,

panels, etc., having a series of power saws mounted above and below a vertical movable lumber holding platform includes at least a pair of disappearing lumber clamps for positioning and holding a piece of lumber in proper position for cutting and releasing the same after cutting. The clamps fold



down leaving an uninhabited working area and with both sides of the table open for movement of lumber. The movable table is powered to move lumber up into overhead saws and down into saws beneath the table for producing the desired number and types of cuts on the lumber.

3,538,964

MOTOR DRIVEN TABLE SAW

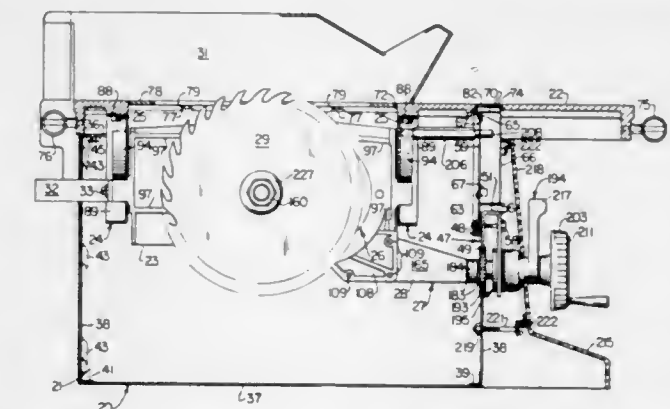
Edward C. Warrick, Pittsburgh, Pennsylvania and Emerson Berends, Tupelo, Mississippi, assignors to Rockwell Manufacturing Company, Pittsburgh, Pennsylvania a corporation of Pennsylvania

Filed Nov. 20, 1967, Ser. No. 684,437

Int. Cl. B27b 5/24

U.S. Cl. 143-36

10 Claims



A tilting arbor table saw with tilt bracket and blade arbor raising and lowering controls, a tilt scale, and mitre gage adjustment controls and angle scale grouped and arranged for operation and viewing by an operator standing in operating position at the front of the saw. Table blade opening closure plate means is provided for levelling adjustment from above the work table by the operator standing in operating position and a motor end bell provided with a radially offset blade arbor mount is directly journaled in the tilt bracket for rotational movement to effect raising and lowering adjustment of the blade through a self locking worm pinion meshing with a worm segment fixed to the motor housing carried by the motor end bell.

3,538,965

RIVETLESS SAW CHAIN

Jack W. Ehlen, Torrance, California and Joseph B. Stretton, Riverside, Connecticut, assignors to McCulloch Corporation, Los Angeles, California a corporation of Wisconsin

Continuation-in-part of application Ser. No. 628,898, April 6, 1967. This application March 21, 1968, Ser. No. 715,011

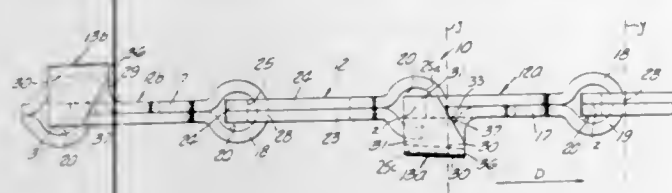
Int. Cl. B27b 33/14

U.S. Cl. 143-135

6 Claims

A saw chain formed of single links in which the forward end of each link is connected to the preceding link by a loop extending into an opening in the rear end of the preceding link. Each of the links has means for engaging a driving

sprocket and to be supported on a guide bar of a chain saw. The cutters are arranged to extend outwardly from selected



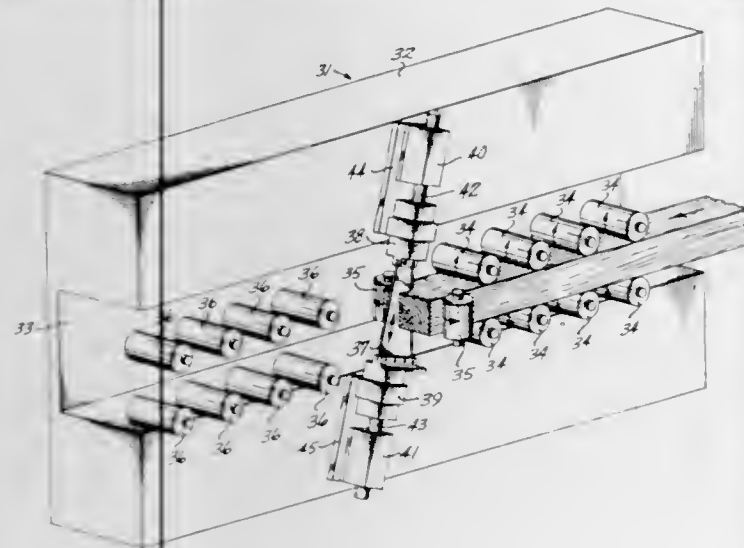
links in the direction opposite from the means for engaging the sprocket.

3,538,966

APPARATUS FOR KERFLESS CUTTING OF WOOD
Ernest H. Collins, Portland, Oregon, assignor to Weyerhaeuser Company, Tacoma, Washington a corporation of Washington
Original application Feb. 23, 1967, Ser. No. 649,371, now Patent No. 3,494,396, which is a division of application Ser. No. 504,473, Oct. 24, 1963, now Patent No. 3,327,747. Divided and this application Aug. 13, 1969, Ser. No. 849,724
Int. Cl. B27b 13/10

U.S. Cl. 144—162

4 Claims



An apparatus for the kerfless cutting of wood having a reciprocating cutting blade, infeed drive rolls for driving the cant into the cutting blade, outfeed guide rolls for pulling the cant from the cutter and side pressure rolls at the cutter for preventing the cant from splitting. The reciprocating cutting blade may be one blade which cuts through the leading edge of the cant and which may be aided by additional blades cutting from opposing sides of the cant, and aligned with the main cut, or may be opposed blades cutting from opposite sides of the cant.

3,538,967

SAWING APPARATUS

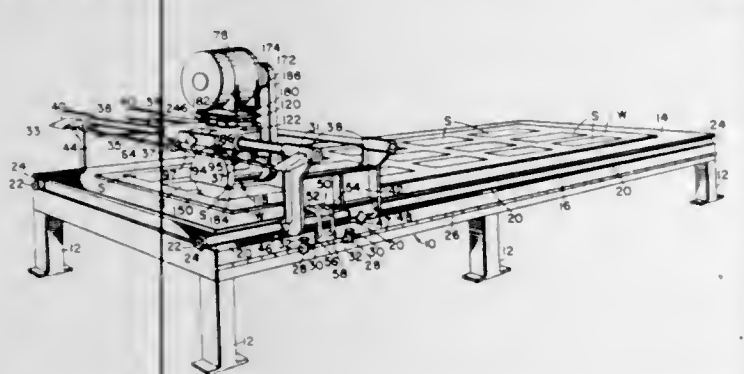
James L. Hensley, Knoxville, Tennessee, assignor to The Carborundum Company, Niagara Falls, New York a corporation of Delaware

Filed May 28, 1968, Ser. No. 732,723

Int. Cl. B27f 5/12

U.S. Cl. 144—318

3 Claims



Method and apparatus for cutting door openings and similar panel structures having angular corners. The sides of

the panel opening are plunge cut by a circular saw blade or wheel from the front side of the panel leaving a connecting portion at the corners. Hinges or other hardware may then be installed and the panel is turned over. The corners are cut by the saw wheel from the back to remove the connecting portion and thereby severing the panel section that is encircled by the saw cut. The severed panel section serves as a door to conserve panel material.

3,538,968

METHOD AND APPARATUS FOR MAKING CUTS OF PRECISE DEPTH

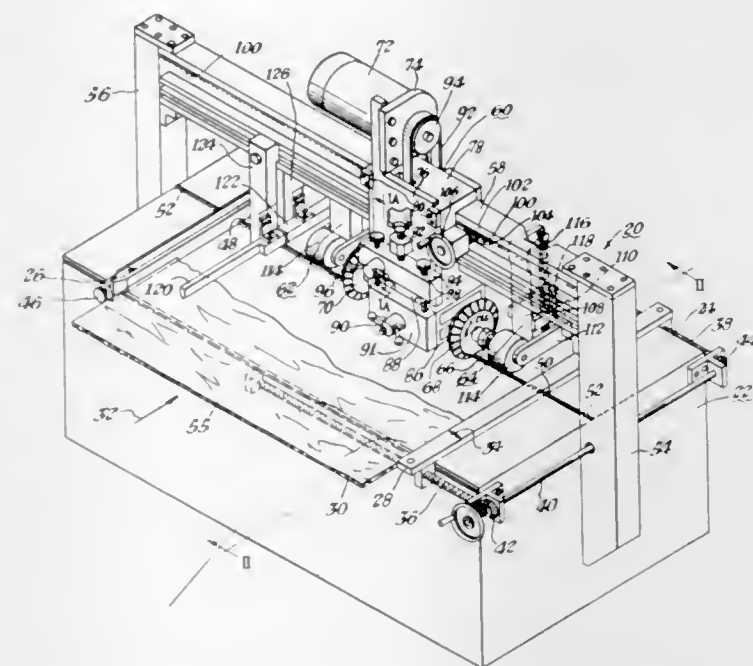
William Gluck, Box 315, Monroeville, Pennsylvania 15146

Filed March 29, 1968, Ser. No. 717,178

Int. Cl. B27f 1/04

U.S. Cl. 144—323

36 Claims



I disclose cutting apparatus comprising a relatively rigid support, a reference member formed on said support so that relatively thin material to be cut can be bent or bowed slightly on at least one side of said reference member to ensure contiguous contact therewith, cutting means juxtaposed above said reference member for cutting said material to a precise depth relative to said reference member, said reference member being so disposed that the weight of said material slightly bows or bends said material over said reference member and on at least one side thereof.

3,538,969

MACHINE FOR TRIMMING PROJECTIONS FROM GLOBULAR ARTICLES

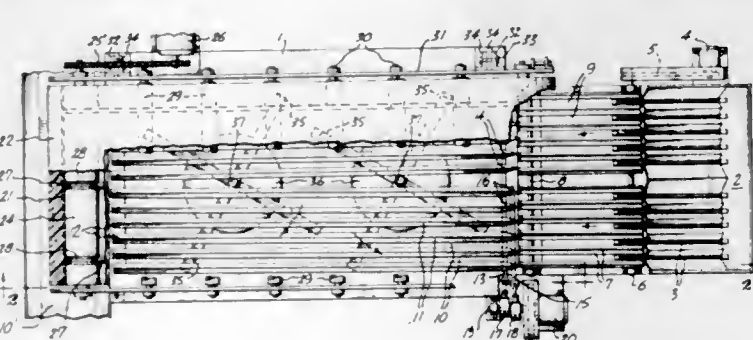
James P. Cox, Milwaukie, Oregon, assignor to John Inglis Frozen Foods Company, Modesto, California a corporation of California

Filed Feb. 21, 1968, Ser. No. 707,152

Int. Cl. A23n 15/02

U.S. Cl. 146—81

12 Claims



By engagement of pad means with the upper side of a globular article, it is rolled along guideways in a compound rotation, which periodically moves a projection of the article through the slot of the guideways. Such compound rotation in one form is effected by moving a pad above linear guideways in a direction generally lengthwise of the

guideways while the guideways are oscillated transversely of their lengths. Knife blades are rotated closely beneath the guideways to sever projections of articles extending through the slot of the guideways. The knife blades are adjustable to vary the spacing between them and the bottom of the guideways to regulate the trimming of the projections.

3,538,970

TIRE STUDS

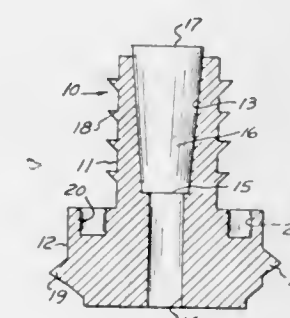
Benjamin H. Shwayder, Franklin, Mich., assignor to Shwayder Chemical Metallurgy Corporation, Detroit, Mich.

Filed July 24, 1968, Ser. No. 747,291

Int. Cl. B60c 1/116

U.S. Cl. 152—210

2 Claims



A tire stud having an enlarged head and a narrowed shank, out of which a hardened insert extends, with threads formed upon the circumference of the head for screw threading the stud into an opening formed in a tire surface.

ERRATUM

For Class 152—354 see:
Patent No. 3,538,974

3,538,971

PLANTER WHEEL TIRE HAVING SOIL PINCHING STRUCTURE

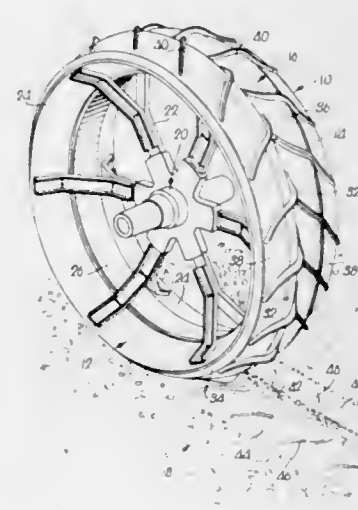
Wayne R. Stewart, Hutchinson, Kansas, assignor to The Pulaski Rubber Company, Pulaski, Tennessee

Filed Aug. 1, 1968, Ser. No. 749,413

Int. Cl. B60c 11/04

U.S. Cl. 152—352

8 Claims



A hollow, deformable tire for farm implement press wheels has a median depressed area therearound, bounded by a pair of increased thickness, circumferential ribs, together with inclined marginal areas therearound, operable while in engagement with the soil and during tire deflection to pinch the furrow shut, tightly around the seed, presenting a mound of loose soil over the seed. Each rib is traversed by a continuous row of spaced, oblique bars extending across the adjacent marginal edge to a sidewall of the tire and across one half of the median area to the center line of the tire for fracturing the crust of the soil on both sides of the mound.

3,538,972

ADHESIVE SYSTEMS METHOD OF BONDING REINFORCEMENT TO RUBBER AND RESULTING PRODUCTS

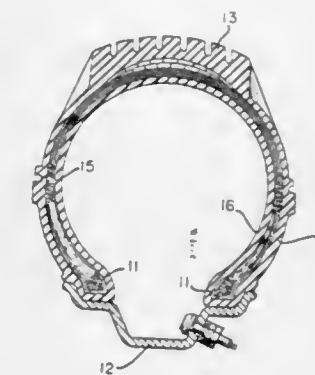
Peter A. Yurcick, South River and Charles Tyler Bills, Metuchen, New Jersey, assignors to Ashland Oil & Refining Company, Houston, Texas a corporation of Kentucky

Filed April 19, 1968, Ser. No. 722,656

Int. Cl. B32b 25/12; 2/06; B60c 1/00

U.S. Cl. 152—354

12 Claims



A polyester fiber reinforcement is coated in a single-dip process with an aqueous mixture of rubber latex, two-stage liquid polyhydric phenolaldehyde phenol sulfide resin and sufficient additional reactive aldehyde to render the resin thermosetting upon reaction therewith. After drying, the coated reinforcement is brought into contact with an unvulcanized solid rubber matrix containing curatives, and the resultant composite is subjected to sufficient heat and pressure to vulcanize and form the rubber into a reinforced article displaying improved adhesion between the rubber and reinforcement under conditions of high temperature and dynamic stress.

3,538,973

CONTINUOUS RENDERING APPARATUS

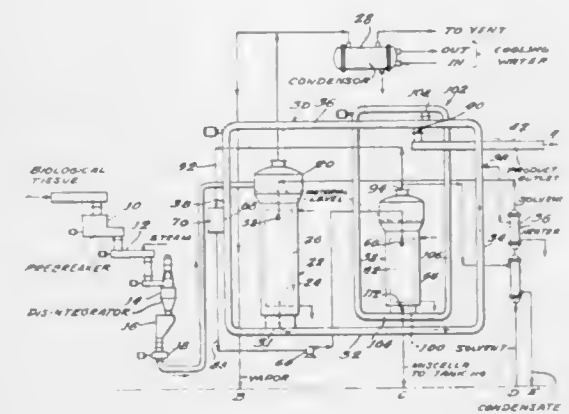
Ezra Levin, Champaign, Illinois, assignor to VioBin Industries, Inc., Champaign, Illinois a corporation of Delaware

Filed Nov. 2, 1964, Ser. No. 408,231

Int. Cl. B01d 1/30; A23; C11b 1/10

U.S. Cl. 159—42

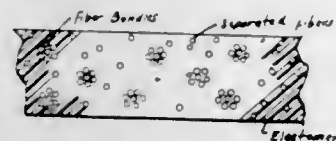
8 Claims



Apparatus for processing particles of wet-fat tissue into dried and defatted particles and oil. The apparatus has a first distillation vessel containing a fat solvent which forms an azeotrope with the moisture of the particles of a conveyor associated with the first distillation vessel for removing processed particles therefrom. The apparatus also has a second distillation vessel connected to the first vessel and receiving a slurry therefrom of tissue particles, fat and solvent from the said first vessel. The apparatus also has a filter connected to the second vessel for removing dry and defatted particles from a miscella withdrawn from the second vessel. A filter screen is disposed in the connection between the first and second vessels to reduce the number of particles transferred from the first to the second vessel, and the second vessel is provided with a conveyor to remove particles therefrom.

3,538,974

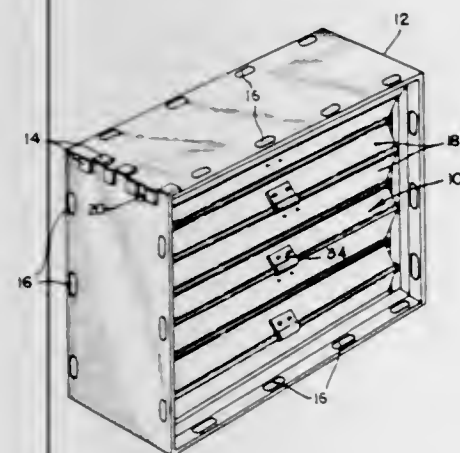
GLASS FIBER ELASTOMERIC MOLDING COMPOUND AND PRODUCTS MADE THEREFROM
 Alfred Marzocchi, Cumberland, Rhode Island, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
 Original application May 7, 1965, Ser. No. 453,938, now Patent No. 3,334,166, dated Aug. 1, 1967. Divided and this application April 4, 1967, Ser. No. 644,423
 Int. Cl. B60c 9/12; F16g 1/10; B32b 17/04
 U.S. Cl. 152-354 23 Claims



Elastomeric glass-fiber molding compounds are disclosed comprising a continuous phase of elastomeric material and a discontinuous phase of chopped or cut glass fibers having a length between $\frac{1}{4}$ and $1\frac{1}{2}$ inches. The glass fibers are present in the form of both fiber bundles and individual fibers which are uniformly distributed throughout the elastomeric phase. The major proportion of the glass fibers are present as bundles of a multiplicity of glass fibers, and a minor proportion are present as smaller bundles or separated fibers. The molding compounds may be used in the manufacture of rubber tires, rubber belting, rubber hose, and the like.

3,538,975
FIRE DAMPER

Sam S. Mett, Glenview and Sherwin S. Tarnoff, Northbrook, Illinois, assignors, by mesne assignments, to Air Balance, Inc., Chicago, Illinois a corporation of Delaware
 Filed Nov. 25, 1968, Ser. No. 778,671
 Int. Cl. E05f 15/20; E05d 15/26
 U.S. Cl. 160-1 8 Claims



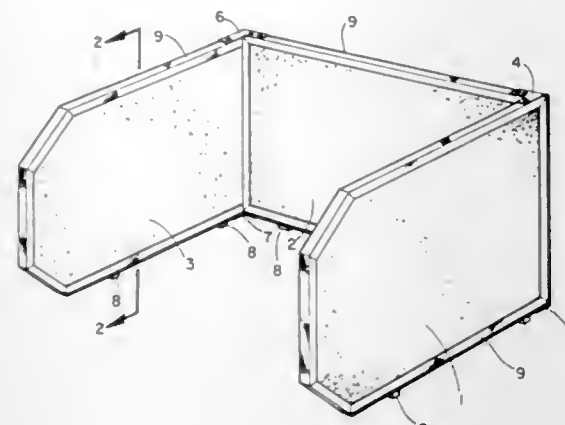
A fire damper assembly comprises a rigid frame having a pair of parallel side walls with a flange and a rail on each wall defining a channel and a slat assembly mounted in the channels. The slat assembly is formed of a succession of impervious metal slats with their edges interfitting to permit the slats to be rotated relative to one another from a folded position to an extended position. Extensions from respective edges of each slat straddle the rails. Retainer rings on the extensions hold the edges of the slats together and act as bearings in closing the damper.

3,538,976
PORTABLE STUDY STATION

Carl S. Gilbert, Canoga Park; Jack M. Jones and Robert J. Ventura, Newhall, California, by mesne assignments to Teaching Technology Corporation, Northridge, California a corporation of California.
 Filed Oct. 3, 1968, Ser. No. 764,742
 Int. Cl. E06b 03/48; E05b 15/26
 U.S. Cl. 160-130 1 Claim

A study enclosure structure having three wall sections

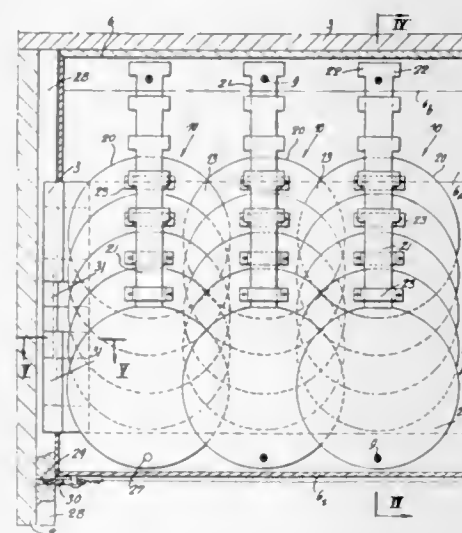
which are joined by hinges whereby the wall sections may be erected vertically from a horizontal surface to form a study



station comprising three sides of a rectangle or collapsed into a volume of minimal size for storing and transporting.

3,538,977
SUSPENDED DISMOUNTABLE PARTITIONS FOR INDUSTRIAL BUILDINGS

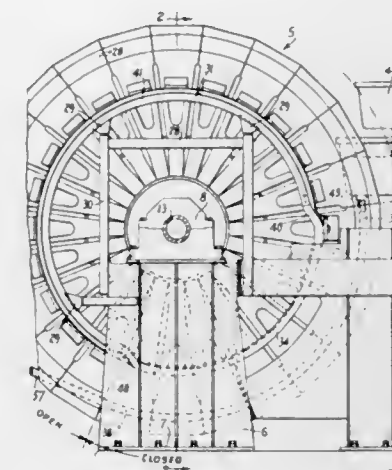
Jacques Leon Alexandre See, Paris, France, assignor to Rador S.A., a company
 Filed Oct. 28, 1968, Ser. No. 770,999
 Claims priority, application France, Oct. 26, 1967, 125,993
 Int. Cl. E05d 15/16
 U.S. Cl. 160-202 9 Claims



The hanging dismountable partition for industrial buildings comprises a suspension iron part of U-shape whose end is fixed to the roofing of the building and whose flanges have a series of holes for positioning pins from which partially overlapping panels are suspended and on which other similar panels are hooked also overlapping each other and the superimposed panels. The panels of the various rows hanging from those hooked on the suspension iron parts are respectively provided with a rigid stem, of substantially T-shape, offset in relation to one of the lateral faces of the panel to an extent very slightly greater than the thickness of the panel and loosely sliding in a member carried by the panel immediately above it.

3,538,978
METHOD OF ROTATIVELY CASTING CONTINUOUS INGOTS

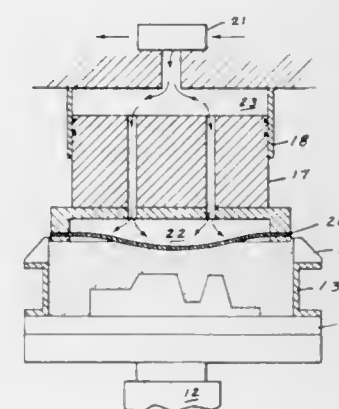
Arnold H. Boehm, 5629 Rand Ave., Cote St. Luc, Montreal, 29 Quebec, Canada
 Original application April 7, 1965, Ser. No. 446,173, now Patent No. 3,384,153, dated May 21, 1968. Divided and this application May 17, 1968, Ser. No. 739,963
 Int. Cl. B22d 11/00
 U.S. Cl. 164-87 3 Claims



Method of casting a uniformly cross-sectioned continuous metal ingot in a rotary casting machine in which pairs of mould segments are brought together at the starting point and separated at the finish point of an arcuate casting channel which extends over a quadrant of rotation of the machine, while liquid metal is poured into the channel at the starting point. The method is characterized in that the ingot is progressively cooled during its passage through the quadrant of rotation; the cross section of the ingot is progressively reduced to compensate for shrinkage in cooling; the arcuately cast ingot is discharged tangentially in a straight line from the casting channel; and excess metal is provided at the inner edge of the arcuate ingot during casting to facilitate stretching and prevent rupture of the ingot when it is tangentially straightened during its discharge from the machine.

3,538,979
MOLDING MACHINE WITH COMPENSATING PAD ASSEMBLY

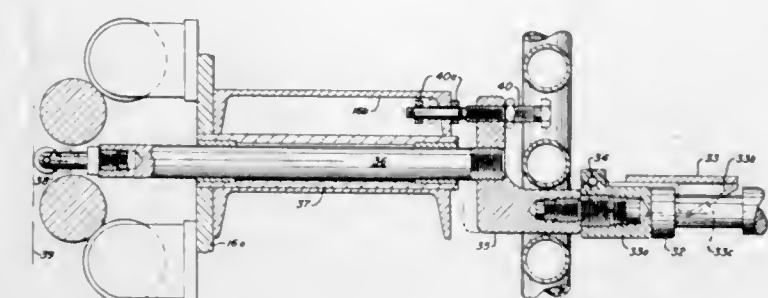
Edwin C. Medill, North East, Pennsylvania, assignor to Taccone Corporation, North East, Pennsylvania a corporation of Pennsylvania
 Filed Jan. 29, 1968, Ser. No. 701,382
 Int. Cl. B22c 15/08
 U.S. Cl. 164-170 3 Claims



Apparatus is made up of a squeeze cylinder, piston, diaphragm, and associated equipment on a molding machine. The molding machine has provision for supporting a flask. The piston has a cavity facing the flask, and the diaphragm is supported over the cavity and attached to it by a squeeze frame. A supply of compressed gas is connected to the space in the cylinder behind the piston. A passage for gas is provided through the piston to the cavity behind the diaphragm.

3,538,980
ROLLER CAGE FOR CONFINING CONTINUOUS CASTING AS IT EMERGES FROM MOLD

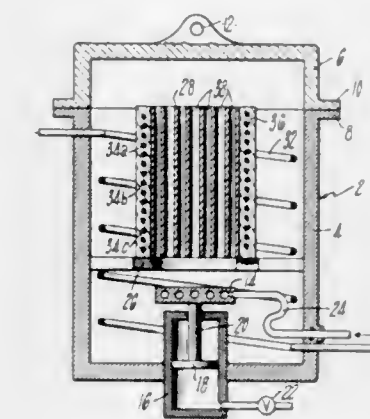
Francis Gallucci, North Huntingdon Township, County of Westmoreland, Pennsylvania, assignor to United States Steel Corporation, a corporation of Delaware
 Filed Feb. 27, 1968, Ser. No. 708,660
 Int. Cl. B22d 11/12
 U.S. Cl. 164-282 3 Claims



A cage for confining a slab casting descending from a tubular flow-through mold is constituted by spaced opposed banks of rollers engaging both the broad faces and the edges of the slab. The rollers are journaled in side and end frames bolted together forming an enclosure open at the top and bottom. The rollers engaging the slab edges are adjustable to various slab widths. Cooling-spray nozzles extend between adjacent rollers of all banks. Thrust rods slidable through the side and end frames have terminal rollers for centering the conventional starter bar as it is raised to starting position. Actuating cylinders for the thrust rods have their piston rods engageable therewith by a self-acting disconnectable latch. Screw jacks are provided for making slight lateral adjustment of the cage to assure precise alignment with the mold. The cage stands on a fixed support and keys and keyways on the contacting surfaces thereof effect exact relative positioning. These surfaces also have self-sealing joints in pipe lines supplying water to manifolds on which the nozzles are mounted.

3,538,981
APPARATUS FOR CASTING DIRECTIONALLY SOLIDIFIED ARTICLES

Charles M. Phipps, Jr., Wapping, Connecticut, assignor to United Aircraft Corporation, East Hartford, Connecticut a corporation of Delaware
 Filed Aug. 5, 1968, Ser. No. 750,335
 Int. Cl. B22d 27/04, 25/00, 15/04
 U.S. Cl. 164-338 8 Claims



Articles in which the crystalline structure is directionally controlled as, for example, in directionally solidified or single crystal articles are cast in individual molds with a mechanism to control the cooling rate and direction such that orientation of the crystalline structure is precisely controlled. A graphite susceptor surrounds the individual molds and in cooperation with a chill plate provides the necessary control of the cooling rate and direction.

3,538,982

TWISTED SPLITTER FOR FLUID STREAM

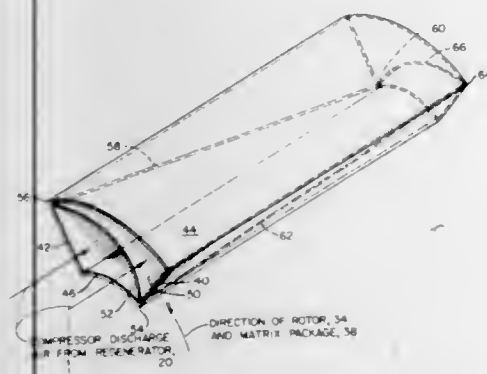
Bruno M. Fiori, Farmington, Connecticut, assignor to United Aircraft Corporation, East Hartford, Connecticut a corporation of Delaware

Continuation-in-part of application Ser. No. 588,051, Oct. 20, 1966, now abandoned. This application Oct. 21, 1969, Ser. No. 813,782

Int. Cl. F23l 15/02; F29f 13/12; F15d 1/02

U.S. Cl. 165—7

5 Claims



Fluid mixing apparatus is presented wherein air is passed over a heat source which is passing in front of a mixing duct and then enters the duct. The duct is divided into two sections by a twisted divider which presents two sections of varying cross-sectional entrance area. The divider forms two sections of reversing variable cross section along the length of the duct.

3,538,983

HEAT EXCHANGER FOR THE CONDENSATION OR VAPORIZATION OF FLUIDS

Rudolf Thoma, Heidelberg and Gerd Schwarzkopf, Walldorf, Germany, assignors to J. Reiert GmbH, a corporation of Germany

Filed Nov. 14, 1968, Ser. No. 775,732

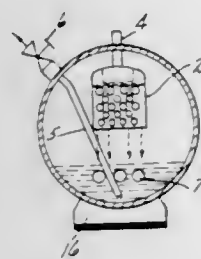
Claims priority, application Germany, June 7, 1968,

1,751,489; A29,924

Int. Cl. F28d 13/00

U.S. Cl. 165—104

11 Claims



This application discloses a heat exchanger for condensing or vaporizing fluids which contains a bell-shaped heat exchange component mounted in a tubular container, a plurality of tubes for conveying a first heat exchange fluid, with the tubes being mounted in the bell-shaped heat exchange component, a porous, metallic material comprising a plurality of metallic particles heat conductively connected to each other and to the outside walls of the tubes and to the inside walls of the bell-shaped component, the porous material being within the bell-shaped component and conveying a second heat exchange fluid in heat exchange relationship with the first heat exchange fluid.

3,538,984

HEAT EXCHANGER UNIT

Paul Leopold Kaesermann, 101 Bernstrasse, 3053 Muenchenbuchsee, Switzerland

Filed May 15, 1968, Ser. No. 729,322

Claims priority, application Switzerland, May 17, 1967, 7/70/67

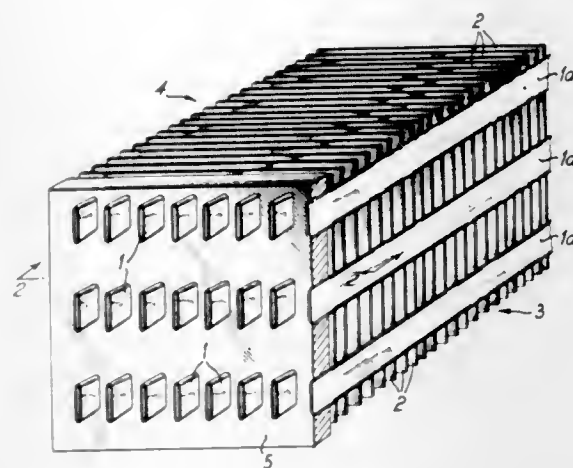
Int. Cl. F28g 1/30

U.S. Cl. 165—182

4 Claims

A large transverse parallel plate finned heat exchanger section is constructed with a plurality of transverse horizontal

spaced rows of vertically aligned fluid-conducting tubes of flat cross section, soldered to the parallel plates to form a bracing bar construction which will permit the exchanger to be readily cut into a number of small units along a vertical plane extending through the center of the flat tubes in a



given row. Flat tubular support pieces disposed in spaced vertical rows extending through the parallel plates can also be used independently of the fluid-conducting tubes extending therethrough to permit cutting of sections in a vertical plane along these pieces without disturbing the fluid-carrying tubes.

3,538,985

MACHINE FOR THINNING AND HOEING ROWS OF PLANTS

Arnold Gego, 67 Soerser Weg, Aachen, Germany

Filed July 31, 1968, Ser. No. 749,117

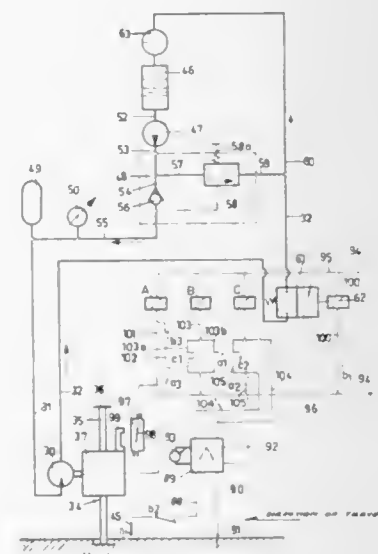
Claims priority, application Germany, July 31, 1967,

1,557,705

Int. Cl. A01b 63/110

U.S. Cl. 172—6

14 Claims



A plant thinning and hoeing device in which a rotary tool support having radially extending tools is mounted on a rotary hydraulic motor which is actuated by a feeler contacting a plant behind the tool support to actuate electrohydraulic circuitry to open a valve in the exhaust line of the motor to permit the motor to rotate to actuate the tool support member with automatic valving means controlling the fluid pressure to the drive motor.

3,538,986

VIBRATING RIPPER

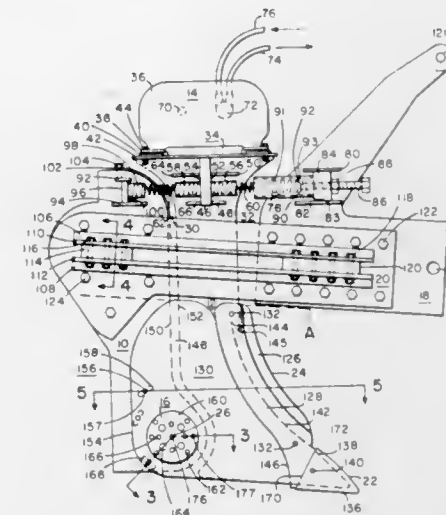
Olly O. Stoffel, 4527 Del Mar Ave., San Diego, California

Filed Aug. 14, 1967, Ser. No. 660,389

Int. Cl. A01b 35/00

U.S. Cl. 172—40

14 Claims



This vibrating ripper is moved by a prime mover through material to be ripped and has a support shank rigidly secured to a drawbar means with an operating shank positioned forward of and pivotally connected to the support shank. A vibrating means oscillates the operating shank on the pivotal connection and resilient means spaces the operating shank relative to the support shank.

3,538,987

AGRICULTURAL APPARATUS FOR SHAPED BEDS

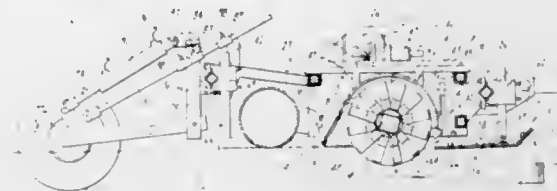
Clyde L. Taylor, Visalia, California, assignor to Leslie Ford Williams, Buttonwillow, California

Filed Nov. 3, 1964, Ser. No. 408,572

Int. Cl. A01b 33/02

U.S. Cl. 172—60

3 Claims



Agricultural apparatus having bed-forming means for forming the beds and mulching means for mulching the beds after they have been formed by the bed-forming means and means for re-forming the beds after they have been mulched by the mulching means.

3,538,988

COIN CONTROLLED LOCK

Yasuhiro Hashimoto, Niza-Machi, Japan, assignor to Tokyo Cabinet Kabushiki Kaisha, Tokyo, Japan

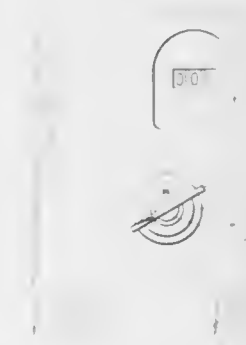
Filed March 15, 1968, Ser. No. 713,450

Claims priority, application Japan, Aug. 7, 1967, 42/68,020

Int. Cl. G07f 5/00

U.S. Cl. 194—92

14 Claims



A coin has three positions in the lock. In the first position, the coin will cause a detent member to be pivoted away from

rotary passage of a stopper member provided on the locking bolt when a key is turned. In the second position, the coin will continuously retain the detent member in thus pivoted position. In the third position, the coin is held at the entrance to coinbox. Since the detent member is retained in the retreated position when the coin is in the second position, the locking bolt can be brought back to unlocking position as desired without affecting the indication of counter means.

3,538,989

CONVEYING

Robert Dean, Felixstowe, England, assignor, by mesne assignments to Fisons Limited, Felixstowe, England a British company

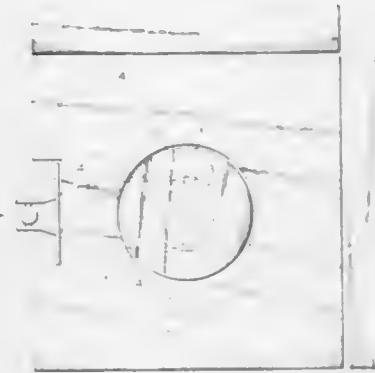
Filed May 23, 1968, Ser. No. 731,545

Claims priority, application Great Britain, May 31, 1967, 25,062/67

Int. Cl. B65g 47/00

U.S. Cl. 198—20

7 Claims



A device for transferring articles between endless conveyors set at an angle to each other wherein a tilting platform and turntable cooperate to change the direction of the article.

3,538,990

BOBBIN ORIENTING INSTALLATION

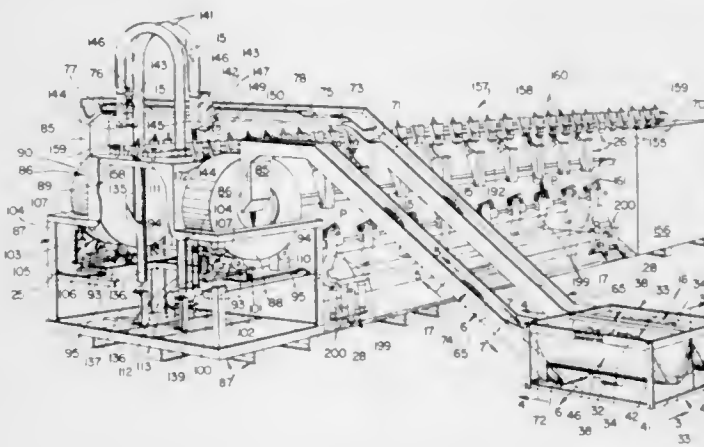
Charles W. Brouwer, East Greenwich, Carlton N. Bugbee, Jr., David T. Guerin and Raymond V. Tata, Warwick, Rhode Island, assignors to Leesona Corporation, Warwick, Rhode Island a corporation of Massachusetts

Filed Sept. 11, 1967, Ser. No. 666,626

Int. Cl. B65g 47/24; G07f 11/00

U.S. Cl. 198—33

22 Claims



A textile mill installation and apparatus for simultaneously handling various types of filled yarn bobbins. The filled bobbins are stored in a yarn spinning or twisting processing area. Each type of filled bobbins is stored in a jumbled condition in a separate storage bin at the processing area and is automatically conveyed to bobbin orienting equipment at the winding area. The various types of oriented bobbins are selectively distributed to winding stations using a particular one of the types of bobbins to wind the packages. Once the various types of jumbled bobbins have been deposited in their respective storage bins, the entire operation of orienting and distributing the bobbins is automatic. The apparatus includes

a storage bin conveyor which cooperates with a delivery conveyor in avoiding scuffing and undesirable interference of the bobbins while conveying the bobbins from the processing area to the orienting equipment which automatically orients both partially and fully filled bobbins. Finally, a distributing system receives the various types of the oriented bobbins and simultaneously and automatically distributes each type of bobbin to winding stations using that type of bobbin.

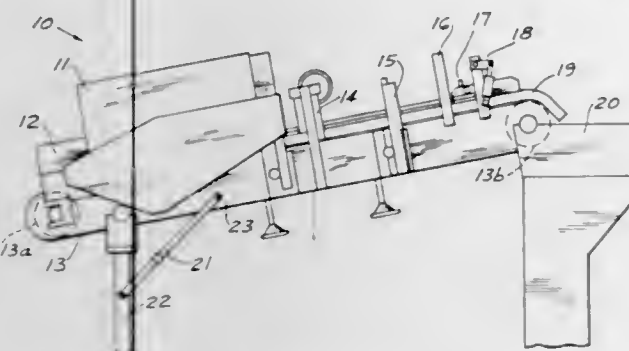
3,538,991

APPARATUS FOR ARRANGING AND CONVEYING BOTTLES AND THE LIKE

Burton R. Garrett, 131-12 232nd St., Laurelton, New York
Continuation-in-part of application Ser. No. 638,454, May 15, 1967, now Patent No. 3,487,908. This application May 1, 1969, Ser. No. 820,863
Int. Cl. B65g 47/26

U.S. Cl. 198—34

10 Claims



A feeding apparatus in the packaging industry includes a hopper in which articles, such as bottles, are randomly placed. The apparatus delivers the articles, one at a time from each of its channels, in an end-to-end relationship, at predetermined intervals. The apparatus includes a device to separate articles which have accidentally become engaged with each other, for example, due to engagement of the threaded necks of two bottles. The separation device includes a double-acting air piston, a pivotable linkage and a hinged side wall member.

3,538,992

DEVICE FOR HANDLING DISCRETE LAMINAR ARTICLES

Narottam Mohanlal Chauhan, Vasant, Ghod Bunder Road, Vile Parla, Bombay, India

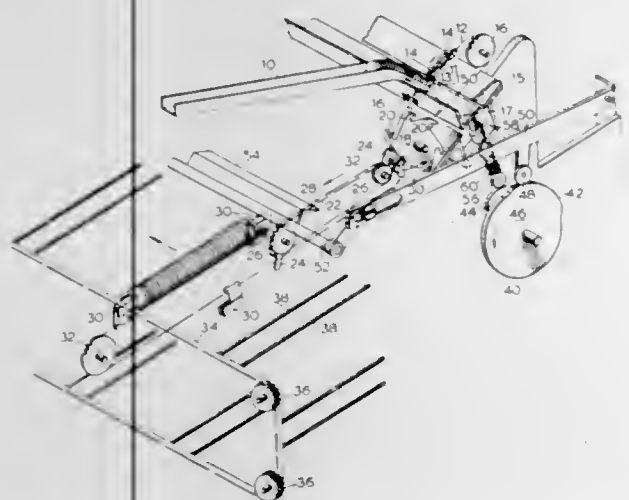
Filed Nov. 24, 1967, Ser. No. 685,412

Claims priority, application Great Britain, Nov. 24, 1966, 52,604/66

Int. Cl. B65f 35/30; B65g 57/00

U.S. Cl. 198—35

18 Claims



The present invention relates to devices for handling discrete laminar articles e.g. biscuits. By the present invention a continuous supply of such articles may be separated into batches each containing a predetermined number of such articles and transferred to a further handling station, e.g. a packing station.

3,538,993

PACKAGING MACHINE

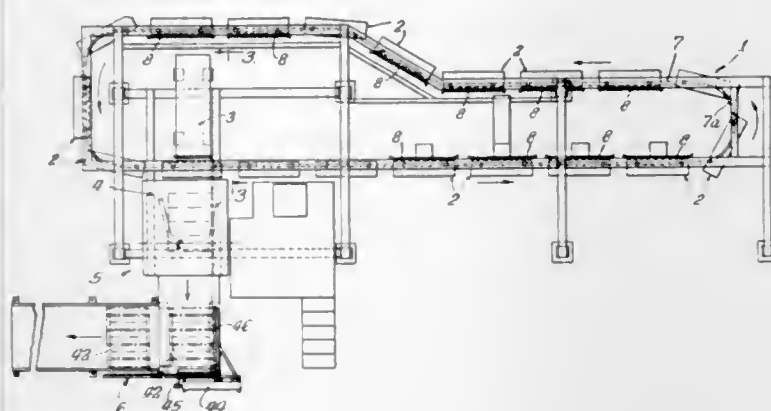
Thomas C. Potter, Park Forest, and George H. Burt, Mokena, Illinois, assignors to Interlake Steel Corporation, Chicago, Illinois, a corporation of New York

Original application April 20, 1966, Ser. No. 543,958, now Patent No. 3,398,675, dated Aug. 27, 1968. Divided and this application May 13, 1968, Ser. No. 770,142

Int. Cl. B65g 57/09

U.S. Cl. 198—35

2 Claims



A machine for packaging loose stacks of articles. Loading stations are provided with backing plates against which the articles are stacked to impart vertical alignment of the articles in a stack. Conveyor means transports the stacks in jigs from station to station and guide means are arranged to urge the jigs away from the backing plates when moved from station to station to prevent the articles stacked on the jigs from sliding across the backing plates.

3,538,994

APPARATUS FOR CONVEYING TONER PARTICLES

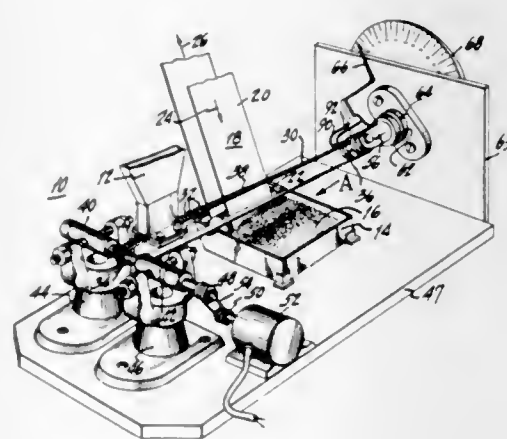
Roger G. Olden, Gwynedd, Pennsylvania, assignor to RCA Corporation, a corporation of Delaware

Filed Nov. 22, 1968, Ser. No. 778,223

Int. Cl. B05b 5/02; B65g 47/44

U.S. Cl. 198—44

13 Claims



Apparatus for conveying toner particles from a remote replenisher source to a main source where the toner particles are consumed in a process comprises an endless belt and means to dispose it for rotation over the main source of toner particles. The belt is formed with a plurality of compartments and the replenisher source is disposed over the belt so that toner particles can fall thereon. Means are provided to rotate, twist, and vibrate the belt over the main source so that toner thereon can fall into the main source to replenish it.

3,538,995

SCRAPER FOR LOADING GRANULAR MATERIAL

Mario Buligan, Via San Vito 37, Bannia, Udine, Italy

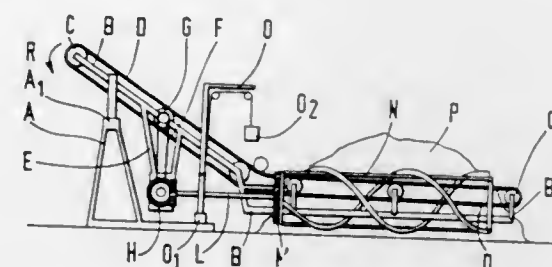
Filed April 1, 1968, Ser. No. 717,792

Claims priority, application Italy, May 5, 1967, 7051-A/67

Int. Cl. B65g 37/00, 65/06

U.S. Cl. 198—103

1 Claim



A helical scraper associated with a conveyor for collecting aggregates from a heap on the ground and conveying them, for example into a concrete mixer. The helical scraper has the form of a cylinder with helical scraper bands extending around its circumference, the cylinder being formed by two end rings interconnected by bars and one horizontal end of the conveyor extending into the interior of the cylinder which is rotatable and kept in constant engagement with the heap of material to be conveyed by a counterweight system attached to the foot portion of a base on which the conveyor and scraper are swingably mounted. During rotation of the cylindrical scraper the aggregates are scraped in by the scraper bands provided with blades and when they arrive at the upper portion of the cylinder the aggregates drop onto the underlying conveyor belt which convey them upwardly to the point of utilization, usually a concrete mixer.

3,538,996

MANURE ELEVATING CONVEYOR FOR STABLE CLEANING APPARATUS

Denis Ledoux, St. Pie, Quebec, Canada, assignor to La Cie

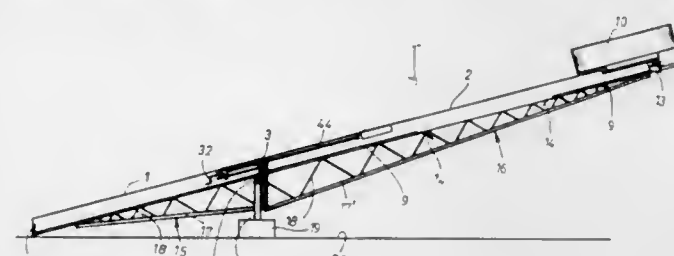
R.A. Lajoie Ltee, St. Pie, Quebec, Canada

Filed June 18, 1968, Ser. No. 738,041

Int. Cl. B65g 21/02, 41/00

U.S. Cl. 198—109

6 Claims



A manure elevating conveyor for stable cleaning apparatus including an inclined trough disposed outside the stable or barn, having a fixed inner portion and a cantilevered outer portion reinforced by truss work and pivoted to the inner portion for swinging movement, the truss work and the pivot arrangement serving to eliminate all overhanging or underlying support structure for the outer swingable portion.

3,538,997

ENDLESS CONVEYOR FLIGHT WITH REPLACEABLE HOLDERS

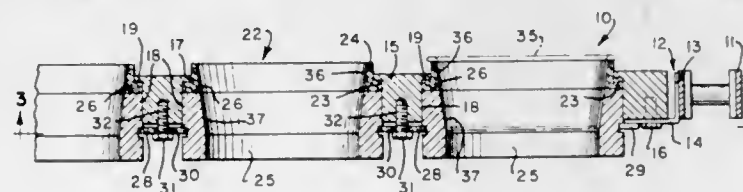
William C. Christine, Catasauqua and Joseph E. Pierce, Allentown, Pennsylvania, assignors to A.E.I. Corporation, Bethlehem, Pennsylvania a corporation of Delaware

Filed Nov. 5, 1968, Ser. No. 773,393

Int. Cl. B65g 15/00

U.S. Cl. 198—131

4 Claims



Apparatus for use with an endless conveyor and including a plurality of replaceable holders for accommodating multiple containers used in the packaging of food products.

3,538,998

SUGAR CANE PILER

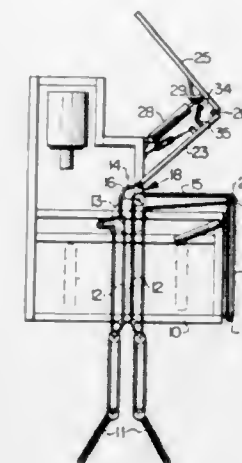
Harold A. Willett, Thibodaux, Louisiana, assignor to Cane Machinery & Engineering Company, Inc., Thibodaux, Louisiana a corporation of Louisiana

Filed April 14, 1969, Ser. No. 815,587

Int. Cl. B65g 15/00; A01d 45/02

U.S. Cl. 198—160

4 Claims



This invention relates to a gateable piler for a sugar cane harvester which does not employ arches between the sticker chain conveyor and the adjacent pressure bar and which piler is foldable into compact sections when not in use. The piler is capable of being used for three-row heap rows by gating controls to permit cane discharge at three points at the rear of the harvester.

3,538,999

DOLLY CONVEYOR FOR A DISHWASHER

Tore H. Noren, 1350 Donner Ave., San Francisco, California

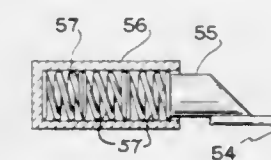
94124

Filed Feb. 23, 1968, Ser. No. 707,565

Int. Cl. B65g 17/22, 17/34

U.S. Cl. 198—181

15 Claims



A dolly conveyor for a dishwasher including a table having an endless track for supporting a train of dollies for supporting dishcontaining baskets. The dollies abut each other and novel means is used for successively moving one dolly at a time for moving the entire train of dollies into and out from a dishwasher. The dolly moving means prevents the dollies from being moved faster than a predetermined speed through the dishwasher.

3,539,000

CLASSIFICATION BY FLOTATION

Walter Vogel, Santiago de Chile, Chile, assignor to Bergwer Ksverband G.m.b.H., Essen, Germany

Filed Sept. 18, 1967, Ser. No. 668,354

Claims priority, application Germany, Aug. 5, 1967, K46656

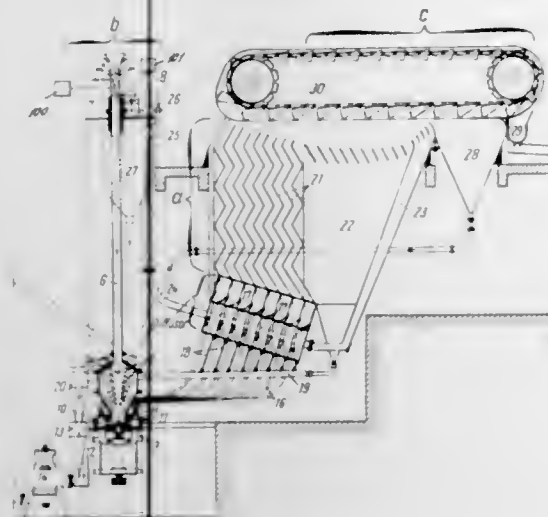
Int. Cl. B03b 1/00; B03d 1/02

U.S. Cl. 209—3

20 Claims

Improvements in flotation apparatus and flotation methods for sulfide ores and other materials are disclosed. The suspension of solid particles and bubbles is caused to pass upwards through zig zag ducts specially dimensioned so as to

ensure optimum conditions for adhesion of the bubbles and particles together. Further improvements include the use of a



stirrer with replaceable wearing parts and the provision of diffusors associated with the zig zag ducts.

3,539,001

TIME-METERED MOVABLE THROAT DRAWOFF

William B. Binnix and Donald B. Binnix, both of Fallentimber, Pennsylvania 16639

Filed Aug. 30, 1968, Ser. No. 756,668

Int. Cl. B07b 3/12; B03b 1/100

U.S. Cl. 209-475

32 Claims



The method and apparatus for selectively classifying minerals and other materials of predetermined size and specific gravity and more particularly to the method and apparatus for selectively classifying, by positive removal, at preselected locations from the underside of a downwardly sloping and traveling material bed, suspended by pneumatic pulses to stratify according to their specific gravity, according to a predetermined size and specific gravity or range thereof through positive removal by metering the discharge of the material at the preselected locations along the flowing bed in accordance with their size and specific gravity.

3,539,002

PROCESS FOR SEPARATING MOLYBDENITE FROM COPPER SULFIDE CONCENTRATES

Arthur W. Last, Salt Lake City and George L. Fraser, Magna, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Dec. 11, 1967, Ser. No. 697,255

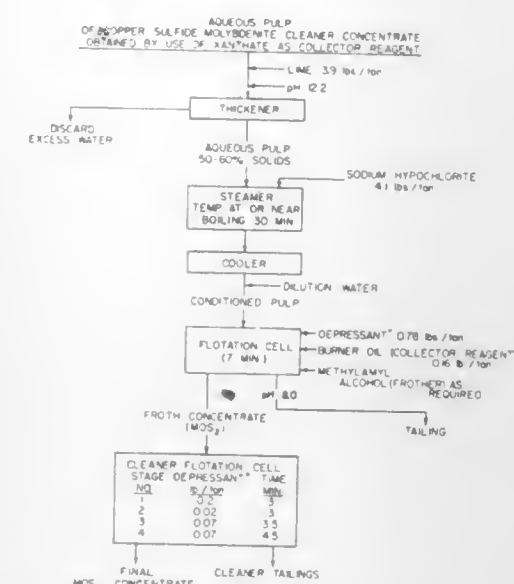
Int. Cl. B03b 1/100

U.S. Cl. 209-3

7 Claims

An improved conditioning and flotation process for the separation of molybdenite from copper sulfide concentrates. A copper sulfide concentrate containing molybdenite is

heated, preferably to boiling or near boiling, in the presence of an oxidizing agent such as sodium hypochlorite. Following dilution and cooling, the resulting pulp is subjected to flota-



*ORIDE SODIUM THIOHYDROGENATE AS DESCRIBED IN U.S. PATENT NO. 2,492,596. REAGENT CONCENTRATION IS GIVEN IN POUNDS OF CONTAINED $\text{Na}_2\text{S}_2\text{O}_4$ PER TON OF PROCESS FEED SOLIDS.

tion in the presence of a collector reagent for molybdenite to produce a molybdenite froth concentrate substantially free from copper sulfide minerals.

3,539,003

SEPARATION OF MINERALS

Jan Ivan Bidwell, Cornwall, England, assignor to English Clays Lovering Pochin & Company Limited, Cornwall, England a British Company

Filed July 10, 1968, Ser. No. 743,599

Claims priority, application Great Britain, July 14, 1969, 32498/68

Int. Cl. B03d 3/06

U.S. Cl. 209-5

15 Claims

A method of separating quartz from a clay mineral containing the same as impurity, which method comprises the steps of (a) forming an aqueous suspension comprising not more than 20 percent by weight of the clay mineral containing the quartz impurity, from 0.05 to 0.5 percent by weight of a deflocculant based on the total weight of solids in the suspension, from 0.005 to 0.1 percent by weight of a flocculant for the clay mineral based on the total weight of solids in the suspension, said flocculant being a water-soluble anionic acrylic polymer, and a quantity of a water-soluble salt having a cation with a valency greater than one such that the concentration of the cation is in the range of from 0.001×10^{-3} to 1.0×10^{-3} gram ions/litre of suspension, (b) vigorously agitating the aqueous suspension, and (c) separating the flocculated clay mineral from the deflocculated quartz.

3,539,004

HANDLING AND TESTING MINIATURE MAGNETIC ELEMENTS

Gene O. Baker; Robert H. Cadwallader, Wappingers Falls, New York and Charles P. Marinelli, Poughkeepsie, New York, assignors to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed June 17, 1968, Ser. No. 737,681

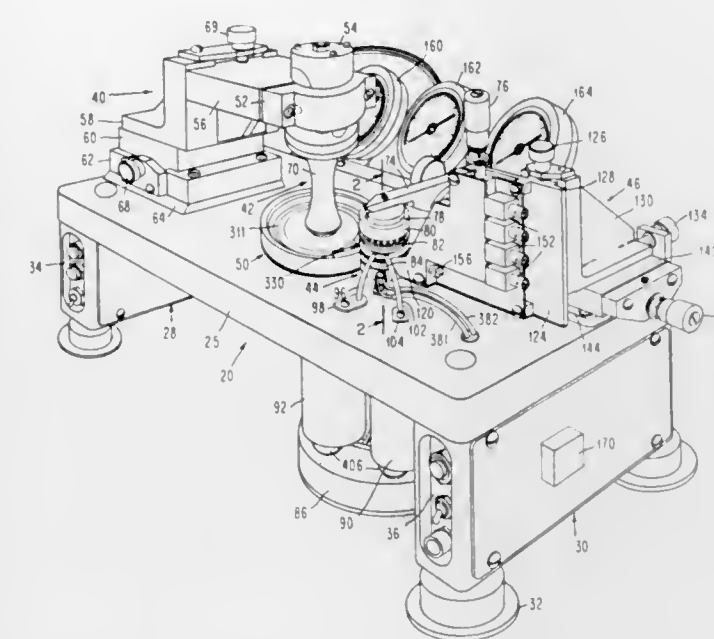
Int. Cl. B07c 1/04

U.S. Cl. 209-73

20 Claims

Toroidal magnetic cores are conveyed by a vibratory feeder to a pickup station where they are transferred into plural vacuum pockets of a rotatable transfer wheel. A sector of the transfer wheel is disposed in a recess in the feed bowl for receiving the cores. Rotation of the wheel by a stepping motor carries the cores and a probe carrier or barrel to a test

station. The probe barrel carries multiple probes, one for each vacuum pocket, and a stationary overhead cam and internal springs provide reciprocity motion to the probes. At the test station, a probe is inserted through the core into en-



agement with multiple contacts and preselected tests are performed upon the core. The test results are stored in a register and used to operate a fluidic sorting means for sorting the cores into acceptable and unacceptable categories.

3,539,005

METHOD OF AND APPARATUS FOR SORTING BODIES OF FERROMAGNETIC MATERIALS IN MAGNETIC FIELD

Pavel Nekvinda, Liberec, Czechoslovakia, assignor to Statni Vyzkumny Ustav Textilni, Liberec, Czechoslovakia

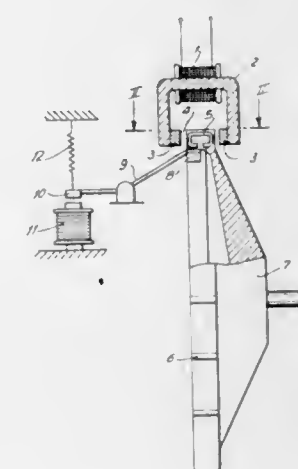
Filed Jan. 14, 1969, Ser. No. 790,905

Claims priority, application Czechoslovakia, Jan. 15, 1968, PV 288-68

Int. Cl. B07c 5/344

U.S. Cl. 209-73

12 Claims



Ferromagnetic articles are conveyed through zones of different magnetic field intensity; in each zone their permeability is compared to a standard value. Signals indicating coincidence with, or deviation from such standard value operate a mechanical sorting device which separates articles of different permeability for collection in different containers.

3,539,006

METHOD AND APPARATUS FOR INSPECTING ANNULAR ARTICLES

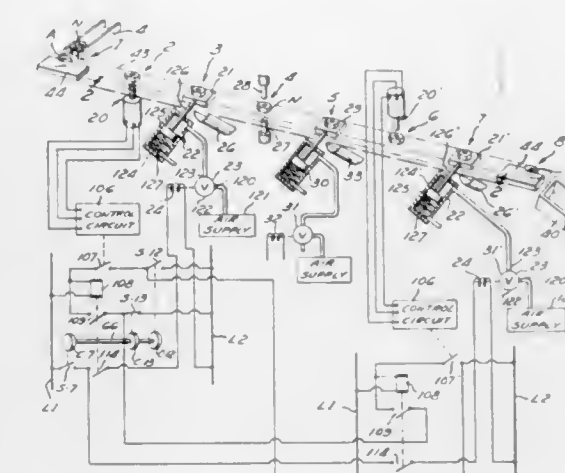
Edward C. Hanna, Strongsville, Warren E. Beutler, Willoughby Hills, and Henry C. Pajak, Parma, Ohio, assignors to The Lamson & Sessions Co., Cleveland, Ohio, a corporation of Ohio

Filed May 22, 1968, Ser. No. 731,205

Int. Cl. B07c 3/12, 5/06

U.S. Cl. 209-73

36 Claims



In the present invention, metal nuts or similar annular articles are advanced intermittently to successive inspection stations, each followed by a reject station. Two of the inspection stations have eddy current scanners which respectively scan the end faces of the article. At another inspection station the opening in the article is probed to determine whether it is of the proper size throughout and is properly screw-threaded. The reject mechanism at each reject station is controlled by the scanner or probes at the immediately preceding station after the time delay involved in advancing the article from the inspection station to the reject station. The articles are advanced from one station to the next by a cam-operated transfer plate which has a cyclic, rectangular path of movement which leaves the articles stationary for most of each cycle.

3,539,007

TILE BLENDING APPARATUS

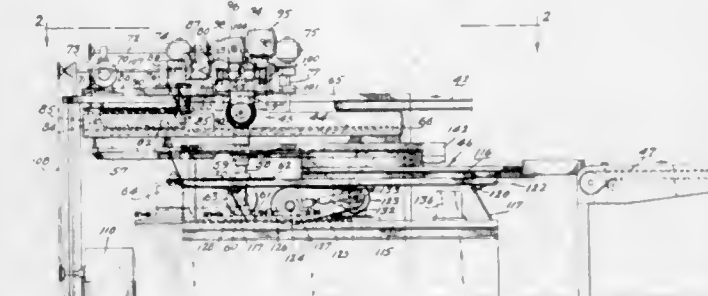
Malcolm A. Schweiker, Worcester and Wayne C. Watson, Ambler, Pennsylvania, assignors to American Olean Tile Company, Inc., Lansdale, Pennsylvania a corporation of New York

Original application June 23, 1966, Ser. No. 559,943. Divided and this application April 24, 1969, Ser. No. 818,881

Int. Cl. B07b 13/04

U.S. Cl. 209-75

8 Claims



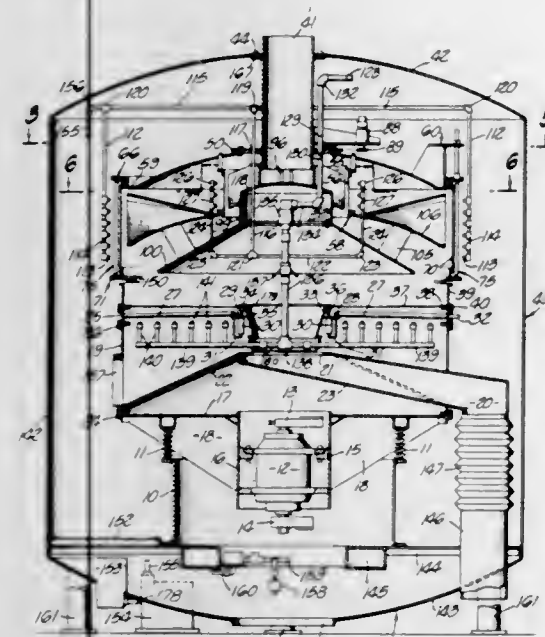
Apparatus for blending ceramic mosaic tile elements into a random assortment including a rotatable mixing table on which the tile elements are blended by blending paddles, brushes and the rotation of the table. Tile elements are removed from the table by rotation of a helical sweep-off brush and pass onto an oscillating separator which advances

single tile elements to a conveyor while separating foreign matter and double-tiles therefrom.

3,539,008

SCREENING APPARATUS EMPLOYING ROTATING CYLINDRICAL SCREEN AND STATIONARY FEED MEANS

Richard K. McKibben, La Canada, California, assignor to SWECO, Inc., a corporation of California
Filed May 22, 1967, Ser. No. 640,241
Int. Cl. B07b 9/00; B01d 33/00
U.S. Cl. 209—234 17 Claims

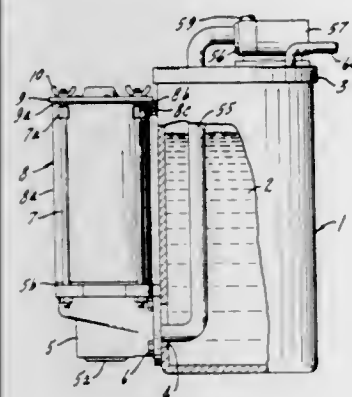


A screening separator including a housing structure, a first planar screen having a central discharge opening and an outer periphery secured to the housing structure and a second screen with means for delivering material to be separated to the second screen adjacent its surface, and a second screen detached from the housing and positioned above the first screen such that no portion of the second screen is in a plane parallel to the first screen and such that any of the material which does not flow through the second screen is delivered to the first screen at near the periphery thereof, and means for vibrating the housing structure and the first screen to cause movement of the material from the outer periphery of the first screen toward the discharge opening for discharge of the oversize component of the material therethrough, and means for moving the second screen.

3,539,009

RESERVOIR-FILTER ASSEMBLY

Walter J. Kudlaty, Elmhurst, Illinois, assignor to Marvel Engineering Company, Chicago, Illinois a corporation of Delaware
Filed March 26, 1968, Ser. No. 716,062
Int. Cl. B01d 35/14
U.S. Cl. 210—90 7 Claims



A reservoir-filter assembly wherein a filter element is within the lower portion of a separate filter housing of a

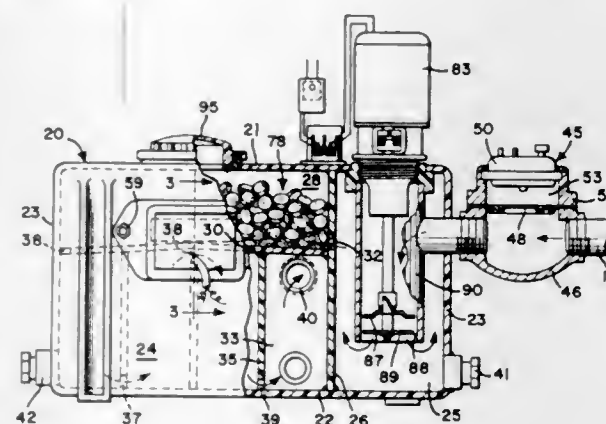
height greater than the maximum liquid level within the reservoir, the housing and reservoir communicating adjacent their lower ends, and means drawing liquid from the housing through the element. The cover for the housing carries a bypass valve, element insertion-removal means, and a contamination indicator. Deaeration means insure a head of fluid above the filter element.

3,539,010

AUTOMATIC MACERATOR UNIT

William H. Smyers, Jr. and Ronald D. Russo, Wethersfield, Connecticut, assignors to Koehler-Dayton, Inc., Dayton, Ohio a corporation of Ohio
Filed Dec. 13, 1968, Ser. No. 783,472
Int. Cl. B01d 33/00 13 Claims

U.S. Cl. 210—143



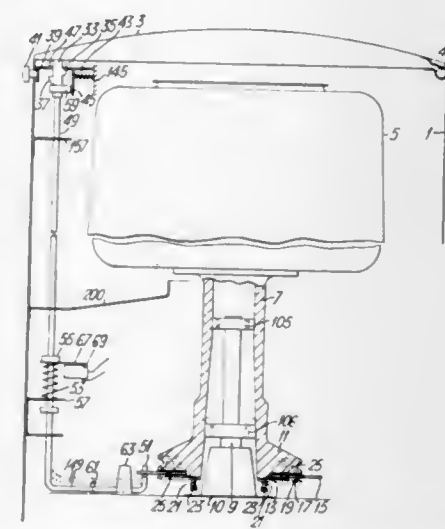
A treatment unit for use on toilets used in small ships including a housing having separate holding chambers with a treatment chamber disposed therebetween. A macerator reduces the size of solids in the first chamber after which the effluent flows into a treatment chamber containing a plurality of chemical tablets for purifying the effluent. The effluent then passes into the second holding chamber from which it is discharged from the unit. The weight of the chemical tablets exert a pressure on a diaphragm which closes a switch for normal operations of the unit. When the level of tablets is below a preset minimum the switch opens and the macerator will not operate. A pressure operated time delay switch is utilized to initiate operation of the macerator upon an increase in pressure in the inlet to the unit. Two embodiments of the diaphragm and switch are disclosed.

3,539,011

ROTARY-DRUM MACHINES

Reginald Thomas Hopkins, Watford, England, assignor to General Motors Corporation, Detroit, Michigan a corporation of Delaware
Filed Oct. 18, 1968, Ser. No. 768,846
Claims priority, application Great Britain, Nov. 2, 1967, 49,789/67
Int. Cl. B04b 7/06
U.S. Cl. 210—146 7 Claims

U.S. Cl. 210—146



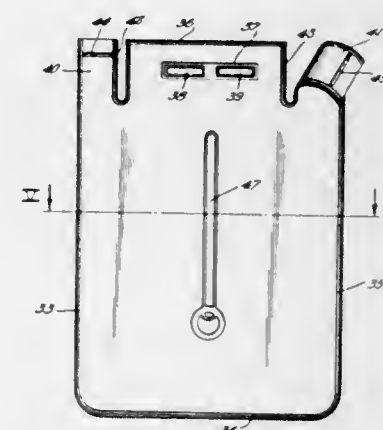
A centrifugal extraction machine includes a casing, a rotary drum within the casing, a lid on the casing openable for

access to the drum, and a lid latch to secure the lid in closed position on the casing. The machine has a brake to brake rotation of the drum, and an interlock between the brake and the latch which interlock is operable by mechanical reaction torque of the brake, when the drum is being braked, to block release movement of the latch and prevent opening of the lid while the drum rotates.

3,539,012

SANITATION SYSTEM

Howard F. MacNeil, 2354 Touhy Ave., Chicago, Illinois 60645
Filed March 14, 1968, Ser. No. 713,226
Int. Cl. B01d 29/04, 39/08
U.S. Cl. 210—238 3 Claims

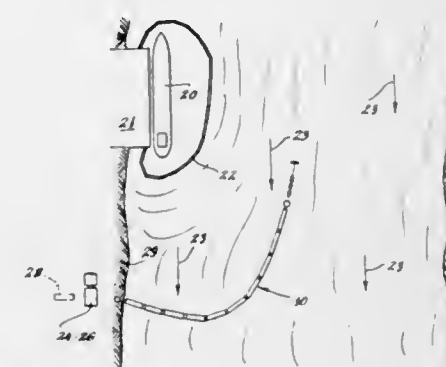


Sanitation system employing a disposable, flexible bag partitioned by means of a foraminous filter member, with an inlet in said bag on one side of the filter member and an outlet on the other side to provide for the separation of solids and the recirculation of a filtrate for flushing purposes.

3,539,013

OIL COLLECTION BOOM

Millard F. Smith, Westport, Connecticut (P.O. Box 295, Saugatuck, Conn. 06882)
Filed June 24, 1968, Ser. No. 739,231
Int. Cl. B01d 15/06, 17/00
U.S. Cl. 210—242 6 Claims

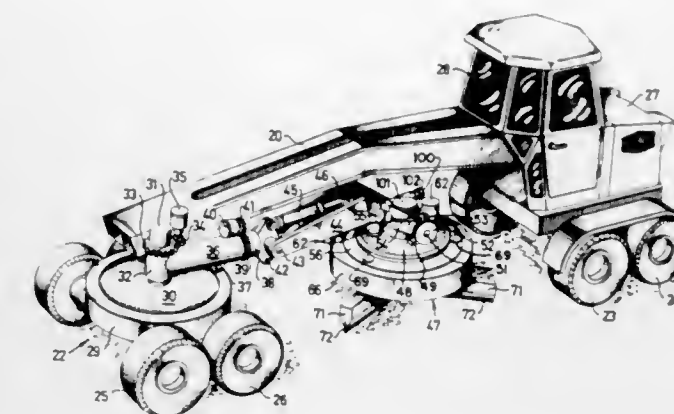


An oil absorbing boom for the purpose of collecting and removing from water thin films of oil comprising an elongated flat tubular sleeve of polymer netting enclosing within itself a plurality of flat elongated slabs or bats of "picker-lap" fibrous polymer material such as blown polypropylene film arrayed end to end within the tubular sleeve and sufficiently spaced apart to permit accordion folding of the sleeve at fold lines between adjacent bats, with a tension-bearing rope or cable being positioned within the tubular sleeve alongside the successive plurality of absorbent bats to reinforce the structure for carrying its own weight or impact loads placing it in tension between its ends.

3,539,014

ROAD GRADING MACHINE

Karl-Erik Arnold Jonsson, Gavle, Sweden, assignor to Brundell Och Jonsson AB, Gavle, Sweden
Filed July 11, 1968, Ser. No. 744,069
Int. Cl. A01b 33/06, 65/00; E01c 19/22
U.S. Cl. 172—111 12 Claims



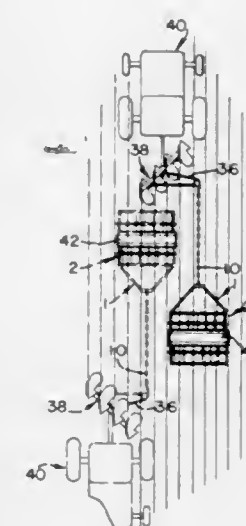
A terrain grading machine comprising a vehicle which carries at least one cutter head assembly secured to the end of a motor-driven shaft supported upon a fully 360° horizontally rotatable and universally articulated tool-carrying arm and adapted to be moved onto an existing or proposed work or road surface to be worked. At least one scraper blade extending substantially radially in relation to said shaft is mounted on the under or outer end surface of a rotary cutter head with its working edge being transversely normal to and axially remote from the shaft, and a separate drive to rotate the cutter head, whereby a milling operation may be performed on the terrain when the cutter head is rotated.

3,539,015

TANDEM PLOW PACKERS

Charles V. Schlabs, Rte. 2, Hereford, Texas 79045
Continuation of application Ser. No. 576,072, Aug. 30, 1966.
This application June 2, 1969, Ser. No. 838,044
Int. Cl. A01b 49/02
U.S. Cl. 172—202 3 Claims

U.S. Cl. 172—202



A plow packer with a rigid, substantially rectangular frame having spaced-apart, parallel shafts journaled on said frame, on which shafts ribbed, disclike plow packer wheels are mounted in offset, nontracking relation on one shaft with respect to the other shaft, so that the ribbed, plow packer wheels will till substantially the entire surface of the land. A connection means is provided on the forward end of the plow packer frame to connect with a flexible element to enable the plow packer to be towed behind a gang plow to till each land being plowed, so that the plow packer will act upon the lands in overlapping relation. The frame uses a single beam on each side on which shaft bearings are mounted in close relation to the beams to maintain a relatively low center of gravi-

ty. A weight box is positioned on the frame to enable additional weight to be applied to the plow packer. The plow packer wheels are mounted on the respective shafts in spaced-apart relation for relative turning movement.

3,539,016

ACTUATING MEANS FOR FOLDABLE IMPLEMENT CARRIAGE

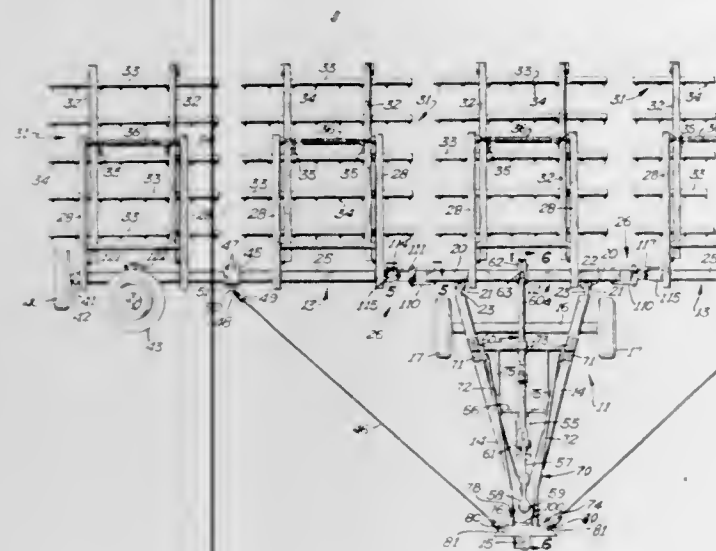
James J. Bauer, Gwinner and Dennis E. Lindemann, Lisbon, North Dakota, assignors, by mesne assignments, to Clark Equipment Company, Buchanan, Michigan, a corporation of Delaware

Filed Sept. 28, 1967, Ser. No. 671,328

Int. Cl. A01b 73/00

U.S. Cl. 172-311

5 Claims



The invention relates to a hydraulically actuated foldable carriage for an earth working implement. The carriage may be folded from a wide field position to a narrow transport or storage position. It includes features which prevent damage if movement between the field position and the transport position is attempted with the implement carriage in an improper condition. It also includes features which allow a partial lifting of the implement and, at the same time, allow forward movement of the carriage to thereby clean debris from the implement teeth. The invention also includes an improved cable yoke design which avoids stress in the cable yoke when the cables are under tension.

3,539,017

TURF-REPAIRING TOOL

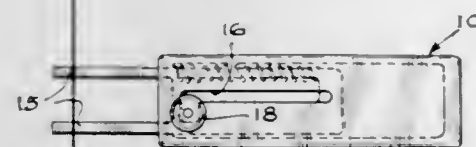
Forest L. Johnson, 1628 Story St., Boone, Iowa 50036

Filed July 24, 1968, Ser. No. 747,185

Int. Cl. A01b 1/18

U.S. Cl. 172-378

9 Claims



The turf-repairing tool is in the form of a compact, rectangular case which can be carried in the pocket. A movable fork enclosed in the case has prongs which are extended from or retracted into the case by a button or knob accessible on top of the case for operating by the thumb. The movement of the fork is controlled by slots in the case and compression or tension springs which urge the fork to a retracted position or by friction caused by crimping the edges of the case against the fork.

3,539,018
RIPPER

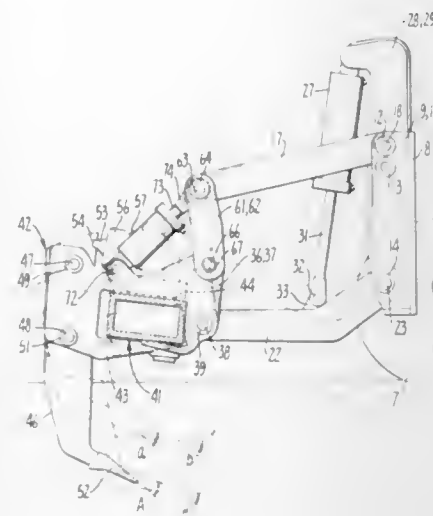
Roger L. Sprenkel, Castro Valley, California, assignor to American Tractor Equipment Corporation, a corporation of California

Filed March 10, 1969, Ser. No. 805,670

Int. Cl. A01b 63/32

U.S. Cl. 172-484

4 Claims



This invention relates to an earth-ripping tool in which the position of the ripper tooth can be selectively altered while the ripper is being utilized to the end that the ripping tooth is placed in that position in which its angle of attack is most favorable for ripping earth.

3,539,019

ROW CROP HARROW ATTACHMENT DEVICE

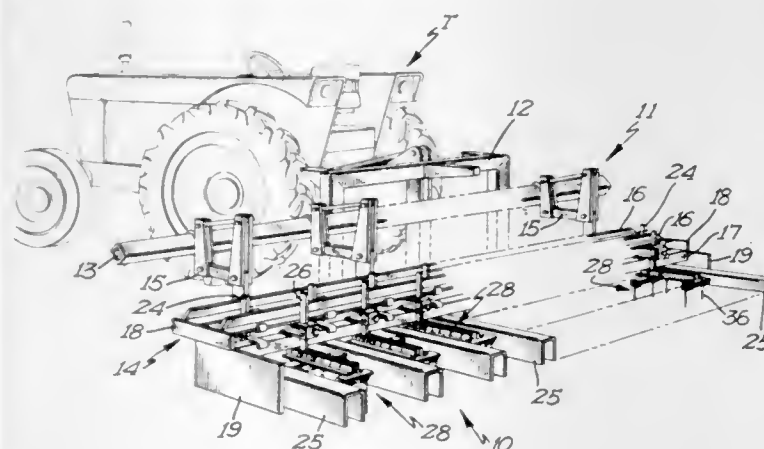
Elvin Mattson and Allen D. Mattson, both of Box 409, Grafton, North Dakota 58237

Filed July 22, 1968, Ser. No. 746,374

Int. Cl. A01b 17/00, 23/00, 39/22

U.S. Cl. 172-512

2 Claims



A row crop harrow attachment device including a frame comprised of an elongate frame member having a pair of transverse frame members secured thereto and each supporting a plurality of earth penetrating tines. An L-shaped standard for mounting the frame on an implement frame to permit the harrow frame to be adjustable longitudinally of the L-shaped standard. The row crop harrow attachment device when mounted on an implement frame serves to cultivate the space between adjacent crop rows.

3,539,020

PLOUGH ARRANGEMENT

Torsten Andersson and Herbert Carlsson, Overum, Sweden, assignors to Aktiebolaget Overums Bruk, Overum, Sweden a Swedish joint stock company

Filed March 6, 1968, Ser. No. 710,917

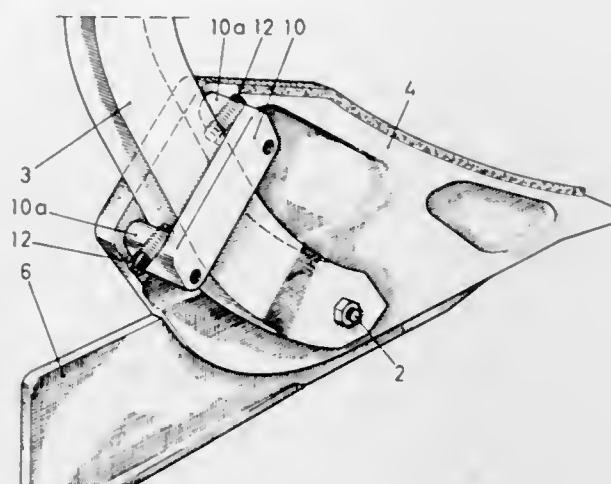
Claims priority, application Sweden, March 15, 1967,

3,579/67

U.S. Cl. 172-740

Int. Cl. A01b 15/00

3 Claims



This invention relates to a plough arrangement in which a plough body may be adjusted in a longitudinal vertical plane relative to its supporting plough beam by being swung on a pivot connecting the said elements, adjustment and clamping means being provided for effecting such adjustment and for firmly securing the said elements in the set position.

3,539,021

ARRANGEMENT OF FLEXIBLE CONDUITS FOR TRACK-TYPE TRACTORS

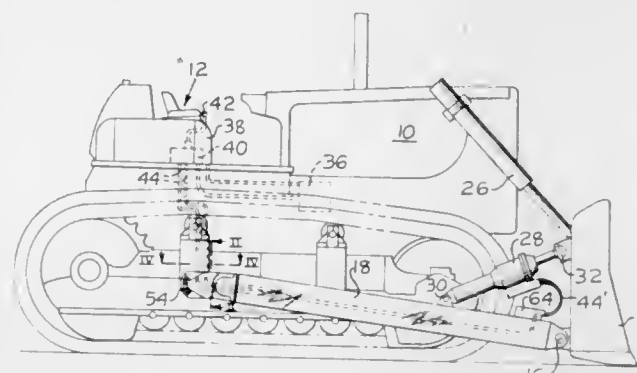
Harry E. Campen, Peoria; Max D. Fryrear, Joliet; Daniel Pasquini, Peoria and Eugene M. Wilson, Joliet, Illinois, assignors to Caterpillar Tractor Co., Peoria, Illinois a corporation of California

Filed May 20, 1968, Ser. No. 730,528

Int. Cl. E02f 3/76

U.S. Cl. 172-803

4 Claims



An arrangement of flexible conduits for hydraulic fluid which is used to actuate jacks located on a bulldozer for the purpose of adjusting components of the bulldozer and for varying its attitude with respect to the ground. The arrangement includes shrouds and protective plates which enable the flexible conduits or hoses to be safely led up to and through the bulldozer push arms.

3,539,022

EARTHMOVING ATTACHMENT MOUNTING

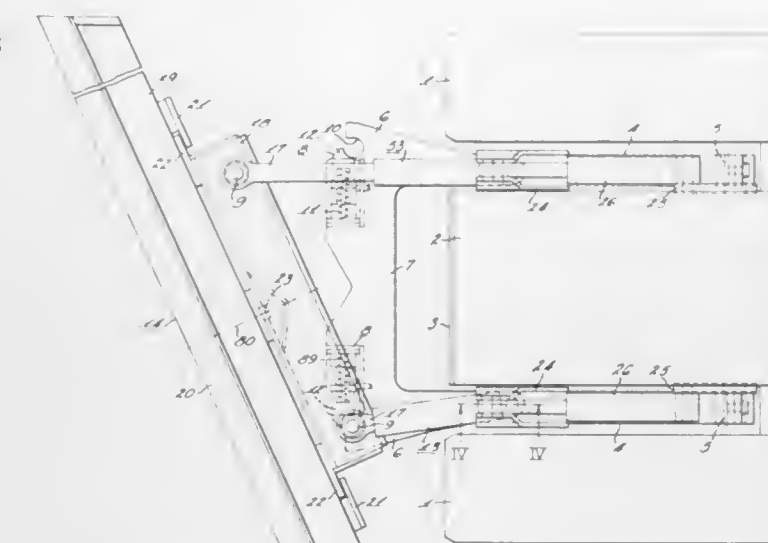
David A. Berg, Milwaukee, Wisconsin, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin

Filed Jan. 2, 1968, Ser. No. 695,191

Int. Cl. E02f 3/83

U.S. Cl. 172-805

9 Claims



An earthmoving attachment having a double pivot pin and ram anchor mounting with hydraulically actuated pin locks for improved control of the attachment.

3,539,023

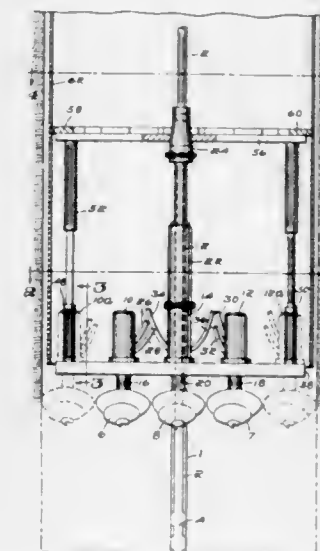
METHOD FOR DRILLING LARGE DIAMETER HOLES
Jack V. Tedrow, U.S. Army Terrestrial Sciences Center, P.O. Box 1601, Fairbanks, Alaska

Filed April 1, 1969, Ser. No. 812,165

Int. Cl. E21b 7/00

U.S. Cl. 175-57

2 Claims



Drilling of large diameter holes in the earth is accomplished by means of a plurality of small drilling devices which move along a traversing bar to drill a number of small contiguous holes, said bar being rotatable about an anchored pilot shaft to complete the cylindrical cut, the force required to cut into the earth being provided by the weight of the hole casing which is borne by the traversing bar and by pressure exerted against the pilot shaft.

3,539,024

APPARATUS FOR DRILLING INCLINED BOREHOLES WITH DRILL BIT SUPPORT

John D. Irons, Ray W. Hester, Jr., and Donald L. Bleyl, Houston, Texas, assignors to Brown & Root, Inc., Houston, Texas a corporation of Texas

Filed Aug. 9, 1968, Ser. No. 751,437

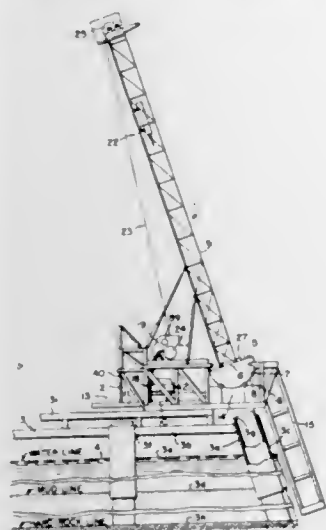
Int. Cl. E21b 7/04, 15/00, 19/14

U.S. Cl. 175-85

12 Claims

A drilling apparatus including a skid-mounted base and a platform mounted for pivotal movement about a horizontal axis and supporting a mast and a rotary drive unit. The platform is supported on horizontally spaced, relatively large, arcuate, force distributing, bearing walls. The bearing walls project downwardly from the platform, generally on opposite

sides of a trackway. The trackway serves to convey a large bit to a position of alignment beneath the tilted platform,



with the bit being disposed in coaxial alignment with a drill string section supported by the mast.

3,539,025 APPARATUS FOR THE SUMULTANEOUS APPLICATION TO AN OIL WELL FISH OF THE DIRECT STRAIN OF A DRILL STRING AND AN INDEPENDENT JARRING BLOW

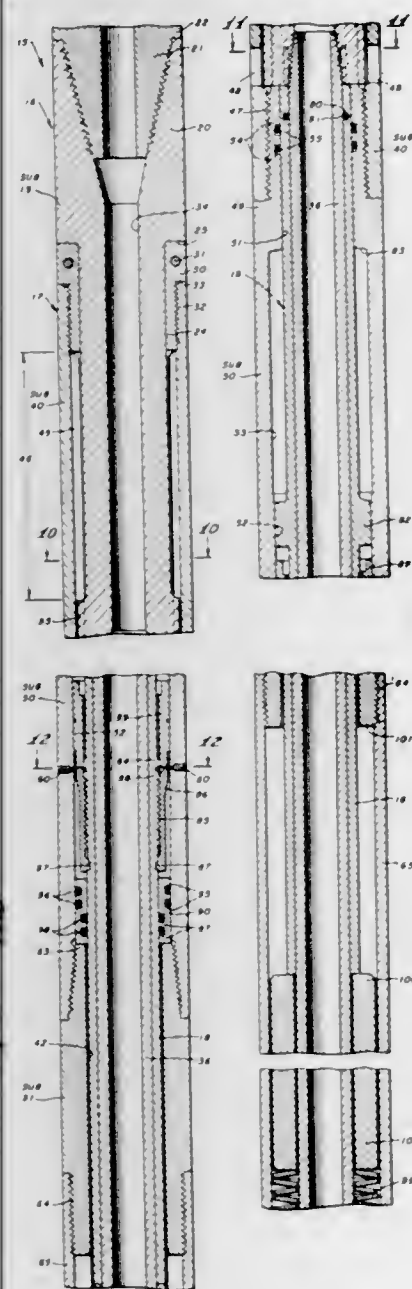
Wayne N. Sutliff and Jim L. Downen, both of 2931 Pierce
Road, Bakersfield, California 93300

Filed Aug. 14, 1969, Ser. No. 850,196

Int. Cl. F21b 1/10

U.S. Cl. 175-297

7 Claims



An outer tubular mandrel is attachable to an oil well fish and an inner tubular mandrel is attachable to a drill string

and slideable within the outer mandrel in splined relation therewith for a substantial but limited distance, said movement terminating with said outer mandrel hanging on said inner mandrel with the latter suspended on said drill string. An intermediate tubular mandrel is slideable in an annular space provided between said inner and outer mandrels, a sealed-off annular hydraulic dashpot being located between said outer mandrel and said intermediate mandrel so as to retard axial movement of said intermediate mandrel relative to said outer mandrel. A stack of springs is located below said intermediate mandrel surrounding a lower portion of said inner mandrel and an annular hammer surrounds said inner mandrel between the lower end of said intermediate mandrel and said springs. An annular anvil extends radially inwardly from said outer mandrel in upwardly space opposition to said hammer. A radial enlargement on the lower end of the inner mandrel engages said spring stack so as to compress the latter against said hammer when said inner mandrel is lifted by the drill string that limited distance allowed by the spline section of the tool. The compressing of the spring stack by this upward extension of the inner mandrel in the outer mandrel both sets the spring actuated jar mechanism of the tool for subsequently delivering an upward jarring blow to the fish but extends the tool to the point where a direct strain is then applied from the drill string through the tool to the fish. The strain thus placed on the fish is maintained by the rig operator so that said strain is in effect when the hydraulic dashpot valve trips to permit the compressed spring stack to rapidly accelerate the hammer into contact with the anvil of the tool thus delivering a jarring upward blow to the fish at the precise moment that the fish is being held under a high upward strain by the drill string.

3,539,026 FISHING TOOL ENERGIZER

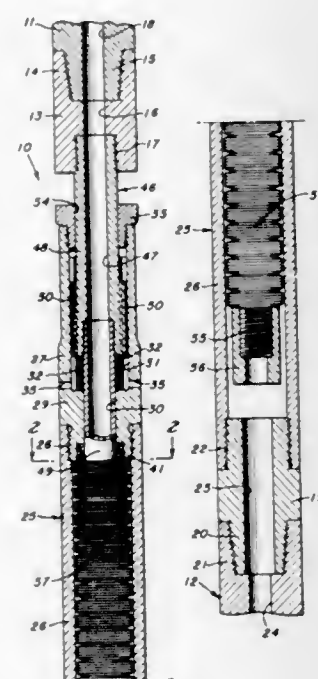
Wayne N. Sutliff and Jim L. Downen, both of 2931 Pierce
Road, Bakersfield, California 93300

Filed April 7, 1969, Ser. No. 814,128

Int. Cl. E21b 1/10

U.S. Cl. 175-299

1 Claim



A deep well elastic-tensile energy storage tool provided for incorporation in a drill string just above a fishing tool assembly, the latter embracing a fishing tool, a conventional jar and one or more drill collars, in the order named; said energy storage tool incorporating a co-axial stack of dished washer springs assembled in pairs alternately reversed in back-to-back and face-to-face relation, linear tension applied to said drill string elongating said energy storage tool and compressing said springs, the energy thus stored in said spring stack causing a rapid upward acceleration of said drill collars incident to the tripping of the jar, thereby delivering a sharp upward blow through said jar to said fishing tool.

3,539,027 INTEGRATING CONVEYORIZED WEIGHING SYSTEM

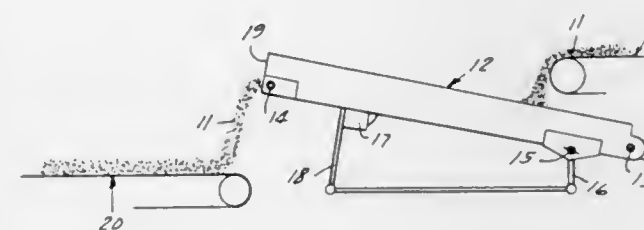
George H. Fathauer, Decatur, Illinois, assignor to Eaton Yale & Towne Inc., Morton Grove, Illinois a corporation of Ohio

Filed Sept. 20, 1968, Ser. No. 761,153

Int. Cl. G01g 1/14, 3/15

U.S. Cl. 177-16

6 Claims



A control circuit for a conveyORIZED weighing system having a load cell supporting a portion of the conveyor and having a DC signal output from the load cell as an indicator of the instantaneous loading of the conveyor. Time integrating means provided at the output of the load cell for developing a continually increasing signal. Triggering means are provided to be actuated when the signal on the integrating means reaches a desired magnitude. The triggering means then operates a counter and records a unit of weight. The actuation of the triggering means also restores the integrating means to its normal or no-load value, thereby allowing the cycle to repeat until the given magnitude is reached at the integrating means for once again triggering the counter to record a second unit of weight.

3,539,028 WEIGHING APPARATUS WITH AUTOMATICALLY OPERATED ROTARY WEIGH BUCKET

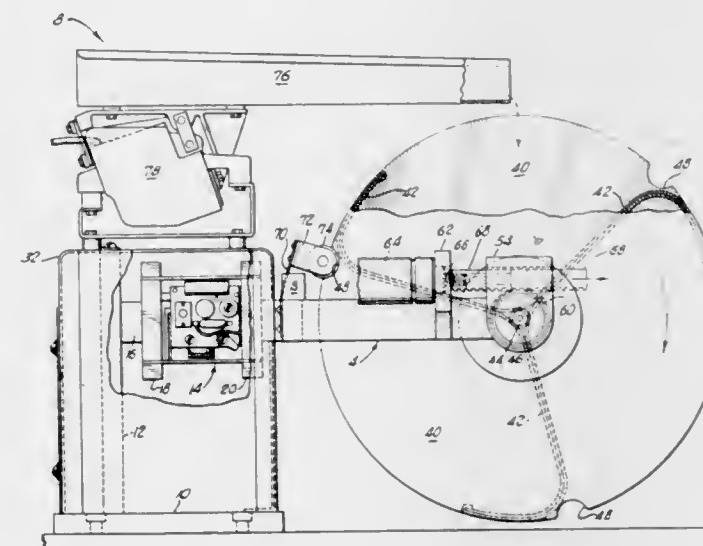
Otto C. Krolopp, Villa Park, Illinois, assignor to Blaw-Knox Company, Pittsburgh, Pennsylvania a corporation of Delaware

Filed July 30, 1968, Ser. No. 748,678

Int. Cl. G01g 13/22, 13/28

U.S. Cl. 177-83

6 Claims



Apparatus for weighing out quantities of particulate material having a predetermined weight, of the general type embodying a rotary compartmented bucket for receiving and dumping the measured quantities. The entire bucket assembly is supported by transducer means which senses the weight of delivered material and both triggers the indexing of the bucket to dump the material and controls the operation of the means for feeding material to the bucket throughout each cycle of operation.

3,539,029 WEIGHING APPARATUS WITH HYDRAULIC CYLINDER PIVOT MEANS FOR EMPTYING INTO MIXING DRUM

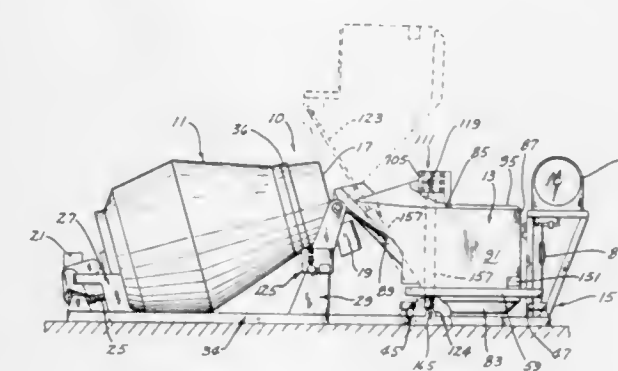
Cecil W. Bopp; James B. Porter, Jr. and William H. Cone, Waterloo, Iowa, assignors to Construction Machinery Company, Waterloo, Iowa, a corporation of Iowa

Filed Nov. 13, 1967, Ser. No. 682,347

Int. Cl. G01g 19/00

U.S. Cl. 177-145

4 Claims



A combination weighing and mixing apparatus for fertilizer or the like comprising a skip loader normally freely supported on a weigh scale and which is pivotal about one of its upper ends by a hydraulic cylinder means to facilitate the dumping of the material therefrom into a mixing drum after the material has been weighed. The mixing drum is of the type used in the cement mixing industry and is designed to mix the material deposited therein while revolving in one direction and to discharge the material therefrom while revolving in the opposite direction. The apparatus also includes means for automatically freeing the skip loader from the cylinder means and the skip loader support means while the skip loader is supported on the weigh scale. The cylinder means includes means thereon to insure that the skip loader will be gently placed on the weigh scale after the material has been dumped therefrom.

3,539,030 HIGH SAFETY MOTOR VEHICLES

Jacques Jean-Marie Jules Gerin, Chatellenot Pouilly-en-Auxois (Cote d'Or), France

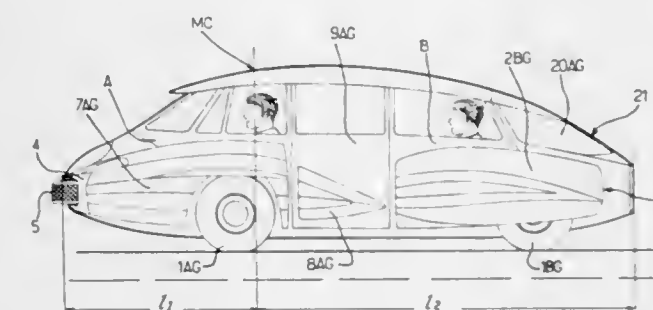
Filed July 2, 1968, Ser. No. 742,005

Claims priority, application France, July 5, 1967, 113,211

Int. Cl. B60r 21/00; B62d 35/00

U.S. Cl. 180-89

8 Claims



High safety motor vehicle comprising a body of tapered shape, the front part forming the large end of which is well rounded, the master couple of which is placed substantially in the first third of the total length of the vehicle, the most satisfactory position to obtain a least resistance of air to forward motion, the front end of which is occupied by the spare wheel which is mounted on a shaft firmly secured to the vehicle and is combined with two side shields very strong and resistant in the horizontal plane, smooth and devoid of asperities.

3,539,031

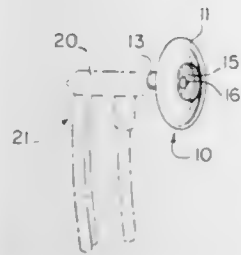
SOUND TUBE HEAD SET EAR CUSHION AND AMBIENT NOISE PLUG

Thomas Albert Scanlon, 40 Hawthorne Ave., Barrington, Rhode Island 02806

Filed Sept. 16, 1968, Ser. No. 762,200
Int. Cl. G02k 13/00

U.S. Cl. 181-23

2 Claims



This invention relates to a stethoscopic type sound tube and more particularly to the ear plug attached to the one end thereof: the ear plug serving as a deformable cushion to accommodate various sizes and shapes of ear canals, while forming a sound barrier to ambient noises.

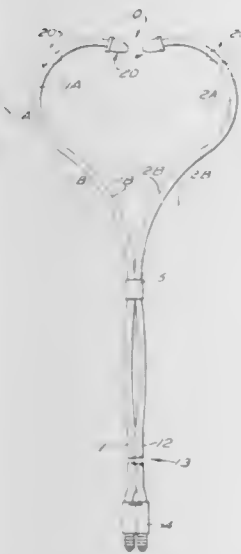
3,539,032
STETHOSCOPE

Thomas Albert Scanlon, Barrington, Rhode Island, assignor to Avid Corporation, East Providence, Rhode Island a corporation of Rhode Island

Filed June 27, 1969, Ser. No. 837,165
Int. Cl. A61b 7/02

U.S. Cl. 181-24

4 Claims



Stethoscope for conducting sound waves comprising a pair of plastic tubes, heat set into a preselected form on one end thereof, and ear tips, one for each tube and fastened thereon, fabricated from pliable plastic and preshaped, so as to be self-supporting in an ear canal.

3,539,033

RETRACTABLE LADDER AND CLOSURE FOR AN ABOVE GROUND SWIMMING POOL

Julius Donald Schwarz, Teaneck and Charles J. Kriss, Upper Saddle River, New Jersey, assignors to Hendon Construction Company, Little Ferry, New Jersey a corporation of New Jersey

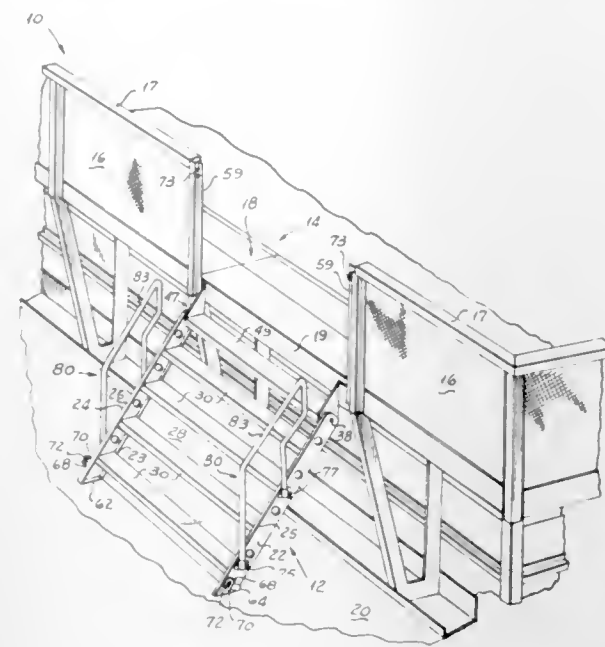
Filed Aug. 12, 1968, Ser. No. 751,993
Int. Cl. E06c 9/08

U.S. Cl. 182-77

2 Claims

A retractable ladder and closure means for an above ground level swimming pool, particularly adapted to be operably positioned so as to lead from a ground level to an opening in a safety fence extending around the pool and a pool deck above the ground level, which retractable means is so constructed and arranged as to be raised from the ground level position into a cooperative relation with the opening in the safety fence to effectively close the opening and thereby

prevent a nonpermissive access to the pool from the ground level while simultaneously effecting by the closure of the



fence opening an additional protection to persons on the above ground pool deck.

3,539,034

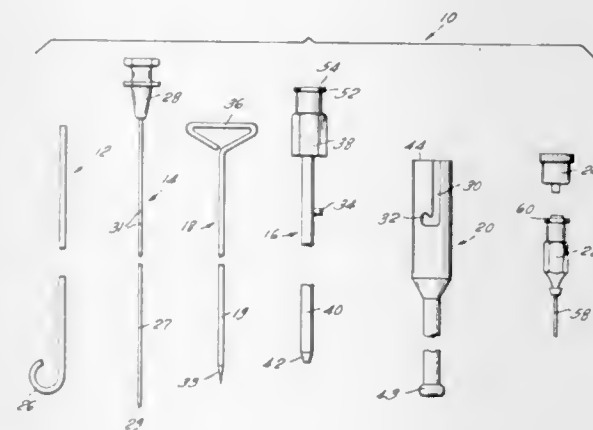
PARACERVICAL BLOCK ANESTHESIA ASSEMBLY

Carl H. Tafeen, 186 Beach 137th St., Belle Harbor, New York

Filed Oct. 11, 1966, Ser. No. 585,833
Int. Cl. A61m 5/00

U.S. Cl. 128-221

7 Claims



A catheter having a first end for introducing and aspirating fluids and a second end normally disposed in a hook-shaped curve. The catheter has sufficient memory characteristics thereby to return to a normal state after introduction into body tissue and removal of the introduction means.

3,539,035

LUBRICATING DEVICE FOR PLANETARY GEARING

Robert Ignaz Wolkenstein, Rethen(Leine), Germany, assignor to Eisenwerk Wulfel, Hannover-Wulfel, Germany a German company

Filed July 18, 1968, Ser. No. 745,901
Claims priority, application Germany, Sept. 19, 1967, E 34790
Int. Cl. F16n 7/16

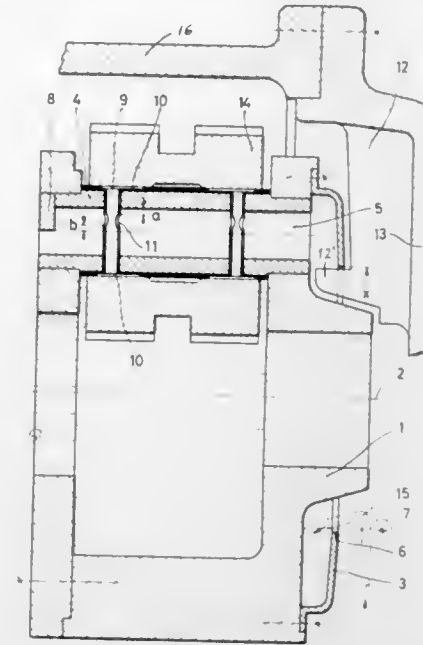
U.S. Cl. 184-6

5 Claims

A lubricating device for planetary gearing wherein a rotating planet pinion carrier has several hollow-bored planet pinion axles. The oil-collector ring of the planet pinion carrier, arranged on a front side and coacting with oil-deflecting

ribs provided in the gear cover or gear housing, has a diameter of such size that the axle bores of the planet pinion are

their surface engaging edges which extend in the inclined plane of the face members, and structural support means rigidly engaged between the face members. The structural support means may include two side members of substantially uniform thickness extending between opposite edges of



covered just enough by the surface of the oil-collector ring to effect efficient lubrication.

3,539,036

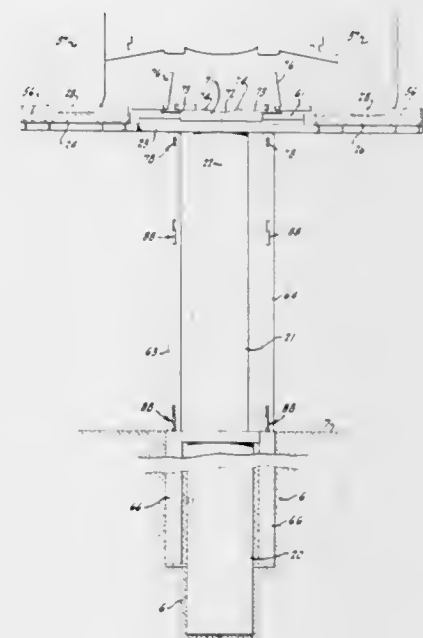
DIAGNOSTIC LIFT

Jon S. Halstead, San Jose, California, assignor to Western Manufacturing Company, a limited Partnership

Filed Sept. 3, 1968, Ser. No. 756,791
Int. Cl. B66f 7/00

U.S. Cl. 187-8.54

4 Claims



A vehicle lift for use on a floor includes lifting rams adapted to rise above the floor and each having a crosshead at the top for carrying the vehicle wheels. A support bar overlies the crosshead and can be separately supported from the floor level by a strut alongside the ram. Releasable latches connect the crosshead to the strut and support the strut at the floor.

3,539,037

SAFETY CHOCKS

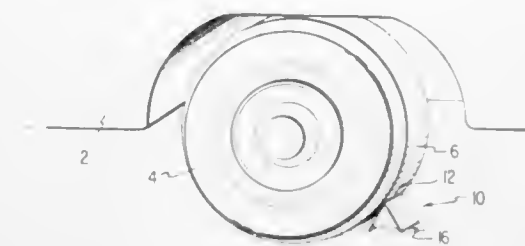
Donald A. Brown and Eugene M. Shirley, Dallas, Texas, assignors to Safety Chocks, Inc., Irving, Texas a corporation of Texas

Continuation-in-part of application Ser. No. 688,449, Dec. 6, 1967. This application July 22, 1969, Ser. No. 847,787
Int. Cl. B60t 3/00

U.S. Cl. 188-32

7 Claims

A wheel chock to be placed in abutting relationship with the wheel of a vehicle to prevent movement thereof, said chock including two inclined face members having teeth in



the face members, or a flat rigid plate extending horizontally between the face members across substantially the full width of the face members. In the latter arrangement the opening created between the face members and the flat plate may be utilized to facilitate the handling of the chock.

3,539,038

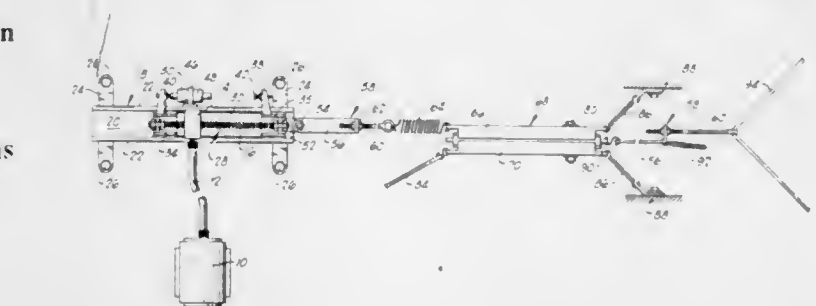
AUTOMATIC ELECTRIC PARKING BRAKE

Leroy Taber, 1205 S. 76 E. Ave., Tulsa and James W. Dillard, 346 S. Oak, Ponca City, Oklahoma 74601

Filed May 17, 1968, Ser. No. 730,183
Int. Cl. B60t 13/74

U.S. Cl. 188-162

19 Claims



An automatic electric parking brake system which includes an electric motor drivingly connected through speed reduction gearing to a threaded shaft forming a portion of a movable carriage assembly. The carriage assembly carries a pair of stop elements which are positioned to contact stationary limit switches mounted adjacent the carriage, with such limit switches being interposed in electrical circuitry connected to the electric motor and adapted to turn the motor in one of two directions of rotation when the circuit through one or the other of the limit switches is closed. The carriage is connected through a lost motion assembly to the parking or emergency brake of an automobile so that this brake is applied when the carriage moves in one direction, and released when the carriage moves in the opposite direction. The electrical circuitry to the electric motor is wired to include the ignition switch of the automobile and suitable relays, such that when the ignition switch is turned to the "ON" position, the motor will be energized to drive the carriage in one direction, thereby releasing the emergency brake and ultimately striking one of the limit switches to open the electrical circuit to the motor, and so that when the ignition switch is turned to the "OFF" position, electrical circuitry will be completed to the motor to drive it in a different direction to move the carriage in a direction to apply the brake. Setting and releasing of the brake is thus accomplished automatically upon actuation of the ignition switch of the automobile.

3,539,039

TRANSMISSION OUTPUT SHAFT BRAKE MECHANISM

Howard E. Chana, Flint, Michigan, assignor to General Motors Corporation, Detroit, Michigan a corporation of Delaware

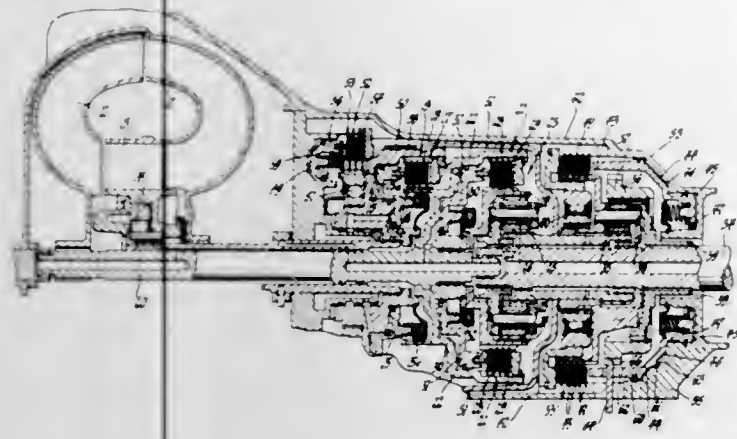
Filed Oct. 29, 1968, Ser. No. 771,455
Int. Cl. F16h 57/10

U.S. Cl. 192-4

5 Claims

A planetary gear transmission in which a plurality of forward and reverse drive ratios are obtainable. Reverse drive ratio is obtained by operating a fluid motor to engage a disc

brake which is connected to one member of the planetary gearing. The fluid motor has an annular chamber formed in the rear wall of the transmission housing and an annular piston having a cylindrical extension engaging a nonrotating disc of the disc brake and an integral key which maintains the piston nonrotatable relative to the transmission housing. Another member of the planetary gearing is connected to the output shaft and surrounded by the extension. The extension

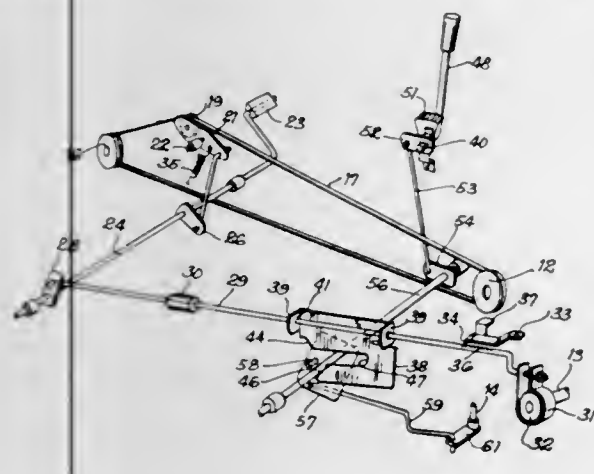


has a window or opening permitting a parking pawl to pass therethrough. The parking pawl is pivotally mounted in the transmission housing and is operated by a mechanical linkage so that the pawl can be urged into and out of engagement with a park gear located on the periphery of the planetary gear member connected to the output shaft. When the pawl is engaged, the output shaft is operatively connected to the transmission housing thus preventing rotation of the output shaft.

3,539,040
HYDROSTATIC TRANSMISSION, BRAKE AND BELT TIGHTENER WITH INTERRELATED CONTROLS
Frederick Speer Edwards, Newark, Ohio, assignor to Roper Corporation, Kankakee, Illinois a corporation of Delaware
Filed April 7, 1969, Ser. No. 814,117
Int. Cl. F16h 57/10

U.S. Cl. 192-4

8 Claims



In a vehicle having braking and de-clutching means operated by a single pedal and a hydrostatic transmission unit, mechanism operatively connected to the pedal and to the control shaft of the transmission unit and operable to return the control shaft to neutral position to render the transmission unit inoperable when the pedal is operated.

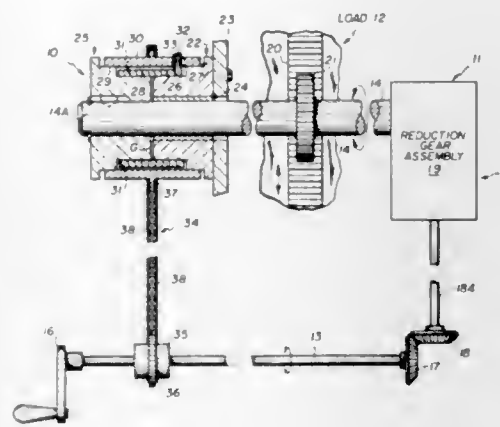
3,539,041
ONE WAY BRAKE DEACTIVATED BY DRIVE AND ONE WAY CLUTCH
Columbus R. Sacchini, Willowick, Ohio, assignor by mesne assignments to The Marquette Metal Products Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 14, 1969, Ser. No. 791,109
Int. Cl. F16d 67/02

U.S. Cl. 192-8

11 Claims

A clutch-brake mechanism is provided in combination with a load actuating apparatus having an input shaft rotatively

connected to an output shaft to effect bidirectional rotation of the output shaft and the raising and lowering of a load. The clutch-brake mechanism has a fixed hub or drum coaxially disposed with respect to the output shaft and a control sleeve rotatively mounted on the output shaft and hub. A coil spring is concentrically disposed with respect to the output shaft and hub and is in preloaded or in interference fit with the output shaft and hub to prevent, in one operative condition, rotation of the output shaft. The coil spring is so wound that the frictional torque on the spring induced by rotation of the output shaft in a direction to raise the load causes the

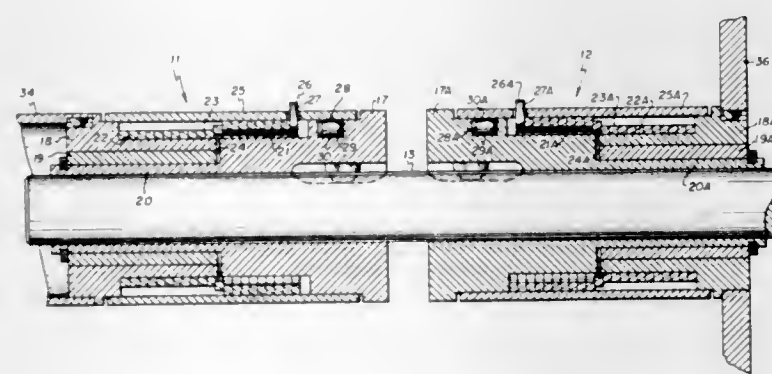


coils, embracing the output shaft, to expand and thereby release the latter for rotation. A control means is constructed and arranged to interconnect the control sleeve and input shaft to transmit rotation from the input shaft to the control sleeve only when the output shaft is being rotated by the input shaft in the load lowering direction so that the coil spring portion, which grips the hub and is connected to the control sleeve, will be caused to expand and release thereby the output shaft for controlled rotation in a load lowering direction.

3,539,042
SPRING CLUTCH ROTARY TRANSMISSION ASSEMBLY
Columbus R. Sacchini, Willowick, Ohio, assignor to The Marquette Metal Products Co., a corporation of Ohio
Filed April 1, 1969, Ser. No. 811,768
Int. Cl. F16d 41/20, 47/04

U.S. Cl. 192-48.92

8 Claims

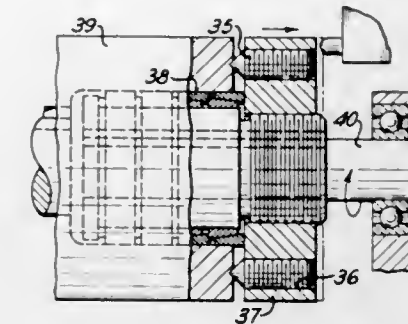


A spring clutch rotary transmission assembly wherein two normally disengaged spring clutches are connected, one to each of two independent sources of rotary power, and to a single device to be driven, the spring clutches being constructed and arranged in relation to each other to automatically cause one of the spring clutches to engage and thereby effect transmission of rotation from one source of rotary power to the driven device while the other clutch automatically remains in a disengaged operative condition.

3,539,043
OVERLOAD RELEASED FRICTION CLUTCH
Raymond E. Brochetti, 52 Sherman Ave., Chicopee, Mass.
Filed Oct. 1, 1968, Ser. No. 764,151
Int. Cl. F16d 43/20

U.S. Cl. 192-56

10 Claims

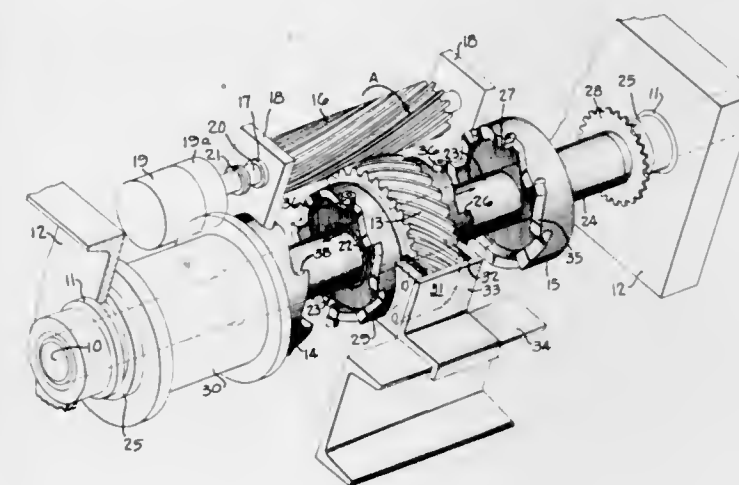


A drive member and a driven member normally are operatively connected together by a friction coupling maintained in operative position by threaded means connected with the driven member in such a manner that the threaded means is stopped from rotating, at least temporarily, if the driven member is stalled. The direction of the screw threads is so related to the direction of rotation of the drive member that if the drive member is stalled the drive member will start to back the threaded means away from the friction coupling and thereby release it.

3,539,044
SELF-SYNCHRONIZING CLUTCH
Oswald B. Grimstad, Rockville Centre, New York, assignor to United Parcel Service General Services Co., New York, New York a corporation of Delaware, by mesne assignments
Filed June 27, 1968, Ser. No. 740,560
Int. Cl. F16d 23/02

U.S. Cl. 192-67

2 Claims

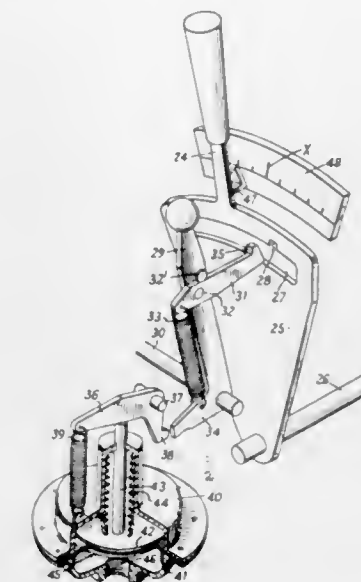


Torque transmitting apparatus having two intermeshed helical gears which employs the axial thrust of the helical gears to shift the driven gear longitudinally along its axis, in a direction dependent upon the direction of rotation of the driving gear, so as to effect a clutching action between the driven gear and alternately one of two output members disposed on either side of the driven helical gear. Apparatus for synchronizing a positive engaging ratchet tooth clutch including a cam surface on one of the clutch members and a cam surface on one of the clutch members and a cam follower on the other clutch member to cam the movable clutch member longitudinally relative to the stationary clutch member while maintaining the ratchet teeth out of engagement one with another until the moveable clutch member has moved through its full longitudinal travel and into complete engagement with the other clutch member.

3,539,045
DEVICE FOR SYNCHRONIZING THE ENGAGEMENT OF A FLUID COUPLING LOCK-UP CLUTCH
Harold Sinclair, Kensington, England, assignor to Synchro-Drives Limited, London, England
Filed Aug. 26, 1968, Ser. No. 755,136
Claims priority, application Great Britain, Aug. 31, 1967, 39872/67
Int. Cl. F16d 67/00

U.S. Cl. 192-.076

4 Claims

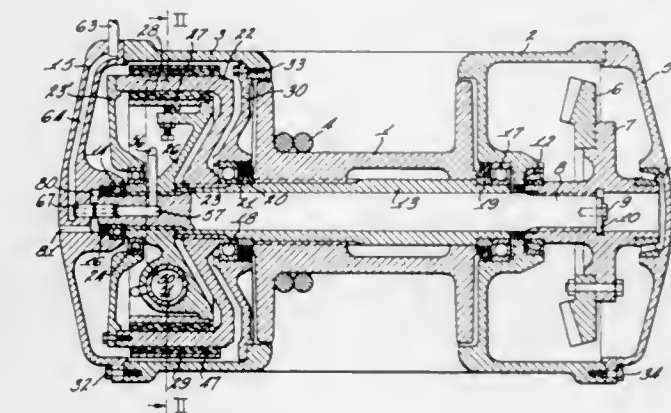


In a marine propulsion system wherein a hydraulic turbocoupling of controllable filling type and a toothed clutch are connected in parallel between an engine and a pinion shaft geared to a propeller, actuation of a clutch lever to engage the clutch is prevented by a first latch mechanism associated with an engine power control lever, except when the vessel is in ahead motion at relatively high speed, and a second latch mechanism prevents actuation of the clutch lever to engage the clutch except when the pinion shaft is rotating at relatively high speed in the ahead direction. Hence the clutch lever can be actuated to engage the clutch only when the impeller and runner of the turbocoupling are rotating at high speed and at a low relative speed, such that the turbocoupling exerts a powerful synchronising action on the toothed clutch elements, which are also rotating at a low relative speed, such as to facilitate engagement of the clutch.

3,539,046
FLUID LEAKAGE DRAIN FOR TRACTOR WINCH
David A. Berg, Milwaukee, Wisconsin, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin
Filed March 21, 1968, Ser. No. 714,969
Int. Cl. F16d 25/00

U.S. Cl. 192-85

4 Claims



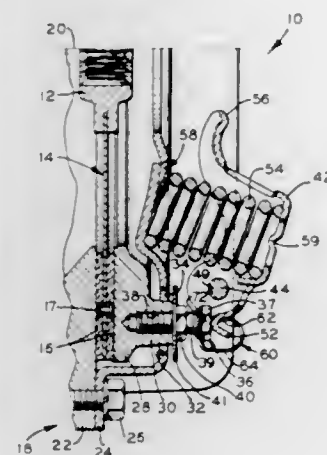
A hydraulic system for operating a tractor winch having an internal swivel connector and means for externally venting fluid leakage from the internal passages of the winch.

3,539,047

HOLD DOWN AND RETURN CLIP AND ADJUSTING SCREW ASSEMBLY FOR PIVOTED LEVER CLUTCHES
 Martin J. Hermanns, Ft. Wayne, Indiana, assignor to Dana Corporation, Toledo, Ohio a corporation of Virginia
 Filed Aug. 20, 1968, Ser. No. 753,971
 Int. Cl. F16d 13/54

U.S. Cl. 192-99

4 Claims



A spring loaded clutch having release levers is provided with a novel spring clip and adjusting screw assembly so as to yield an easily manufactured assembly which is securely held together yet capable of easy disassembly. The adjusting screw is mounted on the pressure plate and includes a shouldered portion so that the spring clip attached to it is securely mounted with it. The spring clip, itself, has a bent-over tab portion which engages the clutch lever end and has connected and integral therewith an L-shaped portion, one leg of the L having an open slot leading to a slightly enlarged bore. The spring clip may thereby be assembled easily on the adjusting screw by sliding the clip over the shank portion of the adjusting screw and then permitting it to move outwardly so that the spring clip bore portion surrounds and holds the shouldered portion of the adjusting screw in a tight and secure manner.

3,539,048

MEANS FOR COLLECTING FLOTSAM

Anthony Fabian Austin Pearson, 24B Upminster Road South, Rainham, Essex, England

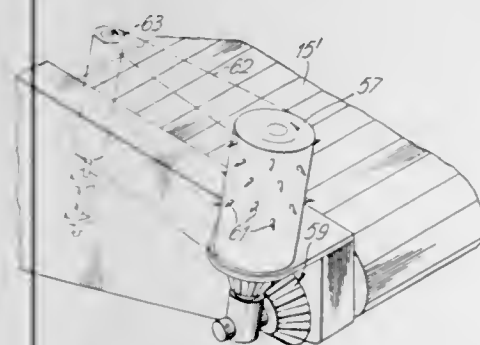
Filed Oct. 9, 1968, Ser. No. 766,085

Claims priority, application Great Britain, Oct. 10, 1967, 46,186/67

Int. Cl. C02b 1/08

U.S. Cl. 210-242

14 Claims



This invention relates to a device for collecting flotsam and other garbage floating on or adjacent the surface of the water in harbours and locks and the like, comprising a vessel such as a ship having endless conveyor means mounted or adapted to be mounted thereon and projects forwardly of the bow of the vessel into the water, whereby flotsam etc. in the water is gathered by the conveyor means and carried by it, upwardly, and into a collecting receptacle which may either be a hold of the ship or a barge. It will thus be appreciated that the vessel may be of single or twin hull construction, the barge being adapted to be located between the hulls of the latter construction.

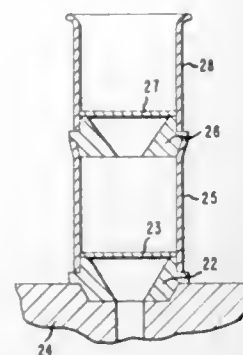
3,539,049

DISPOSABLE FILTER

Anthony J. D'Eustachio and Donald R. Johnson, Wilmington, Delaware, assignors to E. I. du Pont de Nemours and Company, Wilmington, Delaware a corporation of Delaware
 Filed Aug. 16, 1968, Ser. No. 753,198
 Int. Cl. B01d 23/08, 23/28

U.S. Cl. 210-477

7 Claims



A disposable filter unit in which a filter cloth is bonded to a support means in such manner as to form a leaktight substantially crevice-free filter. A supply tube supported on the support is also provided to funnel filtrate placed within the supply tube through the filter cloth.

3,539,050

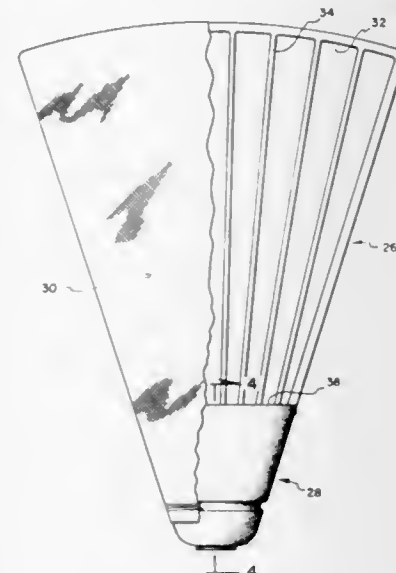
DISC SECTOR AND METHOD OF ASSEMBLY THEREOF
 Steven S. Davis, Bountiful; Kent L. Davis and John C. Brozovich, Salt Lake City, Utah, assignors to Envirotech Corporation, Salt Lake City, Utah a corporation of Delaware

Filed July 17, 1967, Ser. No. 653,793

Int. Cl. B01d 33/26

U.S. Cl. 210-486

3 Claims



A disc sector assembly comprising a metal bell adaptor and a thermoplastic sector secured together by means of substantial irregularities in the wall of the adaptor to which the sector is conformed by localized softening and cooling of the sector while in place against the adaptor wall.

3,539,051

SEDIMENTATION TANK WITH PIER-SUPPORTED ROTARY RAKE STRUCTURE

Kurt S. Stone, Norwalk, Connecticut, assignor to Dorr-Oliver Incorporated, Stamford, Connecticut a corporation of Delaware

Filed Dec. 8, 1969, Ser. No. 883,102

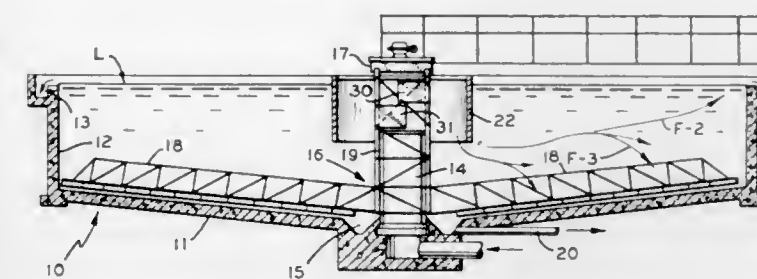
Int. Cl. B01d 21/06

U.S. Cl. 210-520

14 Claims

Sedimentation tank with rotary rake structure supported on a hollow center pier the upper end portion of which delivers the upflowing feed suspension into the annular space defined by a feed well cylinder which surrounds the central upright cage portion of the rake structure, with the addition of a system of vertical baffle plates interposed in the path of

the feed liquid within the feed well cylinder, and arranged so as to divide the influent feed into a pair of counter currently



structure with high mechanical advantage including a worm gear slightly too low in ratio, and too high in thread lead angle, to be self-locking. The disc brake is hydraulic, applied by foot-controlled master cylinder. The hydraulic brake can be locked in braking condition hydraulically by a tight-closing valve actuated manually.

3,539,054

DRAFT RIGGING WITH ELONGATED COUPLER YOKE
 William M. Keller, Skokie, Illinois (535 Montgomery School Lane, Wynnwood, Pa. 19096)

Filed Aug. 8, 1968, Ser. No. 751,304

Int. Cl. B61g 9/00, 9/04

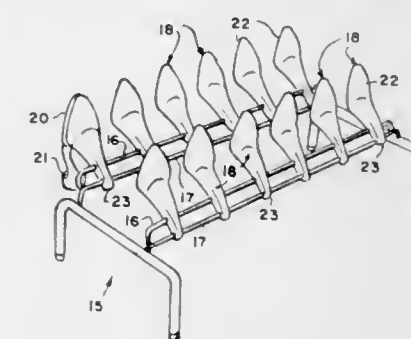
U.S. Cl. 213-67

7 Claims

RACKS FOR SHOES AND OTHER ARTICLES
 John Bellock, 71 Essex Drive, Tenafly, New Jersey 07670
 Filed April 14, 1969, Ser. No. 815,698
 Int. Cl. A47f 7/08

U.S. Cl. 211-37

8 Claims



A stand presents two parallel rods set horizontal and in spaced relation one a little above and behind the other, which rods fit into opposite pairs of notches in opposite channel walls in the lower slender part of a thermoplastic shell whose upper part is shaped to fit into the toe portion of a shoe, and is in front of said rods at the notched region. There are a plurality of these shells spaced along said rods and serve as shoe trees. The upper part of these shells may be of shapes to hold other articles. Inside the said channel part and integral therewith, are cradles to support the rods, and strips extending out of the channel from along side the cradles, which while in plastic state, are bent to encircle said rods and form straps therefor. One of the rods has a series of spaced teats at the centerline positions of the shells. When a strip is bent as aforesaid, its associated teat acts as a die to draw a cup-form in the strap. The distal ends of the straps may be fused to the cradle body thereat.

3,539,053

SWINGING CRANE WITH HIGH MECHANICAL ADVANTAGE BRAKING

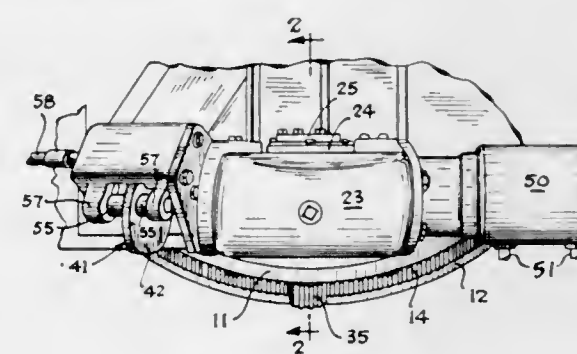
William J. Lado, Rome, and John F. Hefferin, Port Washington, N.Y., assignors to Pettibone Corporation, a corporation of Delaware

Filed June 24, 1968, Ser. No. 739,279

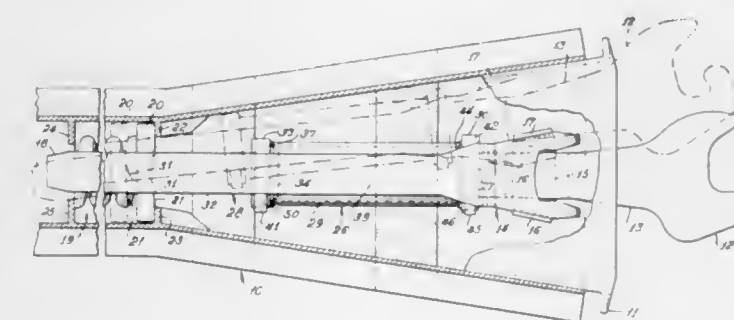
Int. Cl. B66c 23/84

U.S. Cl. 212-69

6 Claims



Smooth and safely adequate braking for a swinging boom of a crane is provided by a disc brake geared to the rotating



A draft rigging for a long railroad car including an elongated yoke slidably connected at its open end to the shank of the car coupler and receiving the draft gear at the closed end in spaced relationship to the coupler shank end. A tubular filler member guidably carried between the top and bottom straps of the yoke and extending between the end of the coupler shank and the draft gear so as to transmit buff forces from the coupler shank directly to the draft gear.

3,539,055

MECHANISM FOR TEMPORARILY INTERRUPTING THE STACKING OF SHEETS IN PRINTING MACHINES AND THE LIKE

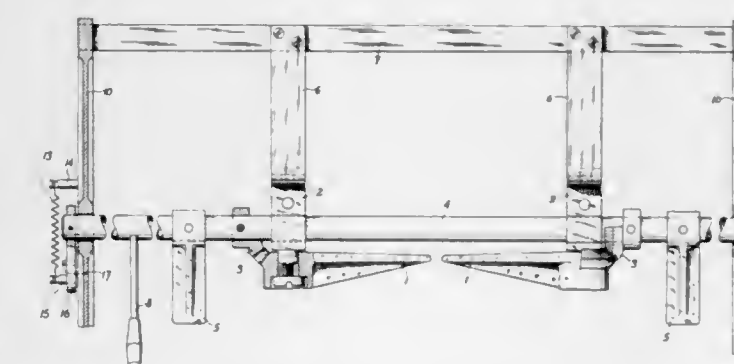
Jaroslav Jiruse, Blansko, and Jaroslav Horak, Svitavka, Czechoslovakia, assignors to Adamovske strojiny, narodni podnik, Adamov, Czechoslovakia

Filed Sept. 27, 1968, Ser. No. 763,066

Int. Cl. B65g 57/03

U.S. Cl. 214-6

5 Claims



A mechanism to be used in printing machines and the like for the purpose of temporarily interrupting the stacking of sheets. A pair of stops have normally a substantially vertical operating position to engage a side of a stack of sheets during the formation of the stack. A rotary means carries these stops to displace them from their normal operating position through a distance sufficient to give free access to a top sheet of the stack. A pair of temporary supports have normally positions displaced from the stack and can be moved from their normal positions to temporary operative positions situated horizontally over the already formed stack to temporarily support sheets which continue to be delivered so that the top sheet of the already formed stack can be removed for in-

spection. A transmission means connects operatively the rotary means to the temporary supports for displacing the latter automatically to the referred to temporary operating positions when the stops are displaced from their normal operating positions. This transmission means returns the temporary supports to their normal positions displaced from the stack when the stops are returned to their normal operating positions.

3,539,056

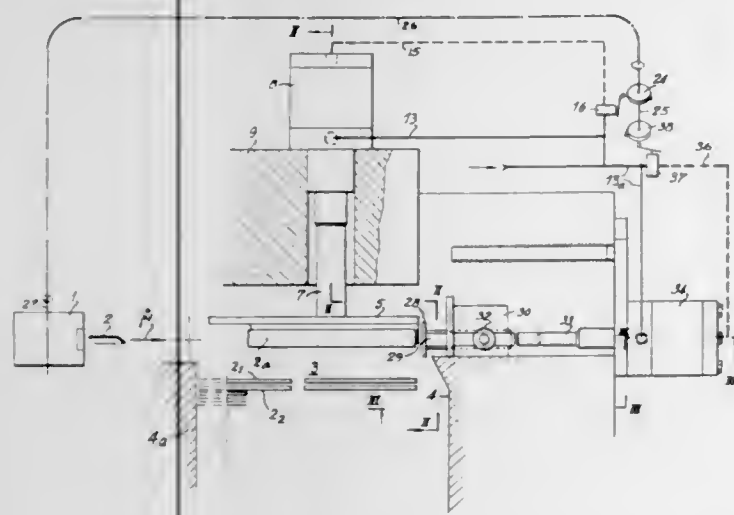
MACHINE FOR PILING IN A STORAGE PLACE RADIATOR FINS WHICH HAVE JUST BEEN SHAPED
Alain Edouard Plegat, Asnieres, France, assignor to Societe Anonyme Des Usines Chausson, Asnieres (Hauts de Seine), France a company of France

Filed Nov. 8, 1968, Ser. No. 774,412

Claims priority, application France, Nov. 24, 1967, 129,540 Int. Cl. B65g 57/00

U.S. Cl. 214-7

6 Claims



The machine for piling radiator fins which have just been shaped comprises on a storing plate an alternating movement push plate driven by a double-acting pneumatic jack and placed parallel to the trajectory of a fin ejected from the shaping device. A damping device, comprising a stop plate carried by a guide checked by a friction part and aligned with the rod of a second double-acting pneumatic jack, is placed perpendicularly to the push plate on the trajectory of the fin. Said two jacks are supplied in a time relation with compressed air by valves operated by two cams which are themselves driven by a transmission connected to the shaping device and choked on the same shaft.

3,539,057

STORAGE TANK

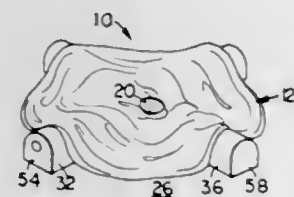
Theodore D. Bronner, 642 B St., P.O. Box 497, Biggs, California 95917

Filed March 6, 1969, Ser. No. 804,835

Int. Cl. B65g 3/08

U.S. Cl. 214-16

10 Claims



A storage tank has a body made of flexible, collapsible air-impervious material. Conduits are positioned within the body and adjacent the base thereof and the body is fixed to the ground. Air is pumped into the conduits and into the body over a large area of conduit surface to inflate the body and keep it inflated. The inflated body is then filled with grain or the like, which may be removed when desired. The empty storage tank, with its body collapsed, may be easily and conveniently moved to another location or stored.

3,539,058
SILLO UNLOADER WITH CONTINUOUSLY VARIABLE LOAD RESPONSIVE DRIVE CONTROL

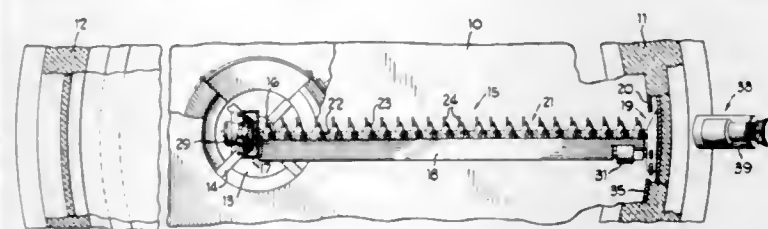
Robert G. Ferris, Harvard, Illinois, assignor to Starline, Inc., a corporation of Delaware

Filed June 21, 1968, Ser. No. 739,084

Int. Cl. B65g 65/46

U.S. Cl. 214-17

8 Claims



A control for silo unloading mechanisms wherein a first electric motor rotates a material gathering and conveying means and a second electric motor advances the material gathering and conveying means into the material, with continuously variable means being provided to control the rate at which the second electric motor advances the material gathering and conveying means. The control includes thermally responsive means in the form of a heater connected in circuit with the first electric motor and a bimetallic element operatively associated with the heater and the continuously variable means for varying the speed of the second electric motor in response to varying loads on the first electric motor.

3,539,059

ADJUSTABLE DISCHARGE MEANS

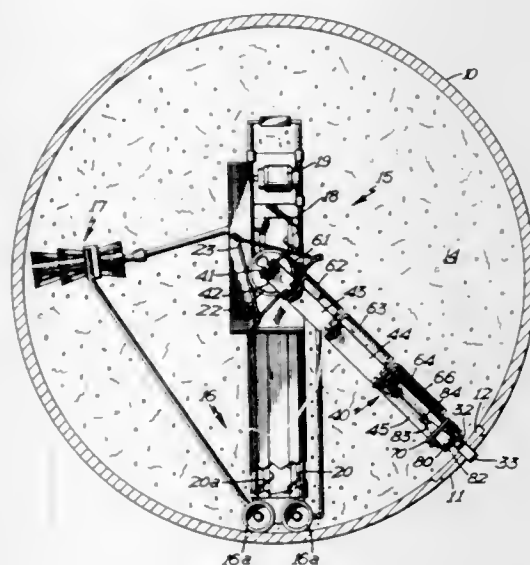
Floyd E. Buschbom, Long Lake, Minnesota, assignor to Van Dale Corporation, Long Lake, Minnesota a corporation of Minnesota

Filed Jan. 28, 1969, Ser. No. 794,607

Int. Cl. B65g 65/38

U.S. Cl. 214-17

21 Claims



A surface or top silo unloader of the type having a pair of augers for gathering material to the center of the silo and delivering it to an impeller which discharges the material from the silo. The discharge chute is curved in a vertical plane and has one end connected to the impeller for guiding the material discharged thereby and directing it out through an opening in the wall. A unique linkage means automatically adjusts the curvature of the discharge chute to maintain a substantially constant curvature therein as the unloader moves downwardly in the silo a substantial distance to substantially reduce the number of times that it is necessary to climb the silo and reposition the remote end of the discharge chute. An optional liner for the discharge chute is rigidly attached to the chute at the end adjacent the impeller and is resiliently connected to the chute at the remote end thereof whereby

the liner will closely follow the contour of the chute without buckling, as the curvature of the chute is varied to protect the chute from wear and to provide a smooth continuous surface on the interior of the chute.

3,539,060

ELEVATOR-EQUIPPED TRANSPORT VEHICLE

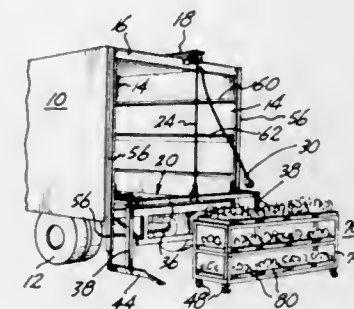
Dominic Rastelli, 417 SW 124th St., Seattle, Washington 98146

Filed July 9, 1968, Ser. No. 743,369

Int. Cl. B60p 1/44

U.S. Cl. 214-75

3 Claims



A transport vehicle is provided with suspended elevator means adapted to receive and vertically move, between the ground and multiple levels on or above the vehicle bed wheeled racks containing cargo units.

3,539,061

LOADING DEVICE

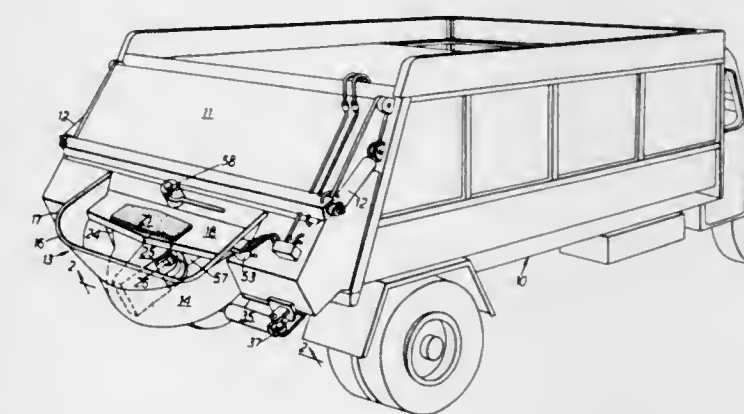
Robert Henry Burgess, 573 Hume Highway, South Strathfield, New South Wales, Australia

Filed Sept. 19, 1968, Ser. No. 760,796

Int. Cl. B65f 3/00

U.S. Cl. 214-83.3

4 Claims



A loading device for loading garbage or other material into a container of the kind in which the base of an open topped hopper is swept by a pivotably mounted blade reciprocating over a part circular path to press material in the hopper through an aperture into a vehicle or container which is characterized by the provision of an operating mechanism for the blade consisting of an arm projecting radially from a shaft on which the blade is mounted, the arm having pivotably connected to adjacent points on it the ends of two rigid connecting rods the opposite end of each of which is pivotably connected to the ram of one of a pair of hydraulic jacks, the arrangement being such that as the ram of each jack is retracted the arm or blade is caused to sweep in one direction over the floor of the cavity, and such that the torque applied by the jack to the said shaft increases progressively from a minimum at the beginning of the stroke to a maximum at the end.

3,539,062

TOWING APPARATUS

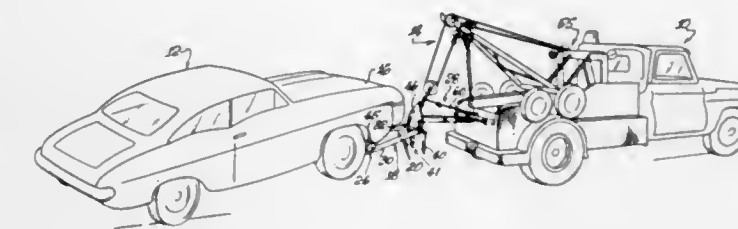
Charles D. Allen, 8227 Arnett St., Downey, California 90241

Filed April 29, 1968, Ser. No. 729,140

Int. Cl. B60p 3/12

U.S. Cl. 214-86

10 Claims



Apparatus for use by a tow truck in towing a vehicle comprising a rigid tow and vehicle support means removably and pivotally connected to and extending from the vehicle's lower frame forward beyond an end of the vehicle to the lifting mechanism of the truck whereby an appreciable space and substantially fixed distance are maintained between the vehicle and the lift mechanism during towing of the vehicle.

3,539,063

TOY SIMULATING A BOOM CARRYING MACHINE

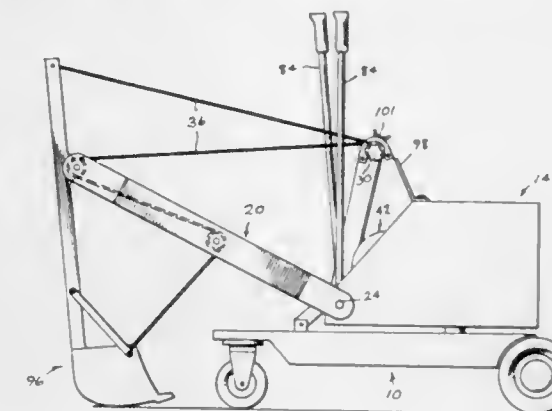
Emil S. Masura, R.R. 2, Decatur, Michigan 49045

Filed July 3, 1968, Ser. No. 742,367

Int. Cl. E02f 3/75

U.S. Cl. 214-138

3 Claims



A toy having a body, a boom, and a member supported by the boom and controlled by a cable. A reel and a driven member are mounted upon a shaft journaled in said body. One end of the actuating cable is connected to the reel. A sector member is pivotally connected to said body. Drive means responsive to the pivotal movement of the sector member engages said driven member. An actuator is operable to pivot said sector member whereby the cable may be taken up or let out by said reel to actuate the boom supported member.

3,539,064

METHOD OF STORING AND RETRIEVING ARTICLES BY CONTINUALLY USING PIN TAGS AS A CONTROL INDICATOR

S. Carroll, Kahn, Jr., 3333 N. Franklin Road, Indianapolis, Indiana 46226

Continuation of application Ser. No. 504,761, Oct. 24, 1965.

This application Aug. 23, 1968, Ser. No. 777,523

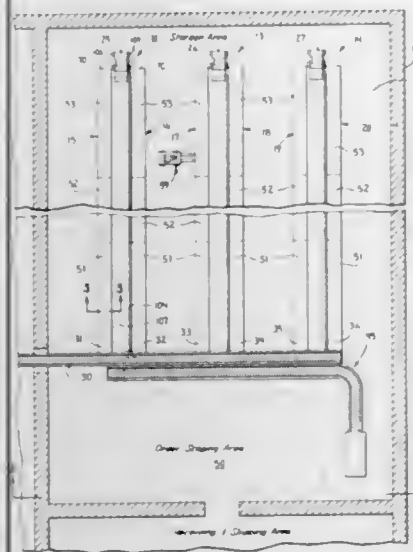
Int. Cl. B65g 1/00

U.S. Cl. 214-152

8 Claims

A method of storing and retrieving goods wherein goods are put into shelves from the rear thereof and pulled to fill an order from the front of the shelves. The truck used to pull the order moves from one end of the rack toward the other while simultaneously pulling the desired objects from the upper shelves of the rack onto the truck and then moves back toward the one end while simultaneously pulling the further desired objects from the lower shelves of the rack.

Pin tags are used with the goods as they come in to identify the shelf to which they are assigned. When the shelf becomes empty the pin tag is returned to the location where incoming



goods are received and the next goods received are given that pin tag and assigned to that shelf whether or not those next goods are the same type of goods previously assigned to that slot.

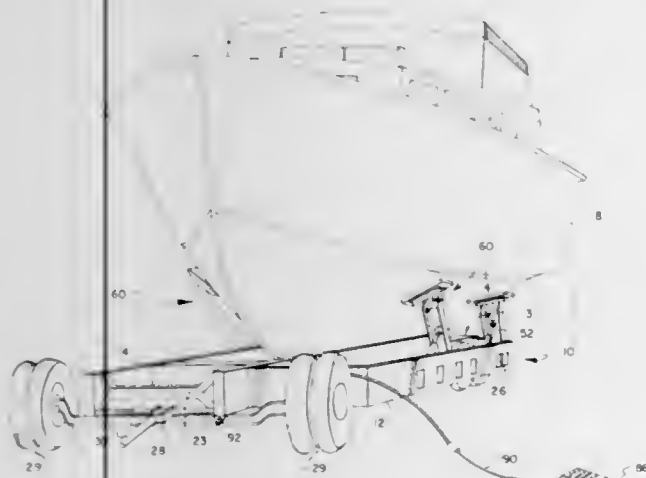
3,539,065 TRAILER

David F. Brownell, 1 Park St., Mattapoisett, Massachusetts 02739

Filed Jan. 3, 1969, Ser. No. 788,787
Int. Cl. B60p 3/10

U.S. Cl. 214—390

5 Claims



A boat trailer is provided having a U-shaped frame and a pair of independent transversely spaced wheel assemblies for supporting the rear of the frame. Thus, an opening is provided that extends upwardly from the rear end of the frame. Spanning members, which extend across the opening to support a boat being transported on the trailer, are removable to permit the trailer to be driven away from a boat off-loaded onto blocking. Preferably the trailer includes jack means for raising and lowering the frame and engaging means for holding the boat on the trailer.

3,539,066 BOAT TRAILER AND DOCK

Roy S. Stevenson, 501 N. Douglas Blvd., Midwest City, Oklahoma 73130

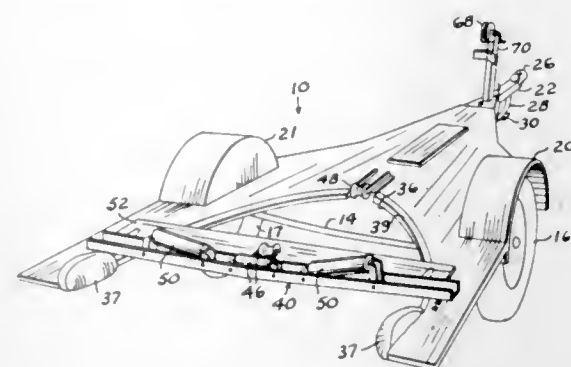
Filed Oct. 23, 1968, Ser. No. 769,980
Int. Cl. B60p 3/10

U.S. Cl. 214—506

3 Claims

A wheeled trailer, having a platform overlying its frame, supports a boat while traveling. The rearward end of the

trailer frame is provided with a boat bow receiving and nesting recess opened for admission of the boat, when the trailer



is backed into the water, by a boat supporting bolster normally extending transversely across the recess which is pivoted to an out of the way position.

3,539,067 VEHICLE FOR LOADING AND UNLOADING BALES OF HAY AND LIKE ARTICLES

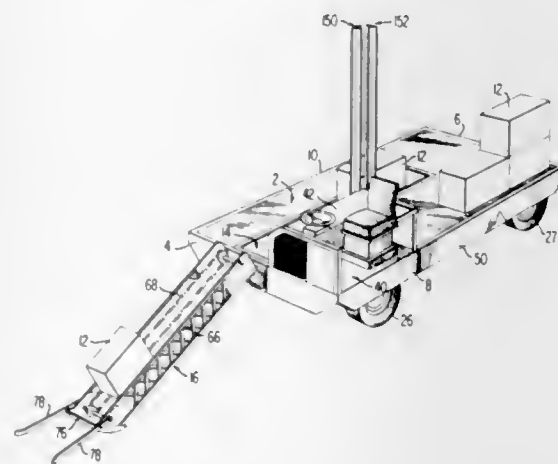
David Seerist, Lee Livestock, Waysack, and Robert Seerist, 390 Juniper St., both of Elko, Nevada 89801

Filed May 24, 1968, Ser. No. 731,840

Int. Cl. B60p 1/02

U.S. Cl. 214—512

10 Claims



A vehicle which is intended for loading and unloading bales of hay and the like. The vehicle includes a horizontal flat bed and a chassis with wheel means supporting the chassis for motion along the ground. Bales of hay are adapted to be picked up from and delivered to the ground by a pickup conveyor extending between the ground and one end of the chassis. The bales are transferred between the pickup conveyor and a bed conveyor mounted in the bed moving longitudinally thereof. The pickup conveyor may be moved to an inoperative position in which it is concealed within the bed. Additionally, the bed may be selectively raised to differing heights above the chassis to vary the height of the bed above the ground.

3,539,068 ANTIROLLBACK MECHANISM

David H. Seaberg, Burlington, Iowa, assignor to J.I. Case Company, a corporation of Wisconsin

Filed Sept. 26, 1968, Ser. No. 762,724

Int. Cl. E02f 3/28

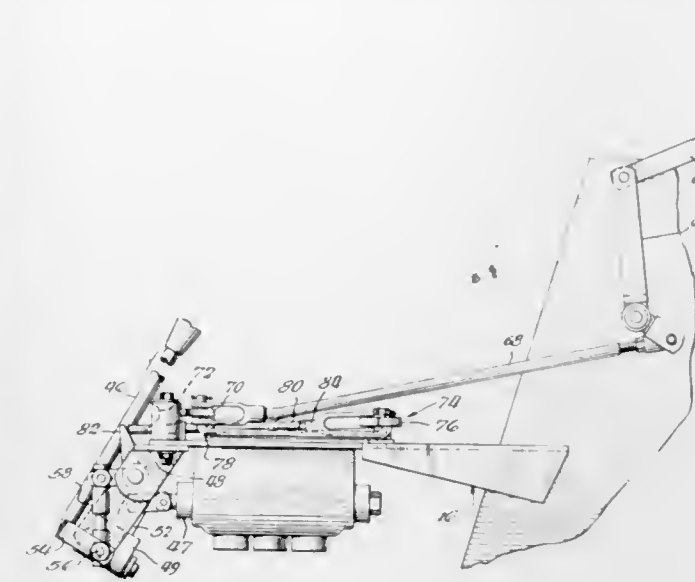
U.S. Cl. 214—764

6 Claims

A loader unit mounted on a tractor and including pivotally mounted lift arms pivotally carrying a bucket and all controlled by a hydraulic circuit, including a lift arm control cylinder and a bucket control cylinder. The hydraulic control circuit incorporates a lift arm control valve spool and a bucket control valve spool operable by a single control lever. The loader unit also includes a mechanical return to dig linkage having a latch engageable with the single control lever to

hold the lever in bucket rollback position as the arm is lowered. An adjustable linkage connected to the latch prevents operation of the bucket control valve spool to roll

fabricated in telescopic sections of a lightweight, bulletproof material and suspended from the helicopter by which it is



the bucket rearwardly past its level position when the lift arms are in raised position, thereby preventing rearward dumping of the bucket.

3,539,069 EJECTOR TYPE BUCKET LOADER

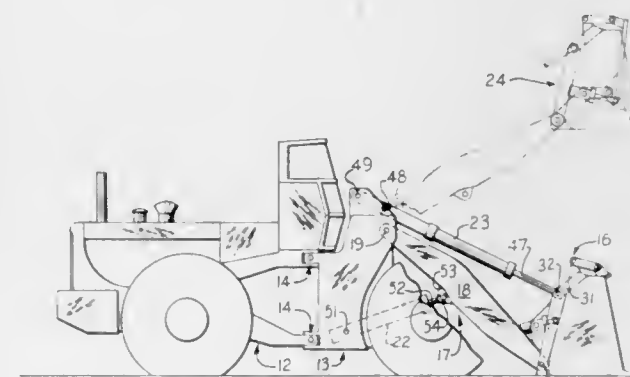
Andrew J. Allen, Washington; Rodney H. Anderson, Trevor G. Campbell, Peoria, and Emil B. Lee, Jr., Morton, Illinois, assignors to Caterpillar Tractor Co., Peoria, Illinois a corporation of California

Continuation of application Ser. No. 658,115, Aug. 3, 1967, now abandoned. This application Sept. 8, 1969, Ser. No. 856,221

U.S. Cl. 214—767

Int. Cl. E02f 3/70

2 Claims



A large capacity bucket loader having an ejector bucket pivotally connected to the loader vehicle by means of lift arms. Tilt jacks are disposed upon the loader for direct interaction between the vehicle and the ejector bucket assembly to provide for tilting of the bucket.

3,539,070 AIR RESCUE EQUIPMENT

John V. Dunlea, Jr., 62 Wellesley Ave., Wellesley, Mass. 02181

Filed June 20, 1968, Ser. No. 738,577

U.S. Cl. 220—8

Int. Cl. B65d 7/24

4 Claims

A collapsible air rescue chamber is provided for retrieving personnel in safety from enemy-controlled territory and is particularly adapted for use in combination with hovering aircraft such as helicopters. The chamber preferably is

adapted to be raised or lowered from the ground and to hold at least one person in safety as he is retrieved.

3,539,071 PACKAGING STRUCTURE

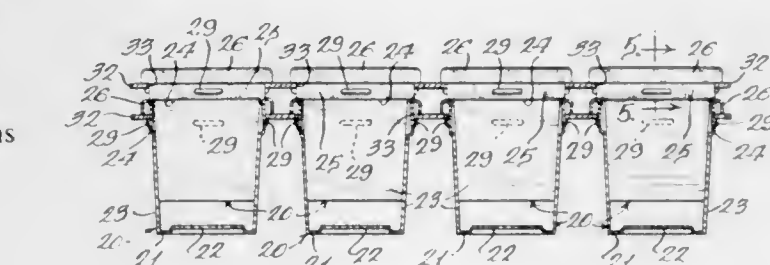
Rodney E. Ludder, Glen Head, New York, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

Filed Oct. 9, 1968, Ser. No. 766,087

Int. Cl. B65d 21/02, 73/00

U.S. Cl. 220—23.4

5 Claims



A container and system for packaging the same in which respective carriers are provided, each capable of releasably retaining a plurality of nested containers secured thereto, and which containers extend from the carrier a distance sufficient to be engageable with a like nestable container supported in a respective carrier therebeneath. Each of the carriers is adapted to be supported and spaced in parallel relationship to each other as the containers are telescopically nested with respect to each other.

ERRATUM

For Class 220—97 see:
Patent No. 3,539,552

3,539,072 STACKED COMPARTMENT DISPENSING MACHINE HAVING RECIPROCAL COMPARTMENT TRANSFER STRUCTURE

Charley Ward Hunter, Raytown and William C. Hoppe, Kansas City, Missouri, assignors to The Vendo Company, Kansas City, Missouri a corporation of Missouri

Filed Nov. 18, 1968, Ser. No. 776,368

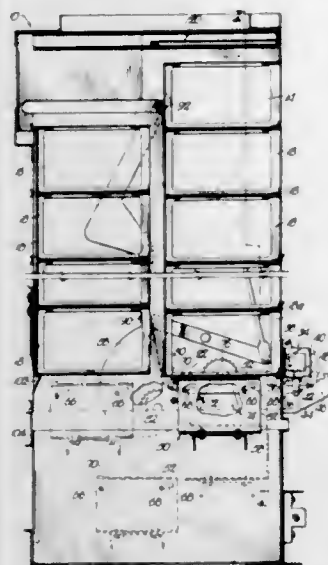
Int. Cl. G07f 11/00

U.S. Cl. 221—76

13 Claims

A selective product-dispensing machine employs a series of product conveyors each having a pair of separate stacks of compartments. Transport structure common to the conveyors is disposed therebeneath for shifting a released compartment of a selected conveyor from one stack thereof to

the bottom of the other stack of the selected conveyor. The transport structure maintains the released compartment in a horizontal attitude at all times and effects raising of only the stack to which the released compartment is transferred.



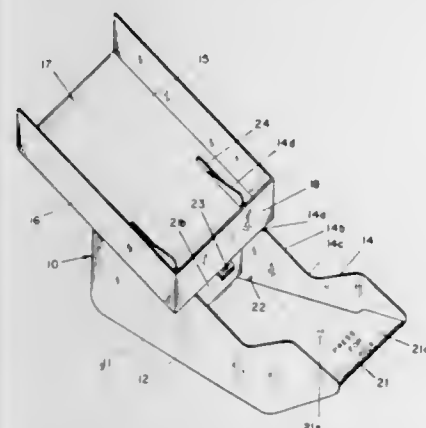
3,539,073

DISCOVERY IN TOOTHPICK DISPENSER

George F. Edwards, Madison, and Rodney L. Helgeland, Oregon, Wisconsin, assignors to Genie Products Corporation, Madison, Wisconsin a corporation of Wisconsin
Filed March 14, 1969, Ser. No. 807,340
Int. Cl. G07f 11/46; B65h 3/00

U.S. Cl. 221-196

3 Claims



A toothpick dispenser having a base with a pair of upright sidewalls with generally forwardly declining upper edges each having a separating notch, track and cradle portion. A receptacle portion for holding a package of toothpicks is supported on an actuator lever pivotally mounted between the sidewalls of the base. When the actuator lever is depressed, the receptacle is pivoted forward over the notches in the upper edges of the sidewalls and deposits a toothpick therein. When the lever is released, the receptacle pivots rearwardly whereby wedge-shaped jogs protrude through longitudinally extending slots in the bottom of the receptacle to jog the toothpicks therein and a kicker element dislodges the dispensed toothpick from the notches for descent to a cradle portion in the base for manual pickup.

3,539,074

ARTICLE-DISPENSING APPARATUS

William H. Eburn, Jr., Westport, and Joseph H. Miller, Old Greenwich, Connecticut, assignors to Automation and Product Development Corporation, Darien, Connecticut a corporation of Connecticut

Filed Nov. 1, 1968, Ser. No. 772,662

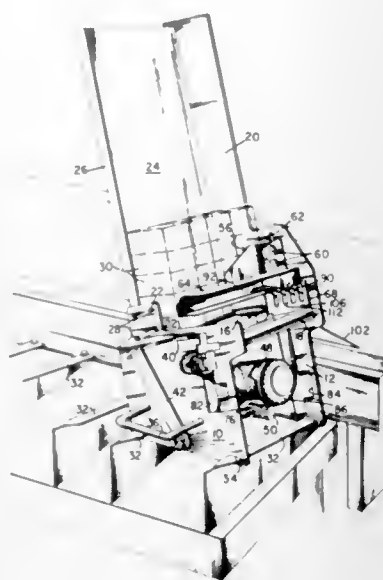
Int. Cl. B65h 5/00

U.S. Cl. 221-236

15 Claims

Apparatus for automatically dispensing singly and in rapid succession, preferably rectilinear articles such as cartons. The dispenser includes a holder for several stacked rows of articles, a pusher for shifting the bottom row laterally to a

dispensing shelf, another pusher for moving the row lengthwise to dispense the articles one at a time from the end



3,539,075

DOUBLE BOILER VESSEL WITH SPOUT

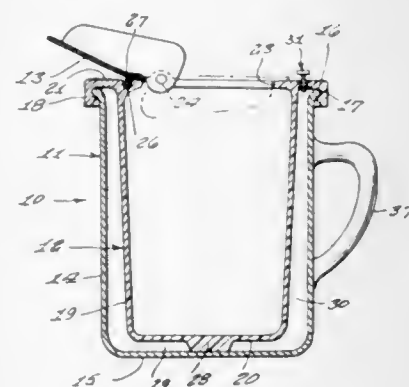
Frank F. Bautista, 566 Hudson St., New York, New York 10012

Filed Dec. 27, 1966, Ser. No. 604,919

Int. Cl. B67d 3/00; A47j 27/10

U.S. Cl. 222-531

1 Claim



A vessel for preparing and dispensing a viscous sweet and sour sauce having an inner container for the ingredients to be prepared and dispensed and an outer pot to hold boiling water wherein both the pot and container have a unitary cover for cooking and dispensing purposes.

3,539,076

VALVED LIQUID DISPENSER

Peggy Weiss, 9517 Cody Drive, St. Louis, Missouri 63132

Filed April 2, 1969, Ser. No. 812,725

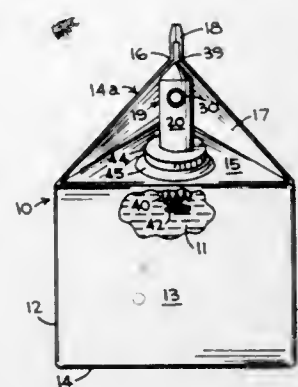
Int. Cl. B67b 7/24

U.S. Cl. 222-80

5 Claims

A valved liquid dispenser adapted for use with a conventional dairy product carton. The device having automatic valve closing and opening means effected alternately by the resting and pouring positions of the carton respectively;

thereby the unused portion of the product remaining within the carton will be shielded from the pollute mixed with the



3,539,077

CONTAINER AND DISPENSING MECHANISM

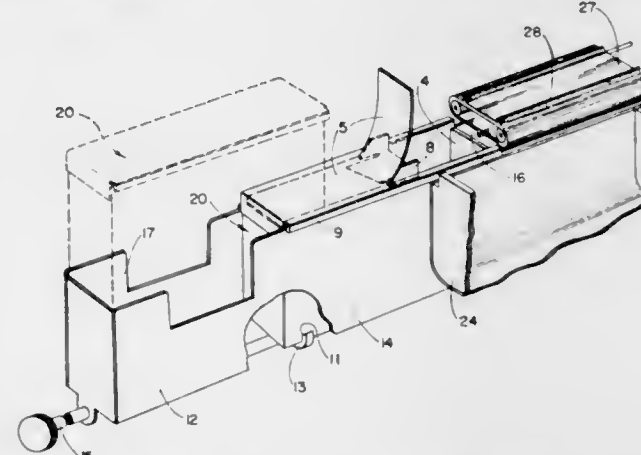
Roger A. Drexler and Stephen F. Michatek, Rochester, New York, assignors to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed May 1, 1968, Ser. No. 725,783

Int. Cl. B67b 7/24

U.S. Cl. 222-82

9 Claims



A container, which can be used for toner replenishment in electrostatic developing apparatus, has a top openable by slitting with a knife and a bottom which is movable toward the top for pushing toner over the top where it can be skived into a toner reservoir. Positioning, slitting and dispensing mechanisms are provided which perform these functions without operator handling.

3,539,078

ONE-PIECE MOLDED PLASTIC OVERCAP AND VALVE ACTUATOR FOR AEROSOL CONTAINERS

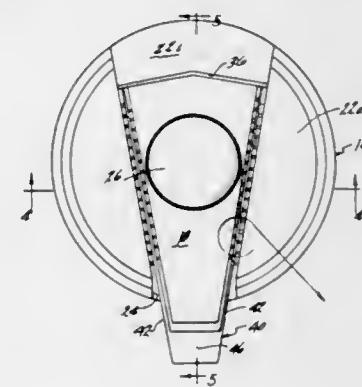
Frank Venus, Jr., Watertown, Connecticut, assignor to The Risdon Manufacturing Company, Naugatuck, Connecticut a corporation of Connecticut

Filed Jan. 10, 1968, Ser. No. 696,755

Int. Cl. B65d 83/14

U.S. Cl. 222-153

1 Claim



An actuator-overcap assembly for an aerosol dispenser in which the overcap and actuator portions of the assembly are

initially molded as an integral part but which are adapted to be severed, when a consumer wishes to operate the actuator to get dispensing of the aerosol product, by pulling a tear strip temporarily joining the cap and actuator.

3,539,079

MEANS AND TECHNIQUES FOR HANDLING AND DISPENSING FLUIDS FROM LARGE METAL DRUMS

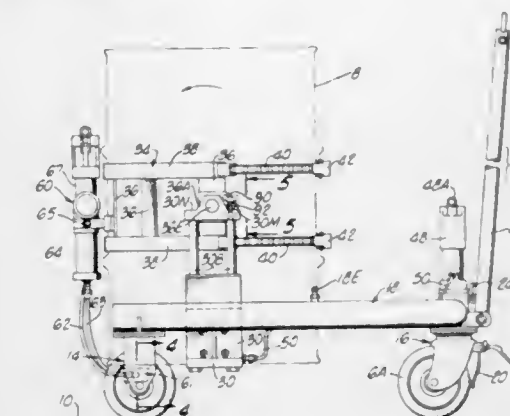
Wallace D. Loe, Lakeside, California, assignor to Loe Industries, a corporation of California

Filed Nov. 21, 1968, Ser. No. 777,700

Int. Cl. A01c 15/00

U.S. Cl. 222-176

9 Claims



A wheeled vehicle supports a clamping structure to which a drum containing fluid may be clamped. A wheeled vehicle also carries fluid dispensing means connectable to the drum opening after removing the drum plug or bung. After such clamping, this clamping structure is raised to raise the drum clamped thereto from the ground a sufficient distance to allow the drum to be rotated on the vehicle 180°. The clamping structure is then locked in position and the fluid dispensing means is operated to dispense fluid from the drum.

3,539,080

DEVICE FOR APPLYING LINES TO A PAVEMENT

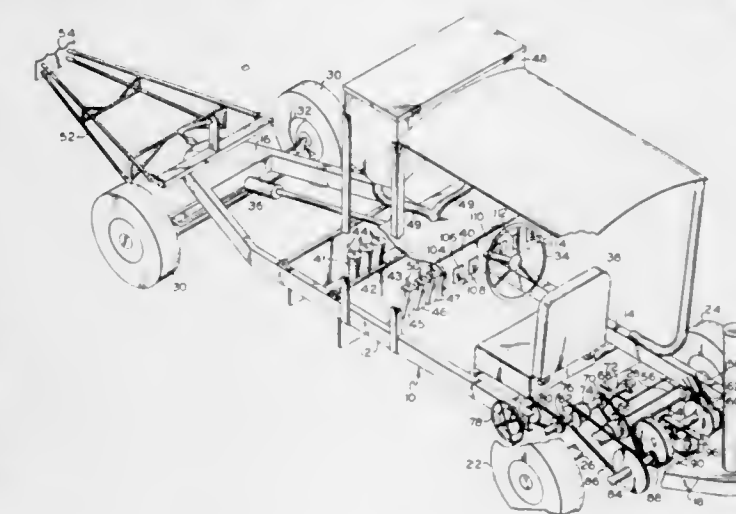
George C. Morgan, Rte. 1 Box 2, Mc Minnville, Oregon

Filed July 1, 1968, Ser. No. 741,792

Int. Cl. A01c 15/00

U.S. Cl. 222-177

9 Claims



A device is disclosed for applying continuous or skip lines to a highway pavement. The device is a wheeled vehicle which is pushed by a truck and which has paint applying nozzles and bead applying dispensers controlled in part by cams. The cams are driven from pavement engaging wheels on opposite sides of the vehicle through a differential so as to produce equal length skip lines or bead strips and equal length skip distances between such skip lines or bead strips on curved and straight portions of the highway. A second differential in the cam drive is also provided to enable manual introduction from a hand wheel of a correction of the longitudinal position of skip lines or bead strips. To assist in obtaining initial register with previously applied skip lines or bead strips a cam drive disengaging mechanism which also disengages the cams from their cam followers is also pro-

vided in conjunction with a device for returning the cams to a predetermined position when the cam drive is disengaged.

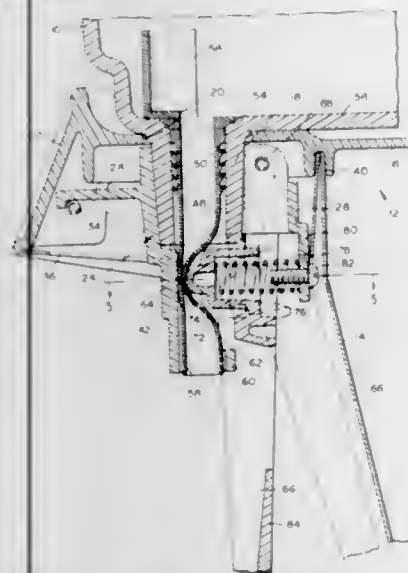
3,539,081

VALVE FOR BEVERAGE DISPENSERS

Robert L. Norton, Norfolk and William H. Jacobs, Chestnut Hill, Massachusetts, assignors to Jet Spray Cooler, Inc., Waltham, Massachusetts a corporation of Massachusetts
Filed July 5, 1968, Ser. No. 742,799
Int. Cl. B67d 5/06

U.S. Cl. 222-185

8 Claims



A valve assembly having a support and a pinch tube controlled by a lever that pinches and releases the tube against an anvil in the support to close and open the valve.

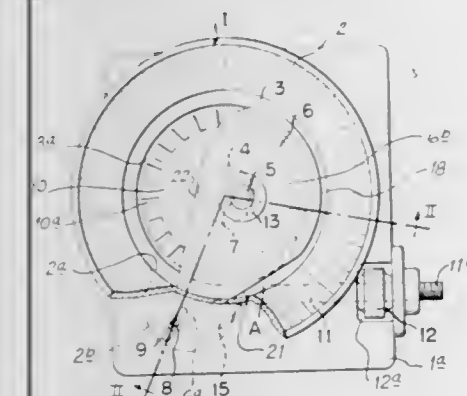
3,539,082

METERED DISCHARGE APPARATUS FOR POWDERED MATERIAL

Torahiko Hayashi, 2-3, Nozawa-cho, Utsunomiya-shi, Japan
Filed Jan. 15, 1969, Ser. No. 791,410
Claims priority, application Japan, Jan. 19, 1968, 43/2,586
Int. Cl. G01f 11/00

U.S. Cl. 222-232

14 Claims



An apparatus for repeatedly discharging small, accurately metered amounts of powdered material has a container for the material with a side aperture adjacent the bottom of the container, a feeder plate disposed adjacent the container bottom and formed with an end portion extending through the aperture to define a gap between a side edge of the plate and an adjacent portion of the container sidewall, and the feeder plate is cyclically moved so that, during part of each cycle, the gap is progressively narrowed in the direction toward the aperture and the plate edge defining the gap also moves along the latter in the same direction to propel a metered quantity of material through the aperture.

3,539,083

BAG IN CAN AEROSOL CONTAINER

Samuel Prussin, Los Angeles and Jimmie L. Mason, Hacienda Heights, California, assignors to Dart Industries Inc., a corporation of Delaware

Filed Dec. 17, 1968, Ser. No. 784,451

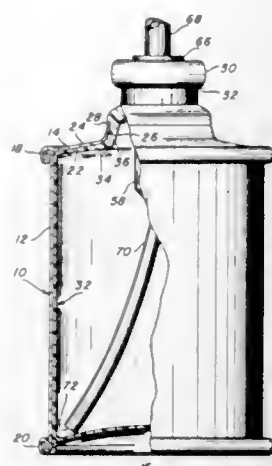
Int. Cl. B65d 83/00

U.S. Cl. 222-402.24

16 Claims

A bag in can aerosol container adapted to prevent corrosion of metal containers comprising a corrosion resistant bag

disposed in a container body, the container body having a top provided with a central opening and an outwardly directed ledge generally surrounding the opening, said bag having a relatively thick and rigid hollow neck structure ex-



tending through said opening and having an inwardly directed ledge abutted to the outwardly directed ledge of said top for holding said bag in fixed relation to said container at its top portion.

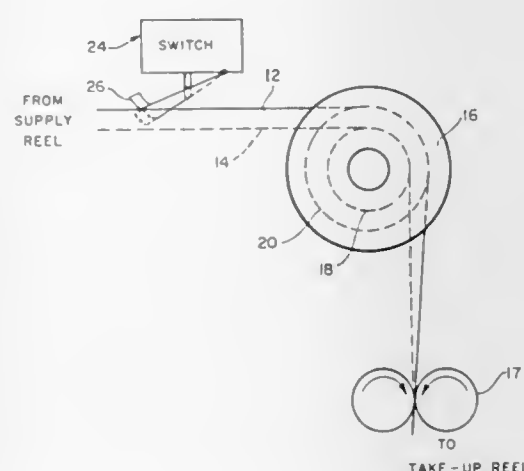
3,539,084

SENSING DEVICE

John A. Bradshaw, Somerville, Massachusetts, assignor, by mesne assignments, to Synergistics, Inc., East Natick, Massachusetts, a corporation of Massachusetts
Filed Nov. 25, 1968, Ser. No. 778,655
Int. Cl. B65h 25/04

U.S. Cl. 226-11

3 Claims



A sensing device employing an idler wheel over which a recording medium rides. The recording portion of the recording medium is narrower than the leader portion and rides at a first level in a circumferential channel along the periphery of the idler wheel. The wider leader portion of the recording medium rides at a second level concentric with the first level. A switch is positioned so as to be actuated by the leader portion passing through the idler wheel at the second level.

3,539,085

WEB CONTROL SYSTEM

Bruce D. Anderson, Wheaton and Ernest E. Cline, Hanover Park, Illinois, assignors to Web Press Engineering Inc., a corporation of Illinois

Filed June 11, 1968, Ser. No. 736,052

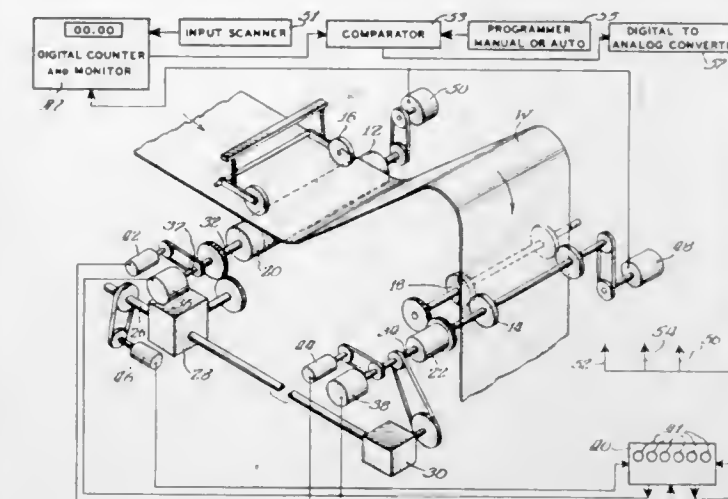
Int. Cl. B65h 23/18

U.S. Cl. 226-25

5 Claims

A web control system for accurately controlling the high-speed movement of a web in a printing press or like device. The web passes over a driven control roller which is connected with a differential harmonic drive means. A variable speed drive operatively connected to the differential har-

monic drive means precisely controls the speed of the control roller. The variable speed drive is operated by a control



means responsive to a feedback tachometer operatively coupled to the variable speed drive.

3,539,086

MULTI SIZE VARIABLE CENTER ELECTRONIC COMPONENT INSERTION MACHINE

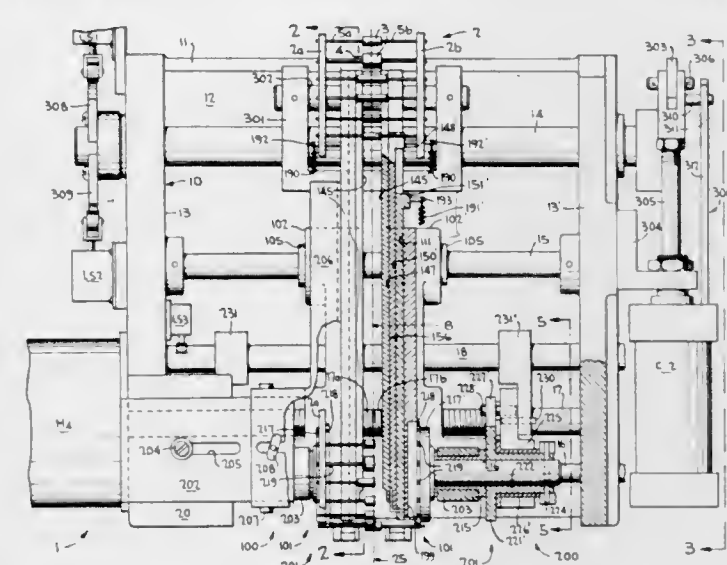
Phillip A. Ragard, Binghamton and Gary D. Johnson, Endicott, New York, assignors to Universal Instruments Corporation, Binghamton, New York a corporation of New York

Filed Aug. 26, 1968, Ser. No. 755,233

Int. Cl. B27f 7/06

U.S. Cl. 227-2

15 Claims



An insertion apparatus having an insertion head automatically adjustable to accommodate axial lead components having body portions of variable diameter and lengths.

3,539,087

AUTOMATIC FASTENING DEVICE

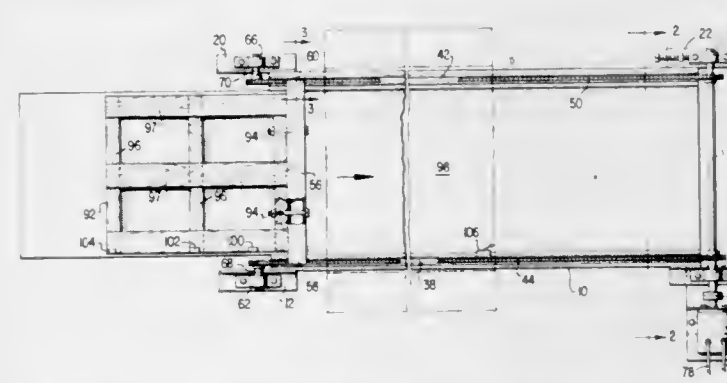
Randolph Burch, Summit Point, West Virginia, assignor to William S. Doig Inc., Haverstraw, New York a corporation of New York

Filed Oct. 14, 1968, Ser. No. 767,242

Int. Cl. B27f 7/06

U.S. Cl. 227-3

15 Claims



A device for assembling an article from a plurality of elements wherein a plurality of elements of the article are tem-

porarily secured together in a jig means in a predetermined relationship and translated to a fastening device or nailing machine where successive fastening or nailing operations are performed on the elements under the control of a plurality of selectively spaced stops on the jig means and an associated limit switch. After the final fastening or nailing operation is completed, the elements of the article, secured together by the fastening means or nails, are returned to their initial position.

3,539,088

MACHINES FOR ATTACHING PRONGED GARMENT FASTENERS

Clarence Martin Wilson, Birmingham, England, assignor to Thomas Walker Limited, Birmingham, England a British Company

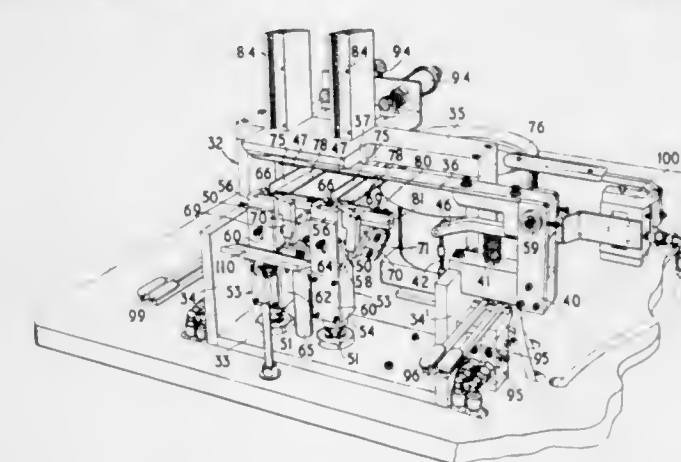
Filed May 8, 1968, Ser. No. 727,516

Claims priority, application Great Britain, May 11, 1967, 21,825/67; Jan. 20, 1968, 3,138/68

Int. Cl. A41h 37/02

U.S. Cl. 227-18

11 Claims



This invention concerns a machine for setting pronged garment fasteners wherein the fasteners are loaded into a lower die with their prongs presented upwardly and complementary backplate components are loaded into a downwardly-presented upper die which may be provided on the underside of a mandrel or on the underside of a stationary head part, and wherein the fastener components can be fed and loaded into said dies automatically.

3,539,089

CARTON CONSTRUCTION

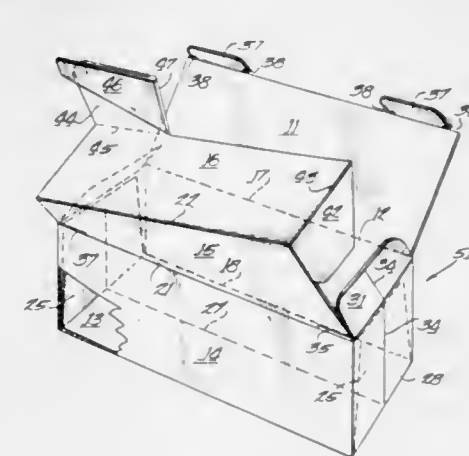
Stanley C. Osberg, Rockford, Illinois, assignor to Keystone Consolidated Industries, Inc., Peoria, Illinois a corporation of Delaware

Filed Dec. 18, 1968, Ser. No. 784,853

Int. Cl. B65d 5/48

U.S. Cl. 229-27

3 Claims



A one-piece folding carton having a semisolid bottom and tuck top which is formed from a single piece of cardboard or similar material and which requires less material and provides a flat fold utilizing minimum space for both storage and shipping and the necessary storage area at a given loading station. The carton is formed with a top, front and rear wall, end walls with side or dust flaps, and a bottom wall capable of being folded along a plane extending lengthwise across the

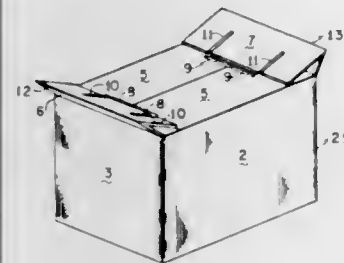
box, and foldable inner bottom flaps integral with the bottom wall or the ends thereof and adapted to be secured to the end walls. A pair of partition sections integral with the front wall fold into the formed carton to partition the carton space into a pair of generally equal portions.

3,539,090

SHIPPING CONTAINER WITH INTERLOCKING FLAPS
Robert O. Bladdell, Birmingham, Michigan, assignor to The Mead Corporation, Dayton, Ohio a corporation of Ohio
Filed Jan. 10, 1969, Ser. No. 790,377
Int. Cl. B65d 5/08

U.S. Cl. 229—38

5 Claims



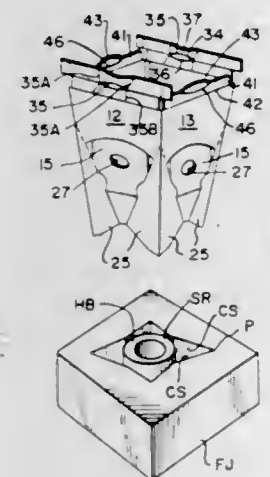
A shipping container which may be made on a printer-slitter and set up with the top flaps in a self-closing interlocking arrangement. Flexure creases are provided in two opposed flaps for outwardly initiated closure.

3,539,091

DISPLAY CARTON FOR FLOOD LAMPS
Lowell C. Murray, Fort Wayne, Indiana, assignor to Container Corporation of America, Chicago, Illinois a corporation of Delaware
Filed Nov. 13, 1968, Ser. No. 775,346
Int. Cl. B65d 5/10, 5/50

U.S. Cl. 229—39

3 Claims



A display carton in the form of a sleeve for holding that type of incandescent lamp generally referred to as a floodlight or floodlamp, said carton being comprised of a lamp base holding structure formed from tabs folded inward from the side panels of said sleeve, and retaining flap means hinged to the panels of the sleeve for engaging the lamp at the juncture of its lens surface and the lamp envelope.

A feature of the invention resides in the visual inspection of the lamp, ready adaptation of the carton to lamps of different ratings, and stacking of the filled cartons.

3,539,092

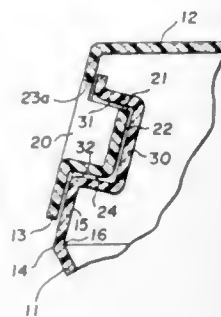
EGG CARTON LATCH
Kurt G. Dahlberg, Pittsford, New York, assignor to Thermo Trim Inc., Rochester, New York a corporation of New York
Filed Jan. 2, 1969, Ser. No. 788,497
Int. Cl. B65d 5/66, 5/10

U.S. Cl. 229—44

3 Claims

An egg carton latch is formed with a latch surface on a latch flap that extends upward from the base of the carton

and an inwardly offset lower edge of an aperture in the latch region in the cover of the carton. Surfaces supporting the off-



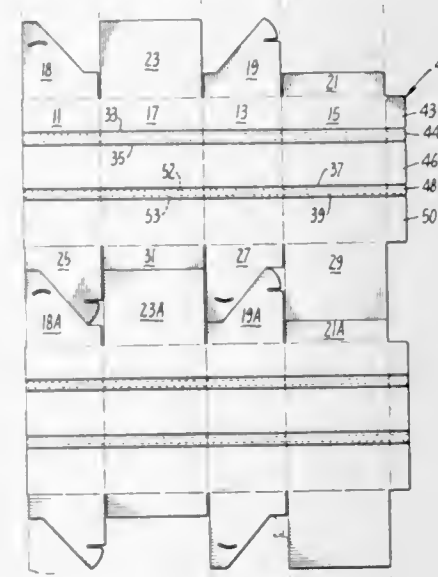
set edge are tapered to converge with increasing distance from the offset edge.

3,539,093

SINGLE WALL REDUCIBLE CARTON MADE FROM A SPECIFIC BLANK WHICH PREVENTS THE LOSS OF SUBSTANTIAL MATERIAL
Josie T. Massengill, 407 Luce Ave., Ukiah, California 95482
Filed July 22, 1968, Ser. No. 746,561
Int. Cl. B65d 5/54, 5/08

U.S. Cl. 229—51

2 Claims



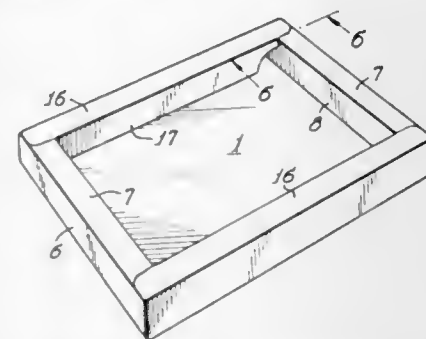
A single-wall, collapsible carton is provided having two or more tear strips which can be removed to provide a carton of smaller size. In accordance with the invention, staggered end flaps are employed so that there is substantially no wastage in cutting carton blanks from a continuous web of material.

3,539,094

HOLLOW WALL TRAY WITH CORNER LOCK
Charles E. O'Connor, Wakefield and Peter C. Collura, Waltham, Massachusetts, assignors to Container Corporation of America, Chicago, Illinois a corporation of Delaware
Filed June 4, 1968, Ser. No. 734,354
Int. Cl. B65d 5/22

U.S. Cl. 229—34

3 Claims



A collapsible paperboard tray with the bottom panel and hollow side and end walls formed from a single blank. Each

hollow end wall, near its ends, has a female lock opening. The stock released from the opening is left in to form a hinged locking tab. Each end of the inner panel of each side wall is formed with a male tab that enters the opening in the end wall when the tray is set up and is held between the edge of the opening and the adjacent edge of the hinged locking tab.

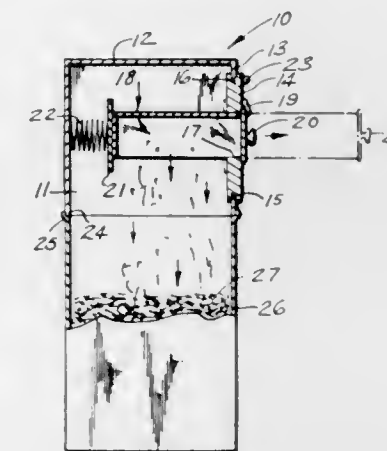
3,539,095

INCINERATOR ASH RECEPTACLE
Theresa F. James, 7614 Lexington Green, Cleveland, Ohio 44130

U.S. Cl. 232—43.1

Int. Cl. B65f 1/00

4 Claims



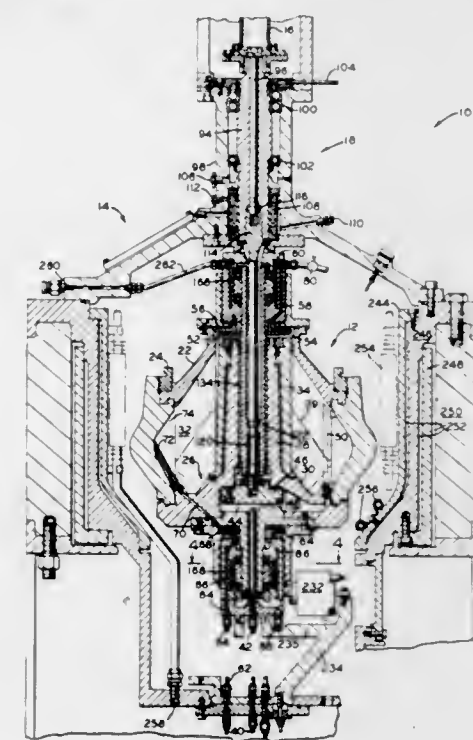
A device for home incinerator ash drawers which eliminates ashes from flying in the air or falling on the floor. This device is completely enclosed and when the drawer full of ashes is removed from the incinerator, it is pushed into the top of the receptacle whereupon revolving the circular portion 360° will dump the ashes into the lower basket or container.

3,539,096

HY-G CENTRIFUGE
Kenneth D. Lewis, Wilton; Robert W. Honeychurch, Stamford, Connecticut and James C. Elksen, Elmhurst, Illinois, assignors to Dow-Oliver Incorporated, Stamford, Connecticut a corporation of Delaware
Filed April 27, 1967, Ser. No. 634,197
Int. Cl. B04b 15/02

U.S. Cl. 233—14

54 Claims



A high-speed ultracentrifuge for the separation of milimicron size particles, having either a flexible suspension

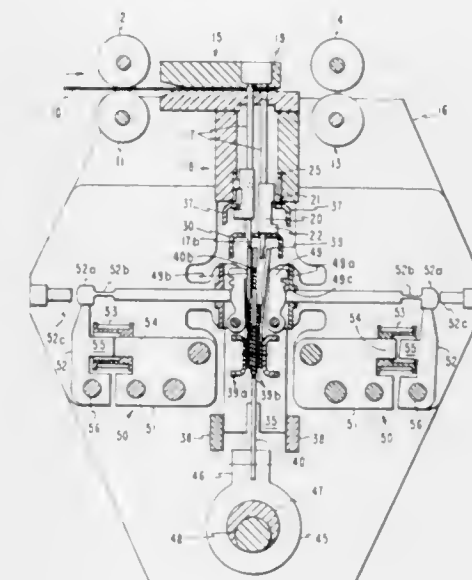
system or a hydrostatic bearing interconnecting the motor and the rotor to allow the rotor to shift its position due to an imbalance effect. The rotor is mounted in an explosion resistant refrigerated housing, has floating bearings and uses molecular pump-type seals to maintain the pressure differential between the rotor and the housing. A damping system is provided at the lower end of the rotor to reduce the amplitude of vibrations to a tolerable level as the speed of rotation approaches and surpasses critical speed. The rotor has peripheral dead pockets in the separating chamber to gather the separated sludge prior to its discharge; and the hub is connected to the drive shaft by grip springs. The centrifuge is continuously being operated and feed is being continuously added during alternating steps of washing and sludge discharge.

3,539,097

ELECTRO-MECHANICAL ACTUATOR
Gregory N. Baker, Daniel O. Castrodale, and Robert E. Schopp, Rochester, Minnesota, assignors to International Business Machines Corporation, Armonk, New York a corporation of New York
Filed July 22, 1968, Ser. No. 746,514
Int. Cl. G06k 1/05

U.S. Cl. 234—115

11 Claims



An electro-mechanical actuator is provided where an interposer spring attached to a reciprocating bail is selectively permitted or prevented, under control of a magnet armature, from contacting the element to be actuated.

ERRATUM

For Class 235—54 see:
Patent No. 3,539,776

3,539,098

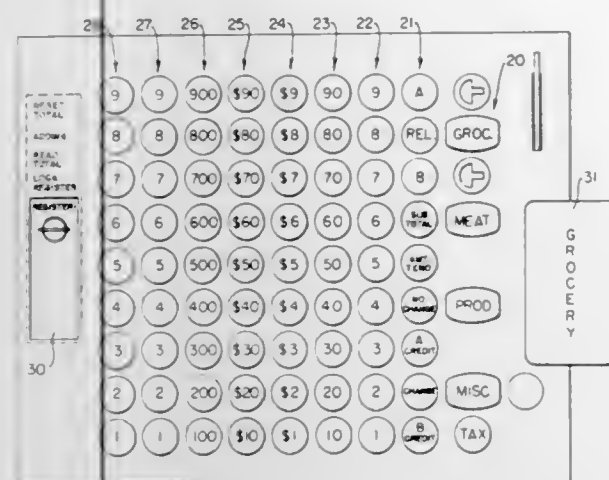
SELECTIVELY CONTROLLED ACTUATING MECHANISM
Koiti Ozawa, Fujisawa and Hiroshi Abe, Odawara, Japan, assignors to The National Cash Register Company, Dayton, Ohio a corporation of Maryland
Filed May 22, 1969, Ser. No. 826,896
Claims priority, application Japan, Jan. 11, 1969, 44/2,318
Int. Cl. G06c 27/00

U.S. Cl. 235—60.24

8 Claims

A mechanism to allow the accumulating or totalizer wheels located in a bank of print keys to be used in the accumulating capacity of a cash register or accounting machine. A mechanism operated by control members located on the

keyboard of a cash register or accounting machine for selectively positioning a cam member so as to vary the timing of



the movement of the differential mechanism in each of the banks of the print keys to their home position.

ERRATA

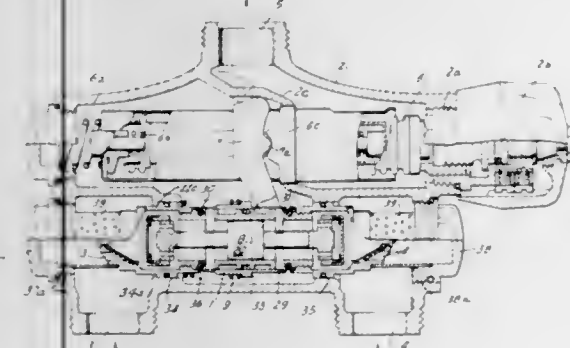
For Classes 235-82, 235-96 and 235-201 see: Patent Nos. 3,539,781, 3,539,783 and 3,539,793

3,539,099

THERMOSTAT CONTROLLED MIXING FAUCET
Friedrich Grohe, Hemer, Germany, assignor to Firma Friedrich Grohe Armaturenfabrik, Hemer, Germany
Filed May 8, 1968, Ser. No. 727,755
Int. Cl. G05d 23/13, 11/16

U.S. Cl. 236-12

14 Claims



A mixer valve unit can be inserted into the housing of a hot and cold water mixing faucet in a position engaged and operated by a thermostat to vary the relative amount of hot and cold water in accordance with the temperature of the mixed water, and can be removed and replaced through an opening in the housing.

3,539,100

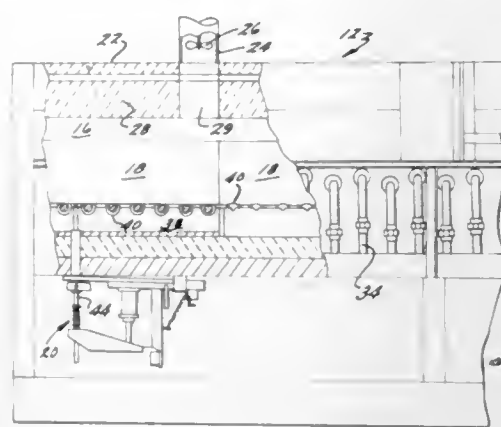
TEMPERATURE SENSING OF BILLETS
Robert M. Scanlon and Charles B. Gentry, Grand Rapids, Michigan, assignors to Granco Equipment Inc., Grand Rapids, Michigan a corporation of Delaware
Filed Aug. 2, 1968, Ser. No. 749,876
Int. Cl. F27b 9/40; F23n 5/10; G01k 1/14

U.S. Cl. 236-15

10 Claims

This disclosure relates to a temperature sensing system for metal billets which are intermittently pushed through an elongated furnace chamber. The billets are contacted by probes within the furnace chamber and preferably penetrate the outer layer of metal to form a thermocouple circuit including the billet. The probes are rotatably mounted so that the tips of the probes can shift with the thermal expansion of

the billets. The probes are withdrawn from contact with the billets after they have rotated a predetermined amount and



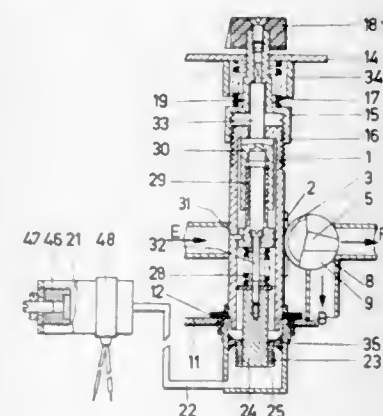
reset in a different position toward the entrance end of the furnace to avoid damage to the probes.

3,539,101

CONTROL ARRANGEMENT FOR VALVES
Jakob Huber, Wuerenlos, Switzerland, assignor to J. Huber & Cie. AG, Wuerenlos, Switzerland a corporation of Switzerland
Filed July 31, 1968, Ser. No. 749,011
Int. Cl. G05d 23/12

U.S. Cl. 236-92

10 Claims



This application discloses a control arrangement for valves regulating the flow of a heating fluid, for example, the flow of hot water in a hot water room heating system. The arrangement comprises a temperature sensor converting the sensed temperature to fluid pressure, the latter actuating a bellows where to a ram means is connected via a spring. The ram means is placed inside a tubular actuating member and abuts against one closed end thereof. The actuating member is urged by a second spring having one end abutting against the inside of a stationary housing for the control arrangement, against the action of the first mentioned spring for axially moving the tubular actuating member, depending on the relative tension of the springs. The length of the ram means is adjustable for influencing the action of the first mentioned spring. The tubular actuating member has a portion provided with a rack whose teeth are engaged with the teeth of a pinion mounted on a shaft for operating the valve regulating the flow of the heating fluid, the shaft being turned when the actuating member moves in the axial direction.

3,539,102

PROCESS FOR THE GENERATION OF LIQUID FOGS
Robert J. Lang, Watchung, New Jersey, assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Dec. 21, 1967, Ser. No. 692,546
Int. Cl. B05b 17/04

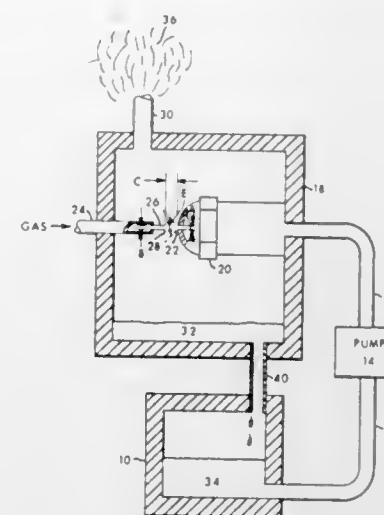
U.S. Cl. 239-4

4 Claims

A true liquid fog is generated from a liquid spray by direct-

ing a jet of gas at sonic velocities at the orifice of the nozzle producing the liquid spray. The invention is particularly use-

ful in the medical field of inhalation therapy and in the field of liquid combustion technology.



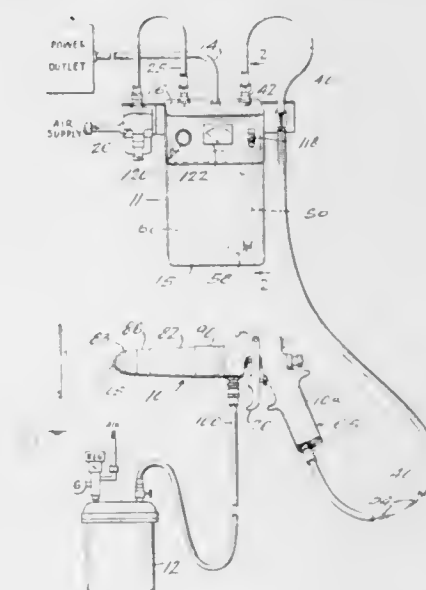
ful in the medical field of inhalation therapy and in the field of liquid combustion technology.

3,539,103

ELECTROSTATIC SPRAY GUN
James C. Marsh, Toledo, Ohio, assignor, by mesne assignments, to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware
Filed Jan. 11, 1968, Ser. No. 697,070
Int. Cl. B05b 5/00; H01b 3/16

U.S. Cl. 239-15

2 Claims



An air atomizing electrostatic spray gun having the charging wire to the spray gun carried within the air hose and physically shielded thereby. Provision is made at the source of high electrostatic voltage to introduce the insulated charging wire into the air line to the spray gun. Within the spray gun itself the air is diverted into a valved air passage while the insulated charging wire is separately directed into a passage to the electrostatic charging system.

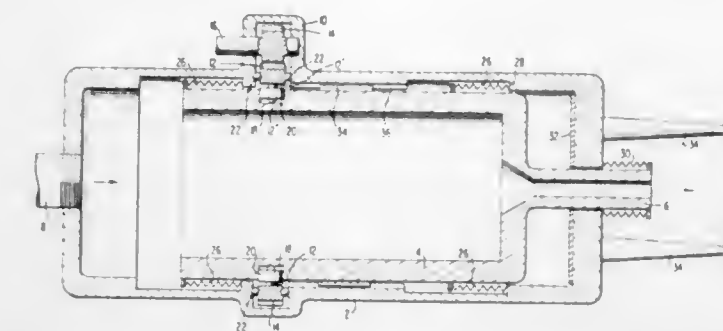
3,539,104

HYDRAULIC RAM JET DEVICE
William C. Cooley, Bethesda, Maryland, assignor to Exotech Incorporated, Rockville, Maryland
Continuation-in-part of application Ser. No. 612,945, Jan. 31, 1967, now Patent No. 3,521,820. This application Aug. 6, 1968, Ser. No. 750,728
Int. Cl. B05b 3/14

U.S. Cl. 239-102

6 Claims

A system for producing repetitive pulsed jets of liquid employing a reciprocating hollow piston member having a nozzle at one end thereof and in which the piston member is cocked against the pressure of a liquid supply to a housing within which the piston reciprocates and in which the piston is allowed to be propelled under the pressure of the liquid supply to impact the forward face of the housing wherein a



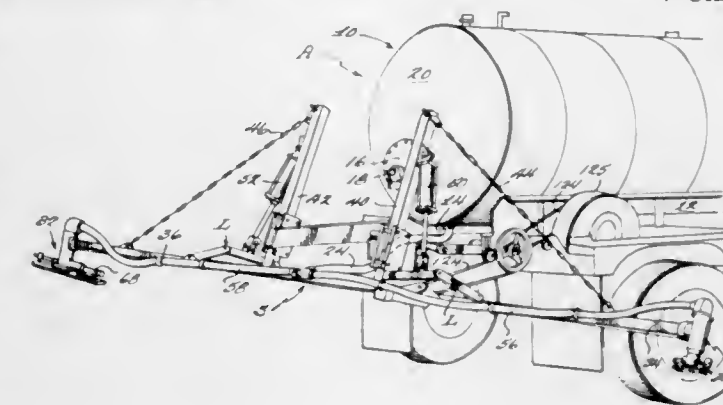
high velocity pulsed jet. For each impact of the piston against the housing wall, a pulsed jet is ejected from the system.

3,539,105

SLURRY PUMP AND DISTRIBUTOR SYSTEM
Donelson B. Horton, Madison, and Harvey T. Downing, Huntsville, Alabama, assignors to John Blue Company Incorporated, Huntsville, Alabama a corporation of Alabama
Filed March 8, 1967, Ser. No. 621,499
Int. Cl. B05b 9/00

U.S. Cl. 239-142

7 Claims



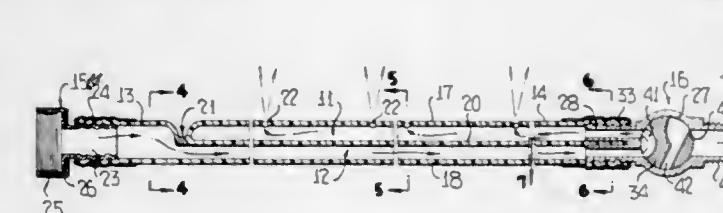
An improved distributor unit is provided which includes a single outlet means which can be rotated to form a flat plane of liquid distribution. The distributor unit is constructed to provide for adjustment of the single outlet length, and also its orifice diameter, and a counterbalancing means is provided to offset the position of the outlet. Further, a means is provided for automatically adjusting both the outlet length and the counterbalancing means so that there is a proportionate compensation of the counterbalance for all positions of the outlet means. The invention also provides for an improved mounting arrangement and spacing arrangement of centrifugal distributors wherein a more uniform pattern of distribution is attained. Individual distributors are mounted at angles so that the rate of application forms a pattern of distribution which is uniform. The patterns of distribution are overlapped in a substantial way so that complete uniformity of liquid distribution is achieved over a wide range of variables of application. The foregoing abstract is not intended to define the scope of this invention, but is provided only to assist in a cursory review of the gist of the invention.

3,539,106

COMBINED HOSE AND SPRINKLER
Vincent L. Ramik, 4966 Sabra Lane, Annandale, Virginia
Filed March 15, 1968, Ser. No. 713,339
Int. Cl. A01g 27/00

U.S. Cl. 239-145

9 Claims



This invention is directed to what is commonly termed a "garden hose" which is constructed to provide the advantages

of both "soaker-type" or "sprinkler-type" garden hoses and conventional "single-stream" hoses in a single multipurpose garden hose. The hose includes at least a pair of generally coextensive conduits with means at one end for coupling the hose to a conventional water spigot and means at an opposite end for selectively directing the water in either a single stream outwardly of any type of conventional nozzle or directing the water through a plurality of sprinkle apertures in a wall of one of the conduits. The hose is preferably constructed from extruded polymeric or copolymeric plastic material, such as polyethylene, which is extruded in a novel manner which includes "bumping" closed one of the conduits to close an end thereof such that water is first directed through an open-ended conduit and then reversely directed toward the closed end of the other conduit thus avoiding the necessity for separate closing means and permitting the manufacture of the hose at a cost markedly less than the cost involved in manufacturing an individual uni-flow garden hose and a multiflow sprinkler hose.

3,539,107

IRRIGATION SYSTEMS

Reginald John Mitchell, Coogee, New South Wales, Australia, assignor to McPherson's Limited, Melbourne, Victoria, Australia a corporation of Australia

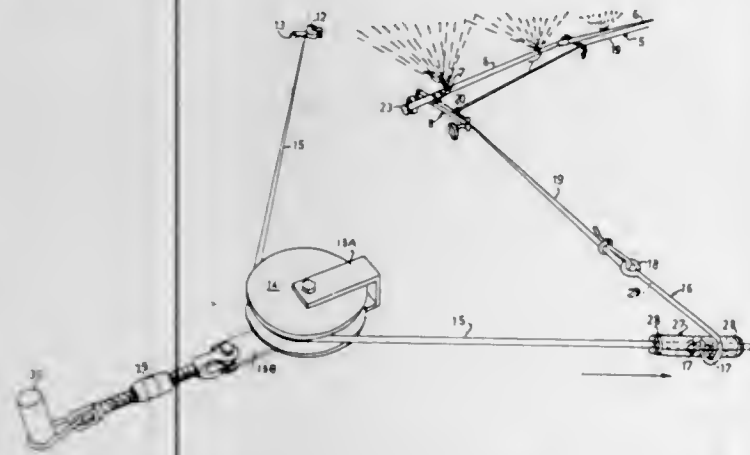
Filed Aug. 27, 1968, Ser. No. 755,597

Claims priority, application Australia, Aug. 31, 1967, 26,685/67

Int. Cl. B05b 3/12

U.S. Cl. 239—177

8 Claims



An irrigation system for a field comprising a pipe line carrying water dispersing nozzles and rendered mobile for transverse movement over the field, a swivel coupling for connecting one end of the pipe line to a centrally located hydrant in the field, pulleys for anchorage around the field perimeter, an endless cable reeved over the pulleys and driven for rotation about the field, and means constructed so as not to foul the pulleys for attaching the free end of the pipe line to a point in the cable for drawing the pipe line around the field.

3,539,108

STORAGE RACK AND SPRINKLER ARRANGEMENT

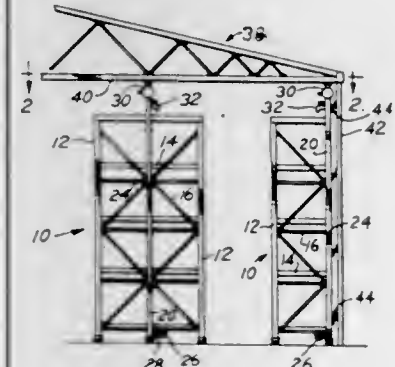
Duane J. Lillbridge, St. Charles and Lawrence G. Peck, Tinley Park, Illinois, assignors to Unarco Industries, Inc., a corporation of Illinois

Continuation-in-part of application Ser. No. 731,782, May 24, 1968, now Patent No. 3,520,345. This application April 14, 1969, Ser. No. 815,992

Int. Cl. B05b 15/06

U.S. Cl. 239—209

6 Claims



A storage rack and sprinkler arrangement wherein vertical

tubular supports, having spaced sprinkler heads or sprinkler headers thereon, vertically support the racks while simultaneously conveying fire extinguishing liquid to the sprinkler heads and cooling the vertical supports to resist collapse thereof when the structural supports are exposed to fire. The vertical tubular supports and/or other vertical rack supports may also support a roof and wall panels in addition to providing a structure for enclosing the racks.

3,539,109

ROTARY SPRINKLER

Peretz Rosenberg, Moshav Beit Shearim, Israel

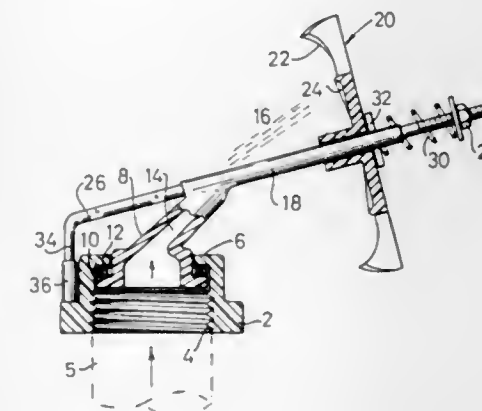
Filed April 15, 1968, Ser. No. 721,334

Claims priority, application Israel, July 26, 1967, 28,397

Int. Cl. B05b 3/02

U.S. Cl. 239—222.15

9 Claims



A rotary sprinkler comprises a housing, a rotatable nozzle through which the water exits in the form of a jet, and a rotor having an outer group of widely-spaced vanes and an inner group of closely-spaced vanes. The rotor "floats" on a shaft fixed to the nozzle obliquely to the path of the jet and is normally urged toward the nozzle. The inner group of vanes are impinged by the water jet during starting conditions to rotate the rotor which is then forced by the jet outwardly along the shaft to cause the outer group of vanes to be impinged by the jet, effecting rotation of the rotor and also of the nozzle during normal running conditions.

3,539,110

MIST SPRAYER

Torao Kobayashi, Tokyo, Japan, assignor to Kyoritsu Noki Co., Ltd., Tokyo, Japan, a corporation of Japan

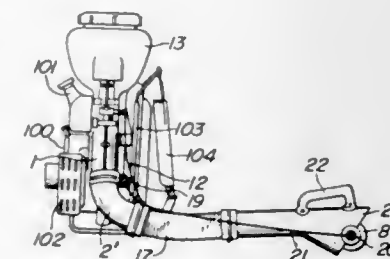
Filed Sept. 4, 1968, Ser. No. 757,283

Claims priority, application Japan, Sept. 8, 1967, 42/57,293; Oct. 3, 1967, (utility model), 42/83,747

Int. Cl. B05b 3/10

U.S. Cl. 239—223

3 Claims



A mist sprayer comprising a blower the outlet of which has a flat or an inverted pear-shaped cross section, a hollow rotary shaft provided near said outlet perpendicularly to the airstream discharged through said outlet, a spray tank communicating with said hollow rotary shaft, a pair of confronting shallow dishlike rotary discs mounted on said rotary shaft and defining a narrow gap between the opposed peripheral edges thereof, and a liquid distributing member disposed inside of said pair of rotary discs, said pair of rotary discs being rotated at a high speed whereby a mist is ejected into the airstream.

3,539,111

SOLUTION MIXING AND DISPENSING APPARATUS

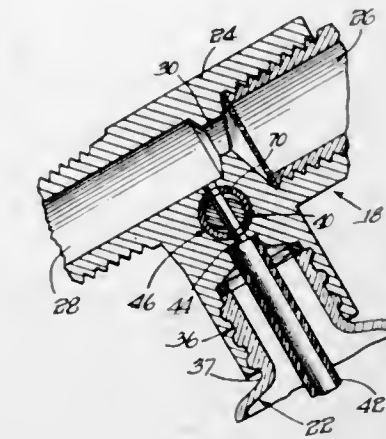
Harry W. Johnson, 156 W. Washington St., West Chicago, Ill. 60185

Filed April 10, 1968, Ser. No. 720,211

Int. Cl. B05b 7/30

U.S. Cl. 239—318

7 Claims



Apparatus for dispensing soap solution, etc., from a shower head or the like, comprising a valve mechanism which includes a metallic valve stem having in one end thereof a pair of spaced-apart ports. Each of the ports is provided, both at the inlet and outlet end thereof, with a circumferential groove which diminishes in depth and circumferentially digresses from the ends of the ports in a predetermined direction therefrom. A resilient plastic sleeve, mounted in a splined valve opening in the housing of the mixing device, receives therein the ported end of the valve stem, so that apertures in the sleeve are in alignment with the ports. The rotation of the valve stem causes the ports or associated grooves to communicate with the apertures in the sleeve, thereby depending upon the relation therebetween to accurately and minutely vary the mixing and dispensing of the amount of soap solution with the main water supply for the shower.

3,539,112

FIRE HOSE NOZZLE WITH AUTOMATIC VOLUME ADJUSTMENT

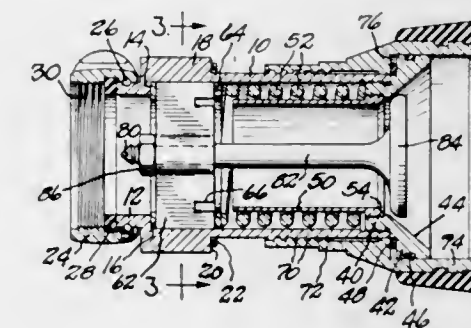
William S. Thompson, Elkhart, Indiana, assignor to Elkhart Brass Manufacturing Co., Inc., Elkhart, Indiana a corporation of Indiana

Filed April 16, 1969, Ser. No. 816,582

Int. Cl. B05b 1/32

U.S. Cl. 239—452

10 Claims



A fire hose nozzle having a water way and a flaring discharge outlet confronted by a concentric valve head maintained in spaced water-pressure responsive relation to said outlet in a selected flow-regulating range by means of a spring located in a zone exteriorly of a tube defining the water way, said spring acting upon a spider carrying the valve head and slidable axially in the nozzle between a minimum-flow position abutting a stop and a maximum-flow position.

3,539,113

DISTRIBUTOR MEANS FOR A FERTILIZER SPREADER

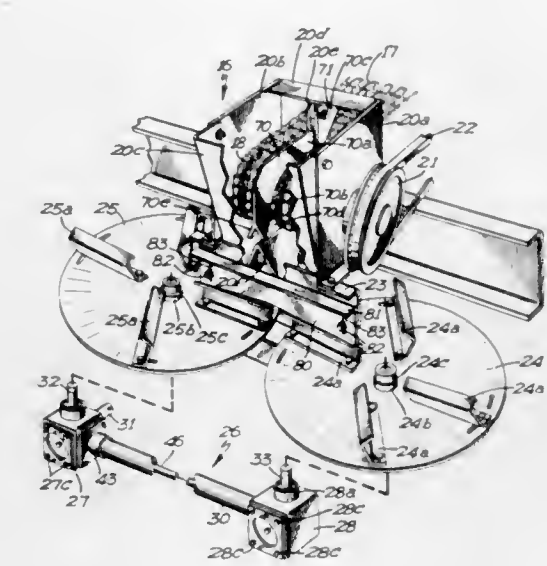
Loren E. Tyler, Wayzata, Minnesota, assignor to Letco, Inc., Long Lake, Minnesota a corporation of Minnesota

Filed July 9, 1968, Ser. No. 743,481

Int. Cl. A01c 17/00

U.S. Cl. 239—673

7 Claims



A trailer type fertilizer spreader with a hopper, a conveyor chain for moving fertilizer to the rear of the hopper, and distributor means at the rear of the hopper including a trough assembly enclosing the end of the conveyor chain and directing fertilizer into two side-by-side spillways which in turn direct it onto two rotatable distributor discs. A floating divider plate is pivotally mounted above the conveyor chain and extends along the top of the chain and downwardly along the end to divide the fertilizer substantially equally between the two spillways. An adjustable splash plate at the rear of the trough assembly is vertically adjustable toward and away from the distributor discs to adjust the distributor pattern of the discs. The drive for the discs includes a completely enclosed gear box assembly which is readily disassembled for repair or replacement of parts.

3,539,114

MILLING PROCESS FOR PREPARING FLAKE GOLD

Oliver A. Short, Wilmington, Delaware, assignor to E. I. du Pont de Nemours and Company, Wilmington, Delaware a corporation of Delaware

Filed May 23, 1968, Ser. No. 731,604

Int. Cl. B02c 17/00, 19/12; C22b 11/04

U.S. Cl. 241—16

2 Claims

Milling a gold powder which is a gold/mercury alloy containing 1—10 percent by weight mercury in a liquid system which contains a solvent, 1—20 percent of a fatty acid, and, optionally, up to 1 percent finely divided rhodium for a sufficient time to produce gold flakes wherein there is no significant formation of gold lumps. Metalizations containing the gold flake have various uses in the electronic field (e.g., conductors, resistors, etc.).

3,539,115

PUMP AND BALL MILL

Verle W. Woods, c/o Crop King Company, P. O. Box 574, Yakima, Washington 98901

Continuation of application Ser. No. 634,303, April 27, 1967, now abandoned. This application May 8, 1969, Ser. No. 824,748

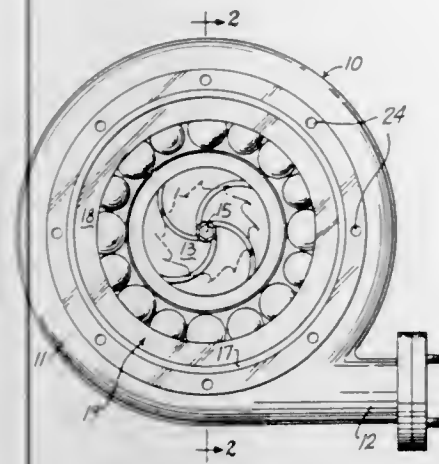
Int. Cl. B02c 15/08, 15/10, 21/00

U.S. Cl. 241—46.15

9 Claims

Apparatus combining the functions of a centrifugal type pump and a ball mill. The apparatus is used to recirculate and grind solid particles in a fluid suspension. The particles to be reduced in size are continuously circulated by a conventional impeller within a pump casing 10. The grinding ac-

tion is achieved by a series of spherical balls 20 which ride along axially spaced shoulders 18 on a ball race assembly.



Apertures provide fluid circulation from the interior of the pump casing to its outlet.

3,539,116

VIBRATORY GRINDING

Henry L. Podmore, Stoke-on-Trent, England (Wildacres Con-sall, Wetley Rocks, Staffordshire, England)

Filed July 18, 1967, Ser. No. 654,209

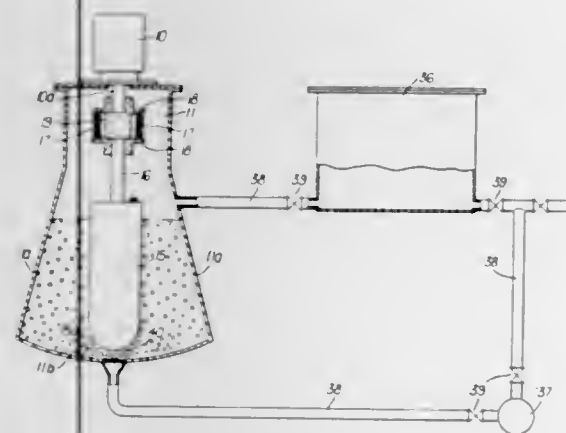
Claims priority, application Great Britain, July 27, 1966,

33,766/66

Int. Cl. B02c 17/04, 17/16; B01f 11/00

U.S. Cl. 241-172

11 Claims



A quantity of grinding media and material to be processed is placed in a grinding chamber and subjected to vibratory grinding action by means of a pulsator extending into the mass, the chamber being maintained in a static position.

3,539,117

MATERIAL TREATMENT APPARATUS WITH ROTARY STIRrer IN VIBRATORY CONTAINER

John K. Sjogren, San Marino, California, assignor to Sweco, Inc., Los Angeles, California a corporation of California

Continuation-in-part of application Ser. No. 440,138, March 16, 1965, now abandoned. This application April 11, 1968, Ser. No. 720,701

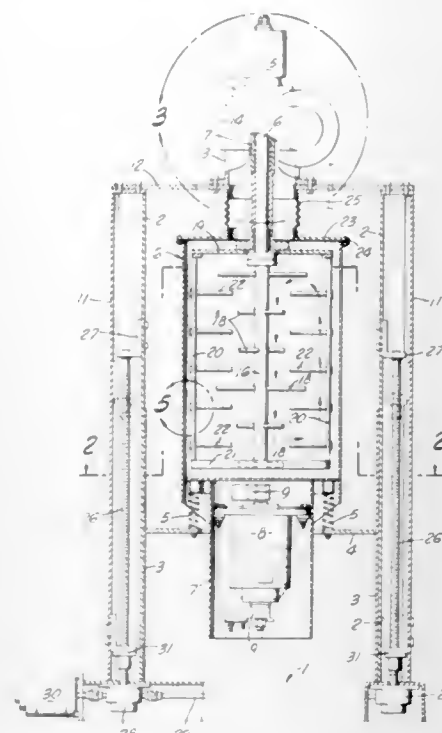
Int. Cl. B02c 17/14; B24b 31/06

U.S. Cl. 241-172

21 Claims

An apparatus for treating material including a chamber for receiving treating media and material to be treated. High frequency vibrating means are used for vibrating the container to effect high frequency impact between the media and material and to fluidize the media and material. The ap-

paratus includes rotating impellers movable through the media and material. Counter-rotating impellers may be em-



ployed, and the impeller system may be raised from and lowered into the container during operation of the apparatus.

3,539,118

GYRATORY CRUSHER SECURING AND ADJUSTING MECHANISMS

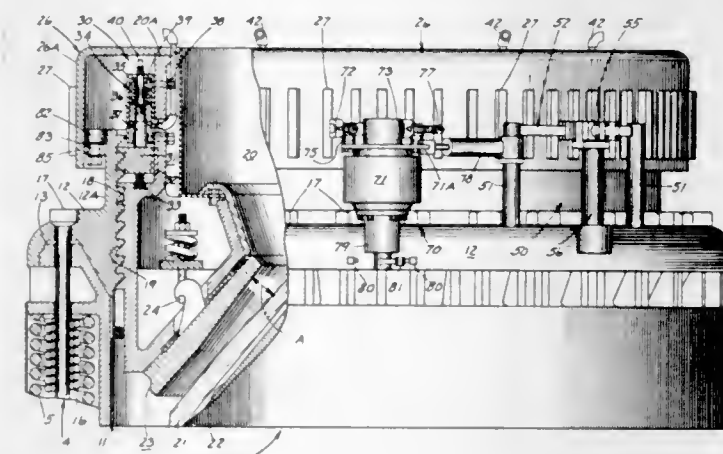
Don Kueneman, 6224 Estates Drive, and Cyril P. Kenville, 10 Wood Court, both of Oakland, California 94611

Filed July 27, 1967, Ser. No. 657,473

Int. Cl. B02c 2/04

U.S. Cl. 241-207

5 Claims



Gyratory crushers, sometimes referred to as cone type crushers, often have a threaded connection between the bowl and the main crusher frame for adjusting the crushing zone by rotation of the bowl relative to the frame. This arrangement requires bowl rotating and locking mechanisms, as well as means to remove the lost motion in the threaded connection, which, if not removed, will allow the bowl to vibrate axially damaging the threaded connection. By incorporating a floating ring structure keyed to the bowl so that it is free to move axially thereon with controllable means to effect relative axial movement between the floating ring and the bowl and supporting the floating ring on a surrounding wall structure on the frame so that the relative position of the floating ring and bowl will remain essentially constant during bowl adjustments, the lost motion in the threaded connection can be eliminated with the controllable means and cooperating leaf locking units and rotary actuators can be employed to fully automate such a crusher.

3,539,119

BRAKE DEVICE FOR HEADCENTER OF A GYRATORY CRUSHER

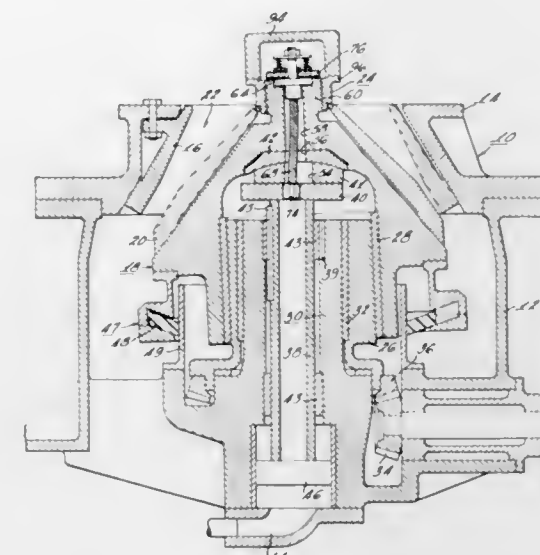
Eugene B. Cook, West Allis, Wisconsin, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin

Filed June 21, 1968, Ser. No. 739,008

Int. Cl. B02c 2/04

U.S. Cl. 241-215

4 Claims



In a gyratory crusher, the headcenter or crusher head is mounted on an eccentric sleeve so that rotation of the eccentric sleeve imparts a gyratory movement to the crusher head. To prevent rotation of the crusher head in the same direction as the eccentric sleeve under idling conditions, a brake assembly is provided. The brake assembly comprises a non-rotatable brake member positioned adjacent the upper end of the crusher head and connected by a torsion member to a nonrotatable portion of the crusher structure, and a cooperating brake member carried by and rotatably movable with the crusher head. Friction material is provided on at least one of the brake members for braking engagement with the other brake member.

3,539,120

BOWL LINER SECURING DEVICE

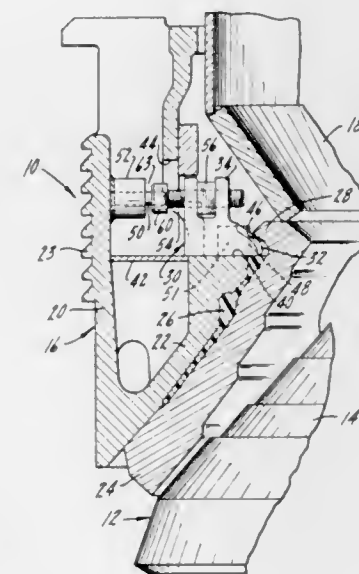
Arnold P. Szaj, Hales Corners, Wisconsin, assignor to Nordberg Manufacturing Company, Milwaukee, Wisconsin a corporation of Wisconsin

Filed Jan. 19, 1968, Ser. No. 699,066

Int. Cl. B02c 2/04

U.S. Cl. 241-299

6 Claims



A device for securing a liner to the bowl of a gyratory crusher machine. A disposable element supports a locking

3,539,121

MACHINE FOR WINDING STATORS WITH SKEWED SLOTS

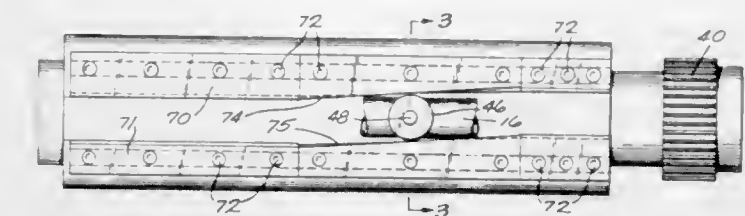
Robert W. Peters, Menomonee, Wisconsin, assignor to Lincoln Tool and Manufacturing Company, Milwaukee, Wisconsin

Filed Jan. 25, 1968, Ser. No. 700,405

Int. Cl. H02k 15/09; F16h 37/16

U.S. Cl. 242-1.1

6 Claims



Machine for winding coils of wire onto internally slotted stator cores and particularly those cores having slots skewed with respect to the stator axis. A tubular wire placing shuttle is repeatedly shifted through the core to lay wire into selected slots and then oscillated in a first direction along an end of the core, followed by retraction of the shuttle to lay wires in a second set of slots whereupon the shuttle is oscillated in the opposite direction along the other end of the core back to the original slots to thereby form wire coils on the core. To place wire into slots skewed with respect to the stator axis, an adjustably slotted cam shaped in accordance with slots of the stator to be wound is placed along a portion of the shuttle to coact with roller cam followers connected to the shuttle. The coaction between said cam and followers shifts the shuttle in accordance with the shape of the slots.

3,539,122

PROCESS AND APPARATUS FOR ACTUATING THE CHANGE OF THE SUPPLY BOBBIN OF AUTOMATIC CROSS-WINDING MACHINES

Hans Spani, Zurich, Switzerland, assignor to Aktiengesellschaft Gebrueder Loepfe, Zurich, Switzerland a corporation of Switzerland

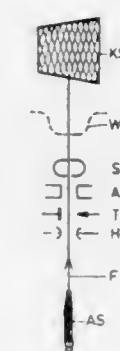
Filed Dec. 4, 1967, Ser. No. 694,765

Claims priority, application Switzerland, Dec. 8, 1966, 17,671

Int. Cl. B65h 63/02, 63/06

U.S. Cl. 242-36

3 Claims



A process for actuating the exchange of the supply bobbin of an automatic cross winding machine which is provided with an electronic yarn clearer, is characterized by the feature that the bobbin exchange is made dependent upon the appearance of a signal supplied by the electronic yarn clearer. The apparatus for carrying out this process is characterized by the fact that the electrical switching means of the yarn clearer contain impulse producing members which, if

desired through suitable intermediate members, are connected with the actuating device initiating the bobbin exchange.

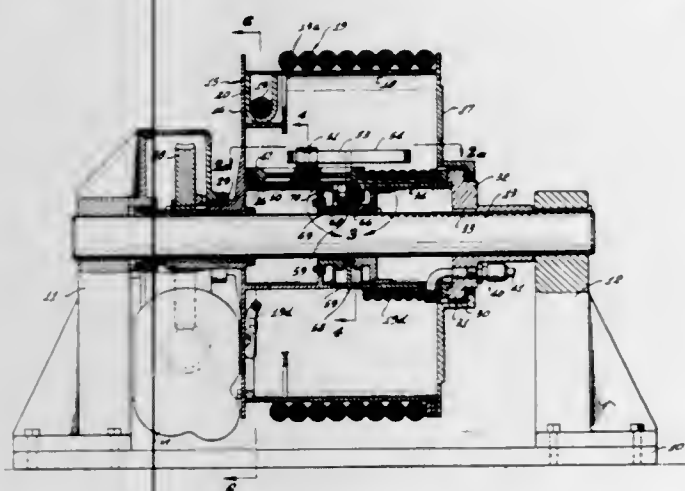
3,539,123 WINDING DRUM FOR CONTINUOUS LINEAR CONDUCTOR

Donald P. Shutt, Long Beach, California, assignor to Western Electric Corporation, Lynwood, California a corporation of Washington

Filed July 11, 1968, Ser. No. 744,225
Int. Cl. B65h 75/00

U.S. Cl. 242-54

5 Claims



A winding drum for a continuous linear conductor, of any of several types, such as electric, pneumatic, hydraulic, optic, etc., but for a specific example, for a submarine cable or the like containing electrical conductors. A facility is provided by which the drum end portion of the cable, or other conductor, extends off the core of the drum, and is handled by a system of stationary and rotatable drums so that it will not twist and its extremity is stationary. Thus, in the case of a submarine cable, for example, it can be electrically connected, without slip rings, to a stationary electronic detector.

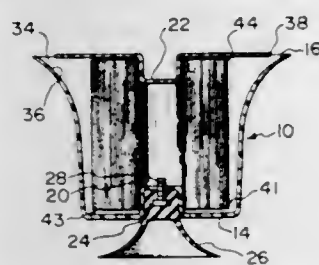
3,539,124 ROLL PAPER HOLDER

Paul Belokin, Jr., 6919 W. 43rd St., Berwyn, Illinois 60402

Filed April 22, 1969, Ser. No. 818,257
Int. Cl. B65h 19/00

U.S. Cl. 242-55.54

12 Claims



A paper roll is held at one end upon an internal boss within an open-ended housing and is covered at the open end by a retainer plate, the outer edge of which is spaced from the flared edge so that the paper can be readily removed in a spiral through the annular space so defined. The end plate is retained by means of a boss engaging the other or extended end of the paper roll.

3,539,125 PAPER-WINDING MACHINE

Stig Sigvard Patriksson, Tilburg, Netherlands, assignor to Edet International N. V., Tilburg, Netherlands a corporation of the Netherlands

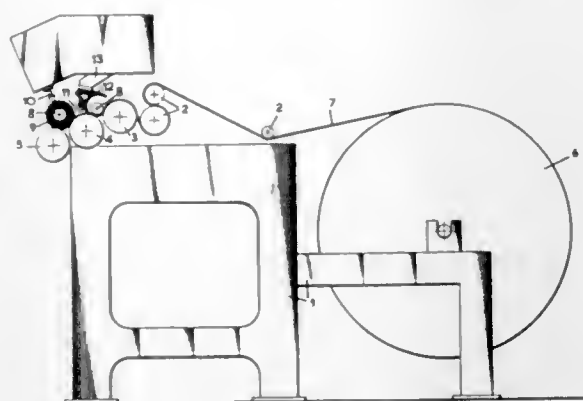
Filed Aug. 3, 1967, Ser. No. 658,242
Int. Cl. B65h 19/26, 19/28

U.S. Cl. 242-56

5 Claims

A machine for winding a paper web on cores, wherein the winding mechanism has three rolls operating in pairs and a chutelike hood mounting a knife having air passage openings

therein, the hood and knife being movable to sever the web being wound on a first core, whereupon the leading end of the remaining paper web is fed to and wound on the second core



by the action of the air stream passing around the space between the hood and second core and through the air passage openings.

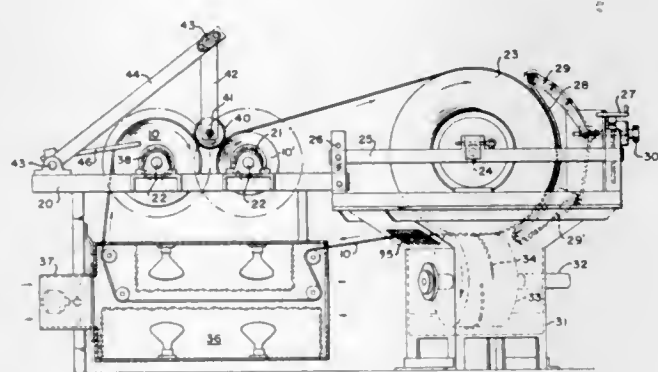
3,539,126 SIPING MACHINE FOR CONTINUOUS STRIP MATERIAL

Forrest Clayton Meserve, North Andover, Massachusetts, assignor to American Biltrite Rubber Co., Inc., Chelsea, Massachusetts a corporation of Delaware

Filed Dec. 21, 1967, Ser. No. 692,386
Int. Cl. B65h 35/08, 17/08

U.S. Cl. 242-56

6 Claims



A machine for making siping slashes in a continuous strip or ribbon of sheet material of indefinite length to improve the traction characteristic thereof and employing for that purpose a rotary helical knife in association with synchronized feeding and tensioning means for the treated work piece.

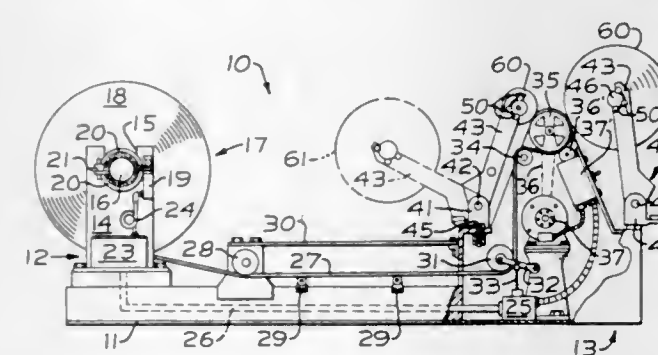
3,539,127 REWIND MACHINE

Charles E. Grawey, Peoria, Illinois, assignor to Caterpillar Tractor Co., Peoria, Illinois a corporation of California

Filed Oct. 14, 1968, Ser. No. 767,273
Int. Cl. B65h 35/02

U.S. Cl. 242-56.2

4 Claims



In a rewind machine for converting rolls of wide webs of material into a plurality of narrower strips wound on inde-

pendent rewind rolls, uniform tension of the narrow strips on their associated rewind roll is achieved through special roll support arms which independently support each rewind roll core in a manner that the engaging force between each rewind roll and a common driving platen remains essentially constant as the diameter of the rewind rolls change. A special core support cradle on each rewind arm provides for convenient and independent changing of the individual rewind rolls, without interference with the other rewind rolls.

3,539,128

DETACHABLE MANDREL SHAFT FOR WINDERS AND UNWINDERS

Louis Jean Chambon, Paris, France, assignor to Societe D'Etudes De Machines Speciales, Societe Anonyme, Paris, France

Filed Aug. 27, 1968, Ser. No. 755,549

Claims priority, application France, Sept. 1, 1967, 119,715
Int. Cl. B65h 75/24

U.S. Cl. 242-72.1

3 Claims



A mandrel comprising a hollow cylindrical body formed with opening in which locking jaws are adapted to slide radially for locking engagement with the inner cylindrical wall of the mandrel, the movements of said jaws being controlled in the locking direction by a control rod mounted for rotation but held against axial movement in said hollow cylindrical body and provided with end means for causing this rotation, another hollow cylindrical member adapted to slide axially in said body being provided with frustoconical outer surface means adapted to engage the inner surface of said locking jaws and also with splined end portions adapted in their outer position to act as trunnions to said shaft assembly, spring rings constantly urging said jaws towards the shaft axis.

3,539,129

TAPE TENSION ADJUSTING APPRATUS

Franz Schmidt, Wien, Austria, Peter Willibrord Bogels, Eindhoven, Netherlands, and Germann Podest, Wien, Austria, assignors, by mesne assignments to U.S. Philips Corporation, New York, New York, a corporation of Delaware

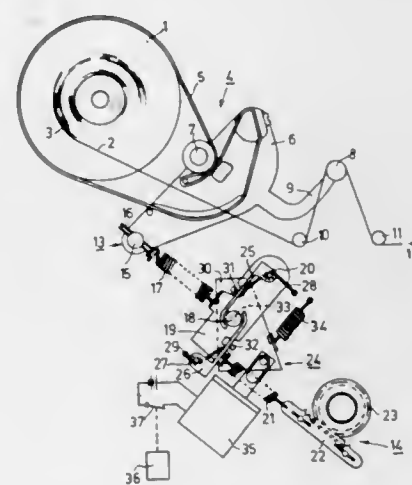
Filed April 19, 1968, Ser. No. 722,694

Claims priority, application Austria, April 24, 1967, A 3,833/67

Int. Cl. B65h 59/38, 25/22

U.S. Cl. 242-189

8 Claims



In a recording and playback apparatus for a record carrier such as a magnetic tape, the apparatus including at least one

turntable about which the tape is wound, there is provided brake means for regulating rotation of the turntable, and first and second adjusting means for operating the brake to vary tape tension during recording and playback respectively, the adjustment setting of the first means being reuseable during subsequent recording without readjustments.

3,539,130

MAGAZINE FOR ROLL FILM

Alfred Winkler and Heinz Ernst, Munich, Germany, assignors to AGFA Aktiengesellschaft, Leverkusen, Germany

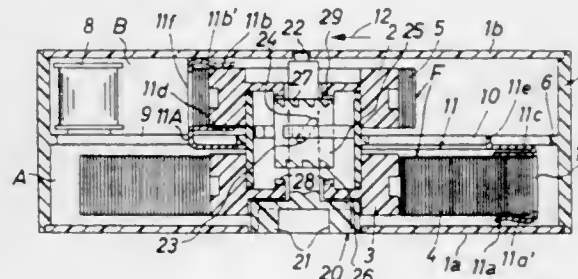
Filed May 8, 1968, Ser. No. 727,612

Claims priority, application Germany, May 12, 1967, A 55,705

Int. Cl. G03b 1/04; G11b 15/32

U.S. Cl. 242-194

14 Claims



A magazine for roll film wherein a housing accommodates two coaxial reels one of which collects film when the other pays out the film or vice versa. The housing accommodates a device which prevents spillage of film and which comprises two clamps each straddling the outer side and the two side faces of convoluted film on one of the reels and a ring or lever which moves one of the clamps toward the axis of the respective reel when the other clamp is moved by film away from the axis of the respective reel, or vice versa.

3,539,131

APPARATUS FOR CONNECTING FILM TAPES TO WINDING ROLL OF PROJECTORS

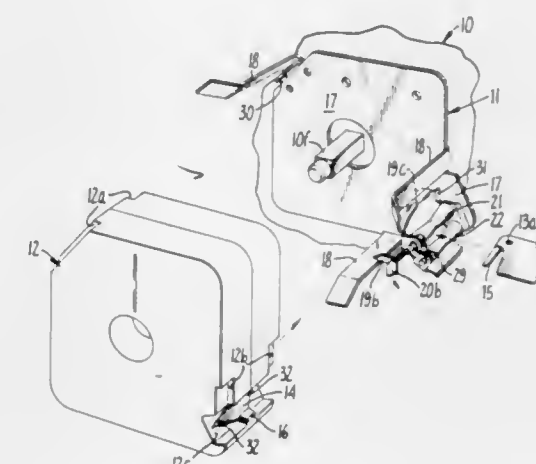
Lyle G. Priest, San Jose, California, assignor to Information Design, Inc., Palo Alto, California a corporation of California

Filed Sept. 23, 1968, Ser. No. 761,445

Int. Cl. G03b 1/58; G11b 15/66

U.S. Cl. 242-195

10 Claims



Apparatus for connecting film tapes to the winding roll of projectors and advancing a film strip from a cartridge comprising a lead strip threaded through the projector and having one end engaged with the winding roll; a two-piece connector, one piece mounted to the end of a cartridge film strip and the other piece mounted to the lead strip; and a converter for engaging one end of a film strip with said lead strip including means for releasably engaging the connector-

mounted end of said lead strip, and means for operating said engaging means to release the lead strip connector piece upon mounting a cartridge in operative relationship to the projector, the removal of a cartridge allowing said releasable engaging means to reengage and retain the connector mounted end of said film strip in a predetermined position.

3,539,132

FILM HANDLING SYSTEM AND TAKEUP AND SUPPLY MECHANISM THEREFOR

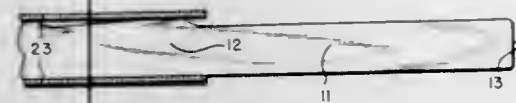
Louis A. Smitzer, San Diego, California, assignor to Stromberg Datagraphix, Inc., San Diego, California a corporation of Delaware

Filed Jan. 2, 1968, Ser. No. 695,003

Int. Cl. G11b 23/10; G03b 1/04, 1/56

U.S. Cl. 242—195

7 Claims



A film handling system is described for utilizing resilient film having a region of enlarged width proximate one end. A supply mechanism stores the film, and the film is transported from the supply mechanism to a takeup mechanism. The takeup mechanism used in the system includes a takeup reel with flanges spaced greater than the width of the film but less than the width of the enlarged region thereof. The takeup reel rotates with a tangential velocity near the periphery thereof greater than the longitudinal velocity at which the film is fed between the flanges of the reel. The enlarged region of the film is captured frictionally between the flanges and the film is drawn onto the takeup reel.

3,539,133

INHERENTLY STABLE TAPERED WING FLAPERON AIRPLANE

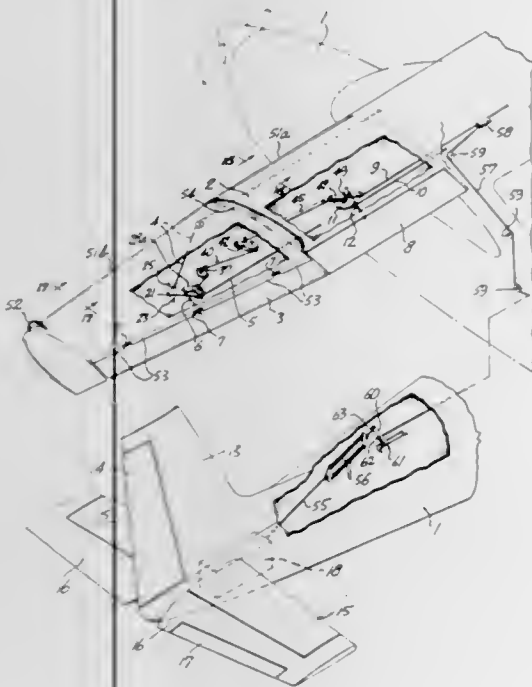
James L. Robertson, Bellevue, Washington, Charyl C. Robertson, executive of said James L. Robertson, deceased, assignor to Robertson Aircraft Corporation, a corporation of Washington

Filed May 20, 1968, Ser. No. 730,516

Int. Cl. B64c 3/44, 9/12

U.S. Cl. 244—42

9 Claims



Flaperon-actuating linkage is moved by flap-actuating means to coordinate flaperon droop with flap deflection so that initially the flaperon droop increases with flap deflection and, subsequently, the flaperon droop decreases as flap

deflection continues to increase. The wing panels ahead of the flaperons are tapered in planform and their leading edges are more blunt and rounded than the leading edge portions of the wing inboard from such panels, such outboard leading edge portions provide high-lift and postpone stall at the high angles of attack of the outboard wing panels resulting from downward deflection of a flaperon from its maximum drooped position. Jaw cranks connect flaperon push rods to both the flap-controlled flaperon droop setting means and the flaperon differential deflection control means. To lighten nose-up control forces when the flaps and flaperons are deflected, flap deflection stresses springs opposing downspringing loading on the elevators. A fence is aligned with the inboard end of each flaperon.

3,539,134

PARACHUTE STRAPS

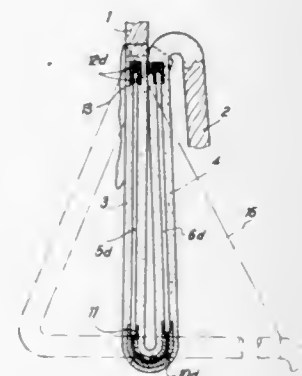
Albert Auguste Dath, 24, Juan Latino, Córdoba, Spain

Filed Nov. 12, 1968, Ser. No. 774,709

Int. Cl. B64d 17/62, 17/24

U.S. Cl. 244—149

5 Claims



Parachute strap construction incorporating elongate rigid elements spaced by a flexible linkage segment and adapted to be displaced from parallel abutting relation when the strap is in tension, said rigid elements having protecting means surrounding the terminal ends thereof and adapted to minimize abrasive deterioration of the adjacent strap material during displacement thereof.

3,539,135

BLASTING MAT

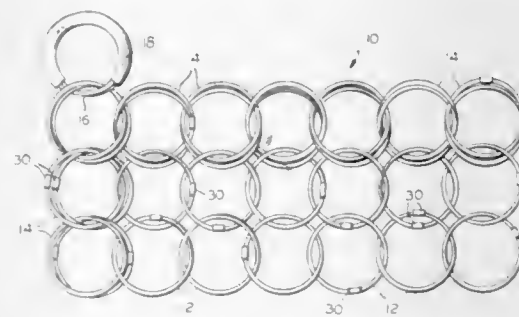
Eric H. Berg, Radstugugatan 53, Nora Stad, Sweden

Filed April 15, 1968, Ser. No. 721,308

Int. Cl. B21f 31/00

U.S. Cl. 245—4

1 Claim



A blasting mat is formed of a plurality of interconnected rings wherein each of the rings is formed of a length of deformable material the opposite ends of which are rigidly interconnected with opposite ends of a connecting sleeve. The rings are preferably formed of wire. The mat includes a plurality of rows of rings, and each ring of one row may be connected with a ring of an adjacent row, or alternate rings of adjacent rows may be interconnected with one another. Double rings may be provided around the periphery of the mat, or the entire mat may be formed of double rings. Rings at the corners of the mat are at least partially covered with resilient material.

3,539,136

THERMO-MECHANICAL MULTI-FUNCTION SUPPORT DEVICE

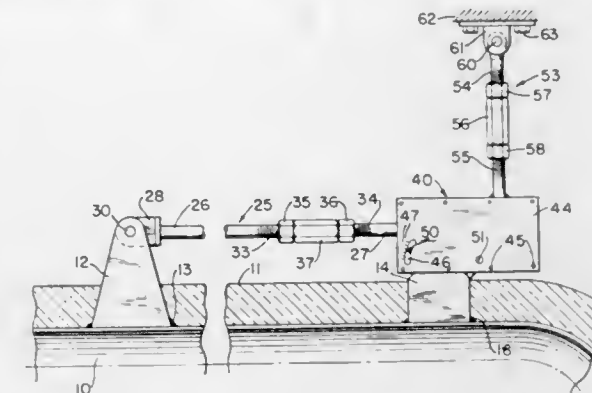
Leonard S. Suozzo, 366 Maple Hill Drive, Hackensack, New Jersey 07601

Filed March 13, 1969, Ser. No. 807,048

Int. Cl. F16l 3/20

U.S. Cl. 248—54

25 Claims



A device for use with piping or other equipment that is subject to changes in position due to variations in its thermal condition. The device is devoid of springs and comprises actuating means, which is secured to the piping at spaced first and second locations and is movable relative to the piping in response and in direct proportion to the expansion or contraction resulting from said variations in thermal condition, and coupling means. The actuating means includes a rigid member pivotally connected to the piping at the first location and a bell lever pivotally connected to the piping at the second location and pivotally connected to the rigid member. The coupling means is pivotally connected at one end to the bell lever and at its other end to a stationary support and may include multiplying linkages.

3,539,137

PIPE SADDLE

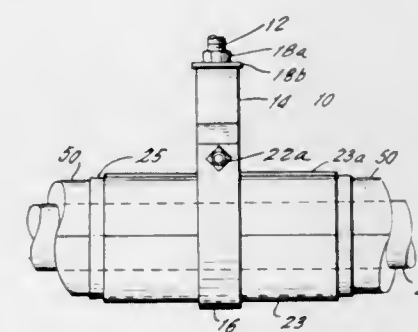
John J. March, Colt's Neck, New Jersey, assignor to Birma Products Corporation, Sayreville, New Jersey a corporation of New York

Continuation-in-part of application Ser. No. 586,505, Oct. 13, 1966. This application March 25, 1968, Ser. No. 722,519

Int. Cl. F16l 3/12, 59/02, 59/08

U.S. Cl. 248—62

14 Claims



This invention teaches a pipe saddle assembly comprised of a rigid steel or plastic elongated member having a substantially semicircular cross section. A sheet of plastic back foil is placed in the interior surface of the saddle member and a laminated core, preferably of glass fiber material of a suitable thickness is provided upon the plastic back foil member. All parts are laminated to one another and may be employed to position and support sections of pipe or pipe runs. The saddle assembly may be comprised of a similar section without the foil sheet positioned upon a lower half-section so that the foil sheet may cover the upper section and be fixedly held in place by suitable straps. A novel method for producing such a saddle assembly is also disclosed.

3,539,138

APPARATUS FOR SUPPORTING AND CONNECTING CYLINDRICAL MEMBERS

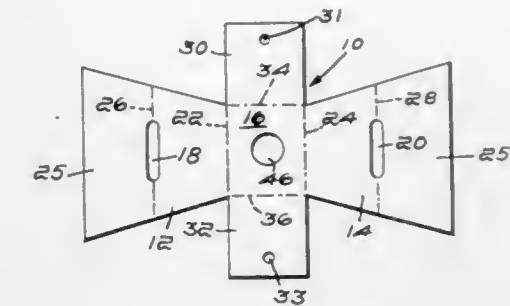
Philip J. Desroches, 79 Town Brook Road, West Yarmouth, Massachusetts 02673

Filed May 7, 1968, Ser. No. 727,230

Int. Cl. F16l 3/02, 3/12

U.S. Cl. 248—62

12 Claims



A connector having opposed pairs of arms bent to cooperate with adjacent cylindrical members and adapted for use with hose clamps to secure the arms of the connector to the cylindrical members.

3,539,139

APPLIANCE FOR LINEAR BODIES

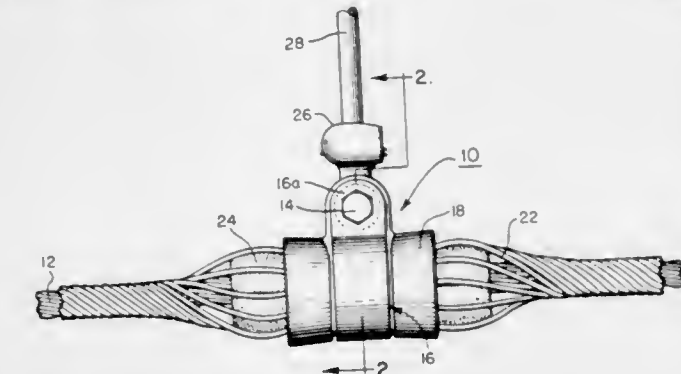
Robert A. Eucker, Brooklyn, Ohio, assignor to Preformed Line Products Company, Cleveland, Ohio a corporation of Ohio

Filed June 10, 1968, Ser. No. 735,873

Int. Cl. F16l 3/10

U.S. Cl. 248—63

3 Claims



The disclosed cable support assembly substantially reduces cable vibrations and other dynamic cable motion thereby enhancing the reliability and effective life of both the cable and support assembly. A clamping apparatus embraces the cable and is provided with a pair of opposed clamping arms having aligned bolt-receiving apertures therein while a suspension arm positioned intermediate the opposed clamping arms has a bolt-receiving aperture aligned with those of the clamping means. A pair of washers of a viscoelastic material are interposed in bolted relation intermediate the suspension arm and respective ones of the clamping arms. Other features are disclosed.

3,539,140

SPRING MOUNTED BABY BOTTLE HOLDER

Herbert D. Tuttle, Box 161D Rte. 1, Cold Spring, New York

Filed March 4, 1968, Ser. No. 710,083

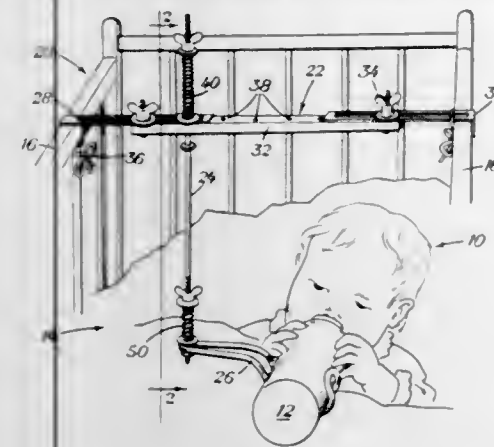
Int. Cl. A47d 15/00

U.S. Cl. 248—104

6 Claims

The instant invention relates to baby bottle holders and more particularly comprises a spring mounted baby bottle holder which is adapted to be supported on the usual parallel, horizontal rails of a baby's crib. The invention includes an adjustable horizontal support, straddling the crib rails, a central, vertical rod mounted through the horizontal support and a bent wire baby bottle holder, mounted at the base of the vertical support rod. The support rod is itself spring

mounted through the horizontal support, and the bent wire baby bottle holder is resiliently secured to the base of the



vertical rod and is rotatable therearound so that the bottle may be placed in a variety of positions to suit the baby.

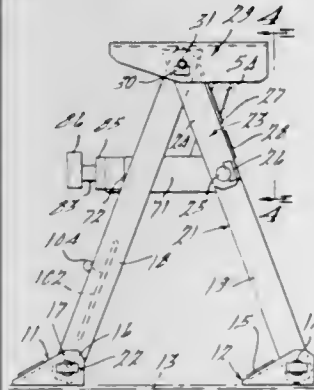
3,539,141

TRAILER HITCH

Rolf Mowatt-Larsen, Kinnelon, New Jersey, assignor to Magor Railcar Division, Fruehauf Corporation, Clifton, New Jersey a corporation of Michigan
Filed Jan. 30, 1968, Ser. No. 701,656
Int. Cl. B60p 7/08

U.S. Cl. 248—119

8 Claims



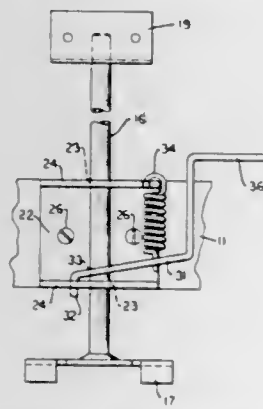
A collapsible hitch is provided for mounting on a suitable support surface. The hitch may be raised to erected operative position for receiving a kingpin of a trailer and for supporting a trailer thereon. Means is provided for automatically locking the kingpin in place, and this locking means may be released by a tractor, or in a modified form of the invention the locking means may be manually released. The hitch may be collapsed to substantially flat relationship on the supporting surface so as not to present a substantial obstruction thereon so that the surface can be used for other purposes.

3,539,142

POSITIONAL ADJUSTMENT DEVICE FOR CASKET BEDS

Donald A. Morand, Danville, Illinois, assignor to Estad Products, Inc., Dansville, Illinois a corporation of Oregon
Filed Oct. 2, 1968, Ser. No. 764,516
Int. Cl. F16m 13/02; A61g 17/00; A47g 29/00; F16m 11/00
U.S. Cl. 248—221

2 Claims



Disclosed is a mechanism for elevating or lowering a bed within a casket comprising a vertical rod on which a bracket,

having rigid attachment to the bed frame, is accommodated with a clamp member pivotally mounted on the bracket and spring biased into clamping relation with the rod, a tab on the clamp member permitting manual release of the spring bias for adjusting the position of the bracket on the vertical rod.

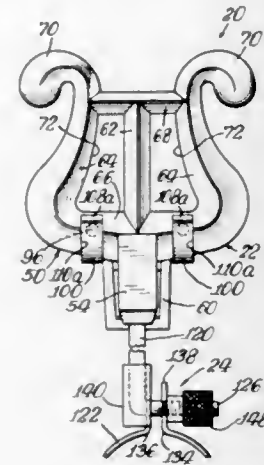
3,539,143

MUSIC HOLDING LYRE FOR A MUSICAL INSTRUMENT

Herbert L. Johnston, Columbia City, Indiana, assignor to Plasti-Music Company, Inc., Evansville, Indiana a corporation of Indiana
Filed Feb. 2, 1968, Ser. No. 702,633
Int. Cl. G10g 5/00

U.S. Cl. 248—443

11 Claims



A music holding lyre for a musical instrument comprising a clamping mechanism especially constructed for holding either one or more paper sheets of music or a music holder of the type including a generally flat rigid supporting member for hingedly supporting sheets of music and having projecting means from opposite surfaces thereof, and novel mounting means for mounting the lyre to a musical instrument.

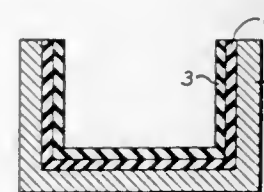
3,539,144

MOLD FOR MOLDING POLYURETHANE FOAM ARTICLES

Hans-Dietrich Krug, Heidelberg, Germany, assignor to Carl Freudenberg Kommanditgesellschaft, Weinheim an der Bergstrasse, Germany a corporation of Germany
Filed Aug. 29, 1966, Ser. No. 575,507
Claims priority, application Germany, Sept. 4, 1965, F 47,091
Int. Cl. B28d 7/36

U.S. Cl. 249—114

4 Claims

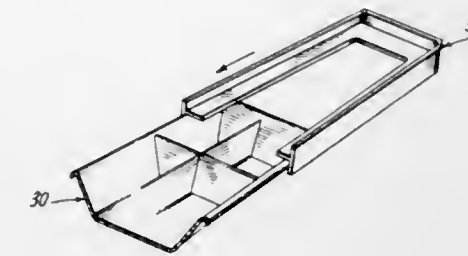


A mold useful for producing polyurethane foam articles having a foam form interior and a substantially nonfoam form surface integral with the foam form interior which mold comprises a structural mold shape, a coating of hot vulcanizate silicon rubber disposed on the structural mold, and a cold vulcanizate silicon rubber deposited on the hot vulcanizate silicon rubber on the side thereof directed away from the structural mold and directed toward the polyurethane material being molded in such mold.

3,539,145
ICE TRAY

James Frank Maxwell, 3507 Lakewood Drive, Norfolk, Va.
Filed Feb. 29, 1968, Ser. No. 709,289
Int. Cl. B28b 7/06; F25c 1/24
U.S. Cl. 249—132

1 Claim



An ice tray having a bottom and four sides, one of which extends upwardly only to the desired liquid level. The tray can be tilted toward the higher end for spill-free transport from the filling point to the freezing location. In another embodiment a slip-on attachment for conventional trays is provided, the attachment providing height extensions for three walls to yield the same spillproof structure.

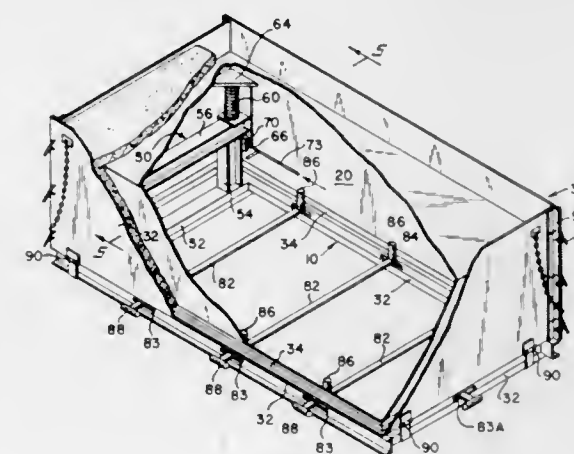
3,539,146

FORM APPARATUS

William Leonard Smith, Richmond, Virginia, assignor to Stewart Machine and Welding Service, Inc., Richmond, Virginia a corporation of Virginia
Filed May 27, 1968, Ser. No. 732,241
Int. Cl. B28b 7/04, 7/10, 7/30

U.S. Cl. 249—144

9 Claims



Mold apparatus is disclosed for making large tanks such as sewage or septic tanks. The apparatus is comprised of a base member with inner and outer form sections attached thereto. The inner frame is an inverted open-top box and contains a unique mechanism for moving it relative to the base member to break away from the material cast in the mold. A pump arrangement is adapted to force the inner form down by pressing on a substructure member built up from the base member. Springs are provided to hold and return the inner form in normal position. The outer form is comprised of sides which are hinged to the base member adapting them to be freed from the cast material.

3,539,147

POWER ACTUATED BALL VALVE

Herman L. Paul, Jr., 450 Westover Road, Stamford, Conn.
06902

Filed Jan. 21, 1969, Ser. No. 792,260

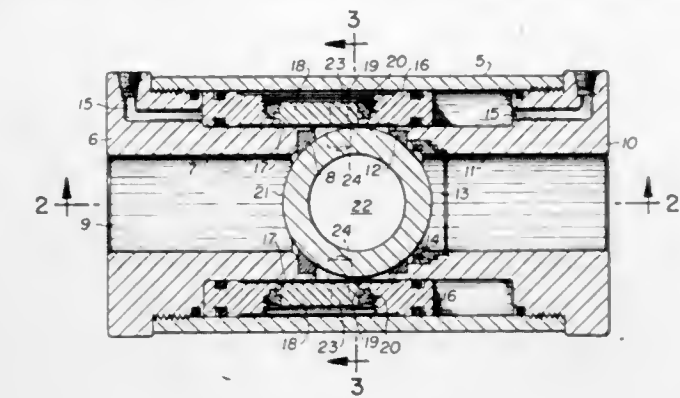
Int. Cl. F16k 31/528, 5/06

U.S. Cl. 251—58

6 Claims

This invention is directed to a power actuated ball valve in which a sleeve piston surrounds the valve ball and carries a pair of diametrically opposed disc rotors that are operably

and eccentrically connected to the valve ball so that when the piston is moved, the rotors are bodily moved therewith



and forced to rotate in one direction while simultaneously causing the valve ball to rotate in the opposite direction.

3,539,148

CENTER PIVOTED BUTTERFLY DUMP VALVE

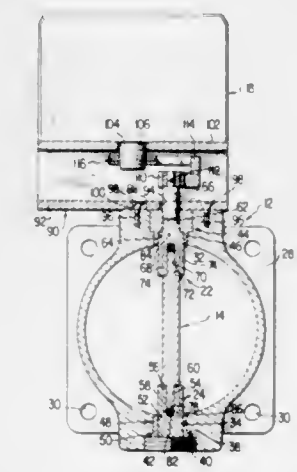
Philip D. Boos, Jr., Speedway, Indiana, assignor to Stewart-Warner Corporation, Chicago, Illinois a corporation of Virginia

Filed Aug. 21, 1968, Ser. No. 754,388

Int. Cl. F16k 31/04

U.S. Cl. 251—138

10 Claims



A butterfly valve employing a peripherally grooved disc carrying an O-ring seal, and upper and lower split mounting pins for center pivoting the valve disc within the valve body without detriment to the peripheral seal.

3,539,149

GATE FOR ABOVEGROUND IRRIGATION PIPE

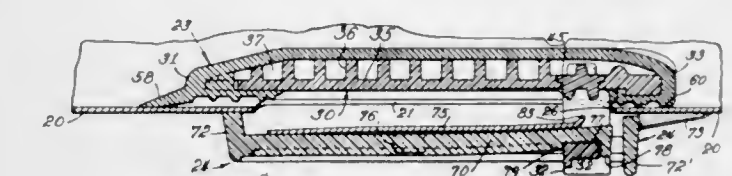
Bernard S. Se Breny, Oak Brook, Illinois, assignor to Aladdin Rubber Corporation, Oak Brook, Illinois a corporation of Illinois

Filed July 19, 1968, Ser. No. 746,156

Int. Cl. F16k 3/22

U.S. Cl. 251—145

4 Claims



A gate for regulating flow of water out of the side wall of an aboveground irrigation pipe in which an inside element and an outside element slide in unison to expose or obstruct the opening in the pipe wall. The inside element is connected to the outside element only adjacent to the downstream end of the inside element by a rigid lever arm fixed to the inside element. Sliding forces exerted on the outside element to open the gate causes the inside element to pivot slightly away from the wall thereby greatly facilitating the sliding motion. This is due to lubrication by water and due to the forces of

the water moving in the pipe. In a preferred embodiment the inside element has a specially adapted rubberlike boot in which continuously exerted internal stresses cause the downstream end thereof to tend to press outwardly against the inside of the pipe to facilitate and maintain a seal at that otherwise relatively loose end of the gate.

3,539,150

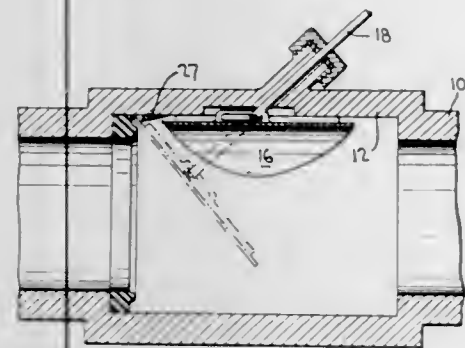
FLUID VALVE

Robert F. Conrad, Spring Hill, Maryland, assignor to Jamesbury Corporation, Worcester, Massachusetts a corporation of Massachusetts

Filed June 23, 1967, Ser. No. 648,436
Int. Cl. F16k 1/16

U.S. Cl. 251-228

12 Claims



A quick-opening valve has an annular valve seat circumscribing the fluid flow channel. A valve disc closes the valve by closing the central aperture in this annular valve seat when seated against it. In the open position the valve disc lies flush against a portion of the interior walls of the valve body upstream of the seat, the disc flexing to assume its flush position.

3,539,151

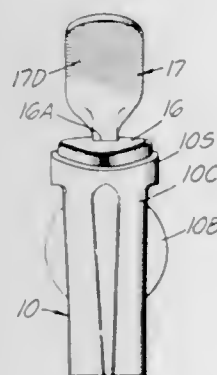
VALVE CONSTRUCTION

Otto S. Reid, La Canada, and Carl E. Frahm, Arcadia, California (both c/o Reid Valve Company, Inc., 133 Maple Ave., Monrovia, California 91016)

Filed March 5, 1968, Ser. No. 710,504
Int. Cl. F16k 1/08, 31/524

U.S. Cl. 251-242

4 Claims



A normally closed valve has a generally U-shaped rod slidably mounted in a valve housing. Such rod carries an elastic valve element on one end and an abutment on the other end. A manually operated lever is pivoted on the housing and engages an abutment on the other end of the rod to move such valve element from its seat. The valve element is generally hemispherical and dome-shaped and engages a tapered valve seat and such valve element is pressed into engagement with the seat by a generally hemispherical and dome shaped element on the end of the rod.

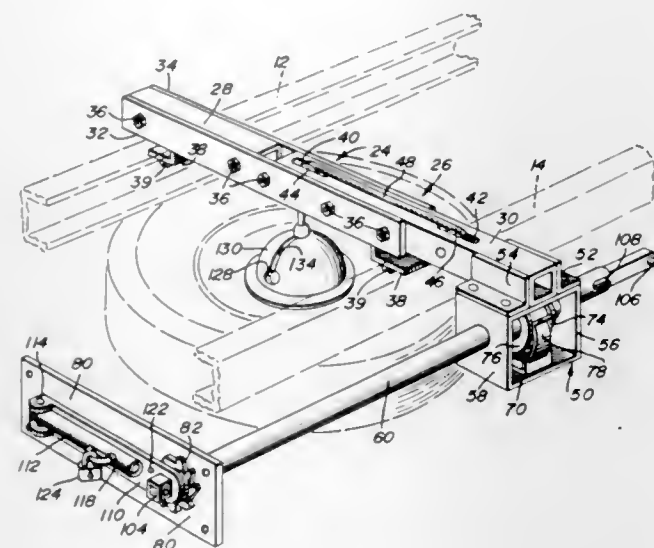
3,539,152
SPARE TIRE HOIST

Harley D. Paul, Martinez, California (Cabin N. Guthrie Acres, Grass Valley, Calif. 95945)

Filed July 11, 1968, Ser. No. 744,071
Int. Cl. B66d 3/00

U.S. Cl. 254-166

7 Claims



A support structure adapted to underlie a body portion of a vehicle between the opposite sides thereof and including a winch mechanism operable from a perimeter portion of the vehicle to raise and lower a spare tire relative to the support structure. The winch mechanism includes a retractable drive crank which is automatically disengaged from the winch drum when shifted to the retracted position and engaged with the winch drum when shifted to the extended position and means is provided whereby the drive crank may be locked in an inoperative retracted position.

3,539,153

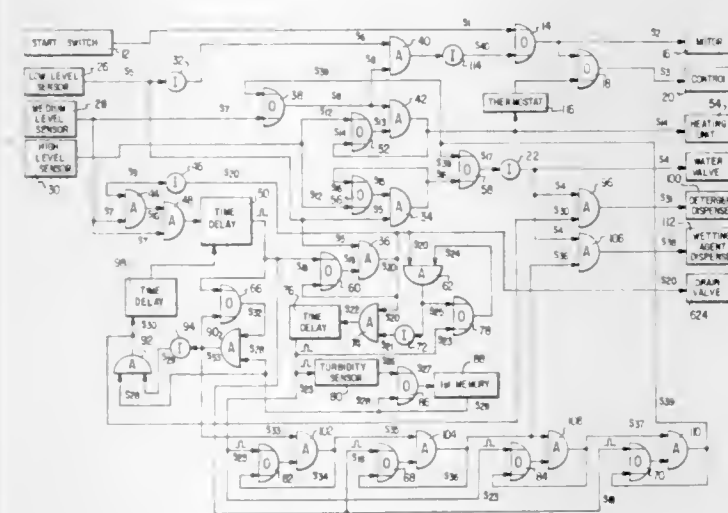
ELECTRONIC DISHWASHER CONTROL SYSTEM WITH CONDITION RESPONSIVE CYCLING

Allan L. Wennerberg, St. Joseph and Kenneth F. Cargo, Benton Harbor, Michigan, assignors to Whirlpool Corporation

Filed July 18, 1966, Ser. No. 566,160
Int. Cl. G05b 13/02; B01f 3/00

U.S. Cl. 259-1

14 Claims



An electronic control system for dishwashers and other cyclically operated home washing appliances which lends itself to integrated or printed circuit fabrication. The circuit employs solid state timer circuits thus eliminating the mechanical timer, as well as tri-level liquid sensing means to control and initiate the functional advance through the appliance's cycle of operation.

3,539,154

BLENDING APPARATUS

Robert R. Goins, Bartlesville, Oklahoma, assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 4, 1968, Ser. No. 781,192
Int. Cl. B01f 15/02

U.S. Cl.

3,539,158

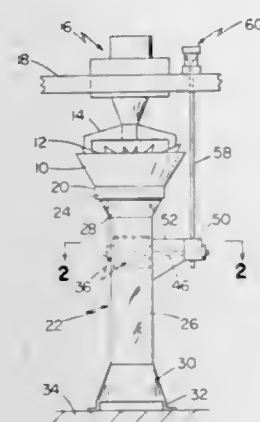
MECHANICAL SURFACE AERATOR

John Treymann Roos, Westwood, Massachusetts, assignor to Bird Machine Company, South Walpole, Massachusetts a corporation of Massachusetts

Filed June 27, 1968, Ser. No. 740,759
Int. Cl. B01f 3/04

U.S. Cl. 261—36

6 Claims



A mechanical surface aerator, in which the impeller is surrounded by a container such as a cone, is provided with a valved submerged inlet by which the rate of flow of liquid into the container can be varied to change the liquid level in the container and thus alter the output and aeration intensity of the aerator without stopping the impeller or changing its speed. Means for controlling vortical flow into the container and for improving the liquid circulation pattern induced by the aerator are also disclosed.

3,539,159

FLOW RATE-RESPONSIVE FUEL MIXTURE CONTROL DEVICE

Dieter Handtmann, Gerlingen; Gerhard Stumpp, Stuttgart and Konrad Eckert, Stuttgart-bad Cannstatt, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany

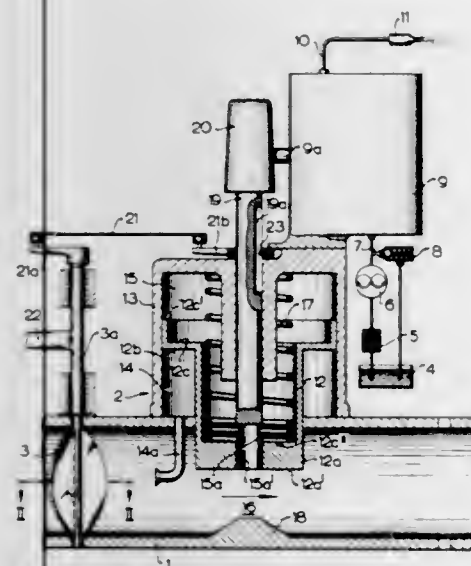
Filed Sept. 11, 1968, Ser. No. 759,091

Claims priority, application Germany, Sept. 20, 1967, 15,762,875

Int. Cl. F02m 9/06

U.S. Cl. 261—50

13 Claims



In a fuel injection system the metering of the fuel is controlled by a three-dimensional cam which is angularly displaced in unison with the arbitrary setting of a butterfly valve regulating the airflow and is linearly displaced by a linearly movable element of a pressure-responsive control member. The said element is arranged in the air suction tube of the fuel injection system and is caused to be linearly shifted dependent upon the air pressure conditions in a flow passage,

the cross-sectional area of which is varied due to the linear displacement of said element.

3,539,160

METAL FUSION CONTROL MEANS

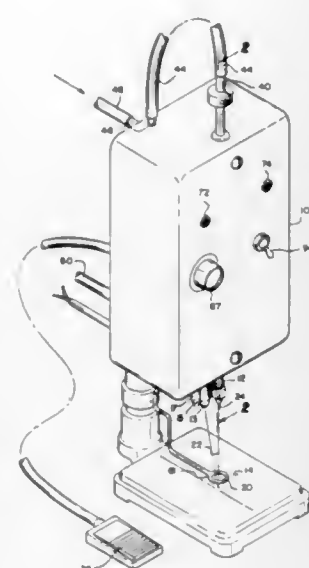
Raymond A. Henes, 5816 E. Mockingbird Lane, Paradise Valley, Arizona 85251

Filed July 16, 1968, Ser. No. 753,026

Int. Cl. F24j 3/00

U.S. Cl. 263—2

16 Claims



A metal fusion control means comprising a metal heater adapted to fuse metal such as solder. The heater being movable into contact or working position relative to metals to be fused by manual means which initiates operation of a timer to which it has connected means for retracting the said heater in a predetermined length of time compatible with a desired amount of fusion heat adapted to the work involved.

3,539,161

HEAT FIXING APPARATUS FOR FUSIBLE MATERIAL

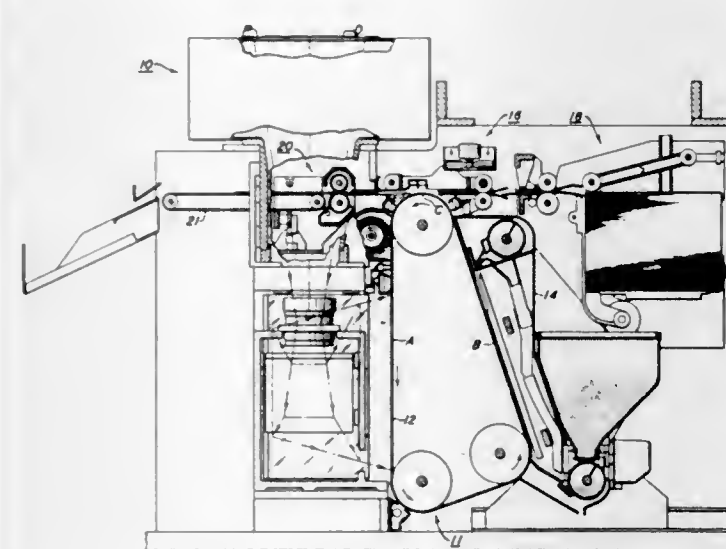
John F. Byrne, Worthington, Ohio, assignor to Xerox Corporation, Rochester, New York a corporation of New York

Filed May 24, 1968, Ser. No. 732,003

Int. Cl. F27b 9/28; F27q 3/12

U.S. Cl. 263—6

3 Claims



A fixing system for fixing fusible material such as electroscopic particles upon support material. The system includes two rollers in pressure contact between which the support material is transported. One of the rollers is provided with a heat barrier blanket and a release agent coating which is adhesive to tackified particles in order to prevent "offset" thereof.

3,539,162

REFRACTORY REGENERATIVE FURNACES

Robert H. Forster, Tadworth, Surrey and Leslie G.D. Shel-drake, Ryton-on-Tyne, England, assignors to The British Oxygen Company Limited, a British company

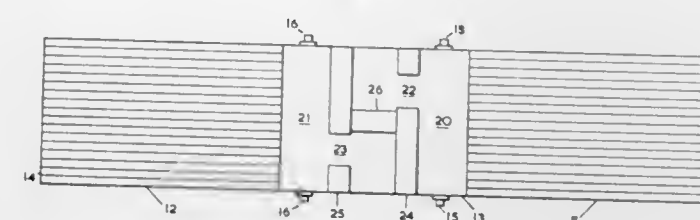
Filed Nov. 13, 1968, Ser. No. 775,476

Claims priority, application Great Britain, Nov. 20, 1967, 52,716/64; Feb. 9, 1968, 6,567/68

Int. Cl. F27d 17/00

U.S. Cl. 263—15

3 Claims



A refractory regenerative furnace comprises two heat regenerative masses arranged on either side of a combustion chamber and baffle member extending across the combustion chamber and interposed in the path of flow from one heat regenerative mass to the other, whereby a stream of gaseous material passing through the combustion chamber is constrained to flow through an extended path.

3,539,163

VIBRATING REFRACTORY FURNACE

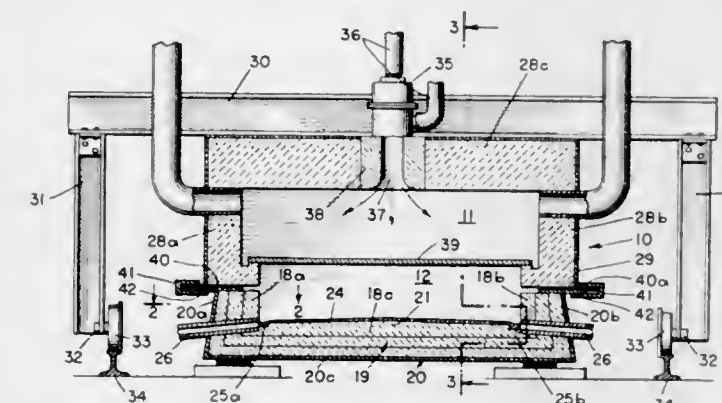
John Mitchell, San Pedro, California, assignor to John Mitchell Corporation, San Pedro, California a corporation of Delaware

Filed April 7, 1967, Ser. No. 629,273

Int. Cl. F27b 3/00

U.S. Cl. 263—21

17 Claims



A furnace for the controlled heating at any temperature of materials continuously passing therethrough where the hearth is an inclined platform of refractory material supported in a superstructure that is flexibly mounted and subjected to controlled vibration whereby materials continually introduced onto the upper end of the inclined refractory platform progress at a controlled rate toward the lower end where all the unmelted and unvaporized materials are continually discharged and the melted material is tapped off within the furnace. The heating unit is superimposed immediately above the hearth and extends the length and width of the hearth for controlled heating therealong and the heating unit is removable as a unit for access to the hearth for maintenance.

3,539,164

COOLER FOR HOT LUMP GOODS, PARTICULARLY CEMENT CLINKER

Kunibert Brachthäuser, Ranzel, Germany, assignor to Kloeckner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany, a corporation of Germany

Filed April 10, 1968, Ser. No. 720,169

Claims priority, application Germany, April 22, 1967, K 62,082

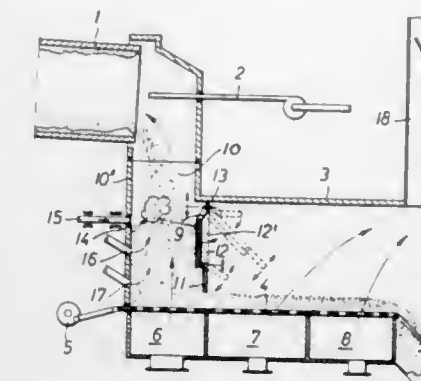
Int. Cl. F27b 7/00

U.S. Cl. 263—32

4 Claims

A cooler for lumpy material, such as cement clinker discharged by a rotary furnace, comprising a horizontally ex-

tending housing through the lower portion of which moves a horizontal transportation grate through which cooling air is forced upwardly. At one end of the housing is formed a vertical shaft into the upper end of which the material to be cooled is introduced. A vertical transverse wall within the housing and spaced from one end wall of the housing forms a part of the shaft walls and extends downwardly toward the



movable transportation grate. This transverse wall is vertically adjustable or is pivotally mounted at its upper end or may consist of a number of horizontal sections hingedly connected with each other by vertically spaced horizontal pivot joints so that the slot formed between the lower edge of the transverse wall and the upper face of the transportation grate is adjustable for adjusting the height of the pile of material formed in the stack and to be cooled.

3,539,165

APPARATUS FOR TREATING METALLIC AND NONMETALLIC MATERIALS

Glenn R. Ingels, 9940 Memorial Drive, Houston, Texas 77024

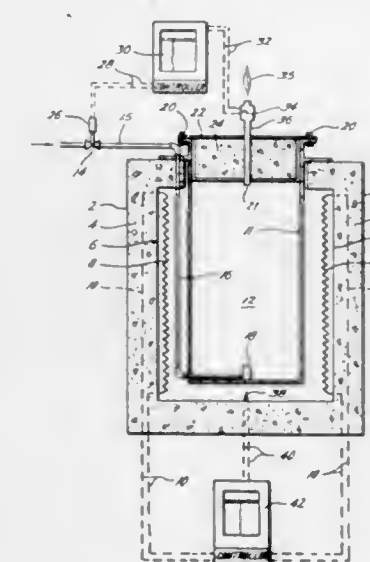
Continuation-in-part of application Ser. No. 597,290, Nov. 28, 1966, now abandoned, which is a continuation-in-part of application Ser. No. 292,280, July 2, 1963, now abandoned.

This application June 16, 1969, Ser. No. 833,308

Int. Cl. F27b 17/00

U.S. Cl. 263—40

24 Claims



A system for treating metallic and nonmetallic materials in the presence of an environment of inert gases, such as argon and helium, or of a nitriding gas, such as nitrogen, or of liquid water saturated with or without a major amount of carbon dioxide, a minor amount of methane and lesser amounts of hydrogen and carbon monoxide at temperatures of about 32°F. to about 160°F. under pressures up to the equilibrium pressure of water 218.5 atmospheres. Means are also provided for generating the saturated liquid water. Means are provided for controlling the pressure, volume, temperature and relative humidity of the exhaust gases from the furnace which provides an effective control within the furnace. Means are also provided for preheating the environment to at least the treatment temperature and controlling its pressure

just prior to entrance into the furnace. This provides very exact control conditions of treatment. Means are also provided to add carbon and inert material to the saturated fluid mixture to control the temperature of the exhausting gases.

3,539,166

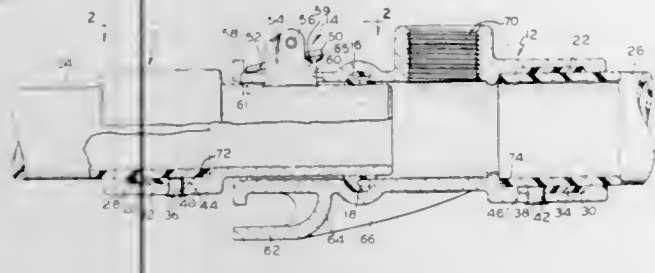
IRRIGATION COUPLING STRUCTURE

Lyndle G. Gheen, Eugene, Oregon, assignor to R.H. Pierce Manufacturing Company, Eugene, Oregon a corporation of Oregon

Filed Dec. 12, 1968, Ser. No. 783,248
Int. Cl. F16I 55/00, 25/00

U.S. Cl. 285—5

6 Claims



A polyvinyl pipe is secured and sealed to a coupling in the field by inserting a flexible polyurethane sleeve into an annular groove in a coupling with a keying pin in the coupling projecting into a keying slot in the sleeve. The pipe and sleeve are then bonded together by a solvent cement. The coupling includes a male member having a splining plate projecting into a slot in a female member. A latching plate on the splining plate engages a flange on the female member to connect the members for tension.

3,539,167

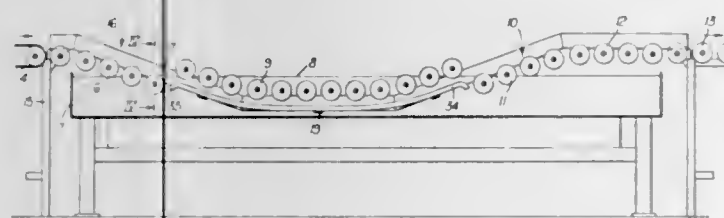
APPARATUS FOR TREATING STEEL ROD OR WIRE
George W. Ashton, Totley, Sheffield, England, assignor to The Templeborough Rolling Mills Limited, Rotherham, Yorkshire, England a British Company

Filed Aug. 7, 1967, Ser. No. 658,747

Claims priority, application Great Britain, Aug. 15, 1966, 36,398/66; Jan. 6, 1967, 987/67
Int. Cl. C21d 9/58

U.S. Cl. 266—3

11 Claims



The patenting and particularly the lead patenting of rod or wire is effected by forming the rod or wire into overlapping loops and passing these through a liquid bath in which there are magnetic rollers. When the bath is of lead the loops are conveyed into it over magnetic rollers, carried through it under magnetic rollers and carried out of it by further magnetic rollers.

3,539,168

EQUIPMENT FOR FLUE GAS EXTRACTION IN CUTTING DEVICES, PARTICULARLY FOR CONTINUOUS CASTING INSTALLATIONS

Alfred Pfeuffer, Neu-Isenburg, Germany, assignor to Messer Griesheim GmbH, Frankfurt Am Main, Germany, a corporation of Germany

Filed Oct. 17, 1967, Ser. No. 675,846

Claims priority, application Germany, Oct. 26, 1966, M 71,444

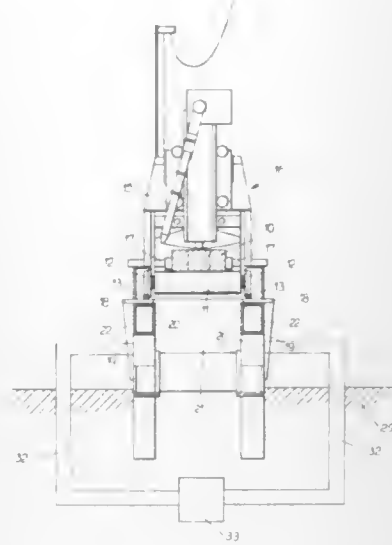
Int. Cl. B23k 7/10; B22d 11/22

U.S. Cl. 266—23

9 Claims

Fume gas extraction equipment in cutting devices utilized in continuous casting installations for cutting the continu-

ously cast workpiece into segments wherein the workpiece is movably supported on spaced support elements while the cutting device moves synchronously above it with the cutting operation taking place between a pair of the support elements, is characterized by shielding the space beneath the



cutting operation—to collect the cutting slag—both laterally and at the frontal surfaces and providing an upper covering connected to the support device between the pair of support elements with a fixed exhaust passage or canal arranged at the collecting chamber.

3,539,169

MELTING FURNACES

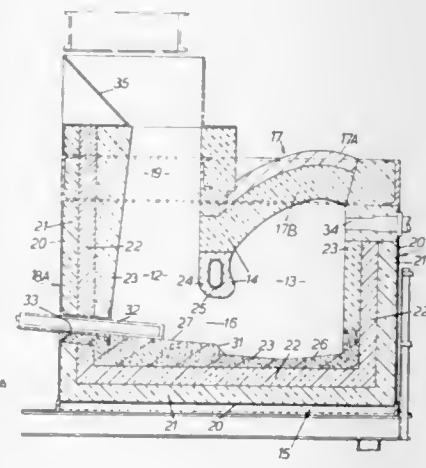
Arthur Higgs, Barrhead; Harry Lashley, Newton Mearns and George Roland Thompson, Glasgow, Great Britain, assignors to The Gas Council, London, England a British company

Filed Feb. 13, 1968, Ser. No. 705,066

Int. Cl. C21b 11/00

U.S. Cl. 266—33

5 Claims



This disclosure relates to a melting furnace for nonferrous metal including two compartments separated by a wall common to both compartments, and a passage between them beneath the common wall. The charge to be melted is passed downwardly through one compartment in counterflow to combustion products, through the passage and into the second compartment which is the combustion chamber.

3,539,170

RUBBER AND LIKE MATERIAL SPRINGS

Denis Marcel Hamel, Saint-Mande, France, assignor to Pneumatiques, Caoutchouc Manufacture, Et Plastiques Kleber-Colombes, Colombes, France a French body corporate

Filed July 1, 1968, Ser. No. 741,445

Claims priority, application France, July 5, 1967, 113,269

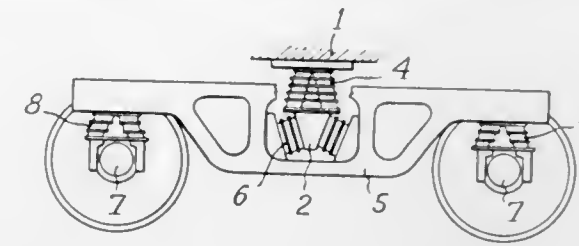
Int. Cl. B60g 11/22

U.S. Cl. 267—63

8 Claims

This invention relates to rubber and like material springs comprising layers of rubber bonded to intermediate metal

plates and to parallel end plates to act mainly under compression but also in shear. According to the invention, the width of such a spring increases from one end to the other of the thicknesses of the rubber layers and the cross-sectional



surfaces thereof are determined so as to ensure a substantially constant flexibility under compression or in shear whereby the ends of the spring have a good resistance to shear.

3,539,171

SPRING CONSTRUCTION

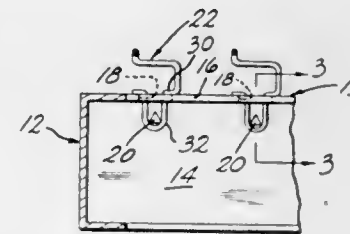
Walter V. Slominski, Lexington and Jack C. Mandusky, Georgetown, Kentucky, assignors to Hoover Ball and Bearing Company, Saline, a corporation of Michigan

Filed Sept. 3, 1968, Ser. No. 756,988

Int. Cl. A47c 23/26

U.S. Cl. 267—110

2 Claims



A seating structure having a metal frame and a plurality of sinuous wire springs bridging opposite rail members of the frame. The opposite rail members have slotted flanges projecting inwardly of the frame on which the ends of the wire springs are mounted, and loops at the ends of the springs extend through the slots and are snap fitted over tangs struck out of the body portion of the rail members.

3,539,172

UPHOLSTERY DECK SUSPENDER

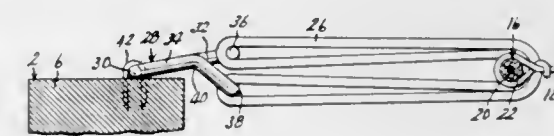
Harmon W. Arnold and Lloyd E. Tieman, Carthage, Missouri, assignors to Flex-O-Lators, Inc., Carthage, Missouri a corporation of Missouri

Filed Aug. 27, 1968, Ser. No. 755,608

Int. Cl. A47c 23/26

U.S. Cl. 267—112

5 Claims



A suspender for mounting an upholstery deck having a generally planar upper surface in a rigid, open furniture frame, said deck having an at least partially unobstructed edge strand, said suspender comprising an endless band of elastic material flattened to form an elongated loop, said loop being adapted to be folded intermediate its ends about said deck edge strand with its ends projecting toward said frame, and a rigid hanger member adapted to be secured to said frame and including portions operable to be inserted transversely through said loop at the ends thereof.

3,539,173

BUMPER

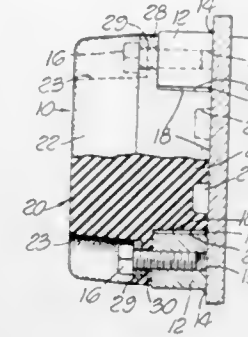
Carl J. Sampson, Bellflower, California, assignor to Byron Jackson Inc., Long Beach, California, a corporation of Delaware

Filed May 23, 1968, Ser. No. 731,541

Int. Cl. F16f 1/44

U.S. Cl. 267—140

8 Claims



A device for absorbing the impact between convergent and contiguous bodies due to relative movement therebetween, the device being attached to the surface of one of the bodies for resilient contact with the opposing body to cushion the blows of collision, dragging, or scuffing, and thus also alleviating damage to the bodies.

3,539,174

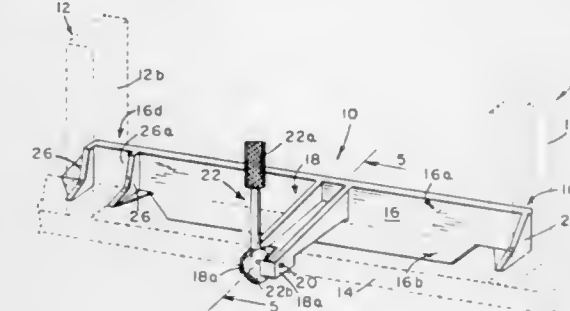
STUD-SPACING GUIDE

Domenic Borello, 142 Nyac Ave., Pelham, New York 10803
Filed Oct. 10, 1968, Ser. No. 766,527

Int. Cl. B25b 5/08

U.S. Cl. 269—319

2 Claims



A device for facilitating the spacing and attachment, during typical wall construction, of studs to a horizontal beam or structural member, the device having not only spacing guides thereon for determining the proper spacing of the studs but also means for being clamped to the beam so that during attachment of a stud it is held against movement from its selected location.

3,539,175

SUCKER FEEDER FOR A PRINTING PRESS

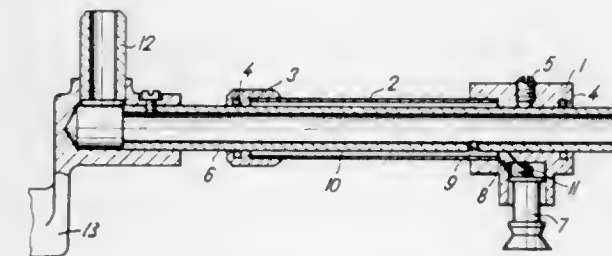
Jaroslav Janecek, Brno and Frantisek Vidensky, Blansko, Czechoslovakia, assignors to Adamovske strojirny narodni podnik, Blansko, Czechoslovakia

Filed Oct. 18, 1968, Ser. No. 768,678

Int. Cl. B65h 3/08

U.S. Cl. 271—26

3 Claims



The sucker feeders for a printing press are mounted on a hollow supporting rod extending across the direction of sheet

movement. Each feeder has a nozzle mounted on an elongated tube coaxial with the supporting rod and defining an annular conduit with the same. The conduit is connected with the nozzle and communicates with the hollow interior of the rod through a radial bore in the same, thus permitting air to be drawn through the nozzle into the rod and to a vacuum line in all adjusted positions of the sucker feeder.

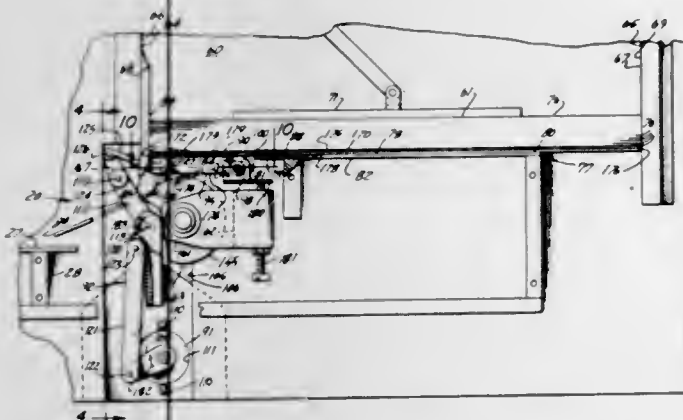
3,539,176

PICKER OR FEED MECHANISM FOR STACKED ITEMS
Stanley D. Bloemendaal, Melbourne, Florida, assignor to General Design Inc., Melbourne, Florida a corporation of Florida

Filed Feb. 7, 1968, Ser. No. 703,744
Int. Cl. B65h 1/06

U.S. Cl. 271-32

12 Claims



A picker mechanism for successively delivering normally flat items from a stack of items that has a suction element for use in bending an end portion of the stack end item to a position for engagement and withdrawal from the stack by cooperating transfer rolls. The contact element has an orifice containing inclined surface used as an aid in withdrawing a corner portion of the item from its neighbor before the end portion is bent, and a valve mechanism which is equipped with a torsion rod containing valve assembly provides a quick valving action in connecting the orifice with a vacuum source.

3,539,177

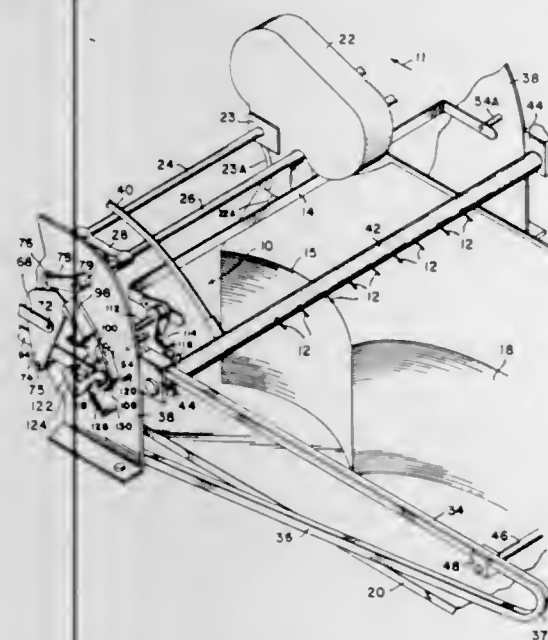
DELIVERY SYSTEM FOR CLOTH

Arthur Schwenk, Gibbsboro, New Jersey; Michael L. Wajda; Herschel Baron, Philadelphia and Herbert V. Jacobs, Lower Merion, Pennsylvania, said Schwenk, Wajda and Baron assignors to Jacobs Machine Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 13, 1968, Ser. No. 736,714
Int. Cl. B65h 3/20

U.S. Cl. 271-33

11 Claims



A delivery system for cloth comprising pickup means to pickup and deliver one-by-one the topmost piece of cloth

from a stack of pieces of porous cloth, and to deliver said topmost piece of cloth toward a sewing station, the improvement comprising means to direct at least one blast of air toward said topmost piece of cloth prior to the delivery thereof by said pickup means.

3,539,178

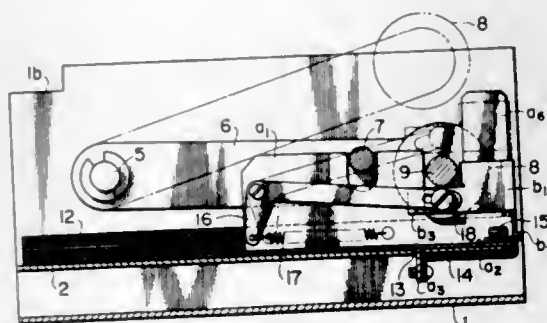
PAPER RACK IN A PAPER-FEEDING DEVICE

Nobuyuki Yanagawa, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan

Filed Feb. 12, 1968, Ser. No. 704,614
Claims priority, application Japan, Feb. 16, 1967, 42/12,891
Int. Cl. B65h 3/06, 9/00

U.S. Cl. 271-36

1 Claim



A rack for a stack of sheets of paper adapted to cooperate with a rotatable shaft equipped with feed rollers, sidewalls movable toward and away from each other to adjust for lateral dimension of a stack of papers, a vertically movable corner element for controlling papers in the direction of feed and a spring-loaded pivoted arm one end of which is under the shaft upon which the feed rollers are mounted and spring-bias means, tending to move said shaft upward so that when said shaft and rollers are lifted the corner element is urged upward by said spring bias through said pivoted arm.

3,539,179

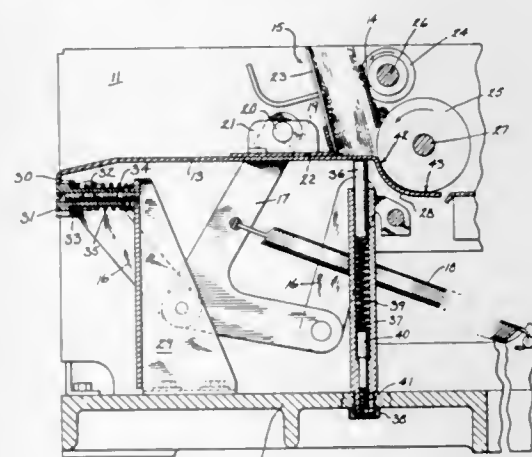
APPARATUS FOR FEEDING PAPER CURRENCY

Charles T. Bergman, Watertown and Jack E. Weidner, Whitefish Bay, Wisconsin, assignors to Brandt Automatic Cashier Co., Watertown, Wisconsin a corporation of Wisconsin

Filed Dec. 4, 1967, Ser. No. 687,602
Int. Cl. B65h 1/18

U.S. Cl. 271-39

2 Claims



A receiving compartment of a paper currency counting machine is shown in which a stack of bills is supported on edge on a feed runway and held by a spring biased removable bill follower against upper and lower feed rollers. The feed runway is hinged intermediate its outer end on an adjustable

support and has an arcuate portion at its inner end adjacent the lower feed rollers. The feed runway is urged upward by a pair of spaced adjustable biasing means to have the arcuate portion engage the lower feed rollers along two spaced lines of contact. The endmost bill of the stack of bills can be removed from engagement with the feed rollers by a shiftable feed stop plate and the feed runway can be retracted from engagement with the lower rollers, both actions contributing to the halting of the flow of bills.

3,539,180

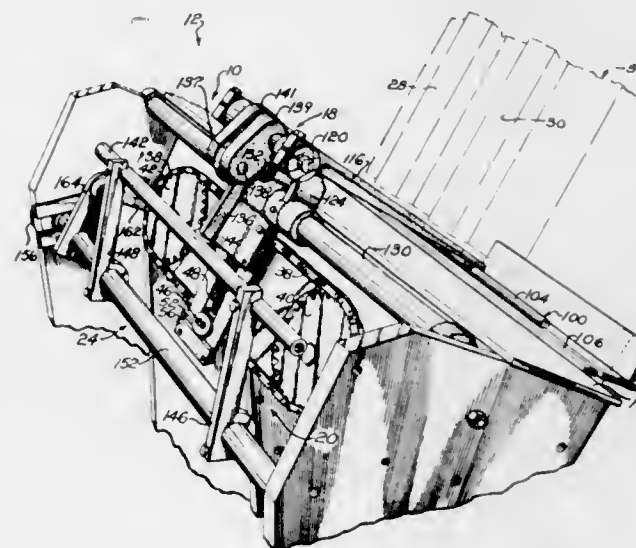
SHUTTLE ASSEMBLY

Victor A. Zugel, Parma, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio a corporation of Delaware

Filed May 6, 1968, Ser. No. 727,097
Int. Cl. B65h 5/04

U.S. Cl. 271-54

6 Claims



Disclosed herein is a shuttle assembly having a clamp assembly for gripping sheet material and a chain drive mechanism for reciprocating the clamp assembly. The chain drive mechanism accelerates the clamp assembly to an operating speed during initial portions of forward and reverse strokes of the clamp assembly, maintains the operating speed during major portions of the strokes and decelerates the clamp assembly during end portions of the strokes.

3,539,181

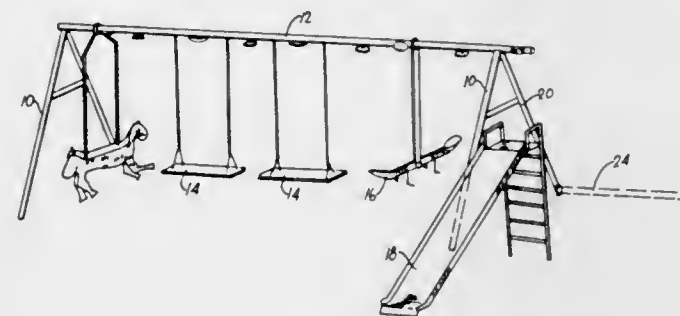
OUTDOOR GYM SET WITH PLURAL WATER SPRAY HEADS

Norbert M. Larsen, Waukesha, Wisconsin, assignor of ten percent to The Raymond Lee Organization, Inc., New York, New York, a corporation of New York

Filed Nov. 7, 1968, Ser. No. 774,115
Int. Cl. A63g 21/18; A63b 7/00

U.S. Cl. 272-56.5

4 Claims



An outdoor gym for children employing swings, slides and the like wherein adjustable water sprays are disposed over each individual element.

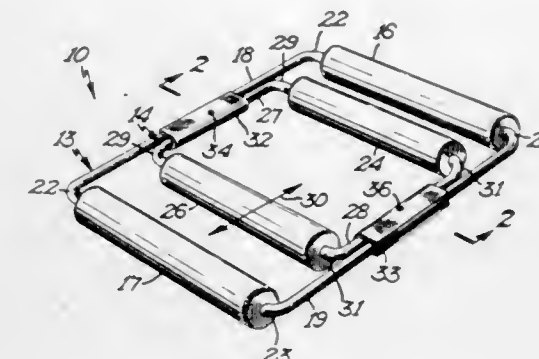
3,539,182

OPPOSING HAND-OPERATED EXERCISE APPARATUS
William F. Sieg, Minneapolis, Minnesota (P.O. Box 278, St. Bonifacius, Minnesota 55375)

Filed Nov. 21, 1967, Ser. No. 684,722
Int. Cl. A63b 21/14, 21/30

U.S. Cl. 272-68

11 Claims



An opposing hand operated exerciser having pairs of hand grips which are moved toward and away from each other so that one hand provides a force which opposes the other hand whereby both hands and forearms are exercised. The hand grips are secured to rigid members, as rectangular frames or arms, movably associated with each other. The frames are slidably connected to each other with U-shaped members. The arms have midportions which are pivotally connected to each other.

3,539,183

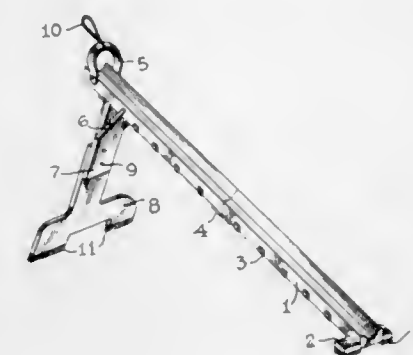
GRAVITY BOWLING BALL PROJECTOR

Aaron Calvin Lieb, 1334 Birch St., Reading, Pennsylvania 19604

Int. Cl. A63d 3/02

U.S. Cl. 273-54

3 Claims



A bowling game device is disclosed that enables impelling a bowling ball down the alley solely by means of gravity. The device includes means to permit the bowling ball to be positioned and held in any given orientation and released without disturbing this orientation so that if the center of gravity of the bowling ball does not coincide with the geometric center of the bowling ball, the path of the ball down the bowling alley can be controlled.

3,539,184

SET OF GOLF CLUBS

Henry Koorland, 10136 Paradise Blvd., St. Petersburg, Florida

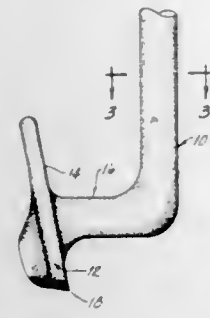
Filed Aug. 7, 1967, Ser. No. 658,907
Int. Cl. A63b 53/02, 53/00

U.S. Cl. 273-77

1 Claim

A set of golf clubs of the driving type with the club heads positioned rearwardly of their respective hosels by a shank. Each shank is angled with respect to each hosel and is affixed at one end to the hosel and at the other end to the face of the club head. The faces of the club heads are angled differently

with respect to the longitudinal axis of each club shaft, and each shank is secured to the upper portion of the face in



clubs having a small face angle and to the lower portion of the face in clubs having a large face angle.

3,539,185

GOLF CLUB HAVING AN ADJUSTABLE LENGTH SHAFT

Ernest R. Ands, 5125 Darby Place, Racine, Wisconsin 53402

Filed July 23, 1968, Ser. No. 746,838

Int. Cl. A63b 53/16

U.S. Cl. 273-81.2

7 Claims



A golf club having a shaft which is adjustable in length and which can be tightly locked at the desired length by an internal wedge which prevents inadvertent twisting of the grip relative to the rest of the shaft.

3,539,186

COMBINED LIFT STICK AND BALL

Gardner C. Batten, Wait's River, Vermont (R.F.D. West Topsham, Vermont)

Filed Sept. 20, 1967, Ser. No. 668,999

Int. Cl. A63b 65/12

U.S. Cl. 273-95

1 Claim



The game of Lift Ball involves the use of target balls and playing balls, the playing balls being directed against the target balls to displace these balls from the positions which they occupy at the beginning of the game.

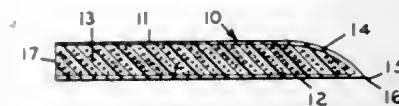
3,539,187
LIKE FINS FOR GUIDANCE OF AN ARCHERY ARROW
Ray V. Smith, 7132 Newton Drive, Overland Park, Kansas 66204

Filed July 23, 1968, Ser. No. 746,846

Int. Cl. F41b 5/02

U.S. Cl. 273-106.5

3 Claims



A synthetic expanded plastic fin being extremely light in weight, tough, very flexible, and a waterproof smooth skin over all exposable surfaces of a fin. One surface of a fin has arcuate edge portions curved toward and intersecting with and secured to the edge of the skin surface on the opposite side of a fin; with the exception of one mounting edge of the fin.

3,539,188

TILT TOP POOL

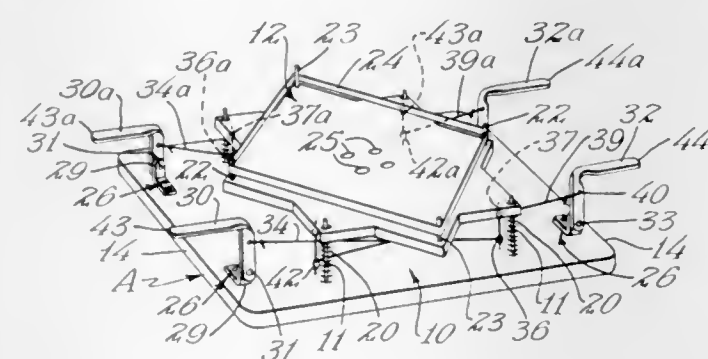
Robert E. Salverda, 2118 N. Dale St., St. Paul, Minn. 55113

Filed July 25, 1968, Ser. No. 747,739

Int. Cl. A63f 7/16

U.S. Cl. 273-110

7 Claims



A game is provided including a base and a platform slidably and tiltably supported on four parallel pins extending upwardly from the base. Springs normally support the platform horizontal. A pair of levers are mounted on aligned axes to the base of each side of the platform. Flexible means connect one lever on each side of the platform to a corner at the opposite side of the platform to tilt the opposite corner downwardly upon pivotal movement of the lever, and flexible means connect the other lever on each side of the platform to the corner diagonally opposite that to which the first lever is connected. A wall defines a playing area on the platform, and a marble on the platform may be rolled by tilting the platform.

3,539,189

BOARD GAME APPARATUS

Sylvester Martin Shelton, San Antonio, Texas (905 B Richmond Road, China Lake, Calif. 93555)

Filed Dec. 22, 1967, Ser. No. 694,777

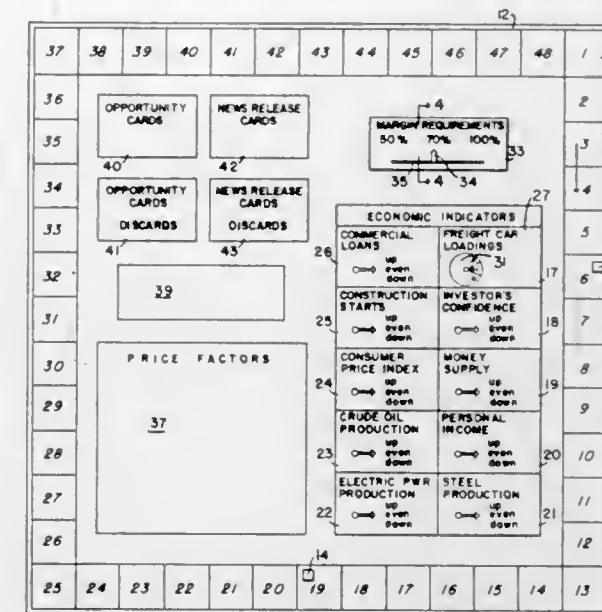
Int. Cl. A63f 3/02

U.S. Cl. 273-134

14 Claims

A game apparatus comprising a board with a continuous path divided into consecutive spaces for occupancy by tokens advanced randomly, the spaces having play instructions, a plurality of fields with indicia representing economic indicators (e.g., commercial loans, freight car loadings, investor's confidence) with indicia and designators showing whether they are up, down or even, a field showing margin requirements with indicia and a designator, a supply of property cards (e.g., stock certificates, warrants, bonds, and short sales slips), imitation money, a chart bearing price factors for different conditions applicable to various properties, a deck of Opportunity cards and a deck of News Release cards (all cards bearing instructions), and four random selec-

tors, e.g., dice, for determining respectively (a) the token movements (b) changes in the indicators, (c) multipliers for



the price change factors, and (d) specific properties involved in a price change or other play.

3,539,190

MAZE DEVICE

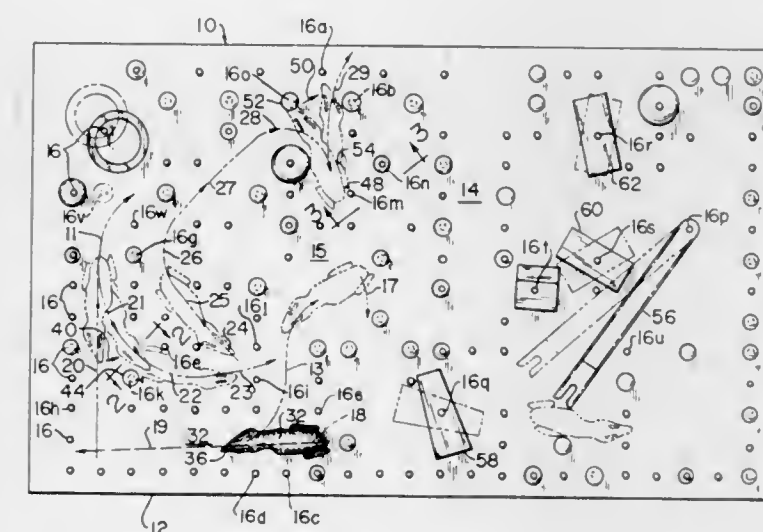
Ronald W. Redo, 773 Blossom Way, Hayward, California 94541

Filed April 1, 1968, Ser. No. 718,984

Int. Cl. A63f 9/08; A63b 67/14

U.S. Cl. 273-153

5 Claims



A maze device including a board or the like to provide a working surface from which a plurality of pins at various spaced intervals from each other project, thus defining a multiplicity of connected and intersecting paths between the pins. A token is provided so shaped and dimensioned that it can be slidably maneuvered between certain of the pins and not others, and thus the token is movable along a maze-like path on the surface of the board from one station thereon to another remote from the first. The maze-like path or paths which permit passage of a token, and those which do not, are such as not to be visually discernible to the average observer in respect to which will permit such passage until actual movement with the token is undertaken. In addition, certain of the pins are provided with impediments of various shapes positioned at different elevations above the working surface of the board, and these impediments confound with portions of the token to permit or bar passage on the path between the pin with the impediment and the one adjacent to it.

880 O.G.—19

3,539,191
MAGNETIC RECORDING AND REPRODUCING
APPARATUS OF MOVABLE HEAD TYPE WITH
AZIMUTH ADJUSTMENT MEANS

Kozo Yamamoto, Hirakata-Shi, Japan, assignor to Matsushita Electric Industrial Co. Ltd., Kadoma-shi, Osaka, Japan a corporation of Japan

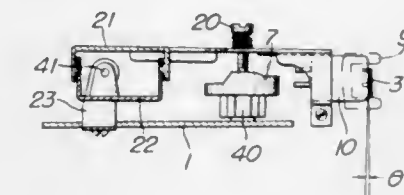
Filed Sept. 20, 1967, Ser. No. 669,141

Claims priority, application Japan, Oct. 18, 1966, 41/97,165; Feb. 3, 1967, 42/9,652; Apr. 19, 1967, 42/33,604

Int. Cl. G11b 21/08, 21/12

U.S. Cl. 274-4

2 Claims



A magnetic recording and reproducing apparatus having a transducing head stepwise movable in a direction perpendicular to the traveling direction of a magnetic tape and having a head supporting arm provided with means for tilting the head core face in a predetermined direction relative to the tape magnetic surface. A mechanism for causing equiangular rotation of a cam is combined with the above means so as to move the head to the desired accurate position, to prevent crosstalk and level fluctuation, and to improve the head moving mechanism thereby reducing current consumption and prolonging the working time.

3,539,192

PLASMA-COATED PISTON RINGS

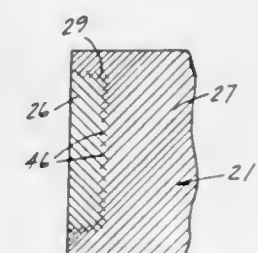
Herbert F. Prasse, Town and Country, Missouri, assignor to Ramsey Corporation, St. Louis, Missouri a corporation of Ohio

Filed Jan. 9, 1968, Ser. No. 696,645

Int. Cl. F16j 9/00

U.S. Cl. 277-224

9 Claims



Piston rings, including compression and oil control rings, for internal combustion engine pistons, having a bearing face of an alloy formed in situ on the ring from a plasma jet-stream. The alloy is composed of refractory metal carbides such as tungsten carbide in solid solution with another metal, such as cobalt, to provide a hard wear phase with the carbide particles relatively free from sharp edges and corners and a somewhat softer matrix phase composed of metals such as nickel, chromium, boron and aluminum. The coating is very hard and refractory, possesses a higher tensile strength than heretofore used piston ring facings, does not scuff, has improved abrasive wear resistance, and operates compatibly with the engine cylinders. The carbides in the coating will not pull out in operation of the ring because they are in solid solution and do not have a sharp particulate form. The nickel, chromium and boron in the alloy provide binders improving the mechanical strength of the coating and the hardness of the matrix.

3,539,193

SEALS FOR COLLETS

Hubert J. Parsons, Horseheads, New York, assignor to Hardinge Brothers, Inc., Elmira, New York

Filed Oct. 9, 1968, Ser. No. 766,203

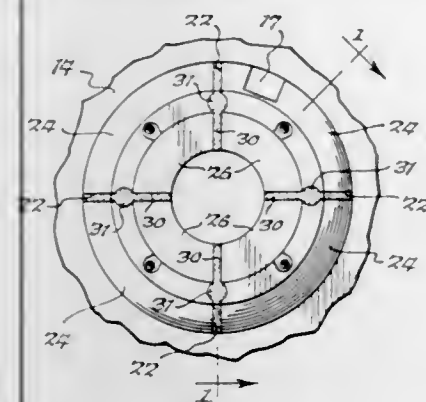
Int. Cl. B23b 25/04, 31/20

U.S. Cl. 279-51

7 Claims

This disclosure relates to collets of the type commonly used on lathes or similar machines for holding workpieces or

tools, and in which the collet head is divided into segments spaced from each other by radial slots in which sealing members are arranged to exclude oil and other foreign material



from passing through the slots, and in which the slots are so formed that the sealing members may be passed lengthwise into and out of their operative positions in said slots from the outer face of the collet.

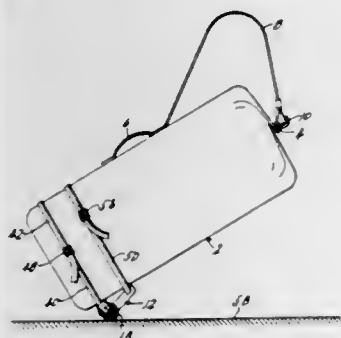
3,539,194

DUFFELBAG CARRIER

Tony W. Stiles, Box 436, Golden City, Missouri 64748
Filed Aug. 27, 1968, Ser. No. 755,594
Int. Cl. B62b 1/06

U.S. Cl. 280—47.13

3 Claims



A duffelbag carrier consisting of a beam having a floor-engaging wheel at each end thereof extending laterally thereof and rotatable on an axis longitudinal thereto, a tongue pivoted to said beam intermediate the ends of the latter and movable from a position lying along said beam to a position extending laterally therefrom, and a pair of straps associated respectively with said beam and said tongue and operable to secure said members to a duffelbag or other article to be carried.

3,539,195

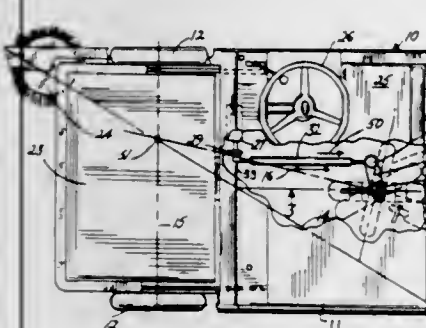
STEERING MECHANISM

Albert S. Swanson and Joseph G. Kasper, Minneapolis, Minn., assignors to Tennant Company, Minneapolis, Minn., a corporation of Minnesota

Filed April 1, 1968, Ser. No. 717,575
Int. Cl. B62d 9/00

U.S. Cl. 280—92

2 Claims



A steering mechanism for a three-wheeled vehicle wherein two wheels are mounted for rolling about a common axis and a single wheel of the three-wheeled vehicle is powered and also is used for steering. The vehicle is constructed so that the steerable wheel can be turned to position wherein the

projection of the rolling axis of the steering wheel forming the turning radius intersects the axis between the two idler wheels at a point substantially coinciding with the intersection of the common axis of the two idler wheels and the longest diagonal of the machine to permit turning the vehicle in a minimum clearance situation.

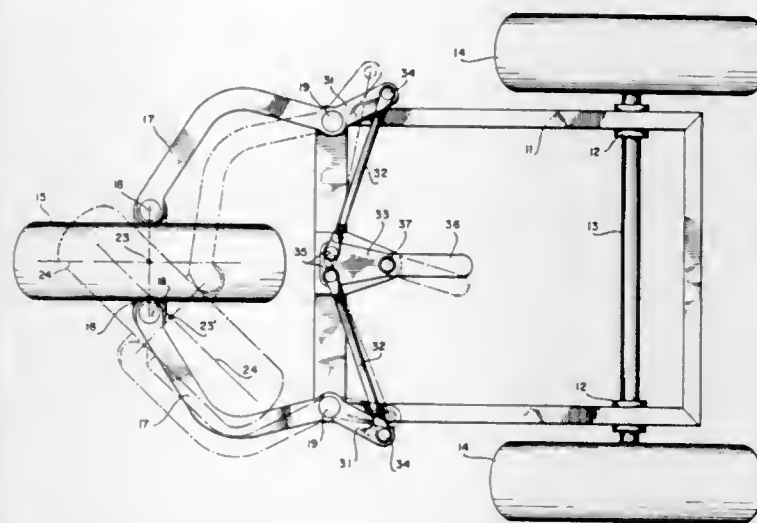
3,539,196

VEHICLE STEERING ASSEMBLY

David R. Fleming, Mountain View, California, assignor to Lockheed Aircraft Corporation, Burbank, California
Filed Sept. 30, 1968, Ser. No. 763,637
Int. Cl. B62d 7/06

U.S. Cl. 280—92

9 Claims



A three wheel vehicle includes a steering assembly having a pair of spaced-apart struts mounted on pivotal bearings. A steerable wheel and axle is pivotally connected to and positioned between the ends of the struts. The vehicle is steered by pivoting the struts whereby the wheel and axle is simultaneously turned and translated laterally with respect to the vehicle.

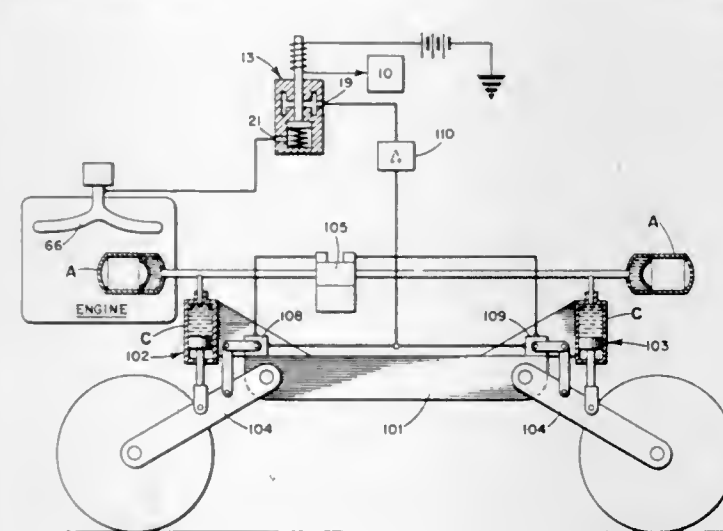
3,539,197

TRIM CORRECTOR CONTROL DEVICES OF VEHICLES

Jacques Remaud, Billancourt, assignor to Regie Nationale Des Usines Renault, Billancourt Hauts de Seine and Automobiles Peugeot, Paris, France
Filed Feb. 1, 1968, Ser. No. 702,428
Claims priority, application France, Feb. 15, 1967, 95089
Int. Cl. B60g 21/06

U.S. Cl. 280—104

11 Claims



A device for front and rear wheel suspensions of an automotive vehicle having trim correctors of the hydraulic and/or pneumatic type, comprising a reservoir containing a hydraulic mass of relatively great inertia and a partition dividing the reservoir into two compartments and adapted to pivot about an axis in case of acceleration or deceleration of the vehicle and in response to the movement of said hydraulic mass. Signal transmitters mounted on the reservoir are ac-

tuated by the movement of the partition and control the trim correctors by means of valves.

3,539,198

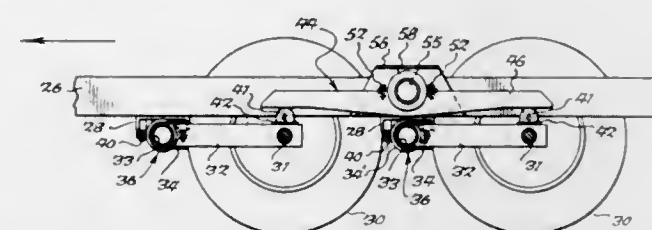
TANDEM WHEEL COMPRESSION RUBBER SPRING SUSPENSION

Albert F. Hickman, 8009 N. Gowanda State Road, Eden, New York 14057

Continuation-in-part of application Ser. No. 591,899, Nov. 3, 1966, now Patent No. 3,410,573. This application
May 7, 1968, Ser. No. 727,182
Int. Cl. B60g 5/00

U.S. Cl. 280—104.5

2 Claims



The vehicle frame has a pair of rubber-tired wheels at each side rotating on generally horizontal parallel axes one in advance of the other and the spring suspension includes a walking beam journaled intermediate its ends on each side of the frame about an axis intermediate and parallel with the wheel axes. An arm has one end journaled on a companion wheel and extends lengthwise of the vehicle line of travel and its other end is journaled on the frame on an axis generally parallel with the wheel axes. A vertically compressible rubber body is interposed between such one end of each arm and the adjacent walking beam end and each body expands horizontally to provide, jointly, the predominant resilient support for the frame on the rubber-tired wheels. Preferably each arm projects rearwardly from its fulcrum axis with reference to the vehicle travel and its hub is a cross shaft extending from the arm toward the center of the frame and supported at its opposite ends by spaced frame bearings which are preferably of the torsion rubber bushing-type to be friction free.

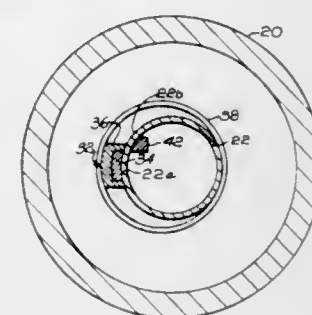
3,539,199

EXPLOSIVE OPENING OF A FLUID CONTAINER

George A. Ekstrom, Southfield, Michigan, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio a corporation of Ohio
Filed Sept. 20, 1967, Ser. No. 669,106
Int. Cl. B60r 21/00

U.S. Cl. 280—150

9 Claims



A fluid container stores fluid under pressure for operating a vehicle safety device in the form of an expansible confinement. The fluid container is opened to release the fluid for flow therefrom and to the confinement. An explosive means in cooperation with a means acting to oppose the explosive forces acting on the container effect opening of the container by a shearing action.

3,539,200

VEHICLE SAFETY DEVICE

Richard Chute, Huntington Woods, Michigan, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio a corporation of Ohio

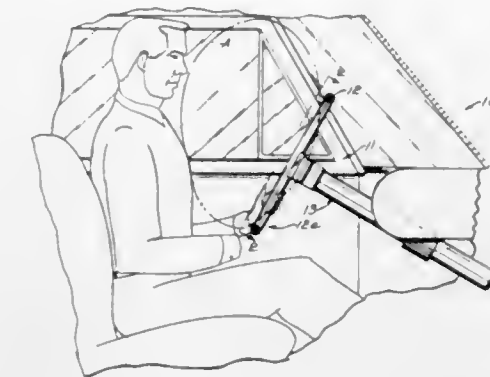
Filed Oct. 12, 1967, Ser. No. 674,810
Int. Cl. B60r 21/00

U.S. Cl. 280—150

17 Claims

A safety device for protecting a driver of a vehicle comprises an inflatable confinement, a diffuser member, and a

fluid reservoir all of which are supported in association with the steering wheel of the vehicle. The inflatable confinement has a contracted inoperative condition and an expanded



operative condition. The confinement is inflated by the flow of fluid from the fluid reservoir through the diffuser member and into the confinement.

3,539,201

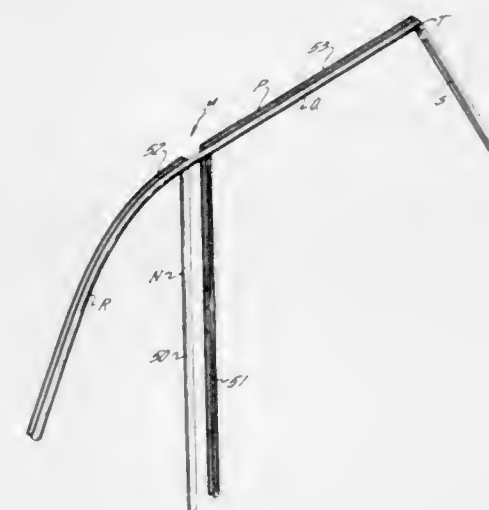
AUTOMOTIVE PROTECTIVE DEVICE

Theodore Loew, Schenectady, New York, assignor, by mesne assignments, to The Standard Products Company, a corporation of Ohio

Filed April 18, 1968, Ser. No. 722,474
Int. Cl. B60r 21/04

U.S. Cl. 280—150

5 Claims



The disclosure sets forth the construction and composition of automotive protective devices, particularly padding materials which may be assembled interiorly of an automotive vehicle and act as shields or buffers to prevent violent contact of the body of the driver or passenger of a vehicle with the interior framework of the vehicle. In a preferred form of the present invention a harness is provided which is shaped to conform to the interior structure of the automotive vehicle and this harness is then utilized to carry a protective padding which projects within the interior of the vehicle and prevents violent contact by the body of the driver or passenger with the interior in case of sudden stops or collisions. The padding desirably consists of an elongated material which may be cylindrical in shape having a central foam body encircled by a plastic covering which may carry a decorative design. The mounting member desirably consists of a joiner or edge gripping which may be mounted on interior ledges of the automotive vehicle, to which the plastic cylindrical padding or expanded material may be readily attached. This attachment may be formed by means of heat and pressure or by an adhesive, but is desirably prepared by insertion of an electrically heated knife between the two elements to be adhered together, followed by withdrawal of the knife and attachment of the padding to the edge-binding or framing members.

3,539,202

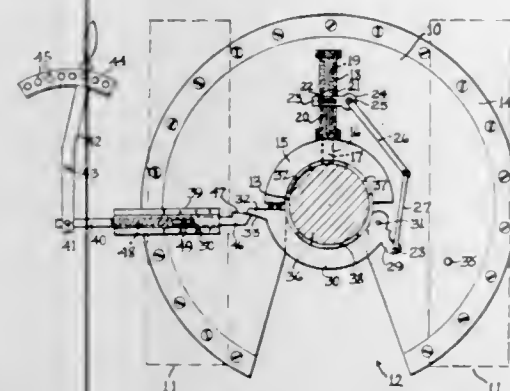
FIFTH WHEEL LOCKING MECHANISM

Permil N. Nelson, Galesburg, Illinois, assignor to Lynn H. Ewing doing business as Blackhawk Company, Rock Island, Illinois

Filed Oct. 21, 1968, Ser. No. 769,158
Int. Cl. B62d 53/12

U.S. Cl. 280—434

4 Claims



A locking mechanism for the coupling pin connection between a tractor unit and a semitrailer which provides a positive three point bearing contact between the coupling pin and the connecting plate, the latter including an automatic locking unit movable in response to the position of the coupling pin relative to the connecting plate.

3,539,203

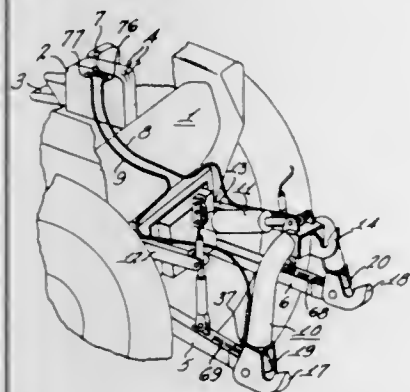
DRAFT HOOK LATCH

Robert T. Baugh, Brookfield, Wisconsin, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin
Filed April 4, 1969, Ser. No. 813,580

Int. Cl. B60d 1/10

U.S. Cl. 280—504

10 Claims



A draft hook with latching means for coupling a draft vehicle to an implement.

3,539,204

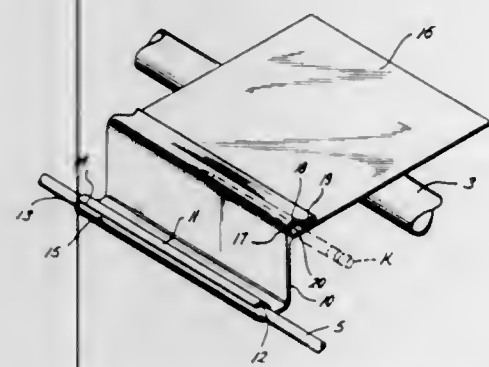
CLIP BOARD FOR A SHOPPING CART

Theodore F. Keller, 3400 Montrose, Houston, Texas 77006

Filed May 3, 1968, Ser. No. 726,444
Int. Cl. B42f 1/02

U.S. Cl. 281—45

1 Claim



A clip board for attachment to a shopping cart for holding grocery lists and the like, the board comprising a composite unitary structure formed by extrusion of a thermoplastic material, and including as integral parts thereof a panel

board, a clip for securing the board to a cart member, a flexible lip for resiliently clamping a paper to the board, and a receptacle for a pencil or the like.

ERRATUM

For Class 285—5 see:
Patent No. 3,539,166

3,539,205

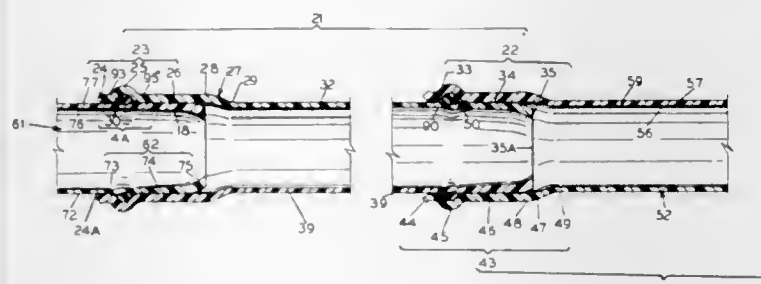
IRRIGATION PIPE SYSTEM AND PIPE UNITS THEREFOR

James Burl Johnson, Jr., Horace Bishop Lindly, and William Jackson Ogle, Lubbock, Texas, assignors to Gifford-Hill-Western, Inc., Lubbock, Texas a corporation

Filed Oct. 9, 1968, Ser. No. 766,067
Int. Cl. F16l 55/00, 31/00

U.S. Cl. 285—5

4 Claims



Water distribution system formed of one piece plastic units with thickened end portions forming watertight seal that automatically distributes longitudinal stress along members of a series of such pipe elements; water distribution pipe units each comprising integral plastic pipe, bell and spigot portions, integral gasket seat and thickened portions; an apparatus for manufacture of plastic pipe units comprising an axially movable shaped mandrel with an expanding plate movable with smoothly increasing eccentricity, and process of pipe unit manufacture comprising steps of continuously extruding a pipe of varied wall thickness and forming joints through thickened portions.

3,539,206

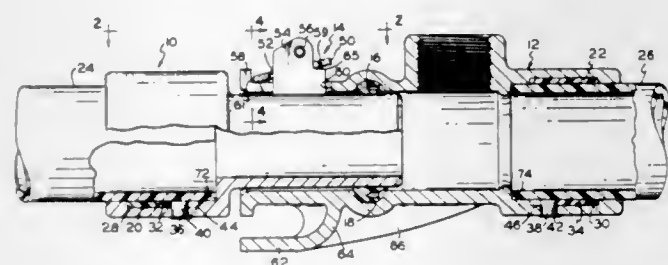
IRRIGATION COUPLING

Lyndle G. Gheen and Paul J. Daniels, Eugene, Oregon, assignors to R. H. Pierce Manufacturing Company, Eugene, Oregon a corporation of Oregon

Filed Dec. 12, 1968, Ser. No. 783,249
Int. Cl. F16l 55/00, 39/00

U.S. Cl. 285—5

8 Claims



A polyvinyl pipe is secured and sealed to a coupling in the field by inserting a flexible polyurethane sleeve into an annular groove in a coupling with a keying pin in the coupling projecting into a keying slot in the sleeve. The pipe and sleeve are then bonded together by a solvent cement. The coupling includes a male member having a splining post projecting into a slot in a female member. A latching plate on the splining post engages a flange on the female member to connect the members for tension.

3,539,207

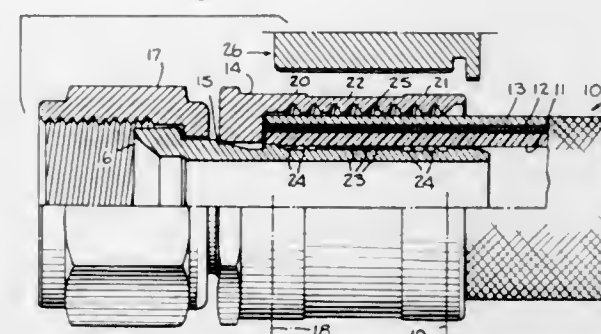
SWAGED-TYPE HOSE FITTING AND METHOD OF ASSEMBLY

John B. Harris, Clifton, New Jersey, assignor to Resistoflex Corporation, Roseland, New Jersey a corporation of New York

Filed Feb. 28, 1969, Ser. No. 803,243
Int. Cl. F16l 33/20

U.S. Cl. 285—256

10 Claims



A swaged fitting is described wherein the outer diameter of a cylindrical socket has an intermediate section of lesser diameter than the end portions such that after swaging the end portions are contracted to a greater extent than the intermediate portions. The nipple has annular grooves of smaller dimension along its intermediate section than at either end in order to provide improved sealing.

3,539,208

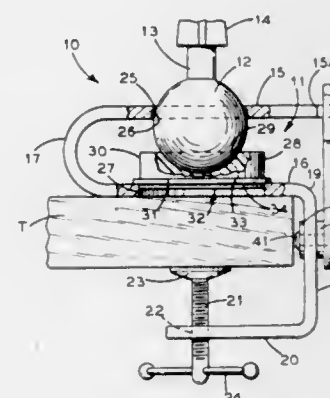
LOCKING MEANS FOR BALL AND SOCKET JOINT

George E. Gonsalves, Brooklyn, New York, and Felice Dosso, Staten Island, New York (both of 623 Bergen St., Brooklyn, N.Y. 11238)

Filed April 21, 1969, Ser. No. 817,735
Int. Cl. F16c 11/06

U.S. Cl. 287—12

4 Claims



A ball and socket joint having means for locking the ball portion of the joint in any selected position thereof, the locking means being of the cam type to provide quick action grip and release means to facilitate rapid adjusted movements of the ball portion of the joint.

3,539,209

HANDLE-STEM FOR A BICYCLE

Shinji Takashima, Fujisawa-shi, Japan, assignor to Miyata Industry Co. Ltd., Chigasaki-shi, Japan a corporation of Japan

Filed March 24, 1969, Ser. No. 809,901

Claims priority, application Japan, Sept. 2, 1968 (utility model) 43/72,886

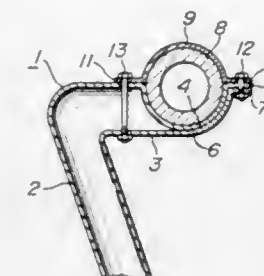
Int. Cl. F16b 2/06

U.S. Cl. 287—54

1 Claim

A handle-stem for a bicycle, including a substantially vertical and substantially horizontally integral sections, said horizontal section having adjacent its forward end a recessed upper wall portion of semi-circular cross section and an arcuate lower wall portion extending along the lower surface of said recessed upper wall portion in close contact relationship therewith, said recessed upper wall portion being adapted to

receive therein a handlebar at the intermediate portion thereof, said recessed upper wall portion and said arcuate lower wall portion having integral flanges extending forwardly therefrom, respectively, in laminated relationship with each other, said recessed upper wall portion being adapted to receive therein a handlebar at its intermediate portion, and a



holding piece adapted to be applied over said handlebar intermediate portion and tightly fastened at one end against said laminated flanges and at the other end against the portion of said upper wall adjacent the rear edge of said recessed upper wall portion by means of bolts and nuts, whereby the handlebar may be rigidly mounted on said handle-stem.

3,539,210

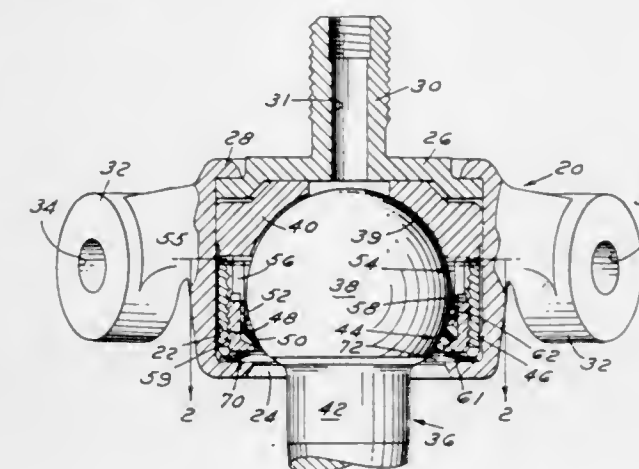
PIVOT JOINT AND RATCHET MEANS

William C. Wehner, Detroit, Michigan; Lawrence H. Fitch, Cahokia, Illinois and Louis P. Fister, St. Louis, Missouri, assignors to Moog Industries, Inc., St. Louis, Missouri a corporation of Missouri

Filed May 2, 1968, Ser. No. 726,026
Int. Cl. F16c 11/06

U.S. Cl. 287—87

8 Claims



This disclosure relates to an automatically adjustable pivot joint, including; a housing having a stud receiving chamber, a stud head received within the chamber normally in bearing engagement with the primary bearing, adjustable secondary bearing means urging the stud head into bearing engagement with the primary bearing, and a ratchet means. The ratchet means disclosed herein includes an annular ring having a plurality of integral inwardly struck resilient ratchet tangs, extending at an acute angle to the plane of the ring, engaging teeth provided on one of the movable members of the adjustable secondary bearing, permitting adjustment and restraining movement of the member in the opposite direction.

3,539,211

CONNECTOR JOINT FOR A HORIZONTAL FRAME AND VERTICAL FRAME SUPPORT

Oscar Dobarganes, 505 E. 59th St., Hialeah and Francisco Mendez, 3040 NW 21st Court, Miami, Florida

Filed March 26, 1969, Ser. No. 810,556

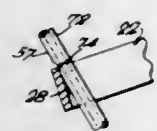
Int. Cl. F16b

U.S. Cl. 287—189.36

16 Claims

A connector joint for a horizontal frame having side rails and a corner support including a U-shaped saddle extending outwardly from the corner support beneath the frame and a wedge shaped key extending downwardly from the frame at

the corner with said key and said saddle being sized to mate and interlock, said key and said saddle being secured to the medial vertical plane of the rail of the frame at the corner



support and of the medial vertical plane of the corner support. Keeper means may be provided to releasably resist removal of the key when in the saddle.

3,539,212

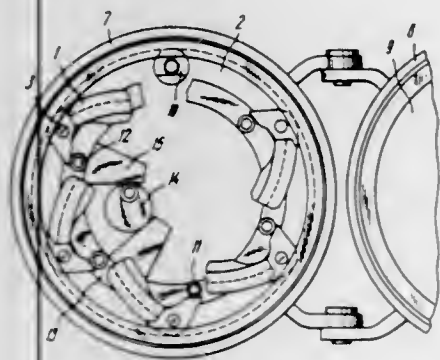
LOCK FOR A QUICK OPENING COVER OF A PRESSURE-RESISTANT SHELL

Alexandr Pavlovich Poltorak, ul. Schorsa, 18-a kv. 60, Donetsk, U.S.S.R.

Filed July 12, 1968, Ser. No. 744,530
Int. Cl. E05c 3/16, 9/00

U.S. Cl. 292-49

1 Claim



A pressure-resistant shell has an openable cover on a housing secured by a lock. The lock has clips constituted as pivotal levers mounted on the shell, and mating edges of the cover and housing are embraced by shelves on the levers bounding grooves in which the mating edges are received when the levers are moved in common by a drive therefor.

3,539,213

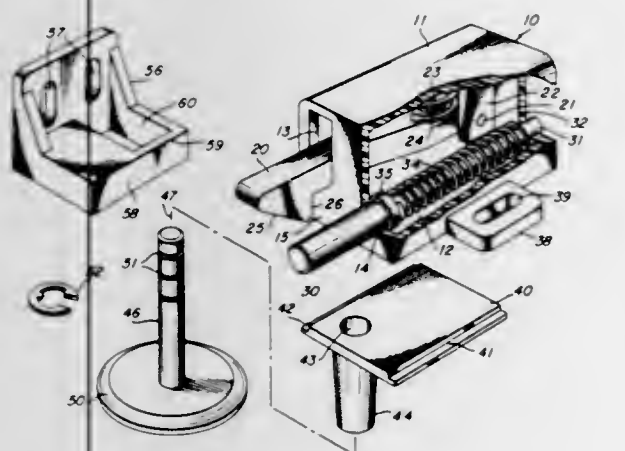
LATCH MECHANISM

Willie L. Attaway, 13521 Red Fern Lane, Dallas, Texas 75240
Filed March 3, 1969, Ser. No. 803,627

Int. Cl. E05c 19/12

U.S. Cl. 292-127

5 Claims



A rectangular housing is provided with a closed top and a removable bottom. Openings in one side of the housing permit the extension of a latch member and a plunger. The latch member is pivotally mounted within the housing and is spring-loaded to a locked position; the plunger is spring-loaded to extend from the housing. A removable bottom is provided with a tubular guide for receiving a trigger shaft

slidably mounted therein. The trigger shaft is positioned beneath the latch member to cause the latter to pivot to an unlocked position. The trigger shaft extends from the housing through the tubular guide and terminates in a flared end to facilitate manual actuation of the latch member. A latch plate includes a surface positionable opposite the openings in the housing for abutment with the plunger; further, the latch plate includes an opening to receive the portion of the latch member extending from the housing to secure the latch plate in position.

3,539,214

ADJUSTABLE MAGNETIC PLATE STRIKER

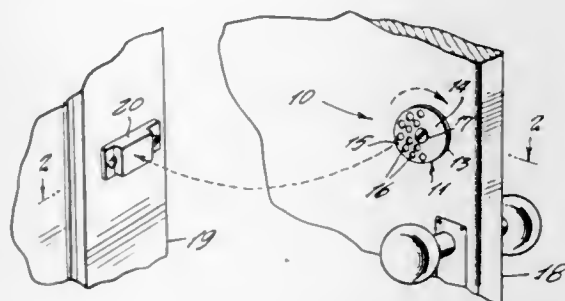
Raymond Fisher, Otter River Road, Templeton, Mass. 01468

Filed Dec. 2, 1968, Ser. No. 780,331

Int. Cl. E05c 1/08, 17/56

U.S. Cl. 292-251.5

3 Claims



A metal striker plate for magnetic catches, the plate having means for adjustable magnetic holding force, the plate comprising a flat member having a portion thereof perforated with openings so to present less metal to the magnet, thus decreasing the magnetic tension and retaining force when this area is selectively aligned therewith.

3,539,215

CLOSURE LOCKING DEVICE

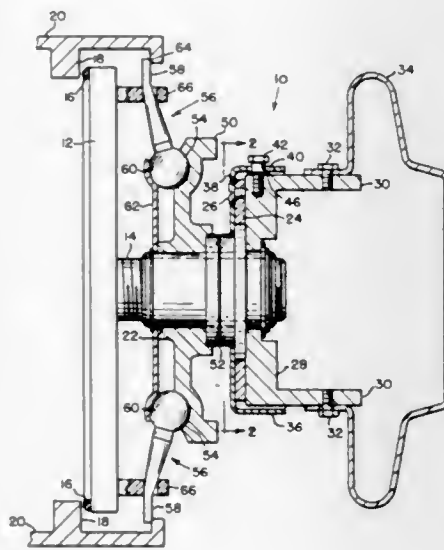
Norman E. Lauterbach, Pittsford, New York, assignor to Ritter Pfaudler Corporation, Rochester, New York a corporation of New York

Filed Sept. 24, 1968, Ser. No. 761,905

Int. Cl. B65d 45/02; F16d 7/02; A47d 36/10

U.S. Cl. 292-256

6 Claims



A locking device for a door is disclosed, which allows the door to be closed and held, with a predetermined force, in the closed position. The door closure is adapted to be used on a sterilizer door locking mechanism and allows the door to be tightly closed to a predetermined force which is sufficient to seal the door during sterilization, but is not great enough to damage the door seals after repeated closings. When the predetermined force is reached upon closing the door, the hand wheel urging that force, slips and prevents additional force from being applied to the door seal.

3,539,216

PICKUP DEVICE

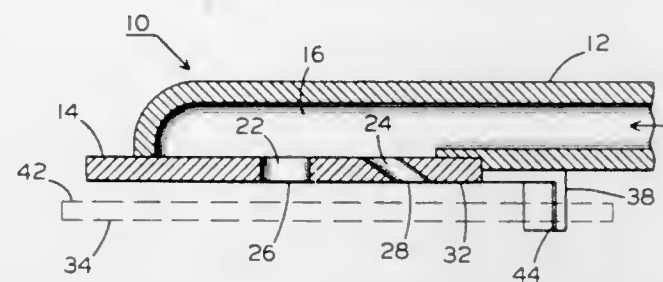
Edward C. Forcier, Worcester, Massachusetts, assignor to Sprague Electric Company, North Adams, Massachusetts, a corporation of Massachusetts

Filed Jan. 11, 1968, Ser. No. 697,107

Int. Cl. B66c 1/02

U.S. Cl. 294-64

8 Claims



A fluid flow is provided in radially opposite directions over the surface of a work piece to provide lift and a fluid flow is directed over the surface towards depending members of the device to urge the work piece against the members and restrict its lateral movement.

3,539,217

SELF-RELEASING CARGO HOOK

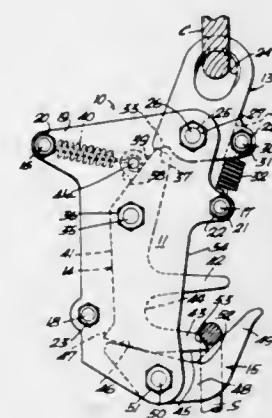
Otto E. Szekely, 3140 SW. 62nd Court, Miami, Florida 33155 (Apt. Norwich M 290, Century Village, West Palm Beach, Florida 33401)

Filed Oct. 15, 1968, Ser. No. 767,702

Int. Cl. B64d 17/38

U.S. Cl. 294-83

8 Claims



A self-releasing cargo hook having a main hook member and a safety latch member both rotatively journaled with respect to the hook body and having interacting cam-action walking beam mechanism operative, upon the weight of the cargo load sling being applied to a hook portion of the safety latch member at the beginning of the lifting operation, to rotate the safety latch member and the cooperative main hook member from unlatched and released positions, respectively, to latched and sling-hooking positions, the hook portion of the safety latch moving so as to deposit the cargo load sling into the crotch of the main hook member just prior to completion of the latching operation. Additionally, cam mechanism controlled by the force imposed by the weight of the cargo being lifted is provided for locking the safety latch member in place upon the load being lifted from the ground. Upon deposit again of the load, the safety latch locking mechanism will first be released, after which, upon slackening of the sling, the safety latch mechanism will return to unlatching position and the cooperative hook member will swing to open position to automatically release the cargo sling.

3,539,218

MACHINE FOR THE PRODUCTION OF FROZEN STICK CONFECTIONS

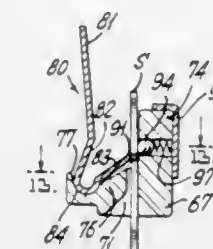
Roscoe T. Fowler, Ellicott City, Maryland and Harold B. Kaufman, Jr., New York, New York, assignors to DCA Food Industries, Inc., New York, New York a corporation of New York

Original application Aug. 23, 1967, Ser. No. 662,696, now Patent No. 3,450,070. Divided and this application Sept. 9, 1968, Ser. No. 770,883

Int. Cl. B66c 1/10

U.S. Cl. 294-87

4 Claims



In a machine for continuously forming frozen confections, in which successive mold strips are transported through filling, freezing, stick inserting and extraction stations, the mold strips each include a plurality of laterally spaced pairs of separate open-topped molds, and longitudinally spaced hoppers are provided with longitudinally spaced sets of metering pumps and mold filler nozzles, the nozzles of one set being aligned with one of the molds of each pair and the nozzles of the other set being aligned with the other molds, the nozzles being actuated when respective molds are vertically aligned therewith. The stick extractor includes an extractor bar provided with a jaw member for each pair of sticks which have associated therewith opposing pairs of laterally spaced detent elements urged toward the jaw members to permit the positive engagement of corresponding pairs of sticks which may differ in thickness.

3,539,219

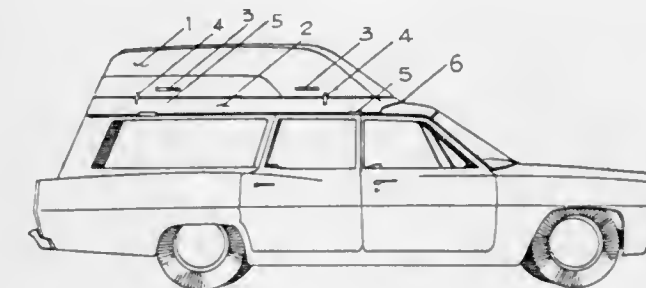
VEHICLE TOP RECREATION PACKAGE

Edward G. Mueller, 5424 Parker St., Omaha, Nebraska 68104
Filed Aug. 12, 1968, Ser. No. 752,004

Int. Cl. B60p 3/34

U.S. Cl. 296-23

9 Claims



A combination boat used as a cover for a folding tent to be mounted on top of a vehicle, the tent and its component parts in its collapsed position being fully enclosed within the overturned boat-cover. The tent is erected after removal of the boat-cover.

3,539,220

SEAT TILTING CHAIR

Henry Aguilar, 1309 27th Ave., San Francisco, California
Filed Oct. 31, 1968, Ser. No. 772,262

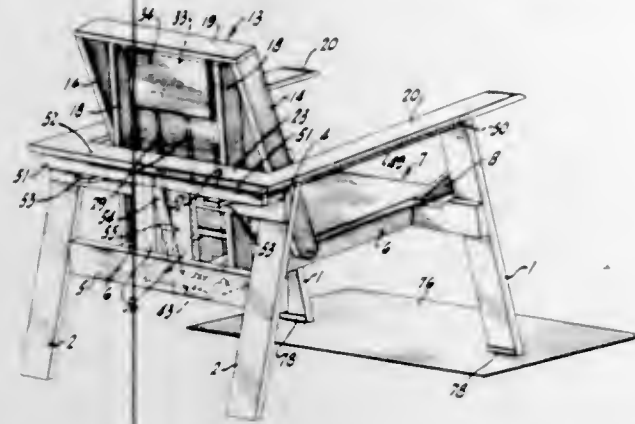
Int. Cl. A47c 1/032

U.S. Cl. 297-320

12 Claims

A chair having a generally horizontally disposed seat pivotally mounted for tilting about an axis parallel with its forward edge under a continuously-applied force of progressively decreasing strength proportionate to progressive changes in the position of the center of gravity of the body of a person rising in a normal manner from a fully seated position.

tion on said seat, and which seat is returnable from tilted position under progressively increasing resistance as the



weight of said person is applied to said seat in a normal seating operation.

3,539,221

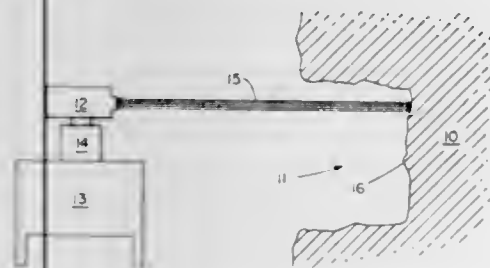
TREATMENT OF SOLID MATERIALS

Robert A. Gladstone, 9 Glen Road, Newton Centre, Mass. 02159, and Anthony Kettaneh, 77 Browne St., Brookline, Mass. 02146

Filed Nov. 17, 1967, Ser. No. 684,044
Int. Cl. E21c 37/16

U.S. Cl. 299—14

18 Claims



A method for weakening a solid material, such as a rock formation, by directing a beam of electromagnetic energy generated, for example, from a laser source toward the material to cause it to impinge thereon and to penetrate beneath the surface thereof. The energy is preferably in the form of a collimated beam having a wavelength selected so that the energy is substantially absorbed by the material.

3,539,222

PNEUMATIC CONVEYOR

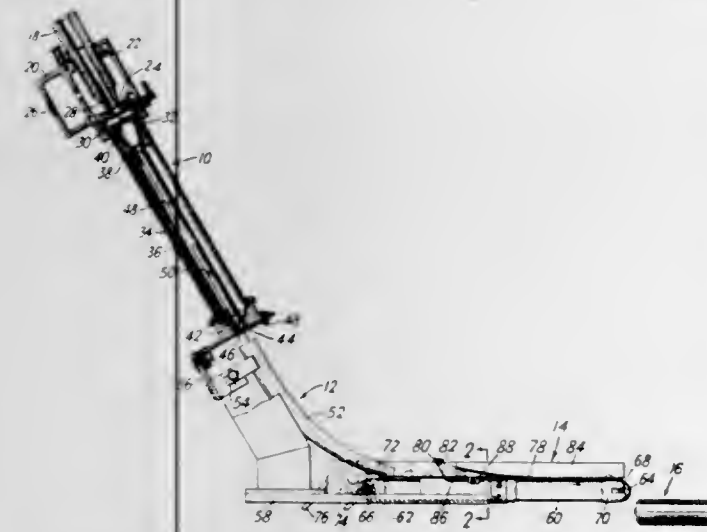
Frank Hollenton and John L. Jagalls, Richmond, Virginia, assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed May 20, 1968, Ser. No. 730,315
Claims priority, application Great Britain, May 30, 1967, 24,919/67

Int. Cl. B65g 53/50

U.S. Cl. 302—2

6 Claims



An air lock device for the terminus of a pneumatic cigar conveyor having means for controlling the air and additional means for controlling the removal of the article therefrom.

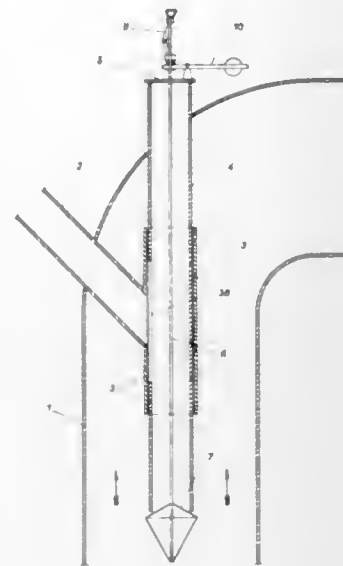
3,539,223

SYSTEM FOR THE INTRODUCTION OF POWDERY MATERIAL INTO AN ENCLOSURE CONTAINING A GAS

Rene Bovagne, Chalon-Sur-Saone, France, assignor to Societe Des Forges Et Ateliers Du Creusot, Paris, France a company of France
Filed Sept. 16, 1968, Ser. No. 762,188
Claims priority, application France, Feb. 7, 1968, 138950
Int. Cl. B65g 53/40

U.S. Cl. 302—36

11 Claims



This invention is concerned with apparatus for feeding pulverulent material to a gas charged enclosure, the apparatus including a supply duct extending into a conduit in the enclosure which conduit has a control valve.

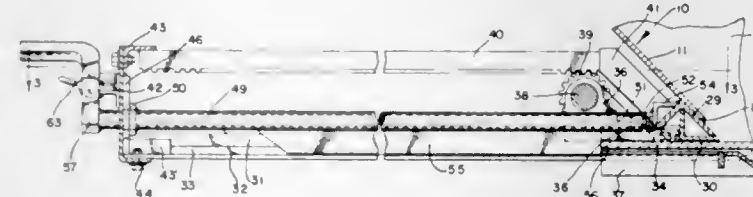
3,539,224

HOPPER CAR GRAVITY GATE AND PNEUMATIC PAN LATCH

Frank A. Beezhold, Lansing, Illinois, assignor to Pullman Incorporated, Chicago, Illinois a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 698,011
Int. Cl. B61d 7/20, 7/32; B65d 53/50

U.S. Cl. 302—52

7 Claims



In a hopper having a discharge outlet, a closure gate and a pneumatic discharge pan are provided which slide on a frame disposed underneath the hopper from one side thereof horizontally to a closed position. To maintain the closed position of the gate and pan during train operation a lock arrangement is provided which includes a rotatable element having an abutment means which in one position is disposed in the path of sliding movement of the closure gate and the pan to lock the same in position. The abutment means is rotatable about an axis transverse to the direction of movement of the closure gate and pneumatic discharge pan into an out-of-the-way position whereupon the discharge gate and pan can be moved to an open position supported on the frame.

3,539,225

SULFUR-OIL SLURRY PIPELINE TRANSPORTATION UNDER INERT GASEOUS CONDITIONS

Mary Frances Vondrak, Houston, Texas, assignor to Shell Oil Company, New York, New York a corporation of Delaware
Filed Oct. 30, 1968, Ser. No. 774,217
Int. Cl. B65g 53/04

U.S. Cl. 302—66

10 Claims

An improved method of transporting sulfur-liquid hydrocarbon slurries through pipelines without causing plugging or corrosion of the pipelines by maintaining an inert atmosphere therein.

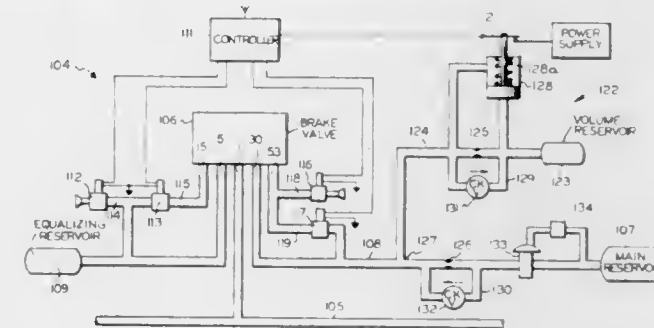
3,539,226

OVERRIDE-NULLIFYING SCHEME FOR TRAIN CONTROL SYSTEM

Wayne H. Barber, Watertown, New York, assignor to General Signal Corporation, a corporation of New York
Filed Feb. 10, 1969, Ser. No. 797,776
Int. Cl. B60t 13/68

U.S. Cl. 303—20

5 Claims



A train control system in which a slave locomotive is controlled by command signals transmitted from a remote master locomotive. A selectively operable override control maintains previously commanded propulsion and braking conditions at the slave locomotive in the event of a discontinuity in signal transmission, and an override-nullifying control automatically causes the slave locomotive to idle and prevents its brake valve from admitting air into the trainline brake pipe when the rate of change of flow into the brake pipe at the slave unit exceeds a predetermined value.

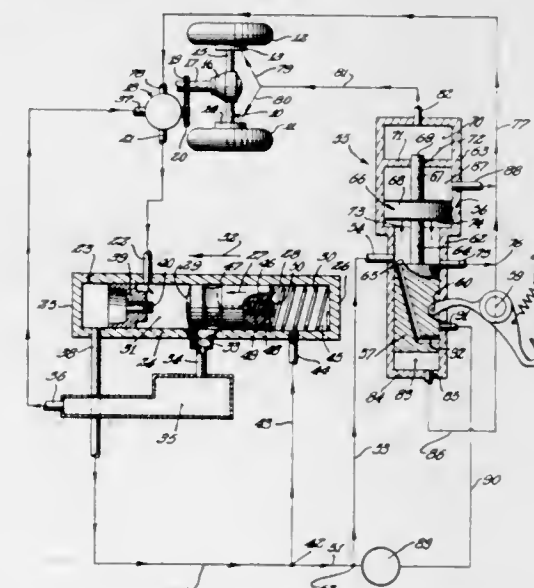
3,539,227

HYDRAULIC POWER BRAKE SYSTEM WITH SKID CONTROL

Gilbert H. Drutchas and Hubert M. Clark, Birmingham, Michigan and Harold R. Scibbe, Chardon, Ohio, assignors to TRW Inc., Cleveland, Ohio a corporation of Ohio
Filed Nov. 7, 1968, Ser. No. 774,143
Int. Cl. B60t 8/06, 8/14

U.S. Cl. 303—21

14 Claims



An antiskid control device having a fluid pump means driven by the vehicle drive shaft and having an inertial valve balanced against fluid pressure from said pump means to regulate the pressure of a fluid pressure signal delivered to a

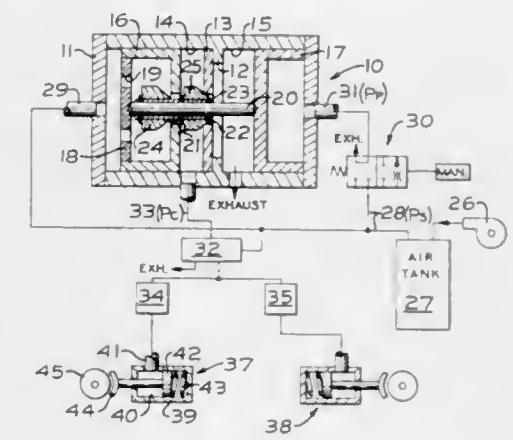
3,539,228

PRESSURE CONTROL VALVE

Donald L. Smith, Peoria, Illinois, assignor to Caterpillar Tractor Co., Peoria, Illinois a corporation of California
Filed Oct. 22, 1968, Ser. No. 769,482
Int. Cl. B60t 8/26, 15/00

U.S. Cl. 303—40

6 Claims



A pressure control valve of the inverter type is employed in a hydropneumatic braking circuit and comprises spaced pistons reciprocally mounted therein and connected together by a rod for simultaneous movement. Selective pneumatic actuation of the pistons sequentially opens and closes spaced poppet valve members, slidably mounted on the rod, for engaging a normally disengaged hydraulic brake or the like.

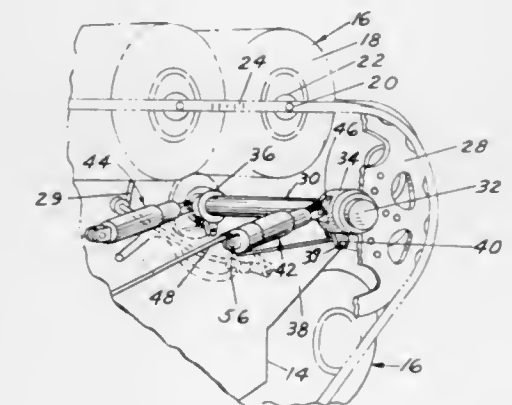
3,539,229

TRACK TENSION OVERLOAD DEVICE

Andrew J. Scully, Warren, Michigan, assignor to The United States of America as represented by the Secretary of the Army
Filed Feb. 10, 1969, Ser. No. 797,739
Int. Cl. B62d 55/30

U.S. Cl. 305—10

5 Claims



A track tension device having telescopic cylinders which contract automatically during overload conditions above a preset value. The device resists working loads within a predetermined range by maintaining the cylinders at a con-

stant length so that initial track tension may be set low enough to provide good efficiency. Under overload conditions the hydraulic pressure in a primary chamber exceeds the preset limit of a high pressure relief valve allowing efflux of fluid into a secondary chamber causing a resiliently biased piston to yield with the resultant telescoping of the cylinders. A low pressure check valve allows the working fluid to return to the primary chamber when the overload condition is removed.

3,539,230

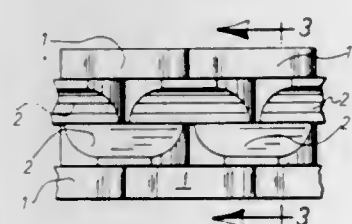
ENDLESS TRACKS FOR TRACED VEHICLE

Edouard Martin Comellas, 40 de la Fonderie St., Cap de la Madeleine, Montreal, Quebec, Canada
Filed Oct. 30, 1968, Ser. No. 771,899

Int. Cl. B62d 55/20

U.S. Cl. 305-38

6 Claims



A track for a tracked vehicle having series of ground-engaging elements set longitudinally in a plurality of adjacent rows, said ground-engaging elements being either driving or wheel guide elements, the elements of any one row being staggered relative to the elements of the adjacent row or rows, said ground-engaging elements being articulated by transverse rod arrangements and said wheel guide elements being provided with longitudinal guiding ridges having a transversely curved surface adapted to define a smooth gradual clearance between the curved surface and cooperating wheels of the tracked vehicle.

3,539,231

CAGE FOR ROLLING BEARINGS

Hakon Olof Scheibe Langstrom, Goteborg, Sweden, assignor to Aktiebolaget Svenska Kullagerfabriken, Goteborg, Sweden a corporation of Sweden

Filed Oct. 28, 1968, Ser. No. 770,980

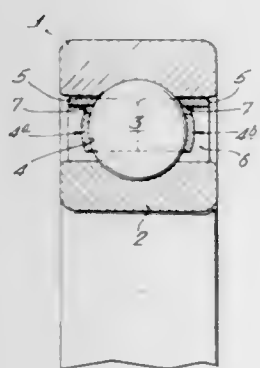
Claims priority, application Sweden, Oct. 27, 1967,

14,706/67

Int. Cl. F16c 1/24, 33/38

U.S. Cl. 308-187

1 Claim



A rolling bearing assembly having a cage with circumferentially arranged pockets having rolling elements therein. Radial and axial passageways are provided in the pockets of the cage for the passage of lubricant. Each of the pockets are arranged to have a greater clearance at diametrically opposed areas to obtain a predetermined thickness of lubricant between the rolling element and the cage.

3,539,232
ROLLER BEARINGS

Robert S. Batt, Barby, near Rugby, England, assignor to The Torrington Company Limited, Coventry, Warwickshire, England

Filed Jan. 31, 1968, Ser. No. 701,923

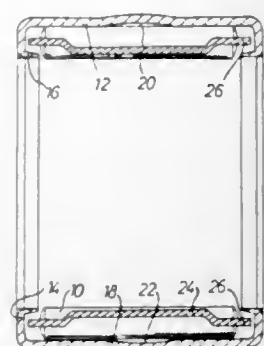
Claims priority, application Great Britain, Jan. 31, 1967,

4615/67

Int. Cl. F16c 13/00

U.S. Cl. 308-212

12 Claims



The invention relates to needle roller bearings of the type wherein a plurality of needle rollers are circularly distributed around the interior of a drawn sheet metal outer bearing race. In a bearing of this type, the invention is especially concerned with enabling the bearing to be self-aligning and achieves this by outwardly bulging a selected region of the outer race to provide a circumferential region of part-spherical configuration externally of the race, at the same time providing a substantial lubricant reservoir beneath the bulge. In another feature, the invention provides a so-called drawn cup bearing with annular end seals cooperating with radially inwardly directed end lips of the outer race to seal the bearing relative to a shaft intended to pass through it. The end seals may be carried by the race end lips or they may themselves have radially directed sealing lips fitting closely around the race lips to define labyrinth seals at the bearing ends.

3,539,233

NEEDLE BEARING AND METHOD OF ASSEMBLING THE SAME

Stig Lennart Hallerback, Vastra Frolunda, Sweden, assignor to AB SKF (Aktiebolaget Svenska Kullagerfabriken), Goteborg, Sweden a corporation of Sweden

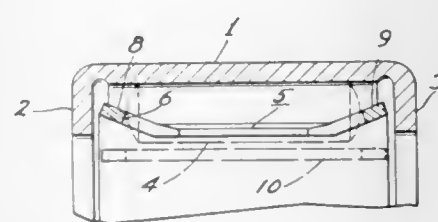
Filed Oct. 15, 1968, Ser. No. 767,794

Claims priority, application Sweden, Oct. 18, 1967, 14228/67

Int. Cl. F16c 15/00

U.S. Cl. 308-213

2 Claims



A needle bearing consisting of a thin-walled flanged outer race ring and a cage for retaining and guiding the needles characterized thereby that its outer race ring is made from thin-walled tubing, for example automatically welded tubing and is provided with flanges by rolling or form pressing, the said bearing having a needle cage made of similar material and having a plurality of axially extending crossbars interconnected at each end by an annular cage portion the outer diameter of which before assembly in the bearing is less than the inner diameter of the flanges of the outer race ring, at least one of the said annular portions of the cage having an outer diameter less than the diameter of the circle which can be inscribed within the set of needles when the latter are located in the outer race ring, the annular portions of the cage after introduction of the cage into the outer race ring being expanded between the flanges of the said outer race ring whereby an extension of the annular portions of the cage will take place mainly between the crossbars thereby altering the cross section and form of the said annular portions.

3,539,234
BUSHING

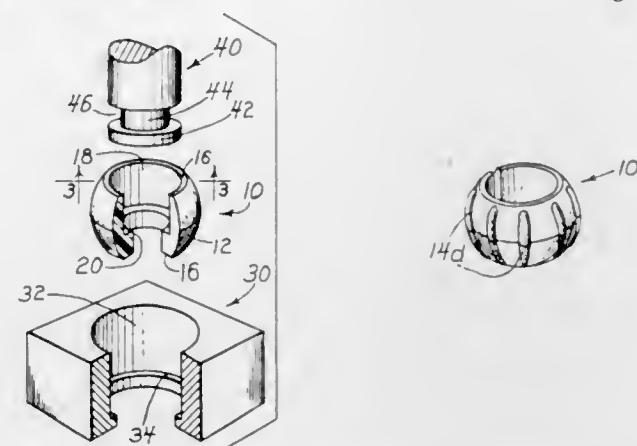
George M. Rapata, Park Ridge, Illinois, assignor to Illinois Tool Works, Inc., Chicago, Illinois a corporation of Delaware

Continuation of application Ser. No. 334,525, Dec. 30, 1963, now abandoned. This application Aug. 31, 1966, Ser. No. 576,485

Int. Cl. F16c 33/04

U.S. Cl. 308-238

8 Claims



One piece bushing of resilient and deformable plastic material for permitting rotational and angular movement of a shank element relative to a bore. The bushing includes a substantially spherical outer peripheral surface having deformable portions which are depressed into adjacent portions by compression forces applied to the bushing by the shaft and bore wall.

3,539,235

FILE

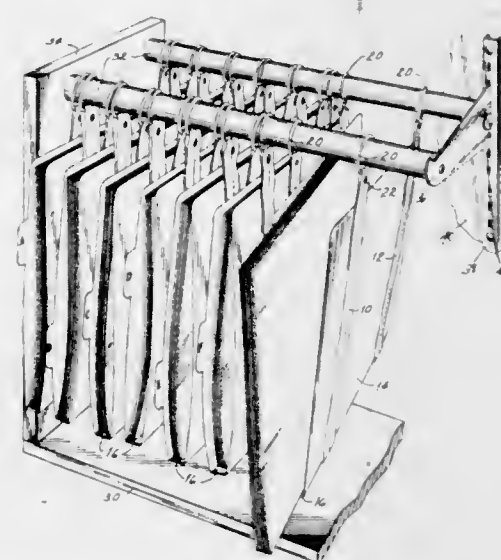
Eduardo Cuenca, 2735 Bel-Aire Circle, Tampa, Florida 33614

Filed Nov. 14, 1967, Ser. No. 682,773

Int. Cl. A47b 63/00; B42f 15/00; A47b 88/00

U.S. Cl. 312-184

10 Claims



A file folder structure with multiple flexible straps, affixed to the exterior surface of a conventional file folder, the ends of the straps having openable rings whereby the folder may be suspended in parallel support bars spanned between two wall structures but preferably two wall mounted brackets.

3,539,236

PEDESTAL DESK WITH DRAWER LOCK

Regis R. Miller, Penn Hills Township, Pennsylvania, assignor to Haskell Manufacturing Co. Inc., Verona, Pennsylvania a corporation of Pennsylvania

Filed Nov. 27, 1968, Ser. No. 779,434

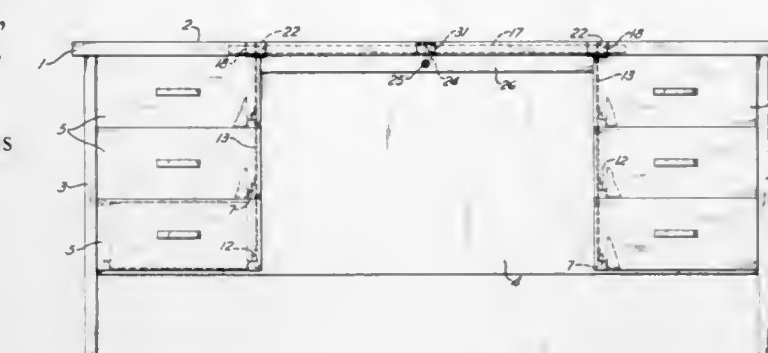
Int. Cl. E05b 65/46

U.S. Cl. 312-221

9 Claims

One or more drawers of a pedestal desk are locked by a vertical locking bar that has a vertical slot in its upper end. Extending lengthwise of the desk through this slot for operating the bar is a longitudinally movable horizontal actuating

bar provided with a recess extending downwardly from its top. The recess has a wall inclined lengthwise of the actuating bar for sliding engagement with the upper end of the slot



when manually operable means move the actuating bar lengthwise, whereby the locking bar is lowered and raised to and from locking position.

3,539,237

COSMETIC STORAGE AND DISPLAY UNIT

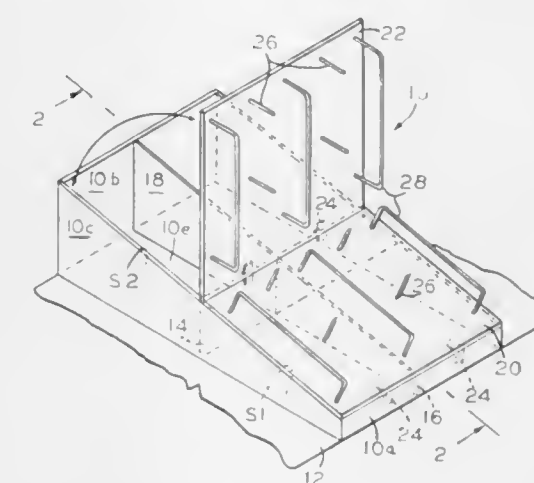
Stanley Acker, Spring Valley, New York, assignor to Cosmetically Yours, Inc., Yonkers, New York a corporation of New York

Filed Sept. 18, 1968, Ser. No. 760,636

Int. Cl. A47b 81/00

U.S. Cl. 312-234

1 Claim



A combination counter display and storage unit for cosmetic merchandise wherein the unit has internal storage compartments for additional merchandise and the displayed merchandise is engagingly supported on pivotally mounted compartment covers so that during opening movement thereof, to obtain access to the stored merchandise, there is no spillage of the displayed merchandise from the display surfaces of the covers.

3,539,238

MULTIPLE COVER CONTROL AND LATCH ASSEMBLY

Henry R. Kruspe and William E. Mott, Lexington, Kentucky, assignors to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed Jan. 29, 1969, Ser. No. 795,002

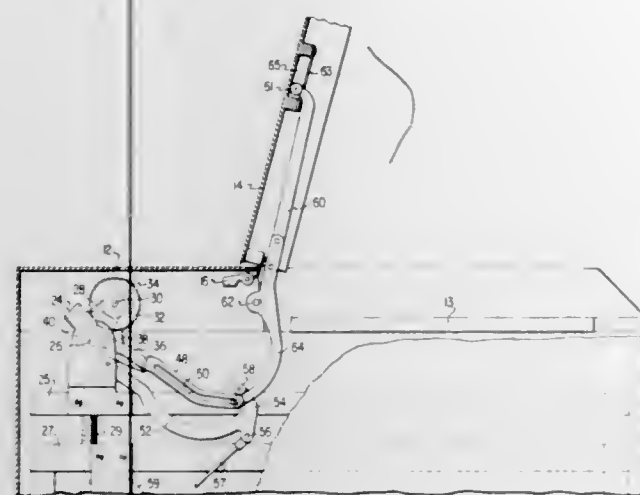
Int. Cl. A47b 46/00

U.S. Cl. 312-291

5 Claims

On a copying machine of the type having a movable carriage, a double cover arrangement is provided such that the outer cover is latched in closed position while the inner cover moves with the carriage to protect the documents thereon. Both covers may be opened simultaneously by means of a suitable interlock and controlled by a counterbalancing arrangement incorporating a reduction gear set with adjustable friction braking means operated by means of a linkage interconnecting the cover arrangement with the counterbalancing

arrangement. The latch for the outer cover is operated in conjunction with a document sensing arrangement to prevent



latching when an oversized document is presented on the carriage.

3,539,239

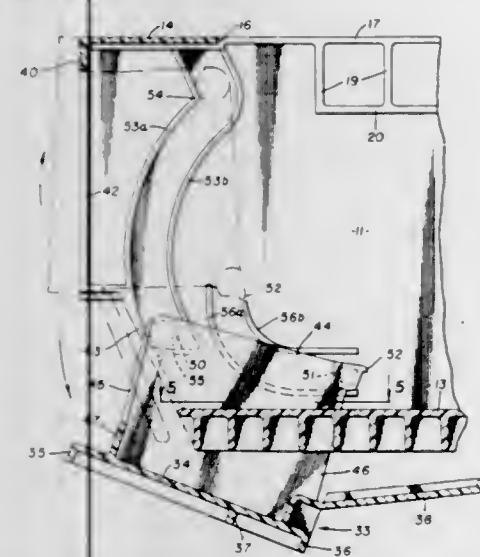
CABINET WITH RETRACTABLE DOOR

Paul C. Mallon, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio a corporation of Ohio
Filed Oct. 23, 1968, Ser. No. 769,780

Int. Cl. A47b 88/00

U.S. Cl. 312-107

9 Claims



A storage cabinet preferably of plastic material adapted to mount on the underside of a wall cabinet and having a front door which slides downwardly to open and retracts under the cabinet, the door having spaced side cam pins slidable in separate tracks on the side walls of the cabinet to guide the door, and interengaging flange means on said cam pins and said tracks to hold the door in closed and open positions.

3,539,240

DRAWER CONSTRUCTION FOR A REFRIGERATOR, CABINET OR OTHER ENCLOSURE

Paul deLorenzo, Warren, Michigan, assignor, by mesne assignments, to Clark Equipment Company, Buchanan, Michigan, a corporation of Delaware

Filed March 11, 1969, Ser. No. 806,071

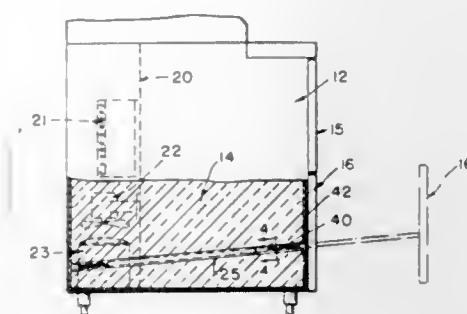
Int. Cl. A47b 88/14

U.S. Cl. 312-133

13 Claims

An insulated refrigerating cabinet enclosure of a sliding door or drawer type has spring-biased tubular return rod units, each including an elongated tubular housing and a spring biased return rod, connected at their ends to opposite sides of the drawer and enclosure, respectively. These units extend front to rear, and at a slight angle to the vertical, through the well-insulated side walls of the enclosure or

cabinet. Each housing tube is fixedly connected at its rear to and within the wall, and the return rod is similarly connected at its front to the forward drawer closure; and antifriction bearings guide the rod for longitudinal slide in the tube. A coil spring encircles each rod adjacent the rear of the latter,



abutting rearwardly against a fixed stop shoulder, so that when the drawer and its return rods are fully extended by a user the spring abuts forwardly against fixed stop means, thereby storing up spring energy. This will commence the rearward return of the drawer when such return is desired and the drawer is accordingly released by the user.

3,539,241

METHOD OF IMAGING TRANSPARENT OBJECTS WITH COHERENT LIGHT

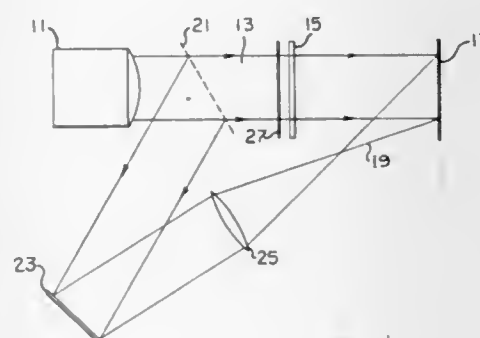
Juris Upatnieks, Ann Arbor, Michigan, assignor to Holotron Corporation, Wilmington, Delaware a corporation of Delaware

Filed May 12, 1967, Ser. No. 638,031

Int. Cl. G02b 5/02

U.S. Cl. 350-3.5

5 Claims



A method of improving the quality of images formed by illuminating nondiffuse transparent objects with coherent light, such as in microholography, wherein undesirable noise and grain is appreciably reduced by illuminating the object with coherent light that is characterized in having constant amplitude and random phase. This type of coherent light may be obtained by inserting a phase modulator in the path of the illuminating light in close proximity to the object, the phase modulator acting to scatter the light at very small angles.

3,539,242

ON-AXIS HOLOGRAPHY

Jack J. Burch and Frank L. Skaggs, Dallas, Texas, assignors to Texas Instruments Incorporated, Dallas, Texas a corporation of Delaware

Filed Nov. 1, 1967, Ser. No. 679,708

Int. Cl. G02b 5/18

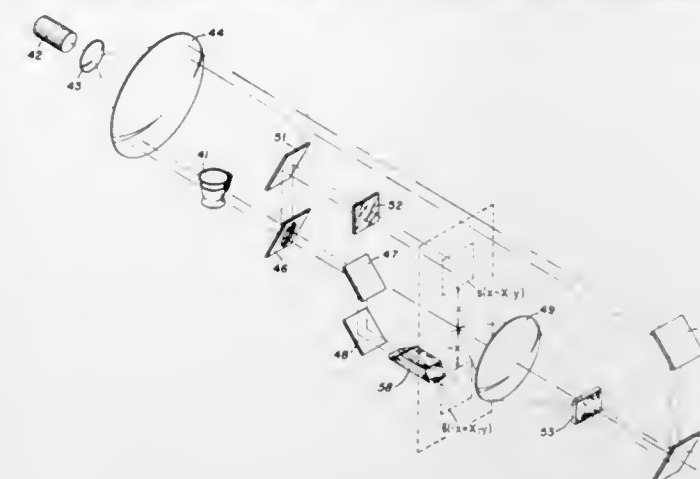
U.S. Cl. 350-3.5

16 Claims

A method of hologram construction wherein a collimated coherent light beam generates a signal wavefront of a function to a recording medium. Light from the function passes through a spherical lens and a Fourier transform is generated on the recording medium located at the front focal plane of the lens. A second collimated coherent light beam is provided to bias the wavefront generated as a result of illumina-

tion of the function such that it is always positive at the recording media. The axis of the wavefront transmitted

through the spherical lens and the axis of the bias beam are coincident.



3,539,243

OPTICAL SYSTEM FOR DAY-NIGHT PERISCPIC SIGHT

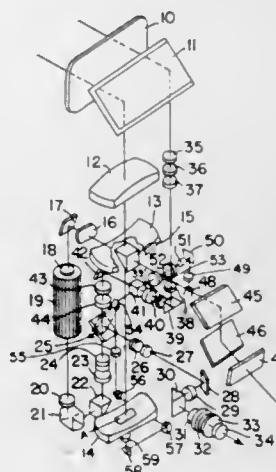
Wright H. Scidmore, Langhorne, Pennsylvania, assignor to the United States of America as represented by the Secretary of the Army

Filed March 10, 1969, Ser. No. 805,563

Int. Cl. G02b 23/08

U.S. Cl. 350-52

1 Claim



A periscope for use with military tanks, the periscope being compact and usable with a three-stage intensifier tube, and possessing high power day and night sighting capabilities as well as unaided day vision.

3,539,244

ELECTROMAGNETIC RADIATION DEFLECTION APPARATUS EMPLOYING ELECTRO-OPTIC OR ELECTRO-ACOUSTICAL DEVICES

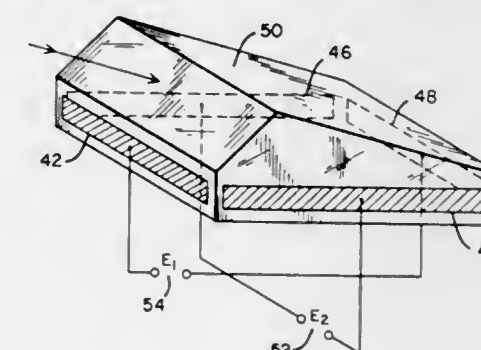
George E. Marks, Minneapolis, Minnesota, assignor to Sperry Rand Corporation, New York, New York a corporation of Delaware

Filed Aug. 23, 1966, Ser. No. 574,372

Int. Cl. G02f 1/28

U.S. Cl. 350-160

2 Claims



The specification describes apparatus incorporating electro-optic or electro-acoustical devices for deflecting elec-

3,539,245

LASER-ACOUSTIC SIGNAL PROCESSOR

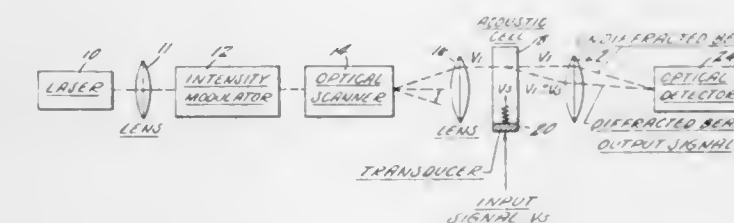
Michael J. Brienza, Vernon, Connecticut, assignor to United Aircraft Corporation, East Hartford, Connecticut a corporation of Delaware

Filed Oct. 4, 1967, Ser. No. 672,924

Int. Cl. G02f 1/00

U.S. Cl. 350-161

3 Claims



An acoustic signal is generated in an acoustic cell such as a quartz bar, and a laser beam is scanned through the cell intersecting the acoustic signal. An undiffracted beam and a frequency shifted beam are produced, and both beams are optically heterodyned at a photodetector to reproduce the acoustic signal. Depending on the rate and direction of laser beam scanning, a time compressed, time expanded or time inverted output signal may be produced. The laser beam may also be intensity modulated to further vary the output signal.

3,539,246

RETROFOCUS LENS SYSTEM

Tomokazu Kazamaki, Tokyo-to, Japan, assignor to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan a corporation of Japan

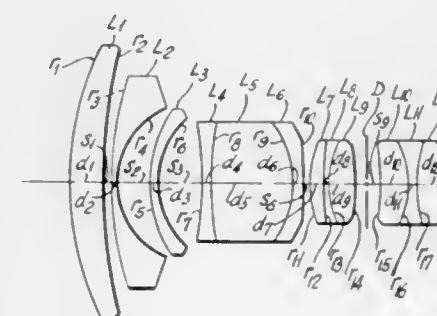
Filed June 26, 1967, Ser. No. 648,909

Claims priority, application Japan, June 30, 1966, 41/42823

Int. Cl. G02b 9/00, 9/62, 11/34

U.S. Cl. 350-215

2 Claims



A compact retrofocus wide angle lens system comprises twelve lenses, the first three lenses being positive, negative and negative respectively, the next three lenses being cemented as a unit and being successively negative, positive and negative, the next three lenses being cemented as a unit and being successively positive, negative and positive and the last three lenses being cemented as a unit and being successively positive, negative and positive. The front face of the fourth lens is flat or concave, the Abbe number of the fourth lens is greater than that of the fifth lens, the refractive index of the fifth lens is greater than that of the sixth lens, the index of refraction of the eighth lens is greater than that of the seventh lens and of the ninth lens and the refractive index of the eleventh lens is greater than that of the tenth lens and that of the twelfth lens.

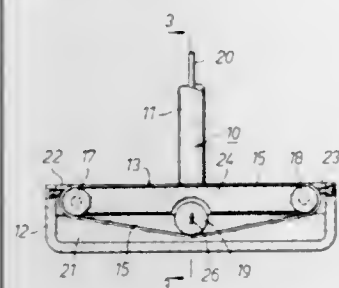
3,539,247

DENTAL MIRROR

Gerald R. Broussard, 1325 Glen Cove,
Richardson, Tex. 75080
Filed Aug. 2, 1967, Ser. No. 657,920
Int. Cl. G02b 5/08

U.S. Cl. 350—308

11 Claims



This application discloses a mirror of the hand-held type used by dentists, the reflecting surface of the mirror including a film which may be moved across the surface for renewing the reflecting qualities. The film may be transparent and overlie a reflective backing, or may be itself reflective, and is either a continuous belt or a tape reeled from supply to take up reels. The housing of the mirror contains a cleaning and wetting agent in which the film is immersed prior to moving into place on the reflecting surface, this agent being effective in preventing fogging.

3,539,248

AUDIO-VISUAL RECORDING AND DISPLAY METHODS AND APPARATUS

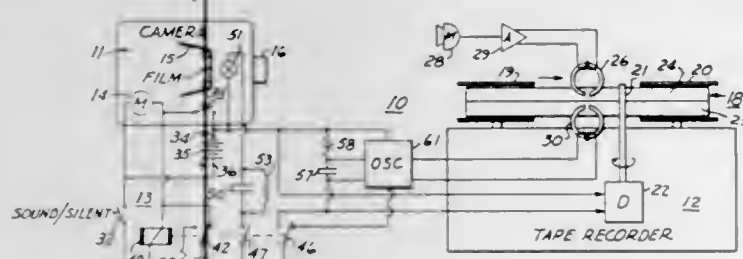
Joseph H. Lancor, Jr., Arcadia, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Nov. 20, 1967, Ser. No. 684,254

Int. Cl. G03b 31/00, 31/04

U.S. Cl. 352—12

26 Claims



Audio-visual display apparatus in which sound accompaniments are automatically started in response to indications on the image film, and in which sound sequences are automatically stopped in response to indications on the sound recording medium; and apparatus for providing audio-visual display media in which start indications for sound sequences are provided on image film, while stop indications for sound sequences are provided on the sound recording medium.

3,539,249

SYSTEM FOR PROJECTING AND VIEWING PICTURES TAKEN WITH A FISH-EYE CAMERA

Philippe Jaulmes, 6 Rue Gerhardt, Montpelier,
Herault, France

Continuation-in-part of application Ser. No. 404,641,
Oct. 15, 1964. This application June 23, 1967, Ser.
No. 654,671

Claims priority, application France, Nov. 20, 1963,
954,429

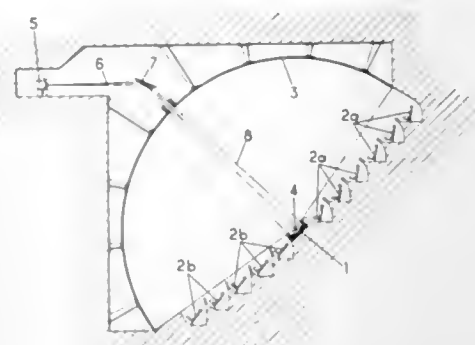
Int. Cl. G03b 37/00

U.S. Cl. 352—69

6 Claims

An arrangement for projecting pictures taken with a fish-eye camera on a part-spherical viewing screen char-

acterized by the fact that the focal point of a concave spherical mirror is positioned at the geometric center of



the screen and a real image of said pictures is projected to said focal point.

3,539,250

CONTINUOUS FILM MOTION PROJECTOR WITH MIRROR DRIVE SYSTEM

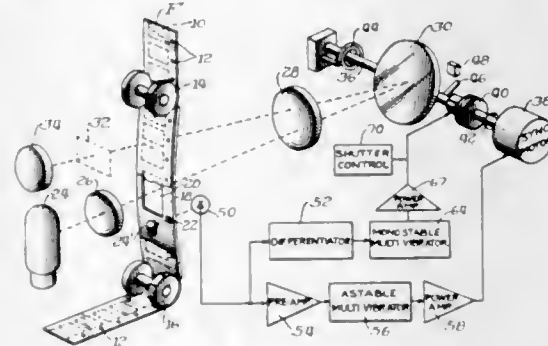
Robert F. Johnston, Wildwood, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 7, 1968, Ser. No. 711,250

Int. Cl. G03b 41/06

U.S. Cl. 352—107

5 Claims



Apparatus for a motion picture projector in which the film is continuously moved past a projection aperture and a projected image is caused to appear stationary on a screen by a motor driven oscillatable mirror. The oscillating action of the mirror is controlled by a sensor which reads synchronizing indicia on the film to initiate rocking of the mirror in a direction compensating for film movement so that the mirror moves with the film and projects an image appearing stationary on the screen. A spring return drives the mirror back to its start position.

3,539,251

ROTATING PRISM SYSTEM

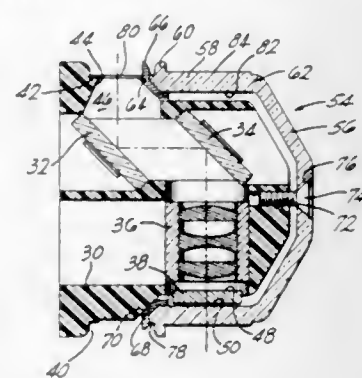
David W. Husted and James A. Holbrook, Ann Arbor,
Mich., assignors to Bala Corporation, Jackson, Mich.

Filed Dec. 29, 1967, Ser. No. 694,473

Int. Cl. G03b 41/04

U.S. Cl. 352—113

8 Claims



A rectifying prism system for a continuously moving motion picture film. The prism is a hollow cup-shaped member made of transparent synthetic plastic and is provided with one bearing surface about the periphery of

the member and a second bearing surface near the axis of the member and at the opposite end from the first bearing surface. A lens is positioned inside the prism and mirrors direct the image from a continuously moving motion picture film through the lens and one side of the prism.

3,539,252

AUTOMATIC EXPOSURE CONTROL

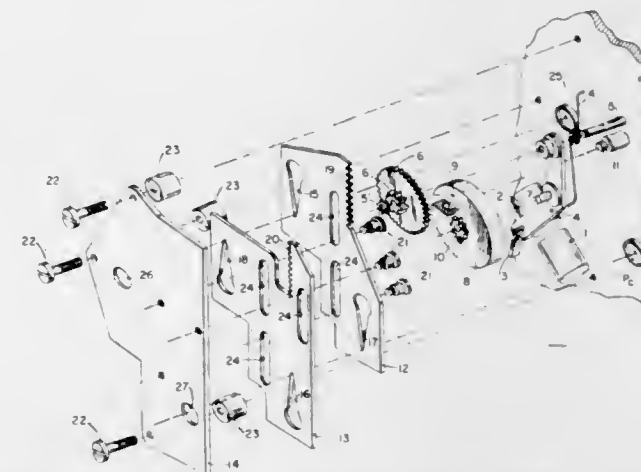
Horatio S. Gleason, Jr., Rochester, N.Y., assignor to
Eastman Kodak Company, Rochester, N.Y., a corpo-
ration of New Jersey

Filed Jan. 11, 1968, Ser. No. 697,220

Int. Cl. G03b 7/10, 19/18

U.S. Cl. 352—141

2 Claims



Automatic exposure control is effected by coupling a variable-aperture diaphragm to a unidirectional driving member through a reversible clutch that is actuatable to operate alternatively in forward and reverse directions by two electromagnets energizable by light-responsive circuitry. The diaphragm comprises a pair of overlapping plates having shaped apertures which cooperate to vary the effective aperture size upon relative movement of the plates, each plate having a rack meshed with a pinion coupled to the clutch. The clutch comprises a wheel having in one face an annular channel which receives the unidirectional driving member between two radially spaced, axially extending surfaces defining the channel. The wheel is rotatably mounted on the mid-portion of a pendulum-like member whose end portion comprises an armature disposed between the two electromagnets. Energization of one electromagnet in response to light below a first predetermined intensity moves the armature and hence the wheel in one direction so that one of the axially extending surfaces is engaged by the driving member to effect rotation of the wheel and movement of the plates in one direction to thereby increase the effective aperture size. Energization of the other electromagnet in response to light above a second predetermined intensity moves the armature and wheel in the opposite direction so that the other of the axially extending surfaces is engaged by the driving member to effect rotation of the wheel and movement of the plates in the opposite direction to thereby decrease the effective aperture size.

3,539,253

PHOTOGRAPHIC CAMERA WITH A DETACHABLE HANDLE

Alfred Roppel, Munich, Germany, assignor to Niezoldi
& Kramer GmbH, Munich, Germany

Filed Apr. 23, 1968, Ser. No. 723,388

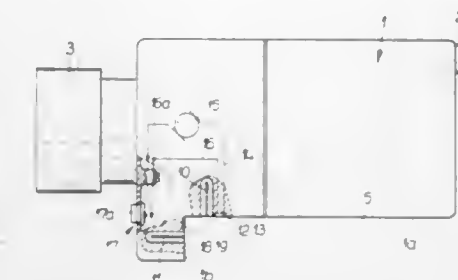
Claims priority, application Germany, Apr. 25, 1967,
N 30,405

Int. Cl. G03b 17/00

U.S. Cl. 352—243

7 Claims

A hollow handle which contains a rechargeable storage cell can be attached to the housing of a motion picture camera in two different positions in the first of which it extends from the housing and can be grasped by hand



when the camera is in use, and in the second of which its outline is complementary to that of the housing. The handle is provided with two prongs which are insertable into an outlet to recharge the cell and which also serve as a part of a coupling which can connect the handle

3,539,254

FILM TRANSPORT

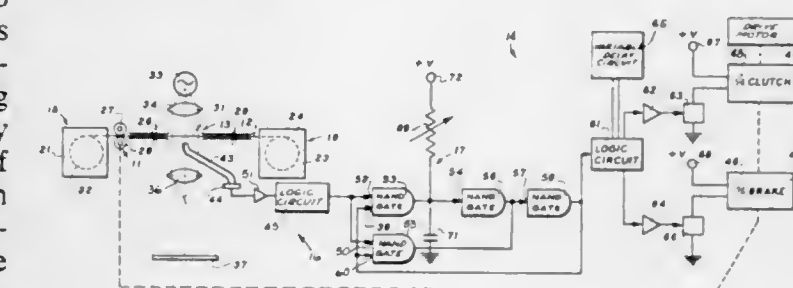
Louis A. Smitzer, San Diego, Calif., assignor, by mesne
assignments, to Stromberg Datagraphix, Inc., San
Diego, Calif., a corporation of Delaware

Filed Jan. 9, 1968, Ser. No. 696,637

Int. Cl. G03b 1/48

U.S. Cl. 353—95

9 Claims



A film transport is described which transports film through a view station, which automatically stops the film at each frame with the frame centered at the view station, and which restarts the film after a dwell time which is selectively variable.

3,539,255

XEROGRAPHIC RECORDING APPARATUS

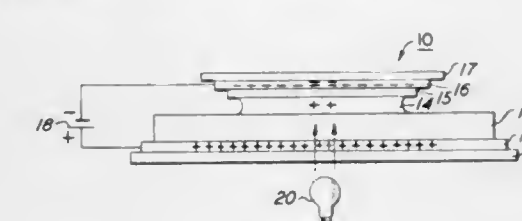
William L. Goffe, Webster, N.Y., assignor to Xerox
Corporation, Rochester, N.Y., a corporation of New
York

Filed Sept. 23, 1966, Ser. No. 581,602

Int. Cl. G03g 5/00

U.S. Cl. 355—16

6 Claims

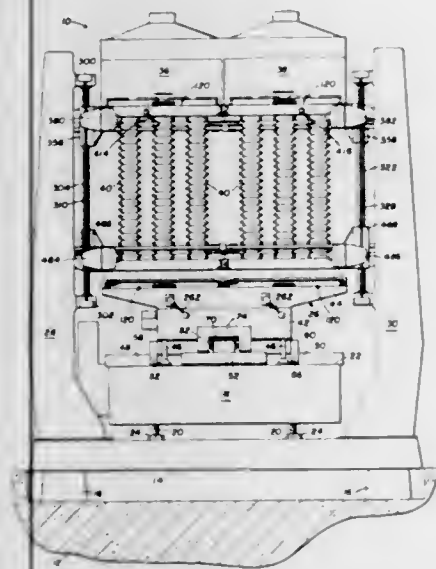


An improved photosensitive element for electrostatic image recording. The photosensitive element comprises a photoconductive light-controlled storage layer and adjacent thereto a photoconductive multiplying layer. An electric field is placed across these two layers. The storage layer is exposed to uniform illumination and subsequently the multiplying layer is exposed to the image

illumination. Following the cessation of exposure and removal of the charging field, the two layers are stripped apart and the storage layer developed by a conventional method.

3,539,256
STEP AND REPEAT CAMERA WITH COMPUTER CONTROLLED FILM TABLE
Billy D. Ables, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 18, 1967, Ser. No. 676,100
Int. Cl. G03b 27/06
U.S. Cl. 355—53 9 Claims



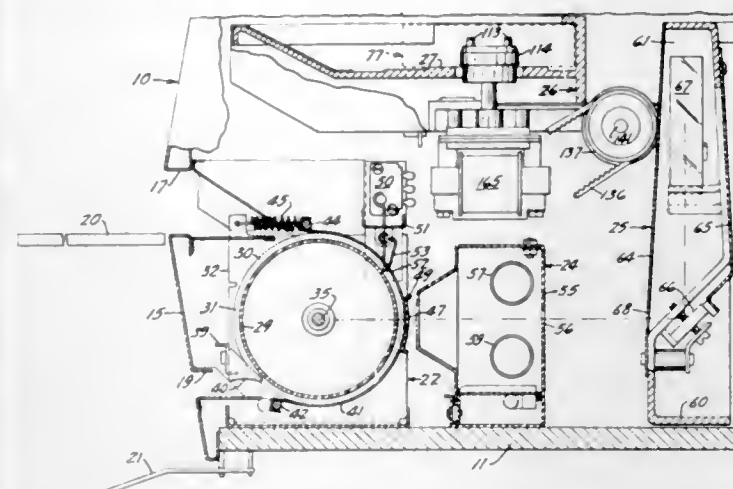
A film support table is supported by air bearings and is movable in the X and Y coordinate directions by X and Y drive systems utilizing precision X and Y guide rails and an air bearing keeper system. A laser interferometer and fringe counter detects movement of the table in the X and Y coordinate directions by fringe counts. A projection system simultaneously projects a plurality of images onto the film carried by the table after the table is moved to each of a plurality of predetermined exposure positions. A reference detector system detects when the table is at a zero reference position and resets the counters. A digital computer is programmed to compute the coordinate of each exposure position and then, based on the current barometric pressure, compute the X and Y coordinates, in fringe counts from the reference positioning of the first exposure position. The computer then operates the drive system in such a manner as to move the table to the exposure position by continuously computing the position and velocity of the table from the readings of the fringe counters. Then the table is maintained at the exposure position during the exposure period by continuously determining the position of the table from the fringe counters and operating the drive system to produce forces for correcting the positional error.

3,539,257
DOCUMENT PHOTOGRAPHING MACHINE
Earl K. Hoyte, Minneapolis, and Gary F. Le Grand, White Bear Lake, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Feb. 14, 1968, Ser. No. 705,518
Int. Cl. G03b 27/70
U.S. Cl. 355—65 7 Claims

A document photographing machine for photographing successive documents held on a drum as the documents move past a photographing station. The machine comprises means for supporting a cartridge containing a supply of light-sensitive microfilm wound on a reel with the emulsion side out, means for automatically threading

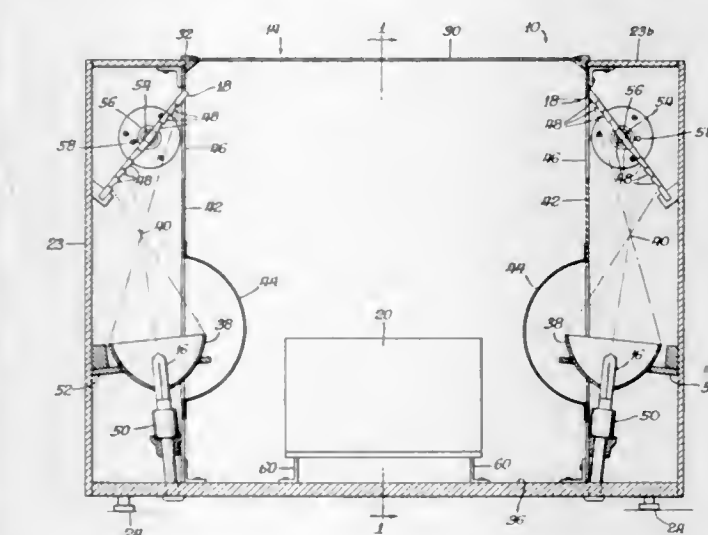
the microfilm from the cartridge to a take-up reel, means for rewinding the exposed film back into the cartridge, and



an optical system consisting of an objective lens and mirrors to permit direct exposure of the documents and to impart reduced size images to the film.

3,539,258
OPTICAL APPARATUS FOR DOCUMENT COPIER
John R. Miles, Glenview, Ill., assignor to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware

Filed Jan. 10, 1968, Ser. No. 696,846
Int. Cl. G03b 27/70
U.S. Cl. 355—70 4 Claims



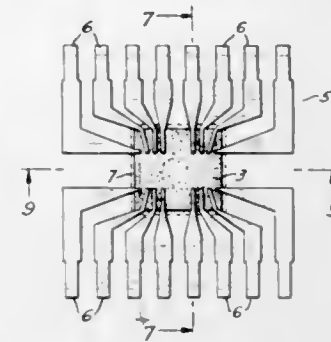
An optical assembly exposes a light sensitive member with a light image produced by illumination of an original. A pair of lamps provide light which is reflected against the original by a pair of lenticular reflective members each including several small mirror surfaces arranged to illuminate the original evenly by directing relatively more light upon the edge areas of the original. Ellipsoidal reflectors focus the light from the lamps at a region between the lamps and the reflective surfaces. Baffles prevent light from traveling directly from the lamps onto the original. The light image from the original is reflected by a mirror through a lens and is focused on the light sensitive member.

3,539,259
METHOD OF MAKING LEAD ARRAY FOR CONNECTION TO MINIATURE ELECTRICAL DEVICE SUCH AS A CHIP
Gary Hillman and Harvey M. Pensack, Livingston, N.J., assignors to Mitronics Inc., Murray Hill, N.J.

Filed July 7, 1967, Ser. No. 651,925
Int. Cl. G03b 27/02
U.S. Cl. 355—132 17 Claims

Spaced blind recesses are etched in metallic sheet. Powdered glass is placed in each recess and fused to

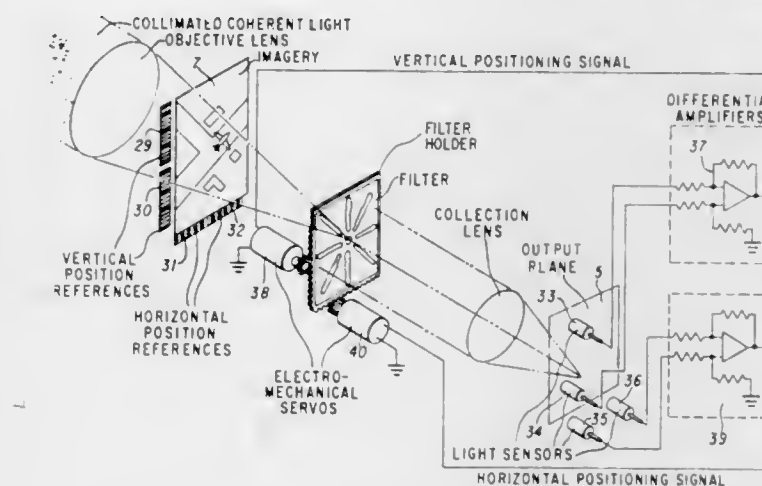
bond with sheet. Sheet is then covered on both sides with photosensitive acid resistant material, and outline of lead array is photographically impressed on both sides of sheet. After development of acid resistant material,



sheet is etched through to leave lead array bonded to pad of glass. Lead array is then cold welded, ultrasonically bonded, or thermo-compression bonded to pillars on chip.

3,539,260
METHOD AND APPARATUS FOR AUTOMATIC ALIGNMENT OF COHERENT OPTICAL SPATIAL FREQUENCY FILTERS
Jack J. Burch, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 2, 1967, Ser. No. 672,340
Int. Cl. G06k 9/04; G01b 11/26
U.S. Cl. 356—71 9 Claims



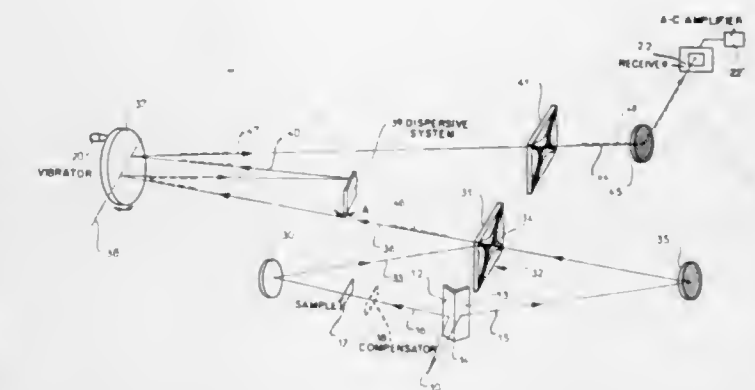
A method and apparatus are disclosed for automatically aligning spatial frequency filters used in coherent optical processing. The spatial frequency filter is constructed by an interferometric technique, such as a Fraunhofer hologram. After the filter is constructed to perform the desired information processing operation, positional reference patterns are superimposed upon the filter. Displacement of the resulting filter from an optimum position causes displacement signals due to the position references. The signals are detected by light sensors, and the signals therefrom are subtracted in a differential amplifier to form an error signal. The error signal is used to drive electromechanical servo units to correct the filter position.

3,539,261
SPECTROPHOTOMETER
André Jean Girard, Chatillon-sous-Bagneux, France, assignor to Office National d'Etudes et de Recherches Aérospatiales, Chatillon-sous-Bagneux, France

Filed June 8, 1967, Ser. No. 644,578
Claims priority, application France, June 16, 1966, 65,730
Int. Cl. G01j 3/42

A radiant flux originating at a source of radiation is split into a reference beam and a measuring beam, the

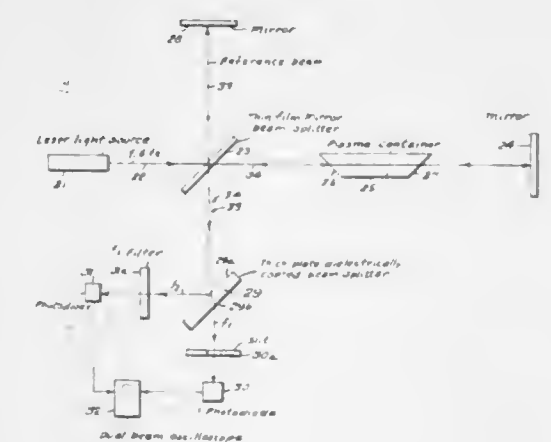
latter traversing a sample to be spectrometrically analyzed. The two beams, traveling to a receiver over a common path including a dispersive system and a mirror vibrating about an axis which is parallel to the direction of spectrum spread, are differentiated from each other by traversing different pairs of input and output gates with optically equivalent and optically complementary zonal patterns, respectively. During every oscillatory cycle of the mirror, of the radiation contains a certain



wavelength, at least one sharp pulse is generated by the output energy of each beam as the mirror passes through a position of adjustment while the dispersive system is set to detect that wavelength; these pulses, being of opposite sign, cancel if there is no energy absorption by the sample and otherwise result in an amplitude modulation, of a depth proportional to such absorption, which can be determined with the aid of a suitably tuned AC amplifier.

3,539,262
OPTICAL INTERFEROMETER FOR HIGH SPEED PLASMA DIAGNOSTICS
Timothy R. Pryor, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Army

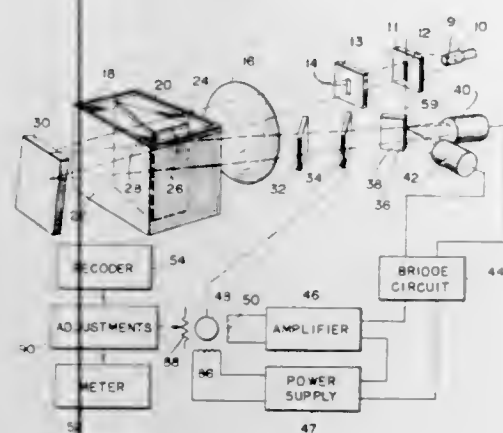
Filed June 11, 1968, Ser. No. 736,130
Int. Cl. G01b 9/02
U.S. Cl. 356—107 3 Claims



An optical interferometer for high speed plasma diagnostics wherein a laser beam is divided into two beams, one which passes through the plasma and the other which acts as a reference, and which are subsequently superimposed and impinged on a photodiode which sums the electric fields thereof, resulting in the modulation of the output current of the photodiode at the difference frequency which is displayed on an oscilloscope coupled to the output of the photodiode.

3,539,263 DIFFERENTIAL REFRACTOMETERS

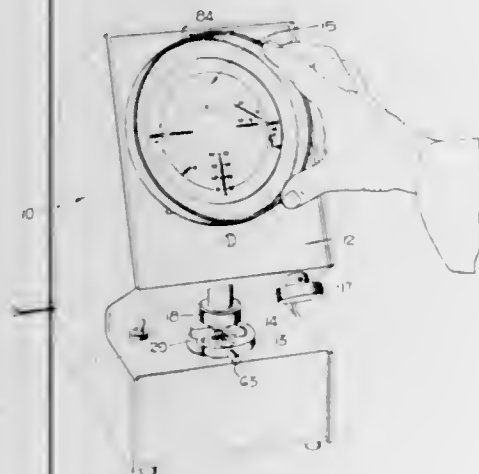
James L. Waters, 61 Fountain St., Framingham, Mass. 01701
Continuation of application Ser. No. 482,175, Aug. 24, 1965. This application Feb. 21, 1968, Ser. No. 712,322
Int. Cl. G01n 21/46
U.S. Cl. 356—130 1 Claim



A differential refractometer makes use of a cadmium sulphide photocell to provide high accuracy in a small overall size. A small refracting member and low-power light source, made possible by use of the cadmium sulphide detector, combine to reduce errors due to channeling and thermal effects.

3,539,264 OPTICAL COMPARATOR FOR GEMS

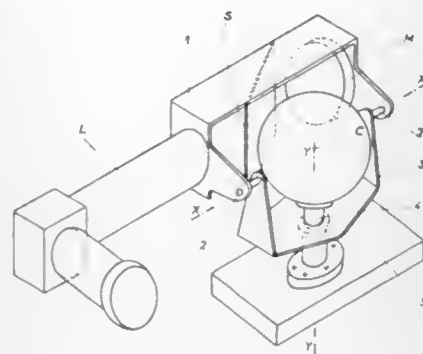
Kenneth M. Moore, Granada Hills, and Gale M. Johnson, Los Angeles, Calif., assignors to Gemological Institute of America, Los Angeles, Calif., a corporation of Ohio
Filed Mar. 29, 1968, Ser. No. 717,171
Int. Cl. G01b 9/08; G03b 21/24
U.S. Cl. 356—165 7 Claims



The silhouette of a gem, such as a diamond, may be projected on a screen having a standard diagram thereon. The diagram and silhouette may be used to determine various characteristics of the gem including table diameter, total depth, crown height, pavilion depth, girdle thickness, and so forth. An apparatus is described having a lamp and optical system for projecting light through a gem and providing the silhouette on the screen. Magnetic attraction provided by magnets is employed in conjunction with a gem holder and the screen for enabling easy adjustment of each and for retaining the same in place once properly positioned.

3,539,265 AIMING FACILITY HAVING COLLIMATION MARKS IN AN UNLIMITED ANGLE OF FIELD INCLUDING A SPHERICAL RETICULE

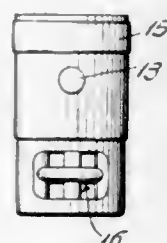
Andre Marquet, Paris, France, assignor to Societe d'Optique, Precision, Electronique et Mecanique "SOPELEM," Paris, France
Filed July 20, 1967, Ser. No. 654,795
Claims priority, application France, July 29, 1966, 71,357
Int. Cl. G02b 23/10
U.S. Cl. 356—251 4 Claims



An aiming facility with collimation marks in an unlimited angle of field, the facility comprising a collimating system formed by a partly reflecting mirror, a totally reflecting mirror, an objective, a reticule and viewer in which the image of a point at infinity is superimposed upon such point of the reticule as corresponds to the direction of the point at infinity, the reticule is inscribed on a sphere, and the viewer cooperates with the objective and collimating mirrors to form a system rotatable around a horizontal axis and around a vertical axis passing through the centre of the sphere.

3,539,266 CARRIER FOR LIPSTICK DEVICE

Eric G. Hultgren, Westport, Conn., assignor to Eyelet Specialty Company, Wallingford, Conn., a corporation of Delaware
Filed Sept. 24, 1968, Ser. No. 761,955
Int. Cl. A45d 40/06
U.S. Cl. 401—78 3 Claims



A carrier for use in a lipstick device for supporting a lipstick for movement in an inner member. The carrier is provided with an anti-wobble band to stabilize the lipstick as it moves to, and is located in, a projecting position on the lipstick device.

3,539,267 WRITING IMPLEMENT

Carl Josef Lamy, 32 Grenzhofweg, 69 Heidelberg-Wieblingen, Germany
Filed Aug. 13, 1968, Ser. No. 752,368
Int. Cl. B43k 5/06
U.S. Cl. 401—182 7 Claims

A writing implement has a barrel, a flexible liquid reservoir in the barrel, pigment-transfer means provided at the front end of the barrel and communicating with the interior of the reservoir, a piston extending through an open rear end of the barrel partly outwardly therefrom

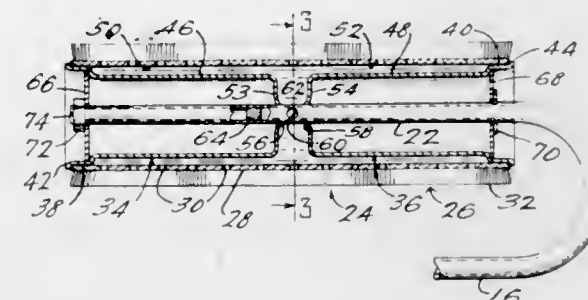
and reciprocally displaceable into the barrel to thereby compress and relax the reservoir and aspirate writing liquid thereinto. An end cap surrounds and is connected to the projecting rear portion of the piston and is longitudinally movable of the latter between two connect positions in one of which it abuts against the rear end of



the barrel and conceals the projecting portion of the piston and in the other of which it is located rearwardly of the rear end of the barrel and exposes the piston to an extent substantially corresponding to the distance by which the piston may be moved into the barrel to thereby compress the reservoir therein.

3,539,268 APPARATUS FOR COVERING A SURFACE WITH COATING MATERIAL

Ray M. Stebbins, 3847 Eggman Ave., Toledo, Ohio 43612
Filed Sept. 11, 1968, Ser. No. 759,010
Int. Cl. B44d 3/28
U.S. Cl. 401—197 2 Claims



Apparatus for rolling on paint includes an improved roller and an improved supply means for continuously feeding paint to the roller. The roller carries a minimum amount of paint which reduces its weight; the roller also has an improved paint supply design with paint seals which retain the paint in the roller producing less friction, so that the roller has a lesser tendency to slide during painting. The paint source includes a positive-acting piston which is hand operated to feed the paint and is of low-cost design.

3,539,269 TUBE DRAWING PEN

Gerald W. Dahle, Marienberg 19, Coburg, Germany
Filed May 15, 1969, Ser. No. 824,958
Claims priority, application Austria, May 22, 1968, A 4904/68
Int. Cl. B43k 1/06, 1/10
U.S. Cl. 401—259 7 Claims

A tube drawing pen in which the drawing tip is screwed into a sleeve to which an ink chamber may be tightly

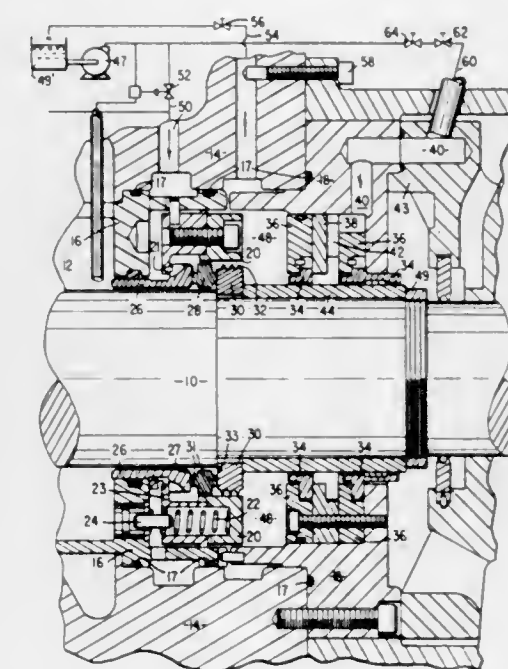
attached. The corresponding external and internal screw threads on the drawing tip and in the sleeve are considerably narrower than the flutes between the threads so that, when the drawing tip is screwed into the sleeve



until its rear end abuts against a conical inner stop surface in the sleeve, the flanks of the threads tightly engage at one side with each other, while the remaining open part of the flutes form a long spinal ventilating channel.

3,539,270 METHOD OF AND APPARATUS FOR LUBRICATING AND COOLING A ROTARY SHAFT SEAL ASSEMBLY

George W. Derrickson, Greensburg, Pa., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 14, 1968, Ser. No. 712,977
Int. Cl. F04d 29/00; E21b 33/00; E161 15/00
U.S. Cl. 415—1 6 Claims



A lubricating and cooling system for a shaft sealing assembly in an elastic fluid machine where it is desired to prevent leakage of the fluid from the machine, the system being operable to maintain a predetermined pressure drop across a running seal section of the assembly while satisfying the lubrication and cooling requirement of a pressure breakdown or reduction section of the assembly. The system includes an arrangement for introducing fluid into and exhausting fluid from the sealing assembly in a different flow path under different machine operating pressures.

3,539,271

METHOD AND APPARATUS FOR DEPOSITING LEAVES IN WINDROWS

Leon D. Greenwood, Lansing, Mich., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Nov. 12, 1968, Ser. No. 774,730

Int. Cl. A01n 17/08; F04d 29/44

U.S. Cl. 415—1

14 Claims



A blower to pile leaves in windrows is mounted on a carriage and includes an impeller housing having an impeller therein to generate a stream of air. The impeller housing is rotatable on the carriage about a vertical axis and is pivotal with respect thereto. The carriage moves along a path with the impeller housing directed generally perpendicular to the path. A baffle in the lower portion of the housing opening diverts the lower portion of the airstream in descending progression in an increasing forwardly direction so that leaves close to the machine are not passed over and blown rearwardly short of the windrow.

3,539,272

CANISTER PUMP ASSEMBLY

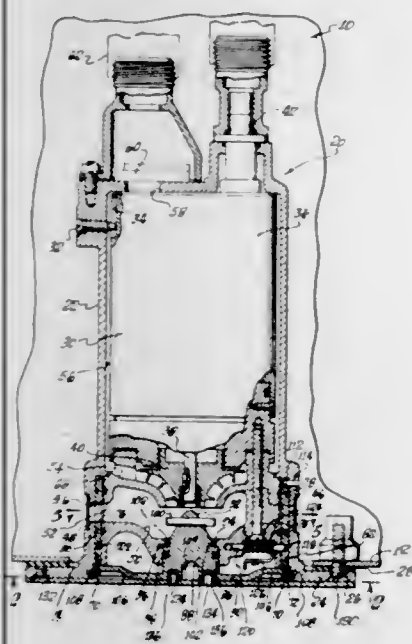
Harris J. Howard, Granada Hills, and Nicholas de Kiss, North Hollywood, Calif., assignors to De Laval Turbine California Inc., Burbank, Calif., a corporation of California

Filed Dec. 26, 1968, Ser. No. 786,985

Int. Cl. F04b 21/00; F04d 13/02; G01f 11/36

U.S. Cl. 415—168

8 Claims



A canister pump assembly for an aircraft fuel tank: A canister having an open lower end is disposed within the tank and is mounted on the lowest part thereof. A motor-driven booster pump is disposed in the canister and is removable through its lower end. A sleeve valve in the lower end of the canister is rotatable between an open

position, wherein it connects an inlet in the canister to the pump inlet, and a closed position. An actuator is rotatable about the axis of the canister between locked and unlocked positions to rotate the sleeve valve between its open and closed positions, respectively. Retainers on the lower end of the canister prevent withdrawal of the actuator when it is in its locked position and the sleeve valve is in its open position. The actuator blocks the lower end of the canister so that it prevents withdrawal of the pump when the actuator is locked and the sleeve valve is open. The lower end of the pump is provided with a drain for the pump inlet, which drain is closed by a plug on the actuator until the actuator is withdrawn from the canister. A closure for the lower end of the canister is provided with a locking device which prevents rotation of the actuator out of its locked position when the closure is in place.

The foregoing combination of parts insures error-free removal and replacement of the motor-driven booster pump.

3,539,273

VORTEX GENERATOR

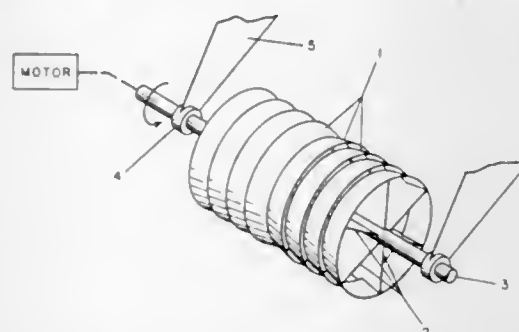
George Arshal, 4422 Venice Way, San Jose, Calif. 95129

Filed Mar. 18, 1969, Ser. No. 808,091

Int. Cl. B64c 23/08

U.S. Cl. 416—4

10 Claims



This invention is a means of circulating fluid in confinement against an open boundary surface. As such, it serves the same purposes as the vortex generator described in U.S. Pat. 3,295,608. The present invention improves on the referenced invention in its ability to produce vortex systems of greater energy output.

3,539,274

SLUDGE METERING APPARATUS

Nils-Olof Nordlander, Sigtuna, Sweden, assignor to Stenberg-Flygt AB, Solna, Sweden

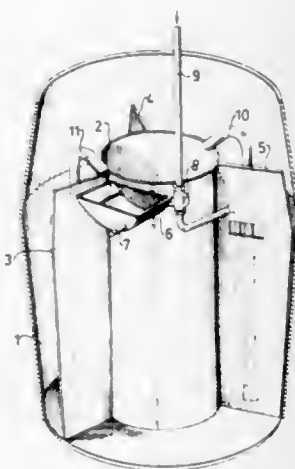
Filed Dec. 3, 1968, Ser. No. 780,788

Claims priority, application Sweden, Dec. 5, 1967, 16,722/67

Int. Cl. F04b 49/02; F04f 1/06, 5/24

U.S. Cl. 417—44

5 Claims



Determined quantities of activated sludge are charged to sewage water by a tiltable mounted metering scoop

which periodically executes an emptying movement when filled with a certain quantity of sewage water, said scoop via a movable member being connected to coupling means for controlling an auxiliary medium circuit for supervising the supply of sludge to the system.

3,539,275

METHOD AND APPARATUS FOR ELIMINATING CAVITATION

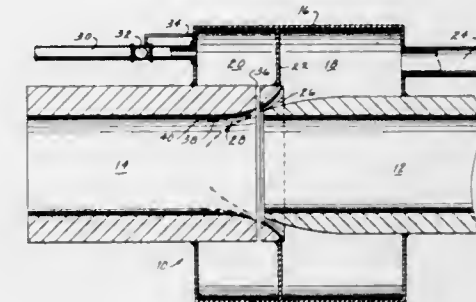
David M. Frazier, 208 Shorecrest, Tampa, Fla. 33609

Filed Aug. 7, 1968, Ser. No. 750,804

Int. Cl. F04f 5/10, 5/44, 5/48

U.S. Cl. 417—189

8 Claims



A method and apparatus for eliminating cavitation occurring in a jet pump by introducing gas in the vicinity of the jet stream nozzle. The gas is maintained at a pressure above the vapor pressure of the liquid thus eliminating cavitation by preventing the jet stream from vaporizing.

3,539,276

AIR SUPPLY DEVICE

Motoaki Matsuura, Tokyo, Japan, assignor to Kabushiki Kaisha Kinuta Giken, Tokyo, Japan

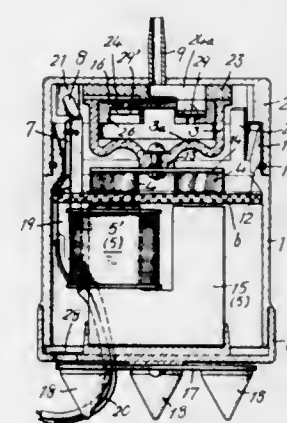
Filed Feb. 28, 1969, Ser. No. 803,342

Claims priority, application Japan, Oct. 14, 1968, 43/88,842

Int. Cl. F04b 35/04

U.S. Cl. 417—413

3 Claims



An air supply device for supplying air bubbles to an aquarium, comprising an electro-magnet disposed in a cylinder bottom portion with poles facing towards the cylinder top portion; a filter disk disposed over said electro-magnet poles; a diaphragm assembly disposed over said filter disk including a bowl shaped diaphragm, a magnet assembly mounted on the underside of said diaphragm facing said electro-magnet poles, a diaphragm support plate with a ring-shaped wall, said support plate being affixed to the cylinder cover; inlet and outlet one-way valves in the diaphragm assembly to permit air from said air inlet to pass to said air outlet tube; and, a cam piece within the cover and extending switch contact arms, extending from the electro-magnet to the cover, whereby, the turning of the cover on the cylinder variously positions the permanent magnet with respect to the

3,539,277

BELLOWS PUMP

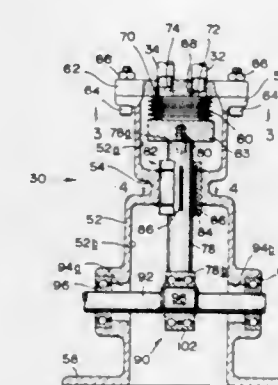
Arthur J. Andrews, Norwell, and Stephen J. Zierak, Westwood, Mass., assignors to Metal Bellows Corporation, Sharon, Mass.

Original application Aug. 1, 1968, Ser. No. 749,403, now Patent No. 3,473,347, dated Oct. 21, 1969. Divided and this application Apr. 9, 1969, Ser. No. 814,602

Int. Cl. F04b 43/00

U.S. Cl. 417—473

3 Claims



A pump comprises a bellows having one end sealed to a header and communicating with intake and outlet valves in the header. The other end of the bellows is closed and is moved toward and away from the header by a shaft driven by an eccentric. The drive mechanism is bearing mounted and designed to move the bellows only parallel to the longitudinal axis of the bellows. These factors minimize the stresses on the pump elements and enable the pump to run much faster and for longer periods than prior pumps used for this purpose. Also, the pump can operate with a very low suction head.

3,539,278

ROTARY PENDULUM TENSION PUMP

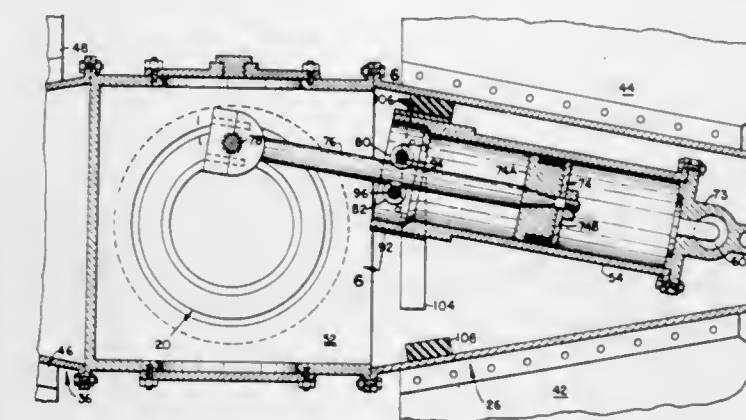
Carroll W. Chester, 1932 E. 76th Place, Los Angeles, Calif. 90001

Filed Oct. 9, 1968, Ser. No. 766,186

Int. Cl. F04b 19/02

U.S. Cl. 417—465

12 Claims



Disclosed herein is a pump having a pump body which rotates around a fixed shaft. The pump body contains a cylinder pivotally fixed thereto and having a piston reciprocally disposed therein. A piston rod extends from the piston to a pin fixed to the shaft, and as the pump body is rotated about the shaft, the piston reciprocates within the cylinder. Means are included for using this reciprocation as a pumping action.

3,539,279

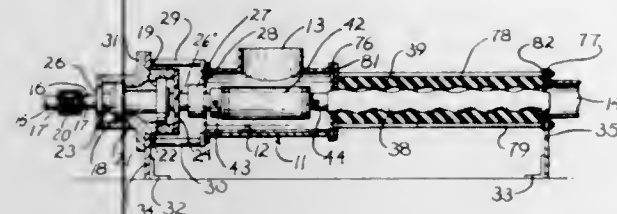
TUBULAR PUMP

Allison L. Rider and Clinton H. Rider, both % H. A. Rider & Sons, 2482 Freedom Blvd., Watsonville, Calif. 95076

Filed Sept. 23, 1968, Ser. No. 761,660
Int. Cl. F04c 1/06, 3/00

U.S. Cl. 418-48

7 Claims



The disclosure pertains to a tubular pump of the progressive cavity type including a rotor, a drive shaft confined within a casing defining an interior passage into which a fluid is delivered for movement out of the discharge end of the pump, and a universal joint coupling between said drive shaft and said rotor consisting of a pair of universal joints arranged back to back, a first drive pin connecting an outer end of one of said joints to said drive shaft, a second drive pin connecting the outer end of the other of said pair of joints to said rotor, together with a fluid filled boot secured in enveloping relation to said coupling for preventing collapse of the boot and protecting said universal joints from damage by the pumped fluid.

3,539,280

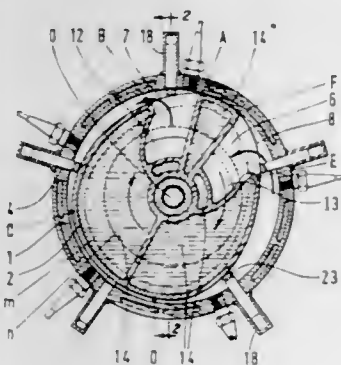
ENDOTHERMIC ROTARY ENGINE WITH SHIFTABLE BLADES

Alfredo Ravera, Lungomare Triesti 26, Salerno, Italy

Filed Feb. 7, 1968, Ser. No. 703,737
Int. Cl. F02b 53/10, 55/04, 55/14

U.S. Cl. 418-91

9 Claims



An endothermic rotary engine with a rotor and a stator and blades radially shiftably mounted in the stator or the rotor. The outside surface of the rotor or the inside surface of the stator has an eccentric configuration and the blades divide the intermediate space between rotor and stator into a plurality of compartments which produce the various phases of operating cycles in each revolution of the rotor.

3,539,281

SLIDING-VANE ROTARY FLUID DISPLACEMENT MACHINE

Leo Kramer, Skillman, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

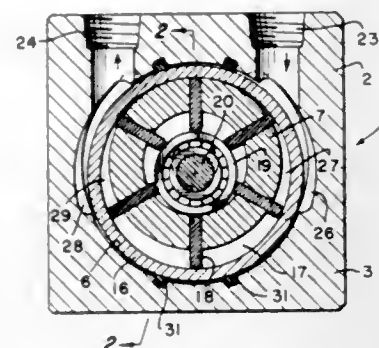
Filed July 22, 1968, Ser. No. 746,407
Int. Cl. F01c 1/02

U.S. Cl. 418-125

13 Claims

A sliding-vane rotary fluid displacement machine which can be utilized as a motor, a pump or a compressor and includes a rotor carrying a plurality of sliding vanes

which are positively moved outward by an eccentric as the rotor rotates. The rotor and vanes are surrounded



by a cylinder which is supported on the tips of the vanes and rotates with the rotor about the axis of the eccentric.

3,539,282

GEAR PUMP OR MOTOR

Friedrich Förschner, Waiblingen, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany

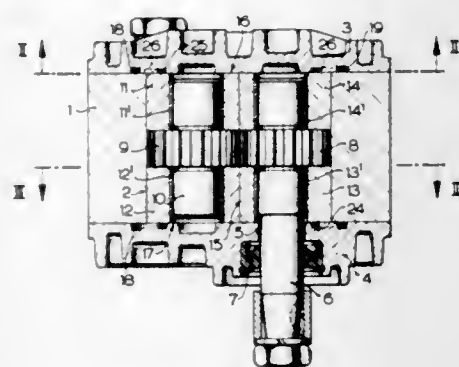
Filed Apr. 14, 1969, Ser. No. 816,881

Claims priority, application Germany, Apr. 13, 1968, 1,703,180; Oct. 10, 1968, 1,802,289

Int. Cl. F04c 1/08, 27/00

U.S. Cl. 418-132

20 Claims



A gear pump or motor in which at least one of the bearing means in which the shafts of the gears are journaled is movable in axial direction and sealingly pressed by fluid pressure against the respective end faces of the gears.

3,539,283

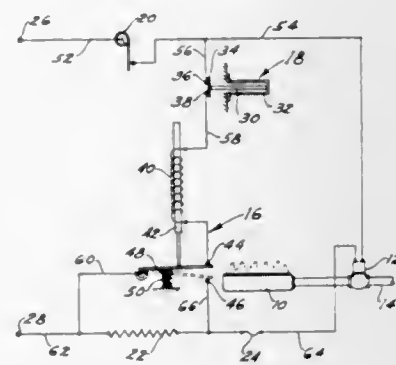
IGNITION AND CONTROL SYSTEM FOR GAS BURNERS

James A. Wright, Webster Groves, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed May 7, 1969, Ser. No. 822,577
Int. Cl. F23h 5/02

U.S. Cl. 431-78

8 Claims



A make-and-break spark igniter in which the breaker arm is a double throw and completes a circuit to open an electromagnetic fuel valve each time it breaks the ignition circuit to produce a spark.

3,539,284

TWO-CHAMBER FUEL BURNER

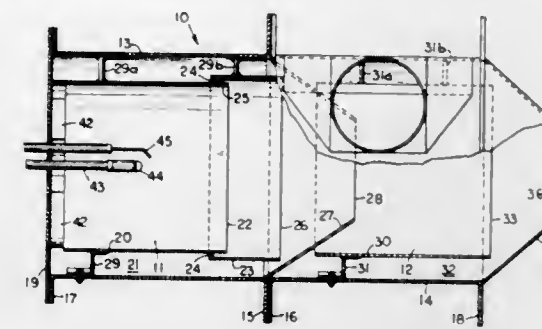
John J. Wolfersperger, 21 Strawberry Circle, Mill Valley, Calif. 94941

Filed Mar. 12, 1969, Ser. No. 806,357

Int. Cl. F23c 7/00

U.S. Cl. 431-173

7 Claims



This two-chamber burner delivers completed combustion. Two flanged housings are joined together, one for each chamber, and both chambers having long narrow rectangular tangential air inlets into their cylindrical housing. The first chamber has a fuel inlet for gas or oil and a first cylindrical baffle spaced axially from the end wall and radially from the housing to provide an annular air inlet chamber. Air scoops connect air from the space between the housing and baffle into the interior space inside the baffle. When using oil as the fuel, a second baffle is spaced near the end of this first baffle, with an overlap, and is of greater diameter. It terminates near a first conical shell that leads into a second chamber, where it is surrounded by a further cylindrical baffle, also spaced from the housing to provide an annular chamber, into which the air inlet for that chamber opens. This further baffle terminates near a second frustoconical shell that leads into a boiler or other such device.

3,539,285

FLARE STACK BURNER ASSEMBLY

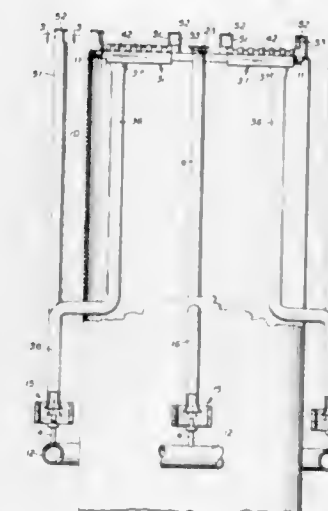
John Smith Zink and Robert D. Reed, Tulsa, Okla., assignors to John Zink Company, Tulsa, Okla., a corporation of Delaware

Filed Mar. 20, 1969, Ser. No. 808,880

Int. Cl. F23b 5/00; F23c 9/00

U.S. Cl. 431-202

2 Claims



A burner assembly for the combustion of waste gases at the upper end of a flare stack. Steam is employed to induce air to be mixed therewith and this mixture is delivered to the combustion zone from a plurality of zones so that the mixture of steam and air is distributed throughout the flared gas to promote the thorough mixing of steam and air with the waste gases to provide for substantially smokeless combustion.

CHEMICAL

3,539,286

METHOD OF TREATING FABRICS

Clarence A. Bowers and Graham Chantrey, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 10, 1967, Ser. No. 651,984

Int. Cl. D06m 13/12

U.S. Cl. 8-115.5

9 Claims

This invention concerns a process wherein fabrics are impregnated with a durable press type resin containing, in addition to the resin and catalyst, an inorganic salt and a poly glycolate compound.

3,539,287

GRAFT POLYMERISATION PROCESS EMPLOYING HALOGENATED NITROGENOUS POLYMERS

Clement Henry Bamford, Liverpool, and Frederic James Duncan and Reginald John William Reynolds, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Original application Oct. 23, 1965, Ser. No. 504,057, now Patent No. 3,433,774. Divided and this application Sept. 16, 1968, Ser. No. 835,820

Claims priority, application Great Britain, Nov. 11, 1964, 45,958/64, 45,959/64

Int. Cl. D06m 9/00

U.S. Cl. 8-115.5

4 Claims

A process for modifying a polymer containing a plurality of >N-H groups in fibrous form comprises treating the polymer with a halogenating agent to halogenate at least one of the nitrogen atoms and thereafter contact-

ing the halogenated product with ethylenically unsaturated monomeric material which is normally polymerized by free radicals and a transition metal carbonyl.

3,539,288

SYNTHETIC POLYAMIDE FIBER DYED WITH COPPER COMPLEX OF MONOAZO DYESTUFFS

Theodor Arthur Liss, Wilmington, and William Howells Vinton, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Apr. 15, 1965, Ser. No. 448,278. Divided and this application May 16, 1968, Ser. No. 729,545

Int. Cl. D06p 1/10

U.S. Cl. 8-42

4 Claims

Synthetic polyamide fibers dyed in red to violet shades with 1:1 copper complexes of o,o'-dihydroxyazobenzenes.

3,539,289

WOOD PRESERVATIVES

Reiichi Suzuki, Nishinomiya-shi, and Yutaka Shioyama, Osaka-fu, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed May 21, 1968, Ser. No. 730,895
Claims priority, application Japan, May 26, 1967, 42/33,095

Int. Cl. B27k 3/16

U.S. Cl. 21-7

3 Claims

A process for inhibiting the growth of wood-decaying fungi comprising impregnating wood with a small but effective amount of a trialkyltin compound having the gen-

eral formula R_3SnY wherein R is selected from the group consisting of alkyl, aryl, and alkenyl radicals and Y is selected from the group consisting of perchlorate and nitrate.

3,539,290

RECOVERY OF METALS FROM USED HYDRO-CARBON CONVERSION CATALYSTS

Henry Erickson, Park Forest, and Robert L. Foster, Homewood, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 6, 1967, Ser. No. 688,341
Int. Cl. C01g 1/06; C22b 23/00

U.S. Cl. 23—47 17 Claims
A process for the recovery of metal values from spent hydrocarbon conversion catalysts containing metals selected from Groups V-B, VI-B and/or VIII of the Periodic Table or mixtures of such metals, supported on a solid refractory metal oxide base and having iron oxide-containing fines deposited on the surface of the catalyst particles and mixed with the catalyst particles which comprises subjecting the catalyst to a passage of fluid for a time sufficient to cause a substantial amount of the iron oxide-containing fines to be physically removed from the catalyst by the passage of fluid, and subsequently removing selected metal by chemical treatment.

3,539,291

PREPARATION OF STARTING MATERIALS FOR PHOSPHATE PHOSPHORS

Vincent Chiola and Clarence D. Vanderpool, Towanda, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
No Drawing. Filed Dec. 6, 1967, Ser. No. 688,362
Int. Cl. C01b 25/32; B01j 17/04

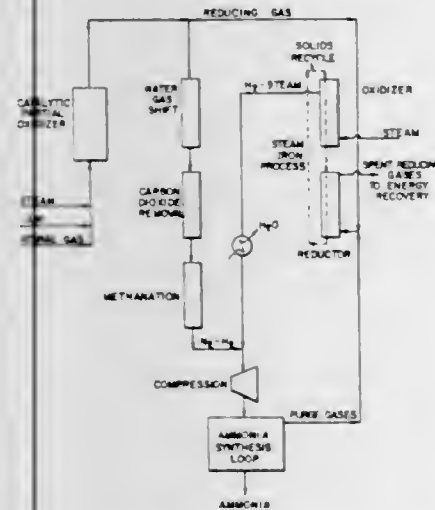
U.S. Cl. 23—109 3 Claims
The preparation of dibasic calcium, strontium or cadmium hydrogen phosphate can be produced by forming a solution of the corresponding monobasic phosphate and acidifying the solution with mineral acid ions and heating the solution from 60 to 100° C. A nucleating agent, such as ethyl alcohol, can be used to increase the rate of precipitation.

3,539,292

STEAM-IRON PROCESS FOR AMMONIA SYNTHESIS GAS PRODUCTION

Jack Huebler, Deerfield, James L. Johnson, Chicago, Frank C. Schora, Jr., Palatine, Paul B. Tarman, Evergreen Park, and Peter S. Panos, Chicago, Ill., assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Delaware
Continuation-in-part of abandoned application Ser. No. 477,769, Aug. 6, 1965. This application Mar. 7, 1968, Ser. No. 711,379
Int. Cl. C01b 1/08; C01c 1/04; B01j 9/00

U.S. Cl. 23—199 6 Claims



In an ammonia synthesis wherein part of the requisite hydrogen is supplied by the steam-iron process, the im-

provement which comprises using purge gases from the ammonia synthesis to assist in the reduction step of the steam-iron process.

3,539,293

METHOD FOR TREATING A FLUIDIZED BED OF PULVERULENT MATERIAL WITH HOT COMBUSTION GASES

Michel Boucraut, Metz, and Imre Toth, Hy-Metz, France, assignors to Institut de Recherches de la Siderurgie Francaise, Saint Germain-en-Laye, Yvelines, France
Filed Nov. 22, 1966, Ser. No. 596,276
Claims priority, application France, Nov. 24, 1965, 39,541

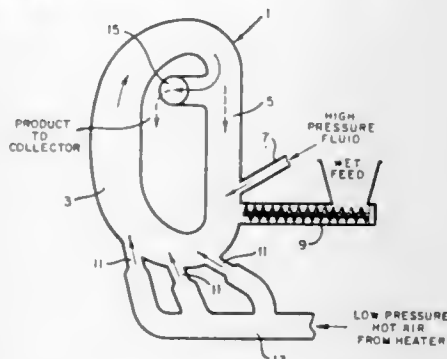
U.S. Cl. 23—200 4 Claims
A method of treating a fluidized bed of pulverulent material with hot combustion gases. This method comprises the steps of feeding a combustible material and a combustion sustaining agent in upward direction under a fluidized bed of pulverulent material with a speed greater than the speed of propagation of combustion of the combustible material, intimately mixing the combustible material and the combustion sustaining agent during the feeding thereof toward the bed, and reducing the speed of the mixture to a speed at most equal to the speed of propagation of combustion to maintain the bed of pulverulent material in fluidized condition and to cause combustion of the mixture within the fluidized bed.

3,539,294

LAMINAR GAMMA FERRIC OXIDE

Paul Y. Hwang, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed July 5, 1968, Ser. No. 742,772
Int. Cl. C01g 49/02; B01j 2/00; B02c 19/06

U.S. Cl. 23—200 3 Claims



Gamma ferric oxide having high acicularity is produced by subjecting a slurry of yellow iron oxide to a jet fluid energy mill which serves to break up the particles along their long axes, thus improving the acicularity of the particles. The particles can then be converted to gamma ferric oxide in the usual manner, and the acicularity carries over to the gamma form. Such particles of acicular gamma ferric oxide produce magnetic recording media of improved performance.

3,539,295

THERMAL STABILIZATION AND CARBONIZATION OF ACRYLIC FIBROUS MATERIALS

Michael J. Ram, West Orange, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 5, 1968, Ser. No. 749,959
Int. Cl. C01b 31/07

U.S. Cl. 23—209.1 30 Claims
An improved process is provided for the stabilization of a fibrous material composed of an acrylic polymer. The fibrous acrylic material is subjected to a multiple stage preoxidation treatment in an oxygen containing atmosphere which has been found to produce a product which

when carbonized or carbonized and graphitized possesses a tensile strength superior to that obtained if a single stage preoxidation treatment were selected for a similar residence time or if a multiple stage preoxidation treatment were conducted not in accordance with the invention. The initial preoxidation stage is carried out at a temperature below the critical temperature at which the fibrous configuration of the starting material would be destroyed until the fibrous material contains at least about 5 percent oxygen by weight. Such treatment beneficially modifies the starting material and imparts the requisite stability to the fibrous material to enable the subsequent stage of the process to be endured without deleterious results. Carbonized or carbonized and graphitized fibrous materials may be formed upon heating the stabilized product in an inert atmosphere. For example, fibrous products consisting of graphitic carbon may be produced having a high tenacity of at least about 14 grams per denier.

3,539,296

METHOD OF MAKING CARBONIZED CELLULOSE FIBERS FOR INCORPORATION IN ELECTRICALLY CONDUCTIVE PAPER

William A. Selke, Stockbridge, Mass., assignor to Kimberly-Clark Corporation, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 528,375, Feb. 18, 1966. This application June 16, 1969, Ser. No. 833,667
Int. Cl. C01b 31/07

U.S. Cl. 23—209.4 6 Claims
Natural cellulosic fibers are separated by forming an aqueous slurry of them, and the separated fibers are contacted with an organic compound to de-bond them from each other. Organic compound may be an alcohol or ketone, preferably one which boils below 130° C., or it may be a quaternary ammonium compound having an alkyl group containing at least 12 carbon atoms, or two alkyl groups containing at least 10 carbon atoms each. The de-bonded fibers are subjected to a carbonizing temperature of at least 550° C. in the absence of oxygen to make them electrically conductive. The fibers have a length-to-thickness ratio of at least 20:1, and a length of between one and five millimeters.

3,539,297

PREVENTING CATALYST POISONING BY SULFUR

Clyde L. Aldridge, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 8, 1968, Ser. No. 719,680
Int. Cl. C01b 1/03

U.S. Cl. 23—213 10 Claims
The poisoning effect of sulfur on the activity of alkali metal salt catalysts in the water gas shift reaction is avoided by maintaining a concentration of carbon dioxide in the feed at a minimum of 5%.

3,539,298

PRODUCTION OF HYDROGEN FROM CARBON MONOXIDE AND WATER UNDER LIQUID PHASE REACTION CONDITIONS IN THE PRESENCE OF A BASIC NITROGEN COMPOUND

Donald M. Fenton, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Continuation-in-part of application Ser. No. 664,061, Aug. 29, 1967. This application May 5, 1969, Ser. No. 821,976

The portion of the term of the patent subsequent to Jan. 20, 1987, has been disclaimed
Int. Cl. C01b 1/05, 1/03, 31/20

U.S. Cl. 23—213 11 Claims
The invention comprises an improved method of producing hydrogen by contacting carbon monoxide and

water under liquid phase reaction conditions at a temperature between 50° and 400° C. in the presence of a Group VIII noble metal catalyst and in the presence of a basic nitrogen compound in sufficient quantity to maintain alkaline conditions. The addition of the basic nitrogen compound has been found to beneficially affect the Group VIII noble metal catalyst such that high yields of hydrogen may be obtained under liquid phase conditions at low temperatures.

3,539,299

EXTRACTION OF HYDROCARBON GASES FROM EARTH SAMPLES

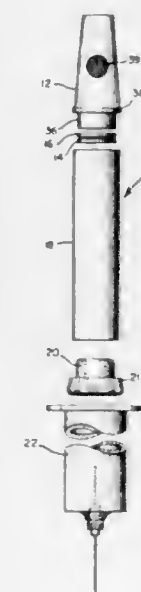
Robert R. Thompson, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Oct. 17, 1968, Ser. No. 768,517
Int. Cl. G01n 33/00, 33/24

U.S. Cl. 23—230 3 Claims
Earth samples are caused to release their content of hydrocarbon gases for analysis by treatment with a hot ethylenediamine tetraacetic acid solution preferably at a pH of about 7 or higher. Under these conditions, carbonate minerals are decomposed without creating the large volume of gaseous CO₂ that complicates the analysis when conventional strong-acid treatment is used.

3,539,300

BODY FLUID COLLECTOR AND SEPARATOR HAVING IMPROVED FLOW RATE

Ellery W. Stone, Cohasset, Mass., assignor, by mesne assignments, to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
Filed Oct. 23, 1967, Ser. No. 677,196
Int. Cl. B01d 25/08, 35/06; G01n 1/14
U.S. Cl. 23—253 15 Claims



Diagnostic body fluid collector and analytical sample separator including an evacuated body fluid collecting tube and an evacuated analytical sample cup. The collecting tube and the sample cup are physically separated from each other by one or more selectively permeable barriers through which only a portion of the collected fluid will pass. The assembly also includes a hollow conduit for directing body fluids into the body fluid collecting tube and means for expediting the separation of the analytical sample by eliminating or substantially reducing formation of a stagnant layer on the surface of the selectively permeable barrier.

3,539,301

APPARATUS FOR DETERMINATION OF CONTAMINANTS IN A LIQUEFIED GAS

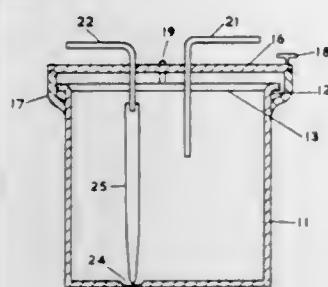
William Owen Jones, Morden, England, assignor to The British Oxygen Company Limited, a British company
Filed Nov. 24, 1967, Ser. No. 685,498

Claims priority, application Great Britain, Nov. 28, 1966, 53,086/66

Int. Cl. G01n 21/06, 31/00

U.S. Cl. 23—254

1 Claim



An apparatus for determining a contaminant in a liquefied gas comprising a tube containing an adsorbent material which selectively adsorbs the contaminant. Apparatus is applicable to determining an acetylene contaminant in liquid oxygen.

3,539,302

APPARATUS FOR RAPID ANALYSIS OF TRACE GAS

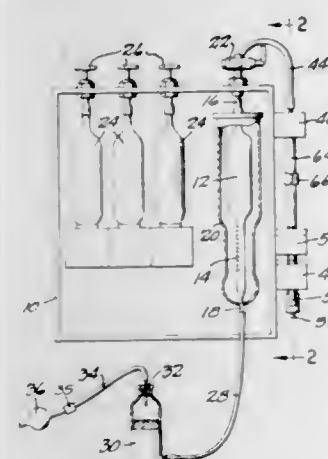
Hubert Dreckmann, Michigan City, Ind., assignor to The Hays Corporation, Michigan City, Ind., a corporation of Indiana

Filed Apr. 10, 1968, Ser. No. 720,295

Int. Cl. G01n 31/22

U.S. Cl. 23—254

9 Claims



Apparatus for rapid analysis of trace (p.p.m.) concentrations of a gas in a gas mixture using the measuring burette and leveling bottle of an Orsat type gas analyzer for measuring a chosen volume of a gas sample. Valved conduit means between the burette and a gas sample source provides two passages in parallel, of which one is valved and the other includes a removably mounted transparent container of a material which is color sensitive to the trace gas to be measured.

3,539,303

MEANS FOR PRODUCING FINE PARTICLE SIZE PYROGENIC TITANIUM DIOXIDE

Achim Kulling, Opladen, and Erich Noack, Odenthal, über Bergisch Gladbach, Germany, assignors to Titanengesellschaft mbH, Leverkusen, Germany, a corporation of Germany

Filed Aug. 11, 1967, Ser. No. 659,907

Claims priority, application Germany, Oct. 13, 1966, T 32,259

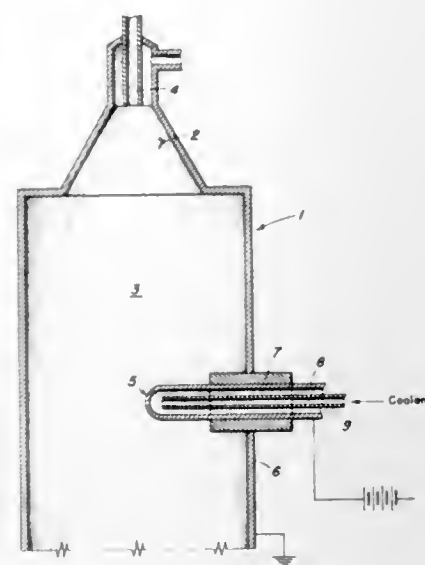
Int. Cl. B01k 1/00

U.S. Cl. 23—277

1 Claim

The present invention relates in general to the production of pyrogenic titanium dioxide by the reaction of

titanium tetrachloride with oxygen and more especially to means for separating freshly formed pyrogenic TiO₂ from the reaction product gases in a manner and by



suitable means to prevent formation of hard, crust-like deposits of TiO₂ on the walls of the reaction chamber; and to effect rapid coagulation of the fine, individual particles of TiO₂.

3,539,304

SUPPORT DEVICE FOR CATALYST IN REACTION PIPES

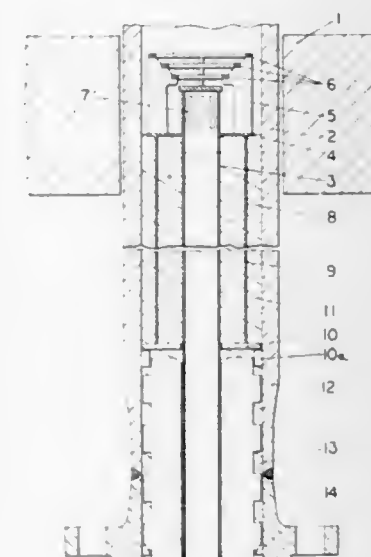
Paul Mevenkamp, Lichtendorf-Schwerte, and Hans-Dieter Marsch, Dortmund, Germany, assignors to Friedrich Uhde GmbH., Dortmund, Germany, a corporation of Germany

Filed July 17, 1967, Ser. No. 653,813

Int. Cl. B01j 9/04

U.S. Cl. 23—288

2 Claims



A device for supporting the catalyst in a reaction pipe installed vertically in a furnace for carrying out catalytic processes. The weight of the catalyst is taken up in the reaction pipe above the bottom of the reaction chamber by means of a device through which the weight is transferred to a cooler section of the reaction pipe. Such device includes a catalyst support pipe, which is insulated both on the inside and outside and has a grate for the catalyst at its upper end.

3,539,305

ZONE REFINING METHOD WITH PLURAL SUPPLY RODS

Wolfgang Keller, Pretzfeld, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

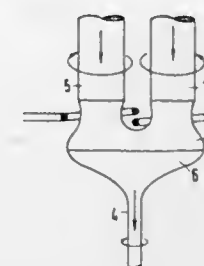
Filed Sept. 27, 1967, Ser. No. 671,547

Claims priority, application Germany, Sept. 28, 1966, S 106,157

Int. Cl. B01j 17/00

U.S. Cl. 23—301

12 Claims



Method of crucible-free zone melting a crystalline rod which comprises rotating at least one of a pair of spaced and substantially vertically aligned end holders supporting a crystalline rod therebetween, heating the rod with an annular heating device surrounding the rod to a temperature at which a molten zone is formed in the rod dividing the rod into a supply rod portion being supplied to the melt in the molten zone and a rod portion resolidifying from the melt, relatively displacing the end holders and the heating device in the direction of the rod axis at a given relative speed and laterally displacing the end holder for the supply rod portion out of vertical alignment with the other end holder so that the resolidifying rod portion is increased in thickness beyond the inner diameter of the annular heating device, and thereafter supplying at least one additional supply rod to the melt at a location thereof eccentric to the axis of the resolidifying rod portion, preheating the end of the additional supply rod to melting temperature in the vicinity of the molten zone to bringing that end and the melt into mutual engagement.

3,539,306

PROCESS FOR THE PREPARATION OF HYDROTALCITE

Teruhiko Kumura and Norio Imataki, Takamatsu-shi, Katuyuki Hasui, Kagawa-ken, and Takeo Inoue and Kumiaki Yasutomi, Nagao-machi, Kagawa-ken, Japan, assignors to Kyowa Chemical Industry Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 21, 1967, Ser. No. 654,977

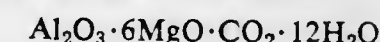
Claims priority, application Japan, July 25, 1966, 41/48,349; July 17, 1967, 42/45,658

Int. Cl. C01f 5/00, 7/00; A61k 27/06

U.S. Cl. 23—315

4 Claims

A process for the preparation of hydrotalcite which comprises mixing an aluminum component such as aluminum salt with a magnesium component such as magnesium salt in an aqueous medium in the presence of carbonate ion at a pH of at least 8 and thereafter recovering the resultant product. An antacid or an excipient comprising hydrotalcite of the general formula



3,539,307

WELDING ROD

Anton Baume, Goethestrasse 26, Lank, (Lower Rhine), Germany

No Drawing. Filed Aug. 11, 1967, Ser. No. 659,862

Int. Cl. C22c 29/00

U.S. Cl. 29—182.8

6 Claims

A welding rod for making wear-resisting and corrosion-resisting hard facings. The rod consists of 10–90% tung-

sten carbide and 10–90% of a powder having the following ingredients: 0.1–4.0% carbon, 0.05–2.0% silicon, 0.05–2.0% manganese, 20–40% chromium, 0.1–20% nickel, an element selected from the class consisting of tungsten in amount of 2–20% and columbium in an amount of 2–15%, 0.3–6.0% copper, 0.1–10% molybdenum, 0.1–5% iron and the balance cobalt.

3,539,308

COMPOSITE ALUMINUM ARMOR PLATE

Shalom Peter Nowak, Willow Grove, Pa., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed June 15, 1967, Ser. No. 646,800

Int. Cl. B32b 15/20; C22c 21/00

U.S. Cl. 29—197.5

2 Claims

A composite armor plate structure consisting of a wrought 7039 aluminum alloy member having welded thereto a cast aluminum alloy member produced from an alloy consisting essentially of 3.8–4.3 weight percent zinc, 3.3–3.8 weight percent magnesium, 0.03–0.15 weight percent titanium, and the balance aluminum.

3,539,309

CIRCUIT COMPONENT MACHINING

Walter Helgeland, Nashua, N.H., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Continuation-in-part of applications Ser. No. 544,731,

Apr. 25, 1966; Ser. No. 618,370, Feb. 24, 1967; and

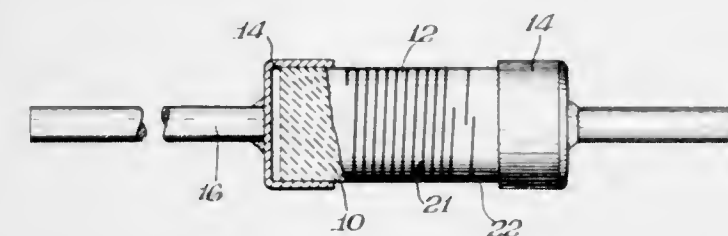
Ser. No. 628,911, Apr. 6, 1967. This application

July 11, 1967, Ser. No. 652,451

Int. Cl. G01r; G05f; H01h

U.S. Cl. 29—593

6 Claims



Film type electric circuit components such as resistors, inductors, and capacitors, have their electric characteristics adjusted by machining out portions of their film with an electron beam in two stages, permitting the component to cool down and/or be exposed to the atmosphere between stages to improve the accuracy with which the machining can be terminated by automatic controls. Where the film is copper, it can be applied over a stratum of chromium or chromium-nickel which, though even much thinner than the copper film will cause the machining to leave straighter and sharper edges as it cuts through the copper.

3,539,310

HYDROCARBON GELLING PROCESS USING ALUMINUM SOAP THICKENERS WITH SURFACE ACTIVE AGENTS

Leo Finkelstein, Aberdeen, and Sidney J. Magram and Leonard Cohen, Baltimore, Md., and William T. Gregory, Rushville, Ill., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed June 8, 1955, Ser. No. 514,135

Int. Cl. C101 7/02

U.S. Cl. 44—7

9 Claims

1. A process of gelling gasoline comprising adding to said gasoline a nonionic surface active agent selected from the group consisting of polyoxyethylene sorbitol esters of mixed tall oil acids, octylphenoxypolyethoxy ethanol and higher fatty acid derivatives of polyoxyethylene sorbitan, then adding an aluminum hydroxy soap of

at least one higher carboxylic acid selected from the group consisting of higher fatty acids and mixtures of higher fatty acids and naphthenic acids, the amount of said soap being about one to twelve percent by weight of the gasoline and the amount of surface active agent being about five percent by weight of said soap, stirring the mixture of gasoline, soap and agent until it thickens and finally allowing the thickened mixture to stand until it develops elasticity.

3,539,311

ALUMINUM SOAP THICKENERS WITH SURFACE ACTIVE AGENTS

Leonard Cohen, Baltimore, Md., and William T. Gregory, Rushville, Ill., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed June 8, 1955, Ser. No. 514,136
Int. Cl. C101 7/02

U.S. Cl. 44—7

6 Claims

1. A process of gelling gasoline comprising adding to said gasoline a blend of water and a fatty acid containing from 6 to 10 carbon atoms per molecule, the ratio of water to acid ranging from 10:90 to 15:85 then adding aluminum hydroxy di-(2-ethyl hexoate), the amount of said aluminum hydroxy di-(2-ethyl hexoate) being about one to twelve percent by weight of the gasoline and the amount of the first-named fatty acid being about five percent by weight of the aluminum di-(2-ethyl hexoate), stirring the mixture until thickening occurs, and then allowing the thickened mixture to stand until it develops elasticity.

3,539,312

SMOKE SUPPRESSANT FUEL COMPOSITION
George W. Eckert and Doris Love, Wappingers Falls, and James G. Dadura, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 625,621, Mar. 24, 1967. This application Oct. 25, 1968, Ser. No. 770,781
Int. Cl. C101 1/24

U.S. Cl. 44—76

9 Claims

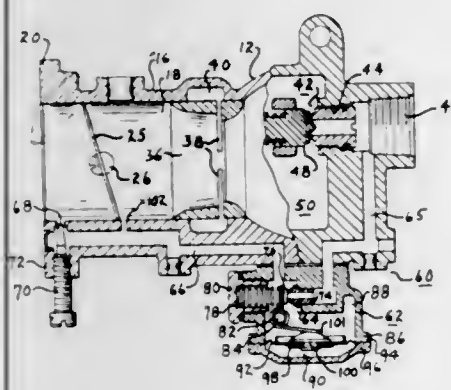
Smoke inhibited light distillate fuel composition comprising a hydrocarbon distillate fuel containing smoke suppressing amounts of calcium sulfonate in conjunction with either calcium hydroxide or a calcium alcoholate and method of operating an engine on a smoke suppressing fuel.

3,539,313

IDLE SYSTEM FOR L.P. GAS CARBURETORS
Jack R. Phipps, St. Clair Shores, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 650,268, June 30, 1967. This application Sept. 26, 1969, Ser. No. 863,677
Int. Cl. B01f 3/09; F02m 3/00, 7/12

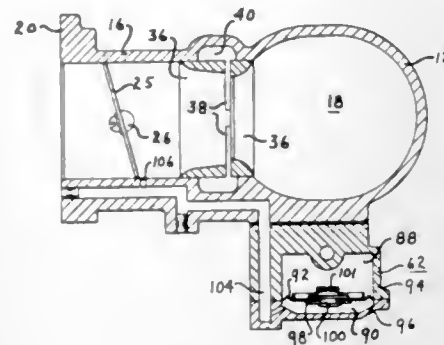
U.S. Cl. 48—184

12 Claims



An idle system for a gaseous fuel carburetor having a fuel valve controlled by a diaphragm subjected on one side to manifold vacuum when the throttle is fully closed

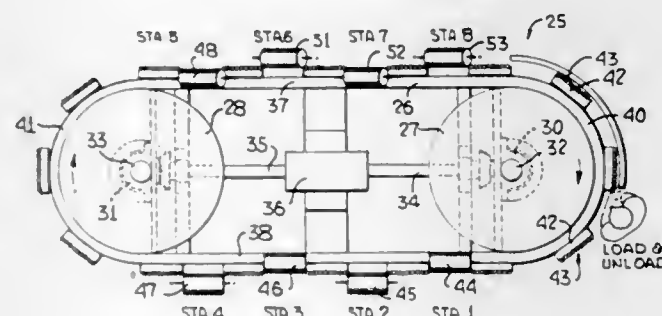
and subjected on both sides to manifold vacuum when the throttle has moved beyond the position of low speed operation. The diaphragm is connected to the valve by



a pivoted lever which urges the valve to open position in opposition to a spring when the throttle is in closed position.

3,539,314 AUTOMATIC NEEDLE POLISH AND BUFF MACHINE

Philip S. Rockefeller, Litchfield, and Edmund E. Dery, New Hartford, Conn., assignors to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Sept. 8, 1967, Ser. No. 666,297
Int. Cl. B24b 19/16, 41/02; A471 25/00
U.S. Cl. 51—76 19 Claims



A machine is provided which conveys groups of up-standing needles along a predetermined path, whereby the needles will pass between polishing and buffing brushes, disposed on opposite sides of the path, at predetermined angles of orientation, for engaging substantially all portions of needles conveyed therepast and rotatably polishing the needles.

3,539,315 METHOD OF MAKING A VITRIFIED GRANULAR ABRASIVE ELEMENT

Howard Bidwell, 56 Aldrich St., Granby, Mass. 01033
Continuation-in-part of application Ser. No. 315,589, Oct. 11, 1963. This application July 21, 1967, Ser. No. 655,190
Int. Cl. B24d 5/02, 5/10

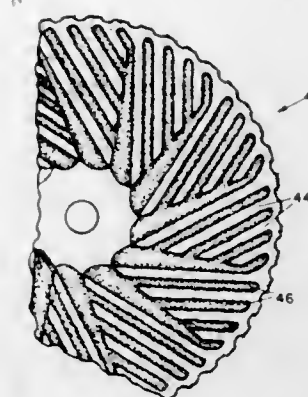
U.S. Cl. 51—293

1 Claim

Methods of modifying the surface characteristics of usual normal vitrifiable ceramic-type granular composed grinding wheel moulded blanks into cooperantly matched rotor-stator component element shapes and forms, suitable for use in the processing of fibrous materials, by sculpturally configuring the working surfaces thereof while in the unfired condition, with fiber flow influencing contours and fiber abrading grooving combinations to a maximized rough surface texture and subsequently fine grit-coating the exposed surface granules thereof, followed

by the permanent fusing of the grit-coating thereto during the kiln-firing of the so-configured and so-coated elements, by which said elements, when suitably mounted and applied, cause the amplification of induced ingress fluid flows created by virtue of the porosity of the struc-

ture and the rotation of the rotating member during normal operation, as to improve, enhance and accelerate the processing of fibrous materials, particularly those types generally employed in paper making and allied purposes.



ERRATUM

For Class 65—2 see.
Patent No. 3,538,722

3,539,316

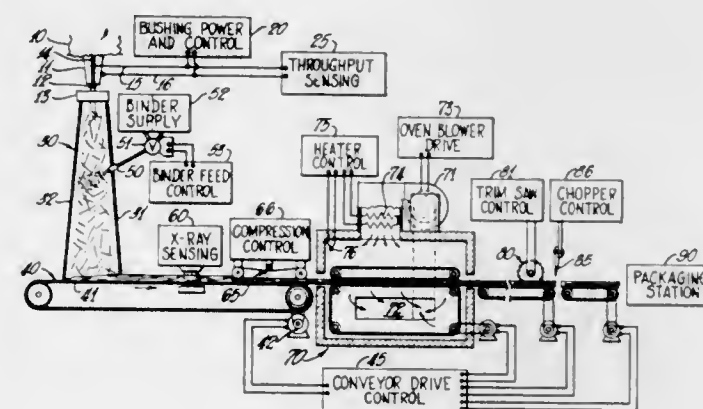
METHOD AND APPARATUS FOR MANUFACTURING FIBROUS STRUCTURES
William C. Trethewey, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed July 25, 1967, Ser. No. 655,942

Int. Cl. C03b 37/02

U.S. Cl. 65—2

15 Claims



The embodiment described herein comprises apparatus for forming a fibrous structure which comprises a fiber deposition station which includes a movable collecting surface and means for providing fibers above the collecting surface for deposition on the surface. An additional component such as a binder, may be added to the fibers on the surface. Further treatment of the binder and fibers may include heating and curing. The fibrous structure then may be edge trimmed, chopped to a desired length and packaged. Each of the functions of the apparatus may be controlled by a master control to set the variables for the type of product to be manufactured. Some of the functions are interrelated so that a change in one of the variables produces a change in the remaining functions

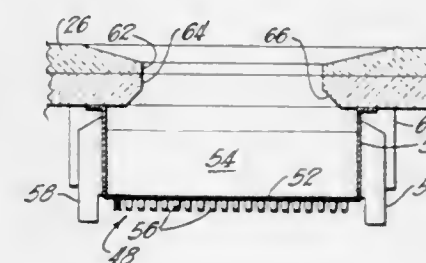
This invention pertains to an apparatus for forming a multiplicity of glass fibers from molten streams which has a collecting means such as a winding tube to attenuate the streams into fibers in combination with a pair of adjacent cooperating rolls spaced from the collecting means to advance the fibers when the collecting means is not attenuating the fibers.

3,539,318

APPARATUS FOR PRODUCING FIBERS
Hellmut I. Glaser, Newark, and Michael S. Mitcham, Granville, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,663
Int. Cl. C03b 37/02

U.S. Cl. 65—11

9 Claims



Openings along the bottom of a forehearth communicate with a plurality of bushings therebelow, with the openings having ends which flare outwardly and downwardly. The flared arrangement of the ends of the openings has been found to increase the uniformity of the temperature of the glass over the length of the bushing tip sections and thereby produce more uniform fibers with less interruptions in operation due to filament break-outs. The opening design according to the invention has been found to be particularly effective for bushings of the high through-put type and also for bushings producing very fine filaments.

3,539,319

METHOD AND APPARATUS FOR ENCAPSULATING DEVICES WITHIN A CERAMIC ASSEMBLY
Shigeru Tsuji, Kazutami Hayashi, Kouichi Kadowaki, and Katsuo Sato, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan

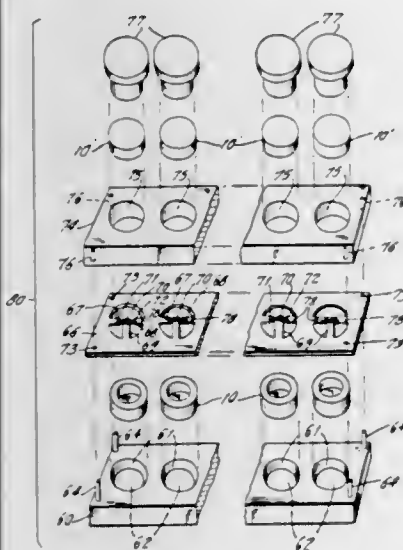
Application Jan. 12, 1967, Ser. No. 608,885, now Patent No. 3,436,201, dated Apr. 1, 1969, which is a continuation-in-part of application Ser. No. 282,863, June 14, 1963. Divided and this application May 17, 1968, Ser. No. 766,336

Claims priority, application Japan, June 16, 1962, 37/25,188

Int. Cl. C03b 23/24; C03c 27/02

U.S. Cl. 65—43

5 Claims



Method and apparatus for encapsulating semiconductor devices. An apparatus for aligning mating encapsulating components relative to the semiconductor devices with connecting terminals extending therefrom applies light pressure to the mating encapsulating devices while passing the precisely aligned components through a heating zone including a conveyor belt or continuously passing such apparatus through an open-ended oven to seal the semiconductor devices within the encapsulating component.

3,539,320

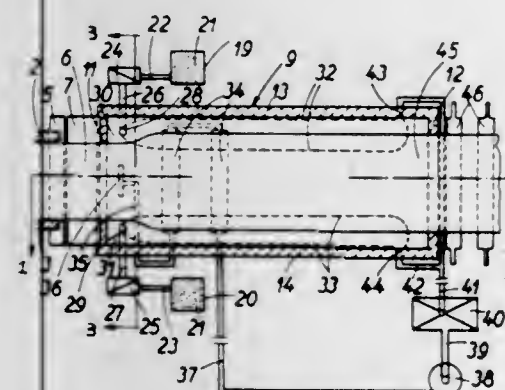
METHOD AND APPARATUS FOR MANUFACTURING FLOAT GLASS OF REDUCED THICKNESS
Emile Plumet, Gilly, and Marcel Delzant, Mont-sur-Marchienne, Belgium, assignors to Glaverbel S.A., Brussels, Belgium

Filed Dec. 20, 1966, Ser. No. 603,357
Claims priority, application Luxembourg, Jan. 11, 1966, 50,237

Int. Cl. C03b 18/02

U.S. Cl. 65—99

14 Claims



Thin flat glass (less than 5 mm. in thickness) is mass produced by pouring molten glass onto a molten metal

bath and dissolving a surface tension reducing agent selected from the group consisting of sulphur and tellurium in the molten metal bath under the edges of the glass layer to reduce the equilibrium thickness of the glass layer below 5 mm.

3,539,321

METHOD AND APPARATUS FOR SUPPORTING FLOAT GLASS SPOUT AND BATH TANK

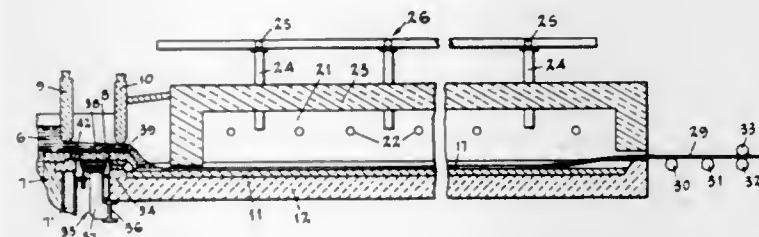
Eldwin C. Montgomery, Modesto, Calif., and Francis L. Swillinger, Perrysburg, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Jan. 2, 1968, Ser. No. 695,112

Int. Cl. C03b 18/02

U.S. Cl. 65—99

9 Claims



Method of and structure for supporting the spout, lip and bath tank, relative to the furnace, in apparatus for producing float glass; which involves supporting the spout and bath tank as a unit in operative relation to the furnace on a first unitary supporting structure which is separate from a second supporting structure for the furnace; and which may also involve heating the apparatus to working temperature, and then fitting an expansion block into a space provided between the spout and the furnace, before supplying glass to the bath over the spout.

3,539,322

METHOD AND APPARATUS FOR PRODUCING AN INTERNAL PRECISION SEALING SURFACE IN HOLLOW GLASS BODIES

Donald Curtis, Stone, England, assignor to Quickfit & Quartz Limited, Stone, England, a corporation of Great Britain

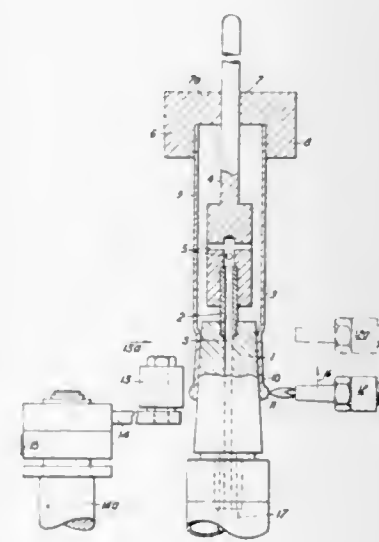
Filed Mar. 25, 1968, Ser. No. 715,661

Claims priority, application Great Britain, Mar. 23, 1967, 13,818/67

Int. Cl. C03b 21/00

U.S. Cl. 65—108

10 Claims



An internal precision sealing surface is developed in a hollow vitreous body, e.g. a hollow glass tubular body, by supporting a body by means of a resilient material secured

to the upper part of a spindle, each of which being disposed vertically coaxially above a mandrel, and heating the sealing surface while applying suction to the interior of the body so that the sealing surface is symmetrically applied to the mandrel.

3,539,323

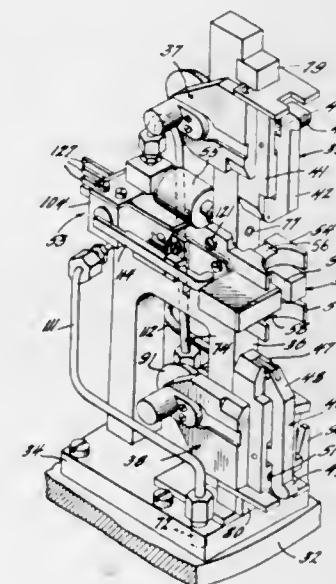
APPARATUS FOR ASSEMBLING SEALED CONTACT SWITCHES

Glenn Adrian Marlin, James Clifford McConnell, and Wilhelm Emil Albert Schmidt, Winston-Salem, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 3, 1967, Ser. No. 621,730

Int. Cl. C03c 27/02

U.S. Cl. 65—139

4 Claims



Apparatus for assembling sealed contact switches having an upper and a lower contact positioned and sealed within a glass sleeve in spaced overlapping relationship. The apparatus holds the upper and the lower contacts and moves them into a glass sleeve after which the upper contact is magnetized to attract the overlapping portion of the lower contact to support and hold the lower contact. The lower contact is then sealed by radiant energy within the lower end of the glass sleeve while a forming gas is introduced into the upper end of the glass sleeve. Subsequently, facilities are actuated to move the glass sleeve and sealed lower contact laterally with respect to the upper contact to set a predetermined gap between the overlapping portions of the upper and lower contacts. Then the upper contact is sealed within the upper end of the glass sleeve in an enclosed pressurized chamber.

3,539,324

APPARATUS FOR CONTINUOUSLY DRAWING A GLASS SHEET UPWARDLY WITH SENSING MEANS

Takao Terakado, Isao Kawada, and Naoyuki Kuroda, Kitakyushu, Japan, assignors to Asahi Glass Co., Ltd., Tokyo, Japan

Filed Feb. 2, 1967, Ser. No. 613,555

Claims priority, application Japan, Feb. 7, 1966, 41/6,727

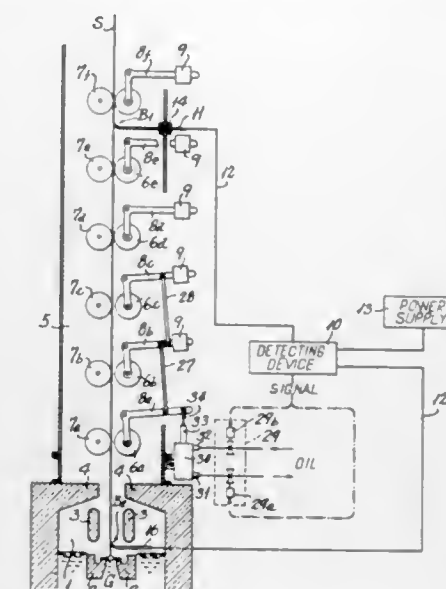
Int. Cl. C03b; C03c; G01d; G08g

U.S. Cl. 65—158

2 Claims

An electric current is introduced into a continuous glass ribbon being drawn upwardly by pairs of rolls in the drawing machine, from the contact terminals connected with the power source and positioned in contact with the ribbon. An increase in the electrical resistivity in the glass ribbon due to cracking and/or breakage produced on the ribbon is detected by an electric circuit

through which said current flows. Immediately after said detection, at least a pair of rolls placed in the lower position of the drawing machine and being normally idle is activated and thereby grips the ribbon therebetween.



tion of the drawing machine and being normally idle is activated and thereby grips the ribbon therebetween.

3,539,325

FOLIAR FEEDING OF PINEAPPLE

Donald C. Young, Fullerton, and Saburo Hashimoto, Yorba Linda, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Jan. 8, 1968, Ser. No. 696,099

Int. Cl. C05c 1/00

U.S. Cl. 71—1

6 Claims

The invention comprises the application of concentrated ammonium nitrate solutions to the foliage of pineapple plants. The solutions are applied at dosages of from 5 to 90 pounds of nitrogen per acre using solutions having a concentration of at least 10 weight percent nitrogen. Surprisingly, it has been found that the use of the aforementioned highly concentrated ammonium nitrate solutions does not result in increased osmotic burning of the foliage of the pineapple plants, but rather, the rate of osmotic burning of the foliage decreases with the increasing concentration of the solutions. The solutions optionally also include a soluble iron salt such as iron sulfate, iron nitrate, etc., in amounts from about 0.5 to about 10 weight percent calculated as iron. The added salts supply the iron requirements of the plant to avoid chlorosis and, surprisingly, have been observed to further decrease the rate of osmotic burning of the applied solutions. The solutions are applied with normal agronomical practice; generally, frequent applications are made during the growing season to supply from 400 to about 600 pounds nitrogen per acre per year.

3,539,326

PROCESS FOR PRODUCING GRANULAR COMPOUND FERTILIZER

Eiji Otsuka, Fujisawa, Minoru Takada and Kiyoshi Matsuo, Kamakura, Hitoshi Murozono, Yokohama, and Tokio Nagayama, Hatano, Japan, assignors to Mitsui Toatsu Chemicals Incorporated, Tokyo, Japan, a corporation of Japan

Filed Mar. 31, 1967, Ser. No. 627,438

Claims priority, application Japan, Apr. 1, 1966, 41/19,968; May 24, 1966, 41/32,699; Jan. 16, 1967, 42/2,753

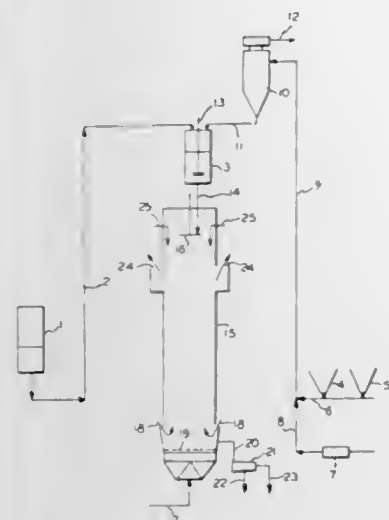
Int. Cl. C05c 9/00

U.S. Cl. 71—28

23 Claims

A process for producing granular compound fertilizers containing nitrogen and phosphorus and/or potassium which comprises mixing a preheated solid phosphate and/

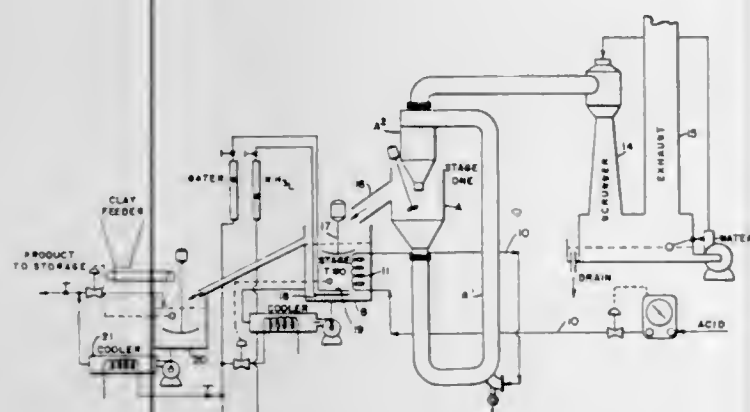
or a preheated potassium salt with a melt liquid of urea and/or ammonium nitrate to form a melt mixture, divid-



3,539,327
METHOD FOR PREPARATION OF AMMONIUM POLYPHOSPHATE LIQUID FERTILIZER BASE
John W. Hudson, Atlanta, Ga., assignor, by mesne assignments, to United States Steel Corporation, Pittsburgh, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 596,903, Nov. 25, 1966. This application Nov. 7, 1967, Ser. No. 681,288

Int. Cl. C05b 7/00, 11/10
U.S. Cl. 71-34

4 Claims



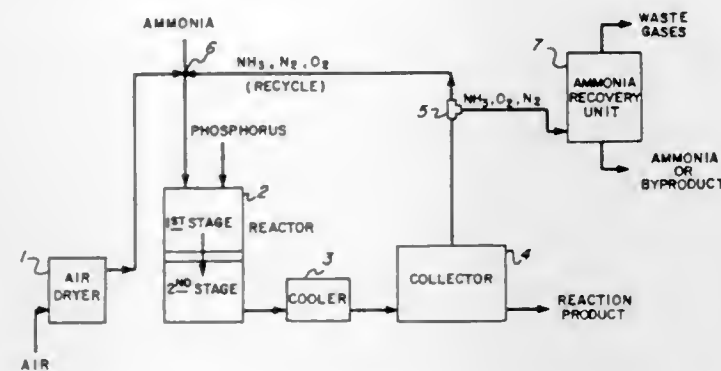
An ammonium polyphosphate base is prepared from wet process phosphoric acid by maintaining a first pool of ammonium polyphosphate melt from which a stream is recycled from the lower portion of the body upwardly through a generally vertical leg to above the pool, fresh wet process phosphoric acid together with ammonia and steam being introduced into the lower portion of the recycle leg, the stream being propelled upwardly during the reaction and discharged through a cyclone separator into the first pool, the steam being withdrawn from the upper part of the separator. Overflow from the first pool passes to a second pool where the melt is cooled and further reacted with ammonia and diluted with water, the product being withdrawn and mixed with a suspension of clay. The fresh acid which is introduced into the bottom of the leg is preferably passed in indirect heat exchange through the second pool to preheat the acid and to cool the slurry of the second pool.

3,539,328
PRODUCTION OF NITROGEN-PHOSPHORUS COMPOUNDS

Harry T. Lewis, Jr., Florence, Ala., assignor to Tennessee Valley Authority, a corporation of the United States
Filed Sept. 17, 1968, Ser. No. 760,167
Int. Cl. C05b 7/00

U.S. Cl. 71-34

6 Claims



FLOW SHEET FOR REACTING AMMONIA, PHOSPHORUS, AND OXYGEN (AIR)

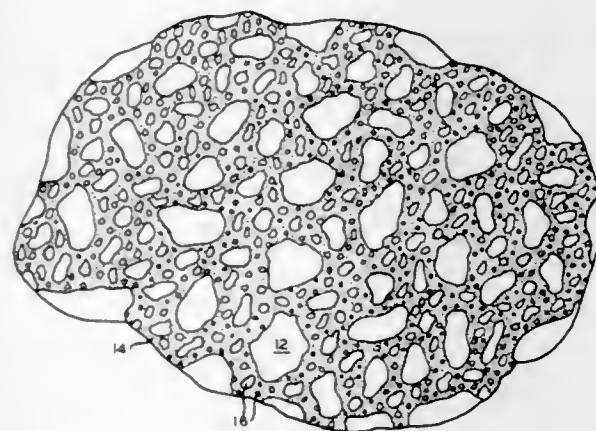
A vapor phase reaction process involving simultaneous reaction of ammonia, oxygen, and elemental phosphorus in a two-stage reactor. First stage of reactor is maintained at about 950° to 1065° F. and the second stage in the range from about 1200° to about 1600° F. Reaction gases are collected as dry, white, amorphous solid products. Solid products contain 12 to 20 percent N, 34 to 41 percent P, and up to 113 percent total plant nutrient content (N+P₂O₅ equivalent). Water solubility of the solid products is predetermined and is in the range from about 20 to 95 percent. The product may be further solubilized by hydrolyzing it with aqueous medium (water, water vapor, steam, and mixtures thereof) at 212°-400° F. and 0-240 p.s.i.g. for about 5-60 minutes.

3,539,329
PROCESS FOR GRANULATING AMMONIUM SULFATE

Joseph F. Wilson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 545,033, Apr. 25, 1966. This application Mar. 23, 1967, Ser. No. 625,466

Int. Cl. C05d 9/00
U.S. Cl. 71-61

9 Claims



Ammonium sulfate prills are formed by spraying sulfuric acid onto ammonium sulfate crystals having small mesh size, tumbling or mixing the wetted ammonium sulfate crystals to effect agglomeration thereof, and ammoniating the sulfuric acid in the agglomerates to form additional ammonium sulfate as a binding material for the

preformed crystals. The resulting prills are substantially one-hundred percent ammonium sulfate having a unique structure wherein relatively large (preformed) crystals are randomly distributed in a matrix of relatively small crystals (formed in situ).

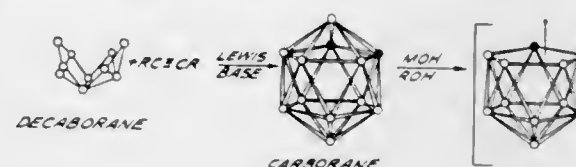
3,539,330
DEFOLIANT-DESICCANT CONTAINING DICARBADODECAHYDROUNDECABORATES

Donald C. Young, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

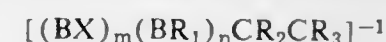
Filed Apr. 11, 1968, Ser. No. 720,729

Int. Cl. A01n 9/00
U.S. Cl. 71-70

9 Claims



A method for facilitating the harvesting of crops by applying to the crops an effective amount of an active defoliant and desiccant comprising dicarbododecahydro-undecaboric acid or its alkali metal or ammonium salts, wherein the active ingredient is the dicarbododecahydro-undecaborate anion having the following empirical formula:



wherein:

X is halogen or hydrogen;

R₁ is alkyl, aryl, alkenyl or halo alkyl having from 1 to about 5 carbons;

R₂ and R₃ are halogen, hydrogen or alkyl, aryl, alkenyl, carboxyl or cycloalkyl having from 1 to about 10 carbons;

n is 0, 1 or 2; and

m+n=9.

The compositions are active for the defoliation and desiccation of a variety of plants including cotton, seed clover and alfalfa, milo, sugar cane, sugar beets, roses, potatoes, peppers and tomatoes. The preferred application because of the large volume of use is the defoliation and desiccation of cotton.

3,539,331
METHOD OF CONTROLLING GROWTH OF PLANTS

Terrill D. Smith, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 536,608, Mar. 23, 1966. This application Oct. 17, 1968, Ser. No. 768,972

Int. Cl. A01n 9/36

U.S. Cl. 71-71

20 Claims

Compositions containing phosphorodiamidates have utility as herbicides and defoliants.

3,539,332
PYRAZINE COMPOSITIONS AND METHOD OF USE
Joseph Geronimo, Concord, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 23, 1968, Ser. No. 786,396

Int. Cl. A01n 9/22

U.S. Cl. 71-92

10 Claims

The present disclosure is concerned with herbicidal pre-emergent control of undesirable plant species and

in particular relates to methods and compositions for such use employing as the active growth inhibiting agent one of 2,3,5-trichloro-6-methoxypyrazine or 2,3,5-trichloro-6-(methylthio)pyrazine.

3,539,333

COMBATING WEEDS IN SUGAR BEETS

Kenneth P. Dubrovin, Leawood, Kans., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Aug. 21, 1968, Ser. No. 754,477

Int. Cl. A01n 9/20, 9/22, 9/24

U.S. Cl. 71-111

3 Claims

A greater variety of troublesome species of weeds in sugar beet fields is controlled by post-emergent application of a synergistic combination of benzamidoxyacetic acid with a compound selected from 3-cyclohexyl-6,7-dihydro-1H-cyclopentapyrimidine-2,4-(3H,5H)-dione and 3'-carbomethoxyaminophenyl 3-methyl-carbanilate.

3,539,334

METHOD FOR PRODUCING PYROPHORIC METAL ALLOY POWDERS

Walter V. Goedel, Poway, and Robert J. Akins, San Diego, Calif., assignors to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Aug. 13, 1968, Ser. No. 752,172

Int. Cl. B22f 9/00; C22b 59/00

U.S. Cl. 75-5

6 Claims

Friable pyrophoric metal alloys are produced by combining a pyrophoric metal or metal alloy with an alloying material. The friable pyrophoric metal alloys are thereafter comminuted to provide pyrophoric metal alloy powders. A preferred pyrophoric metal alloy is produced by combining misch metal with an alloying material selected from zinc, silicon, carbon and combinations thereof. Other alloying materials such as tungsten, cadmium, lead or combinations thereof may also be used in the pyrophoric metal alloy to provide control of density.

3,539,335

PROCESS FOR THE REDUCTION OF METAL HALIDES

Kjell Å. Svanström, Nynashamn, Sweden, assignor to Rederiaktiebolaget Nordstjernan, Nynashamn, Sweden, a joint-stock company of Sweden
No Drawing. Filed Feb. 15, 1968, Ser. No. 705,613

Claims priority, application Sweden, Feb. 23, 1967, 2,490/67

Int. Cl. B22f 9/00; C22b 49/00, 57/00

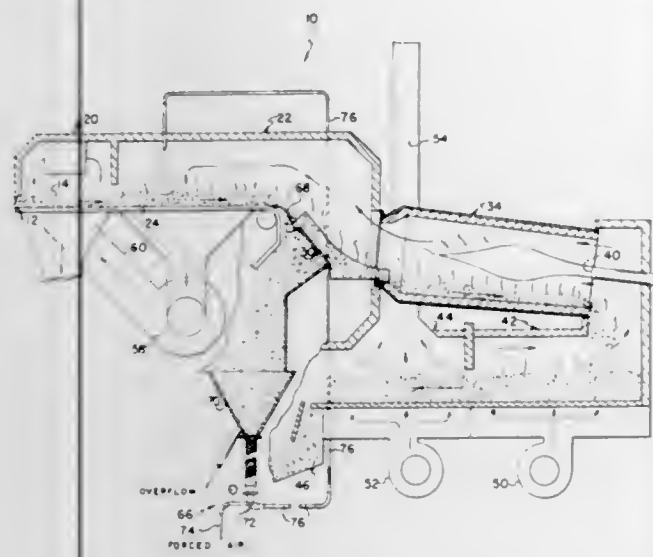
U.S. Cl. 75-5

5 Claims

The invention relates to the reduction of halides or refractory metals by means of hydrogen gas in order to produce metal powders. Hitherto metal powders produced in that way have been very finely grained. This drawback has been met and a coarser grain size has been achieved by carrying out the reduction in two steps. The first step is only a partial reduction and takes place at a low reduction temperature, usually within the range 450-1000° C. The second step is a final reduction and takes place at a higher reduction temperature, usually within the range 800-1300° C.

3,539,336
ORE PELLETIZING PROCESS AND APPARATUS
 Daniel M. Ulrich, Hibbing, Minn., assignor to Eveleth Taconite Company, Forbes, Minn., a corporation of Minnesota

Filed Aug. 20, 1968, Ser. No. 754,042
 Int. Cl. B65g 53/12; C21b 1/08; E27b 17/00
 U.S. Cl. 75—3 8 Claims



An improved iron ore pelletizing apparatus and method includes a pneumatic transport system for returning hot iron ore pellets, which are spilled while being transferred to an indurating kiln, to a preheating or drying furnace.

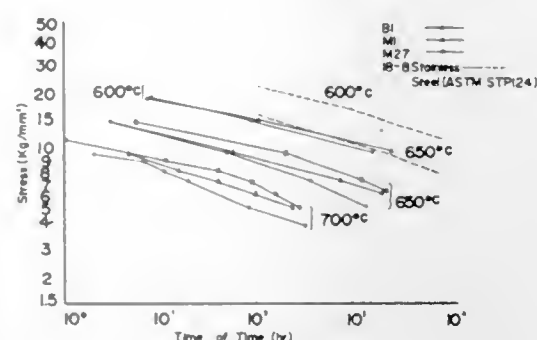
3,539,337
PRODUCTION OF IRON OXIDE AND IRON FREE OF MANGANESE
 Douchan Stanimirovitch and André Leon Kahn, Paris, France, assignors to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, Seine-Saint-Denis, France, a company of France
 Filed Dec. 12, 1967, Ser. No. 689,847
 Claims priority, application France, Dec. 21, 1966, 88,327
 Int. Cl. C01g 49/06, 49/08; C21b 15/00
 U.S. Cl. 75—108 7 Claims

Highly pure and highly porous ferric oxide produced by oxidation of a ferrous sulfate solution by an energetic oxidizing agent in particular an alkali chlorate to produce alkali ferric oxy-sulfate characterized by the fact that said oxidation is carried to completion of the precipitation of the oxy-sulfate by the addition of alkali ions (the alkali ions constituting sodium ions and the proportion of 3 to 4 alkali cations for 6 cations of iron being used), this precipitation taking place during boiling, the ferric oxy-sulfate product thus obtained then being subjected to heating at high temperature in an oxidizing atmosphere to obtain ferric oxide, said ferric oxide which is very pure and highly porous being further reducible to magnetite or iron respectively by partial or complete reduction in a reducing atmosphere such as hydrogen.

3,539,338
HIGH-TEMPERATURE ALLOY STEEL CONTAINING Cr AND Mo
 Tohru Mimino, Kazuhisa Kinoshita, Keisuke Hattori, and Akiyoshi Matsushita, Kawasaki-shi, Japan, assignors to Nippon Kokan Kabushiki Kaisha, Tokyo, Japan
 Filed June 27, 1967, Ser. No. 651,646
 Claims priority, application Japan, June 28, 1966, 41/41,584
 Int. Cl. C22c 39/14

U.S. Cl. 75—126 1 Claim
 The disclosed alloy steel is a high-temperature high-strength alloy steel, the alloy steel being a ferritic high-temperature steel and inexpensive compared with an austenitic stainless steel still having the high-strength

corresponding to the austenitic stainless steel in high temperature such as 600° to 650° C. The alloy steel has also an oxidation-resistant property in the above high



temperature range. To accomplish the purpose described alloy steel it consists essentially of chromium 5 to 8%, and molybdenum 1% further adding vanadium, niobium and boron.

3,539,339
BRAZING ALLOY
 Otto Knotek, Lausanne, Switzerland, assignor to Societe des Soudures Castolin S.A., Lausanne, Switzerland, a corporation of Switzerland
 No Drawing. Filed June 22, 1967, Ser. No. 647,924
 Int. Cl. C22c 31/00

U.S. Cl. 75—134 2 Claims
 A cadmium, copper and zinc containing silver alloy with less than 40% but at least 30% by weight of silver wherein said copper and zinc contents of the resultant reduced silver alloy are determined by the following formulae:

Resultant Cu by wt. percent = $19 + .8 (40 - \text{Ag content by wt. percent})$

Resultant Zn by wt. percent = $22 + .2 (40 - \text{Ag content by wt. percent})$

and wherein the copper content of the resultant alloy varies $\pm 1.5\%$ by weight and wherein the zinc content of the resultant alloy varies $\pm .5\%$ by weight, wherein the balance of said alloy is cadmium.

3,539,340
TRANSPARENCIES FOR ELECTROSTATIC COPYING CONSISTING OF POLYESTER SHEETS COATED WITH VINYLIDENE CHLORIDE COPOLYMERS
 Thomas J. Dolce, Menlo Park, and Donald L. McCabe, Rahway, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
 No Drawing. Filed July 17, 1967, Ser. No. 653,675
 Int. Cl. G03g 13/14

U.S. Cl. 96—1.4 9 Claims
 Transparencies are produced by forming an adherent image upon the modified surface of a transparent polyester sheet by transfer electrostatic copying. The transparent polyester sheet utilized in the invention possesses modified surface characteristics to improve adhesion which result from the presence of a coating thereon of certain vinylidene chloride copolymers.

3,539,341
TRANSPARENCY COMPRISING POLYESTER SHEET COATED WITH ORGANOTITANIUM COMPOUND
 Thomas J. Dolce, Menlo Park, and Donald L. McCabe, Rahway, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
 No Drawing. Filed July 17, 1967, Ser. No. 653,624
 Int. Cl. G03g 13/14

U.S. Cl. 96—1.4 11 Claims
 Transparencies are produced by forming an adherent image upon the modified surface of a transparent polyester

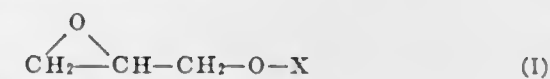
sheet by transfer electrostatic copying. The transparent polyester sheet utilized in the invention possesses modified surface characteristics to improve adhesion which result from the application of an organotitanium compound.

3,539,342
REPRODUCTION PROCESS
 Kinji Okubo, Kanagawa, and Toshihiko Nagai, deceased, late of Tokyo, Japan, by Kenichi Nagai, legal representative, Tokyo, Japan; said Okubo assignor to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan
 No Drawing. Filed Feb. 10, 1966, Ser. No. 529,909
 Claims priority, application Japan, Feb. 10, 1965, 40/7,155
 Int. Cl. G03c 5/04

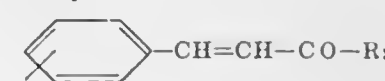
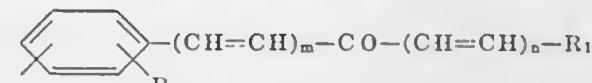
U.S. Cl. 96—27 5 Claims
 A method for reproducing an original whereby transferable material is selectively adhered to an intermediate sheet which has produced thereon an image of the original. In a first embodiment, the transferable material is adhered to the sheet by forming a latent image of water moisture by heating a copy sheet containing a water hydrated material so as to release and vaporize the water of crystallization. In a second embodiment, the intermediate sheet is coated with a photosensitive material which is selectively exposed to light and the transferable material rubbed thereon. The transferable material (1) is hard and nonsticky in the normal state, (2) melts at temperatures between 70° C. to 170° C., and (3) forms a metastable liquid when cooled. The transferable material is then heated to its melting point and then transferred to a receiving sheet to thereby form on the receiving sheet the original image where the receiving sheet image consists essentially of the molten transferable material. The last mentioned image is then developed and fixed on the receiving sheet.

3,539,343
LIGHT-SENSITIVE REPRODUCTION LAYER AND REPRODUCTION MATERIAL PROVIDED THEREWITH
 Johannes Munder, Wiesbaden-Biebrich, Hans Ruckert, Wiesbaden-Schierstein, Hartmut Steppan, Wiesbaden-Dotzheim, Günter Messwarb, Kelkheim, and Walter Luders, Neu-Isenburg, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
 No Drawing. Filed July 3, 1968, Ser. No. 742,185
 Claims priority, application Germany, July 6, 1967, 1,597,782
 Int. Cl. G03c 1/68

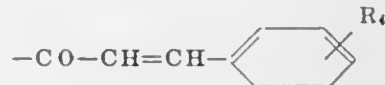
U.S. Cl. 96—35.1 19 Claims
 This invention relates to a light-sensitive reproduction layer which contains as the light-sensitive substance at least one homopolymer or copolymer of an epoxide of the following general Formula I



wherein X is one of the groups



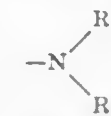
and



in which

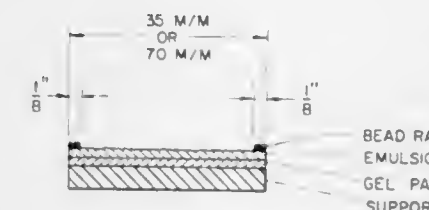
R₁ is a carbocyclic or heterocyclic aromatic group linked through a ring carbon atom,

R₂ is hydrogen, halogen, an alkyl or alkoxy group, R₃ is an alkoxy, or an aryloxy group or the group



in which R₅ and R₆ are alkyl groups which may be linked together to form an alkylene group, R₄ is hydrogen, halogen, an alkyl, alkoxy or nitro group, m is 0 or 1, and n is 0 or a whole number from 1 to 4 and the sum of m+n is not less than 1.

3,539,344
PHOTOGRAPHIC ELEMENTS HAVING PROTECTIVE BEAD COATINGS
 Theodore A. Russell, Webster, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
 Filed May 31, 1967, Ser. No. 642,514
 Int. Cl. G03c 1/76, 3/00
 U.S. Cl. 96—67 17 Claims



Photographic recording elements have a layer of protective material comprising beads dispersed in a binder coated as a strip along the edges or on other areas not intended for photographic recording. The bead coating stands higher than the photosensitive recording layer providing a spacer and bearing surface to protect the recording layer from damage by abrasion with contacting surfaces as when films are wound in rolls or plates are stacked.

3,539,345
THERMAL DIAZOTYPE PAPERS
 Walter J. Welch, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
 No Drawing. Filed Feb. 1, 1967, Ser. No. 613,081
 Int. Cl. G03c 1/54

U.S. Cl. 96—91 5 Claims
 Two-component thermal diazo sensitizing compositions comprising an azo coupler and a light-sensitive diazonium compound and wherein the latter is employed in the form of the fluoborate, trifluoroacetate or sulfate stabilized salt.

3,539,346
PHOTOSENSITIVE COMPOSITION CONTAINING A PYRAZOLE, AN AROMATIC AMINE AND AN ORGANIC HALOGEN COMPOUND
 Balwant Singh and William Arthur Henderson, Jr., Stamford, Conn., and Edwin Fisher Ullman, Atherton, San Mateo, Calif., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
 No Drawing. Filed Dec. 20, 1966, Ser. No. 603,171
 Int. Cl. G03c 1/52

U.S. Cl. 96—90 10 Claims
 Photosensitive compositions, typically a mixture of 4-amino-3,5-diphenylpyrazole, diphenylamine or phenol, and chloroform. The compositions, alone or on a substrate such as paper, become intensely colored when irradiated with UV light, and are useful in photocopying.

3,539,347

DIAZONIUM COMPOUNDS AND DIAZOTYPE MATERIAL THEREFROM

Herbert Rauhut, Wiesbaden-Biebrich, Germany, assignor, by mesne assignments, to Keuffel & Esser Company, Hoboken, N.J.

No Drawing. Continuation-in-part of application Ser. No. 711,194, Mar. 7, 1968. This application Apr. 24, 1968, Ser. No. 723,931

Claims priority, application Germany, Mar. 8, 1967, K 61,652

Int. Cl. G03c 1/54; G07c 113/04

U.S. Cl. 96—91 11 Claims

One- or two-component diazotype materials of particularly high coupling speed and light sensitivity are provided through the use of a light-sensitive diazonium compound derived from unilaterally diazotized p-phenylene diamine bearing fluorinated alkoxy substituents on the benzene nucleus. The fluorinated alkoxy group is effective in increasing coupling speed when it is situated in any of the 2-, 5-, or 6-position on the benzene nucleus and exhibits a particular effect in increasing light sensitivity when in the position ortho to the diazo group.

3,539,348

PHOTOGRAPHIC MATERIAL FOR THE SILVER-DYE-BLEACH PROCESS

Hans Vetter, Cologne-Stammheim, Karl-Heinz Freytag, Leverkusen-Steinbuechel, Bernhard Seidel, Cologne-Mulheim, and Erich Bockly, Leverkusen, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 11, 1967, Ser. No. 629,928

Claims priority, application Germany, Apr. 28, 1966, A 52,295

Int. Cl. G03c 1/10

U.S. Cl. 96—99 9 Claims

Certain sulfonated amino naphthol azo dyes are particularly brilliant and light-fast magenta dyes for silver-dye-bleach photographic use.

3,539,349

FOGGED DIRECT POSITIVE SILVER HALIDE EMULSIONS CONTAINING QUATERNATED MERCYANINE DYES

Leslie G. S. Brooker and Frank G. Webster, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 8, 1967, Ser. No. 666,513

Int. Cl. G03c 1/08

U.S. Cl. 96—130 24 Claims

Direct positive silver halide emulsions are sensitized with quaternated merocyanine dyes. Novel quaternated merocyanine dyes are provided which contain a desensitizing nucleus.

3,539,350

PHOTOGRAPHIC ELEMENTS AND EMULSIONS STABILIZED AGAINST THERMAL FOG

Maurice Edgar Pfaff, Vincennes, France, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 30, 1967, Ser. No. 650,211

Claims priority, application France, Aug. 5, 1966, 72,203

Int. Cl. G03c 1/30, 1/34

U.S. Cl. 96—109 12 Claims

A photographic silver halide emulsion or photographic element containing as stabilizers against thermal fog, cadmium chloride and either citric acid or tartaric acid.

3,539,351

PHOTOGRAPHIC GELATIN HARDENED WITH AN ALIPHATIC POLYOXYMETHYLENE GLYCOL ALIPHATIC CARBOXYLIC ACID DIESTER

Donald M. Burness and Burton D. Wilson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,924

Int. Cl. G03c 1/30

U.S. Cl. 96—111 13 Claims

Gelatin compositions and photographic silver halide gelatin emulsions are hardened upon the alkaline activation of certain polyoxymethylene esters.

3,539,352

COATING AIDS FOR HYDROPHILIC COLLOID LAYERS OF PHOTOGRAPHIC ELEMENTS

William J. Knox, Jr., Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 27, 1968, Ser. No. 708,483

Int. Cl. G03c 1/04

U.S. Cl. 96—114.5 17 Claims

Hydrophilic colloid layers of a photographic element, e.g., emulsion layers, protective gelatin coats, filter layers, film backings, gelatin subs and the like, are coated on the film support as aqueous dispersions containing minor amounts of a coating aid which is a 2-(aliphatic hydrocarbon)-1-(ethyl-beta-oxipropionic acid) imidazoline. These compounds also function to prevent wandering of mordanted dyes between layers in color recording elements.

3,539,353

POLY(SULFOALKYL) GELATIN

John W. Gates, Jr., and Paul E. Miller, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 736,570, June 13, 1968, which is a continuation-in-part of application Ser. No. 364,784, May 4, 1964. This application Oct. 7, 1969, Ser. No. 864,556

Int. Cl. C09h 11/00; C08h 1/00; C07n 7/00

U.S. Cl. 96—114.8 10 Claims

New gelatin compounds having sulfoalkyl groups attached to the gelatin molecule, a process for making said compounds and photographic elements and emulsions containing said compounds are disclosed.

3,539,354

METHOD OF PRODUCING A SANDWICH

William B. Colvin, Mount Healthy, Ohio, assignor to E. Kahn's Sons Company, Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 20, 1967, Ser. No. 669,094

Int. Cl. A23l 1/34; B65b 25/22

U.S. Cl. 99—1 8 Claims

A frozen package which comprises a container for a sandwich, in which bread slices of the sandwich are held in intimate flatwise contact with metallic surfaces of the container and a lid therefor, so that said metallic surfaces will grill the sandwich during a single oven heating period acting primarily to thaw the frozen sandwich and warm it to a desirable eating condition. This method of preparation constitutes a single-step convenient procedure which eliminates repeated handling of the package and its contents, with a minimum expenditure of time, effort, and preparation.

3,539,355

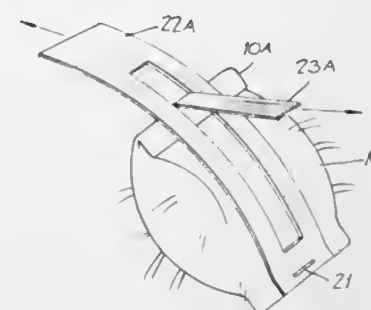
COFFEE FILTER BAG

Sam Kasakoff, 329 E. 58th St., New York, N.Y. 10022

Continuation-in-part of application Ser. No. 570,557, Aug. 5, 1966. This application June 28, 1967, Ser. No. 649,557

Int. Cl. B65b 29/02

U.S. Cl. 99—77.1



An open and expansible filter bag containing a charge of ground coffee and adapted when in use to also contain a substantial volume of water is enclosed within a protective envelope. The bag includes means which will close and compress the bag so that the water is subjected to pressure to express the resultant brew through the filter.

ERRATUM

For Class 99—88 see:
Patent No. 3,538,840

3,539,356

PROCESS OF MAKING SNACK PRODUCTS

John O. Benson, Mayer, and Merle F. Peden, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Mar. 9, 1967, Ser. No. 621,756

Int. Cl. A23l 1/12, 1/10

U.S. Cl. 99—100 17 Claims

Prepare a snack from a gelatinized farinaceous dough containing 22–32% moisture by working and shaping the dough at said moisture level into a thin piece having shear strength of at least 75 pounds, form into small pieces and deep-fat fry at the same moisture content.

3,539,357

METHOD OF TREATING RESIDUES OF RENDERED HIGH FAT MEAT MATERIAL

Milo Don Appleman, Los Angeles, Calif., assignor, by direct and mesne assignments, of seventy percent to Jack J. Schroeder, Long Beach, Calif., and ten percent each to Henry M. Espoy, Seal Beach, Stanisloa De Santis, Rolling Hills, and Milo Don Appleman, Sr., Los Angeles, Calif.

No Drawing. Continuation-in-part of application Ser. No. 492,854, Oct. 4, 1965. This application Sept. 1, 1966, Ser. No. 576,563

Int. Cl. A23j 1/02; A23p 1/00

U.S. Cl. 99—107 8 Claims

High temperature rendered tissue is treated with acid under controlled conditions to produce a limited breakdown of the proteins so that the tissue remains soft and pliable which upon addition of alkali to a neutral pH will resolidify rather than remain liquid.

3,539,358

DEHYDRATED BLAND PUDDING BASE

Francisco S. Hing, Chicago, Ill., assignor to Gerber Products Company, Fremont, Mich.

No Drawing. Filed Mar. 1, 1967, Ser. No. 619,554

Int. Cl. A23l 1/14

U.S. Cl. 99—139 8 Claims

Production of a bland pudding base reconstitutable with a flavored fluid by gelatinizing an aqueous slurry of

cross-linked acylated waxy grain starch and sugar, said sugar being in a starch to sugar ratio of about 2:1 to 1:2.

3,539,359

PACKAGING OF FOODSTUFFS

William Murchison, Rainford, England, and Stewart E. Crow, Edinburgh, Scotland, assignors to Cerebos Foods Limited, Willesden, London, England, a British company

No Drawing. Filed Jan. 26, 1968, Ser. No. 700,689
Claims priority, application Great Britain, Jan. 30, 1967, 4,523/67

Int. Cl. B65b 25/22, 55/00

U.S. Cl. 99—171 4 Claims

This invention relates to the packaging of acid-preserved moist foodstuffs which are subject to bacterial deterioration. Acid-neutralising substances are provided in a form whereby they are not available to the foodstuffs during storage at ambient temperatures but can be made available during the heating of the packages containing the foodstuffs prior to serving.

3,539,360

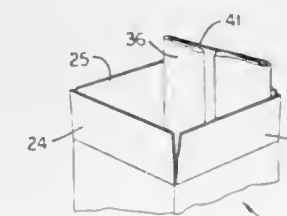
SHORTENING CONTAINER DEVICE

Robert N. Wood, Indianapolis, Ind., assignor to Inland Container Corporation, Indianapolis, Ind., a corporation of Indiana

Continuation-in-part of application Ser. No. 633,995, Apr. 26, 1967. This application May 9, 1969, Ser. No. 823,383

Int. Cl. B65d 85/72, 85/74

U.S. Cl. 99—171 2 Claims



A container particularly well adapted to receive bulk quantities of shortening and the like having a plastic bag in the form of a tube having a single sealed seam closing its lower end. The tube is received inside a carton of corrugated fibreboard and a portion of the perimeter of the bag is secured by adhesive means to the upper margin of a carton sidewall to assure that it will remain in position during filling and that the bag will remain closed when the carton is set up or erected prior to filling of the bag. After filling, the bag is detached from the carton sidewall so that the end user can dump the bag and product from the carton as a single unit.

3,539,361

METHOD OF IMPROVING CROCKING FASTNESS OF DYED CELLULOSE SAUSAGE CASING

Harold R. Coleman, Danville, Ill., assignor to Tee-Pak, Inc., a corporation of Illinois

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,592

Int. Cl. A22c 13/00

U.S. Cl. 99—176 9 Claims

The overcoating of a dyed cellulose substrate, such as a cellulosic sausage casing, with a coating solution containing a water-soluble polymer having at least two reactive functional groups therein (e.g., gelatin, gum arabic, gum

tragacanth, or egg albumin) and a difunctional or polyfunctional cross-linking agent (e.g., diisocyanates or polyepoxides, etc.), followed by heating and drying the coating to insolubilize the same, improves the crocking fastness and the adhesion of printing ink subsequently applied thereto. The polymer and cross-linking agent in the solution must be compatible, i.e. not reactive with water or with each other at ambient temperatures. A similar effect can be obtained by first coating the cellulose substrate with an aqueous solution of the water-soluble polymer and insolubilizing the coating by treatment with a cross-linking agent in a separate step.

3,539,362

PROCESS FOR PREPARING VACUUM PACKED FRIED FOODS

Rene Laurens, Holly Hill, Fla., assignor to Rene Foods, Incorporated, Norristown, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 579,231, Sept. 14, 1966. This application Jan. 31, 1968, Ser. No. 701,834

Int. Cl. A23b 1/10; A23l 3/00

U.S. Cl. 99—187

9 Claims

Fried meat products such as breaded fried chicken can be provided in a dry vacuum pack in accordance with a process in which the moisture content of the meat is reduced, the surfaces of the meat are sealed to the passage of moisture with gelled edible vegetable gum, the meat is breaded and fried, placed in a vacuum pack in the dry state and heat sterilized after sealing.

3,539,363

PREPARATION OF ACIDIFIED MILK PRODUCTS
Dee Rich Morgan, Moraga, Calif., and Delmar Lloyd Andersen, Syracuse, and Donald E. Mook, Scarsdale, N.Y., assignors to Borden, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed May 12, 1966, Ser. No. 549,447

Int. Cl. A23c 3/00, 9/12

U.S. Cl. 99—212

4 Claims

This invention relates to the method of preparing commercially sterile acidified milk products comprising the steps of fermenting a milk material until the desired degree of acidity is attained, and thoroughly admixing with said acidified material an edible stabilizing gum selected from the group consisting of vegetable gums, seaweed extracts, synthetic gums and mixtures thereof, in amount sufficient to prevent substantial decrease in the viscosity of said acidified material due to sterilization thereof by heat, and sterilizing the resultant mixture; and to the resultant product.

3,539,364

CONTAINER FILLER OF IMPROVED STRENGTH AND UNIFORMITY

George E. Haddeland, Mill Valley, Calif.

(224 Ryan Way, South San Francisco, Calif. 94080)
No Drawing. Continuation-in-part of application Ser. No. 476,149, July 30, 1965. This application May 9, 1966, Ser. No. 548,373

Int. Cl. C04b 7/34

U.S. Cl. 106—120

3 Claims

A filler composition for gas cylinders consisting essentially of asbestos, charcoal, lime, and silica. The silica is a blend of ground sand and diatomaceous earth in a ratio which provides an optimum relationship between viscosity and crushing strength of the filler composition. The silica to lime ratio is approximately 1.6–2.4. The water to solids ratio is approximately 3.5–3.8, and the lime is preliminarily hydrated in water initially heated to a temperature above 180° F.

3,539,365

DISPERSING AND STABILIZING AGENT COMPRISING β -1,4 GLUCAN AND CMC AND METHOD FOR ITS PREPARATION

Harry W. Durand, Muscatine, Iowa, and Edwin G. Fleck, Jr., Wallingford, and George E. Raynor, Jr., Media, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Feb. 13, 1967, Ser. No. 615,621

Int. Cl. C08b 21/30, 23/00

U.S. Cl. 106—197

9 Claims

Partially degraded cellulose is subjected to attrition in the presence of an aqueous medium at a high solids concentration so as to free the microcrystalline cellulose and attrition continued as the solids content is reduced by the addition of water. The disintegrated microcrystalline cellulose is recovered by drying an aqueous suspension thereof or a mixture thereof with water containing dissolved CMC having a D.S. of 0.75±0.15 to form a dry product easily redispersible in aqueous media to form gels.

3,539,366

STARCH PROCESS

Foster G. Ewing, Clinton, Iowa, assignor to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 10, 1968, Ser. No. 758,702

Int. Cl. C08b 29/00, 27/26

U.S. Cl. 106—213

8 Claims

The invention relates to a process for pasting starch in the presence of a water soluble oxidizing agent. The oxidizing agent is incorporated into an aqueous slurry of starch granules in a manner such that the oxidizing agent is in contact with the starch granules for time of less than 30 seconds before the starch is subjected to starch pasting conditions. Pastes of starch prepared in this manner exhibit good temperature stability.

3,539,367

WAX EMULSIONS

George A. Yaroshevich, Watertown, Conn., and Donald R. Cushman, Wenonah, and Roy T. Edwards, Mullica Hill, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 546,176, Apr. 29, 1966. This application Dec. 9, 1968, Ser. No. 782,428

Int. Cl. C08h 9/08

U.S. Cl. 106—271

16 Claims

Aqueous cationic wax emulsions are provided comprising a petroleum wax dispersed phase; an emulsifying agent comprising a salt of an organic or inorganic mineral acid and an amine; and an amine of lower molecular weight than the aforementioned amine, as an emulsion modifier. A method is also provided for forming such emulsions.

3,539,368

METHOD OF INCORPORATING FILLERS IN CATIONIC BITUMINOUS EMULSIONS AND PRODUCTS PRODUCED THEREBY

Robert D. Timmons, Tinley Park, Leslie M. Harkness, Chicago, and Milton M. Waldman, Northbrook, Ill., assignors, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware

No Drawing. Filed Dec. 13, 1967, Ser. No. 690,090

Int. Cl. C08h 13/00; C08k 1/62; C09d 3/24

U.S. Cl. 106—277

8 Claims

Pretreatment of filler materials with amine oxides followed by incorporating into cationic bituminous emulsions resulting in storage stable dispersions of fillers in aqueous cationic bituminous emulsions. These com-

pounds are useful as crack fillers, roofing compositions, sound deadeners and protective and insulating coatings.

3,539,369

BITUMINOUS SURFACING COMPOSITIONS

George G. Sapp, San Pablo, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Continuation of application Ser. No. 671,489, Sept. 28, 1967, which is a continuation of application Ser. No. 376,093, June 18, 1964. This application Nov. 18, 1968, Ser. No. 777,553

Int. Cl. C08h 13/00; C08k 1/62; C09d 3/24

U.S. Cl. 106—277

4 Claims

Addition of from about 0.1 to about 0.5% by weight of quaternary ammonium halide salts, in particular of "tallow" trimethyl ammonium chloride, to slow-setting, anionic asphalt emulsions combined into aqueous mortars by admixture of inert fillers and water, enables the mortars to set by normal evaporation of water until at least 60% of the water is evaporated, while boosting the resistance of the mortars to washout by rain.

3,539,370

ASPHALT ANTIHARDENING AGENTS

Armin C. Pitchford, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 12, 1967, Ser. No. 674,734

Int. Cl. C08h 13/00, 17/22

U.S. Cl. 106—278

7 Claims

Asphalt hardening is retarded by the addition of (a) blends of calcium petroleum sulfonates and hydrocarbon oils; (b) metal dialkylthiocarbamates, metal dialkylthioformamides, or tetraalkylthiooxamides; or (c) combinations of (a) with either one or more (b) components or a fatty acid.

3,539,371

CERAMIC PIGMENTS PRODUCED WITH THE AID OF PEROXY COMPOUNDS

Horst Weber, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 11, 1968, Ser. No. 720,495

Claims priority, application Germany, Apr. 14, 1967, F 52,124

Int. Cl. C09c 1/00

U.S. Cl. 106—299

6 Claims

Production of ceramic pigments of a zirconium/silicon/praseodymium oxide or zirconium/silicon/vanadium oxide system having improved tinting strength and true retentive color, produced by calcining, e.g. at about 850–1300° C., an aqueous mixture which is obtained by mixing an alkali metal zirconium silicate containing 1–4 mols of alkali per mol of zirconium silicate with a praseodymium or vanadium compound as pigment member, e.g. praseodymium or vanadium oxide or heat-decomposable salt thereof, water in a molar ratio of zirconium silicate: water of between 1:5–1:20 and a sulfate component, e.g. ammonium sulfate and/or free sulfuric acid in an amount of between 0.8 and 1.5 acid equivalents based on the alkali together with at least one peroxide compound preferably sodium peroxide or ammonium peroxydisulfate, admixed with said mixture in a quantity of substantially between about 0.1–10 parts by weight per part by weight of the praseodymium or vanadium correspondingly present in said mixture.

3,539,372

PROCESS FOR PREPARING HALOGENATED CARBON BLACK

John F. Hardy, Andover, and Donald Rivin, Framingham, Mass., and Jerome Aron, Providence, R.I., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 556,869, June 13, 1966. This application Feb. 17, 1969, Ser. No. 799,950

Int. Cl. C09c 1/56; C08g 51/08

U.S. Cl. 106—307

5 Claims

This disclosure relates to the use of halogenated carbon blacks in the preparation of paint and lacquer compositions which are characterized by having excellent non-flooding properties and excellent tinting properties and to a process for preparing said carbon blacks which entails halogenating a carbon black in the presence of an organic solvent medium.

3,539,373

METHOD OF CONTROLLING PLANT TRANSPIRATION

Anson R. Cooke, Horsham, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware

No Drawing. Filed June 26, 1967, Ser. No. 649,036

Int. Cl. A01n 5/00

U.S. Cl. 117—3

10 Claims

The method of controlling plant transpiration involving use of prepolymers comprising the reaction product of a polyisocyanate and a compound having active hydrogen atoms to control plant transpiration, said method comprising applying said reaction product to leaves of plants.

3,539,374

POROUS ARTICLE

Robert B. Isaacson, Rahway, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 16, 1966, Ser. No. 594,657

Int. Cl. B29d 27/00; B32b 31/12

U.S. Cl. 117—7

6 Claims

A metal-coated plastic substrate is made by coating the plastic substrate with metal and then stretching the composite. This stretching causes the entire article to become microporous and thus useable in rescue blankets, sleeping bags and the like.

3,539,375

THERMO-RESPONSIVE RECORD SHEET

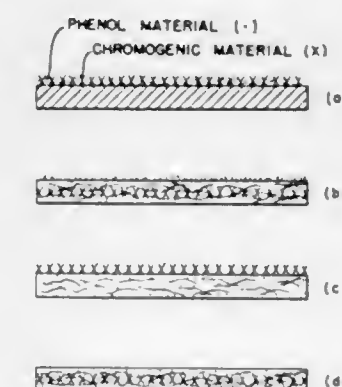
Henry H. Baum, Kettering, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Continuation of application Ser. No. 554,565, June 1, 1966. This application Mar. 14, 1969, Ser. No. 808,379

Int. Cl. B41m 5/22

U.S. Cl. 117—36.2

8 Claims



In a temperature-responsive record material comprising a support sheet having crystal violet lactone and a

phenolic arranged such that application of heat will produce a mark-forming reaction between the lactone and the phenolic, the improvement comprising disposing the lactone and phenolic in a matrix of polyvinyl alcohol.

3,539,376

METHOD OF MAKING COPYING PAPER

Sumio Otani, Yao, and Yasugi Shimada, Hirakata, Japan, assignors to Carbon Paper Co., Ltd., Osaka, Japan

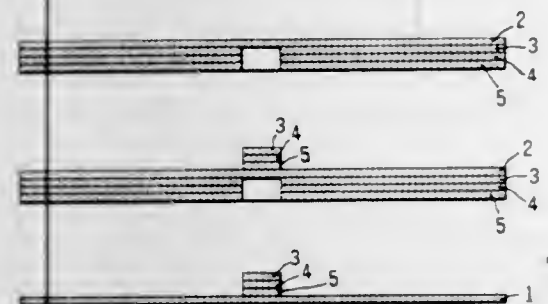
Filed Jan. 24, 1968, Ser. No. 700,161

Claims priority, application Japan, Jan. 28, 1967, 42/5,725

Int. Cl. B41m 5/10

U.S. Cl. 117—36.4

3 Claims



Copying paper comprises a record pigment layer, a covering layer and an adhesive layer. Said record pigment layer is formed on the back surface of paper by applying coating materials comprising vinyl resin record pigment, oil and fat or waxy compound, dispersant and solvent, and thereafter evaporating said solvent. Said covering layer is formed on said record pigment layer by applying coating materials comprising cellulose derivatives or synthetic resin, pigment, waxy compound and solvent, and then evaporating said solvent. Said adhesive layer is provided on said covering layer by applying coating materials comprising low molecular polyethylene, a waxy compound and solvent, and then evaporating said solvent.

3,539,377

METHOD FOR COATING OXIDIZER PARTICLES WITH A POLYMER

Melvin E. Steinle, San Jose, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

No Drawing. Filed May 7, 1968, Ser. No. 727,340

Int. Cl. B44d 1/06, 1/44

U.S. Cl. 117—62.2

7 Claims

A process for coating compound particles with a polymer comprising, dissolving the polymer in a solvent, adding the particles to the resultant solution and agitating while drawing off the solvent. On the substantial removal of the solvent, a non-solvent is added, and the coated particles recovered.

3,539,378

SYNTHETIC FILM MATERIALS

Basil Robert Shephard, Margaret Loudon Clachan, David Rankine Kennedy, and Richard G. Turner, Brantham, Manningtree, Essex, England, assignors to Bexford Limited, Brantham, Manningtree, Essex, England, a company of Great Britain

No Drawing. Continuation-in-part of application Ser. No. 511,352, Dec. 3, 1965. This application Sept. 30, 1968, Ser. No. 763,964

Claims priority, application Great Britain, Dec. 4, 1964, 49,429/64

Int. Cl. B44d 1/092, 1/52

U.S. Cl. 117—47

10 Claims

Translucent drafting films are produced by treating a film of synthetic linear polyester material with a 0.5–20% by weight solution in a volatile medium of a halogen-containing phenolic material, for 1–15 minutes at 30–120° C. and superimposing on the treated surface of

the film at least one adherent layer of a hydrophobic organic film forming material, the outermost layer containing finely divided discrete particles of a translucence-producing toothing agent.

3,539,379

PROCESS FOR COATING GEM STONES

Simon Ernest Mayer, Lexington, Mass., assignor to Liner Technology, Inc., Burlington, Mass., a corporation of Massachusetts

No Drawing. Filed May 2, 1968, Ser. No. 726,250

Int. Cl. C23c 11/08

U.S. Cl. 117—69

14 Claims

Improved processes for applying a hard protective coating to natural or synthetic gems involving the deposition of a thin layer of aluminum oxide on the surface thereof. The coated gem stone is subsequently heat treated at temperatures between about 800° to 1400° C. to harden the coating and to interdiffuse the coating film and the surface of the gem stone. A pretreatment of the gem stone to form a silica layer may be employed to promote rapid interdiffusion.

3,539,380

METHYLCELLULOSE AND POLYALKYLENE GLYCOL COATING OF SOLID MEDICINAL DOSAGE FORMS

Richard H. Johnson, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 324,229, Nov. 18, 1963, which is a continuation-in-part of application Ser. No. 62,860, Oct. 17, 1960. This application Jan. 8, 1968, Ser. No. 696,150

Int. Cl. A61k 9/00

U.S. Cl. 117—100

2 Claims

A process for film coating tablets and the like by applying a solution of methylcellulose and polyalkylene glycol in a volatile solvent. Application by rotating coating pans or air suspension method to provide a homogeneous pliable film coat of less than 10 mils thickness consisting essentially of methylcellulose and polyalkylene glycol having characteristics of rapid disintegration and resistance to heat and humidity.

3,539,381

METHOD AND APPARATUS FOR FLOW COATING

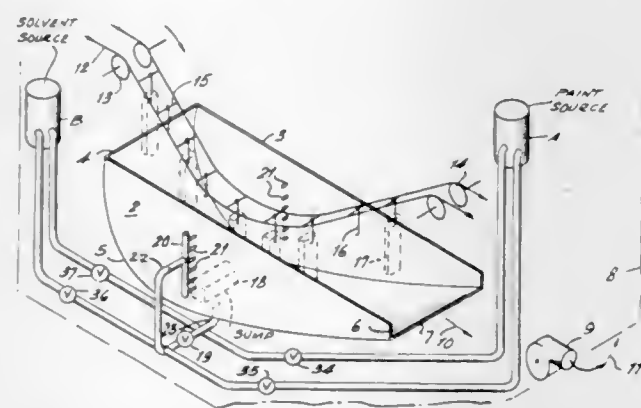
Jacques K. Kayarian, 704 Clarendon Road, Drexel Hill, Pa. 19026

Continuation-in-part of application Ser. No. 456,765, May 18, 1965. This application Feb. 19, 1969, Ser. No. 814,871

Int. Cl. B05b 15/00

U.S. Cl. 117—102

3 Claims



A method and apparatus for coating articles comprising providing an atmosphere at ambient temperatures consisting essentially of the vapors of a solvent, applying to said articles a coating composition containing a volatile

solvent while said articles are in said vapors at said temperatures, and removing said articles slowly from said atmosphere.

3,539,382

FILM OF MAGNETO-OPTICAL RARE EARTH OXIDE INCLUDING METHOD THEREFOR

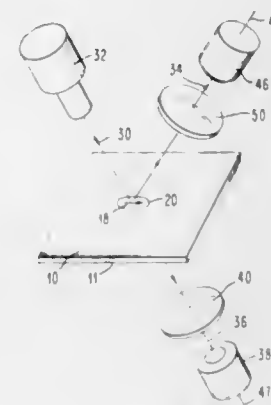
Kie Y. Ahn, Bedford, and Merrill W. Shafer, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 8, 1967, Ser. No. 668,289

Int. Cl. C23c 13/00

U.S. Cl. 117—106

17 Claims



There is disclosed a ferromagnetic film of EuO doped with ions from the rare earth family to raise the ferromagnetic Curie temperature. By selectively doping EuO films with ions from the rare earth family, the squareness ratio of the hysteresis loop is selectively controlled. This control is obtained by result of change in the magnetostriction of the film. Fabrication of the film and the doping thereof is obtained by vacuum deposition of the composition on a substrate either by successive depositions of different layers of Eu₂O₃ and RE₂O₃ mixture and Eu metal or by simultaneous deposition of Eu and the mixed oxides, e.g., Gd₂O₃ and Eu₂O₃ is a suitable mixture. Sources of Eu and mixtures of the oxides Eu₂O₃ and Gd₂O₃ in 1:1 ratio provide a Gd doped EuO film of the desired composition. The disclosed film is especially suitable for use with a beam addressable memory, as it can readily be operated for writing and reading of magnetic states at 77° K.

3,539,383

PREPARATION OF MANGANESE BISMUTH

Di Chen and Roger W. Honebrink, Minnetonka, Gary N. Otto, Mayer, and Jack A. Sartell, Minnetonka, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

No Drawing. Filed Dec. 14, 1967, Ser. No. 690,388

Int. Cl. C23c 13/02; C22c 31/00

U.S. Cl. 117—107

8 Claims

A process for preparing manganese bismuth films is described. The process modifies the known vacuum deposition process primarily by depositing bismuth first then manganese on a substrate. A preferred initial ratio of manganese to bismuth is disclosed for obtaining improved magneto-optic properties.

3,539,384

COATING APPARATUS FOR COATING A FLEXIBLE WEB

Frank P. Kolesinskas, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

Filed June 30, 1967, Ser. No. 650,422

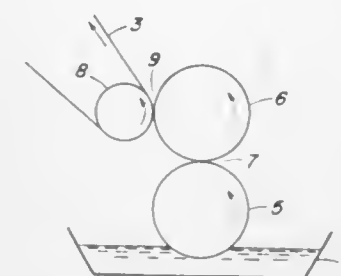
Int. Cl. B05c 1/12

U.S. Cl. 117—111

1 Claim

For applying a uniform coating layer to a web of diazo-type film moving at high speed there is provided a pick-up

roller having an annular surface rotatable in a liquid coating solution, a transfer roller having an annular surface rotatable in spaced relationship with that of the pick-up roller to thereby reverse, split and receive only a portion of the coating solution therefrom, and a moving film



web the surface of which is spaced from that of the transfer roller, and also only a portion of the solution carried on the surface of the transfer roller. The smoothing return flow due to the splitting of the wet film on the transfer roller and on the pick-up roller, facilitates the uniform coating of a film web moving at high speed.

3,539,385

METHOD OF COATING ELONGATED ARTICLES BY IMMERSION

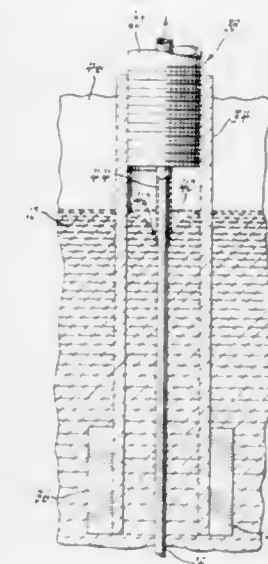
Joseph E. Hunter, Rochester, and William K. Miller, Southfield, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 29, 1968, Ser. No. 748,437

Int. Cl. B05c 3/12, 11/00; C23c 1/06

U.S. Cl. 117—113

5 Claims



Elongated articles such as certain wire and tubing products are commonly provided with a protective coating by immersion in a liquid bath of suitable coating material. In a preferred embodiment of the subject invention the coating bath is stirred so as to establish a vortex at its surface. The elongated article is immersed in the bath and then removed therefrom in a vertical direction at the apex of the vortex. The motion of liquid in the bath at the vortex tends to form and maintain a co-extensive coating of uniform thickness on the upwardly moving article.

3,539,386

WOOD TREATING PROCESS AND PRODUCT

Arthur G. Janssen, Edina, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Oct. 31, 1968, Ser. No. 772,415

Int. Cl. B27k 3/50; B44d 1/28

U.S. Cl. 117—116

16 Claims

Wood is impregnated with a solution of a polyisocyanate and a derivative of a diisocyanate derived from dimerized fat acids and a dialdime or diketimine of an

aliphatic polyamine containing two primary amine groups and one secondary amine group. The resulting treated wood has improved dimensional stability to moisture.

3,539,387

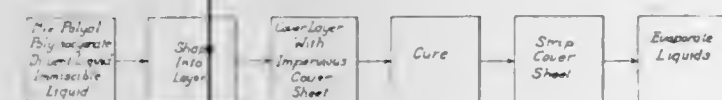
SINGLE FIRE GLAZED CERAMIC BODY
George D. Kelly and David L. Dean, Zanesville, Ohio, assignors to Ferro Corporation, Cleveland, Ohio
No Drawing. Filed Sept. 19, 1967, Ser. No. 668,937
Int. Cl. C04b 41/06

U.S. Cl. 117—123 13 Claims
The combination of a high strength alumina-nepheline syenite-clay body fired to zero water absorption, having a glaze applied thereto prior to firing said body, said glaze matured concurrently with said body, said glaze body particularly adaptable to highway road markers and lane dividers.

3,539,388

PROCESSES OF MAKING MICROPOROUS POLYMER SHEETS
Shu-Tung Tu, St. Albans, W. Va., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey

Filed Apr. 17, 1967, Ser. No. 631,171
Int. Cl. B29d 27/04; B44d 1/09; C09d 3/72
U.S. Cl. 117—161 3 Claims

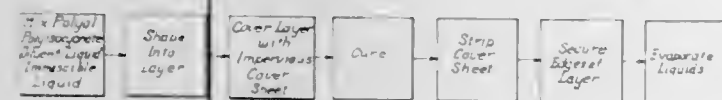


A thin, microporous sheet having improved structural uniformity and permeability is formed by depositing a thin layer of a liquid emulsion of which the continuous phase includes a liquid polymeric material reactive to form a flexible, resilient solid together with a volatile diluent liquid miscible with the polymeric material, and the discontinuous phase is fine droplets of a volatile liquid immiscible and nonreactive with the continuous phase. The emulsion structure is preserved during solidification of the continuous phase by depositing a protective cover on the surface of the emulsion layer. When the emulsion has solidified the protective cover is removed and the volatile liquids are removed leaving a uniform, thin microporous sheet.

3,539,389

PROCESSES OF MAKING MICROPOROUS POLYMER SHEETS
Shu-Tung Tu, St. Albans, W. Va., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey

Filed May 19, 1967, Ser. No. 639,642
Int. Cl. B29d 27/04; B44d 1/09; C09d 3/72
U.S. Cl. 117—161 3 Claims



A thin, microporous sheet having markedly increased permeability to water vapor and gases is formed by depositing a thin layer of a liquid emulsion of which the continuous phase includes a liquid polymeric material reactive to form a flexible, resilient solid together with a

volatile diluent liquid miscible with the polymeric material, and the discontinuous phase is fine droplets of a volatile liquid immiscible and nonreactive with the continuous phase. The polymeric material is converted through reaction to a solid state with the droplets of immiscible liquid held in the solidified material. The solid sheet obtained is physically held against area change; and the miscible and immiscible liquids are removed leaving uniform thin microporous sheet having high gas and water vapor permeability.

3,539,390

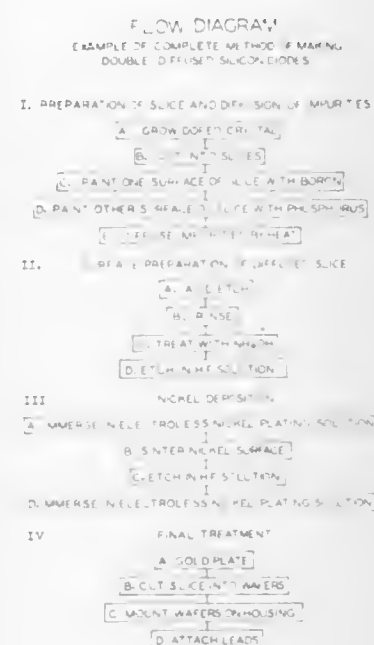
PROCESS FOR MAKING A SEMICONDUCTOR DEVICE
Hermann Widmann, Ulm, Georg Kubach, Renningen, and Gerd Peschek, Stuttgart-Feuerbach, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany
Filed Aug. 21, 1967, Ser. No. 662,169
Claims priority, application Germany, Aug. 26, 1966, B 88,630
Int. Cl. B44d 1/092

U.S. Cl. 117—213 4 Claims
A semiconductor device is formed by activating the surface of the semiconductor with an activating solution that has been adjusted to a pH between 4 and 5. Preferably, the activating solution contains a buffer consisting of ammonium fluoride or urotropine and an addition of methanol.

An example is a semiconductor consisting of a single crystal silicon body that has been doped with boron or phosphorus and to which the activating solution is applied in the form of an aqueous hydrofluoric acid solution containing the above identified buffers and containing gold or palladium ions. An intercoat of nickel is then applied to the semiconductor and a nickel contact electrode is applied in the form of a nickel coating on top of the intercoat.

3,539,391

METHODS OF COATING SEMICONDUCTOR MATERIALS WITH CONDUCTIVE METALS
Donald C. Lepiane, Reading, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 580,742, Sept. 20, 1966. This application Sept. 30, 1969, Ser. No. 863,033
Int. Cl. C23c 3/02; H01l 7/50
U.S. Cl. 117—213 8 Claims



Before metalizing a silicon base semiconductor slice in an electroless plating bath, glassy phosphosilicate and glassy borosilicate layers that form on opposite sides of the slice during thermal diffusion must be removed. A

known method of removing the glassy layers is the immersion of the slice in hydrofluoric acid; however, it is during the removal of the glassy layers that the surface underlying the glassy phosphosilicate is rendered passive for subsequent electroless deposition of a metal. In order to eliminate this passive condition and present an active surface that will receive a uniform and adhere plating of metal, the slice is immersed in a hot aqueous ammonium hydroxide solution after the removal of the glassy and prior to the metal plating.

3,539,392

RESISTORS
Alan Gray Cockbain, Ilford, England, assignor to The Plessey Company Limited, Ilford, England, a British company
No Drawing. Filed June 12, 1967, Ser. No. 645,530
Claims priority, application Great Britain, June 14, 1966, 26,438/66
Int. Cl. C23c 3/00

U.S. Cl. 117—227 12 Claims
Method of making a cermet glaze resistor comprises dissolving inorganic ingredients of a glaze in a solvent together with a precursor which will form a conductive constituent of the resistive glaze, coating the resulting solution on a substrate surface, treating the liquid by hydrolysis for example before or after this coating step to cause a separate phase to form, evaporating the solvent and firing the resulting deposit to form a resistive cermet glaze.

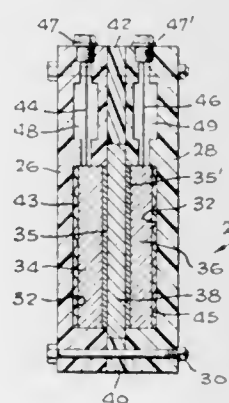
3,539,393

SUGAR CLARIFICATION PROCESS
Rene N. Silva, Ridgewood, and Irving B. Remsen, Ramsey, N.J., assignors to Ritter Pfaufler Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed June 12, 1968, Ser. No. 736,270
Int. Cl. C13d 3/00, 3/14

U.S. Cl. 127—51 10 Claims
A method for the clarification of a cane or beet sugar solution comprising two-step heating with chemicals in which the sugar solution is initially treated with alum and pH stabilized with lime prior to the first heating and activated silica is added either before or after the second heating after which the solution is softened or deionized to remove scale forming minerals and/or other dissolved ions. A hold for purposes of permitting precipitation to occur is provided both before and after the final heating step and at no time is the solution heated above boiling.

3,539,394

SEPARATOR FOR ELECTROCHEMICAL DEVICES
Frank C. Arrance, Costa Mesa, Calif., assignor to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed May 8, 1968, Ser. No. 727,678
Int. Cl. C04h 35/04, 35/10; H01m 3/02
U.S. Cl. 136—6 11 Claims



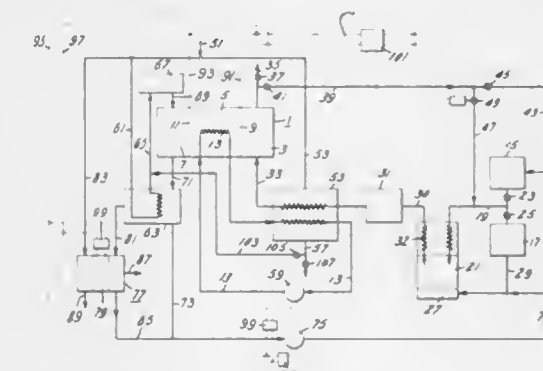
Production of inorganic porous sintered separator for electrochemical devices, consisting essentially of a solid

solution of Cr_2O_3 , Al_2O_3 , FeO and MgO , by a procedure including forming a mixture of the above noted oxides, sintering such mixture at temperatures to form a solid solution of such oxides, cooling and grinding such sintered mixture to small particle size, preferably less than 5 microns, compacting such ground, sintered mixture in the presence of an organic binder, into separator membranes, calcining such separator membranes at a temperature to remove the organic binder, and finally sintering such separator membranes in an oxidizing atmosphere.

3,539,395

SYSTEM AND PROCESS FOR THE INDIRECT ELECTROCHEMICAL COMBINATION OF AIR AND A REFORMABLE FUEL
Jacob George Bartas, Topsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Feb. 25, 1966, Ser. No. 530,188
Int. Cl. H01m 27/12

U.S. Cl. 136—86 9 Claims

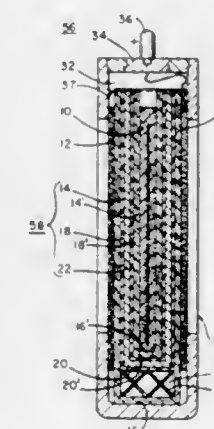


A system and process for efficiently converting a reformable fuel into hydrogen for oxidation at an anode of a fuel cell and for recovering the water formed as a reaction product of the fuel cell for use in reforming the fuel. The temperature of an electrolyte included within the fuel cell is partially equilibrated with the temperature of the reformat upstream of the anode and the temperatures of both the reformat and electrolyte are simultaneously lowered by heat rejection to a cooling air stream. The system and process are controlled so as to maintain a state of dynamic equilibrium.

3,539,396

RECHARGEABLE ALKALINE ZINC SYSTEM
Otto C. Wagner, Long Branch, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 5, 1968, Ser. No. 773,426
Int. Cl. H01v 29/04

U.S. Cl. 136—86 7 Claims



A rechargeable alkaline zinc-air electrical cell is provided including a pair of flat planar cathodes, a flat

zinc anode positioned intermediate of and spaced from each of the cathodes, and means to provide electrolyte for the electrodes. These means include an electrolyte reservoir at the base of the battery in combination with an electrode separation system. The electrode separation system includes porous electrolyte absorbent material layers extending from the cathode and anode faces into the electrolyte reservoir, layers of non-oxidizable membrane material positioned between the electrolyte absorbent material layers, and a layer of about 0.001 to 0.020 inches in thickness of sintered and partially wetproofed nickel positioned between the layers of non-oxidizable membrane material.

3,539,397

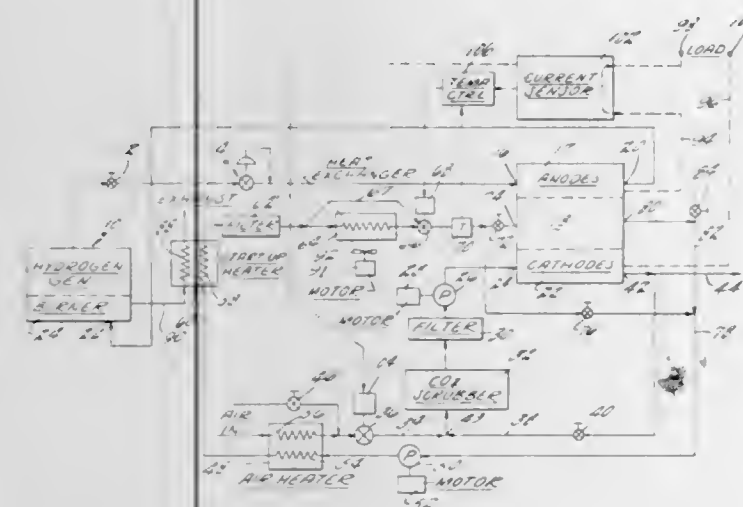
FUEL CELL WITH TEMPERATURE CONTROL
Stephen J. Keating, Jr., West Hartford, and Richard D. Sawyer, Canton, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed May 23, 1967, Ser. No. 640,682

Int. Cl. H01v 27/12

U.S. Cl. 136—46

4 Claims



The average temperature of a fuel cell is maintained essentially constant by providing temperature control over the coolant as it enters the fuel cell in such a fashion that, as the fuel cell current load increases, the coolant inlet temperature is decreased proportionally so as to compensate for coolant output temperature increases as a result of the current load increase and thus waste heat output in a fuel cell. The control over the coolant at the inlet is responsive to the current load of the fuel cell. Temperature control is achieved by regulating the amount of coolant which passes through a module temperature control heat exchanger that is cooled by ambient air, and the amount of coolant which bypasses the heat exchanger.

3,539,398

MAGNESIUM PRIMARY CELL
Samuel Ruben, 52 Seacord Road,
New Rochelle, N.Y. 10801

Filed June 23, 1969, Ser. No. 835,540

Int. Cl. H01m 17/02

U.S. Cl. 136—100

13 Claims

The invention is a primary electric current producing cell utilizing magnesium as the anode and a water soluble oxygen yielding permanganate, such as potassium permanganate, as cathode depolarizer and a halogen electrolyte containing the permanganate in solution.

3,539,399

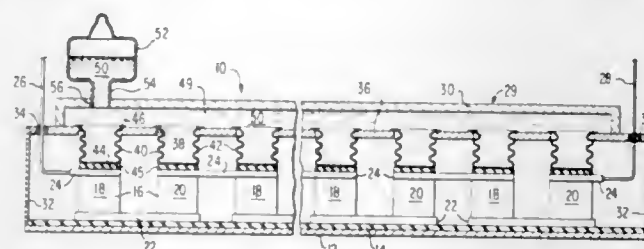
BELLOWS-LOADED THERMOELECTRIC MODULE
Douglas G. Harvey, Baltimore, Md., assignor, by mesne assignments, to Teledyne, Inc., Los Angeles, Calif., a corporation of Delaware

Filed May 9, 1966, Ser. No. 548,535

Int. Cl. H01v 1/04

U.S. Cl. 136—212

11 Claims



A thermoelectric conversion module is provided with bellows containing a fluid under pressure for applying a compressive force on the module to maintain the elements of the module in proper position.

3,539,400

HIGH TEMPERATURE COMPOSITE SUPPORT FOR A THERMOCOUPLE PROBE

Robert A. Pustell, Melrose, Mass., assignor to General Electric Company, a corporation of New York

Filed Dec. 27, 1965, Ser. No. 516,417

Int. Cl. H01v 1/04

U.S. Cl. 136—233

5 Claims



A thermocouple probe is encased in a plurality of tightly compacted insulative, high strength and corrosion resistant layers, free of voids, to provide a structure wherein deflection is substantially reduced under conditions of high temperature, corrosion and vibration.

3,539,401

METHOD OF MANUFACTURING MECHANOELECTRICAL TRANSDUCER

Akio Yamashita, Ikeda-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed May 15, 1967, Ser. No. 638,279

Claims priority, application Japan, May 25, 1966, 41/34,352

Int. Cl. H01l 7/34, 7/54

U.S. Cl. 148—1.5

1 Claim

A method of manufacturing a mechano-electrical transducer, in which after a semiconductor body provided on the surface thereof an impurity which forms a deep impurity level or levels in the forbidden band of said semiconductor body has been exposed to radiation to such a degree that the body does not fuse, the impurity is thermally diffused into the semiconductor body.

3,539,402

SOLUTIONS FOR THE DEPOSITION OF PROTECTIVE SURFACE LAYERS ON IRON AND ZINC AND PROCESS THEREFOR

Christian Ries, Cologne-Kalk, Germany, assignor to Gerhard Collardin GmbH, Cologne-Ehrenfeld, Germany

No Drawing. Filed Nov. 20, 1967, Ser. No. 684,491

C 41,515

Int. Cl. C23f 7/00

U.S. Cl. 148—6.14

12 Claims

Solution for the deposition of protective layers which can be used on iron, steel and zinc surfaces without changing the solutions. The latter consist of small quantities

of complex fluorides of iron, titanium, zirconium or silicon and small amounts of nitrate ions or similar oxidizer in water. The pH must carefully be maintained at 1.8 to 3.5. The solutions act on the metal surfaces very rapidly, i.e., within 3 to 45 seconds, and are applied at temperatures between 5 and 95° C., preferably at room temperature. Application to the surfaces can be in a bath, by a spray or by roller coating. A passivation post-treatment may be applied in the form of aqueous dilute chromic and/or phosphoric acid or acid salts thereof.

3,539,403

SOLUTIONS FOR THE DEPOSITION OF PROTECTIVE LAYERS ON ZINC SURFACES AND PROCESS THEREFOR

Christian Ries, Cologne-Kalk, Germany, assignor to Gerhard Collardin GmbH, Cologne-Ehrenfeld, Germany

No Drawing. Filed Nov. 20, 1967, Ser. No. 684,517

Claims priority, application Germany, Dec. 7, 1966, C 40,903

Int. Cl. C23f 7/00

U.S. Cl. 148—6.14

13 Claims

Solutions for the deposition of protective layers on zinc surfaces which consist of aqueous solutions of complex fluorides of iron, titanium, zirconium or silicon and small amounts of nitrate ions or other oxidizers. The pH of these solutions is to be kept between 0.8 and 3.5. The solutions deposit a layer very rapidly, i.e., within 3 to 120 seconds, at temperatures of 5 to 95° C., and preferably at room temperature. Application can be by immersion, spray or roller coating. The protective layers produced impart to the surfaces good corrosion resistance and good adhesion of organic coatings subsequently applied. A passivation post-treatment may be applied in the form of dilute aqueous chromic and/or phosphoric acid or acid salts thereof.

3,539,404

METHOD OF MAKING A LOW ALLOY STEEL

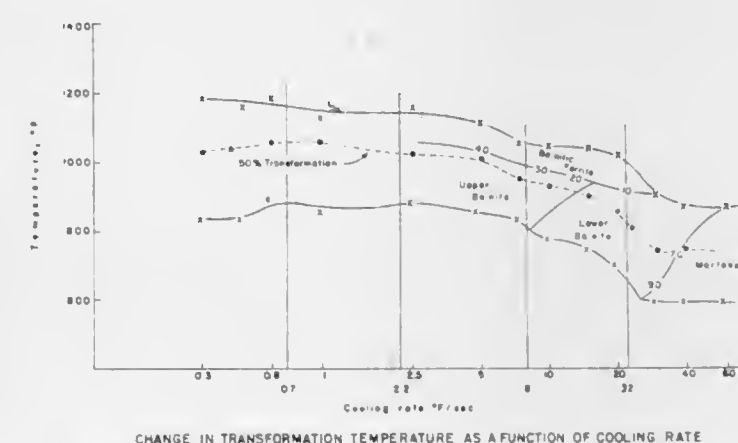
Anthony F. DeRetana, Poland, Ohio, assignor to The Youngstown Sheet and Tube Company, Youngstown, Ohio, a corporation of Ohio

Filed May 15, 1967, Ser. No. 638,436

Int. Cl. C21d 1/02

U.S. Cl. 148—12.4

4 Claims



A low cost, low alloy steel containing not more than about 0.25% molybdenum (Mo) in the presence of carbonitride formers, carbide formers or both in relatively small quantities, as well as a method of treating the steel

3,539,405

ALUMINUM BASE ALLOY PROCESS AND PRODUCT

George S. Foerster, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 1, 1968, Ser. No. 717,910

Int. Cl. B22f 9/00; C22f 1/04

U.S. Cl. 148—12.7

9 Claims

The present invention relates to a high strength, stress corrosion resistant aluminum alloy product and a method of preparing the alloy product which comprises providing an aluminum base alloy of defined composition containing magnesium and silicon and optionally one or more dispersion hardening elements; atomizing the alloy composition to form pellets; working the so-pelleted alloy; heat-treating the worked alloy within a temperature range of from about 1000° F. to about 1080° F.; and quenching and aging the heat treated alloy, thereby producing a high strength, stress corrosion resistant alloy product.

3,539,406

ESSENTIALLY NONAQUEOUS EMULSIONS

Kenneth J. Lissant, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 286,877, May 20, 1963; Ser. No. 302,001 and Ser. No. 302,177, both Aug. 14, 1963; Ser. No. 411,103, Nov. 13, 1964; Ser. No. 541,738, Apr. 11, 1966; Ser. No. 547,581, May 4, 1966; Ser. No. 565,702, July 18, 1966; and Ser. No. 599,332, Oct. 19, 1966. This application May 10, 1967, Ser. No. 637,332

Int. Cl. C06d 5/00

U.S. Cl. 149—109

9 Claims

An essentially nonaqueous, thixotropic emulsion of (1) an emulsifiable oil and (2) a nonoily, nonaqueous material, the emulsion containing in the internal phase at least 80% oil by volume of the total emulsions; methods of preparing the emulsion; and uses therefor, particularly as fuels, including their use as a source of power in engines normally capable of burning the oil phase, such as in jet, rocket, diesel, etc., engines including fuel injection engines, such as in internal combustion engines, for example employed in landcraft, watercraft, aircraft, etc.

3,539,407

METALLIZED GLASS MASTER PLATES FOR PHOTOPRINTING

John J. Frantzen, St. Paul, Minn., assignor to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota

No Drawing. Filed July 28, 1967, Ser. No. 656,698

Int. Cl. C23f 17/02; B32b 31/24

U.S. Cl. 156—3

5 Claims

The master plate for repetitively photoprinting a multitude of circuit patterns comprises a sheet of glass coated with a very thin layer of metal lines which define the desired circuit pattern. The master plate is formed by initially bonding or laminating a relatively thick sheet of metal, such as copper, to the surface of a supporting glass plate and then etching the desired pattern out of the copper sheet.

3,539,408 METHODS OF ETCHING CHROMIUM PATTERNS AND PHOTOLITHOGRAPHIC MASKS SO PRO- DUCED

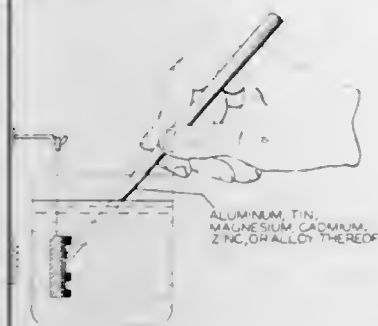
George R. Cashau, Phillipsburg, N.J., and James W. George, Allentown, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 11, 1967, Ser. No. 659,895

Int. Cl. C23f 1/02

U.S. Cl. 156—4

12 Claims



Masks for use in photolithographic and etching processes are prepared by the vapor deposition of chromium onto a substrate, such as a glass plate, and the subsequent masking and etching of the desired patterns into the chromium. A mixture of phosphoric and sulfuric acids is used as the etching solution and its action is initiated by contacting the chromium surface with a metallic wire. The masks so prepared have sharp lines delineating the transparent and opaque portions of the mask and are particularly well suited for use in the manufacture of semiconductor devices and integrated circuits where fine resolution is required.

3,539,409 METHOD OF MAKING LONG LENGTHS OF EPOXY RESIN INSULATED WIRE

John G. Stone, North Haven, Conn., assignor to Cerro Corporation, New York, N.Y., a corporation of New York

Original application Sept. 21, 1966, Ser. No. 581,051.

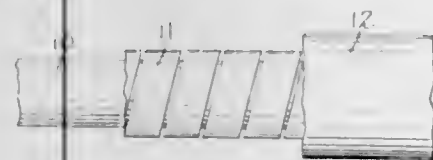
Divided and this application June 11, 1968, Ser.

No. 767,860

Int. Cl. H01b 13/08

U.S. Cl. 156—36

7 Claims



This invention is directed to a method of making long lengths of insulated wire which includes the steps of wrapping a layer of uncured flexible epoxy resin coated tape over a conductor, placing a covering layer about said tape layer, winding said conductor, said tape and said covering layer on a frame and then heating the same to cure the epoxy resin coated tape to form a homogeneous continuous wall about said conductor.

3,539,410 RELIEF MODELS

Richard Mayne Meyer, Ottawa, Ontario, Canada, assignor to General Photogrammetric Services Limited, Ottawa, Ontario, Canada, a corporation of Ontario

Filed Nov. 20, 1967, Ser. No. 684,449

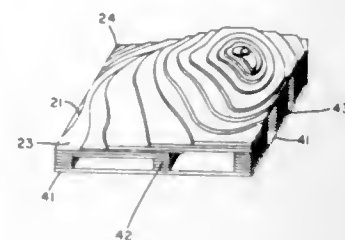
Int. Cl. B44c 1/22

U.S. Cl. 156—38

6 Claims

A relief map composed of contour layers wherein the contour layers are produced by using a photo-mechanical process to coat the surface of a number of zinc plates

with a layer of resist corresponding to the shape of the contour layers and then etching the zinc plates in an acid bath. The contour layers are then assembled using con-



tour lines etched on one surface of each contour layer to position adjacent contour layers which are then bonded together by soldering.

3,539,411 PROCESS FOR PROTECTIVELY COVERING SUBSTRATE ARTICLES

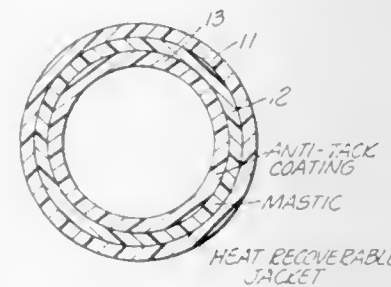
William Rosse Heslop, Vincent L. Lanza, and Edward C. Stivers, Atherton, Calif., assignors to Raychem Corporation, Redwood City, Calif., a corporation of California

Original application Aug. 21, 1964, Ser. No. 391,090, now Patent No. 3,415,287. Divided and this application Dec. 7, 1967, Ser. No. 720,004

Int. Cl. B29c 27/00

U.S. Cl. 156—86

7 Claims



Means for covering pipes or other substrates comprising a heat recoverable member having an adhesive material which is tacky at normal temperature on one side thereof and an anti-tack coating which is soluble in the adhesive at the recovery temperature of the heat recoverable member and covering said tacky adhesive so that a non-tacky surface is exposed. This covering means may be used to cover pipes or other substrates by positioning the covering means adjacent to the substrate and applying heat such that the heat recoverable member changes dimension and forces the adhesive and dissolved anti-tack coating into contact with the substrate to produce a covered article in which the forces exerted on the adhesive by the heat recoverable member and the substrate will cause the adhesive to fill any holes or abrasions which may be made in the outer surface of the covering.

3,539,412 SELECTIVE TEMPERATURE LAMINATION OF DISSIMILAR COMPOSITE PANELS

Phillip A. Miller, Ventura, Calif., assignor to The Sierra Corporation, Sylmar, Calif., a corporation of California

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,059

Int. Cl. B32h 31/00

U.S. Cl. 156—106

11 Claims

This patent describes a two-step laminating technique which comprises preparing two sub-laminates, one face of each being of a similar adherable transparent material,

and the other face of each being a dissimilar hard transparent material, and then contacting the two faces of the sub-laminates having the similar adherable material to cause joining and thus produce a unitary final laminate.

3,539,413 METHOD OF SECURING HEAT INSULATING AND EXOTHERMIC SLABS TO THE INNER WALLS OF AN INGOT MOULD HEAD

Kenneth Thomas Eccleston, Nechells, England, assignor to Fosco Trading A.G., Chur, Switzerland, a Swiss company

No Drawing. Filed June 12, 1967, Ser. No. 645,466

Claims priority, application Great Britain, June 24, 1966, 28,460/66

Int. Cl. C09j 5/06

U.S. Cl. 156—321

6 Claims

Slabs of heat insulating or exothermic material to be used to line the head of an ingot mould are provided, on the mould wall contacting face, with a layer which includes a heat-settable adhesive resin. The slab may be stuck easily to the ingot mould wall and difficulties of lining ingot moulds with such slabs are thus reduced.

3,539,414 LABELLING APPARATUS

Alfred Lefort, Brunoy, Essonne, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

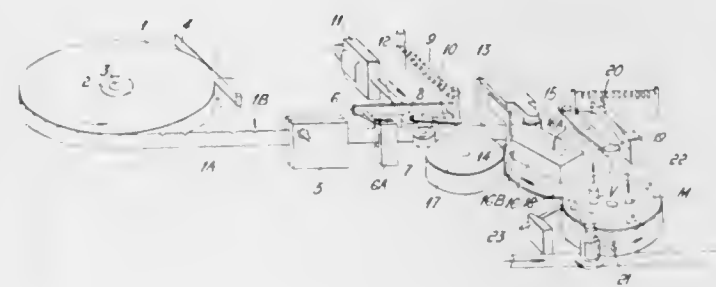
Filed Mar. 11, 1968, Ser. No. 712,243

Claims priority, application France, Mar. 16, 1967, 99,100

Int. Cl. B32b

U.S. Cl. 156—364

9 Claims



The specification describes an apparatus for affixing labels supplied from a reel to cylindrical articles such as bottles. Notches on the labels actuate an intermittent drive and brake means and a cutter. The single cut-off labels are carried by a collector, on which glue is deposited and are removed therefrom onto a transfer cylinder, which rotates with respect to the cylindrical articles, whereby the glued face of the label is firmly applied to the cylindrical article.

3,539,415 MULTIPLE UNIT HIGH SPEED APPARATUS FOR APPLYING TREAD TO TIRE CASINGS

Clayton Du Bosque, Jr., New Canaan, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Oct. 12, 1967, Ser. No. 674,801

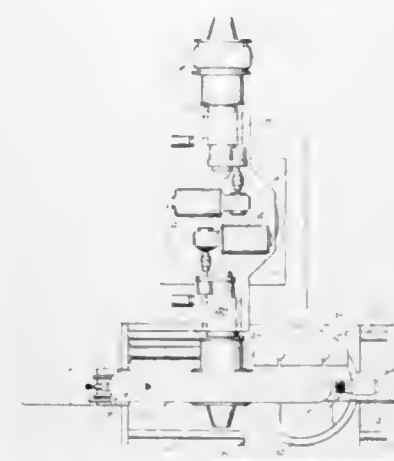
Int. Cl. B29h 17/10

U.S. Cl. 156—397

5 Claims

A high-speed method and apparatus for applying tread to detreaded, used tire casing. The apparatus comprises an indexing unit having at least two hubs for mounting tire casings thereon and a tire building station and a

loading station located on opposite sides of the indexing unit. In operation, one of the tire casings is indexed into the building station while the other recapped casing moves into the loading station where it is unloaded and a new casing mounted on the hub thus permitting a nearly continuous recapping operation. The apparatus also includes



a separate extruder for supplying a strip of rubber to the casing at the building station over guide means including a dancer arm and a swinging application arm which permits the rubber strip to be switched between the mounted tire casings. An incremental programming arrangement may be provided to control the movement of the application arm.

3,539,416 APPARATUS FOR FORMING A HOLLOW PLASTIC ARTICLE

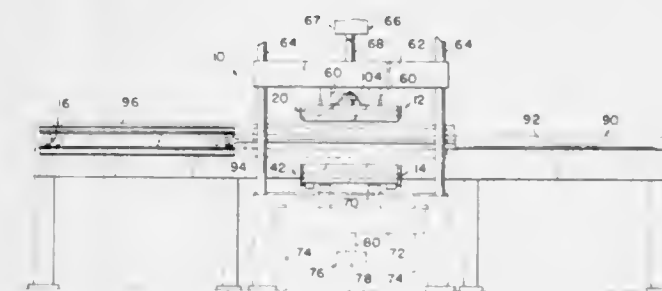
Ellsworth E. Sanders, Birmingham, and Kenneth H. Woodrich, Utica, Mich., assignors to Polyform, Inc., Pontiac, Mich., a corporation of Michigan

Filed Mar. 27, 1967, Ser. No. 625,999

Int. Cl. B32b 31/20

U.S. Cl. 156—499

10 Claims



The molding machine has a pair of dies movable toward and away from each other. A heating platen moves from a loading position spaced laterally from the dies to a position between the dies. Plastic sheets are supported on opposite sides of the platen and are heated by the platen to their heat fusible temperature.

When the platen is between the dies, the dies move toward the platen and the heated sheets are transferred to the dies. The platen is withdrawn and the dies moved relatively toward one another to bring the heated sheets into heat fusible contact to form a hollow double-walled article.

In one embodiment, clamps grip the edges of the sheets on the platen and pull the edges away, and then vacuum applied over the die faces draws the sheets into intimate contact with the die faces. In another embodiment, the dies contact the sheets in a substantially full peripheral

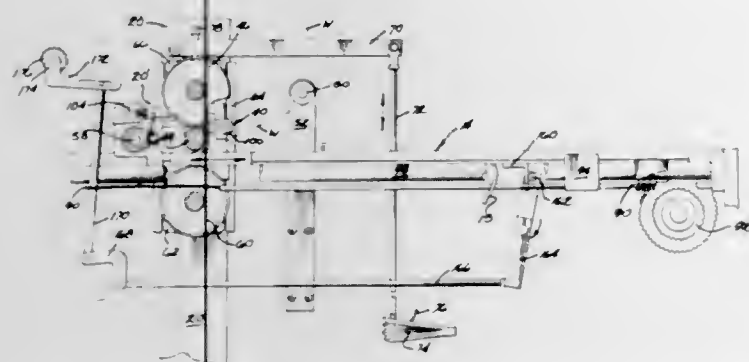
seal around the die faces, and differential pressure is established by vacuum over the die faces and by positive pressure over the sides of the platen to draw the sheets into intimate contact with the die faces.

3,539,417 SHEET TO WEB LAMINATING MACHINE

James A. Black, 13700 Sparta NW.,
Kent City, Mich. 49330
Filed Feb. 23, 1967, Ser. No. 617,890
Int. Cl. B32b 31/00

U.S. Cl. 156—522

15 Claims



Web to sheet laminating apparatus with an edge laminator combined with pressure roll laminating equipment. The pressure rolls include a smaller diameter contact roll and a floating, releasable larger diameter reinforcing roll engaging the smaller roll. A platen reinforcing roll undergirds the platen.

3,539,418 SINGLE HANDED TAPE DISPENSER

John V. Combs, London, Ky., assignor of twenty-five percent to Cecil E. Yeary, London, Ky.
Filed Aug. 24, 1967, Ser. No. 663,001
Int. Cl. B32b 31/18, 31/20

U.S. Cl. 156—523

5 Claims



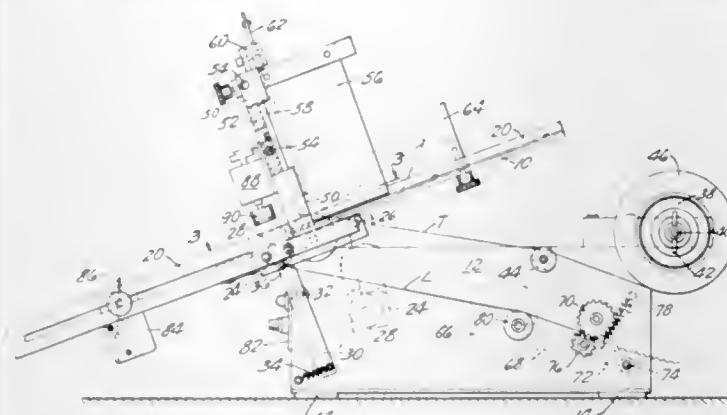
A tape dispenser operable with one hand to dispense pressure sensitive adhesive tape from a roll onto a dispensing surface which includes a housing having a handle, a tape storage reservoir and a dispensing end. Dispensing means is associated with the dispensing end to exert pressure on the tape as the tape dispenser is operated, forcing the tape in contact with the dispensing surface, and cutting means is associated with the dispensing means. Triggering means is operatively connected to the cutting means and reciprocally actuates the cutting means between a non-operative position and an operative position to cut the tape after a desired length of tape has been dispensed onto the dispensing surface. After the tape has been cut, the end thereof lies adjacent the dispensing means when tape is not being dispensed.

3,539,419 APPARATUS FOR ATTACHING PRESSURE-SENSITIVE ADHESIVE SHEET MATERIAL SUCCESSIVELY TO LABELS

Wilfred E. Stageberg, Minneapolis, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Sept. 27, 1966, Ser. No. 582,323
Int. Cl. B65c 9/20

U.S. Cl. 156—540

5 Claims



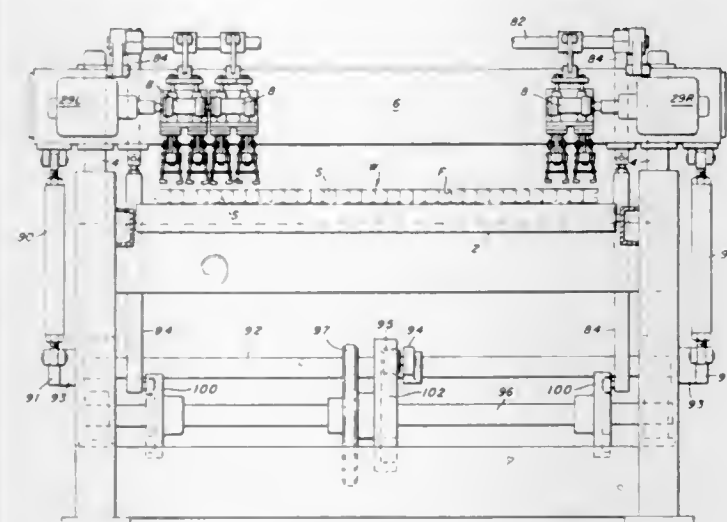
This machine attaches pressure-sensitive adhesive sheet material, known as adhesive transfer tape, successively to labels contained in a hopper as movement of the tape pulls the labels out of the bottom of the hopper. Adhesive transfer tape is sold with a liner adhered to one side of it, and the other side of the transfer tape is adhered by the machine to an edge of the bottom label in the hopper. The liner is thereafter removed from the adhesive transfer tape and moved through the machine to cause the bottom label to be moved as the transfer tape is adhered to the label, and the label is removed from the hopper. As soon as the bottom label is removed, the next successive label is adhered at one edge to the moving transfer tape and the transfer tape is attached to it and it is moved out of the bottom of the hopper. Thus the adhesive transfer tape is attached across one entire side of the label by the operation of the machine without any need for feeding the labels out of the hopper.

3,539,420 ADHESIVE APPLYING APPARATUS

John E. Ullman, Huntingdon Valley, and Ernest J. Rollings, Jr., Jenkintown, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,866
Int. Cl. B32b 31/12

U.S. Cl. 156—578

3 Claims



Apparatus for applying adhesive to the vertical joints of a workpiece having interlocking sheets in which a plurality of groups of four adhesive tips are pivotally mounted and fed from an upper retracted position inwardly to

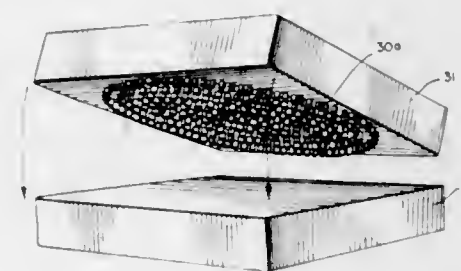
the four vertical joints of each intersection and then downwardly as adhesive is applied. The tips are retracted as they move upwardly so as to clear upper flanges at the intersection. A new valve of the spool type is provided to supply adhesive rapidly to the adhesive tips and to prevent dripping of the adhesive from the tips when the valve is closed.

3,539,421 METHOD AND APPARATUS FOR UNITING PLASTIC BODIES

Robert W. Crowe, San Gabriel, Calif., assignor to Dentin Manufacturing Company, Bellwood, Ill., a corporation of Illinois
Filed June 21, 1966, Ser. No. 559,136
Int. Cl. B30b 15/06, 15/34

U.S. Cl. 156—583

2 Claims



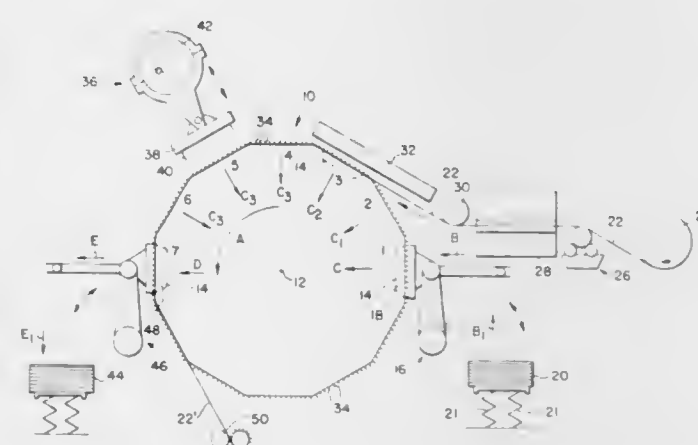
An apparatus and method for forming an integral hollow panel structure. A top shell of glass fibers and resin is separately molded and cured. A bottom shell is similarly molded, and a resin-impregnated honeycomb paper core is pressed against the bottom shell and cured to anchor the core to the shell. A thermoplastic resin is applied to the interior of the top shell, and the top and bottom shells are then brought together. The top shell is supported upon a surface having the desired final surface contour, and a uniform pressure is applied over the bottom shell to move the core edges into wiping contact with the resin of the top shell. The pressure is maintained while the resin is cured.

3,539,422 PLASTIC FILM LINING MACHINE

Donald T. Daniele, East Longmeadow, Mass., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed May 29, 1968, Ser. No. 732,913
Int. Cl. B32b 3/04

U.S. Cl. 156—202

15 Claims



An apparatus is provided comprising a horizontally disposed drum having a plurality of peripheral foraminous dies which drum is driven intermittently. Preformed

paperboard or molded pulp trays are sequentially deposited on the drum dies as the drum rotates intermittently past a first station and are held in place thereon by vacuum being drawn through such drum dies. An adhesive plastic web is then guided into face-to-face contact with the tray carrying drum. The plastic web is held in place over the die at a second station by pins extending upwardly from the edges of the die. While in place the film is heated and then a greater degree of vacuum is drawn through the die, causing the heat-softened plastic film to be vacuum thermoformed against the tray where it is bonded into place by the action of the adhesive. From this point the drum continues to rotate and, in one embodiment, a cutting die is provided which cuts through the peripheral portion of the preformed tray and the plastic film to finish the lined tray while still on the drum. In another embodiment, a first cut is made while still on the drum through the plastic so as to separate the lined tray, in unfinished form, from the plastic film which is then chopped up as scrap which may be reused. In the meantime the unfinished lined tray is passed to a rotary turret having dies and is then passed to a second cutting zone where the lined tray is finished, before being transferred from the turret die. In each case the transferring is done by a combination of vacuum and positive air pressure. On the rotary turret, instead of finishing the tray by cutting through the peripheral portions thereof, the finishing operation may be carried out by bending the free plastic edges about the edges of the tray and sealing them or crimping them to the bottom thereof.

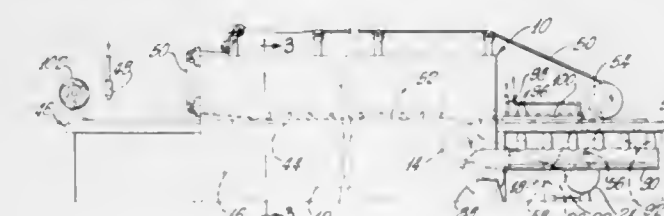
3,539,423 METHOD OF MAKING A FIBERBOARD OF VARYING DENSITY

Allen L. Simison and Clayton A. Smucker, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 527,116, Feb. 14, 1966. This application Nov. 12, 1968, Ser. No. 774,864

Int. Cl. B32b 7/02, 17/04

U.S. Cl. 156—209

7 Claims



A method of removing imperfections in the surface of a glass fiberboard wherein a thin layer of binder is applied to the imperfect surface of the board, and the board is held compressed until the binder is cured to provide a smooth tight high density surface without changing the density of the remainder of the board. The board so produced is also disclosed.

3,539,424 POLYURETHANE FILM AND LAMINATE THEREOF

Irving Tashlick, Boonton, N.J., assignor, by mesne assignments, to Wharton Industries, Inc., Brooklyn, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 728,066, May 9, 1968. This application Apr. 10, 1969, Ser. No. 815,210

Int. Cl. B29c 13/00

U.S. Cl. 156—238

12 Claims

Improved method for making laminates including a polyurethane resin film by (A) combining (I) a first isocyanato prepolymer component which is a reaction

product of an organic diisocyanate and a glycol, with (II) a second polyol component which is a reaction product of an organic diisocyanate and a diol-triol mixture, to form a quick-curing polyurethane composition having a long pot life; (B) applying the composition to a release surface; (C) partially curing; (D) contacting the partially-cured film with a material, such as fabric or leather, to be laminated thereto; and (E) curing the resin in the laminate. Laminates made by this method include unsupported polyurethane resin films prepared by this method with elimination of the laminating step.

3,539,425

METHOD OF ASSEMBLING THE WALLS OF A BOX-LIKE STRUCTURE

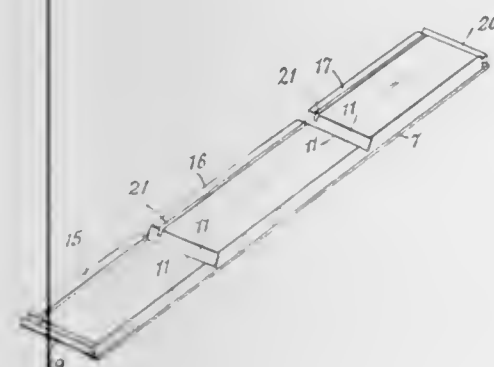
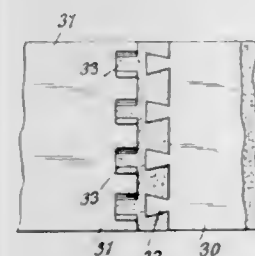
Arthur Marburg, P.O. Box 1326,
Morristown, Tenn. 37814

Filed Nov. 9, 1966, Ser. No. 593,149

Int. Cl. C09j 5/00

U.S. Cl. 156—247

5 Claims



The invention essentially consists of an assemblable form of drawer, chest or similar article wherein the component pieces are available as a pattern, each of said pieces being adhesively secured as by pressure-sensitive adhesive to a flexible carrier strip foldable along lines to effectuate final abutting positions of the pieces toward the final formation of the article. The said strip may remain as a decorative facing in the final form of the article or removed therefrom as by a peeling operation.

3,539,426

MULTIPLE LAYER COATING METHOD

Setsuo Nakai and Seiya Yamaguchi, Ashigara-Kamigun, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kamigun, Kanagawa, Japan, a corporation of Japan

Filed Jan. 13, 1967, Ser. No. 609,217

Claims priority, application Japan, Jan. 13, 1966, 41/1,973

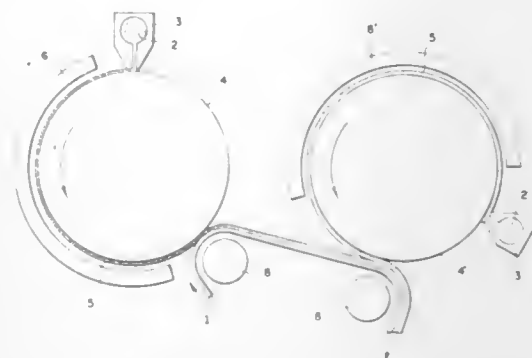
Int. Cl. B32b 31/08

U.S. Cl. 156—249

2 Claims

In a method of forming two or more superimposed layers of sol-gel conversive coating materials, at least two layers of the coating materials are formed separately on

continuously moving cooling surfaces, gelled by cooling to form gelled films each on each cooling surface, and then



transferred onto a traveling support successively to form thereon the superimposed layers.

3,539,427

PROCESS FOR SURFACE TREATMENT OF LEAD AND ITS ALLOYS

Hargovind N. Vazirani, Passaic Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed May 8, 1968, Ser. No. 727,460

Int. Cl. C23b 1/00

U.S. Cl. 156—272

9 Claims



Passing a current through the surface of lead and its alloys as a cathode while the surface is in contact with an electrolytic solution containing chromate ions and fluoride ions results in improved adhesion subsequently formed between the metal and organic materials.

3,539,428

HEATED FILM TRANSFER PROCESS AND ARTICLE PRODUCED THEREBY

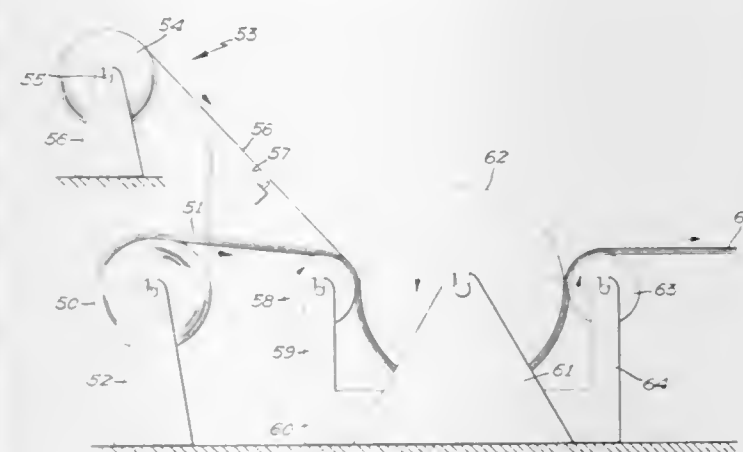
Albert L. James, Hickory Corners, Mich. 49060

Continuation-in-part of abandoned application Ser. No. 521,674, Jan. 19, 1966. This application Nov. 22, 1968, Ser. No. 790,495

Int. Cl. B32b 31/28

U.S. Cl. 156—272

6 Claims



A laminating process in which a thermoplastic film is heat sealed to a substrate sheet by quickly heating the film just prior to laminating the film to the substrate. The film has one surface thereof treated to render the surface

polar and this surface becomes an interface of the laminate. The film is passed over a heating roll, the latter having release properties to prevent sticking of the film there-to whereby the film is heated and is bonded to the substrate. The substrate is positioned exteriorly of the film as the substrate is moved over the heating roll.

3,539,429

METHOD OF FABRICATING A FLUID HANDLING ELEMENT

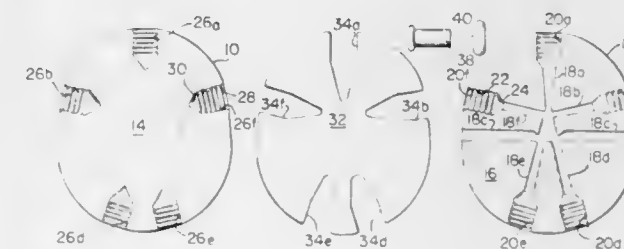
Timothy J. Kilduff, Greenbelt, and Eleanor F. Horsey, Chevy Chase, Md., assignors to the United States of America as represented by the Secretary of the Army

Filed Nov. 14, 1967, Ser. No. 682,836

Int. Cl. F15c 1/08

U.S. Cl. 156—292

5 Claims



A method of fabricating a fluid handling element consisting of a relatively solid housing having fluid conduits formed therethrough. Channels are formed in the mating surface of one of a pair of mating blocks and enlarged, connector-receiving bores are formed at the intersection of the channels with the periphery of the blocks. Connector tubes having heat-activated adhesive therearound are disposed in the enlarged bores and a sheet of heat-activated adhesive, cut out in the areas of the enlarged bores, is disposed between the mating surfaces of the blocks. The assembly is united by applying heat and pressure thereto to activate the adhesive.

3,539,430

METHOD OF CONSTRUCTING A RADIO-FREQUENCY FEED-THROUGH ASSEMBLY

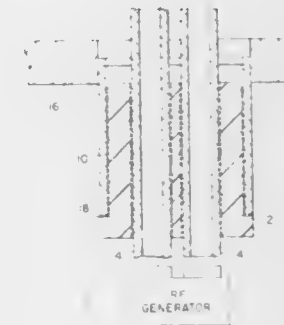
John F. Duryee, Bloomington, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Jan. 24, 1968, Ser. No. 700,237

Int. Cl. B32b 31/12

U.S. Cl. 156—294

1 Claim



A method of assembling a device, having the same geometric configuration as the transmission line to which it is attached, that transmits radio-frequency power through a vacuum barrier. The assembly is adaptable to different types of transmission line geometry and is elastic to reduce leakage caused by vibration or shock. A filler material is placed within a cylindrical tube having a mounting flange attached to one end, a waveguide is

3,539,431

DECORATIVE RIBBON AND BOW

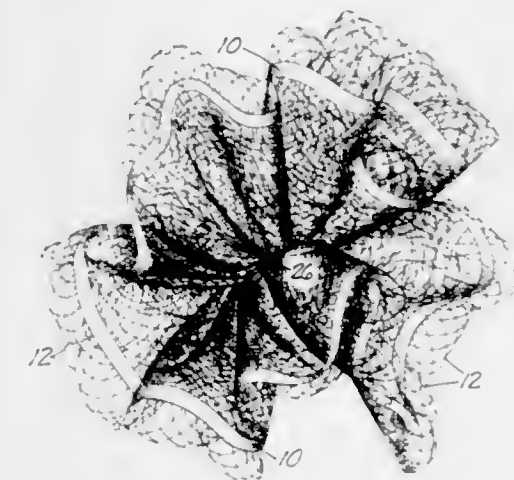
Roger M. Schmidt, Minneapolis, and Bernard S. Truskolaski, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Continuation of application Ser. No. 531,204, Mar. 2, 1966. This application Aug. 27, 1969, Ser. No. 863,741

Int. Cl. D04d 7/10

U.S. Cl. 161—9

8 Claims



The disclosure relates to lace-like ribbon materials made from sparsely distributed interconnected pliable filaments so that a major portion of the material is comprised of open spaces. A drawstring is trapped between the filaments along one edge of the ribbon material and a colorful solid fabric strip is affixed to the other edge for added coloring and to increase the resilience of the material. A bow and method for making same with the ribbon materials are also disclosed.

3,539,432

FEATHER LEI CONSTRUCTION

Frederick K. O. Chee, 99—846 Aliipoe Drive, Aiea, Hawaii 96701

Filed Feb. 9, 1968, Ser. No. 704,481

Int. Cl. A41g 9/00; A47g 33/08

U.S. Cl. 161—15

11 Claims



A feather lei construction made from individual sections which are strung together. Feathers are secured to and arranged about a central support in each section, comprising a foam cylinder or longitudinally spaced, paper discs. Bores are formed in each cylinder or series of spaced discs, and a cord passed through any desired number to form the lei.

3,539,433

FABRIC OVERLAIN WITH INTERSTITIALLY SEPARATED SEGMENTS OF THERMOPLASTIC MATERIAL

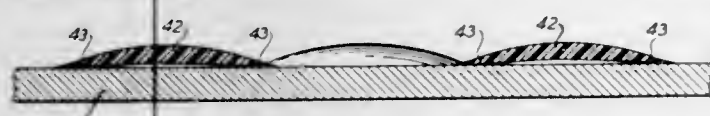
Bernard Edwards, Cranford, and Theodore Kimak, Clifton, N.J., assignors, by mesne assignments, to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Original application Oct. 10, 1963, Ser. No. 315,293, now Patent No. 3,374,133, dated Mar. 19, 1968. Divided and this application July 31, 1967, Ser. No. 669,997

Int. Cl. B32b 3/10

U.S. Cl. 161—40

5 Claims



An air-pervious fabric has an adherent overlay in the form of interstitially separated segments of thermoplastic material which are cross-sectionally outwardly rounded, more particularly adherent at their marginal portions, and this product can be embossed to form an air-pervious fabric structure.

3,539,434

NONWOVEN COMPOSITIONS HAVING IMPROVED AGING PROPERTIES

David C. Spaulding, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 27, 1967, Ser. No. 693,736

Int. Cl. B32b 27/04, 29/02

U.S. Cl. 161—82

7 Claims

Nonwoven materials and particularly papers treated with acrylate polymer latices are shown to have improved resistance to aging when protected with an antioxidant and chelating agent in combination. Papers saturated with acrylate polymer latices containing the antioxidant and chelating agent in combination retain a high level of physical properties even after prolonged exposure to aging and treatment with typical dry cleaning solvents.

3,539,435

FABRIC CONSTRUCTION FOR MEAT-PACKING SHROUD

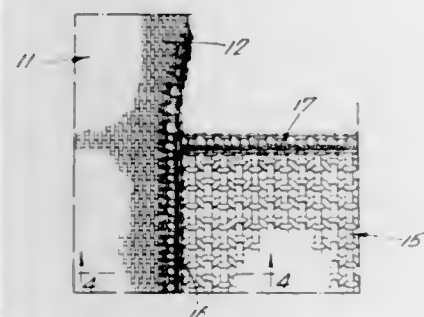
Beverly E. Williams, La Grange Park, Ill., assignor of one-half to Kathryn I. Williams, San Mateo, Calif.

Filed June 29, 1967, Ser. No. 650,037

Int. Cl. B65b 25/06; D03d 13/00

U.S. Cl. 161—86

11 Claims



A shroud for wrapping meat carcasses, especially sides of beef, comprising an elongated rectangular sheet of fabric which is woven with selvages along the long sides and is hemmed or otherwise finished along the short sides. The longitudinal yarns of the shroud are composed of ramie fiber whereas the yarns extending widthwise of the fabric are composed of cotton fiber. Supplementary flaps may be secured to the selvages, either adjacent diagonally-opposite corners of the shroud or along their entire length. The flaps may comprise rectangular sheets of fabric having a weave construction with a crisscross arrangement of the warps at intersections with the wefts, such as a leno-weave, and having warp and weft counts

which are less than the warp and weft counts of the relatively open plain weave of the body of the shroud. Such flaps provide large interstices through which skewers may pass without destroying the yarns of the flap. The warp of the flap is preferably parallel to the weft of the body of the shroud.

3,539,436

KNITTED PRODUCT HAVING A MATERIAL-ENGAGING SURFACE

Hisashi Hamano, Soka-shi, Japan, assignor, by mesne assignments, to International Knitlok Corporation, New York, N.Y., a corporation of New York

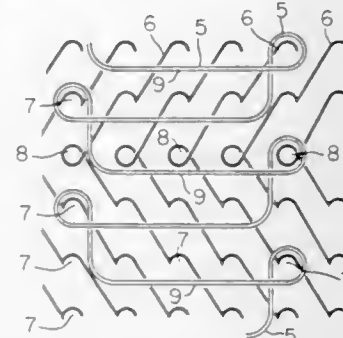
Filed Aug. 10, 1967, Ser. No. 659,668

Claims priority, application Japan, Aug. 29, 1966, 41/56,465

Int. Cl. B32b 15/02

U.S. Cl. 161—89

8 Claims



A knitted product having a material-engaging surface used for a hooking element for a separable fastener, a hair curler and a skid-proof tape. The product comprises a warp-knitted material or a weft-knitted material including a plurality of pile loops on its surface, and a plurality of hooks made by cutting at least a part of the pile loops, thereby forming a material-engaging surface on the knitted material.

3,539,437

SELF-SUPPORTING LAMINATES OF FLEXIBLE THERMOPLASTIC FILMS WITH INTERMEDIATE LAYER OF A MODIFIED MINERAL FILLER

Charles C. Kirk, Laurel, Thomas E. Ferington, Sandy Spring, and Razmic S. Gregorian, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Dec. 20, 1967, Ser. No. 692,240

Int. Cl. B32b 5/16, 19/00

U.S. Cl. 161—162

15 Claims

First Flexible Thermoplastic Film
Filler
Second Flexible Thermoplastic Film

This invention is directed to a process for preparing self-supporting laminate films having low permeability to gases and to the films prepared by said process, all as described hereinafter.

3,539,438

ELECTRICALLY INSULATIVE POLYMER IMPREGNATED, MICA-PAPER TAPE

Gaylord L. Groff, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed June 12, 1967, Ser. No. 645,499

Int. Cl. B32b 5/16, 19/02

U.S. Cl. 161—163

6 Claims

An electrically insulative soft, pliable mica-paper tape impregnated with a thermoset resin composition that includes (a) a copolymer of a monomer of acrylic acid ester

of non-tertiary alcohol and a functional monomer based on acrylic acid and (b) a curing agent reactive with the functional groups of the functional monomer.

3,539,439

POLYOLEFIN LAMINATES

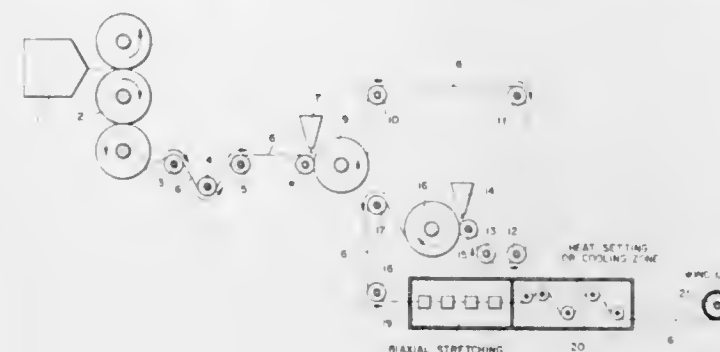
Gene C. Calderwood, Green Village, and Dennis Poller, Highland Park, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 21, 1964, Ser. No. 397,823

Int. Cl. B32b 27/30; B29d 7/24

U.S. Cl. 161—165

3 Claims



Laminates made of a polyolefin base with different copolymer coatings thereon forms a highly efficient heat sealing and wrapping material, by extruding such coating material onto said polyolefin sheet stock followed by a biaxial orientation resulting in a thin coated film suitable for various packaging applications.

3,539,440

SELF-ADHESIVE COATED LAMINATES

Gene Gereck, Cheswick, and Rowland S. Hartzell, Gibsonsia, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 561,625, June 29, 1966. This application Feb. 12, 1968,

Ser. No. 704,807

Int. Cl. B32b 19/04, 27/12; C09j 7/04

U.S. Cl. 161—167

17 Claims



Self-adhesive asbestos laminates are made up of nonwoven asbestos sheet material, such as asbestos paper, having a resinous organic coating on one side and an adhesive, preferably a normally tacky pressure-sensitive adhesive, on the other side. Such coated laminates can be applied to various substrates, such as exterior or interior wall surfaces, cabinets, appliances etc., for protective and/or decorative purposes.

3,539,441

EMULSIFIABLE COMPOSITIONS

Ronald R. Rabenold, Allison Park, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 15, 1967, Ser. No. 690,737

Int. Cl. C08f 45/58, 45/70; D04b 1/64

U.S. Cl. 161—170

17 Claims

Emulsifiable compositions comprise a polyester of an ethylenically unsaturated polycarboxylic acid and one or more polyhydric alcohols, a cross-linking polymerizable ethylenically unsaturated monomer, an emulsifier, and a stabilizing amount of an inhibitor system comprising at

least one predominantly water-insoluble, polyester resin-soluble, inhibitor and a predominantly water-soluble inhibitor which will prevent gelling of the resins at temperatures greater than about 120° F. Aqueous emulsions of such compositions are used as binders for preforms or glass fiber mats. The preferred polyesters are made from maleic anhydride and phthalic anhydride, and neopentyl glycol, 1,3-butanediol, and polyethylene glycol, with styrene as the cross-linking monomer. The preferred inhibitor system comprises hydroquinone and 2,6-di-tert-butyl-4-methylphenol.

3,539,442

LAMINATED ARTICLES COMPRISING POLYCARBONATE SHEET BONDED TO LAYER OF PLASTICIZED POLYVINYL ACETAL

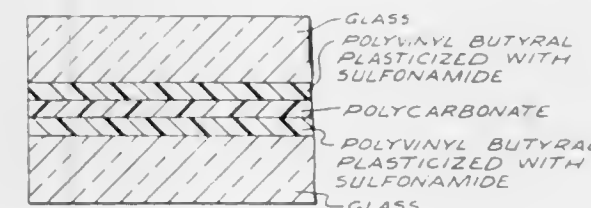
Francis T. Buckley, Hampden, and Raymond F. Riek, Wilbraham, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 15, 1967, Ser. No. 690,740

Int. Cl. B32b 17/10, 31/04; C03c 27/12

U.S. Cl. 161—183

10 Claims



Disclosed herein are laminated structures comprising at least one sheet of plasticized polyvinyl acetal laminated to at least one sheet of polycarbonate, wherein the polyvinyl acetal is plasticized with a sulfonamide plasticizer.

3,539,443

LAMINATES OF OXIDIZED EPOXY RESINS WITH LINEAR THERMOPLASTIC POLYESTERS OR POLYAMIDES AND METHODS OF MAKING SAME

Winston J. Jackson, Jr., Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 10, 1968, Ser. No. 766,617

Int. Cl. B32b 27/38, 27/16

U.S. Cl. 161—186

10 Claims

Oxidation of the surface of epoxy resin imparts properties thereto which greatly improve the adherence of linear thermoplastic polyesters and polyamides. Oxidation may be carried out by heating in the presence of air, by flame treatment, by corona treatment, or by treating with chemical oxidizing agents.

3,539,444

DECORATIVE SHEET COMPRISING PAPER IMPREGNATED WITH A COPOLYESTER AND HAVING A COVER LAYER OF POLYVINYL CHLORIDE

Ernst Schneider, Troisdorf, Bezirk Cologne, and Manfred Simon, Niederkassel, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany, a corporation of Germany

No Drawing. Filed Mar. 10, 1967, Ser. No. 622,101

Claims priority, application Germany, Mar. 15, 1966, D 49,625

Int. Cl. B32b 27/36

U.S. Cl. 161—232

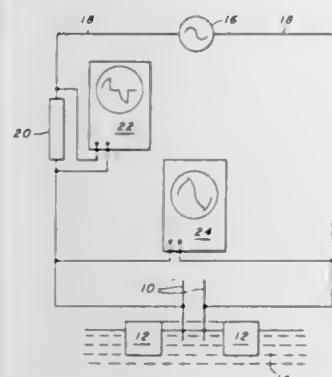
5 Claims

A paper impregnated with a copolyester of ethylene glycol and/or neopentyl glycol condensed with a mixture of terephthalic and isophthalic acids in a mol ratio of 70:30 to 30:70, which impregnated paper has a cover layer thereon of polyvinyl chloride which may be plasticized.

of the converted product and thus the polarographic inactive unknown. Various methods and electrode systems are also described.

3,539,456
ELECTROLYTIC CELL SOLUTE DETERMINING APPARATUS AND METHOD
Ronald E. Smids, Renton, Wash., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 25, 1968, Ser. No. 739,742
Int. Cl. C22d 3/12
U.S. Cl. 204—1 13 Claims

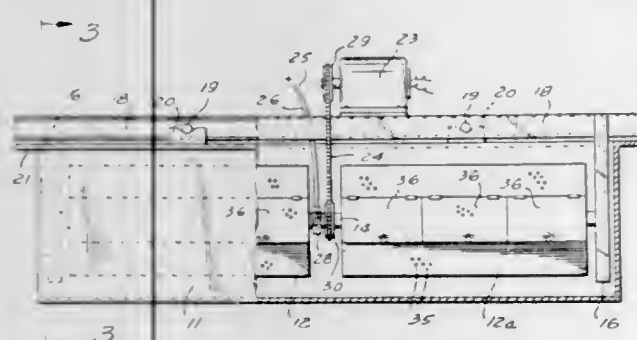


An apparatus and method for use in the operation of a direct current electrolytic reduction cell in which a pair of alternating current energized electrodes, extending into the metallic oxide solute-containing fused bath of the cell, serves as a means for sensing the occurrence of cyclic anode effects induced thereon during the operation of the cell, preferably in combination with an electrically responsive readout system relating the anode effects to solute concentrations in the fused electrolyte bath of the cell as a determining or sensing factor in efficient operation of the cell.

3,539,457
ELECTROLYTIC RECORDING MEDIUM
Robert Doughty Richards, Summit, N.J., and Alan Howard Vincent, Anerley, London, England, assignors to Muirhead Instruments, Inc., Mountainside, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 23, 1968, Ser. No. 723,568
Int. Cl. B21h 1/20

U.S. Cl. 204—2 8 Claims
An electrolytic recording medium for marking with a silver anode, the medium impregnated with calcium or strontium formaldehyde sulfoxylate.

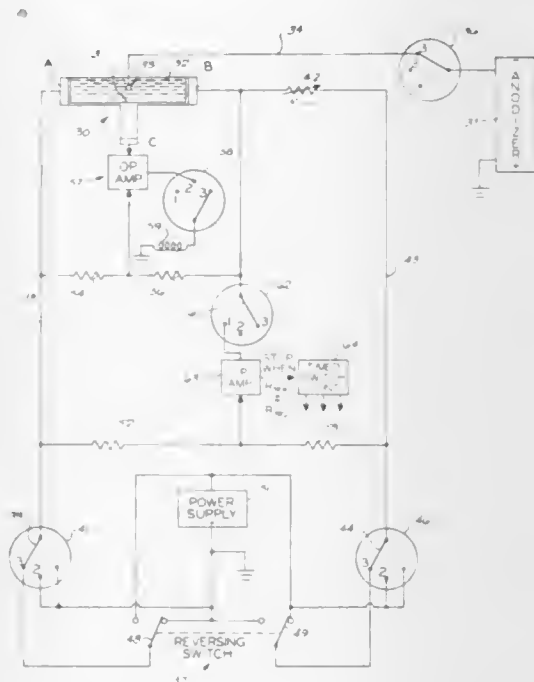
3,539,458
ELECTROLYTIC METHOD OF PRODUCING FINELY DIVIDED COPPER
Matthew C. Blume, 18 Myrtle Ave., Ansonia, Conn. 06401; Minna G. Blume, administratrix of the estate of said Matthew C. Blume, deceased
Continuation-in-part of application Ser. No. 500,626, Oct. 22, 1965. This application July 22, 1968, Ser. No. 746,461
Int. Cl. C22d 5/00; B23p 1/00
U.S. Cl. 204—10 13 Claims



A method of electrolytically producing copper powder wherein an electrolysis bath consisting essentially of a

pyrophosphate soluble in water which produces an alkaline solution and a tetravalent pyrophosphate anion concentration of at least one-quarter percent by weight.

3,539,459
METHODS AND APPARATUS FOR ANODIZING SERIAL RESISTANCES, IN PARTICULAR, A RESISTANCE PAD ATTENUATOR
George L. Allerton, Orefield, Howard D. Marshall, Stroudsburg, and Robert L. Siegel III, Easton, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 6, 1968, Ser. No. 781,816
Int. Cl. C23b 5/48; B01k 3/00
U.S. Cl. 204—15 12 Claims

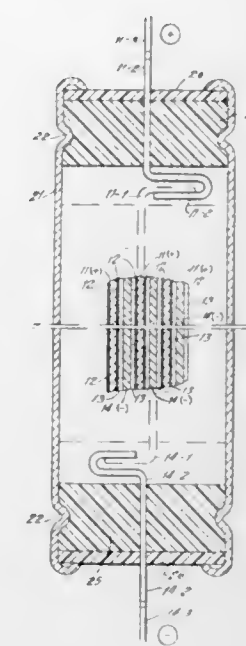


Nonlinear anodization of a resistive workpiece, such as a distributed thin film T-pad attenuator, is provided by establishing an independent voltage gradient along the workpiece during the anodization thereof. A thin film T-pad attenuator can be anodized to substantially equal input and output impedances by providing a direct current through the serial portion of the attenuator in such a direction so that, upon anodization thereof, the input and output impedances tend toward equalization.

3,539,460
TANTALUM CAPACITORS AND TANTALUM HAVING EXTERIOR DIELECTRIC OXIDE FILM TANTALUM CAPACITORS
Karl Sedlatschek, Kirchweg 20, Reutte, Tirol, Austria, and Reginald Leuprecht, Hofen, near Reutte, Tirol 93, Austria
Original application Mar. 16, 1966, Ser. No. 534,718. Divided and this application June 3, 1968, Ser. No. 740,423
Claims priority, application Austria, Mar. 19, 1965, A 2,545/65
Int. Cl. C23f 17/00; C23b 9/00
U.S. Cl. 204—56 9 Claims

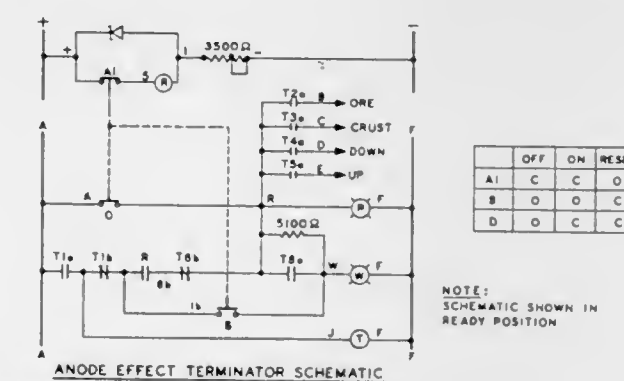
The leakage resistance of a tantalum capacitor is materially increased by subjecting the tantalum foil surface to an initial purification by treating the surface in an aqueous alkaline solution having dissolved therein an oxidizing compound followed by the anodizing of the so treated tantalum surface. The purification treatment may be combined with passage of electrolytic current through the purified foil. Good results are obtained with aqueous alka-

line solutions of hydroxides of potassium, sodium or lithium. The oxidation compound may consist of potas-



sium permanganate or ammoniumpersulfate and analogous compounds.

3,539,461
ANODE EFFECT TERMINATION
Leon S. Newman and Jack E. Griffin, Ravenswood, W. Va., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Oct. 19, 1967, Ser. No. 676,500
Int. Cl. C22d 3/12; B01k 3/00; C22d 3/02
U.S. Cl. 204—67 10 Claims



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to maintain the hydrophilic liquid-in-oil emulsion in isolation from contiguous environment or there is need to control the release of the said emulsion through its capsular wall.

3,539,466

CATALYST PREPARATION

Emory W. Pitzer, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 16, 1967, Ser. No. 675,325
Int. Cl. B01j 11/82

U.S. Cl. 252—421 7 Claims
Physically strong catalyst article prepared by agglomerating tin oxide particles and heating the resulting agglomerate prior to impregnation of the tin oxide with a phosphorus containing material.

3,539,467

HOT BRIQUETTING AND OXIDATION OF COAL-PITCH MIXTURES IN PREPARING ACTIVATED CARBON

Abe Roscoe Bozarth, Cleveland, Ohio, and Edward A. Blaine, Mountainside, N.J., assignors to Kewanee Oil Company, Bryn Mawr, Pa., a corporation of Delaware
No Drawing. Filed Nov. 30, 1967, Ser. No. 686,789
Int. Cl. C01b 31/08

U.S. Cl. 252—435 2 Claims
A process for the preparation of granular activated carbon from coal which comprises hot briquetting of the coal together with pitch, comminuting said briquettes, oxidation, carbonization and activation of the granules to form granules of activated carbon having improved hardness to better resist attrition and reduced pore volume in the greater than 10,000A range as well as increased density.

3,539,468

ALUMINA HYDRATE COMPOSITIONS

James H. Wright, Louisville, Ky., assignor to Catalysts and Chemicals Inc., Louisville, Ky., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 532,021, Jan. 7, 1966. This application Oct. 25, 1968, Ser. No. 770,783
Int. Cl. B01j 11/06

U.S. Cl. 252—463 6 Claims
Aluminum oxide is widely used in the petroleum and other branches of the chemical industry. Alumina can conveniently be obtained by the Bayer process. However it is crystalline in form and not completely satisfactory for catalytic purposes. Alumina suitable for catalytic purposes is frequently prepared by precipitation from a water soluble metal aluminate by the addition thereto of a mineral acid. A remarkably effective precursor alumina hydrate is prepared by carbon dioxide precipitation if certain reaction conditions are employed.

3,539,469

METHOD OF MANUFACTURING A SILVER CATALYST FOR FUEL CELLS BY IMMERSION COATING

James E. Schroeder and Dirk Pouli, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,179
Int. Cl. B01j 11/20; C23c 3/00; H01m 27/04

U.S. Cl. 252—474 8 Claims
A fuel cell cathode catalyst comprising a nickel powder, the particles of which are coated with silver. The catalyst is produced by immersing a quantity of nickel powder into a dilute acid solution to activate the surface of the powder. A silver salt solution is then added to the acid solution causing metallic silver to replace surface

nickel going into solution. The silver coated nickel powder is subsequently washed and heat treated at from 250 to 500° C. in a nonoxidizing atmosphere.

3,539,470

HIGH-RESISTIVITY LIQUID RESISTANCE

Pierre Icre, Versailles, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Jan. 3, 1968, Ser. No. 695,516
Claims priority, application France, Jan. 13, 1967, 91,159

U.S. Cl. 252—500 1 Claim
Int. Cl. H01c 11/00



A liquid resistance which has high resistivity, is stable in time and essentially consists of a non-polar solvent to which an organic acid is added in order to enhance the ionizing properties of the solvent and a base for neutralizing the acid.

The organic acid is a carboxylic acid such as trichloroacetic acid, succinic acid and picric acid. The non-polar solvent is, for example, carbon tetrachloride, benzene and dioxane. The base is of the aminated type such as, for example, diethylamine.

The concentration of the acid in the solvent is within the range of 2 M to 10⁻² M.

3,539,471

WATER DETECTING ELEMENT

Hugh S. Sproul, Rockton, Ill., assignor, by mesne assignments, to Alco Standard Corporation, Philadelphia, Pa., a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 504,035
Int. Cl. H01b 1/06

U.S. Cl. 252—513 2 Claims
A probe for use in connection with an electrical monitor circuit for detecting the presence of water in an oil bath which includes a conduit that is submerged into the oil bath, a hollow casing attached to the submerged end of the conduit which is provided with openings communicating with the oil bath, a pair of spaced electrodes mounted in the casing and a sensing element positioned between the spaced electrodes. The sensing element consists of a porous mass with globules of stainless steel and glass with the interstices being at least partially filled with potassium nitrate particles. When water passes through the holes in the casing and contacts the sensing element, the potassium nitrate is ionized and reduces the electrical resistance in the porous mass which can then be detected in the monitor circuit.

3,539,472

PROCESS FOR MOLDING ARTICLES FROM METAL POWDERS

Gerhard Findeisen, Braunau am Inn, and Walter Brotz, Gersthofen, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, and Mannesmann-Pulvermetall G.m.b.H., Monchen-Gladbach, Germany
No Drawing. Filed Dec. 21, 1967, Ser. No. 692,315
Claims priority, application Germany, Dec. 23, 1966, F 51,060

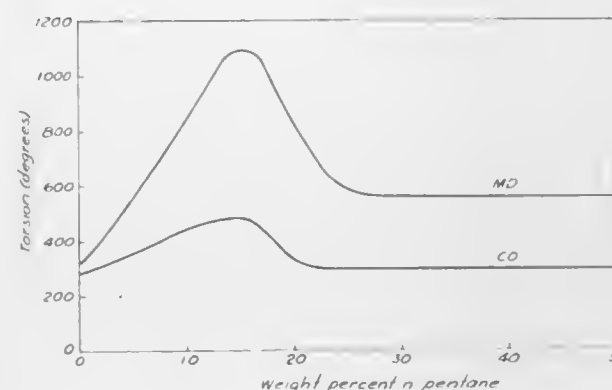
U.S. Cl. 252—51.5 3 Claims
Int. Cl. B22f 1/00; C10m 1/32
Molded metal powder articles which are converted into shaped articles of sintered metal by annealing, are produced in the presence of mold-facilitating mixtures consisting of amides or diamides of aliphatic monocarboxylic acids and alcohols or diols or polyglycols.

3,539,473

METHOD FOR THE PREPARATION OF FOAMED SHEET AND PRODUCT OBTAINED THEREBY

Donald W. Simpson, Auburn, and John Y. Glass, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 21, 1967, Ser. No. 669,649
Int. Cl. C08d 13/10; C08f 47/10; C08j 1/26

U.S. Cl. 260—2.5 11 Claims



Improved polystyrene foamed sheet is obtained by employing as a blowing agent a mixture of about 85 weight percent Freon-12 and about 15 weight percent n-pentane. The foamed sheet is resistant to cracking and shows excellent aging characteristics.

3,539,474

INSULATION COMPOSITION WHICH EXPANDS IN USE

John G. Sommer, Jr., Akron, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
No Drawing. Filed Sept. 29, 1967, Ser. No. 671,595
Int. Cl. C08g 53/10

U.S. Cl. 260—2.5 7 Claims
A flexible, room curing insulating composition is composed of boric acid and the reaction product of an epoxy resin and a flexibilizing agent and further including a blowing agent which reacts to cause the insulation to foam at elevated temperatures, thereby improving the ablation properties thereof. This novel composition is especially applicable for use in protecting the combustion chamber of rocket motors.

3,539,475

PROCESS FOR MANUFACTURE OF UNIFORM RUBBER BLENDS OF DIFFERENT KINDS

Akira Yoshioka and Taiji Katsuyama, Tokuyama-shi, Japan, assignors to The Japanese Geon Co., Ltd., Tokyo, Japan
Filed July 28, 1967, Ser. No. 656,934
Claims priority, application Japan, Aug. 12, 1966, 41/52,637

U.S. Cl. 260—4 5 Claims
Int. Cl. C08d 9/08

A blend of two or more different type rubbers is produced using conventional type compounding machines. The first rubber component is prepared from a rubber solution, for example, a solution of polybutadiene rubber in benzene, coagulating by the introduction of steam to the solution, which also effects a simultaneous removal of the solvent, dewatering and crushing to a certain given degree of water content, generally from 2–35% by weight, and a particle size, generally 1–30 mm. in diameter to form porous rubber particles. The first rubber component in the form of porous particles thus prepared is then admixed with a latex of the second rubber component, at a temperature of 0–90° C., coagulated, dewatered and

crushed, if desired, by a similar method to give a uniform rubber blend exhibiting excellent compounding ability or workability and superior physical properties after vulcanization.

3,539,476

AQUEOUS COATING COMPOSITIONS COMPRISING A VINYLIDENE CHLORIDE TERPOLYMER, GELATIN, AND A COPOLYMER OF ETHYLENE AND VINYL ACETATE

Thomas J. Dolce, Menlo Park, and Donald L. McCabe, Rahway, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 10, 1967, Ser. No. 637,348
Int. Cl. C08f 37/08; C08h 7/00

U.S. Cl. 260—8 3 Claims
An aqueous coating composition for adhering various types of layers to polyester sheet or film surfaces, the aqueous coating composition comprising a vinylidene chloride terpolymer, gelatin, and a copolymer of ethylene and vinyl acetate.

3,539,477

GRAFT POLYMERS OF CELLULOSE ESTERS AND PROCESS FOR THEIR MANUFACTURE

Hans Dieter Hermann, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Dec. 16, 1968, Ser. No. 784,185
Claims priority, application Germany, Dec. 19, 1967, F 54,340

U.S. Cl. 260—13 3 Claims
Int. Cl. G08b 21/02, 21/04, 21/06

Graft polymers of cellulose esters are prepared by cationic polymerization of trioxane and cyclic ethers, cyclic acetals or linear polyacetals in the presence of partially saponified cellulose esters. The graft polymers obtained are thermoplastic and are used for the manufacture of shaped articles by injection-moulding or extrusion.

3,539,478

GROUND COHUNE NUT SHELL FILLER AND EXTENDER MATERIAL FOR THERMOSETTING FORMALDEHYDE RESIN ADHESIVE

William H. McDow, Brownsville, Tenn., and Mark F. Adams, Pullman, Wash., assignors to Etablissement Organic Products, Vaduz, Liechtenstein, a corporation of Liechtenstein
No Drawing. Continuation-in-part of application Ser. No. 734,833, June 6, 1968. This application Oct. 14, 1968, Ser. No. 767,484

U.S. Cl. 260—17.2 4 Claims
Int. Cl. C08g 51/14

A thermosetting formaldehyde resin adhesive is described having a filler and extender containing flour made from ground cohune nut shells for producing an adhesive having low viscosity and high strength and long shelf life properties.

3,539,479

METHOD FOR IMPROVING THE CURE RATE OF POLYESTERS

Robert A. Alberts, Sinking Spring, Pa., assignor to SCM Corporation, Cleveland, Ohio, a corporation of New York
No Drawing. Filed Feb. 4, 1969, Ser. No. 796,554
Int. Cl. C08f 21/00; C08g 17/14

U.S. Cl. 260—22 6 Claims
This invention relates to an improvement in a process for curing copolymerizable compositions. More specifically, it relates to a method of accelerating the rate of cure of such copolymerizable compositions, which component comprises a thermosettable polyester resin component and an unsaturated monomer component by

adding from about 0.1% to about 3.5% of a lithium salt which is soluble in at least one component of the copolymerizable composition by weight of the composition prior to curing. Cure times and also gel times can be reduced as much as 35%.

3,539,480

THERMOSETTING RESIN COMPOSITIONS COMPRISING POLYVINYL CHLORIDE DISPERSION RESIN

Charles H. Groff, West View, and Edward H. Neuwrth, Coraopolis, Pa., assignors to Watson-Standard Co., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 381,555, July 9, 1964. This application June 18, 1968, Ser. No. 737,809

Int. Cl. C09d 3/62, 3/66, 3/76

U.S. Cl. 260—23

25 Claims

A thermosetting resin composition consisting essentially of about 35% to 55% polyvinyl chloride dispersion resin, about 8% to 21% of a member from the group consisting of ketone formaldehyde resin, arylsulfonamide formaldehyde resin, and rosin derived alkyd resin, about 10% to 35% plasticizer, up to about 7.5% thermosetting resins and the balance solvents.

3,539,481

ADHESIVE STICK

Thomas G. Parker, Three Rivers, Mich., assignor to U.S. Plywood-Champion Papers Inc., New York, N.Y., a corporation of New York

Filed June 17, 1968, Ser. No. 737,711

Int. Cl. C09j 3/26

U.S. Cl. 260—27

7 Claims

The present invention is concerned with a stick of adhesive or an adhesive stick, pencil, or rod having a novel composition whereby the softening of the adhesive for application is secured by the frictional rubbing of the end of the glue rod on the material or materials to be adhered, and followed by the setting or polymerization of the composition to secure excellent adhesion.

3,539,482

SOLUBLE POLY(ETHERURETHANE)S

Floyd D. Stewart, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 20, 1967, Ser. No. 669,286

Int. Cl. C08g 22/14, 51/24

U.S. Cl. 260—29.2

8 Claims

Poly(etherurethane)s which are soluble in water or in dilute aqueous alkali solutions are prepared by reacting poly(oxyethylene)glycols having molecular weights greater than about 1000 with an alkylene glycol and an aliphatic or phenyl diisocyanate in a molar ratio of 1 mol of poly(oxyethylene)glycol, 1 to 2 mols of alkylene glycol and 2 to 3 mols of the diisocyanate.

3,539,483

ANIONIC POLYURETHANE DISPERSIONS AND A PROCESS FOR THE PRODUCTION THEREOF

Wolfgang Keberle, Leverkusen-Ludwig, and Gunter Oertel, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 18, 1968, Ser. No. 714,028

Claims priority, application Germany, Mar. 20, 1967, F 51,876

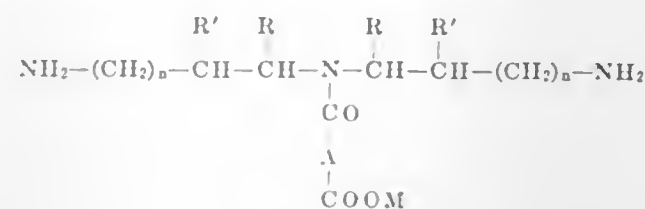
Int. Cl. C08g 51/24; C09g 1/04

U.S. Cl. 260—29.2

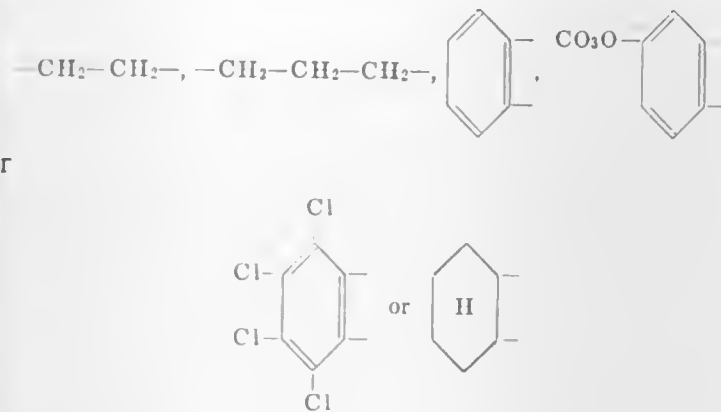
7 Claims

Emulsifier-free anionic dispersions of polyisocyanate poly-addition products containing about 0.05 to about 8% by weight of COO⁻ groups are prepared by reacting an organic compound containing active hydrogen atoms

which are reactive with NCO groups, an organic diisocyanate and an alkali metal salt or ammonium salt of a diamino carboxylic acid having the formula



wherein n is 0 to 1, R and R' are hydrogen atoms or lower alkyl groups, A is



and M is lithium, sodium, potassium, rubidium or cesium, an NH₄, NHR'', NH₂R'', or NH₃R'' group wherein R is an alkyl group of 1 to 4 carbon atoms and dispersing the product in an aqueous medium. The dispersions are particularly useful as coatings and impregnations.

3,539,484

PHENOL-FORMALDEHYDE-UREA RESIN BINDER FOR SOLID PARTICLES

Richard C. Bowman, Sanborn, Edward J. Lang, Grand Island, and Frank S. Grazen, North Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Dec. 29, 1965, Ser. No. 517,423

Int. Cl. C08q 5/18, 37/14, 51/18

U.S. Cl. 260—29.3

12 Claims

A resin binder composition is produced by reacting a urea-formaldehyde or a thiourea-formaldehyde with a phenol and formaldehyde in the presence of an alkaline catalyst at a temperature of at least about 100 degrees centigrade to produce a resin binder composition having a total molar proportion of urea and/or thiourea to formaldehyde of about 1:4 to about 1:8 and a water tolerance of at least 50 percent. The resinous composition is useful as a binder for solid particles such as foundry sand, refractory particles and wood particles. A reduced amount of odor-bearing fumes is evolved during the curing of the resin binder composition.

3,539,485

BAKING ENAMELS BASED ON AQUEOUS BINDER FORMULATIONS

Friedrich Gress and Werner Neumann, Ludwigshafen (Rhine), and Erwin Schmidt, Frankenthal, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 14, 1967, Ser. No. 660,178

Claims priority, application Germany, Aug. 18, 1966, 1,669,075

Int. Cl. C08g 51/24, 51/34

U.S. Cl. 260—29.3

8 Claims

Baking enamels compatible with water which contain mixtures of conventional water-compatible aminoplast and/or phenoplast precondensates with special ethers boiling at from 100° to 300° C., particularly from 200° to 300° C., as flow improvers.

3,539,486

METHOD OF ELECTROLYTICALLY PRODUCING ALKALINE CHLORATES

Jacques Fleck, Kehl, Germany, assignor to Krebs & Cie Paris, Societe Anonyme, Paris, France

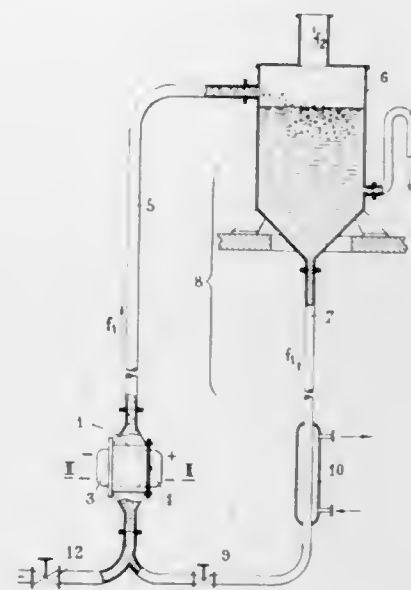
Filed Sept. 12, 1967, Ser. No. 667,183

Claims priority, application France, Sept. 14, 1966, 76,352

Int. Cl. C01b 11/14

U.S. Cl. 204—95

5 Claims



A method of electrolytically producing alkaline chlorates from aqueous solutions of the corresponding chlorides, wherein the main steps of electrolytically decomposing the chloride dissolved in water into chlorine, hydrogen and alkali, effecting the chemical combination of the electrolysis products into hypochlorite and, with the assistance of water, into hypochlorous acid, and the likewise chemical transformation of hypochlorite and hypochlorous acid into chlorate are caused to take place as far as possible in successive zones so interconnected as to constitute a cyclic system through which the electrolyte is caused to flow.

3,539,487

ELECTROCHEMICAL MACHINING ELECTROLYTE FOR ZINC

Armand J. Chartrand, Warren, and Mitchell A. La Boda, East Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

No Drawing. Filed June 13, 1968, Ser. No. 736,558

Int. Cl. B23p 1/00

U.S. Cl. 204—143

7 Claims

An electrochemical machining electrolyte for use primarily with zinc-based die castings which are to be machined at current densities of less than about 1,000 amps/in.². The electrolyte is an aqueous solution of glacial acetic acid, potassium dichromate, and at least one salt selected from the group consisting of sodium chlorate, potassium chlorate, sodium perchlorate and potassium perchlorate.

3,539,488

RADIATION CURABLE POLYVINYL CHLORIDE COMPOSITION CONTAINING TRIALLYL ISOCYANURATE

Oskar E. Klopfer and Edwin D. Hornbaker, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 7, 1968, Ser. No. 711,225

Int. Cl. C08f 1/24

U.S. Cl. 204—159.17

17 Claims

A cross-linked, heat-stable vinyl halide resin and a process for preparing said resin comprising irradiating a mixture of polyvinyl halide and a polyfunctional allyl or vinyl

monomer such as trimethylolpropane trimethacrylate, triallyl isocyanurate, and the like. Resultant cured polyvinyl halide resins have heat-deflection temperatures in excess of 90° C., when irradiated at dose levels of at least 1.0 megarad.

3,539,489

COATING PROCESS AND APPARATUS

Norman Morin Ness, Taplow, England, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

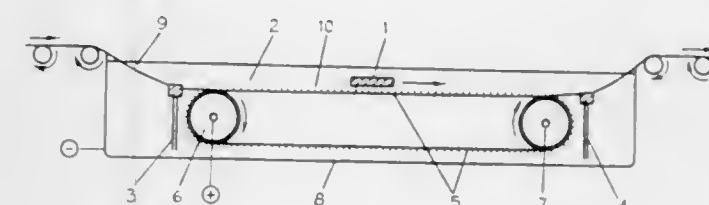
Filed Mar. 13, 1967, Ser. No. 622,764

Claims priority, application Great Britain, Mar. 16, 1966, 11,505/66

Int. Cl. B01k 5/02; C23b 13/00

U.S. Cl. 204—181

4 Claims



A process for electrodepositing a coating on an electrically conductive article which is supported on a belt-like member extended in a liquid coating composition in which electric current is passed between the article and another electrode connected with one pole of the source of electric current, the belt-like member being adapted to connect the article with the other pole, and apparatus therefor.

3,539,490

PLATING OF STRIPES ON LONGITUDINAL ELECTRICALLY CONDUCTIVE MATERIAL

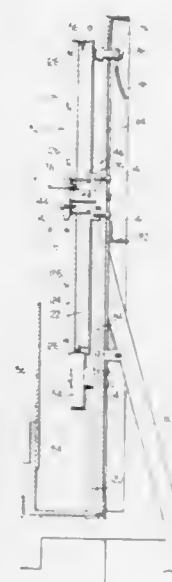
Thomas Earl Gannoe, Warren, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Nov. 28, 1967, Ser. No. 686,195

Int. Cl. B01k 3/04; C23b 5/68

U.S. Cl. 204—207

12 Claims



A flexible electrically conductive material such as metallic tape is plated with a thin stripe of metal by passing the tape around a groove in the periphery of a disc which is rotated in the direction of travel of the tape. Plating solution is conducted to the peripheral groove of the disc to contact the underside of the tape therein, the solution being confined in a narrow channel in the groove so as to plate only that area of the tape immediately

above the channel. Ancillary devices are used to preliminarily prepare the tape for the striping operation and, subsequently to the plating operation, to recover excess plating on the tape, to dry the tape, and coil it on a mandrel.

3,539,491

DIAPHRAGM CELL

Johan H. G. van der Stegen, Hengelo, Netherlands, assignor to N.V. Koninklijke Nederlandsche Zoutindustrie, Hengelo, Netherlands, a corporation of the Netherlands

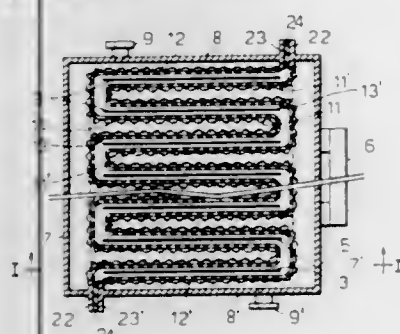
Filed Apr. 22, 1968, Ser. No. 723,105

Claims priority, application Netherlands, Apr. 21, 1967, 6705604

Int. Cl. B01k 3/00

U.S. Cl. 204—266

3 Claims



A diaphragm cell is provided having opposite side walls, each of which supports a row of hollow pervious bodies or walls of cathode material, the cell having an electrolyte inlet and outlet. Each of the pervious bodies extends perpendicularly from its respective side wall in the form of a flat box and is covered with a diaphragm material. The hollow bodies define anode chambers therebetween, the electrolyte inlet being in communication with said chambers. Each chamber has a plate-like anode extending perpendicularly from the bottom thereof, the two rows of pervious bodies being coupled together to confine the anode chambers therebetween.

3,539,492

STENCIL CAP AND PROCESS OF MAKING

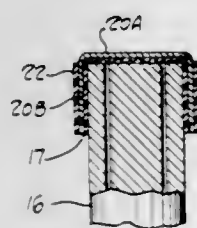
Robert E. Sparks, Cleveland Heights, Ohio, assignor, by mesne assignments, to Mohawk Industries International Incorporated, Willoughby, Ohio, a corporation of New York

Filed Nov. 24, 1967, Ser. No. 685,253

Int. Cl. B01k 3/10

U.S. Cl. 204—282

7 Claims



A stencil cap adapted to be readily mounted on, and removed from, the end portion of an electrode of electrolytic marking apparatus, the cap having a relatively rigid strong inner member of relatively non-water absorbent material capable of maintaining its shape and size in use and subjected to water-containing electrolytic fluid, a relatively flexible stencil film adapted to bear indicia to be marked and drawn in pleats or folds around and embracing the outer wall of the inner member to be supported thereby, and a relatively rigid strong outer member of relatively non-water absorbent material surrounding and embracing the drawn pleated portion of the stencil film to tightly hold the stencil film between the inner

and outer members, the drawn pleated portion being bonded to at least one of the members. The stencil cap so formed is capable of repeated mounting on and off an electrode in uniform tight fit thereon and withstands appreciable swelling and distortion through absorption of water from the electrolyte.

Included, is the process of forming such a stencil cap by placing an open-ended inner member over an electrode form to embrace the outer wall thereof, placing a stencil film over the electrode form and inner member, including placing a pad between the end of the electrode and a central portion of the stencil film adapted to bear indicia, drawing the border portion of the film downwardly and around the outer wall of the inner member and pleating the drawn down portion, bonding the pleated drawn-down portion to the inner member, and placing an open-ended outer member around the drawn-down pleated portion of the film to embrace the same and tightly hold the pleated portion between the inner and outer members, the inner and outer members generally complementing the shape of the outer wall of the electrode end portions.

3,539,493

APPARATUS FOR PREPARATIVE ELECTROPHORESIS ON GEL SUPPORT MEDIA

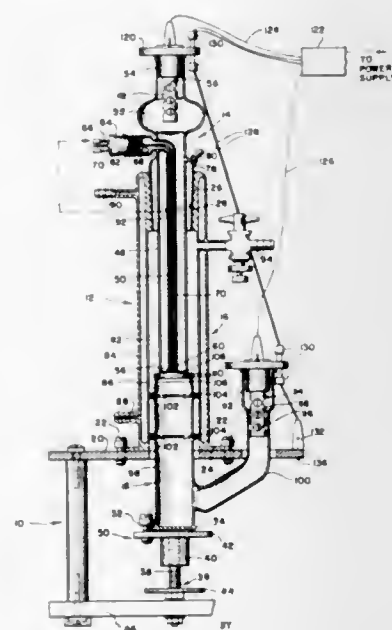
Patrick L. Dorman, Bethesda, Md., assignor to Canal Industrial Corporation, Rockville, Md., a corporation of Maryland

Filed Aug. 31, 1967, Ser. No. 664,868

Int. Cl. B01d 15/08; B01k 5/00

U.S. Cl. 204—299

45 Claims



Apparatus for preparative electrophoresis in which a temperature-regulating jacket mounted upon a base has an upper, gel-supporting, column inserted through its top and a lower column inserted through its bottom. Different upper columns may be precisely positioned upon the jacket by ground glass shoulders. A gel surface at the bottom of the upper column is spaced from an ion-permeable disc at the top of the lower column to form a flow chamber, the height of which is adjusted by raising or lowering the lower column. Elution buffer passes from the chamber through a tube in the central core of the upper column, temperature-regulating fluid passing through the core as well as the jacket. Elution tubing connections include detachable flexible seals. Electrolyte reservoirs of the upper and lower columns have receptacles for receiving removable electrodes, which are shielded to prevent shock and which are coupled to a low-voltage interlock circuit to de-energize the electrodes when they are removed from their receptacles.

3,539,494

CHROMATOGRAPHIC SEPARATION

Victor Pretorius, Klein Waterkloof, Club Ave., Waterkloof, Pretoria, Republic of South Africa, and Hans Helmut Hahn, 38 Morais St., Bailey's Muckleneuk, Pretoria, Republic of South Africa

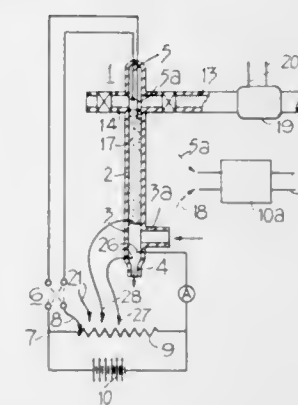
Continuation-in-part of application Ser. No. 583,788, Oct. 3, 1966. This application Aug. 2, 1967, Ser. No. 657,815

Claims priority, application Republic of South Africa, Aug. 2, 1966, 66/4,568

Int. Cl. B01k 5/00

U.S. Cl. 204—299

6 Claims



Retention of solutes on the retarding phase is induced by applying to the entire retarding phase an electrical potential, either uniformly or with a gradient. The potential may be AC alone or DC combined with AC. In the latter case additional separation effects are attainable. The AC pulse shape, frequency and amplitude is adjusted with a pulse generator.

3,539,495

CATALYTIC DEWAXING

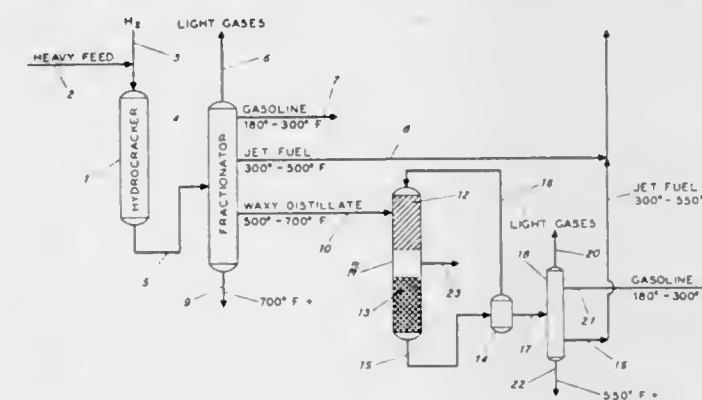
Clark J. Egan, Piedmont, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Oct. 30, 1968, Ser. No. 771,880

Int. Cl. C10g 37/00

U.S. Cl. 208—59

22 Claims



A waxy hydrocarbon oil feed is catalytically dewaxed in the presence of hydrogen at dewaxing conditions using a catalyst comprising 0.01 to 3 weight percent platinum and 0.01 to 5 weight percent rhenium in association with a porous solid carrier.

3,539,496

PRODUCTION OF LOW-SULFUR FUEL OIL

Laurence R. Steenberg, Chicago, and Frank Stofa, Park Ridge, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Oct. 28, 1968, Ser. No. 771,244

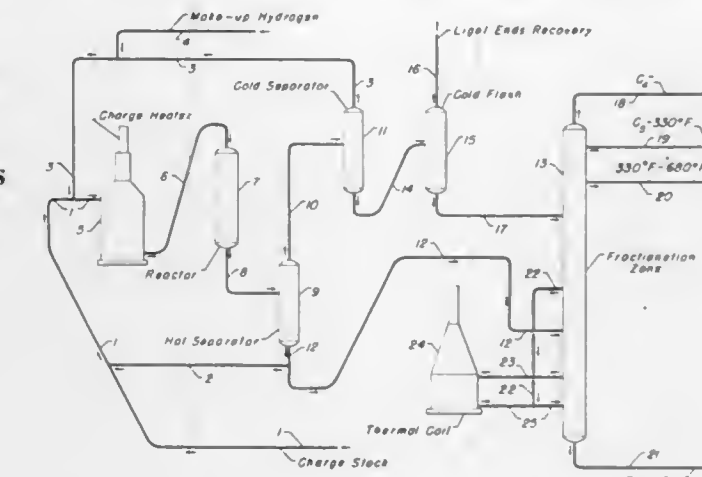
Int. Cl. C10g 13/00, 23/00

U.S. Cl. 208—89

7 Claims

A process for the production of low-sulfur fuel oil from sulfurous, hydrocarbonaceous black oils. The process involves the integration of thermal cracking and fixed-

bed catalytic desulfurization, and is especially applicable to those hydrocarbon charge stocks containing less than 150 p.p.m. of metallic contaminants. The charge stock is initially catalytically hydrogenated and desulfurized, and following separation of the catalytic reaction zone product



effluent, a high-boiling concentrate is introduced into a thermal reaction zone, or coil. The process affords flexibility with respect to product distribution, and particularly in regard to critical pour point and viscosity fuel oil characteristics where cold climate so demands.

3,539,497

METHOD FOR DISTILLATION

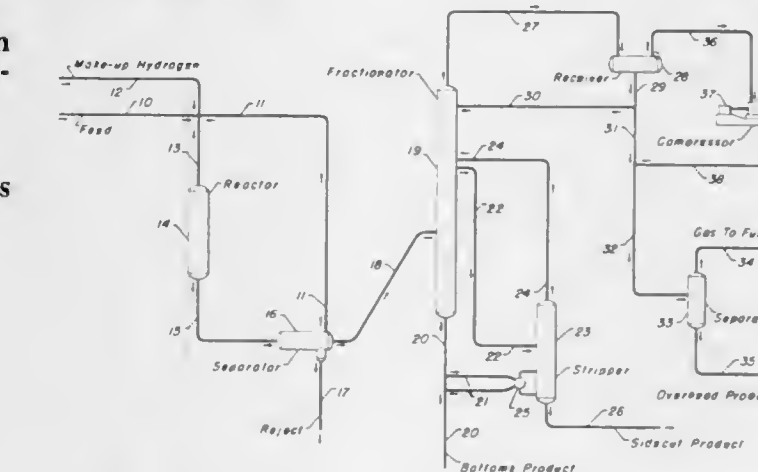
Richard D. Monday, Wood Dale, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed May 29, 1968, Ser. No. 733,028

Int. Cl. B01d 3/00; C10g 5/00

U.S. Cl. 208—103

3 Claims



Method for distilling a multi-component mixture, such as the effluent from a hydrogenation reaction zone, which utilizes a fractionating column and a stripper column operating in combination with an overhead compressing means whereby the overhead vapors are compressed and then contacted with the liquid stream utilized as reflux on the column.

3,539,498

CATALYTIC DEWAXING WITH THE USE OF A CRYSTALLINE ALUMINO ZEOLITE OF THE MORDENITE TYPE IN THE PRESENCE OF HYDROGEN

Herbert C. Morris and Paul P. Bozeman, Jr., Groves, Howard T. Horton, Jr., Beaumont, and Billy H. Cummins, Nederland, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 20, 1966, Ser. No. 558,569

Int. Cl. C10g 37/02

U.S. Cl. 208—111

6 Claims

A process for selective conversion of waxy hydrocarbons, i.e. higher melting point paraffinic hydrocarbons,

in a lubricating oil stock to lower boiling hydrocarbons which may be removed from the non-waxy hydrocarbons by distillation to give a product of improved pour point. In this process, wax-containing feedstock is contacted with a mordenite-type crystalline aluminosilicate zeolite in hydrogen form having a silica to alumina ratio of at least 6, preferably containing 0.1 to 5 weight percent added Group VIII metal, at a temperature in the range of 450 to 950° F. and a pressure in the range of 100 to 1500 p.s.i.g. in the presence of hydrogen in an amount within the range of 300 to 10,000 standard cubic feet per barrel of oil at a space velocity in the range of 0.2 to 5 volumes of oil per volume of catalyst per hour. The process is useful for dewaxing lubricating oil stocks to a product having improved haze, temperature, improved pour point, or both.

3,539,499

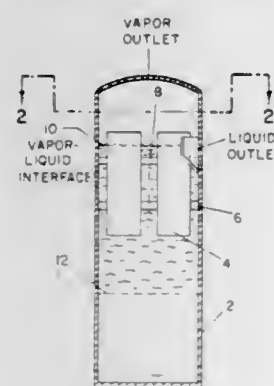
PROCESS AND APPARATUS FOR HYDROGEN DEENTRAINING

Michael C. Chervenak, Pennington, and Ronald H. Wolk, Lawrence Township, Mercer County, N.J., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey

Filed Aug. 1, 1967, Ser. No. 657,638
Int. Cl. B01j 9/08; C10g 23/06

U.S. Cl. 208-143

5 Claims



Use of vertical baffles above the dense catalyst phase in an ebullated bed hydrogenation reactor to minimize the entrainment of undissolved hydrogen and entrained gases in the liquid product.

3,539,500

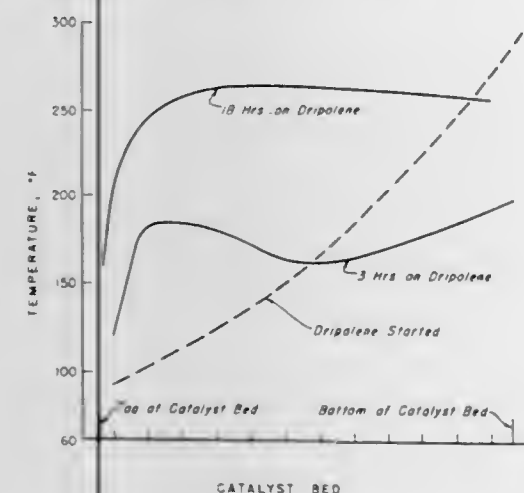
START-UP METHOD FOR A LOW-TEMPERATURE HYDROGENATION PROCESS

John A. Brooks, Chicago, and Lyle M. Lovell, Portage, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Jan. 30, 1968, Ser. No. 705,261
Int. Cl. C10g 23/04; C07c 5/14

U.S. Cl. 208-143

4 Claims



This method for starting up a process for the hydrogenation of dripolene comprises subjecting the catalyst to

a deactivating treatment for temporarily deactivating the catalyst prior to its use as a catalyst for the hydrogenation of dripolene, said subjecting comprising contacting the catalyst with a deactivating medium under conditions which are suitable for the temporary deactivation of the catalyst in its entirety. An untreated virgin naphtha is a preferred deactivating medium.

3,539,501

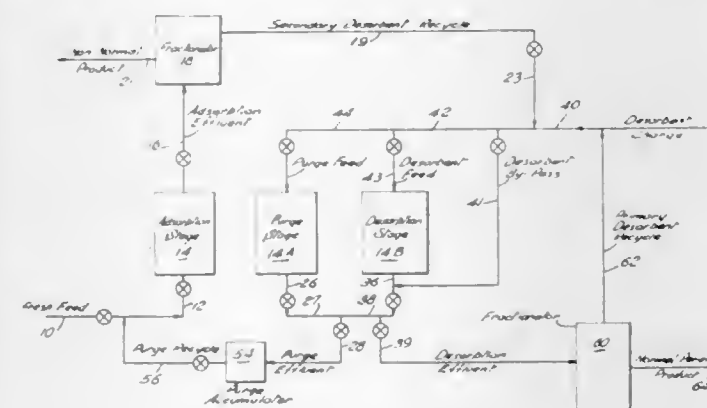
MOLECULAR SIEVE DESORPTION WITH A MIXTURE OF HYDROCARBONS

Richard W. Stokeld, Jr., Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 31, 1968, Ser. No. 772,279
Int. Cl. C07c 7/12

U.S. Cl. 208-310

9 Claims



A vapor phase process for the separation of straight chain hydrocarbon components from petroleum fractions by a molecular sieve selective adsorbent, comprising adsorption, purge and desorption steps, the purge and desorption steps being carried out using a straight chain hydrocarbon mixture comprising a major amount of at least one heavy straight chain hydrocarbon having a molecular weight of from 1 to 3 carbon atoms less than the molecular weight of the lightest straight chain hydrocarbon component of the petroleum fraction being separated by the process and a minor amount of at least one light straight chain hydrocarbon having a molecular weight of from 5 to 7 carbon atoms less than the lightest straight chain hydrocarbon component of the petroleum fraction being separated by the process.

3,539,502

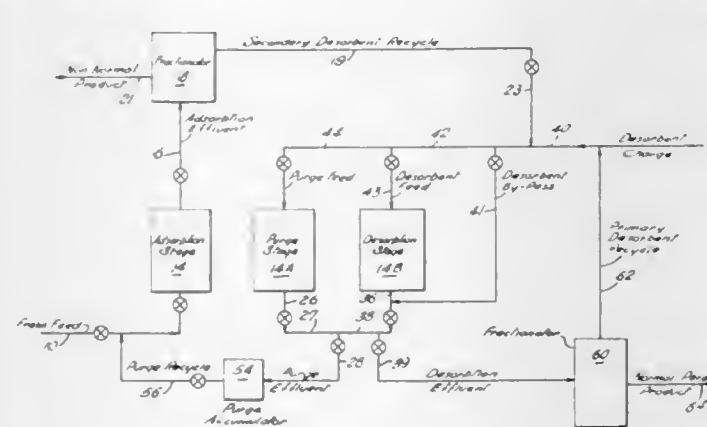
MOLECULAR SIEVE DESORPTION WITH A MIXTURE OF HYDROCARBONS

Halsey E. Griswold, Hopewell Junction, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 31, 1968, Ser. No. 772,280
Int. Cl. C07c 7/12

U.S. Cl. 208-310

9 Claims



A vapor phase process for the separation of straight chain hydrocarbon components from petroleum fractions

by a molecular sieve selective adsorbent, comprising adsorption, purge and desorption steps, the purge and desorption steps being carried out using a straight chain hydrocarbon mixture comprising a major amount of at least one light straight chain hydrocarbon having a molecular weight of from 5 to 7 carbon atoms less than the molecular weight of the lightest straight chain hydrocarbon component of the petroleum fraction being separated by the process and a minor amount of at least one heavy straight chain hydrocarbon having a molecular weight of from 1 to 3 carbon atoms less than the lightest straight chain hydrocarbon component of the petroleum fraction being separated by the process.

3,539,503

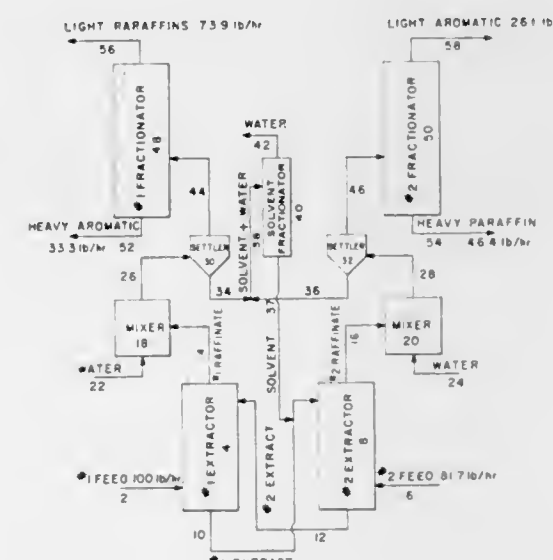
SIMULTANEOUS DUAL EXTRACTION OF LIGHT AND HEAVY AROMATIC HYDROCARBONS FROM HYDROCARBON MIXTURES

Alvin L. Benham, Findlay, Ohio, and Mark A. Plummer, Littleton, and Charles J. Norton, Denver, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

Filed Aug. 19, 1968, Ser. No. 753,540
Int. Cl. C10g 21/00, 21/12

U.S. Cl. 208-317

7 Claims



A simultaneous, dual extraction process is accomplished utilizing two separate hydrocarbon feeds. One of said feeds is a mixture of light aromatic hydrocarbons with light paraffin hydrocarbons. The other feed is a mixture of heavy aromatic hydrocarbons with heavy paraffinic hydrocarbons. The extraction process yields as product streams: a light aromatic product stream, a heavy aromatic product stream, a light paraffinic product stream, and a heavy paraffinic product stream.

3,539,504

FURFURAL EXTRACTION OF MIDDLE DISTILLATES

Billy H. Cummins, Nederland, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 12, 1968, Ser. No. 783,422

U.S. Cl. 208-327

11 Claims

A process for preparing middle distillate fuels with improved burning qualities and color utilizing a furfural solvent extraction process wherein the solvent during the process contains color impurities by contacting a middle distillate charge stock with a furfural solvent at an upper raffinate temperature above about 150° F. separating a primary raffinate phase from a primary extract phase, reducing the temperature of the primary raffinate phase to

within the temperature range of from about 60° F. to about 130° F. and maintaining the temperature of the secondary extract and secondary raffinate phases during separation of the phases within such temperature range.

3,539,505

LARGE-SCALE COLUMN CHROMATOGRAPHY PROCESS AND APPARATUS THEREFOR

Karl Lauer, Schriesheim, and George Stoeck, Mannheim-Waldhof, Germany, assignors to Boehringer Mannheim G.m.b.H., Mannheim, Germany, a corporation of Germany

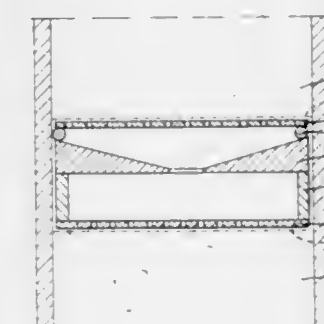
Continuation-in-part of application Ser. No. 552,934, May 25, 1966. This application Oct. 22, 1968, Ser. No. 769,666

Claims priority, application Germany, June 3, 1965, B 82,245

Int. Cl. B01d 15/08

U.S. Cl. 210-31

28 Claims



A method and apparatus for carrying out large scale column chromatography of liquids according to which the disturbances arising in large scale column chromatography due to "distorted running" of the fronts is avoided by radially mixing the axially flowing liquid in the column in small mixing spaces arranged at predetermined intervals along the length of the column.

3,539,506

RECOVERY OF BORIC ACID FROM BORATE BRINE

Jacqueline C. Kane, Leonia, N.J., and Richard L. Angstadt, Armonk, N.Y., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 31, 1967, Ser. No. 681,059
Int. Cl. B01d 15/06; C02b 1/56; C01b 35/00

U.S. Cl. 210-32

5 Claims

A process for recovering boron values from solutions containing borate salts consisting of forming a borate complex on a solid insoluble resinous composition at a pH of at least above 4. The complex is then treated with a mild mineral acid to form boric acid and reform the solid insoluble resinous composition. The solid insoluble resinous composition is a polysaccharide selected from the group consisting of cellulose, starch, glycogen, fructan, hemicellulose, plant gum, animal polysaccharide and mixtures thereof.

3,539,507

WASTE TREATMENT PROCESS

David D. Woodbridge, Eau Gallie, Thomas A. Nevin, Indian Harbor Beach, and William R. Garrett, Melbourne, Fla., assignors to Energy Systems, Inc., Melbourne, Fla., a corporation of Florida

Filed Oct. 31, 1968, Ser. No. 772,288

Int. Cl. C02c 5/06

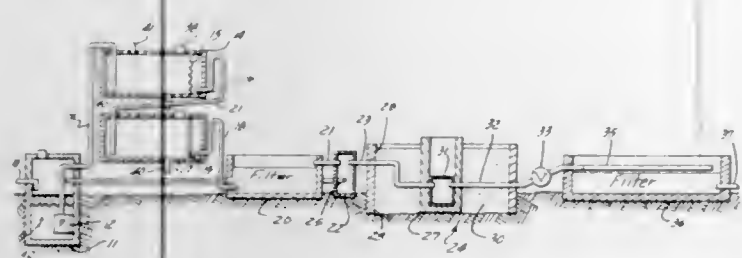
U.S. Cl. 210-8

5 Claims

A waste treatment process for treating liquid waste such as raw sewage, and the like, and including continuous biochemical treatment of liquid waste in tanks. Mixing of the waste is performed in a mixing container prior

to pumping it into the treatment tanks. A continuous feedback of a portion of the biochemically treated waste

of magnetizable particles, preferably iron balls. Following accumulation of the oxide on the particles, the mag-



to the mixing container keeps the biochemical treatment tanks operating even during lull periods. Filtration and sterilization is also provided for in the process.

3,539,508

METHOD AND APPARATUS FOR SEPARATING OIL AND THE LIKE FROM A LIQUID

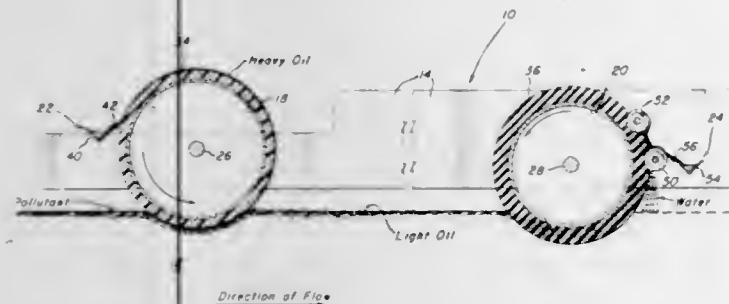
William L. Bulkley, Munster, Ind., Herman E. Ries, Jr., Chicago, Ill., and Robert G. Will, Munster, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Nov. 29, 1968, Ser. No. 780,084

Int. Cl. B01d 17/02

U.S. Cl. 210—40

13 Claims



This invention concerns a method and apparatus for removing floating material, particularly oily material, from a liquid. At least one pair of spaced, revolving pick-up members which dip into said liquid are used to recover the floating material. This material adheres to the members as they come into contact with the liquid, and means adjacent these members remove and collect the material adhering to them. The characterizing feature of this invention is that the surface of one member is smooth and oleophilic, and the surface of the other member is porous and deformable. The member having a smooth, oleophilic surface is in advance of the member having the porous, deformable surface, so that the smooth surfaced member contacts said floating material before said porous surfaced member.

3,539,509

METHOD FOR ELECTROMAGNETIC REMOVAL OF IRON-OXIDES FROM LIQUIDS

Hans-Günter Heitmann, Erlangen-Buckenhof, and Gerhard Donath and Werner Beyer, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Apr. 30, 1968, Ser. No. 725,428

Claims priority, application Germany, June 8, 1967, S 110,237

Int. Cl. B01d 35/06

U.S. Cl. 210—42

2 Claims

The method of removal of iron-oxide from liquids, which comprises applying an electrically produced magnetic field to a filter bed. This filter bed is comprised

netic field is disconnected and a rinsing fluid is passed through the filter.

3,539,510

FLOCCULATION WITH MODIFIED ANIONIC POLYMERS

Charles P. Priesing, Ada, Okla., and Stanley J. Mogelnicki, Gerald J. Schwark, and Stacy L. Daniels, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 12, 1967, Ser. No. 645,529

Int. Cl. B01d 21/01

U.S. Cl. 210—52

10 Claims

Flocculant grade anionic polyelectrolytes, especially high molecular weight synthetic polymers having a plurality of carboxylate and/or sulfonate groups along the polymer chain, are modified to improve their flocculation properties by mixing them with a cationic amino polymer in aqueous solution at a total polymer solids concentration in excess of about 0.1 percent by weight. The useful amino polymer is characterized as being substantially free of quaternary ammonium groups and having a plurality of secondary and/or tertiary amine groups. The improved activity is found in mixtures wherein the ratio of anionic flocculant to amino polymer is greater than 3:1 and less than about 50:1, preferably from about 5:1 to 15:1. Anionic flocculants so modified yield a faster rate of flocculation, larger flocs and improved clarity in the overhead as compared to the unmodified anionic polymer.

3,539,511

PREPARATION OF ALKALINE EARTH SULFONATES

Albert R. Sabol, Munster, and Eli W. Blaha, Highland, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

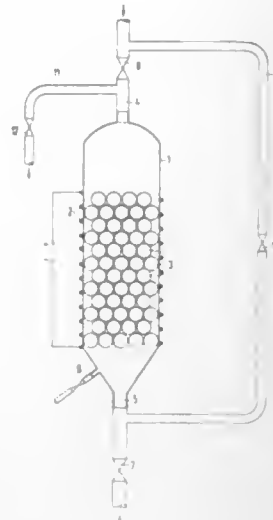
No Drawing. Filed Nov. 24, 1967, Ser. No. 685,255

Int. Cl. C10m 1/40

U.S. Cl. 252—33

8 Claims

Over-based, i.e. high base, alkaline earth sulfonates are prepared by reacting a preferentially oil-soluble sulfonic acid with excess inorganic basic alkaline earth compound in the presence of a lower alcohol and a promoter amount of an aliphatic hydrocarbon-substituted succinic anhydride having at least 30 carbon atoms in the aliphatic substituent or a reaction product of such substituted succinic anhydride and an alkylene amine or a hydroxy-substituted alkylene amine, while passing gaseous carbon dioxide through the reaction mixture, and recovering the resultant high base preferentially oil-soluble alkaline earth sulfonate.



3,539,512

POLYETHYLENE THICKENED GREASE CONTAINING AMIDES

Raymond Rohde and Andrew E. Skeen, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 25, 1968, Ser. No. 778,818

Int. Cl. C10m 5/22

U.S. Cl. 252—33.3

5 Claims

Greases exhibiting little tendency to bleed (separation of oil) are compounded from an oil, polyolefin thickener, amide compound, sulfur-nitrogen heterocyclic compounds, lead naphthenate, salts of dinonylnaphthalene sulfonate, octylated diphenylamines and lead dialkyldithiocarbamates.

3,539,513

LUBRICANT ADDITIVE

Eric Simon Forbes, Woking, Surrey, and John Michael Wood, Ashford, Middlesex, England, assignors to The Britannic Petroleum Company Limited, London, England, a corporation of England

No Drawing. Filed May 16, 1968, Ser. No. 729,538

Claims priority, application Great Britain, May 16, 1967, 22,686

Int. Cl. C10m 1/54, 1/36

U.S. Cl. 252—37.2

4 Claims

Lubricating compositions containing, as a detergent/dispersant improver, an alkenyl N-polyamine succinimide have their detergent/dispersant properties improved by the addition of a basic zinc carboxylate salt thereto.

3,539,514

CORROSION INHIBITOR AND LUBRICANT

Arthur Frank Strouse, 2622 Swede Road, Apt. E18, Norristown, Pa. 19401

No Drawing. Filed Aug. 1, 1967, Ser. No. 657,528

Int. Cl. C10m 1/54

U.S. Cl. 252—40.5

2 Claims

The corrosion inhibitor and lubricant of the present invention contains from 0.1 to 50 weight percent of barium soaps of organic acids derived from the partial liquid phase oxidation of petroleum fractions, which acids have a mean molecular weight of about 400, and from 0.1 to 50 weight percent of di-2-ethylhexyl sebacate.

3,539,515

LUBRICATING OIL COMPOSITIONS CONTAINING PEROXIDE-TREATED PHENOTHIAZINE AS AN ANTIOXIDANT

Leo J. McCabe, Glassboro, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Apr. 3, 1968, Ser. No. 718,352

Int. Cl. C10m 1/32, 1/38

U.S. Cl. 252—47.5

6 Claims

A phenothiazine is heated in the presence of a hydrocarbyl or acyl peroxide to form a product which imparts antioxidant properties to lubricating oils. Also, a phenothiazine in combination with a lubricating oil is heated in the presence of a hydrocarbyl or acyl peroxide to form a product which itself is a lubricant having excellent antioxidant properties, or it may be used as an additive in other lubricating oils to inhibit oxidation thereof.

3,539,516

POLYETHYLENE THICKENED GREASE CONTAINING AMIDES

Harold C. Walters and Henry E. Alquist, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 25, 1968, Ser. No. 778,835

Int. Cl. C10m 5/20

U.S. Cl. 252—51.5

5 Claims

N-substituted-γ-hydroxycarboxylic acid amides are incorporated into polyolefin-thickened greases to reduce oil separation.

3,539,517

METHOD OF PREPARING FERRITE POWDERS COMPRISING DISINTEGRATING CALCINED OXIDES COOLED TO LIQUID NITROGEN TEMPERATURES

Janina J. Mitchell, Matawan, and Marion W. Woodruff, West Allenhurst, N.J., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Mar. 1, 1968, Ser. No. 709,780

Int. Cl. C04b 35/26, 35/30; C01g 49/08

U.S. Cl. 252—62.62

2 Claims

Ferrite powders are prepared by first calcining stoichiometric amounts of the metals necessary to form the ferrite. The calcined batch is then cooled in a suitable cryogenic liquid such as liquid nitrogen. The resultant batch is then shattered into very fine particles with a pestle, jet propulsion, explosive processes, etc. The very fine particles are then formed into the desired geometry, and sintered.

3,539,518

LOW FOAM SURFACTANTS

George C. Feighner, Franklin Lakes, N.J., and Dean R. Weimer, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

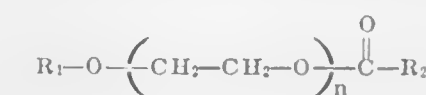
No Drawing. Filed Feb. 21, 1968, Ser. No. 707,326

Int. Cl. C11d 1/66

U.S. Cl. 252—89

10 Claims

Low foam, nonionic surfactant compositions consisting essentially of lower (C₁—C₆) straight chain acyl group capped alcohol ethoxylates. More specifically, the surfactant compositions consist essentially of an alkoxypolyethoxycarboxylate compound of the general structural formula



where R₁ is a C₄—C₂₀ n-alkyl group attached to the oxygen atom through a primary or secondary carbon atom, n is a number from 5 to 25, inclusive, and R₂ is selected from the group consisting of hydrogen and n-alkyl groups containing from 1 to 5 carbon atoms.

3,539,519

LOW FOAMING NONIONIC DETERGENTS

Dean R. Weimer, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Continuation-in-part of abandoned application Ser. No. 707,401, Feb. 23, 1968. This application Feb. 14, 1969, Ser. No. 799,519

Int. Cl. C11d 1/72

U.S. Cl. 252—89

6 Claims

A high foaming nonionic surfactant in the form of an alkyl polyethoxyethanol is further condensed with butylene oxide to provide a low foaming modification thereof having the general formula R(OCH₂CH₂)_n(OC₄H₉)_xOH.

3,539,520

COMPOSITIONS COMPRISING QUATERNARY AMMONIUM GERMICIDES AND NONIONIC SURFACTANTS

Abraham Cantor, Elkins Park, Pa., and Murray W. Wini-cov, Flushing, N.Y., assignors to West Laboratories, Inc., Long Island City, N.Y., a corporation of New York

No Drawing. Filed July 12, 1967, Ser. No. 652,685

Int. Cl. C11d 3/48

U.S. Cl. 252—106

11 Claims

Compositions comprising quaternary ammonium germicides and nonionic detergents wherein unique compatibility with respect to performance of the quaternary ammonium germicides is achieved in the presence of amounts

of detergent which are at least twice the amount of germicide, by employing a nonionic detergent in which the major portion of the molecule is made up of block polymeric C_2 to C_4 alkylene oxides, with alkylene oxide blocks containing C_3 to C_4 alkylene oxides and 0-45% ethylene oxide providing a significant hydrophobic function, and alkylene oxide blocks containing ethylene oxides and 0-45% of C_3 to C_4 alkylene oxide providing a significant hydrophilic function.

Preferred compositions are detergent sanitizers containing quaternary ammonium germicides in combination with 5 to 10 times as much detergent. In such compositions enhanced and extended germicidal action can be provided by employing as the nonionic detergent component a detergent-iodine complex, or by adding a PVP-iodine complex.

3,539,521 DETERGENT COMPOSITION

Arnon O. Snoddy, Cincinnati, and Francis L. Diehl, Wyoming, Ohio, Norman R. Smith, Neustadt, Germany, and Joseph E. Callen, Springfield Township, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Continuation of application Ser. No. 163,042, Dec. 29, 1961. This application May 3, 1965, Ser. No. 452,855

Int. Cl. C11d 1/84, 3/30, 3/34
U.S. Cl. 252—137 9 Claims

A detergent composition for cool water washing comprising a combination of specific sulfofetaines and specific builders.

3,539,522 EMULSIFIER COMPOSITIONS BASED ON MIXTURES OF AMINE SALTS OF LINEAR ALKYL ARYL SULFONIC ACIDS

Paul Lindner, Evanston, Ill., assignor to Witco Chemical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 587,946, Oct. 20, 1966. This application Nov. 5, 1968, Ser. No. 773,662

Int. Cl. B01f 17/12; C11d 1/12, 7/50
U.S. Cl. 252—153 19 Claims

An emulsifier composition consisting essentially of (a) at least one isopropylamine salt selected from the group consisting of C_{11} to C_{16} linear alkyl benzene and linear alkyl toluene monosulfonic acids, and (b) at least one amine salt selected from the group consisting of C_{11} to C_{16} linear alkyl benzene and linear alkyl toluene monosulfonic acids in which the amine is selected from the group consisting of n-butylamine, diisopropylamine, isobutylamine, tert-butylamine, cyclohexylamine and n-propylamine, said (b) compound or compounds constituting from about 15 to 35%, by weight, of the mixture of said (a) and (b) compounds, with the proviso that, in the case of n-propylamine salts of the (b) compounds, said n-propylamine salt or salts constitutes from about 40 to 60%, by weight, of the mixture of said (a) and (b) compounds.

3,539,523 ADHESIVE COMPOSITION

Michael Dunay, Fanwood, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 2, 1967, Ser. No. 657,767
Int. Cl. C08f 45/44; C08g 51/44, 51/46
U.S. Cl. 260—32.6 4 Claims

An improved adhesive type composition of a solution of polybenzimidazole and boric acid and the process to produce the same.

3,539,524 COLOR STABILIZER FOR ACRYLONITRILE POLYMER

William K. Wilkinson, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 15, 1968, Ser. No. 729,341
Int. Cl. C08g 51/44, 51/60

U.S. Cl. 260—32.6 5 Claims
The color development in acrylonitrile polymer solutions is effectively inhibited by the addition of a citric acid/succinic anhydride mixture to the solvent medium. Such compositions are well adapted for forming fiber of low color.

3,539,525 SEALANT COMPOSITION FROM ETHYLENE-PROPYLENE-DIENE TERPOLYMER

Victor V. Raimondi, Naperville, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Nov. 21, 1967, Ser. No. 684,639
Int. Cl. C08c 11/22; C08f 45/28

U.S. Cl. 260—33.6 4 Claims
Weather-resistant sealant compositions are prepared from an ethylene-propylene-diene terpolymer as primary binder, viscous polypropylene as plasticizer, and an adhesion promoter. The sealants may also contain usual fillers, accelerators, release agents and vulcanizing agents known to the art.

3,539,526 TERNARY EUTECTIC DIMETHACRYLATE MONOMER SYSTEM AND RESTORATIVE DENTAL MATERIAL PREPARED THEREFROM

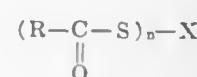
Rafael L. Bowen, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare
No Drawing. Filed Jan. 30, 1968, Ser. No. 701,539
Int. Cl. C08f 3/66; C07c 69/76

U.S. Cl. 260—41 10 Claims
A stable liquid component of a direct dental filling material comprising as a formulation ingredient a ternary eutectic monomer mixture of three isomeric polyesters that are each dimethacrylate derivatives produced by the separate interaction of 2 molar amounts of 2-hydroxyethyl methacrylate (HEMA) for each 1 molar amount of terephthaloylchloride, isophthaloylchloride and phthaloylchloride respectively. Preferably the liquid ternary eutectic is mixed with an inorganic particulate solid filler such as silane-treated fused silica and a preferred free-radical-generating initiator such as benzoyl peroxide or lauroyl peroxide, or both, to produce a novel dental filling composition. A preferred formulation of an isomeric eutectic monomer is as follows, and variation of the components may be $\pm 10\%$ and still be in the operable range.

3,539,527 STABILIZED STYRENE-ACRYLONITRILE POLYMER COMPOSITIONS

Walter Stamm, Tarrytown, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 10, 1968, Ser. No. 728,360
Int. Cl. C08f 45/58, 45/62

U.S. Cl. 260—45.7 13 Claims
High molecular weight styrene-acrylonitrile polymer compositions exhibiting a high degree of stability containing a stabilizing amount of a stabilizing compound having the formula:



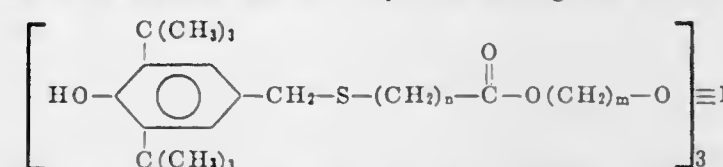
wherein R is a hydrocarbyl group containing from 3 to about 21 carbon atoms, n is an integer having a value of

from 1 to 2, X is selected from the group consisting of hydrogen, alkali metal, alkaline earth metals and acyl moieties having a hydrocarbyl essentially hydrocarbon residue and containing from about 1 to about 17 carbon atoms inclusive. These stabilizers have proven to be particularly effective in acrylonitrile-butadiene-styrene copolymer compositions. Included among the preferred stabilizers are: thiollauric anhydride, thiololeic anhydride, thiolbenzoic anhydride and thiolstearic anhydride. This stabilizing system is one of the few proposed for styrene-acrylonitrile type resins which is not based on a hindered phenol.

3,539,528 POLYOLEFIN STABILIZATION WITH MERCAPTO-ACID-CONTAINING PHOSPHITES

Harry Braus, Springdale, and Jay R. Woltermann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Nov. 22, 1967, Ser. No. 684,910
Int. Cl. C08f 45/58

U.S. Cl. 260—45.85 3 Claims
Organic materials such as olefin polymer compositions can be stabilized with a compound having the formula



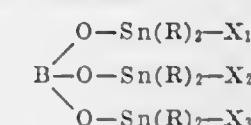
wherein n and m are each a positive integer between 1 and 8; and n and m may be alike or different.

3,539,529 POLYVINYLCHLORIDE STABILIZED COMPOSITIONS

Yohei Kawakami, Osaka-fu, Toshio Seki, Osaka-shi, and Jozaburo Suzuki, Kobe-shi, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Continuation-in-part of application Ser. No. 443,657, Mar. 29, 1965. This application Jan. 26, 1968, Ser. No. 700,698

Int. Cl. C08f 45/62
U.S. Cl. 260—45.75 7 Claims

Novel compositions and a stabilized polyvinyl chloride resin composition comprising essentially, in a predominant amount, a polyvinyl chloride resin and, in a small amount, at least one boron-containing organotin compound having the formula



wherein R is a member selected from the group consisting of alkyl, alkenyl, aralkyl, alkylaryl and aryl; X_1 is a member selected from the group consisting of the residues of monomercapto compounds, dimercapto compounds and polymercapto compounds, said residues containing at least one free sulfhydryl radical; and X_2 and X_3 are members selected from the group consisting of hydroxyl, the same residues as X_1 , the residues of carboxylic acids and maleic acid monoesters, and the residues of mercapto compounds containing no free sulfhydryl radical.

3,539,530 FLAME RESISTANT ORGANOPOLYSILOXANE COMPOSITIONS

Bruce D. Karstedt, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Mar. 1, 1968, Ser. No. 709,810
Int. Cl. C08g 51/62

U.S. Cl. 260—45.75 6 Claims
Flame resistant organopolysiloxane compositions are provided and a method for making them. The composi-

tions comprise organopolysiloxane convertible to the cured solid elastic state, filler, a small but effective amount of a platinum-containing material, and a silicon hydride, having no more than 1 available $\equiv\text{SiH}$ unit per molecule. The silicon hydride is employed in an amount sufficient to provide for a ratio of at least about 6 available $\equiv\text{SiH}$ units per gram atom of platinum in the organopolysiloxane composition. The subject organopolysiloxane compositions can be employed to make flame resistant organopolysiloxane elastomers useful in various applications such as wire coating, window gasketing, transformer encapsulents, etc.

3,539,531 BENZOPHENONE-PHOSPHONATE COMBINATION AS POLYMER STABILIZERS

William O. Drake and Kenneth R. Mills, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 13, 1967, Ser. No. 675,056
Int. Cl. C08b 27/66; C08f 45/58

U.S. Cl. 260—45.95 12 Claims
Polymer compositions such as, for example, polyolefins, are stabilized by a mixture of certain benzophenones with certain organic phosphonates.

3,539,532 CURABLE POLYEPOXIDE COMPOSITIONS

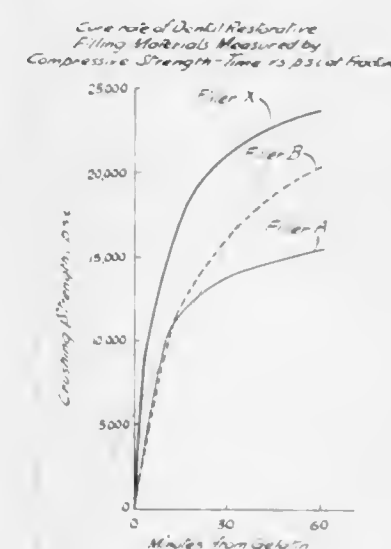
James R. Harvey, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Jan. 16, 1968, Ser. No. 698,117
Int. Cl. C08g 30/12, 30/14

U.S. Cl. 260—47 8 Claims

This invention relates to curable, homogeneous polyepoxide compositions, containing an acid anhydride curing agent and piperidine as an accelerator which are relatively stable at room temperature and, when cured, are characterized by excellent physical, chemical and electrical properties.

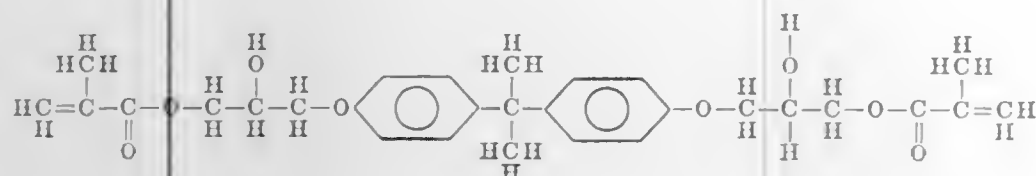
3,539,533 DENTAL FILLING MATERIAL

Henry Lawrence Lee II, San Marino, Francis Fablan Smith, Los Angeles, and Michael Lawrence Swartz, Encino, Calif., assignors to Johnson & Johnson, a corporation of New Jersey
Filed June 14, 1968, Ser. No. 737,228
Int. Cl. C08g 33/10; C09k 3/00
U.S. Cl. 260—47 15 Claims

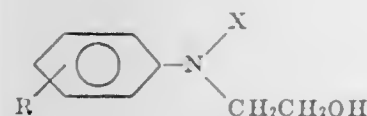


Direct filling materials for the filling of teeth are prepared utilizing a cross-linked organic binder having a finely divided inorganic filler therein wherein the filler

is present in the composite in amounts in excess of 70 percent by weight. The major portion of the binder is formed through the polymerization of a monomer mix of bis phenol A backbone monomers comprising



(hereinafter called BIS-GMA) and bis phenol A dimethacrylate. Diluent reactive monomers may be used to obtain the most desirable viscosity for blending with the inorganic filler. The preferred compositions contain together with the bis phenol A backbone monomers relatively small amounts of triethylene glycol dimethacrylate as the reactive diluents with small amounts of methacrylic acid. The preferred systems also utilize as an activator for the binder system a nitrogen compound having the general formula:



where R may be either —H or —CH₃ and X may be —CH₂CH₂OH, —C₂H₅ or —CH₃ the preferred activator being p-tolyl diethanolamine.

3,539,534

ARENE-ALDEHYDE RESINS AND METHODS FOR MAKING THE SAME

Carl R. Manganaro, Penn Hills Township, Allegheny County, and Elliott V. Nagle, Franklin Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of Delaware

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,574

Int. Cl. C08g 7/00

U.S. Cl. 260—67

7 Claims

This invention pertains to improved "formolite" resins resulting from the condensation of an aromatic hydrocarbon and an aldehyde, and particularly to improved thermoplastic naphthalene-formaldehyde resins, and to processes for making the same in a reaction medium containing acetic anhydride.

3,539,535

CATIONIC CARBAMOYL POLYMERS

Ralph L. Wisner, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 498,094, Nov. 19, 1965. This application Nov. 4, 1968, Ser. No. 773,318

Int. Cl. C08g 9/04, 9/20, 9/24

U.S. Cl. 260—72

9 Claims

Cationic Mannich derivatives of carbamoyl group containing polymers are obtained by reacting concentrated aqueous solutions of the polymers in an organic dispersing medium with formaldehyde and suitable amines. Solid, water-soluble products obtained in this manner have a low proportion of insolubles. The solid products also

have superior storage stability, as compared to similar derivatives obtained by the simple solution reaction of the prior art.

3,539,536

FLAME RESISTANT POLYURETHANE COMPOSITIONS FROM BIS-(HYDROXYPOLYALKOXYALKYL)AMINOMETHYLPHOSPHONATES

Glenn R. Price, Dobbs Ferry, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

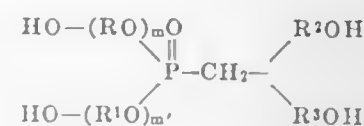
No Drawing. Original application Oct. 23, 1965, Ser. No. 504,245, now Patent No. 3,457,333, dated July 22, 1969. Divided and this application July 24, 1968, Ser. No. 760,376

Int. Cl. C08g 22/14

U.S. Cl. 260—77.5

3 Claims

Flame resistant polymers comprising an organic isocyanate and a novel bis-(hydroxypolyalkoxyalkyl) aminomethylphosphonate of the general formula:



wherein R and R¹ are selected from the group consisting of ethylene and substituted ethylene, said substituents selected from alkyl and haloalkyl, R² and R³ are lower alkylene and m, m¹ are integers from 1 to 10.

3,539,537

POLYAMIDE-ACIDS AND POLYIMIDES PREPARED BY REACTING ORGANIC DIANHYDRIDES WITH AROMATIC DIAMINO CYCLIC SULFONES

Fred F. Holub, Scotia, and John T. Hoback, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed May 8, 1968, Ser. No. 727,667

Int. Cl. C08g 20/32

U.S. Cl. 260—78

12 Claims

The reaction of organic dianhydrides with aromatic diamino cyclic sulfones gives polyamide-acids which upon heating are converted to the polyimide structure. The invention also includes a method for making the aromatic diamino cyclic sulfones. The compositions herein described are useful as insulation for electrical conductors and as high temperature protective films.

3,539,538

INHIBITING PREMATURE VULCANIZATION OF DIENE RUBBERS

Mohammad Behforouz, Charleston, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

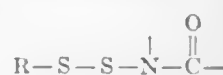
No Drawing. Filed June 5, 1967, Ser. No. 643,401

Int. Cl. C08c 11/54, 11/60

U.S. Cl. 260—79.5

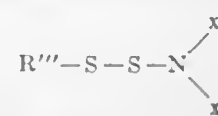
19 Claims

New compounds with a nucleus of



where the dangling valence on the nitrogen is linked to a second carbonyl, alkyl, aryl, cycloalkyl, hydrogen, alkyl-

ene carbon, or arylene carbon and R is alkyl, aryl, or cycloalkyl are inhibitors of premature vulcanization of diene rubbers. Compounds of the formula



where x is cycloalkyl, alkyl, aryl, or hydrogen and x' is cycloalkyl, alkyl, or aryl; or x and x' together with the N atom form a heterocyclic amine; and R''' is aryl, alkyl, or cycloalkyl are also inhibitors of premature vulcanization of diene rubbers. A combination of a vulcanization accelerator and an inhibitor of this invention is an improved rubber additive which allows longer and safer processing time for rubber.

3,539,539

METHOD FOR EXTRACTING LOWER MOLECULAR COMPONENTS FROM GRANULATED POLYAMIDES

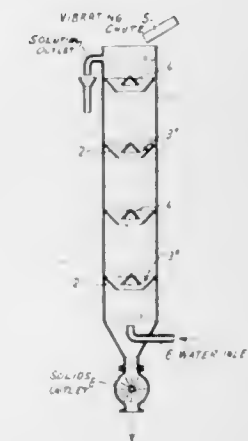
Juergen Goetzke, Frankfurt am Main-Bockenheim, Germany, assignor to Vickers-Zimmer Aktiengesellschaft, Planung und Bau von Industrieanlagen, a corporation of Germany

Original application Feb. 16, 1967, Ser. No. 616,698, now Patent No. 3,423,183. Divided and this application May 31, 1968, Ser. No. 733,624

Int. Cl. C08g 20/14

U.S. Cl. 260—78

1 Claim



An upright extraction tube which removes lower molecular components from granulated polyamides by the use of solvents, has a plurality of restriction means in the tube. The granulated polyamides are introduced at the upper end of the tube while the solvents are introduced at the lower end of the tube and the narrowest portion of the restriction means causes the upward flow of the solvent at that point to be at least equal to counterflow currents of the solvent.

3,539,540

N-VINYL-X-ALKYL-2-OXAZOLIDINONE POLYMERS

Wilhelm E. Walles, Midland, Mich., William F. Tousignant, Elm Grove, Wis., and Thomas Houtman, Jr., Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 798,861, Mar. 12, 1959, which is a division of application Ser. No. 696,317, Nov. 14, 1957. This application Mar. 30, 1967, Ser. No. 626,932

Int. Cl. C08f 7/12, 15/02

U.S. Cl. 260—80.3

13 Claims

Polymers having as a characterizing ingredient in the polymer structure a N-vinyl-X-alkyl-2-oxazolidinone and the methods for making such polymers as well as the oxazolidinone compounds are discussed. Exemplary of the types of oxazolidinone starting materials are N-vinyl-5-methyl-2-oxazolidinone and N-vinyl-5-ethyl-2-oxazolidinone.

3,539,541

PREPARATION OF COPOLYMERS CONTAINING ETHYLENE AND PROPYLENE

Richard J. Sonnenfeld, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 13, 1967, Ser. No. 667,347

Int. Cl. C08f 15/40

U.S. Cl. 260—80.78

9 Claims

In the slurry type polymerization of a mixture of monomers comprising ethylene and propylene with an organoaluminum halide and vanadium tetrachloride catalyst system, the slurry is stabilized by carrying out the polymerization in the presence of a trihydrocarbyluminum catalyst adjuvant.

3,539,542

PROCESS FOR PRODUCING α-METHYLACRYLONITRILE POLYMERS

Kazuo Nakatsuka, Fumio Ide, Yasushi Joh, and Yahide Kotake, Ohtake-shi, Japan, assignors to Mitsubishi Rayon Co., Ltd., Tokyo, Japan, a corporation of Japan

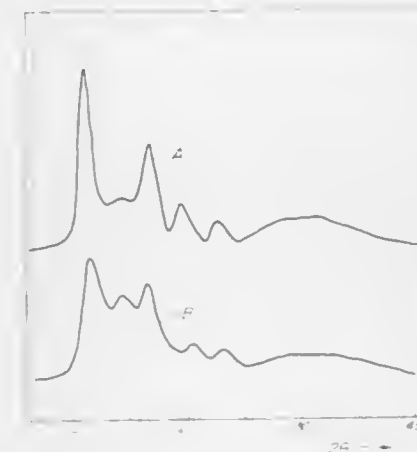
Filed Mar. 14, 1968, Ser. No. 713,016

Claims priority, application Japan, Dec. 1, 1967, 42/77,132

Int. Cl. C08f 3/78, 15/22

U.S. Cl. 260—85.5

11 Claims



Highly crystalline α-methylacrylonitrile polymers and copolymers are obtained by the polymerization of α-methylacrylonitrile using a novel organometallic catalyst having in its molecule at least one hydrocarbon radical and at least one secondary amino radical or a substituted mercapto radical. The catalyst is an organometallic compound represented by the general formula



wherein M_{II} is Be, Mg, Ca, Sr, Zn, or Cd, R and R' which may be same or different are individually a hydrocarbon radical, a hydrogen atom, a secondary amino radical or a substituted mercapto radical. The crystalline α-methylacrylonitrile polymers or copolymers may also be obtained by subjecting said monomer to a polymerization in a specific organic solvent in the presence of the above-mentioned catalyst.

3,539,543

PROCESS FOR POLYMERIZING VINYLAROMATIC COMPOUNDS IN SUSPENSION

Michael Lederer, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Mar. 27, 1968, Ser. No. 716,301

Claims priority, application Germany, May 6, 1967, F 52,342

Int. Cl. C08f 7/04, 15/02

U.S. Cl. 260—85.5

4 Claims

The invention provides a process for polymerizing vinylaromatic compounds in aqueous suspension with the aid

of initiators soluble in the monomer, a powdery suspension stabilizer and a water-soluble initiator. A high yield of polymer and uniform particles are obtained using as water-soluble initiator an alkylcarbonato-alkali-sulfatoperoxide.

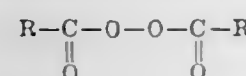
3,539,544

POLYMERIZATION OF VINYL CHLORIDE

Michel Marbach, Lyon, and Jacques Brivet, Bron, France, assignors to Produits Chimiques Pechiney-Saint-Gobain, Neuilly sur Seine, France
No Drawing. Filed Oct. 22, 1968, Ser. No. 769,714
Claims priority, application France, Oct. 24, 1967, 125,633; Apr. 25, 1968, 149,436
Int. Cl. C08f 3/30, 15/08

U.S. Cl. 260—85.5 9 Claims

This polyvinyl chloride polymerization proceeds between -20° and 65° C. in mass or in precipitating medium in admixture with a catalytic system which contains the diacyl peroxide and a reducing agent being a titanium mineral compound in a state of oxidation such that it will reduce the diacyl peroxide, for instance a titanium halide of which the bromide, chloride, and fluoride are exemplary. This reducing agent is advantageously added to the reaction mass in solution in an alcohol, e.g. methanol, ethanol, isopropanol, butanol. The diacyl peroxide has the formula



R being alkyl or aryl.

3,539,545

SYNTHETIC PROTECTIVE FILM FOR USE IN PLANT CULTIVATION AND METHOD OF MAKING THE SAME

Kiko Tanisawa, Yamanashi-ken, Japan, assignor to Mitsubishi Monsanto Chemical Company, Tokyo, Japan, a corporation of Japan
No Drawing. Continuation-in-part of application Ser. No. 360,095, Apr. 15, 1964. This application Dec. 8, 1967, Ser. No. 488,957
Int. Cl. C08f 3/30, 45/58

U.S. Cl. 260—92.8 6 Claims

Synthetic resin film or sheet material suitable for use in plant protection and cultivation consists essentially of polyvinyl chloride (PVC) intimately combined, by the aid of a specific treating method, with tannic acid, to result in a new product referred to as tannic PVC having new physical characteristics in the form of low thermal conductivity, low infrared transmission and a transmission range within the lower part of the infrared spectrum, whereby to substantially improve its qualities as a plant protecting material by ensuring high heat insulation and an inside temperature always in excess of the outside or atmospheric temperature. The material being treated in a solution of tannic acid at increased temperature and cooled and dried subsequently may be either in the form of the final PVC film or sheet material, or in the initial or powder form of the PVC, to be subsequently converted into sheet or film form.

3,539,546

CATALYTIC SYSTEM FOR THE POLYMERIZATION OF VINYL CHLORIDE AND OTHER ETHYLENIC MONOMERS

Georgette Steinbach van Gaver, Paris, France, assignor to Produits Chimiques Pechiney-Saint-Gobain, Paris, France
No Drawing. Filed Jan. 12, 1967, Ser. No. 608,723
Claims priority, application France, Feb. 9, 1966, 48,946
Int. Cl. C08f 3/30, 15/08

U.S. Cl. 260—92.8 6 Claims

In a process for the polymerization of homopolymers and copolymers of vinyl chloride in an inert atmosphere

at temperatures from -35° C. to $+10^{\circ}$ C. with a catalytic system consisting of a trialkylboron hydrazine complex, active oxygen supplied by a peroxide, the improvement in the rate of polymerization by including from 0.0046 to 0.0279 gram of molecular oxygen per 100 grams of monomer.

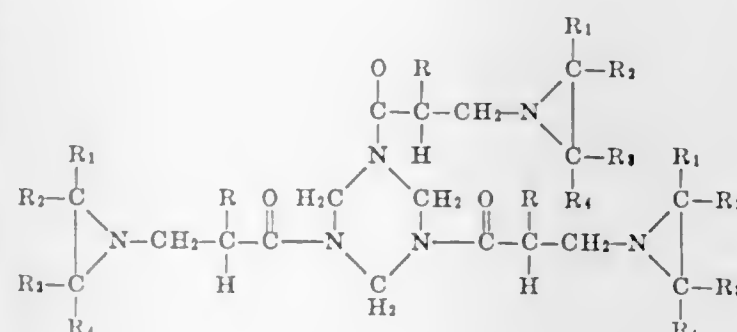
3,539,547

ALKYLENEIMINE ADDUCTS OF TRISACRYLYLHEXAHYDRO - s - TRIAZINE FOR CURING ELASTOMERS

Joseph Adrian Hoffman, Bridgewater Township, Somerville County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Original application Aug. 25, 1966, Ser. No. 574,936, now Patent No. 3,526,625. Divided and this application Oct. 29, 1969, Ser. No. 872,365
Int. Cl. C07d 55/14; C08d 5/02

U.S. Cl. 260—94.7 3 Claims

1,3,5 - tris(β - (alkylaziridiny)propionyl) - hexahydro-s-triazines of the structure:



wherein the R's are individually selected from the group consisting of hydrogen and lower alkyl and at least one of R_1 - R_4 is other than hydrogen, and their use as cross-linking agents, particularly for elastomers.

3,539,548

PRODUCTION OF ISOCROTONIC ACID

Martin B. Hocking, Sarnia, Ontario, Canada, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 7, 1968, Ser. No. 703,558
Int. Cl. C07c 57/00, 57/08

U.S. Cl. 260—526 4 Claims

Isocrotonic acid is produced by concurrent thermal isomerization of crotonic acid and distillation under defined conditions. Continuous operation is provided by feeding fresh crotonic acid to the isomerizing mixture at about the rate at which isocrotonic acid is separated by distillation.

3,539,549

RECOVERY OF PROTEIN FROM BONE

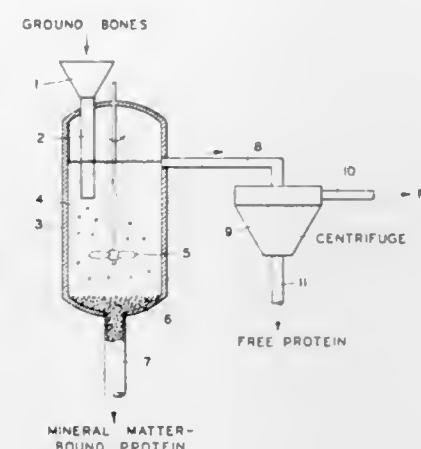
Charles Greenfield, 35 Walnut St., Murray Hill, N.J. 07971
Continuation-in-part of application Ser. No. 365,605, May 7, 1964, which is a continuation-in-part of application Ser. No. 174,986, Feb. 23, 1962, now Patent No. 3,134,795. This application Feb. 27, 1969, Ser. No. 803,038
Int. Cl. A23j 1/10

U.S. Cl. 260—112 5 Claims

A process and apparatus for recovering both free protein and mineral matter-bound protein from bone by agitating ground bones in a body of liquid fat to effect separation of free protein from the bone material; drawing off a liquid mixture of free protein and fat from the upper portion of the body of fat and then separating

this mixture by means such as centrifuging, and drawing off mineral matter-bound protein from the lower por-

agents for paper and textiles, as emulsion stabilizers and as thickeners for foods.



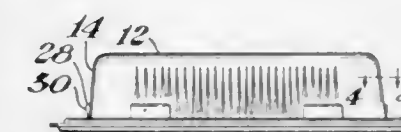
3,539,552

STACKABLE THIN WALLED TUBS

Lewis S. Mounts, Midland, and Ruben A. Tigner, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 17, 1969, Ser. No. 807,843
Int. Cl. B65d 21/02

U.S. Cl. 220—97

9 Claims



tion of the body of fat toward which it has settled by gravity.

3,539,550

PROCESS FOR THE PREPARATION OF 2'-HALO-2'-DEOXY PYRIMIDINE NUCLEOSIDES

Seymour Greenberg, Palo Alto, and John G. Moffatt, Los Altos, Calif., assignors to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Jan. 23, 1967, Ser. No. 610,771
Int. Cl. C07c 51/50

U.S. Cl. 260—211.5 10 Claims

2'-halo-2'-deoxypyrimidine nucleosides are prepared by a new process which avoids the steps of introducing protecting groups and subsequently removing them in order to maintain free hydroxy groups on the sugar moiety of the pyrimidine nucleosides. This process provides a convenient two-step process for the preparation of the 2'-fluoro, 2'-chloro, 2'-bromo, and 2'-iodo-2'-deoxypyrimidine nucleosides from a pyrimidine nucleoside containing free hydroxy groups on the sugar moiety. Representatively, the pyrimidine nucleoside is heated with an α -acyloxy acyl halide either alone or in an inert organic solvent to afford an intermediate, and this intermediate is then hydrolyzed under basic conditions to afford the 2'-halo-2'-deoxypyrimidine nucleoside. The process provides a convenient process for preparing, for example, important 2'-bromo and 2'-iodo-2'-deoxypyrimidine nucleosides which are subsequently converted by conventional hydrogenolysis to the corresponding 2'-deoxypyrimidine nucleosides, the latter being of considerable use in biomedical research.

3,539,551

STARCH ESTERS

Norman Edward Lloyd, Clinton, Iowa, assignor to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 496,164, Oct. 14, 1965. This application Apr. 18, 1968, Ser. No. 722,196
Int. Cl. C08b 19/04

U.S. Cl. 260—233.5 20 Claims

Starch mixed esters containing orthophosphate groups and orthophosphate groups esterified with a non-starch organic group. These starch mixed esters may contain from 0.05 to 1 mole of non-starch organic group per mole of bound phosphorous.

The starch mixed esters containing orthophosphate groups and orthophosphate groups esterified with a non-starch group are prepared by reacting starch with a substantially water soluble pyrophosphate diester at a temperature of from about 100° to 170° C. The said starch mixed esters are useful as improved adhesives, sizing

An effective stacking shoulder construction for thin walled containers is obtained by locating such shoulders in corrugated side wall sections of the containers, and for rectangular containers, adjacent corner regions thereof. This shoulder construction and arrangement has proven effective against jamming of such containers together even when considerable weight has been placed atop a stack of such containers.

3,539,553

AMMONIUM PHOSPHATE DERIVATIVES OF STARCH

Norman E. Lloyd, Clinton, Iowa, assignor to Standard Brands Incorporated, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 487,566, Sept. 15, 1965. This application Aug. 30, 1968, Ser. No. 756,397
Int. Cl. C08b 19/04

U.S. Cl. 260—233.5 13 Claims

This invention relates to ammonium mono-starch phosphates. The ammonium mono-starch phosphates have a molar ratio of nitrogen to phosphorus of from about 0.01 to about 2.

The ammonium mono-starch phosphate is prepared by heating starch granules impregnated with ammonium metaphosphate or polyphosphate and containing less than 25 percent moisture, at a temperature from about 100° to 160° C., while permitting evaporation of water, for a time to effect reaction between the starch and the ammonium metaphosphate or the ammonium polyphosphate.

The ammonium mono-starch phosphates are useful as improved adhesives and sizing agents for paper and textiles, as emulsion stabilizers and as thickeners for food.

3,539,554

11 - SUBSTITUTED 5,11 - DIHYDRO - 6H - PYRIDO [2,3-b][1,4]BENZODIAZEPIN-6-ONES

Gunther Schmidt, Gunther Engelhardt, Hans Machleidt, and Karl Konigsdorfer, Biberach an der Riss, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhine, Germany, a corporation of Germany
No Drawing. Filed Oct. 30, 1967, Ser. No. 679,172
Claims priority, application Germany, Oct. 31, 1966, T 32,424; Sept. 15, 1967, T 34,793
Int. Cl. C07d 53/02

U.S. Cl. 260—239.3 4 Claims

The compounds are 11-alkyl substituted 5,11-dihydro-6H-pyrido[2,3-b][1,4]benzodiazepin-6-ones and 5-hydrocarbyl substituted derivatives thereof, useful as antiphlogistics, analgesics, antipyretics, sedatives and anticonvulsives in warm-blooded animals.

3,539,555

DIBENZO[b,f][1,4]OXAZOCINES, DIBENZO[b,f][1,4]OXAZONINES AND THIO ANALOGS

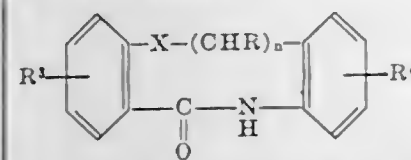
Harry L. Yale and Jack Bernstein, New Brunswick, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 546,193, Apr. 29, 1966. This application Dec. 12, 1968, Ser. No. 783,428

Int. Cl. C07d 93/00, 87/00

U.S. Cl. 260—239.3

Compounds of the formula



wherein n is 1 or 2; X is selected from the group consisting of oxygen and sulfur; R is selected from the group consisting of hydrogen, lower alkyl, and monocyclic aryl; and R^1 and R^4 are each selected from the group consisting of hydrogen, halogen, lower alkyl, cyclo-lower alkyl, cyano, lower haloalkyl, lower alkoxy, lower alkylthio, lower alkylsulfinyl, lower alkylsulfonyl, lower haloalkoxy, lower haloalkylthio, and amidosulfonyl. These compounds are useful intermediates in the preparation of the corresponding N -carboxamides which have utility as anticonvulsants and antiepileptics for the treatment of grand mal, petit mal, temporal lobe epilepsy, and trigeminal neuralgia.

3,539,556

STEROIDO-PYRAZOLE ANTI-INFLAMMATORY COMPOSITIONS

Frederik W. Stonner, Chatham, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 9, 1967, Ser. No. 659,292

Int. Cl. C07c 173/10

U.S. Cl. 260—239.5

17 Claims

17 β -hydroxy-17-ethynyl-4-androsteno[3,2-c]-2'-phenyl- and 2'-(p -fluorophenyl)pyrazole and certain substituted analogs thereof are the active ingredients of new glucocorticoid-anti-inflammatory compositions. The steroids are prepared either by reacting the appropriate 2-hydroxymethylene-3-oxo-steroid with phenylhydrazine or p -fluorophenylhydrazine, or by 17-alkynylation of appropriate 17-oxo-steroids[3,2-c]pyrazole.

3,539,557

9,10-DIHYDRO-13-HYDROXY-9,10(METHANOIMINOMETHANO)ANTHRACEN-11-ONE AND ITS PREPARATION

Martin A. Davis, Montreal, Quebec, and Thomas A. Dobson, Dollard des Ormeaux, Quebec, Canada, assignors to Ayerst, McKenna & Harrison, Limited, St. Laurent, Quebec, Canada, a corporation of Canada

No Drawing. Filed Oct. 8, 1968, Ser. No. 765,972

Int. Cl. C07d 41/00

U.S. Cl. 260—239.3

2 Claims

There is disclosed herein 9,10-dihydro-13-hydroxy-9,10(methanoiminomethano)anthracen-11-one and a process for preparing it. The compound is useful as a central nervous system depressant and anticonvulsant agent, and methods for its use are also disclosed.

3,539,558

3-OXYGENATED 3-(9 α ,11 β -DICHLORO-17 β -HYDROXYANDROSTEN-17 α -YL)PROPIONIC ACID γ -LACTONES AND CONGENERS

Edward A. Brown, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Aug. 9, 1968, Ser. No. 751,370

Int. Cl. C07c 173/00

U.S. Cl. 260—239.57

6 Claims

Preparation of the captioned compounds—for example, 3-(9 α ,11 β -dichloro-17 β -hydroxyandrost-4-en-3-on-

17 α -yl)propionic acid γ -lactone—and their valuable pharmacological properties—including anti-estrogenic and progestational activity—are disclosed.

3,539,559

REPROGRAPHIC COPYING COMPOSITION AND REPROGRAPHIC COPYING MATERIAL PREPARED THEREWITH

Hans Ruckert, Wiesbaden-Schierstein, Germany, assignor to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany

No Drawing. Filed Mar. 10, 1967, Ser. No. 622,070

Claims priority, application Germany, Mar. 12, 1966, K 58,705, K 58,706, K 58,707

Int. Cl. C07d 109/00

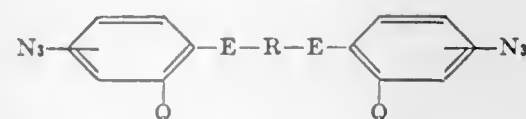
U.S. Cl. 260—240

26 Claims

The present invention relates to a reprographic copying composition and a reprographic copying material prepared therewith, the copying composition containing a resin which is insoluble in water but soluble in organic solvents and soluble or swellable in alkaline aqueous solutions, and a water-insoluble, light-sensitive azido styryl compound which corresponds to one of the following general Formulae I and II:



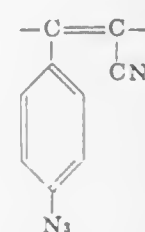
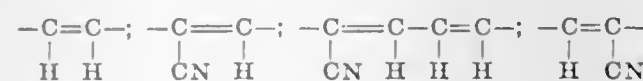
(I)



(II)

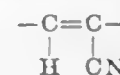
wherein:

E is one of the following ethylenically unsaturated groups:



Q is hydrogen or other substituent,

R is an isocyclic aromatic or a heterocyclic aromatic group or a substituted isocyclic or heterocyclic aromatic group or a carbonyl group in the free acid form or in the form of an ester, amide, or nitrile, which is attached to the cyano methyl group of group E when E is



and the N_2 -groups are in meta or para position to the group E .

3,539,560

1,3-DI-(4-PYRIDYL)PROPENE DERIVATIVES

Bernard Brust, Parsippany, Troy Hills, Rodney Ian Fryer, North Caldwell, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application June 21, 1965, Ser. No. 465,753, now Patent No. 3,420,841, dated Jan. 7, 1969. Divided and this application Mar. 12, 1968, Ser. No. 712,369

Int. Cl. C07d 31/00

U.S. Cl. 260—240

7 Claims

1,3-di-(4-pyridyl)propenyl derivatives substituted in 2-position by alkyl, phenyl, substituted phenyl, benzyl or

a 5- or 6-membered heterocyclic group are prepared by dehydrating the corresponding 1,3-di-(4-pyridyl)propanol derivatives which are in turn prepared inter alia by reacting a 4-picoly metal compound with an appropriate acid halide or ester. The end products are pharmacologically useful as anti-convulsant agents.

3,539,561

PHOSPHINOTHIOIC AMIDES

Paul B. Budde and Henry Tolkmith, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

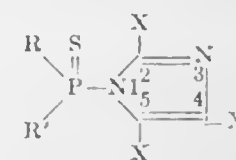
No Drawing. Application Jan. 5, 1966, Ser. No. 518,788, now Patent No. 3,433,798, dated Mar. 18, 1969, which is a continuation-in-part of application Ser. No. 451,983, Apr. 29, 1965, now Patent No. 3,323,990. Divided and this application Sept. 23, 1968, Ser. No. 761,813

Int. Cl. C07d 49/36

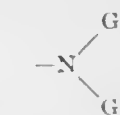
U.S. Cl. 260—240

5 Claims

Novel imidazolyl phosphorus compounds, useful for the control of fungi, having the formula



wherein each X substituent independently represents hydrogen, loweralkyl or phenyl, the total number of carbon atoms in all X substituents being an integer of from 0 to 15, both inclusive; and, each of R and R' being taken separately, R represents diloweralkylamido, heteropara-finic amido, heteroaromatic amido and



G being a member selected from the group consisting of loweralkyl and G'' ; G' being a member selected from the group consisting of phenyl, loweralkylphenyl and G'' ; and G'' being a member selected from the group consisting of phenylloweralkyl, (loweralkylphenyl)loweralkyl, furfuryl, tetrahydrofurfuryl and (4-pyridylmethyl); and each R' independently represents phenyl or styryl.

3,539,562

 α -AMINO-2,4,6-CYCLOHEPTATRIENYLMETHYLCEPHALOSPORINS

Patrick Andrew Diassi, Westfield, Frank Lee Weisenborn, Somerset, and Jack Bernstein, New Brunswick, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 2, 1969, Ser. No. 822,859

Int. Cl. C07d 99/24

U.S. Cl. 260—243

7 Claims

This invention relates to α -amino-2,4,6-cycloheptatrienylmethylcephalosporins as well as their salts, which are useful as antibacterial agents.

3,539,563

TETRACYCLINE: 6-AMINO-4-OXO-2-(BETA-CHLOROETHYL)-2,3-DIHYDROBENZENE-1,3-OXAZINE DOUBLE SALT DIHYDRATE

Aldo Garzia, Milan, Italy, assignor to Istituto Chemioterapico Italiano S.p.A., Milan, Italy, a corporation

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,634

Int. Cl. C07d 87/06

U.S. Cl. 260—244

1 Claim

A therapeutic composition having antibiotic and antiphlogistic properties comprising tetracycline in combination with 6-amino-4-oxo-2-(β -chloroethyl)-2,3-dihydrobenzo-1,3-oxazine.

3,539,564

2-HETEROCYCLIC AND 2-AMINO SUBSTITUTED-TETRAHYDRO-HALO-SULFAMYL-QUINAZOLINONES

Bola Vithal Shetty, Rochester, N.Y., assignor to Pennwalt Corporation, a corporation of Pennsylvania

No Drawing. Filed Feb. 23, 1968, Ser. No. 707,407

Int. Cl. C07d 51/48

U.S. Cl. 260—247.1

8 Claims

A 1,2,3,4-tetrahydro-7-halo (including 7-trifluoromethyl)-6-sulfamyl-4-quinazolinone substituted in the 2-position with an amino or a heterocyclic group, especially pyridyl, piperidino, pyrrolidino or morpholino; and in the 3-position with an aryl or aralkyl, especially phenyl, orthotolyl or benzyl. The compounds are useful as diuretics and saluretics.

3,539,565

METHOD FOR PRODUCING A SOLUTION OF CYANURIC CHLORIDE FROM GASEOUS CYANURIC CHLORIDE

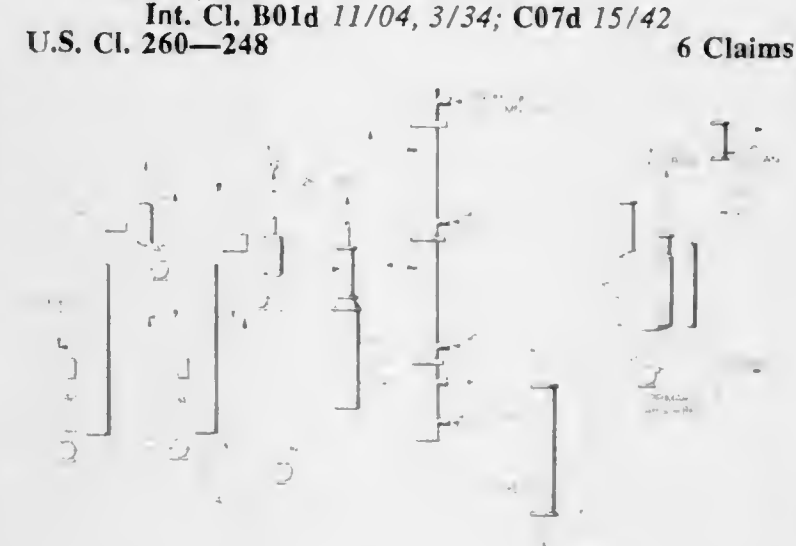
William J. Evers and Philip G. McCracken, Mobile, Ala., assignors to Geigy Chemical Corporation, Ardsley, N.Y.

Continuation-in-part of application Ser. No. 616,877, Feb. 17, 1967. This application Jan. 29, 1968, Ser. No. 701,352

Int. Cl. B01d 11/04, 3/34; C07d 15/42

U.S. Cl. 260—248

6 Claims



Gaseous cyanuric chloride from a trimerizer is passed into a condenser where it is condensed to a liquid and the condensate is held at an elevated temperature in a pot while the gases are flashed off. Thereafter, the liquid is absorbed in a first solvent in a primary absorption system. The flashed off gases are contacted with a different solvent, the materials other than cyanuric chloride are removed from the solution, and the cyanuric chloride is then transferred to the first solvent and the resulting solution mixed with the solution in the primary absorption system.

3,539,566

HALOGENATED TRIAZINYL DERIVATIVES OF FLUORINATED AMIDES

Richard F. Sweeney, Randolph Township, Morris County, and Alton K. Price, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

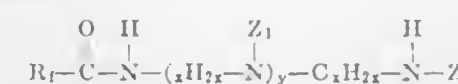
No Drawing. Filed Aug. 1, 1968, Ser. No. 749,301

Int. Cl. C07d 55/18

U.S. Cl. 260—249.5

13 Claims

Halogenated triazinyl derivatives of fluorinated amides useful as oil- and water-repellency agents have the structural formula



wherein x and y are integers from 2 to 6 and 1 to 4, respectively; wherein R_1 is a perfluoroalkyl or a fluorinated

isoalkoxyalkyl radical; Z is H, alkyl, hydroxyalkyl, a fluorinated acyl radical R_fCO —wherein R_f is as described above, or a halogenated triazinyl radical; Z' is H, alkyl, hydroxyalkyl, a fluorinated acyl radical R_fCO —wherein R_f is as described above, a halogenated triazinyl radical or a radical having the formula $-C_xH_{2x}NHZ$ wherein x and Z are as described above, there being at least one fluorinated acyl radical R_fCO —and at least one halogenated triazinyl radical in the molecule represented by Z and/or Z'.

3,539,567

8-CARBOXY-1(2H) PHTHALAZINONES

Karl J. Doebl, Ossining, and John E. Francis, Pleasantville, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of applications Ser. No. 445,762, Apr. 5, 1965, Ser. No. 539,303, Apr. 1, 1966, and Ser. No. 583,980, Oct. 3, 1966. Application Ser. No. 539,303 being a continuation-in-part of application Ser. No. 445,762, and application Ser. No. 583,980 being a continuation-in-part of applications Ser. No. 539,303 and Ser. No. 445,762. This application Apr. 23, 1968, Ser. No. 729,487

Int. Cl. C07d 51/06

U.S. Cl. 260—250 12 Claims
Various derivatives of 8-carboxy-1(2H) phthalazinones are anti-inflammatory agents and chemical intermediates for the preparation of 3-keto-2,3-dihydro-1,2,8,9-tetraazaphenalenones.

3,539,568

PROCESS FOR PREPARING DICARBOXIMIDE DERIVATIVES

Richard L. Jacobs, Perrysburg, Ohio, assignor, by mesne assignments, to The Sherwin-Williams Company, a corporation of Ohio
No Drawing. Filed Sept. 5, 1967, Ser. No. 665,279

Int. Cl. C07d 51/76

U.S. Cl. 260—250 5 Claims
A process for preparing 2,3- and 3,4-pyridine-dicarboximides and 2,3- pyrazinedicarboximide. The compounds are produced by reacting a 2,3- or 3,4-pyridine-dicarboxylic acid or 2,3-pyrazinedicarboxylic acid with a mixture of acetic anhydride and acetamide or equivalent. The dicarboximides are useful intermediates in the production of agricultural chemicals and in particular selective weed killers and plant growth regulators.

3,539,569

PREPARATION OF PYRAZINOYL GUANIDINES FROM PYRAZINOYLUREAS

Roger J. Toll, Metuchen, and Peter I. Pollak, Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 21, 1968, Ser. No. 754,451

Int. Cl. C07d 51/76

U.S. Cl. 260—250 11 Claims
A process is described for the preparation of (pyrazinoyl)guanidines which comprises the treatment of a (pyrazinoyl)urea with a guanidine. The products have utility as diuretic and/or natriuretic agents.

3,539,570

2-CYCLOALKYL-SUBSTITUTED-TETRAHYDRO-HALO-SULFAMYL-QUINAZOLINONES

Bola Vithal Shetty, Rochester, N.Y., assignor to Penwalt Corporation, a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 517,995, Jan. 3, 1966. This application Nov. 2, 1967, Ser. No. 680,029

Int. Cl. C07d 51/48

U.S. Cl. 260—256.5 9 Claims
A 1,2,3,4-tetrahydro-halo-sulfamyl-4-quinazolinone having diuretic properties, characterized by having in the 3-position a substituted or unsubstituted aryl or aralkyl

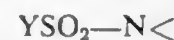
group and by having in the 2-position a substituted or unsubstituted cycloalkyl or cycloalkylalkyl group.

3,539,571

BIS-2-METHOXY ETHYL SULFONYL PIPERAZINES
Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Richard N. Ring, Wood-Ridge, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 301,875, Aug. 13, 1963. Division of application Ser. No. 337,997, Jan. 16, 1964. This application June 12, 1967, Ser. No. 656,613

Int. Cl. C07d 51/70

U.S. Cl. 260—268 2 Claims
Sulfonamide compounds containing at least two reactive terminal groups of the formula:



wherein Y can be vinyl, alkoxy or hydroxy or salt type terminal groups. These compounds can be used for reaction with active hydrogen containing polymeric material such as for treatment of cellulosic textiles. Substituted piperazine compounds and triazine type compounds are disclosed.

3,539,572

2,5-DIKETO PIPERAZINES

Günter Schröder, Ramstadt-Eiche, and Herbert Fink, Bickenbach, Germany, assignors to Rohm & Haas G.m.b.H., Darmstadt, Germany
No Drawing. Filed Nov. 7, 1967, Ser. No. 681,105
Claims priority, application Germany, Nov. 19, 1966, R 44,613

Int. Cl. C07d 51/68

U.S. Cl. 260—268 3 Claims
Method for making 2,5-diketo piperazines having aliphatic or aromatic substituents in the 3- and 6-positions, which are useful as intermediates in the preparation of bleaches, hardeners for gelatine, and textile treating agents, from correspondingly α -substituted α -amino acids by heating said acids with carbon dioxide, ammonia, and water.

3,539,573

11-BASIC SUBSTITUTED DIBENZODIAZEPINES AND DIBENZOTHIAZEPINES

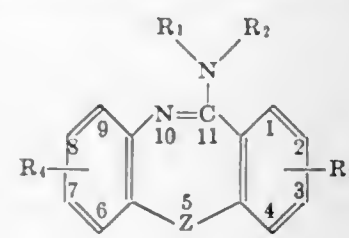
Jean Schmutz, Pourtalesstrasse 36, Muri, near Bern, Switzerland, and Fritz Hunziker, Wabernstrasse 53, Bern, Switzerland

No Drawing. Continuation-in-part of applications Ser. No. 532,856, Mar. 3, 1966, and Ser. No. 712,956, Mar. 14, 1968; said Ser. No. 532,856 is a continuation-in-part of applications Ser. No. 282,561, May 23, 1963, and Ser. No. 347,986, Dec. 12, 1963, which are continuations-in-part of application Ser. No. 130,755, Aug. 11, 1961. This application Oct. 21, 1968, Ser. No. 769,373

Claims priority, application Switzerland, Aug. 16, 1960, 9,276/60; Dec. 2, 1960, 13,542/60; July 20, 1961, 8,529/61; May 25, 1962, 6,350/62; Dec. 5, 1962, 14,251/62, 14,252/62, 14,253/62; Feb. 15, 1963, 1,902/63; Mar. 22, 1967, 4,103/67; July 11, 1967, 10,115/67; Nov. 3, 1967, 15,453/67

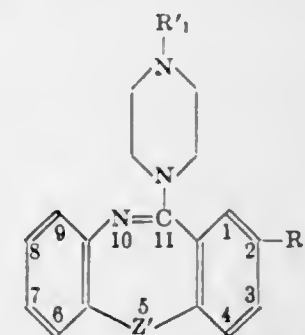
Int. Cl. C07d 93/42, 53/06

U.S. Cl. 260—268 8 Claims
(A) 11-basic substituted dibenzodiazepines and dibenzothiazepines having the general Formula A:



wherein Z denotes a member of the class consisting of bivalent sulfur, imino, and lower alkyl imino; R_1 is a member of the class consisting of hydrogen and alkyl with

1 to 5 carbon atoms, and R_2 is a member of the class consisting of hydrogen, alkyl having from 1 to 5 carbon atoms, phenyl, R_5 -substituted phenyl, aminoalkyl having from 1 to 5 carbon atoms, lower alkylated aminoalkyl having from 2 to 8 carbon atoms, amino, and lower alkylated amino; or R_1 and R_2 together with N form a member of the class consisting of 1-pyrrolidinyl, piperidino, morpholino, thiomorpholino, 1-piperazinyl, 4-(lower alkyl)-1-piperazinyl, 4-(lower hydroxyalkyl)-1-piperazinyl and 4-(lower alkoxy-lower alkyl)-1-piperazinyl; and R_3 , R_4 and R_5 are members of the class consisting of hydrogen, halogen, hydroxy, trifluoromethyl, lower alkyl, lower alkoxy, and lower alkylthio; and (B) 11-basic substituted dibenzodiazepines and dibenzothiazepines having the general Formula B:



wherein Z' denotes a member of the group consisting of sulfur, sulphonyl and imino; R'_1 represents a member of the group consisting of hydrogen, allyl, alkyl containing not more than 3 carbon atoms, hydroxyalkyl containing not more than 3 carbon atoms, alkoxyalkyl containing not more than 6 carbon atoms and alkoxyalkyl containing not more than 6 carbon atoms; and R'_2 is a member of the group consisting of nitro, amino, aminosulphonyl of the formula $-SO_2NR'_3R'_4$ wherein R'_3 and R'_4 are the same or different members of the group consisting of hydrogen and methyl, alkylsulphonyl of the formula $-SOR'_5$ wherein R'_5 denotes alkyl with not more than 3 carbon atoms, and alkylsulphonyl of the formula $-SO_2R'_5$ wherein R'_5 denotes alkyl with not more than 3 carbon atoms; and (C) the nontoxic pharmaceutically acceptable acid-addition salts of (A) and (B).

These compounds are particularly active as neuroplegics, neuroleptics, neuroleptic antidepressants, antiemetics, analgesics, sedatives, parasympatholytics and antihistaminics.

3,539,574

9-CARBOXYLIC ACID ESTERS OF N-ORGANO-SUBSTITUTED ACRIDINIUM COMPOUNDS

Desmond Sheehan, Hamden, Rose Ann Clarke, Bethel, and Michael McKay Raubut, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 637,091, May 9, 1967, which is a division of application Ser. No. 427,459, Jan. 22, 1965. This application Dec. 13, 1968, Ser. No. 783,755

Int. Cl. C07d 37/20

U.S. Cl. 260—279 4 Claims
Compounds which are 9-carboxylic acid esters on N-organo-substituted acridinium salts and method of making the compounds.

3,539,575

NOVEL BENZOCYCLOBUTENE DERIVATIVES

Joseph A. Skorcz, Milwaukee, Wis., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 452,873, May 3, 1965. This application Jan. 22, 1968, Ser. No. 699,328

Int. Cl. C07d 39/00

U.S. Cl. 260—281 3 Claims
The compounds are spiro derivatives of benzocyclo-

butene which are useful as skeletal muscle relaxants and central nervous system depressants. A compound disclosed is spiro [benzocyclobutene-1,3'-(2',6'-dioxopiperidine)].

3,539,576

1,2,3,7,8,12b-HEXAHYDROBENZO[1,2]CYCLO-HEPTA[3,4,5-d,e]ISOQUINOLINOMETHYLENEAMIDOXIMES AND ESTERS THEREOF

Martin A. Davis, Montreal, Quebec, and Leslie G. Humber, Dollard des Ormeaux, Montreal, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 17, 1967, Ser. No. 653,636

Int. Cl. C07d 39/00

U.S. Cl. 260—286 9 Claims
There is disclosed herein the compound 1,2,3,7,8,12b-hexahydrobenzo[1,2]cyclohepta[3,4,5-d,e]isoquinolinomethyleneamidoxime, its dihydrochloride salt, and its O-acetate, O-butyrate, O-benzoate, O-p-chlorobenzoate, and O-phenylacetate. The compounds are useful as antibacterial, trichomonocidal, and hypotensive agents, and the intermediate 2-cyanomethyl derivatives as well as methods for their preparation and use are also disclosed.

3,539,577

ISOQUINOLINE CARBOXAMIDES

Martin A. Davis, Montreal, Quebec, and Leslie G. Humber, Dollard des Ormeaux, Montreal, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 17, 1967, Ser. No. 653,629

Int. Cl. C07d 39/00

U.S. Cl. 260—287 2 Claims
There are disclosed herein the antibacterial, antifungal, trichomonocidal and anticonvulsant 2- α -acetamide, 2- β -propionamide, and 2- γ -butyramide derivatives of 1,2,3,7,8,12b-hexahydrobenzo-[1,2]cyclohepta[3,4,5-d,e]isoquinoline, the intermediate nitriles for preparing those compounds, and methods for preparing and using them.

3,539,578

HERBICIDAL 1,2-DIHYDROQUINOLINES AND 1,2,3,4-TETRAHYDROQUINOLINES

Joseph Patrick Brown, Llangollen, Wales, assignor to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Original application Aug. 18, 1965, Ser. No. 480,756. Divided and this application Mar. 27, 1968, Ser. No. 739,573
Claims priority, application Great Britain, Aug. 25, 1964, 34,669/64

Int. Cl. C07d 33/46

U.S. Cl. 260—287 9 Claims
1-acyl-2,2,4-trialkyl-8-substituted hydroquinolines in which the substituent in the 8 position is alkyl or alkoxy having from 1 through 4 carbon atoms, or phenyl-derivative aromatic or aroxy. These compounds have utility as herbicides.

3,539,579

1-(3-CYANO-3,3-DIPHENYL-PROPYL)-4-PHENYL-PIPERIDINE-4-CARBOXYLIC ACID ESTERS

Paul Adriaan Jan Janssen, Vosselaar, Belgium, assignor to Janssen Pharmaceutica, a corporation of Belgium
No Drawing. Filed Nov. 22, 1967, Ser. No. 684,964

Int. Cl. C07d 29/24

U.S. Cl. 260—294.3 11 Claims
The invention includes (A) compounds of the class of 1-(3-cyano-3,3-diphenylpropyl)-4-phenyl-piperidine-4-carboxylic acid esters in which the ester function contains at least one ether function, which compounds are useful as anti-diarrheal agents; and (B) compounds of the class of 4-phenyl-piperidine-4-carboxylic acid esters in which the

ester function also contains said ether function, which compounds are useful as intermediates in the preparation of compounds (A).

3,539,580

4-ARYL-4-AMINOALKOXY-PIPERIDINES

Hubert Karel Frans Hermans, Beerse, near Turnhout, Hugo Louis Elisabeth Verhoeven, Vosselaar, near Turnhout, Belgium, assignors to Janssen Pharmaceutica, a corporation of Belgium

No Drawing. Filed June 26, 1967, Ser. No. 649,041

Int. Cl. C07d 29/28

U.S. Cl. 260—293.4

7 Claims

The compounds are of the class of 1-substituted 4-aryl-4-amino-alkoxy-piperidines and salts thereof having useful anesthetic activity.

3,539,581

2-PHENYL-3-(4-HYDROXY-4-PHENYL-PIPERIDINO)-PROPIOPHENONES

Robert Bruce Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

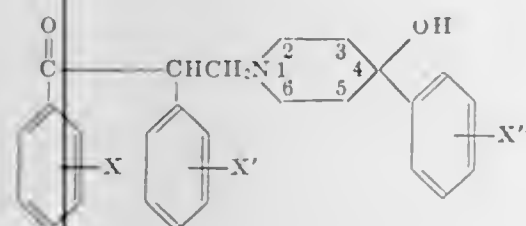
No Drawing. Filed July 25, 1968, Ser. No. 747,425

Int. Cl. C07d 29/20

U.S. Cl. 260—294.7

3 Claims

This invention relates to novel 2-phenyl-3-(4-hydroxy-4-phenylpiperidino)-propiophenones; it is inclusive of the free base and acid addition salt forms of the compounds embraced by the formula



wherein X, X' and X'' are selected from the group consisting of hydrogen, lower-alkyl, fluorine, chlorine and bromine.

3,539,582

IMIDAZO-[1,2-a]PYRIDINE-2,3-DICARBOXYLATES
Giorgio Ferrari, Milan, and Cesare Casagrande, Como, Italy, assignors to Siphar S.A., Lugano, Switzerland, a company of Switzerland

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,573

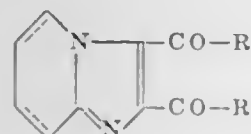
Claims priority, application Belgium, Jan. 18, 1967, 44,432

Int. Cl. C07d 57/04

U.S. Cl. 260—295

2 Claims

There are disclosed (a) new heterocyclic derivatives of imidazo-[1,2-a]pyridine of the formula:



where R represents hydroxyl groups, lower alkoxyl radicals, the —NH₂ or —NH—NH₂ group or, taken together, the —NH—NH₂ group and where the pyridic nucleus can be saturated, and (b) a process for producing these new pharmaceutical compounds comprising condensing the esters of α-bromo or α-chloro oxalacetic acid with 2-amino-pyridine and then transforming the product obtained by hydrogenation and/or by saponification or by reaction with ammonia or hydrazine. The compounds of the present invention are useful as a result of their analeptic properties.

3,539,583
FLUORESCENT CATIONIC 2-IMINO-COUMARIN DYE STUFFS

Jacques Voltz, Riehen, Tibor Somlo, Birsfelden, Basel-Land, and Heinrich Hausermann, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Feb. 14, 1967, Ser. No. 615,911

Claims priority, application Switzerland, July 22, 1966, 10,631/66

Int. Cl. C07d 31/42, 49/38, 91/44

U.S. Cl. 260—299

3 Claims

Fluorescent cationic 2-imino-coumarin derivatives substituted in 7-position by an optionally organically substituted amino group, which derivatives are dyestuff for dyeing acrylic fibre materials. On such material the dyestuffs produce fluorescent greenish yellow, yellow, reddish yellow and orange dyings which are light-fast and also wet-fast such as fast to washing and, particularly, decatising.

3,539,584

5-SUBSTITUTED-2,1-BENZISOTHAZOLINES

John T. Suh and Claude I. Judd, Mequon, and Joseph A. Skorez, Milwaukee, Wis., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 585,765, Oct. 11, 1966. This application Nov. 14, 1967, Ser. No. 683,009

Int. Cl. C07d 91/44

U.S. Cl. 260—304

8 Claims

The compounds are 5-substituted derivatives of 2,1-benzisothiazoline-2,2-dioxides which are useful in the preparation of wood preservatives, moth proofing agents and pickling inhibitors and as pharmaceutical agents, particularly antihypertensive agents and central nervous system stimulants. Compounds disclosed include 1,3-dimethyl-5-amino-2,1-benzisothiazoline-2,2-dioxide, 1,3-dimethyl-5-methanesulfonamido-2,1-benzisothiazoline-2,2-dioxide and 1,3-dimethyl-5-acetamido-2,1-benzisothiazoline-2,2-dioxide.

3,539,585

4-HYDROXY-2-THIAZOLINE-5-ALKANOIC ACIDS

Theodore S. Sulkowski, Wayne, and Albert A. Mascitti, Norristown, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 3, 1968, Ser. No. 764,967

Int. Cl. C07d 91/24

U.S. Cl. 260—306.7

3 Claims

This invention concerns 4-hydroxy-2-thiazoline-5-alkanoic acids which are pharmacologically efficacious as anti-inflammatory agents. Further, these compounds are useful intermediates in the preparation of their corresponding 5-thiazolealkanoic acids.

3,539,586

BASIC AMINO ACID SALTS OF PHENOLTETRA-BROMOPHENOLPHTHALEIN 3',3''-DISULFONIC ACID

Alexander Galat, Yonkers, N.Y.

(1980 S. Ocean Drive, Hallendale, Fla. 33009)

No Drawing. Filed July 18, 1968, Ser. No. 748,133

Int. Cl. C07d 5/38, 99/02

U.S. Cl. 260—309

5 Claims

Phenoltetrabromophenolphthalein 3', 3'' - disulfonic acid and basic amino acids such as lysine, ornithine, arginine and histidine, react to produce stable, non-hygroscopic salts characterized by essentially instantaneous solubility in water and extremely high water solubility.

Solutions of the resulting compounds are employed in accordance with known procedures to measure the liver function of human subjects and exhibit many advantages over materials hitherto employed in the performance of this diagnostic test.

3,539,587

METHOD OF PREPARING CYCLIC UREAS FROM N,N-DIALKYLAMMONIUM N,N-DIALKYL MONOTHIOL CARBAMATES AND DIPRIMARYAMINES

Edward A. Swakon, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Original application Mar. 27, 1964, Ser. No. 355,411, now Patent No. 3,392,197, dated July 9, 1968. Divided and this application Nov. 13, 1967, Ser. No. 682,629

Int. Cl. C07d 49/30; C07c 127/16

U.S. Cl. 260—309.7

2 Claims

Cyclic ureas are prepared by reacting a diprimaryamine having two to four carbon atoms separating the two primary amino groups with a N,N-dialkylammonium N,N-dialkyl monothiol carbamate in equimolecular proportions of those reactants. For example, cyclic ethylene urea is prepared by reacting equimolecular proportions of ethylene diamine and triethylammonium N,N-di-n-propyl monothiol carbamate. Symmetrical ureas are prepared by reacting ammonia or a primary amine with a secondary or tertiary amine ammonium N,N-disubstituted monothiol carbamate.

3,539,588

TRANS-1,4,4a,5,6,11b-HEXAHYDRO-11H-BENZO[a]CARBAZOL-5-ONE, THIOSEMICARBAZONES

Stephen I. Sallay, Wynnewood, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 6, 1967, Ser. No. 688,344

Int. Cl. C07d 27/68

U.S. Cl. 260—315

11 Claims

The invention is directed to novel hexahydro-11H-benzo[a]carbazol-5-one, thiosemicarbazones which may be prepared by reacting hexahydro-11H-benzo[a]carbazol-5-ones with thiosemicarbazides. The resultant products have therapeutic activity as antagonists of Influenza NWS and Herpes simplex viruses.

3,539,589

1-(α-PYRRYL)-2-AMINO ETHANOLS

Uberto M. Teotino and Davide Della Bella, Milan, Italy, assignors to Whitefin Holding S.A., Lugano, Switzerland

No Drawing. Filed May 8, 1967, Ser. No. 636,649

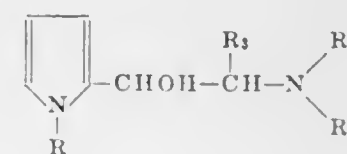
Claims priority, application Great Britain, May 17, 1966, 21,779/66

Int. Cl. C07d 27/22, 29/16, 87/22

U.S. Cl. 260—326.5

4 Claims

Compounds acting on the central nervous system and on the peripheral nervous system, having the formula:



wherein R is alkyl, aryl or arylalkyl groups which may be substituted by one or more halogen atoms, alkyl, hydroxy, alkoxy, trifluoromethyl, nitro, amino, mono- or di-alkylamino radicals; R₁ is selected from the group comprising alkyl and cycloalkyl radicals; R₂ is an alkyl, or taken together with R₁ and the nitrogen atom to which they are attached from the group comprising a hydrogen atom and alkyl radicals and their salts with organic and inorganic acids and alkyl halides.

3,539,590

SUBSTITUTED 3,3,6,6-TETRAMETHYL-1,8-DIKETO-9-(2-HYDROXYPHENYL)OCTAHYDROXANTHENES

Marvin L. Oftedahl, Crestwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 526,026, Feb. 9, 1966. This application May 20, 1968, Ser. No. 730,591

Int. Cl. C07d 7/42

U.S. Cl. 260—335

9 Claims

This disclosure covers certain 3,3,6,6-tetramethyl-1,8-diketo-9-(2-hydroxyphenyl) octahydroxanthenes which contain two or three additional substituents on the phenyl ring. Such compounds display utility in the control of certain microbiological organisms.

3,539,591

3-ALKENYL-2,4-DIOXASPIRO-(5:5)-9:10 EPOXY-UNDECANES AND 8:11 METHYLENE DERIVATIVES THEREOF

Hans Batzer, Arlesheim, Otto Ernst, Pfeffingen, and Daniel Porret, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Oct. 21, 1960, Ser. No. 63,956

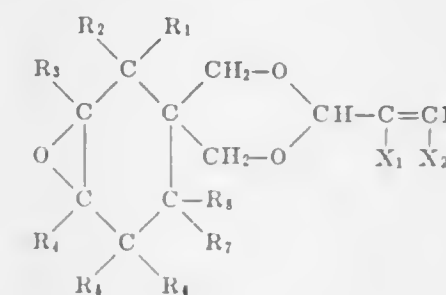
Claims priority, application Switzerland, Oct. 23, 1959, 79,779/59

Int. Cl. C07d 15/04

U.S. Cl. 260—340.7

7 Claims

1. A monoepoxide of the formula



in which R₁, R₂, R₃, R₄, R₅, R₆, R₇ and R₈ each represent a member selected from the group consisting of hydrogen and lower alkyl having 1 to 4 carbon atoms, R₁ and R₅ when taken together represent methylene, and X₁ and X₂ each are members selected from the group consisting of hydrogen and methyl.

3,539,592

PRODUCTION OF OXYGEN-CONTAINING ORGANIC COMPOUNDS

Alan Lewis Crowther, Leonard Andrew Duncanson, and Walter Edward Jones, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 10, 1964, Ser. No. 388,673

Claims priority, application Great Britain, Aug. 19, 1963, 32,649/63; Apr. 6, 1964, 14,029/64

Int. Cl. C07c 51/26, 63/04; C07d 9/00

U.S. Cl. 260—343

10 Claims

A process is described for the production of esters, particularly lactones, and carboxylic acids by co-oxidizing in the liquid phase an aromatic or saturated aliphatic aldehyde and a ketone which may be a cyclic ketone containing 5 to 12 carbon atoms in the ring, including those which carry substituents that are inert to oxidation, aromatic or saturated aliphatic ketones in which the carbonyl group is external to the cyclic ring, with molecular oxygen at a temperature in the range of 50° to 150° C., the reaction being carried out in the substantial absence of any metal compounds. The lactones produced by the process are useful in the production of organic polymers such as nylon.

3,539,593

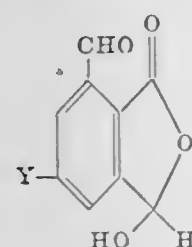
PHOTOCHROMIC COUMARIN COMPOUNDS
Kenneth Robert Huffman and Edwin Fisher Ullman, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Oct. 24, 1966, Ser. No. 588,716
Int. Cl. C07d 7/28

U.S. Cl. 260—343.2 6 Claims
Photochromic 4-ethyl or higher alkyl or aralkyl-substituted 3-benzoylcoumarins are prepared by condensing a benzoylacetic acid ester with an ortho-hydroxy phenyl-alkyl or -aralkyl ketone in the presence of a metal or ammonium salt of an organic carboxylic acid.

3,539,594

3-HYDROXY-7-ALDEHYDOPHTHALIDES
Karl J. Doebel, Ossining, and John E. Francis, Pleasantville, N.Y., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
No Drawing. Application Apr. 1, 1966, Ser. No. 539,294, which is a continuation-in-part of application Ser. No. 445,762, Apr. 5, 1965. Divided and this application Jan. 15, 1968, Ser. No. 720,427
Int. Cl. C07d 5/40

U.S. Cl. 260—343.3 2 Claims
Compounds of the formula:

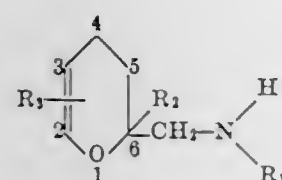


wherein Y is hydrogen, chloro, bromo or alkoxy of from 1 to 6 carbon atoms are useful as starting materials in the synthesis of 8-aldehydo-1(2H) phthalazinone hydrazones which are valuable cardiovascular agents.

3,539,595

PROCESS FOR POLYAMINO COMPOUNDS FROM 6-AMINOMETHYL-5,6-DIHYDRO-4H-PYRANS
Wolfgang Heydkamp, Leverkusen, and Rudolf Braden, Odenthal-Scheuren, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Feb. 14, 1968, Ser. No. 705,321
Claims priority, application Germany, Feb. 16, 1967, F 51,542
Int. Cl. C07d 7/04

U.S. Cl. 260—345.8 9 Claims
A process for the preparation of high molecular weight aliphatically bound polyamino compounds by reacting a polyhydroxyl compound having a molecular weight of at least 250 with a compound having the formula

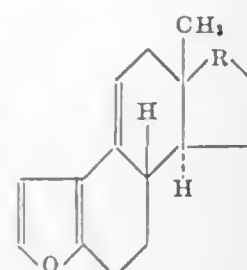


wherein R₁ is hydrogen, alkyl having 1 to 6 carbon atoms, cycloalkyl or cycloalkenyl; R₂ is hydrogen, methyl or ethyl and R₃ is hydrogen or methyl that is present only in position 2 or 3; said reaction occurring in the presence of carbon dioxide.

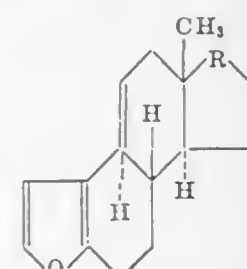
3,539,596

3-OXA-A,19-DINORSTEROIDS
Daniel Lednicer, Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Jan. 15, 1968, Ser. No. 697,578
Int. Cl. C07d 5/40

U.S. Cl. 260—346.2 9 Claims
This invention relates to novel 3-oxa-A-norsteroid compounds, intermediates therefor and processes for their preparation; more particularly to the racemic compounds of the formulae



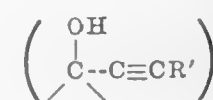
and



wherein R is selected from the group consisting of



and

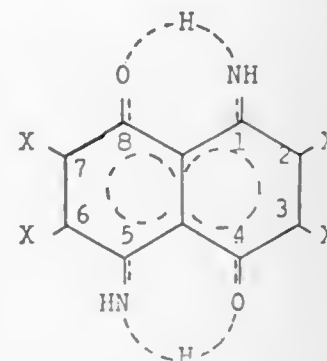


wherein R' is selected from the group consisting of hydrogen and alkyl of from one through four carbon atoms, and the d and l forms and mixtures thereof.

3,539,597

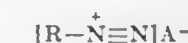
β-ARYLATED NAPHTHOXIDINES AND A METHOD OF PREPARATION
Hans Bosshard, Basel, and Werner Bossard, Riehen, Switzerland, assignors, by mesne assignments, to H. A. Whitten & Co., New York, N.Y., a partnership
No Drawing. Original application Jan. 19, 1966, Ser. No. 521,492, now Patent No. 3,338,659, dated Aug. 29, 1967. Divided and this application May 8, 1967, Ser. No. 645,089
Claims priority, application Switzerland, Nov. 15, 1961, 13,244/61
Int. Cl. C07c 49/66, 87/64

U.S. Cl. 260—396 21 Claims
Arylated naphthoxidines are produced by reacting a naphthoxidine of the formula



wherein each X represents hydrogen, chlorine, bromine, lower alkyl or phenylamino, at least one X being hydrogen

and not more than one X being phenylamino with, per mol thereof, at least one mol of a diazonium salt of the formula

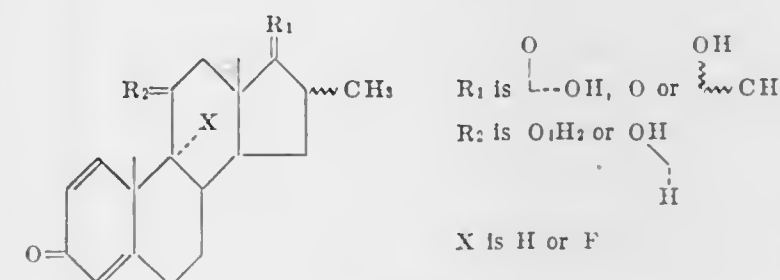


wherein A⁻ is an anion and R is the radical of a mono- to bicyclic aromatic compound. According to the invention, end products having a further substituted naphthalene radical can be obtained by converting by reduction and/or oxidation, β-substituted, in particular halogenated naphthalene compounds having suitable substituents in at least two β-positions, into naphthoxidines and then reacting these with diazonium compounds. The arylated naphthoxidines are useful in the dyeing of hydrophobic textile materials.

3,539,598

SELECTIVE DEGRADATION OF 16-METHYL-17-OH-20-KETO STEROIDS
Marcel Gut, Worcester, Mass., assignor to Phytogen Products, Inc., Mamaroneck, N.Y., a corporation of Delaware
No Drawing. Filed May 29, 1967, Ser. No. 642,163
Int. Cl. C07c 169/20

U.S. Cl. 260—397.3 4 Claims
The present invention describes a selective degradation of 16-methyl-17-OH-20-keto steroid with alkali metal bismuthate. The resulting 16-methyl-17-keto steroids of the following formula are novel compounds.



3,539,599

6,7-METHYLENE-9β,10α-STERIODS AND METHODS FOR THE PREPARATION THEREOF
Harmen van Kamp, Weesp, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 29, 1968, Ser. No. 701,051
Claims priority, application Great Britain, Feb. 2, 1967, 5,028/67
Int. Cl. C07c 169/20, 169/34

U.S. Cl. 260—397.3 10 Claims
6,7-methylene-9β,10α steroids of the androstane or pregnane series are prepared. Examples are 6α-fluoro-6β, 7β methylene-17β-hydroxy-9β,10α-androst-4-en-3- or 17-acetate and 6β,7β-methylene-9β,10α-pregna-1,4-diene-3, 20-dione.

3,539,600

PROCESS FOR THE DEHYDROBROMINATION OF 3-KETO-2,4-DIHALOGENO STEROIDS
Herbert A. Gerber, Mount Freedom, and Howard E. Harris, Bloomfield, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 698,133, Jan. 16, 1968. This application Dec. 11, 1968, Ser. No. 783,114
Int. Cl. C07c 167/14

U.S. Cl. 260—397.47 10 Claims
This invention relates to an improved process for dehydrohalogenating 3-keto-2,4-dihaloeno steroids in a medium comprising a basic salt, a tertiary amide, water up to about 10% of the volume of the tertiary amide and optically a lithium halide; said basic salt being a carbonate or an oxide having an alkali metal or an alkaline earth metal cation.

3,539,601

FATTY AMIDO AMINES

Morton Lewis, Elmhurst, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 12, 1967, Ser. No. 652,736
Int. Cl. C07f 9/10

U.S. Cl. 260—403 5 Claims
Halogenated fatty amido amines are produced by a novel process of reacting an unsaturated triglyceride with a primary-tertiary amine at elevated temperatures followed by halogenation.

3,539,602

LYSINE DERIVATIVES

Albert Jöhl, Basel, Switzerland, Albert Hartmann, Grenzach, Germany, and Hans Rink, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Filed Apr. 18, 1967, Ser. No. 631,582
Claims priority, application Switzerland, Apr. 22, 1966, 5,875/66
Int. Cl. C07c 103/48, 103/84

U.S. Cl. 260—404.5 6 Claims

Lysine derivatives in which the carboxyl group in 1-position is esterified with an open chain aliphatic or an araliphatic, optionally substituted hydrocarbon radical and the amino group of which in 6-position is substituted by certain alkanoyl or chlorobenzoyl, phenylacetyl, phenoxyacetyl or phenylmercaptoacetyl radicals, as well as their acid addition salts with inorganic and organic acids, which novel compounds are useful in the treatment of allergic diseases of the connective tissue, and of wounds, because of their anti-allergic activity and their property of stimulating the metabolism of connective tissue; pharmaceutical compositions containing the aforesaid novel compounds as active ingredients; and methods for treatment of allergic diseases, diseases of the connective tissue, and wounds, by administration or application of the said novel compounds or novel compositions containing them.

3,539,603

ADDITION POLYMERIZATION PROCESS

Thomas J. Clough, Webster Groves, Mo., assignor to Atlantic Richfield Company, a corporation of Pennsylvania

No Drawing. Continuation-in-part of applications Ser. No. 440,949, Mar. 18, 1965, and Ser. No. 513,125, Dec. 10, 1965, which said Ser. No. 513,125 is a continuation-in-part of application Ser. No. 446,410, Apr. 17, 1965. This application July 26, 1967, Ser. No. 656,030

The portion of the term of the patent subsequent to June 17, 1986, has been disclaimed

Int. Cl. C10m 1/20, 3/10, 3/20

U.S. Cl. 260—407 15 Claims

Normal mono-1-alkenes of 5 to about 25 carbon atoms are polymerized with olefinically-unsaturated fatty acids (or esters or amides thereof) wherein the olefinic bond is at least 2 carbon atoms away from the acid, ester, or amide group and, optionally, conjugated diene hydrocarbons. The method is one employing Friedel-Crafts catalysis and involves the use of a catalyst solution having about 2–7 wt. percent of aluminum chloride in ethyl chloride, reaction temperatures of about 0 to 50° C., the use of high ratios of catalyst to monomers (about 2–30% of aluminum chloride by weight of total monomers), and, preferably, the separate introduction of catalyst solution and monomers to the reaction zone.

3,539,604

PROCESS FOR SEPARATING SOLID PHASE BY-PRODUCT AMMONIUM HALIDE OR AMINE HYDROHALIDE FROM PARTICULATE ORGANOMETALLIC COMPOUNDS

Howard J. Cohen and John E. Jiggins, Baltimore, Md., assigns to SCM Corporation, Cleveland, Ohio, a corporation of New York

No Drawing. Filed May 27, 1968, Ser. No. 732,031

Int. Cl. B01d 11/02; C07f 7/00, 7/28

U.S. Cl. 260—429.5 7 Claims

This invention sets forth an improved process for separating solid phase byproduct ammonium halide or amine hydrohalide from particulate organometallic compounds. Suitably, the mixture for separation is derived from the reaction of a metal halide, an alkane diol, and ammonia or an amine. Typically, the reactants are titanium tetrachloride, ethylene glycol, and ammonia. The improvement comprises leaching substantially all of the byproducts halide or hydrohalide as a solute in a glycol or triol extract phase while leaving the solid phase product as residue. Preferably, the leaching is performed at a temperature of about 140° C. to 180° C. Byproduct halide or hydrohalide can be precipitated from the extract solution by cooling and the resulting lean solvent can be reused in the leaching process.

3,539,605

ION EXCHANGE METHOD OF PREPARING QUATERNARY AMMONIUM COMPOUNDS

Alfred W. Oberhofer, Alsip, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 482,264, Aug. 24, 1965. This application Jan. 30, 1968, Ser. No. 701,540

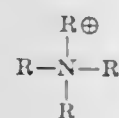
Int. Cl. C07f 5/06, 7/22, 11/00

U.S. Cl. 260—429 6 Claims

A method of preparing new quaternary ammonium compounds having the formula:

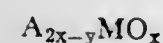


where Q is a quaternary ammonium radical structure as follows:



where R is a radical selected from the group consisting of alkyl, alkenyl, alkaryl, aryl, cycloaliphatic and heterocyclic and the foregoing radicals having substituents thereon with the proviso that the total number of carbon atoms in said quaternary ammonium radical is at least 12, and may be as many as 80, M is an atom of the group listed in the Periodic Table selected from the group consisting of I-B, III-A, IV-A, IV-B, VI-B and VIII, x is an integer of 1-4 and y is the valence of said atom.

These compounds are prepared by contacting an ammonium form cationic resin with appropriate quaternary ammonium hydroxides and an alkali metal compound of the formula:



where M, x and y each have a significance as above stated, and A represents an alkali metal.

ISONITRILE CARBONYL DERIVATIVES OF CHROMIUM, MOLYBDENUM AND TUNGSTEN

Henry Drummond Murdoch, Ashted, Surrey, England, and Fausto Calderazzo, Pescia, Italy, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 544,113, Apr. 21, 1966. This application Apr. 21, 1969, Ser. No. 818,132

Int. Cl. C07f 11/00; C23c 11/04; C07c 11/02

U.S. Cl. 260—429 13 Claims

A new process for producing isonitrile complexes of carbonyls of the transition metals molybdenum, chromium and tungsten is disclosed as are the new isonitrile complexes themselves.

3,539,607

PREPARATION OF METHYLTRIETHYL LEAD

Theodore Psarras, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 22, 1968, Ser. No. 715,150

Int. Cl. C07f 7/24

U.S. Cl. 260—437 4 Claims

Process for preparing particularly useful anti-knock component, methyltriethyl lead, by contacting tetraethyl lead with sodium and liquid ammonia under autogenous pressure at from about -10° C. to about 50° C. to form sodium triethyl plumbide; contacting the resulting reaction mass at the same temperature as above with methyl chloride under autogenous pressure; and recovering from the reaction mass methyltriethyl lead.

3,539,608

TRIALKYL PLUMBIDES AND UNSYMMETRICAL TETRAALKYL LEADS

Theodore Psarras and Charles A. Sandy, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 22, 1968, Ser. No. 715,152

Int. Cl. C07f 7/24

U.S. Cl. 260—437 15 Claims

Processes for preparing (A) alkali metal trialkyl plumbides by contacting a lower tetraalkyl lead and an alkali metal in the presence of a normally liquid, polar aprotic medium and (B) for converting said plumbides to unsymmetrical tetraalkyl leads by contacting said plumbide in the presence of said aprotic medium with an alkylating agent R'X wherein X is a displaceable anion and R' is an alkyl group of up to about 14 carbon atoms and differs from at least one alkyl group of said plumbide. These unsymmetrical tetraalkyl leads are especially useful as antiknock fluid components for gasoline antiknocks.

3,539,609

PROCESS FOR PREPARING ORGANIC 1,3-DI-(HALOGENOSILYL)-1,3,2,4-DIAZADISILETIDINES AND THE PRODUCTS

Walter Fink, Zurich, Switzerland, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

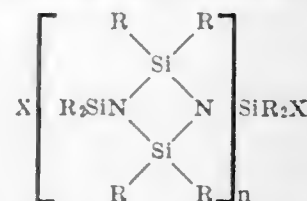
No Drawing. Filed Aug. 7, 1967, Ser. No. 658,629

Claims priority, application Switzerland, Oct. 21, 1966, 15,410/66

Int. Cl. C07d 103/02, 103/04; C07f 7/10

U.S. Cl. 260—448.2 9 Claims

A process for making compounds of formula



by heating a cyclic silazane of formula $[R_2SiNH]_n$ with a dihalosilane of formula R_2SiX_2 . The novel compounds

are useful as intermediates to form lubricants and heat transfer agents.

**3,539,610
CYCLIC SILANE ESTERS AND METHODS FOR MAKING THEM**

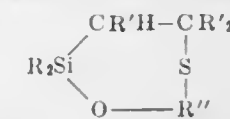
Abe Berger, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Original application Dec. 22, 1966, Ser. No. 603,736. Divided and this application July 25, 1969, Ser. No. 868,255

Int. Cl. C07d 103/04; C07f 7/04, 7/18

U.S. Cl. 260—448.8 4 Claims

A heterocyclic organosilicon compound of the formula,



where R is a monovalent radical free of aliphatic unsaturation, and selected from the class consisting of hydrocarbon radicals and halogenated hydrocarbon radicals, R' is selected from the class consisting of hydrogen and R radicals, and R'' is a divalent alkylene radical. The novel compounds are useful as plasticizers in organopolysiloxane elastomeric forming compositions.

**3,539,611
1,2-DI[4-(2-ISOCYANATOETHYL)PHENYL]-3-ISOCYANATOPROPANE**

William J. Farrissey, Jr., North Branford, and Edward J. Thompson, Watertown, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,652

Int. Cl. C07c 87/28, 119/04, 121/66

U.S. Cl. 260—453 1 Claim

A triisocyanate, 1,2-di[4-(2-isocyanatoethyl)phenyl]-3-isocyanatopropane, is prepared by phosgenation of the corresponding triamine. The latter is prepared by catalytic hydrogenation of the corresponding trinitrile. The latter is obtained by reaction of α,α' -dihalo-p-xylene with sodium cyanide. The triisocyanate is an intermediate in the preparation of polyurethanes; the triamine is a curative for epoxy resins and the like.

**3,539,612
BASIC ESTERS OF N-PHENALKYLDITHIO-CARBAMIC ACIDS**

Robert C. Tweit, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,792

Int. Cl. A01n 9/12; C07c 155/08; C07d 51/70

U.S. Cl. 260—455 16 Claims

Basic esters of N-phenylalkyl dithiocarbamic acids—for example, 2-aminoethyl benzylidithiocarbamate hydrochloride—and their pharmacological properties—including anti-bacterial, anti-protozoal, anti-fungal, anti-algal, and anti-inflammatory activity—are disclosed.

**3,539,613
PLANT HORMONE CARBOXYLIC ACID SALT OF AN AMINATED POLYOXYETHYLENE ALIPHATIC AMINE OR ALIPHATIC ALCOHOL**

Thomas J. Galvin and Frank S. Black, Wilmington, Del., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Original application Apr. 15, 1964, Ser. No. 360,106, now Patent No. 3,385,884, dated May 28, 1968. Divided and this application Jan. 26, 1968, Ser. No. 700,731

Int. Cl. C09f 7/00

U.S. Cl. 260—404.5 4 Claims

Herbicide composition which are salts of fatty amine materials selected from the group consisting of aminated polyoxyethylene derivatives of amines and aminated poly-

oxyethylene derivatives of alcohols and plant hormone carboxylic acids or mixtures of plant hormone carboxylic acids and aliphatic acids.

3,539,614

QUATERNARY AMMONIUM DIORGANOBORON COMPOUNDS

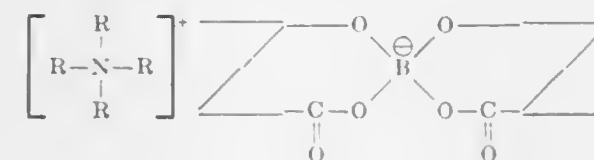
Sidney D. Ross and Raymond C. Petersen, Williamstown, and Manuel Finkelstein, North Adams, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

No Drawing. Original application Feb. 7, 1966, Ser. No. 525,624, now Patent No. 3,403,304, dated Sept. 24, 1968. Divided and this application Mar. 14, 1968, Ser. No. 712,901

Int. Cl. C07f 5/04; H01g 9/00

U.S. Cl. 260—462 2 Claims

The present invention relates to new chemical compounds having the following formulas:



wherein the R groups are any combination of C_1 - C_{18} hydrocarbyl groups; and Z is an ortho disubstituted benzene ring, or a 1, 2 or 2, 3 disubstituted naphthalene ring.

3,539,615

PREPARATION OF CYANOCYCLOBUTANE BY THE CYCLOADDITION OF ETHYLENE AND ACRYLONITRILE

Donald E. Plorde, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 27, 1968, Ser. No. 763,346

Int. Cl. C07c 121/46

U.S. Cl. 260—464 8 Claims

Described and claimed is the process for preparing cyanocyclobutane by the cycloaddition of ethylene and acrylonitrile at 200-350° C., 500-5,000 atm. pressure and, preferably, in the presence of a polymerization inhibitor such as 1-dodecanethiol.

3,539,616

1-AMIDINO-3-(CYANOPHENYL) UREAS

Leslie Percy Walls, London, England, assignor to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

No Drawing. Filed June 30, 1967, Ser. No. 650,225

Claims priority, application Great Britain, July 7, 1966, 30,479/66; Dec. 16, 1966, 56,546/66; Feb. 3, 1967, 5,391/67; Apr. 25, 1967, 19,028/67

Int. Cl. A61k 27/00; C07c 127/16

U.S. Cl. 260—465 10 Claims

1-amidino-3-(substituted-phenyl) urea compounds and pharmaceutically acceptable salts thereof, where the phenyl is substituted with cyano at either the 3 or 4 position in the phenyl ring and wherein the substituents halogen or methyl may also be present at one other position of the phenyl ring. The compounds are useful as anti-malarials.

3,539,617

DIFLUOROAMINO COMPOUNDS

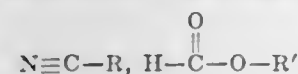
Chester W. Huskins, Clay D. Howard, and Orval E. Ayers, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army No Drawing. Original application Sept. 10, 1962, Ser. No. 222,736. Divided and this application Sept. 10, 1965, Ser. No. 487,108

Int. Cl. C07c 121/42, 69/34, 69/04

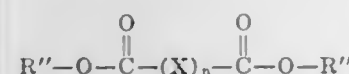
U.S. Cl. 260—465.5

13 Claims

1. A compound selected from the group consisting of



and



wherein R, R', and R'' are alkyl radicals having substituted thereon at each of two adjacent carbon atoms a difluoroamino group, said alkyl radicals having respective carbon atom limitations of two to four, two to six, and two to three; X is an alkylene group of up to two carbon atoms, and n has a value of zero and 1.

3,539,618

OXAMYL CHLORIDE SUBSTITUTED CARBAMATES

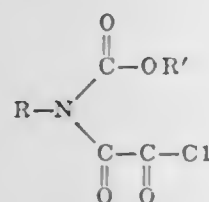
Paul J. Stoffel, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware No Drawing. Continuation-in-part of application Ser. No. 310,847, Sept. 23, 1963. This application Apr. 15, 1966, Ser. No. 542,749

Int. Cl. C07c 103/32

U.S. Cl. 260—471

7 Claims

Carbamides of the formula



wherein R' is selected from the group consisting of hydrocarbyl and substituted hydrocarbyl having up to four substituents, wherein the hydrocarbyl is selected from the group consisting of primary alkyl of not more than 12 carbon atoms, benzyl and phenyl, and wherein the substituents on the hydrocarbyl are selected from the group consisting of nitro, chlorine, bromine, alkoxy of not more than 4 carbon atoms, alkyl of not more than 4 carbon atoms and phenyl; and R is selected from the group consisting of hydrocarbyl and substituted hydrocarbyl having up to four substituents, wherein the hydrocarbyl is selected from the group consisting of alkyl of not more than 12 carbon atoms, alkenyl of not more than 12 carbon atoms, cycloaliphatic having at least 4 and not more than 8 carbon atoms, benzyl and phenyl, and wherein the substituents on the hydrocarbyl are selected from the group consisting of chlorine, bromine, nitro, alkyl of not more than 4 carbon atoms, alkoxy of not more than 4 carbon atoms and phenyl are useful in the control of plant systems and pathogenic microorganisms.

3,539,619

1,1,3-TRIMETHYL-3-CYCLOHEXYLINDANE-4'-5-DICARBOXYLIC ACID

Alfred Steitz, Jr., Flossmoor, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana No Drawing. Filed June 21, 1967, Ser. No. 647,630

Int. Cl. C07c 63/00, 69/76

U.S. Cl. 260—475

7 Claims

New chemical compositions are 1,1,3-trimethyl-3-cyclohexylindane-4',5-dicarboxylic acid, its acid chloride and its lower alkyl esters.

3,539,620

PROCESS FOR THE PRODUCTION OF METHYL METHACRYLATE

Donald M. Coyne, Prairie Village, Kans., and William C. Francis, Houston, Tex., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Sept. 22, 1966, Ser. No. 581,270

Int. Cl. C07c 69/54

U.S. Cl. 260—486

3 Claims

This invention relates to conversion of sodium methacrylate to methyl methacrylate. More particularly, this invention is an improved method for manufacturing methyl methacrylate in high purity from an aqueous solution of sodium methacrylate obtained by oxidation of methacrylaldehyde.

3,539,621

PREPARATION OF ETHYL ESTERS OF UNSATURATED MONOCARBOXYLIC ACIDS FROM ETHYLENE

Rocco Cipollone, Milan, Angelo De Micheli, Saronno, Pietro Ercole, Legnano, and Giancarlo Muratore, Busto Arsizio, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

Filed Sept. 11, 1967, Ser. No. 666,570

Claims priority, application Italy, Sept. 9, 1966, 20,795/66

Int. Cl. C07c 69/54

U.S. Cl. 260—486

6 Claims

Described is a process for the preparation of ethyl esters of unsaturated monocarboxylic acids containing up to 4 carbon atoms. Ethylene is fed into a mixture of ethylsulfuric esters. To the product thus obtained is added an unsaturated monocarboxylic acid of the type R—COOH in which R is an olefin radical containing up to 3 carbon atoms and the ester formed is contemporaneously distilled. The absorption is carried out so that the amount of ethylene combined with sulfuric acid is never lower than an ethylene/sulfuric acid molar ratio of 1.1. The unsaturated monocarboxylic acid is fed in such amount that in the acidolysis the amount of ethylene combined with sulfuric acid is not lowered below the ethylene/sulfuric acid molar ratio of 1.

3,539,622

PROCESS FOR PRODUCING DIARYL COMPOUNDS

Richard F. Heck, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 23, 1966, Ser. No. 604,151

Int. Cl. C07c 15/14

U.S. Cl. 260—515

10 Claims

A diaryl compound is produced from an aryl mercury salt by reaction with a palladium salt.

3,539,623

SEPARATION OF DIETHYLBENZENE

Rene P. Brown and Birt Allison, Jr., Big Spring, Tex., and Pierre Marie Joseph Ghislain de Raditzky d'Ostrowick, Brussels, Belgium, assignors to Cosden Oil & Chemical Company, Big Spring, Tex., a corporation of Texas

Filed Apr. 18, 1966, Ser. No. 543,377

Int. Cl. C07c 51/20, 7/00

U.S. Cl. 260—524

8 Claims

Superdistilling an isomeric mixture of diethylbenzenes to obtain overhead relatively pure metadiethylbenzene and a mixture of para- and ortho-diethylbenzene as bottoms. Chemically converting the bottoms and separating the isomeric products formed.

3,539,624

PREPARATION OF VINYLACETIC ACID

Martin B. Hocking, Sarnia, Ontario, Canada, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 14, 1968, Ser. No. 712,934

Int. Cl. C07c 57/00, 57/08

U.S. Cl. 260—526

2 Claims

Crotonic acid is isomerized in part to vinylacetic acid and isocrotonic acid by heating at 170–235° C. A mixture of isocrotonic acid and vinylacetic acid is separable from the isomerized material by distillation. Purified vinylacetic acid can be obtained from the distillate by a combination of thermal isomerization, crystallization, and distillation steps.

3,539,625

PHOSPHOCREATINE SALTS

Joseph Nordmann, Paris, and Henri Blaise Swierkot, Bondy, France, assignors to Ugine Kuhlmann, Paris, France

No Drawing. Filed Apr. 10, 1967, Ser. No. 629,395

Claims priority, application France, Apr. 8, 1966, 57,037

Int. Cl. C07c 101/12

U.S. Cl. 260—534

1 Claim

The present invention concerns the salts of phosphocreatine with potassium, magnesium, barium, lithium or an organic base. It also concerns a process for the treatment of fatigue in human beings which comprises administering a salt of phosphocreatine with potassium, magnesium, barium, lithium or an organic base or any mixture of such salts. The invention also includes (a) a process for the preparation of the salts of phosphocreatine with potassium, magnesium, barium or lithium which comprises the hydrogenolysis of dibenzoyloxyphosphorylcreatine in the presence of potassium, magnesium, barium or lithium hydroxide respectively followed by opening of the lactam ring, (b) a process for the preparation of the salts of phosphocreatine with magnesium or barium which comprises a double decomposition between a soluble salt of phosphocreatine and a soluble salt of magnesium or barium, (c) a process for the preparation of the salts of phosphocreatine with an organic base which comprises a double decomposition between an alkali metal salt of phosphocreatine and an orotate of an organic base, and (d) a process for the preparation of the salts of phosphocreatine with potassium, magnesium, barium, lithium or an organic base which comprises cation exchange by passage over ion exchange resin.

3,539,626

SUBSTITUTED UREA DERIVATIVES

André R. Gagneux, Basel, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 593,678 and Ser. No. 593,703, both Nov. 14, 1966.

This application Dec. 12, 1968, Ser. No. 783,411 Claims priority, application Switzerland, Nov. 18, 1965, 15,907/65, 15,909/65

Int. Cl. C07d 7/24; C07c 157/06, 122/16

U.S. Cl. 260—999

9 Claims

Substituted urea derivatives having useful antibacterial activity as well as starting materials for their production and methods for preparing the said starting materials; pharmaceutical compositions containing the subject urea derivatives as active ingredient and method for the production of tuberculostatic effects. An illustrative embodiment is 1-(1-adamantyl)-3-(3,4-dichlorophenyl)urea.

3,539,627

PROCESS FOR PRODUCTION OF UREA

Theodore O. Wentworth, Cincinnati, Ohio, and Paul G. Laux, Carmel, and David G. Edwards, Carmel Valley, Calif., assignors to Vulcan-Cincinnati, Inc., Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 4, 1968, Ser. No. 695,588

Int. Cl. C07c 127/00

U.S. Cl. 260—555

4 Claims

A process for the production of urea by reacting carbon dioxide, ammonia and a cyanate salt is shown. Introduction of the cyanate salt to the conventional urea reaction system breaks normal equilibrium and permits total conversion of reactants to take place with less production of by-product water. Costly ammonium carbamate decomposition steps are avoided.

3,539,628

DERIVATIVES OF ACETIC ACID

Rudolf G. Griot, Florham Park, N.J., assignor to Sandoz-Wander, Inc., a corporation of Delaware

No Drawing. Filed June 4, 1968, Ser. No. 734,227

Int. Cl. C07c 103/26

U.S. Cl. 260—559

3 Claims

This disclosure relates to derivatives of acetic acid, e.g., bis(p-biphenyloxy)acetamide. These compounds are useful as hypocholesteremics/hypolipidemics.

3,539,629

PROCESS FOR PRODUCING TETRAACETYL DERIVATIVES OF DIAMINES

Donald G. MacKellar, Trenton, and John H. Blumbers, Highland Park, N.J., and Rainer von Falkenstein, Oberwil-Basel-Land, Switzerland, assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 13, 1968, Ser. No. 712,597

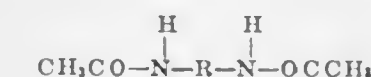
Int. Cl. C07c 103/44

U.S. Cl. 260—561

13 Claims

A process for producing compounds having the formula $(\text{H}_3\text{COC})_2\text{N}-\text{R}-\text{N}(\text{COCH}_3)_2$, wherein R has the structure defined below, by reacting ketene with:

(i) a diacetyl derivative of a diamine having the formula



wherein R is:

(1) an aliphatic hydrocarbon spacer group having 1 to 3 carbon atoms between the flanking N atoms which group may have substituents attached to it including:

(a) aliphatic chains having up to 16 carbon atoms

(b) cycloaliphatic groups having up to 16 carbon atoms

(c) phenyl, or substituted phenyl groups, or

(2) an aromatic spacer group which may be:

(a) a phenylene, or substituted phenylene group

(b) a benzylidene, or substituted benzylidene group

(c) a xylylene, or substituted xylylene group, or

(ii) a diamine having the formula $\text{H}_2\text{N}-\text{R}'-\text{NH}_2$, where R' is a spacer group identical to R but contains at least two carbon atoms.

3,539,642

2-PHENYL-2-(1-NAPHTHYL)ACETAMIDES

Enos C. Pesterfield, Briarcliff Manor, N.Y., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed July 19, 1967, Ser. No. 654,365
Int. Cl. C07c 103/30

U.S. Cl. 260—559 24 Claims
Certain 2-phenyl-2-(1-naphthyl)acetamides, having cardiovascular properties and being useful chemical intermediates are prepared through treatment of a 1-phenyl-2-oxo-1,2-dihydronaphtho[2,1-b]furan or a 2-phenyl-2-(2-alkoxy-1-naphthyl)acetyl chloride with ammonia or a primary or secondary amine. A typical embodiment is N-t-butyl 2-phenyl-2-(2-hydroxy-1-naphthyl)acetamide.

3,539,643

POLYENE COMPOUNDS

Ulrich Manz, Basel, and Ulrich Schwieter, Reinach, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 16, 1967, Ser. No. 609,312
Claims priority, application Switzerland, Jan. 28, 1966, 1,233/66

Int. Cl. C07c 49/04, 49/20
U.S. Cl. 260—593 3 Claims

Ethers of polyene diketo compounds which are useful as coloring agents for foodstuffs, pharmaceutical preparations and cosmetic preparations and a method for preparing these diketo ether compounds. The method of preparing these diketo ether compounds is carried out by condensing a C₃₀ dialdehyde with a monoketone ether.

3,539,644

BIS(VINYLSULFONYLMETHYL) ETHER

Donald M. Burness and Charles J. Wright, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 13, 1967, Ser. No. 682,525
Int. Cl. C07c 147/04

U.S. Cl. 260—607 1 Claim
Compositions of matter comprising certain compounds containing two vinylsulfonylalkyl groups attached to a single heteroatom are disclosed as effective hardening agents for hardenable material. Photographic elements comprising said compounds are also disclosed.

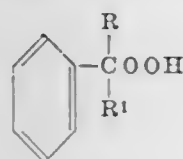
3,539,645

MANUFACTURE OF HYDROCARBYL HYDROPEROXIDES

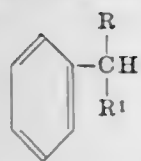
Theodore C. Mead, Port Arthur, Tex., and Harry Chafetz, Poughkeepsie, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 8, 1968, Ser. No. 703,903
Int. Cl. C07c 73/06, 73/08

U.S. Cl. 260—610 4 Claims
A method of preparing a hydrocarbyl hydroperoxide of the formula:

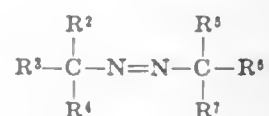


where R and R¹ are hydrogen or alkyl of from 1 to 10 carbons and at least one of said R and R¹ groups is alkyl, comprising contacting the hydrocarbon of the formula:



where R and R¹ are as heretofore defined with an oxygen-containing gas in the presence of a catalytic combination

of an alkali metal halide selected from the group consisting of KF, KBr, KI, NaCl, NaF and KCl and an azobisnitrile of the formula:



where R² to R⁷ are n-alkyl or isoalkyl or isoalkyl of from 1 to 5 carbons.

3,539,646

PHENOLS AND PHENOLIC RESINS

Bobby F. Dannels and Alvin F. Shepard, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 276,147, Apr. 29, 1963. This application Jan. 30, 1967, Ser. No. 612,334

Int. Cl. C07c 37/00, 43/20
U.S. Cl. 260—613 3 Claims

Phenols, phenyl ethers, bisphenols, diethers, mixed phenol ethers and phenolic resins are prepared by reacting a phenol with a non-conjugated open-chain aliphatic or cycloaliphatic polyunsaturated hydrocarbon. The phenols are useful as trichloroethylene stabilizers and for preventing the development of early blight disease on plant foliage. The phenyl ethers are solvents for gum and resins and are high temperature lubricants. The bisphenols can be esterified with dibasic acids or their derivatives to form new polyester plastics which have usually good electrical properties and the phenolic resins can be used in molding compounds and varnishes.

3,539,647

AROMATIC GROUP VI-B TRICARBONYLS AND PROCESS FOR PREPARING SAME

Mark Crosby Whiting, Oxford, England, assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application Jan. 22, 1960, Ser. No. 4,018, now Patent No. 3,361,780, dated Jan. 2, 1968. Divided and this application Sept. 13, 1967, Ser. No. 695,533

Int. Cl. C07c 43/20
U.S. Cl. 260—613 7 Claims

Aromatic Group VI-B metal tricarbonyl compounds are readily formed from an aromatic compound and the metal carbonyl in polar solvents. Electron-repelling aromatic substituents facilitate the reaction. The aromatic moiety becomes electron deficient and nucleophilic displacement of ring substituents occurs more readily. The aromatic metal carbonyls are thermally decomposed to yield the aromatic compound, the metal carbonyl, and the pyrophoric chromium. Alternatively, the aromatic moiety may be replaced by another pi-electron donor.

3,539,648

CATALYST POLYMERIZATION REACTION

Bernard A. Orkin, Cherry Hill, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed June 22, 1967, Ser. No. 647,948
Int. Cl. C07c 43/00, 43/10

U.S. Cl. 260—615 13 Claims

Polymerization of epoxy hydrocarbons is carried out in batch or continuous operations in the presence of basic silica gel or basic crystalline aluminosilicate as heterogeneous catalyst. The polymerization may be improved by adding polyhydroxy or polyamino initiators to the reaction mixture. The products are used to produce polyurethanes by reacting them with isocyanates, or ester lubricants by reacting them with carboxylic acids.

3,539,649

PREPARATION OF CYCLOPARAFFINS FROM CORRESPONDING CYCLOOLEFINS

Manfred Reich, Marl, Germany, assignor to Chemische Werke Huels A.G., Marl, Germany

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,962
Claims priority, application Germany, Sept. 3, 1966, C 40,011

Int. Cl. C07c 5/14, 5/16
U.S. Cl. 260—666 12 Claims

Hydrogenation of cycloolefins having in excess of eight ring carbon atoms to the corresponding saturated ring compounds is effected quantitatively with a nickel catalyst on a kieselguhr support having an internal surface area of from 0.01 to less than 1 square meter per gram.

3,539,650

PRODUCTION OF m-XYLENE

Emanuel M. Amir, deceased, late of Baytown, Tex., by Mary E. Amir, heiress, Howell, Mich., assignor to Esso Research and Engineering Company

No Drawing. Filed Apr. 30, 1969, Ser. No. 821,171
Int. Cl. C07c 7/02, 15/08

U.S. Cl. 260—674 13 Claims

Purified m-xylene is obtained by alkylating a mixture containing m- and p-xylene with a small but effective amount of isopropylating agent in the presence of a small but sufficient amount of aluminum chloride catalyst, the alkylation mixture being maintained at a temperature within the range of about 70° to about 100° C. for about thirty minutes to one hour after which the catalyst is destroyed, an isopropyl m-xylene fraction recovered, and the recovered fraction deisopropylated to produce m-xylene above 95% purity.

3,539,651

CATALYTIC DEHYDROGENATION PROCESS

Harold J. Hepp and E. O. Box, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 14, 1967, Ser. No. 683,017
Int. Cl. C07c 5/18

U.S. Cl. 260—680 8 Claims

Dehydrogenatable alkanes, cycloalkanes, arylalkanes, and certain substituted alkanes, and particularly n-butane, are dehydrogenated (in 1 or 2 stages) in the absence of free O₂ and diluted with steam to less saturated hydrocarbons with a catalyst composite including (a) zinc aluminate or copper aluminate, (b) nickel or a platinum metal, and (c), when (a) is copper aluminate, an alkali metal oxide, and when (a) is zinc aluminate, copper oxide.

3,539,652

PREPARATION OF CIS-1,4-DIENES

Wolfgang Schneider, Brecksville, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 31, 1968, Ser. No. 772,391
Int. Cl. C07c 11/16, 11/18, 11/20

U.S. Cl. 260—680 9 Claims

Cis-1,4-dienes, which are useful third monomers in the preparation of vulcanizable rubbers with ethylene and propylene, are obtained by reacting a 1,3-diene containing 4 to 6 carbon atoms with ethylene in the presence of a catalyst comprising reducible iron compound, an alkyl aluminum compound and an aliphatic amine containing a carboxyl group, and aryl amines containing a phenyl and at least one of a hydroxyl, carboxyl or nitro group.

3,539,653

METHOD OF REMOVING ALKYL HALIDES FROM A HYDROCARBON STREAM WITH AN ALKANOL AMINE

Ludo K. Frevel, Midland, and Leonard J. Kressley, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 5, 1968, Ser. No. 757,744
Int. Cl. C07c 7/00, 11/00; C10g 31/14

U.S. Cl. 260—681.5 10 Claims

Alkyl halides are removed from admixture with hydrocarbons, especially from mixtures containing olefins and diolefins by reacting the halides with an alkanol amine. The reaction products of the alkyl halide are usually mixtures of solid hydrohalide salts of mono- or dialkyl substituted alkanol amines, alkanol amine hydrohalides and quaternary amine halides. Recovered alkanol amine can be recycled.

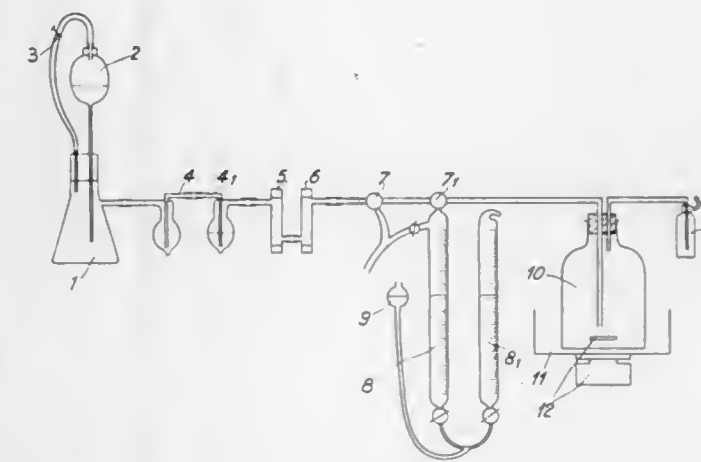
3,539,654

METHOD OF MODIFYING NATURAL RUBBER WITH CARBON MONOXIDE AND COREACTANT

René Pautrat and Roland Cheritat, Paris, France, assignors to Societe Auxiliare de l'Institut Francais du Caoutchouc, Paris, France

Filed May 16, 1967, Ser. No. 638,902
Int. Cl. C08c 5/00, 5/06, 13/00

U.S. Cl. 260—768 9 Claims



A mixture of a natural or synthetic rubber and a solvent for carbon monoxide is reacted with carbon monoxide and eventually a co-reactant, in an inert atmosphere and in the presence of a catalyst, the carbon monoxide being first dissolved into said mixture kept to this purpose at a low temperature and the resulting reaction mixture being subsequently heated under pressure to produce the reaction. The modified polymers are elastomeric, resinous or fibrous and may be used to make elastomeric articles and coatings, varnishes and paints, glues, fabrics.

3,539,655

SILOXANE-POLYARYLENE POLYETHER COPOLYMERS

Joseph D. Strachan, White Plains, N.Y., and Thomas C. Williams, Ridgefield, Conn., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 21, 1968, Ser. No. 714,767
Int. Cl. C08g 47/10

U.S. Cl. 260—824 8 Claims

Siloxane-polyarylene polyether copolymers having at least one siloxane chain and at least one polyarylene polyether chain each linked by a carbon to silicon bond or by an aryloxy to silicon bond.

3,539,656

HYDROLYTICALLY STABLE SILOXANE-POLYARYLENE POLYETHER COPOLYMERS

Allen Noshay, East Brunswick, Markus Matzner, Edison, and Charles N. Merriam, Martinsville, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 21, 1968, Ser. No. 714,768

U.S. Cl. 260—824 Int. Cl. C08g 47/10

8 Claims

Hydrolytically stable siloxane-polyarylene polyether copolymers having at least one siloxane chain and at least one polyarylene polyether chain each linked by an aryloxy to silicon bond.

3,539,657

TWO-PHASE SILOXANE-POLYARYLENE POLYETHER BLOCK COPOLYMERS

Allen Noshay, East Brunswick, Markus Matzner, Edison, and Charles N. Merriam, Martinsville, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 21, 1968, Ser. No. 714,796

U.S. Cl. 260—824 Int. Cl. C08g 47/10

17 Claims

Two-phase siloxane-polyarylene polyether block copolymers having at least one siloxane chain and at least one polyarylene polyether chain each linked by a carbon to silicon bond or by an aryloxy to silicon bond, each chain having a molecular weight such that the copolymer is a two-phase polymeric material.

3,539,658

AIR DRYING POLYURETHANE COATING COMPOSITION COMPRISING ORGANIC POLYISOCYANATE MIXED WITH A RESINOUS POLYHYDRIC ALCOHOL HAVING AN ORGANOSILICON RESINOUS MATERIAL CONDENSED THEREIN

Kazys Sekmakas, Chicago, Ill., and Frank Daar, Berkeley, Calif., assignors to De Soto, Inc., Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 13, 1967, Ser. No. 682,566

U.S. Cl. 260—827 Int. Cl. C08g 47/10; C08f 21/00

9 Claims

Weather resistant air drying polyurethane solution coating compositions are provided containing organic polyisocyanate in admixture with a resinous condensate of an organosilicon resinous material, such as an organopolysiloxane, condensed with a resinous polyhydric alcohol, such as a solution addition copolymer of hydroxy ethyl methacrylate with acrylate and methacrylate esters. The coatings are applied from concentrated solution in inert organic solvent and are particularly intended for application to outdoor wood substrates. The coatings are also strongly adherent to metal surfaces including non-ferrous surfaces and resist elevated temperatures.

3,539,659

LIQUID AMINE CURING AGENTS FOR POLYEPOXIDES

Ronald Lee DeHoff, Maplewood, N.J., assignor to R. T. Vanderbilt Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 22, 1967, Ser. No. 685,077

U.S. Cl. 260—834 Int. Cl. C08g 45/10

8 Claims

A curing agent for polyepoxides is provided in the form of a condensate formed by combining aniline and formaldehyde in a molar ratio within the range of 1.60:1 to 1.70:1 respectively. A preferred curing agent is made by combining the condensate with a reactive liquid amine diluent, such as trimethyl dihydroquinoline, triethylene tetramine or paramenthane diamine.

3,539,660

METHOD OF PREPARING A THERMOSET COMPOSITION BASED ON CARBOXY COPOLYMERS, EPOXIDES, AND BICYCLIC FUSED TERTIARY AMINES

Darrell D. Hicks and Gene E. Schroll, Louisville, Ky., assignors to Celanese Coatings Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 28, 1967, Ser. No. 656,675

U.S. Cl. 260—837 Int. Cl. C08g 45/04

5 Claims

A method for preparing a thermoset composition based on carboxy polymers and epoxides in the presence of a catalytic amount of a bicyclic fused ring amine at relatively low temperatures.

3,539,661

PROCESS FOR PRODUCING SELF-CURING POLYMERS

Harald Rauch-Puntigam, Graz, Austria, assignor to Vianova Kunstharz A.G., Graz, Austria, an Austrian company

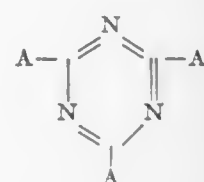
No Drawing. Filed July 21, 1967, Ser. No. 654,949

Claims priority, application Austria, July 16, 1966, A 7,125/66; Feb. 21, 1967, A 1,691/67

U.S. Cl. 260—856 Int. Cl. C08f 1/74, 15/32

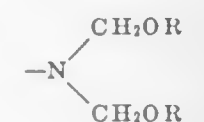
6 Claims

A process for producing self-curing polymers comprising the steps of (I) reacting a compound having the general formula



(a)

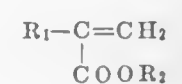
wherein A is a member of the group consisting of



and

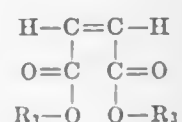


R being a member of the group consisting of hydrogen and an alkyl radical having a maximum of 4 carbon atoms, with a compound having the general formula selected from the group consisting of



(b)

and



(c)

R₁ being a member of the group consisting of hydrogen and methyl; R₂ being a member of the group consisting of hydrogen, and a hydroxy alkylene radical having a maximum of 5 carbon atoms; R₃ being a member of the group consisting of hydrogen, an alkyl radical having a maximum of 10 carbon atoms, and a hydroxy alkylene radical having a maximum of 5 carbon atoms; and (II) co-polymerizing the reaction product of (I) with polymerizable ethylenically unsaturated compounds is described. The polymers obtained are valuable in formulating temporary and permanent protective coatings.

3,539,662

THERMOPLASTIC ALLOYS OF FINELY DIVIDED POLYLACTAMS POLYMERIZED WITH ALKALINE CATALYST AND COCATALYST IN A HIGH MOLECULAR WEIGHT OLEFINIC POLYMER MATRIX AND METHOD OF PREPARATION

Robert W. Hill, Leawood, Raymond P. Anderson, Prairie Village, and Stanley V. Scroggins, Olathe, Kans., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed July 12, 1968, Ser. No. 744,333

U.S. Cl. 260—857 Int. Cl. C08g 41/04

9 Claims

An alloy of thermoplastic polymers is prepared by making a fine dispersion of a lactam monomer, such as caprolactam, in a matrix of high molecular weight polyethylene or ethylene copolymers, such as ethylene-vinyl pyrrolidone, ethylene-vinyl acetate, ethylene-lower alkyl acrylates, or ethylene-lower alkyl methacrylates, then an alkaline catalyst, in particular alkali metals or their hydroxides or organo metallic compounds such as Grignard reagents, and cocatalyst, such as an N-acyl caprolactam, are added to polymerize the lactam. This process results in a ready prepared solid nylon-polyethylene or polyethylene copolymer suspension, useful as a polymer alloy combining properties of polyethylene or polyethylene copolymers with properties of nylon, and as a means of fabricating high-viscosity nylon. Dispersion is improved by adding a dispersion agent, such as a high molecular weight polyethylene glycol.

3,539,663

FIBRILLATED FIBERS OF A POLYAMIDE AND A SULFONE POLYESTER

Edward W. Pietrusza, Morristown, Jack R. Pedersen, Parsippany, and Dusan C. Prevorsek, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 6, 1967, Ser. No. 681,021

U.S. Cl. 260—857 Int. Cl. C08g 41/04

5 Claims

This specification is directed to fibrillated yarns and particularly to novel polymer blends of a polyamide, e.g., nylon 6 or nylon 66, and sulfone polyesters that are capable of being extruded into monofilaments whose composition permits the monofilament structure to be readily fibrillated into a multitude of fibrils while essentially retaining the high tensile strength of the structure. The sulfone polyesters may comprise any of a variety of known compositions; preferably, they comprise the reaction product of an aromatic dihydroxy compound and 4,4'-dichlorocarbonyldiphenyl sulfone. By varying the composition and amount of the polyester blended with the polyamide, the physical properties of the blend, as well as the degree and nature of fibrillation, can be modified for particular applications.

3,539,664

HOMOGENEOUS NYLON GRAFT COPOLYMERS ONTO ETHYLENE COPOLYMER BACKBONES

Raymond Joseph Kray, Berkeley Heights, and Allen Foster Higbee, Cedar Knolls, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 14, 1968, Ser. No. 705,274

U.S. Cl. 260—857 Int. Cl. C08g 41/04

15 Claims

This specification discloses homogeneous graft polymers of a lactam and an olefin copolymer, the copolymer derived from an olefin and from 5% to 30% by weight of an unsaturated heterocyclic compound containing an oxygen or nitrogen atom in the ring, the copolymer having a molecular weight in the range 10,000 to 300,000. The polymers are useful for preparing fibers and films having improved moisture resistance and tensile modulus.

3,539,665

DYEABLE, LUSTERLESS POLYPROPYLENE PRODUCED BY BLENDING WITH POLYMERS OR COPOLYMERS OF TRIALLYL ISOCYANURATE OR TRIALLYL CYANURATE

Rajindar K. Kochhar, Overland Park, Kans., Harry D. Ansporn, Bigelow Square, Pittsburgh, Pa., and Bert H. Clappitt, Overland Park, Kans., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 17, 1968, Ser. No. 721,950

U.S. Cl. 260—895 Int. Cl. C08f 29/12

19 Claims

Dyeable, lusterless polyolefin, such as polypropylene, is produced by blending with small amounts of polymers or copolymers of triallyl isocyanurate or triallyl cyanurate. Finely dispersed additive is mixed with dry polypropylene then blended at temperatures above the melting point of polyolefin with conventional apparatus.

3,539,666

METHOD FOR PREPARING A NONWOVEN FABRICLIKE MEMBER

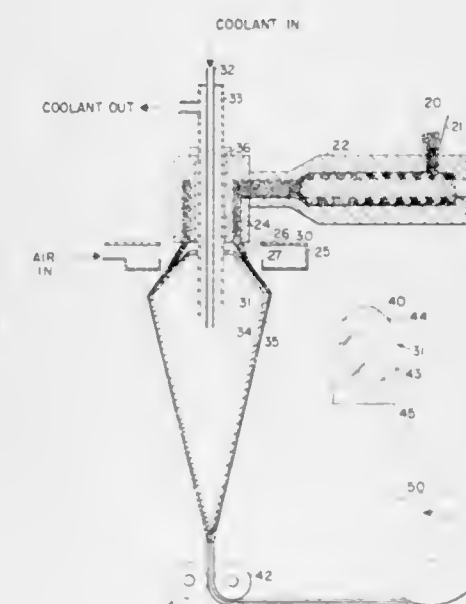
Henry G. Schirmer, Spartanburg, S.C., assignor to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut

Continuation-in-part of application Ser. No. 351,751, Mar. 13, 1964. This application June 18, 1968, Ser. No. 737,957

The portion of the term of the patent subsequent to Sept. 24, 1985, has been disclaimed

U.S. Cl. 264—51 Int. Cl. B29d 27/00

5 Claims



This invention is directed to a method for producing a nonwoven fabric that is continuous and free of independent separate fibers. The method for producing such a fabric includes drawing a cellular structure at its hardening-orientation temperature over a shaped surface to stretch the cell walls until they rupture while also stretching the fabric desirably.

3,539,667

METHOD OF MAKING ORIENTED PERMEABLE REFRACTORIES CONTAINING PASSAGES

Naoyuki Nameishi, Takasago, Japan, assignor to Harima Refractories Co., Ltd., Takasago, Japan

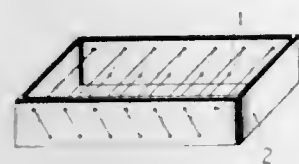
Filed June 8, 1967, Ser. No. 644,585

U.S. Cl. 264—56 Int. Cl. C04b 33/32; B28b 11/00

3 Claims

A refractory body provided with a number of fine passages extending from one side to the other in a predetermined orientation through the body is made by the method of pouring a slurry refractory material into a

mold within which a continuous length of combustible string or a net of the strings has been spanned, forming said refractory material into a desired shape, removing it



from the mold, drying it, and burning it at an elevated temperature to burn off the string to leave the desired fine passages within the refractory.

3,539,668

PROCESS FOR HEAT TREATING TRAVELLING LINEAR MATERIAL

Nigel Ward Hayman, Pontypool, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

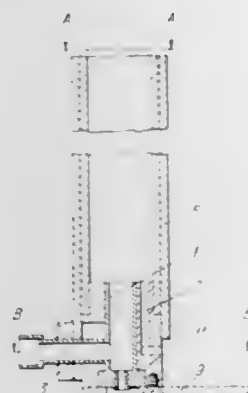
Filed May 9, 1968, Ser. No. 728,221

Claims priority, application Great Britain, May 15, 1967, 22,460/67

Int. Cl. B29c 25/00

U.S. Cl. 264—80

4 Claims



A process and apparatus for providing a uniform heat treatment to travelling linear material wherein the material is passed longitudinally through and along a gaseous flame in the direction of flame propagation to distribute heat uniformly around the material and to uniformly heat the material.

3,539,669

METHOD AND APPARATUS FOR MANUFACTURE OF HIGH CLARITY POLYOLEFIN FILM

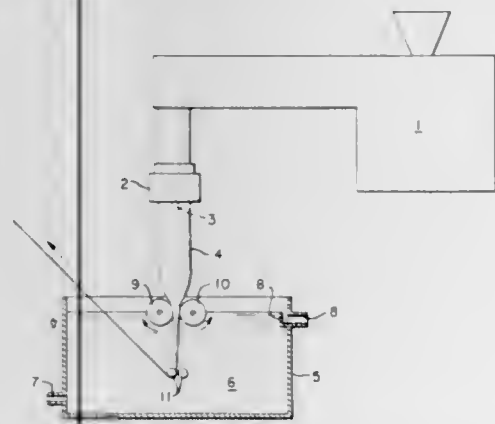
Wu Chein-Ho, Causeway Bay, Hong Kong, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 5, 1968, Ser. No. 710,566

Int. Cl. B29c 17/00, 25/00

U.S. Cl. 264—95

5 Claims



In the production of "lay-flat" polyolefin film by downward extrusion of inflated tubular film into a liquid cool-

ing bath, film of improved clarity and freedom from surface defects is produced by passing the extruded, inflated tubular film between a pair of parallel, spaced-apart chilling rollers disposed at the surface of the cooling bath for rotation partly immersed therein, such that the chilling rollers support and partially collapse, but do not nip, the film as it enters the cooling bath. The film is thereafter completely collapsed to lay-flat form by nipping rollers within the cooling bath.

3,539,670

METHOD OF FORMING HOLLOW PLASTIC ARTICLES

John N. Hall, Brookside Park, Newark, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Filed Mar. 29, 1968, Ser. No. 717,084

Int. Cl. B29c 17/07

U.S. Cl. 264—99

2 Claims

This invention relates to a method of blow molding articles of biaxially oriented plastic material and comprises a two-step process in the first of which a parison is formed and axially oriented, and in the second of which the uniaxially oriented parison is fixed in a clamp, heated to its orientation temperature, placed in a mold and blown to its final form while simultaneously orienting the material circumferentially.

3,539,671

METHOD FOR MAKING RESILIENTLY FACED ROLLS

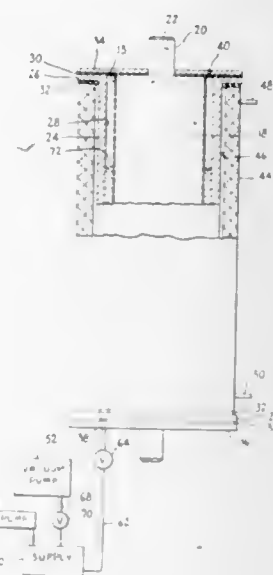
Jan P. Nauta, West Hartford, Conn., assignor to Rowland Products, Incorporated, Kensington, Conn., a corporation of Connecticut

Filed Feb. 1, 1968, Ser. No. 702,470

Int. Cl. B29b 3/00; B29c 5/04, 17/12

U.S. Cl. 264—102

16 Claims



There is disclosed a method for making rolls to produce a controlled surface finish upon synthetic thermoplastic sheet material wherein a support member is inserted into the mold having an aperture or cavity of larger width and a synthetic plastic resin is introduced into the spacing therebetween in the form of a viscous fluid to form a coating on the support member. Orientation of the coating of resin is effected by relative rotation of mold and sup-

port member. The synthetic plastic is then cured and the resultant roll is used as at least one of a pair of rolls operating upon the surface of the heated thermoplastic sheet material so as to impress its surface characteristics thereupon.

Although the surface of the roll may be mirror-polished in accordance with the disclosed procedure, the rolls most advantageously produced will have solid particles dispersed in at least the surface portion of the coating for preparing a matte finish on the sheet material.

3,539,672

METHOD OF BONDING METAL PARTICLES

Emery I. Valyi, Riverdale, N.Y., assignor to Olin Corporation, a corporation of Virginia

No Drawing. Filed Aug. 23, 1968, Ser. No. 754,995

Int. Cl. B22f 1/00

U.S. Cl. 264—111

5 Claims

An improved method for bonding metal particles, especially aluminous, cuprous or ferrous particles, the bonded particles obtained thereby and heat exchangers utilizing said bonded particles. The method utilizes a thin coating of resin as the bonding medium.

3,539,673

VINYL PLASTISOL MOLDING AND PAINTING METHOD

James C. Poole, Iowa City, Iowa, and Lawrence D. Cerrone, Logan, Ohio, assignors to Sheller-Globe Corporation, Detroit, Mich., a corporation of Ohio

No Drawing. Filed Nov. 21, 1968, Ser. No. 777,909

Int. Cl. B29c 5/12; B44d 1/092

U.S. Cl. 264—129

6 Claims

A method of preparing molded items from formulations such as a vinyl plastisol, vinyl organosol, or vinyl dry sol, wherein the method comprises the steps of (a) incorporating at least one silicone fluid into the formulation, with said silicone fluid being of a specific type which will provide facilitated mold release to the molded item, and which fluid is also operative to enable an acceptable compatibility between the molded item and subsequently applied paint coatings, (b) subsequently placing the vinyl formulation into a mold, (c) heating the formulation to a predetermined temperature, (d) maintaining said temperature for a predetermined time period, and (e) subsequently removing the molded item from the mold; and, the product produced by the above method.

3,539,674

METHOD OF MANUFACTURING A PLASTIC CATHETER

Paul Dereniuk, Woonsocket, and Walter J. Bleharczyk, East Providence, R.I., assignors to Davol Inc., Providence, R.I., a corporation of Rhode Island

Filed July 22, 1968, Ser. No. 746,356

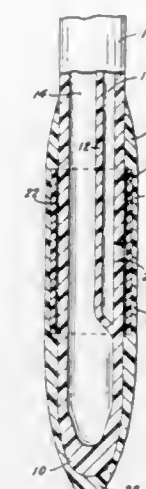
Int. Cl. B29d 9/10; B29c 13/00

U.S. Cl. 264—130

6 Claims

In the manufacture of plastic catheters for urethral retention, a plastic catheter shaft is coated with a release agent, and a plastic sac sleeve surrounds the release agent and catheter shaft. The shaft and sleeve are then dipped into a plastic solution to form a skin which adheres to the sleeve and the shaft, but the release agent causes the inner surface of the sleeve to remain separate from the shaft. The choice of materials and proportions for the dipping solution is such as to allow the plastic overdip

to unite the skin with the sleeve and shaft, but prevents the solvent from penetrating the sleeve, which would unde-



sirably attach the inner surface of the sleeve to the catheter shaft despite the present of the release agent.

3,539,675

METHOD FOR ENCAPSULATING SEMICONDUCTOR DEVICES

John R. Hugill, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

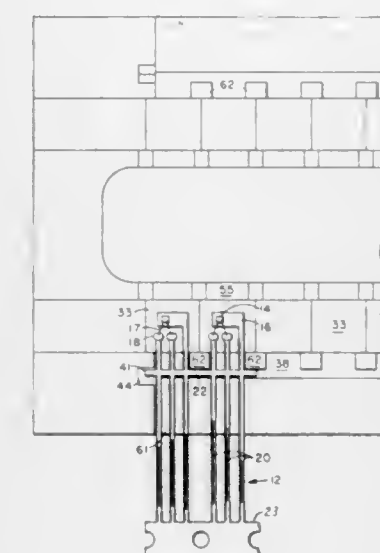
Original application Oct. 24, 1965, Ser. No. 504,402, now Patent No. 3,391,426, dated July 9, 1968. Divided and this application July 5, 1968, Ser. No. 742,591

The portion of the term of the patent subsequent to July 9, 1985, has been disclaimed

Int. Cl. B29c 6/04, 17/08

U.S. Cl. 264—157

3 Claims



The mass production of plastic encapsulated semiconductor devices is facilitated by an improved molding procedure. Initially, a metallic member on which a plurality of semiconductor units are mounted is supported on a multiple-cavity mold with the portions to be encapsulated positioned within a mold cavity which is completed when the mold is closed. It is important to maintain the full molding pressure in such cavities during a molding cycle in order that the plastic encapsulation is uniform throughout with no voids which might cause trouble from moisture absorption during the life of the devices. To sustain the molding pressure in a mold cavity, a walled receptacle is provided in the mold adjacent a cavity to support an integral or tab portion of the original metallic member

extending beyond the main body of that member. A projection in the mold engages and deforms the tab portion coincident with the closing of mold to fill out the walled receptacle and prevent a leakage of the plastic and air which would otherwise reduce the molding pressure in a cavity. After the molding operation is completed, the tab portion on the metallic member is removed as the individual devices are separated from one another.

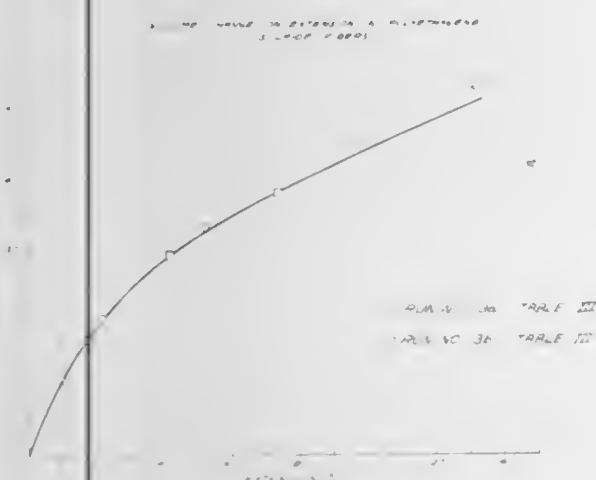
3,539,676

PROCESS FOR PRODUCING FILAMENTS AND FILMS OF POLYMERS OF ALKYLENE SULFIDES

Walter J. Polestak, Summit, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 29, 1966, Ser. No. 575,722

Int. Cl. B28b 3/20; D01d 5/22; D01f 3/10
U.S. Cl. 264-176 10 Claims



A process for producing hard stretch filaments and films of alkylene sulfide polymers, such as polyethylene sulfide, having an inherent viscosity above 0.5, involves extruding the heat softened polymer through a shaping orifice to form the filament or film and taking up the product at a linear rate of from about 20 to 3,000 meters per minute, preferably at a linear rate of from 1500 to 2500 meters per minute at a drawdown ratio of from 100:1 to 4000:1. If a filament is formed and a drawdown ratio greater than 1200:1 is used, the filament spontaneously develops helical crimps along its length. Open-celled filaments or films are produced from the hard stretch filaments and films by stretching the filaments or films in a range of from about 25 percent of the unstretched length up to about 90 percent of the breaking elongation, e.g., from 0.5 to 10 times the unstretched length. To stabilize the open-celled structure, the stretched filament or film may be heated while in the stretched state to a temperature in the range of from about 80°C. to a temperature below the melting point of the polymer.

3,539,677

THERMALLY STABLE POLYMERIC FIBERS AND PROCESS FOR PRODUCING SAME

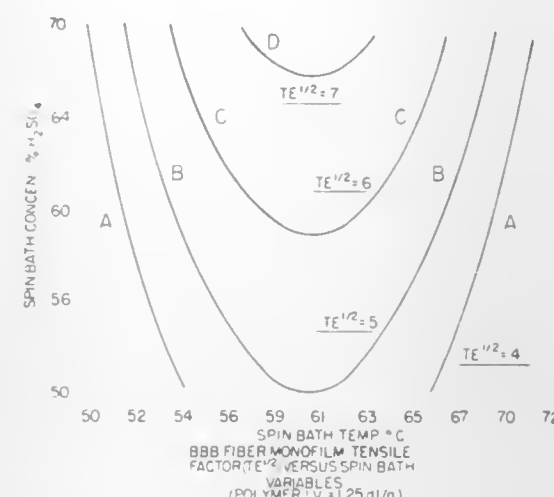
Jay M. Steinberg, Plainfield, and Arnold J. Rosenthal, Whippany, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 2, 1967, Ser. No. 657,868

Int. Cl. D01f 7/04
U.S. Cl. 264-184 9 Claims

The invention relates to a process for producing filamentary material exhibiting improved tensile factors at

elevated temperatures by extruding a solution of benzimidazobenzophenanthroline polymer in sulfuric acid (about 2 to 15 percent by weight of polymer based on the total weight of said solution) through a spinneret to form a filament of the solution, passing said filament through



a sulfuric acid/water coagulation bath which has a concentration of 50 to 80 percent by weight of sulfuric acid and which is maintained at a temperature of between 45 and 80°C. It is preferred that the benzimidazobenzophenanthroline polymer solution has an I.V. of between about 1.0 and 4.0.

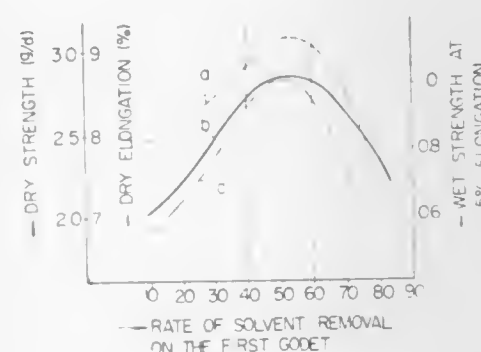
3,539,678

HIGH SPEED SPINNING METHOD OF VISCOSE RAYON FILAMENTS HAVING HIGH WET MODULUS

Yoichi Uchida and Keniti Hukuma, Mihara-shi, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan

Filed Aug. 14, 1967, Ser. No. 660,419

Int. Cl. B01d 5/20; B29c 17/02
U.S. Cl. 264-188 2 Claims



Method of spinning at high speed of viscose rayon filaments having a high wet modulus, characterized by heating a viscose having a high degree of polymerization and a high gamma value to 35-60°C. immediately prior to the spinning of the said viscose, extruding the said viscose into a spinning bath, and rendering the rate of solvent removal of the filaments on the first godet from 40 to 60%, and thereafter stretching said filaments the spinning being effected at a spinning speed of at least 80 meters per minute using a horizontal type spinning machine.

3,539,679

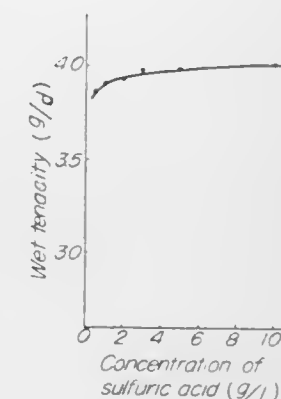
PROCESS FOR PRODUCING POLYNOSIC FIBERS

Yukio Kimura, Taro Yamamura, and Atsushi Kawai, Ohtake-shi, Masamichi Ikeda, Iwakuni-shi, and Takehiro Katsuyama, Takanori Oda, and Sakae Kondo, Ohtake-shi, Japan, assignors to Mitsubishi Rayon Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Aug. 2, 1966, Ser. No. 569,685

Claims priority, application Japan, Aug. 3, 1965, 40/47,040

Int. Cl. D01f 3/12, 3/28
U.S. Cl. 264-197 1 Claim



A viscose having γ -value of above 55 is extruded into a coagulation bath containing from 8 to 25 g./l. of sulfuric acid, from 0.05 to 1.5 g./l. of zinc sulfate and from 10 to 150 g./l. of sodium sulfate and kept at a temperature of below 35°C. Filaments thus formed are withdrawn from the coagulation bath in a state where the γ -value of the filaments is above 40 and then stretched while immersed in a second bath containing less than 3 g./l. sulfuric acid, from 0.05 to 3 g./l. zinc sulfate and sodium sulfate. The stretched filaments are then completely regenerated in the third bath. The resulting fibers have high knot tenacity, high loop tenacity, high fibrillation resistance and excellent dyeability.

3,539,680

PROCESS AND APPARATUS FOR DRAWING POLYESTER FILAMENTS

Takaaki Fukushima, Mihara-shi, Haruki Takizawa, Kikuo Hori, and Yoshito Sato, Matsuyama-shi, and Haruhiko Mizumori, Amagasaki-shi, Japan, assignors to Teijin Limited, Osaka, Japan, a corporation of Japan

Filed Aug. 7, 1967, Ser. No. 658,799

Int. Cl. B29c 17/02
U.S. Cl. 264-290 10 Claims



A drawing process wherein fixation of the necking point is made certain by drawing undrawn polyester filaments while pressing the same onto a feed roller by

a pressure roller provided at the side in contact with the feed roller heated at a predetermined temperature and said process is of non-friction type and an apparatus therefor.

3,539,681

PROCESS FOR THE MANUFACTURE OF EXTENSIBLE MOULDED ARTICLES HAVING PERFORATED OR RETICULATED STRUCTURE

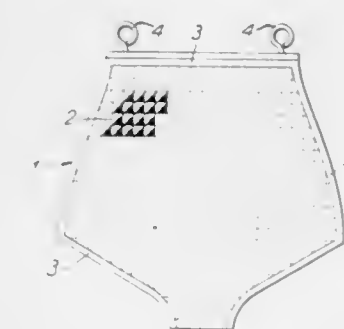
Federico Esteve Anglada, 35 Ronda Universidad, and Juan Duarry Serra, 1 Calle Rosellon, both of Barcelona, Spain

Filed Mar. 15, 1966, Ser. No. 534,299

Claims priority, application Spain, Mar. 18, 1965, 311,070

Int. Cl. B29c 13/00

U.S. Cl. 264-306 1 Claim
Moulded reticulated articles of elastomeric material are made by using a mould having prominences arranged to produce the reticulations in the finished article. The surfaces of the mould are treated to make the material di-



rectly adherent thereto, but the tops of the prominences are treated to make them non-adherent to the material.

3,539,682

X-RAY CONTRAST MEDIUM CONTAINING BARIUM SULPHATE

Sven Axel Eriksson, Sodertalje, Sweden, assignor to Aktiebolaget Astra, Sodertalje, Sweden, a company of Sweden

No Drawing. Continuation-in-part of application Ser. No. 589,810, Oct. 27, 1966. This application June 23, 1967, Ser. No. 648,214

Int. Cl. A61k 27/08

U.S. Cl. 424-4 7 Claims
This invention relates to X-ray contrast compositions stable in acidic media containing barium sulphate and intimately mixed therewith a protective colloid capable of producing a thixotropic gel, said protective colloid consisting essentially of an acid-resistant water-soluble material of the group consisting of (1) certain types of carrageenans, which are galactans partially esterified and which are isolated from red algae and (2) alginic acid partially esterified with propylene glycol.

3,539,683

ORAL, PARENTERAL AND INHALATION-THERAPY WITH 3,11-DIOXO-4,17(20)-CIS-PREGNADIEN-21-OIC ACID, METHYL ESTER, 3-OXIME

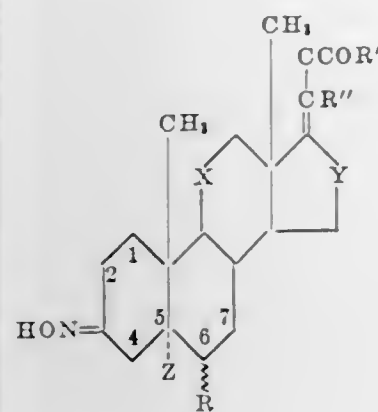
Robert W. Jackson, Portage, and John C. Babcock, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 657,073, July 31, 1967. This application Sept. 26, 1968, Ser. No. 762,971

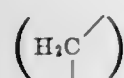
Int. Cl. A61k 17/00

U.S. Cl. 424-45 3 Claims
This invention relates to pharmaceutical compositions

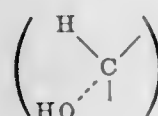
containing novel 3-oximes and more particularly those embraced by the formula



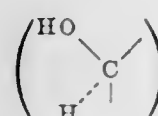
wherein the 1(2)-, 4(5)- and 6(7)-carbon atom linkages are selected from the group consisting of single bonds and double bonds; ~ is generic expression denoting α - and β -bonds and mixtures thereof; X and Y are selected from the group consisting of the methylene radical



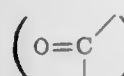
the α -hydroxymethylene radical



the β -hydroxymethylene radical



and the carbonyl radical



Z is selected from the group consisting of hydrogen and hydroxy, with the proviso that Z is absent when the 4(5)-carbon atom linkage is a double bond; R is selected from the group consisting of hydrogen, methyl and fluorine, with the proviso that when R is selected from the group consisting of methyl and fluorine, the stereoconfiguration at C_6 is β - when Z is hydroxy and selected from the group consisting of α - and β - when the 4(5)-carbon atom linkage is a double bond; R' is selected from the group consisting of hydrogen and lower alkyl of from one through twelve carbon atoms; R'' is hydrogen and when Y is selected from the group consisting of the α -hydroxymethylene, β -hydroxymethylene and carbonyl radicals, R'' is additionally methyl. It also provides methods for the treatment and administration of the foregoing compounds to mammals, including humans, in the treatment of anaphylactic reactions and delayed type sensitivities.

3,539,684

BACTERICIDAL POLYMERS

Merwin Frederick Hoover, Bethel Park, Pa., assignor to Calgon Corporation, Pittsburgh, Pa.

No Drawing. Filed Nov. 21, 1968, Ser. No. 777,878

Int. Cl. A01n 23/00, 9/22

U.S. Cl. 424—78

9 Claims

Bactericidal effects of various homopolymers and copolymers of fatty quaternary diallyl ammonium compounds are disclosed.

3,539,685

ANIMAL FEED SUPPLEMENT AND METHOD OF ELIMINATING WORMS FROM ANIMALS

Auguste Louis de Lisle, deceased, late of Scottsdale, Ariz., by Frances S. de Lisle, executrix, Scottsdale, Ariz., assignor to Phoenix Gems, Inc., Phoenix, Ariz., a corporation of Arizona

No Drawing. Continuation-in-part of application Ser. No. 234,838, Nov. 1, 1962, which is a continuation-in-part of application Ser. No. 773,562, Nov. 12, 1958, and also is a continuation-in-part of application Ser. No. 551,829, Apr. 27, 1966, which is a continuation-in-part of application Ser. No. 323,890, Nov. 15, 1963. This application Oct. 27, 1967, Ser. No. 679,295

Int. Cl. A23k 1/00; A61k 27/00

U.S. Cl. 424—127

10 Claims

Process of eliminating worms from infected animals by feeding them effective amounts of diatomaceous earth containing at least 70% silica derived from diatoms.

3,539,686

PIGMENTATION IN POULTRY HUSBANDRY

Ralph Rosenberg, 9814 W. Broadview Drive, Bay Harbor Islands, Fla.

No Drawing. Filed Apr. 10, 1967, Ser. No. 629,410

Int. Cl. A01n 9/02, 9/08

U.S. Cl. 424—195

6 Claims

Pigmentation in poultry husbandry, i.e. of the body tissue and the egg yolk, results from the presence of carotenoids in the poultry ration. Synergistic pigmenting effects are achieved when the carotenoid-content of the ration fed to poultry, e.g. laying hens, is a combination comprising:

(A) A member of the group consisting of xanthophyll and zeaxanthin, and

(B) A member of the group consisting of canthaxanthin, paprika oleoresin, beta-apo-8-carotenal and beta-apo-8-carotenoic acid ethyl ester.

3,539,687

MEDICINAL COMPOSITIONS CONTAINING 5 β -BISNORCHOLANE-22-AMINO DERIVATIVE AS AN ACTIVE INGREDIENT

Ferdinand Kuhnen, Mahmud Muftic, Rainer Philippson, and Emanuel Kaspar, Berlin, Germany, assignors to Schering AG., Berlin, Germany

No Drawing. Filed Aug. 30, 1966, Ser. No. 576,158

Claims priority, application Germany, Sept. 3, 1965, Sch 37,674; Nov. 27, 1965, Sch 38,090

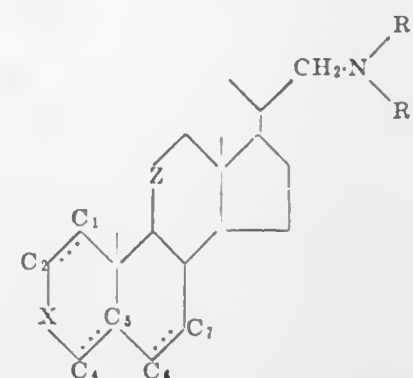
Int. Cl. C07c 173/10

U.S. Cl. 424—241

18 Claims

This invention relates to bacteriostatic, fungistatic and

trichomonocidally active bisnorcholane derivatives with the general formula



and their ammonium salts wherein R_1 and R_2 are the same or different, and signify hydrogen, a possibly substituted alkyl-, aryl-, aralkyl-, heterocyclic residue or common members of a possibly substituted ring system, which may also be interrupted by an additional hetero-atom, preferably nitrogen or oxygen, $Z > CH_2$, $CH(OH)$ or $> C=O$, $X > CH_2$, $> CH(OH)$, $> CH(OAcyl)$, $> C=O$ and



a single or double bond with 5 beta-H configuration, and



likewise a single or double bond.

3,539,688

METHOD OF CONTROLLING PESTIFEROUS ORGANISMS

Donald W. Fuhlbage, Kansas City, Mo., assignor to Thompson-Hayward Chemical Company, Kansas City, Kans., a corporation of Delaware

No Drawing. Filed Apr. 18, 1967, Ser. No. 631,601

Int. Cl. A01n 9/22

U.S. Cl. 424—263

6 Claims

This invention relates to a method of controlling pestiferous organisms, particularly nematodes, which comprises causing said organisms to be contacted with a small but effective amount of a compound of the formula;



wherein X is halogen and suitable salts thereof.

3,539,689

7-HALO-LINCOMYCIN COMPOSITION AND PROCESS OF TREATMENT

Robert D. Birkenmeyer, Comstock, and Fred Kagan, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

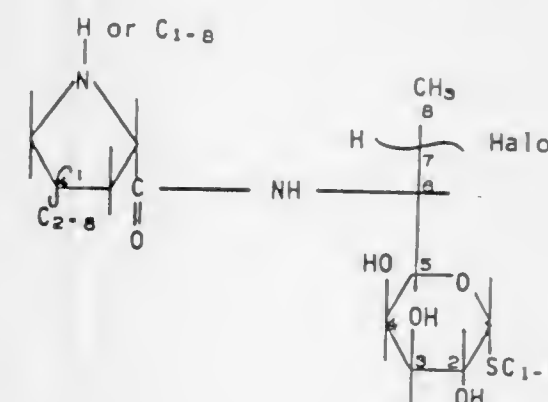
No Drawing. Continuation of application Ser. No. 541,974, Apr. 12, 1966, which is a continuation-in-part of applications Ser. No. 431,184, Feb. 8, 1965, and Ser. No. 498,989, Oct. 20, 1965. This application Feb. 9, 1968, Ser. No. 704,239

Int. Cl. A61k 27/00

U.S. Cl. 424—274

9 Claims

Compounds of the formula:



in unit dosage form of 15–500 mg. with pharmaceutical carrier for oral and parenteral administration and process for treating humans and animals hosting microparasites including bacteria, coccidia, and mycoplasma.

3,539,690

HYPOFLUORITE BACTERICIDE

Gary L. Gard, Beaverton, Oreg., and Arleen C. Pierce, New Brunswick, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 7, 1966, Ser. No. 599,742

Int. Cl. A01n 9/24

U.S. Cl. 424—298

6 Claims

A method of combating microorganisms by exposing them to perfluorinated hypofluorites of the formula R_fOF wherein R_f is a lower perfluoroalkyl radical, in vapor phase.

ELECTRICAL

3,539,691

GLASS FURNACE WITH IMPROVED PARTIALLY IMMERSIBLE ELECTRODE

John R. Lucek, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Oct. 30, 1968, Ser. No. 771,776

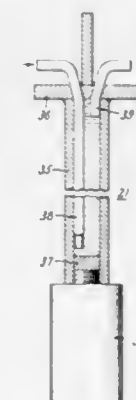
Int. Cl. C03f 5/02

U.S. Cl. 13—6

5 Claims

A conductive electrode for glass-melting furnaces which is adapted to be mounted above and only partially immersed in a molten glass body. The improved electrode comprises an elongated shank or bus section of copper or steel adapted to be partially immersed in the molten glass and to extend into air above the glass surface. The immersed part of the shank is cooled, as by internally circulated fluid, to a temperature below the melting point of the glass and has removably attached thereto an un-

cooled tip or head formed preferably of molybdenum. The molybdenum head of the electrode may be shaped as



a paddle, and the electrode rotated to stir the glass while heating.

3,539,692 FURNACE HOOD

John M. Heeney, Chicago, Ill., assignor to Fuller Company, a corporation of Delaware
Filed June 24, 1969, Ser. No. 836,067
Int. Cl. H05b 7/18; F23j 11/00

U.S. Cl. 13—9

11 Claims



A hood for an electrical arc furnace having openings in the roof for passage of heating electrodes therethrough and comprising a circular enclosure with electrode openings therein for mounting on the furnace roof about the electrodes and having a collector duct concentric about the electrodes, and baffle means in the interior of the duct about a portion only of the collector duct and being of a size and shape so as to provide a substantially equal pressure drop across the entire area of collector duct when suction is applied.

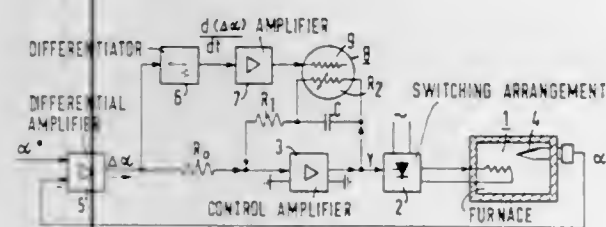
3,539,693 APPARATUS AND METHOD FOR REGULATING THE TEMPERATURE OF AN ELECTRICAL FURNACE

Werner Elischer, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed June 28, 1968, Ser. No. 741,114
Claims priority, application Germany, July 1, 1967, S 110,633

Int. Cl. H05b 5/00

U.S. Cl. 13—26

13 Claims



Control apparatus comprising a control amplifier having a feedback path varies the electrical characteristics of the feedback path in accordance with the rate of variation of a control magnitude in the manner of a proportional regulator and changes to the manner of a proportional integral regulator upon a decrease in the rate of variation of the control magnitude.

3,539,694 PROCESS FOR THE MANUFACTURE OF CEPHALOSPORIN C

Hamilton F. Niss, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed June 23, 1967, Ser. No. 648,232
Int. Cl. C12d 9/22

U.S. Cl. 13—31

1 Claim

Improvement in the process for fermentation of cephalosporin C wherein calcium sulfate is added to the culture medium.

3,539,695 PROCESS FOR OPERATION OF ELECTRIC REDUCTION FURNACES

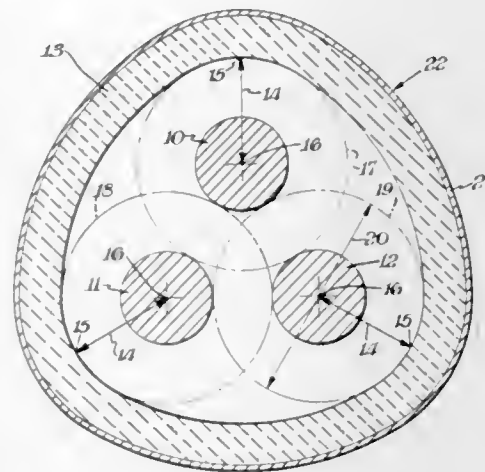
Helmut Klee, Knapsack, near Cologne, Dieter Schorning, Bruhl-Pingsdorf, Georg Herget and Georg Strauss, Knapsack, near Cologne, and Hermann Niemann, Bruhl, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Filed Oct. 25, 1968, Ser. No. 770,789
Claims priority, application Germany, Dec. 4, 1967, 1,583,469

Int. Cl. H05b 7/18

U.S. Cl. 13—34

3 Claims



Process for operating electric reduction furnaces with one or more electrodes, particularly symmetrical three-phase furnaces, comprising varying the intensity I of power supplied to the furnace, the specific resistance ρ of material to undergo reaction in the furnace or the said intensity I and the said resistance ρ so that the ratio between (1) a constant K , which is set to equal twice the value for the shortest distance (in centimeters) between the electrode mid-vertical and the furnace inside wall, and (2) the product of current intensity I (in amperes) and the particular specific resistance ρ of the material to undergo reaction (in $\Omega \cdot \text{cm.}$) is within the range between 4.0 and 5.0 $[A^{-1} \cdot \Omega^{-1}]$.

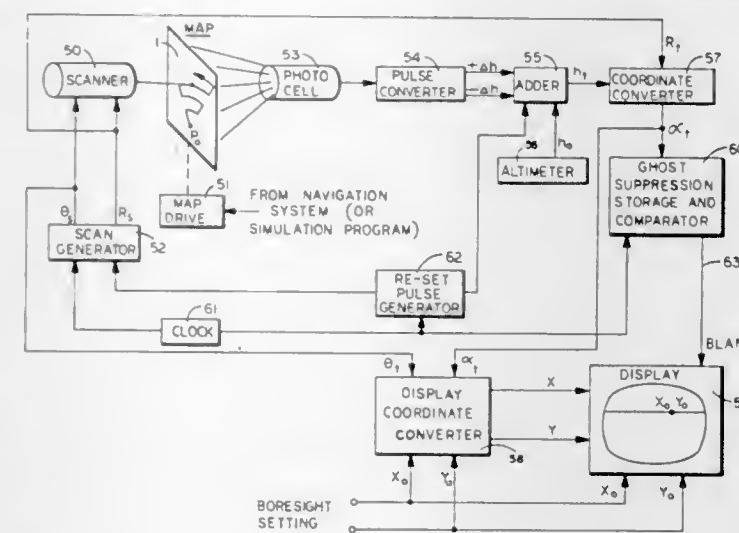
3,539,696 REAL-TIME DYNAMIC PERSPECTIVE DISPLAY

James S. Sweeney, Laguna Beach, and Charles P. Greening, Fullerton, Calif., assignors to North American Rockwell Corporation

Filed Apr. 1, 1968, Ser. No. 717,491
Int. Cl. G09h 29/10

U.S. Cl. 35—10.2

7 Claims



A real-time dynamic perspective display of the terrain below an aircraft is derived from a contour map color-coded using three colors. An optical scanning device is

programmed to scan the map along a predetermined pattern to generate a continuous series of profiles along successive slices of terrain. The profiles are transformed to derive the instantaneous bearing and altitude angles of points on the terrain as the map is scanned. The instantaneous values of the bearing and altitude angles are converted into X and Y coordinates and displayed on a conventional display surface. Apparatus is provided to suppress profile lines which are lower than previous profile lines which the observer would normally not see in an actual view of the terrain.

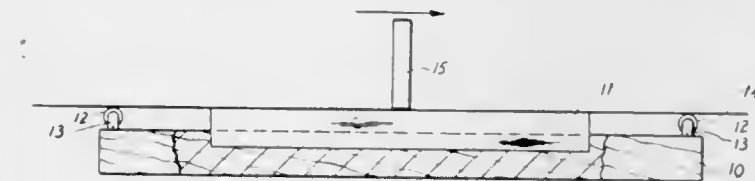
3,539,697 MAGNETIC RECORDING OF MUSICAL TONES EMPLOYING A MAGNETIC PATTERN DIE

Abraham H. Frisch, 320 E. 53rd St., New York, N.Y. 10022

Filed Aug. 26, 1968, Ser. No. 755,329
Int. Cl. G10h 3/04; G10d 17/00

U.S. Cl. 84—1.02

8 Claims



A regularly serrated, or otherwise marked, magnetizable metal strip held in a track over which is passed a recording tape and a permanent magnet, relative motion being developed between the magnet and tape to provide a magnetic pattern recorded on the tape, corresponding to musical tones, which recording is playable on standard playback apparatus.

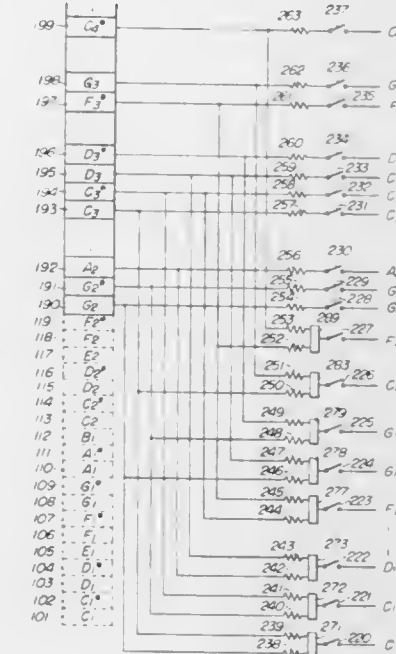
3,539,698 KEYBOARD TYPE ELECTRONIC MUSICAL INSTRUMENT

Masuo Omura, Hirakata-shi, and Masahiko Tsunoo, Osaka, Japan, assignors to Matsushita Electric Industrial Co. Ltd., Osaka, Japan, a corporation of Japan
Continuation of application Ser. No. 427,621, Jan. 25, 1965. This application Mar. 1, 1968, Ser. No. 709,741
Claims priority, application Japan, July 17, 1964, 39/41,555, 39/41,556; Aug. 3, 1964, 39/44,890; Aug. 27, 1964, 39/49,054

Int. Cl. G10h 3/00, 3/06

U.S. Cl. 84—1.11

11 Claims



An electronic musical instrument of keyboard type which has (1) a signal generating system composed of twelve tone series of signal sources for generating signals

of pitches corresponding to the equal tempered musical scale, (2) a keyswitch system for switching tone signals to an output system by depressed keys on a keyboard, (3) the output system which converts them to acoustic tones, and (4) a difference-signal system which is included in the signal generating system and which comprises nineteen difference-signal generators for producing nineteen difference-signals in a low frequency range in such a way that (a) each of lower seven series of the twelve tone series has a pair of difference-signal generators, one of which produces a difference-signal as the lowest signal of each of lower seven series, and the other of which produces a difference-signal as the second lowest signal of each of lower seven series, (b) each of upper five series of the twelve tone series has a single difference-signal generator which produces a difference-signal as the lowest signal of each of upper five series, and (c) each of nineteen difference-signal generators mixes two signals of signal sources, one signal in octave relation and the other signal in non-octave relation to a difference-signal to be produced by a difference-signal generator.

ERRATA

For Classes 84—1.1 thru 84—1.12 see:
Patent Nos. 3,538,804 thru 3,538,806

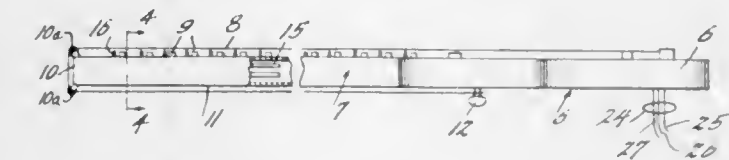
3,539,699 TWO-IN-ONE STRINGED ELECTRONIC INSTRUMENT WITH STRING PICKUP AND TONE GENERATOR

Richard A. Johnson, 1708 N. Quesada St., Arlington, Va. 22205

Filed Jan. 26, 1967, Ser. No. 611,930
Int. Cl. G10d 5/00; G10h 1/00, 5/04

U.S. Cl. 84—1.16

5 Claims



A stringed instrument such as a guitar which utilizes an electronic amplifier coupled to not only reproduce the tones introduced in the strings via a pickup but also selected additional supplemental tones electronically generated. Thus, a fretboard provides electrical switches selectively positioned for individual selection or concurrent selection while fingering a string for thereby selecting supplemental chords or organ-like tones while the instrument is otherwise conventionally played. The neck of the instrument is hollow, containing the switches and associated electronic parts, which are in the form of a printed circuit board having communication with the switches and establishing precisely determined resistances from a single resistive strip by means of a fine tuning slide for each switch. To prevent warping of the hollow neck under tension of taut strings, they are stretched over the end of the neck and back on an opposite side to have both ends affixed to the instrument body, thereby balancing the forces tending to bow the neck portion.

3,539,700 STRINGED MUSICAL INSTRUMENT BRIDGE WITH DUAL PICKUPS

Alfred Johnson, 147 Hamlin Road, Buffalo, N.Y. 14208

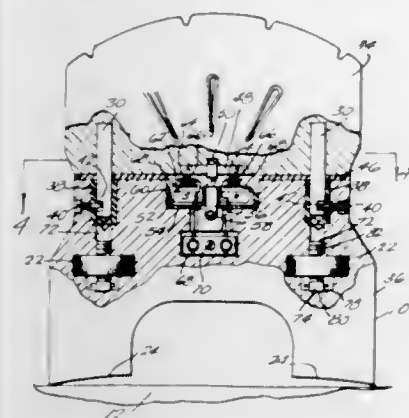
Filed Oct. 10, 1968, Ser. No. 766,521
Int. Cl. G10h 3/00; G10d 5/00

U.S. Cl. 84—1.16

6 Claims

A two-part telescoping bridge for a stringed musical instrument employing two electromagnetic pickups. One

pickup converts the mechanical vibrations of the strings into an electrical signal while the second pickup converts



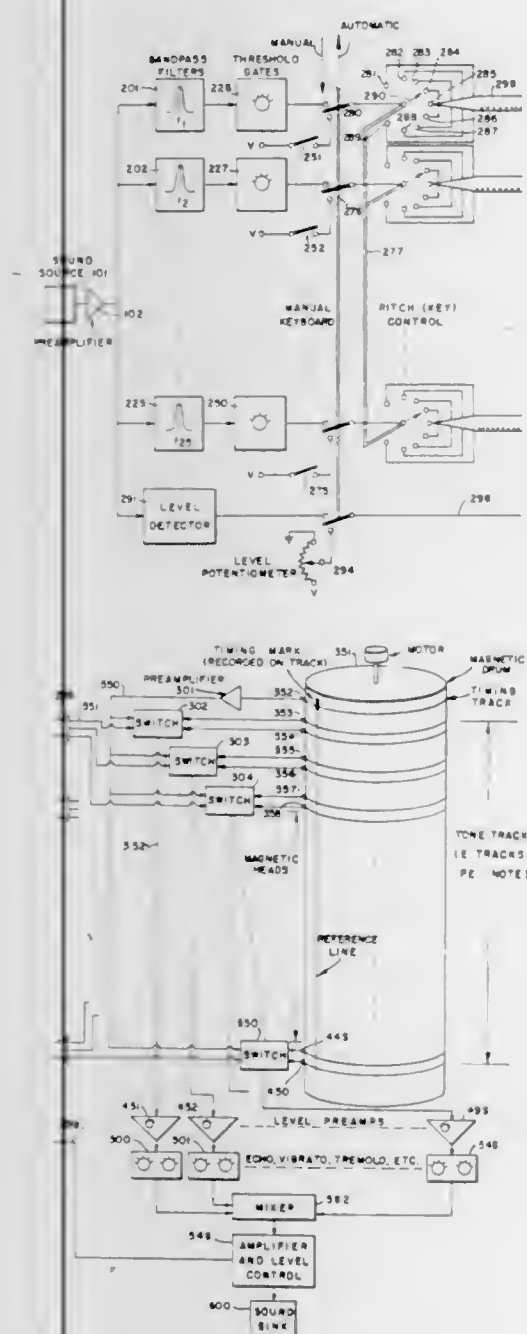
the mechanical vibrations of the sound post into an electrical signal.

3,539,701 ELECTRICAL MUSICAL INSTRUMENT

Ursula A. Milde, Washington, D.C.
(198 Baltic St., Brooklyn, N.Y. 11201)
Filed July 7, 1967, Ser. No. 651,744
Int. Cl. G10h 3/04

U.S. Cl. 84-1.28

16 Claims



A method and apparatus for electrically generating musical sounds. The invention consists of a device for detecting the pitch and level of an input audio signal

and a further device for generating the note of any recorded instrument of corresponding pitch and level. The detecting device consists of a plurality of parallelly connected bandpass filters which drive an identical number of adjustable threshold gates. The output of the threshold gates is used to select a note of particular pitch at the generator. The detecting device further consists of a level detector which controls the output level of the generator. The generator consists of a magnetic recording drum upon which are recorded two tracks for every note it is able to produce, one for the transient or attack characteristic of the note and the other for the steady state. The generator receives instructions as to the pitch of the note to be played, plays first the transient, then the steady state at a level prescribed by the level detector.

3,539,702 TERMINATION FOR COAXIAL SUPER-CONDUCTING CABLE

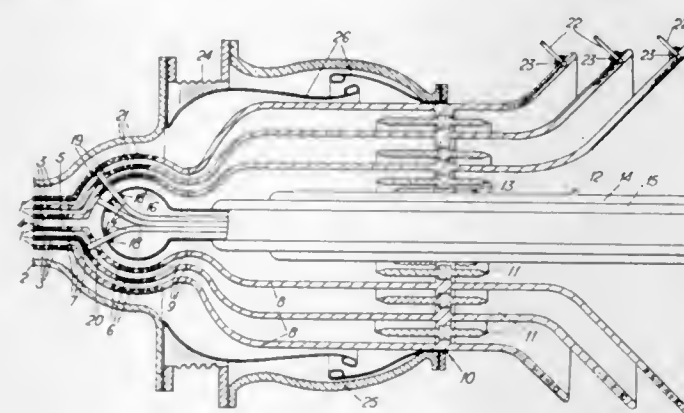
Derek Reginald Edwards, Windsor, Berkshire, Anthony Harvey Powell, Surbiton, Surrey, and Edward Charles Rogers, London, England, assignors to British Insulated Callender's Cables Limited, London, England
Filed Nov. 29, 1968, Ser. No. 786,808

Claims priority, application Great Britain, Nov. 30, 1967, 54,609/67

Int. Cl. H02g 15/02

U.S. Cl. 174-9

11 Claims



A termination for a coaxial superconducting cable comprises a tubular insulating envelope sealed at one end to the cryogenic envelope of the cable and at the other end to a coaxial terminal having insulating spacing and vacuum sealing means between its conducting parts. A number of coaxial conductors each connect one of the conducting parts of the coaxial terminal with the corresponding conductor of the cable. Axial movement of the coaxial terminal towards and away from the cable end in response to temperature variation in the coaxial conductors of the termination is allowed for, and a heat shield is incorporated in the connection between the coaxial conductors of the terminal and the cable conductors for obstructing transfer of heat by direct radiation longitudinally from the conductors of the terminal to the cable conductors. The heat shield is preferably formed by shaping the conductors of the termination.

3,539,703 HIGH VOLTAGE TERMINATION APPARATUS FOR HIGH VOLTAGE CABLES AND PIPE-TYPE TRANSMISSION LINES

Robert W. Cloud, Largo, Fla., assignor to High Voltage Power Corporation, Burlington, Mass., a corporation of Massachusetts

Filed Oct. 23, 1968, Ser. No. 769,833

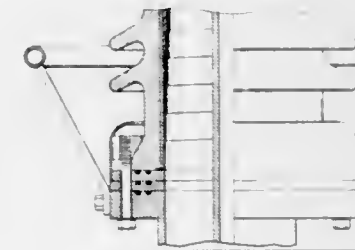
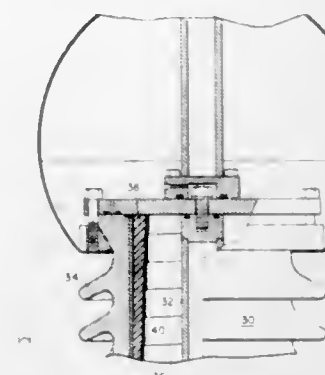
Int. Cl. H02g 15/02; H01b 17/28

U.S. Cl. 174-19

5 Claims

A high voltage termination apparatus for bringing a high voltage conductor from one insulating medium to another. Capacitive-resistive division in the form of con-

centric mating rings or resistively coated condenser tape is used to provide gradient control under high voltage



conditions as well as constraining the radial field within predetermined spatial limits.

3,539,704 HERMETICALLY SEALED ENCLOSURE

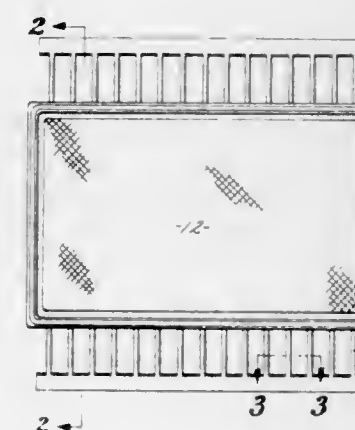
Karl Sator, Anaheim, and Robert F. Gill, Costa Mesa, Calif., assignors, by mesne assignments, to Tekform Products Co., Anaheim, Calif., a corporation of Delaware

Filed July 19, 1967, Ser. No. 654,639

Int. Cl. H05k 5/06

U.S. Cl. 174-52

14 Claims



A planar enclosure having a lead-through assembly having a plurality of passages in a lead-through panel, which extends at a 45° angle to the plane of the enclosure, each of which passages is provided by an integrally formed tubular flange portion which extends at approximately 45° to the plane of the enclosure and receives a conductor therethrough held in sealing relation by insulator material, and said lead-through panel being further defined by a stress decoupling area around said flange portion; said enclosure mechanically decoupling said flange of each passage from a peripheral edge of the base and a cap of the enclosure to thereby permit the cap to be sealed to the base by means of a cold weld process, said cap being defined by a peripheral bellows portion having a U-shape cross section to permit the periphery of the cap to be deflected relative to the center section of the cap; and said enclosure having on the center sections of the base and the cap a large number of small sections which are thinner than the material of which the base and the cap are made.

3,539,705 MICROELECTRONIC CONDUCTOR CONFIGURATIONS AND METHOD OF MAKING THE SAME

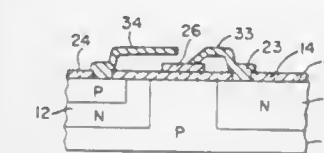
Harvey C. Nathanson, Pittsburgh, and John R. Davis, Jr., Export, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 31, 1968, Ser. No. 733,582

Int. Cl. H01l 7/02; H05k 3/06, 3/32

U.S. Cl. 174-68.5

3 Claims



Small metal-air gap metal structures are provided that can be batch fabricated as part of a microelectronic component such as an integrated circuit. Spaced metal elements of such structures can be optionally closed by compression bonding. They may also be used as crossovers in a multilayer conductive interconnection scheme, used to provide a variety of microwave functions and generally improve the flexibility and diversity available in microelectronic components.

3,539,706 THERMAL EXPANSION RESISTANT CABLE ACCESSORY INSTALLATION FOR HEAVY CURRENT ELECTRIC CABLES

Vittorio Buroni, Milan, and Agostino Oriani, Sesto San Giovanni, Italy, assignors to Pirelli Societa per Azioni, Milan, Italy, a corporation of Italy

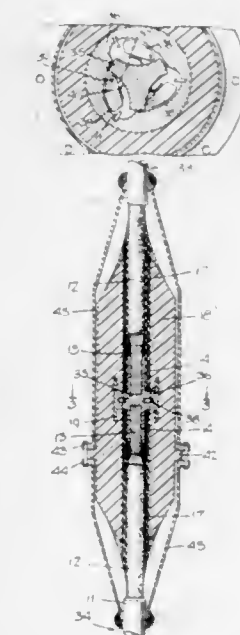
Filed June 28, 1968, Ser. No. 741,090

Claims priority, application Italy, Aug. 2, 1967, 19,120/67

Int. Cl. H02g 15/02, 15/08

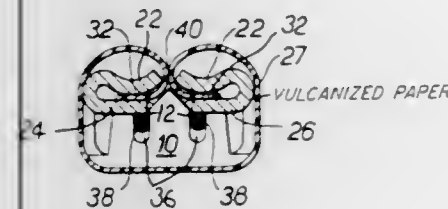
U.S. Cl. 174-75

1 Claim



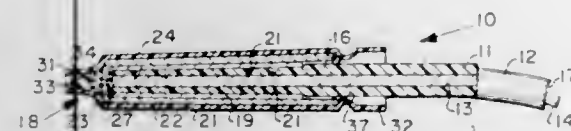
Accessory for heavy current electric cables wherein axial forces generated in the cable conductor by reason of thermal expansion, are absorbed by the support structure of the cable accessory. To this end, clamp means are secured to the tip of the cable conductor; and sleeve means are provided to surround the clamp means and are constructed of mechanically resistant material. Means, connected to the sleeve means and the clamp means, are provided to form a rigid connection therebetween, and support means are connected to the electric cable for supporting the cable accessory, the sleeve means being rigidly connected to the support means.

3,539,707
ELECTRICAL CONNECTOR HAVING UNBONDED INSULATION THEREON
 Colin David Kindell, Bushey, Hertfordshire, and Terrence Robert Raynor, Chingford, London, England, assignors, by mesne assignments, to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey
 Filed Nov. 4, 1968, Ser. No. 772,987
 Claims priority, application Great Britain, Nov. 10, 1967, 51,256/67
 Int. Cl. H01r 9/06; H02g 15/08
 U.S. Cl. 174—84 10 Claims



An electrical connector has a generally U-shaped configuration with insulation covering an exterior surface in an unbonded manner, the insulation being held in place on the connector via gripping means provided by the connector.

3,539,708
ELECTRICAL CONNECTOR AND APPARATUS AND METHOD FOR MAKING SAME
 Ralph G. D'Ascoli and Leon L. Alleva, Yonkers, N.Y., assignors to Anaconda Wire and Cable Company, a corporation of Delaware
 Filed Mar. 6, 1968, Ser. No. 710,944
 Int. Cl. H02g 15/08
 U.S. Cl. 174—87 5 Claims

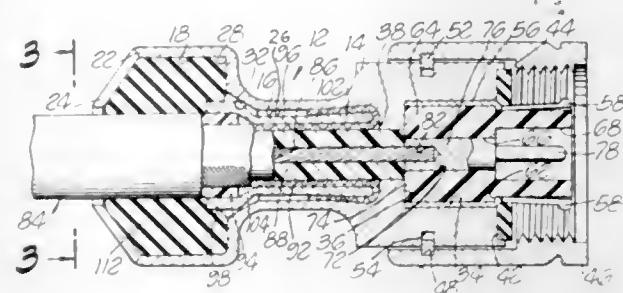


Moisture-tight connectors are made from cut lengths of heat-shrinkable plastic tubing by shrinking one end of the tubing around a plastic pellet that softens and bonds to it thus forming a seal. An inward constriction is formed in the other end of the tubing by shrinking it over a block that is spaced away from an internal metal sleeve. The constriction is needed to retain a dielectric paste with which the connector is filled.

3,539,709
SEALING CRIMP RING FOR COAXIAL CONNECTOR
 Salvatore T. Brancalone, Temple City, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware
 Filed Nov. 4, 1968, Ser. No. 772,947
 Int. Cl. H02g 15/02, 15/08
 U.S. Cl. 174—75 4 Claims

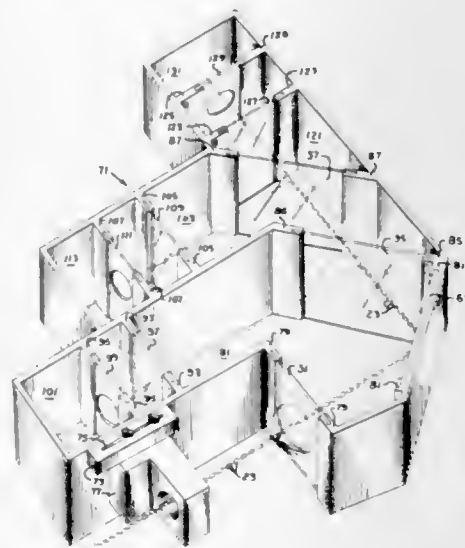
The invention comprises a sealing crimp ring for attachment to an end of a coaxial cable. The sealing crimp ring comprises a tubular body having front and rear ends and an intermediate section with the end of the cable being receivable within the tubular body from the rear. A cylindrical rubber seal is mounted within the body, the tubular body being deformable inwardly around the rubber seal to form an environmental seal between the co-

axial cable and the tubular body. The tubular body may form an integral part of the electrical connector. Further,



a rubber seal may be used at the front end of the tubular body as well as at the rear end.

3,539,710
ELECTROOPTICAL COLOR REPRODUCTION SYSTEM AND MOUNTING MEANS THEREFOR
 Donald John Cross, Tonawanda, and Charles Bailey Neal, Batavia, N.Y., assignors to Sylvania Electric Products, Inc., a corporation of Delaware
 Filed June 4, 1968, Ser. No. 734,495
 Int. Cl. H04n 1/08
 U.S. Cl. 178—5.2 13 Claims

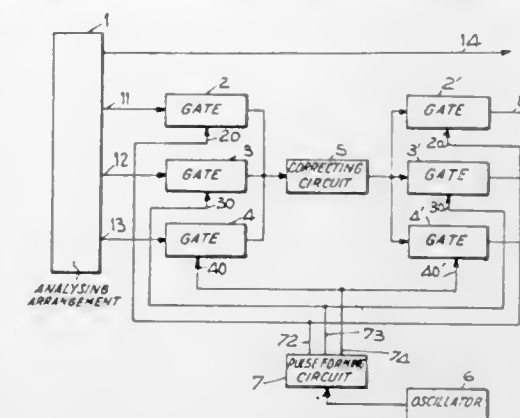


A color reproduction system electrooptically scans a frame of film and includes an optical-to-electrical signal transducer to provide electrical signal components representative of the image on the film frame being scanned, which electrical signals are suitably translated and applied to a television receiver to provide an image display of the film. The optical-to-electrical signal transducer includes collecting lens, dichroic mirrors, secondary collecting lenses and suitable filters fixedly mounted in an airtight, dust-free, rigid container adapted to be mounted on a chassis incorporating photomultiplier pickup tubes in a manner to provide a fixed alignment system requiring no adjustments.

3,539,711
TREATMENT OF CHARACTERISTIC SIGNALS OF A COLOUR TELEVISION PICTURE
 Roger Fontenit, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
 Filed July 14, 1967, Ser. No. 653,503
 Claims priority, application France, July 29, 1966, 71,396
 Int. Cl. H04n 9/32
 U.S. Cl. 178—5.2 4 Claims

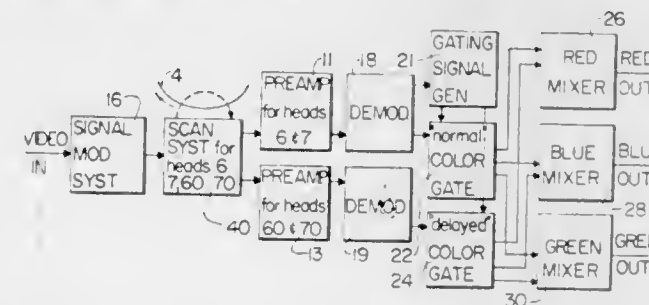
A system for the treatment and the transmission of the primary colour signals of a colour television picture comprising a multiplexing circuit for multiplexing these primary colour signals, a single channel for treating the resultant signal supplied by the multiplexing circuit and a

demultiplexing circuit for supplying, from the treated resultant signal, the treated primary colour signals. The grid of a single gun color television receiver is described. The staircase voltage, which is supplied to a wire grid, is generated by charging the grid capacitance in a resonant manner, reversing the polarity of the voltage in a reso-



invention is particularly applicable to colour television cameras.

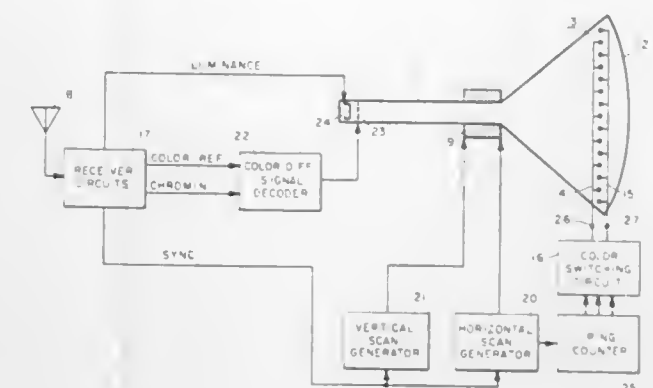
3,539,712
MAGNETIC RECORDING AND REPRODUCING APPARATUS AND METHODS FOR SIMULTANEOUSLY REPRODUCING SEPARATE INFORMATION
 Kenneth D. Stephens, Jr., Salt Lake City, Utah, assignor, by mesne assignments, to Electronic Research Corp., Salt Lake City, Utah, a corporation of Utah
 Filed Jan. 24, 1966, Ser. No. 522,623
 Int. Cl. H04n 9/32, 5/78; G11b 5/52
 U.S. Cl. 178—5.4 32 Claims



Disclosed herein are several methods and devices, including particular magnetic head configurations, for recording and reproducing high frequency signals, such as video, on a magnetic medium. Additional reproducing heads arranged in a predetermined spaced relationship with respect to conventional magnetic transducers are employed in different ways to enable the recording and playback of information. Delayed signals may be provided for extending the duty cycle of individual sequential color signals for enhancement thereof. In one embodiment a video recording mechanism includes a pair of conventional magnetic transducers spaced apart 180° and mounted in the same plane. An additional pair of similar heads is stacked above the conventional heads by a distance equal to one magnetic track width of recorded information. Other arrangements are disclosed wherein the spacing of the sets of heads are different from one track width or offset from one another. Electronic circuits for use with such head configurations for providing various recording and playback functions are disclosed.

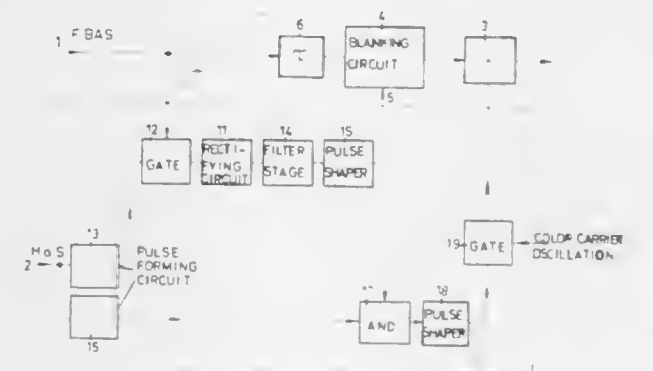
3,539,713
COLOR SWITCHING CIRCUIT FOR A SINGLE GUN COLOR TELEVISION RECEIVER
 Phillip Andrade, Long Island City, and Kurt Hillman, New York, N.Y., assignors to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware
 Filed Oct. 12, 1967, Ser. No. 674,842
 Int. Cl. H04n 9/26
 U.S. Cl. 178—5.4 10 Claims

A switching circuit for generating a staircase switching voltage at line sequential rates for the color switching



nant manner without substantial power loss, and then discharging the capacitance before repeating the cycle. The charging, polarity reversal and discharge take place during successive horizontal retrace periods of the cathode ray tube.

3,539,714
METHOD AND APPARATUS FOR THE REGENERATION OF THE COLOR BURST IN A CODED COLOR TV SIGNAL
 Gerhard Krause, Darmstadt, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany, a corporation of Germany
 Filed July 23, 1968, Ser. No. 746,842
 Claims priority, application Germany, July 27, 1967, 1,537,110
 Int. Cl. G04n 9/46
 U.S. Cl. 178—5.4 10 Claims

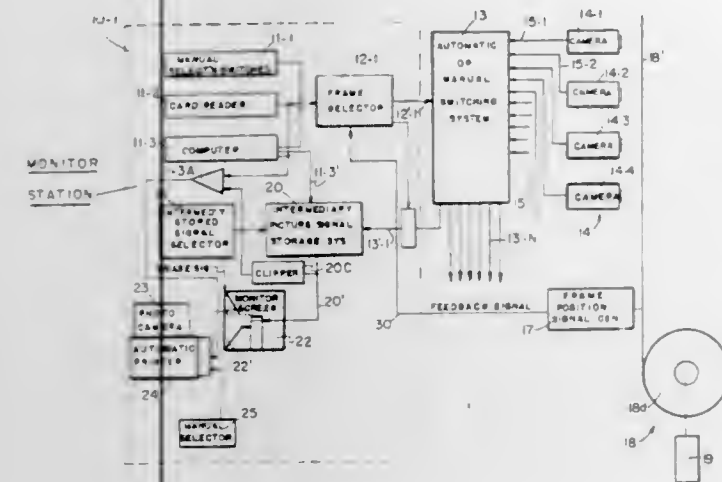


A method and apparatus for regenerating the color burst into a color TV signal at the receiver are disclosed. A first pulse corresponding to the presence of a color burst is produced. A second pulse is derived from the sweep synchronizing signal. If both pulses are present at the same time, a color carrier oscillation produced by a color carrier generator is gated into the color TV signal as a new color burst.

3,539,715
INFORMATION STORAGE AND REPRODUCTION SYSTEM
 Jerome H. Lemelson, 85 Rector St., Metuchen, N.J. 08840
 Continuation of application Ser. No. 347,999, Feb. 26, 1964. This application Nov. 21, 1968, Ser. No. 781,689
 Int. Cl. H04n 5/76, 7/18
 U.S. Cl. 178—6 35 Claims

An information storage and reproduction apparatus is provided which employs a master information storage system and a plurality of monitor stations each provided with means for deriving selected information from said master storage system as electrical signals generated or

communication channels established between said monitor stations and said storage center. Each monitor station includes a receiver-monitor set and means for converting signals received from the master storage system to images on a screen which are capable of being visually monitored and analyzed. Each monitor station includes means for



storing information received from the master storage system either in the form of an image storage tube operative to store and present information received directly from the storage system or by means of an intermediate storage system from which information signals may be selectively fed to the monitor screen.

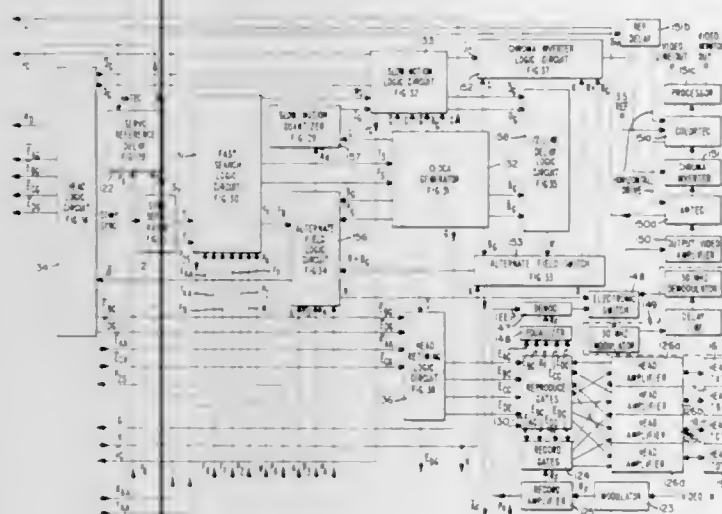
3,539,716

METHOD AND APPARATUS FOR RECORDING AND REPRODUCING TELEVISION OR OTHER BROAD BAND SIGNALS WITH AN ALTERED TIME BASE EFFECT

Boyd L. Stratton, Woodside, and Anthony Poulett, Menlo Park, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Mar. 18, 1968, Ser. No. 713,731
Int. Cl. H04n 1/22, 5/78; G11b 5/00

U.S. Cl. 178—6.6

17 Claims



A method and apparatus is provided for recording and reproducing television or other broad band signals with an altered time base effect so as to provide, for example, in the case of television signals, slow motion, faster than normal motion, stop motion or reverse motion. To provide slow motion replay of television signals, successive fields of the signal are recorded separately on a plurality of magnetic mediums, and at predetermined head-to-

medium writing speeds, and are played back at substantially the same head-to-medium writing speeds. On playback, each field is repeated a number of times depending upon the time base effect desired. Reverse motion is provided by reversing the order of replay of the fields. More specifically, the system includes apparatus for ensuring that the outgoing reproduced signal has correct field interlace when the system is in an altered time base effect.

3,539,717

TOUCH CONTROL DISPLAY SYSTEM

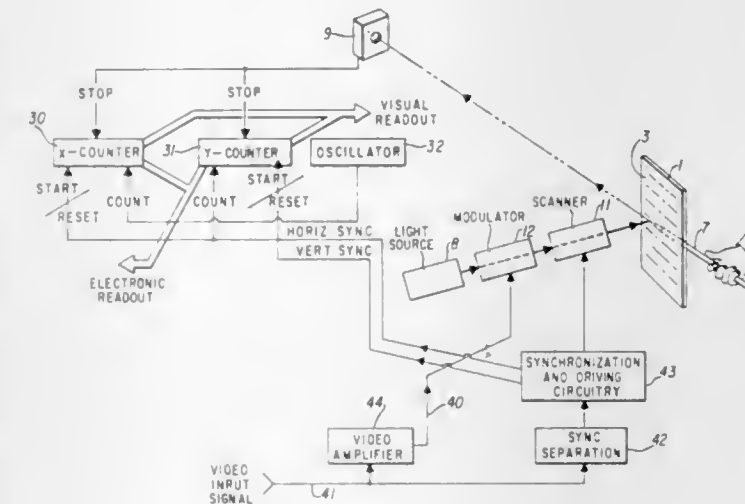
Charles E. Baker, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Sept. 25, 1967, Ser. No. 670,110

Int. Cl. H04n 3/02

U.S. Cl. 178—7.6

7 Claims



An electro optical system is shown for conveying information to a computer or the like by displaying an image having many information cells on a display medium using a scanning light beam, bringing a pointer or finger near an information cell of interest and detecting the light reflected from the display medium as a result of the proximity of the pointer or finger. The signal resulting from the detection of the reflected light is used with the known scan pattern of the moving light beam to determine the position of the information cell of interest. Knowing this position, a computer can then compare the position with the known layout of the information containing image and determine which information bit or bits were pointed to.

3,539,718

ELECTRONIC TYPE COMPOSING APPARATUS

Albert Ernest Cutler, Barnet, England, assignor to Communications Patents Limited

Filed Feb. 23, 1967, Ser. No. 618,003

Claims priority, application Great Britain, June 3, 1966, 24,905/66

Int. Cl. H04n 7/18

U.S. Cl. 178—6.8

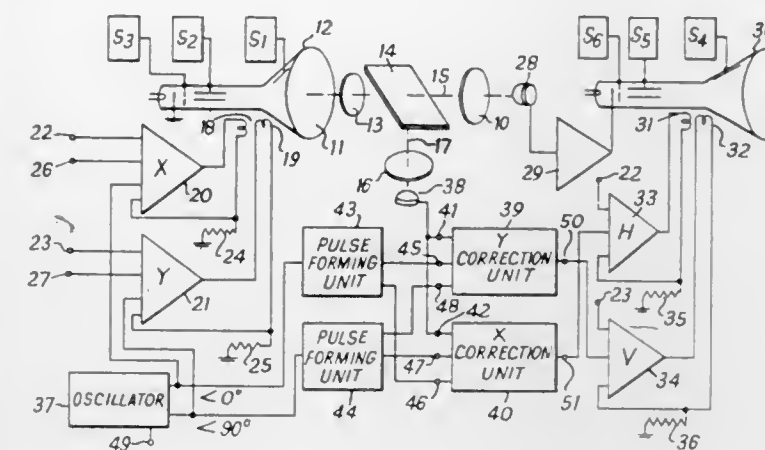
5 Claims

This invention relates to electronic type composing apparatus in which a selected type character is produced by scanning the selected, corresponding area of a type-character matrix, by means of a first cathode ray tube, and reproducing the selected character thus scanned on the screen of a second cathode ray tube.

The invention provides scanning means for the sec-

ond cathode ray tube, employing a correction signal, derived from an optical mark associated with the selected

convergent portion. The housing is spaced from and encloses the deflection and convergence yokes, and controls are conveniently located at the housing exterior.



type character, for correcting error in the position of the reproduced character on the screen of the second tube.

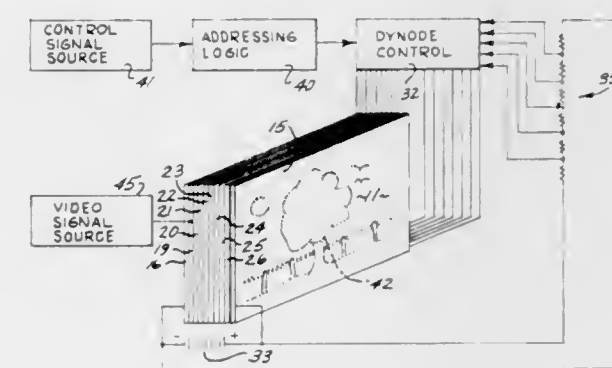
3,539,719

ELECTRON BEAM SCANNING DEVICE

Stanley C. Requa, Northridge, Calif., and Jerald R. Izatt, Las Cruces, N. Mex., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed July 24, 1967, Ser. No. 655,606
Int. Cl. H04n 1/38

U.S. Cl. 178—7.7

5 Claims



A plurality of flat coded dynode members are sandwiched between an electron emitting cathode in the form of a flat plate and a flat target plate. Each dynode has a plurality of apertures formed therein which are effectively aligned with corresponding apertures on all the other dynodes. The dynodes further each have a pair of separate conductive portions thereon forming fingers, such fingers being arranged in a predetermined coded configuration. A filter dynode is also placed between the cathode and the target plate to effectively eliminate "ghosts" in the display presented on the target. Digital control means are connected to the coded finger portions of the dynode members to control the application of electron accelerating potentials thereto in accordance with addressing logic, thus addressing the electron beam from the cathode to the target in accordance with an addressing control signal.

3,539,720

PORTABLE TEST APPARATUS FOR COLOR TELEVISION

Cecil L. Marshall, 406 Brewer Drive, Greenwood, Ind. 46142

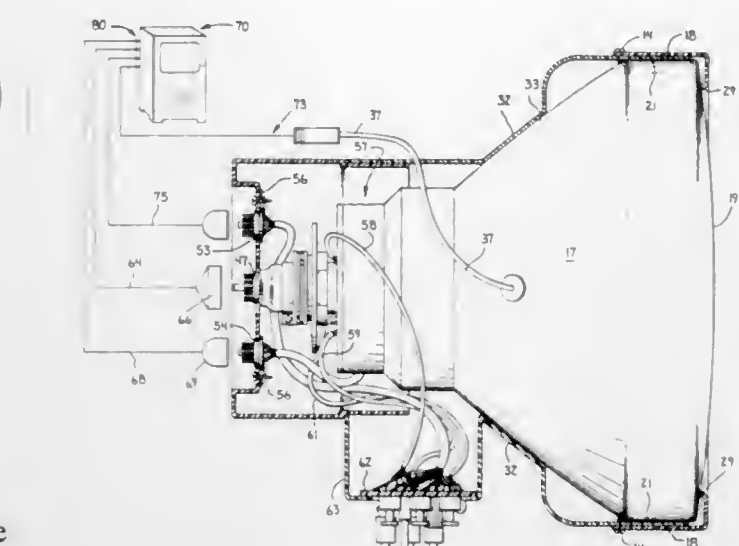
Filed Sept. 9, 1966, Ser. No. 578,323

Int. Cl. H04n 5/645

U.S. Cl. 178—7.8

6 Claims

A plastic housing with three legs, snugly fits a color picture tube, providing direct lateral and vertical supporting contact with the tube wall near the face, and with the



Quick disconnects, suspension eyebolts, legs, and a carrying handle are at the housing exterior in specific locations to minimize direct mechanical shock transmission to the tube, aid stable mounting, and facilitate carrying thereof.

3,539,721

WIDE ANGLE TELEVISION PROJECTION DEVICE

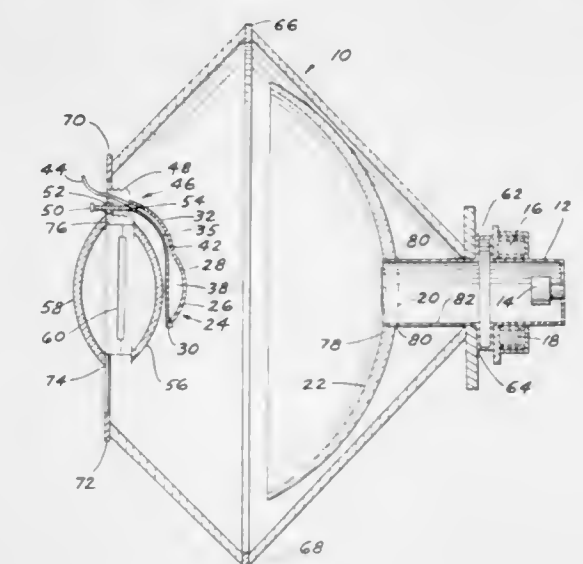
Donald W. Rees, Warren, Mich., Robert C. Hilliard, Hampton Falls, N.H., and Jan Hoogland, Wilton, Conn., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Oct. 20, 1967, Ser. No. 677,510

Int. Cl. H01j 29/89

U.S. Cl. 178—7.89

5 Claims



A television tube of the projection type including a vacuum housing within which are located an electron gun, a phosphor coated target and an optical system. Between the phosphor coated target and the electron gun, there is positioned a concave spherical mirror formed to define an aperture through which electrons travel in their passage from the electron gun to the phosphor coated target. The concave spherical mirror is reoriented to reflect the image formed by fluorescence of the phosphor target to and through a pair of lenses located directly behind the phosphor coated target. The pair of lenses comprises a convexo-concave and a concavo-convex lens which, in combination, refract the light rays received from the concave spherical mirror and produce a wide angle television projection. In a preferred embodiment, the phosphor

coated target consists of a phosphor coated, hollow, spherical member supported upon an adjustable supporting means operable from outside of the vacuum housing, and providing improved heat dissipation and X-ray absorption to protect the apparatus during high power density level operation.

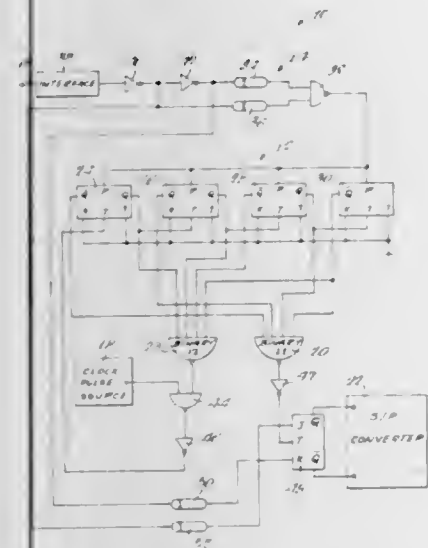
3,539,722

NOISE REJECTION CIRCUIT

Donald J. Stefanik, Berwyn, Ill., assignor to SCM Corporation, New York, N.Y., a corporation of New York
Filed Oct. 28, 1968, Ser. No. 770,953
Int. Cl. H04I 25/08

U.S. Cl. 178-69

7 Claims



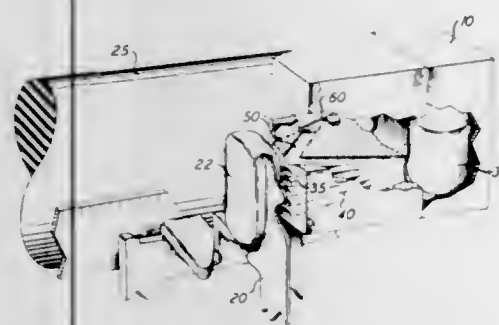
The application discloses a digital timer for rejecting noise and other spurious signals supplied from a two level signaling channel. A counting circuit preset to normal by each line transition is driven by clock signals to a setting representing known elapsed time comprising a fixed percentage of an expected normal signal. This setting of the counting circuit is decoded in a logic gate to enable use of the received signal. The receipt of a signal transition during the known elapsed time period resets the counter and prevents signal use.

3,539,723

TRANSMITTING TYPEWRITER APPARATUS

Charles F. Matthe, Fanwood, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Aug. 1, 1967, Ser. No. 657,599
Int. Cl. B41j 3/50; H04I 15/12, 15/20
U.S. Cl. 178-81

5 Claims



This disclosure describes means for generating coded electrical signals corresponding to a character typed at a typewriter. The typewriter is especially adapted by the addition of photoelectric code-sensing elements. Coded light reflecting markings corresponding to each character typed are deposited on the corresponding type bar adjacent the type head. When a key is struck the head of the

type bar corresponding to the character is brought into coincidence with the sensing elements. Channeled light beams are selectively reflected from the depositions and impinge upon the sensing elements, thereby generating a coded electrical output.

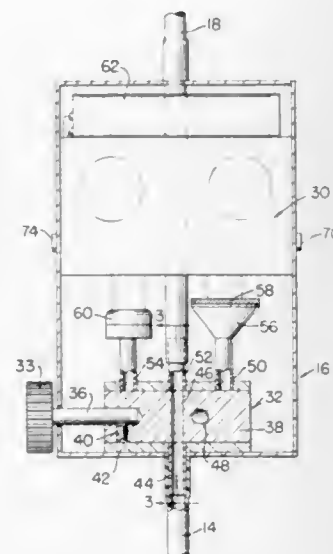
3,539,724

COMBINATION ELECTRONIC AND AIR-COLUMN ACTUATED STETHOSCOPE

Daniel C. Keese, 20 Midwood Drive, Florham Park, N.J. 07936
Filed July 3, 1967, Ser. No. 654,312
Int. Cl. H04r 23/00

U.S. Cl. 179-1

8 Claims



An air-column-actuated combination electronic and standard stethoscope having a unique valve means which permits virtually instantaneous transfer from one mode of operation to the other. A transistorized amplified circuit accommodates an input jack whereby a patient's present heartbeat may be compared with a known standard including the patient's previous condition such as by making a recording thereof. The stethoscope permits monitoring of the patient's condition from a central station and is useful as a teaching device.

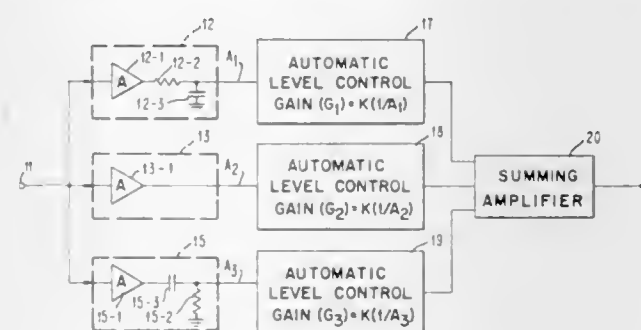
3,539,725

AUTOMATIC FREQUENCY SHAPING NETWORK

George A. Hellwarth and Gardner D. Jones, Jr., Raleigh, N.C., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 12, 1968, Ser. No. 744,398
Int. Cl. H04r 3/04

U.S. Cl. 179-1

2 Claims



Two or more frequency-dependent linear filtering networks accept a common incoming signal. The several filtered signals are applied to automatic level control circuits each of which adjusts the signal amplitude to a

predetermined constant level. A fixed summing network combines the constant-amplitude signals into a composite signal having the desired frequency distribution characteristics.

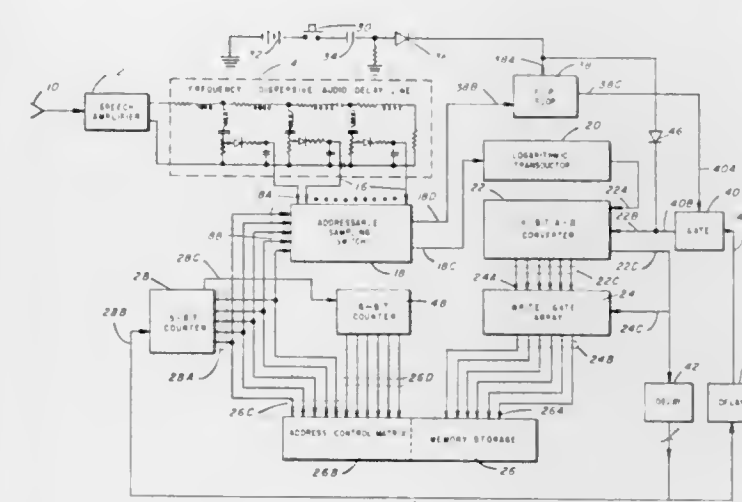
3,539,726

SYSTEM FOR STORING COCHLEAR PROFILES

Victor W. Bolie, Stillwater, Okla., assignor to Oklahoma State University, Stillwater, Okla., a corporation of Oklahoma
Filed Dec. 16, 1968, Ser. No. 783,911
Int. Cl. G10I 1/00

U.S. Cl. 179-1

12 Claims



This invention relates to a system for storing cochlear profiles. More particularly, the invention relates to a system for storing cochlear profiles of phonemes including a frequency dispersing circuit receiving at its input the full spectrum of frequencies making up a phoneme and providing multiple individual outputs of separate narrow frequency bands, each of the bands representing an analog signal of a discrete portion of the phoneme full spectrum and which multiple analog signals define a composite cochlear profile of the phoneme, a sampling step switch providing sequentially an output signal of each of the analog signals of the frequency dispersing circuit, an analog-to-digital converter receiving the sequential analog signal outputs of the sampling switch and converting each signal sequentially into a digital signal, a memory storage means connected to receive and store the digital signals, and means of automatically sequentially advancing in synchronization the sampling switch and the memory storage means until each of the discrete portions of the phoneme full spectrum is stored in digital form.

3,539,727

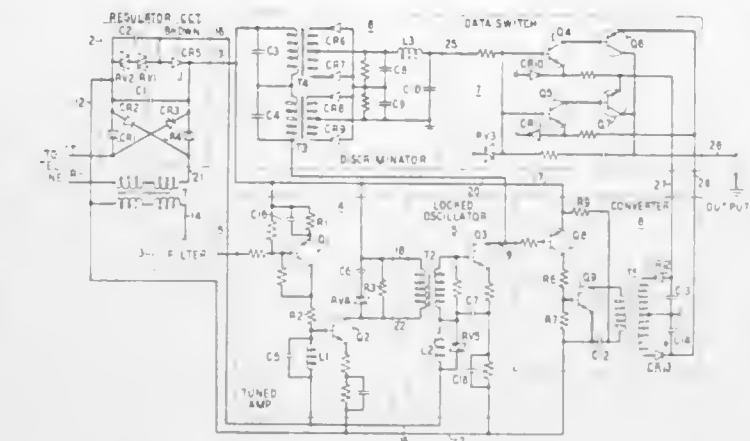
BATTERYLESS DATA RECEIVER HAVING POWER SUPPLY ISOLATION BETWEEN DETECTION CIRCUITS AND SIGNAL OUTPUT

Gerald P. Pasternack, Colts Neck, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Feb. 10, 1969, Ser. No. 797,826
Int. Cl. H04m 11/06

U.S. Cl. 179-2

7 Claims

Frequency-shift data signals received from a telephone line are limited by a locked oscillator, recovered by a discriminator, converted to signal voltages by a switching circuit operated by the discriminator and applied to a customer provided terminal. The power supply for circuits is derived from the telephone line current developed by the central office battery. The signal voltages on the customer provided terminals are developed with respect to the local customer ground and are, therefore, isolated



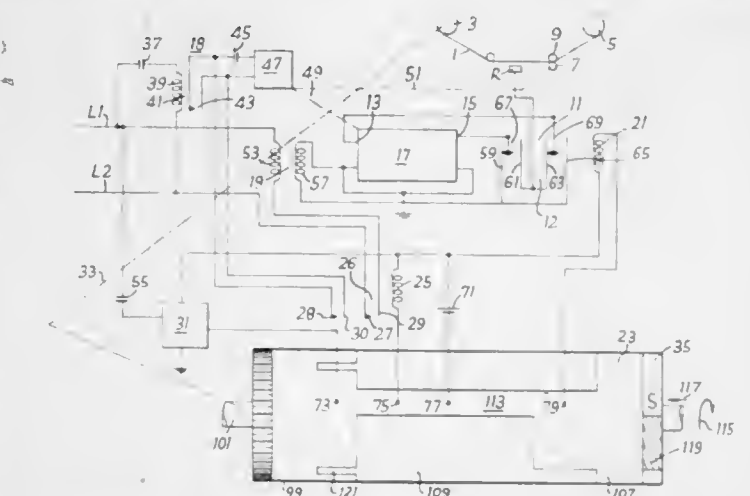
alternating signal output of the oscillator limiter through a transformer and rectifying the alternating signal with respect to local ground to obtain the supply voltage.

3,539,728

SINGLE RECORD TELEPHONE ANSWERING AND RECORDING DEVICE

Leonard Rubenstein, London, England, assignor to Learning Appliances Limited, London, England
Continuation-in-part of application Ser. No. 632,489, Mar. 22, 1967. This application Nov. 2, 1967, Ser. No. 680,102
Claims priority, application Great Britain, Mar. 24, 1966, 13,008/66; June 8, 1966, 25,472/66
Int. Cl. H04m 1/64; G11b 15/02
U.S. Cl. 179-6

36 Claims



Telephone answering devices which employ a tape having pre-recorded answering announcements on spaced sections thereof. When an incoming ringing current is detected by a device, driving means drive the tape from a supply spool to a take-up spool, via a recording and playback head. Switching means, coupled to one of the spools, switch the device to its "playback mode" when one of the sections is passing the head and to its "record mode" when tape intermediate the sections is passing the head. Synchronization between the tape and the mode of operation of the device is maintained even if slipping takes place between the tape and the driving means.

3,539,729

APPARATUS FOR REDUCING INTERFERENCE IN THE TRANSMISSION OF ELECTRIC SIGNALS

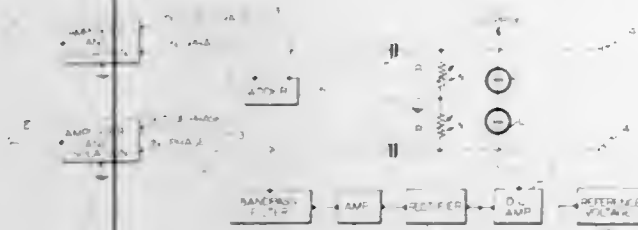
Daniel R. von Recklinghausen, Arlington, Mass., assignor to H. H. Scott Inc., Maynard, Mass., a corporation of Massachusetts
Filed June 12, 1967, Ser. No. 645,860
Int. Cl. H04h 5/00

U.S. Cl. 179-15

11 Claims

The invention provides attenuating networks that automatically reduce interference accompanying the reception

and reproduction of signals such as stereo transmissions. In a stereo operation this is accomplished by first obtaining two isolated signals from each channel, summing an isolated signal from one channel with a corresponding



isolated signal in the other channel, and further using this sum which is absent a substantial portion of rumble and related noise to obtain a control signal for operating attenuating networks which act on the two remaining isolated signals (one in each channel).

3,539,730

TWO-STAGE LINK CONNECTION SYSTEM USING CROSS-BAR SWITCHES

Akira Imamura, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Dec. 14, 1967, Ser. No. 690,472

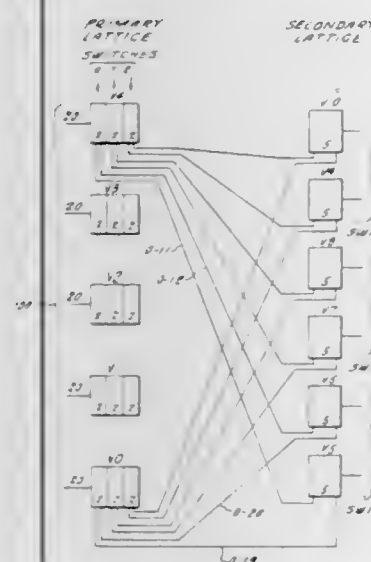
Claims priority, application Japan, Dec. 17, 1966,

41/83,096

Int. Cl. H04q 3/42

U.S. Cl. 179—18

2 Claims



A two-stage link connection system for coupling incoming lines to outgoing lines and employing crossbar switches. Each crossbar switch is divided into at least two groups with each group being assigned to a different lattice. Links connecting the lattices are made between that group of a crossbar switch assigned to a first lattice and the group of another crossbar switch assigned to the second lattice so that no connections are made between groups of the same crossbar switch thereby enabling simultaneous switching of both groups of a crossbar switch in each lattice to significantly reduce switching time and connections and to allow use of such a system in common with cordless type switchboard frames.

3,539,731

MULTIFREQUENCY SIGNAL RECEIVER

Zenon Legedza, Peabody, Mass., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Nov. 5, 1968, Ser. No. 773,591

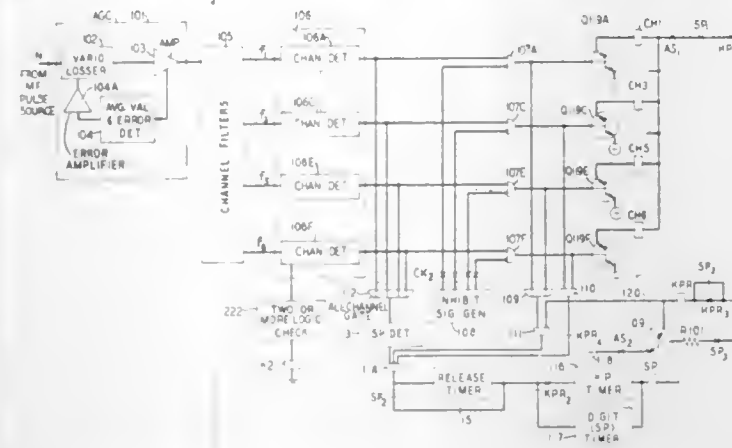
Int. Cl. H04m 1/50; H04q 9/12

U.S. Cl. 179—84

8 Claims

In a multifrequency signal receiver circuit of the general type employed in telephone system central offices, increased protection against false operation in response

to spurious input signals is achieved by a combination of interrelated circuit changes which effect a decrease in the signal recognition bandwidth, a reduction in modulation



products at low signal levels and an increase in the acceptance threshold in the presence of only a single input signal.

3,539,732

ELECTRONIC SYSTEM FOR SIGNALING THE ENTRANCE OF TELEPHONE CALLS IN MULTILINE TELEPHONE SETS

Carlos Weissenberg, Calzada de las Aguilas 394, Mexico City 20, Mexico

Filed Sept. 7, 1967, Ser. No. 666,025

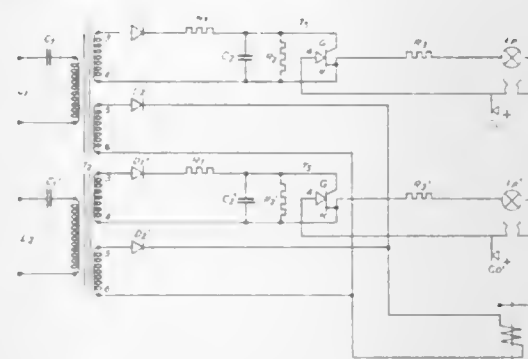
Claims priority, application Mexico, Mar. 18, 1967,

94,776

Int. Cl. H04m 1/00, 5/12

U.S. Cl. 179—99

9 Claims



A signaling system for telephone PBX and key systems which comprises a plurality of transformers each having a primary winding to receive a calling signal from a telephone line or circuit, each transformer also having a first secondary winding connected through a diode and a thyristor or silicon controlled rectifier to a telephone key and to individual signaling means for each telephone circuit, each transformer having also a second secondary winding connected through a respective diode to a common signaling alarm means and connected in parallel to the respective second secondary windings of the other transformers. The system is such that when a call is received through any one of the lines, the above mentioned common signaling means will be actuated, together with one of the individual signaling means which will correspond to the telephone key to be operated to answer the call.

3,539,733

OPERATOR CALL TRANSFER AND OVERLAP CALL SWITCHING EQUIPMENT

Robert M. Morris, Spring Lake Heights, N.J., and John M. Repholz, New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Nov. 29, 1968, Ser. No. 779,932

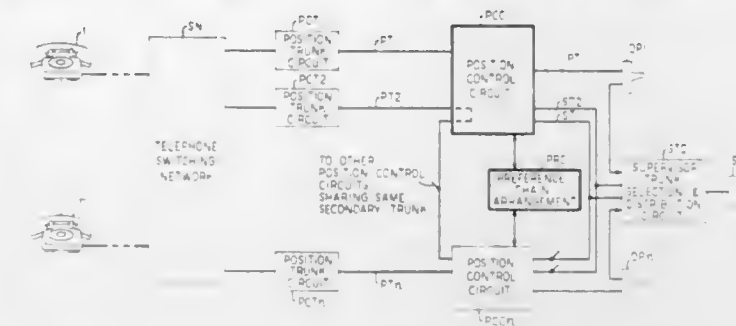
Int. Cl. H04m 3/00

U.S. Cl. 179—27

22 Claims

Operator position equipment is disclosed including primary and secondary trunks for receiving incoming calls

and position circuits for controlling the automatic transfer of calls on the primary and secondary trunks to a supervisor position over trunks shared by a plurality of operator positions. The position circuit is arranged for automatically switching an operator telephone from the primary to the secondary trunk which is shared by a



plurality of positions for serving calls on an overlap basis while a call on the primary trunk is served by the supervisor. Apparatus is provided for automatically switching the operator telephone back to the primary trunk after the supervisor has served the transferred call and an overlap call has been completed.

3,539,734

AUTOMATIC TAPE RECORDER OPERATING SYSTEM

Yoichi Tsuchiya, Tokyo, Japan, assignor to Teac Corporation, Tokyo, Japan, a corporation of Japan

Filed Mar. 6, 1968, Ser. No. 710,960

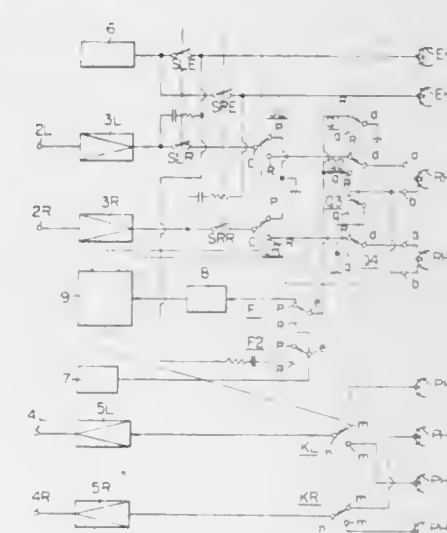
Claims priority, application Japan, Mar. 18, 1967,

42/16,900

Int. Cl. G11b 21/08, 27/30, 15/44

U.S. Cl. 179—100.2

4 Claims



This specification discloses an automatic tape recorder operating system using a pre-recorded magnetic tape including a plurality of tracks and having cue signals recorded in two of said plurality of tracks at a predetermined position in a recording mode different in respect of phase from that of information signals recorded in said two tracks, thereby automatically reversing the direction of transportation of said magnetic tape upon reproduction of said cue signals.

3,539,735

SINTERED TRANSDUCER HOUSING PROVIDING ACOUSTICAL RESISTANCE AND WATER-PROOFING

Gaston A. Marchand, New York, N.Y., assignor to Roanwell Corporation, New York, N.Y., a corporation of New York

Filed Apr. 28, 1967, Ser. No. 634,573

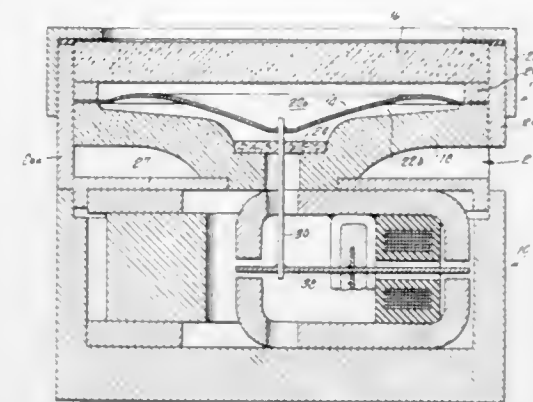
Int. Cl. H04r 1/02

U.S. Cl. 179—179

3 Claims

A diaphragm housing which is constituted of sintered metallic particles having minute air passages to provide

sufficient acoustic resistance, the air passages having a width of the order of .001 inch and being coated with a



material which is not wet by water whereby they are additionally capable of preventing moisture penetration.

3,539,736

RECIPROCABLE AND ROTATABLE SWITCH WITH THE SAME CAMS PERFORMING BOTH ACTIONS

Hubert L. Naimer, Schumannsgasse 33-37,

Vienna, Austria

Filed June 20, 1968, Ser. No. 738,503

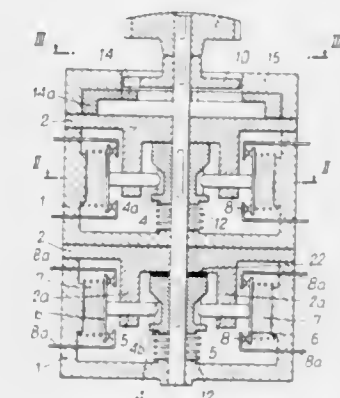
Claims priority, application Austria, July 23, 1967,

A 5,858/67

Int. Cl. H01h 25/06

U.S. Cl. 200—4

7 Claims



A shaft rotatably and shiftably mounted in a switch housing carries several axially spaced cams which act upon associated switch armatures during both rotary and axial displacement of the shaft to open or close their contacts. An indexing disc secured to the shaft permits its axial displacement in a selected rotary position only.

3,539,737

ELECTRIC SWITCH

Karl Schupp, Pforzheim, Germany, assignor to Robert Bosch GmbH, Stuttgart, Germany

Filed Oct. 28, 1968, Ser. No. 771,015

Claims priority, application Germany, Nov. 14, 1967,

1,615,817

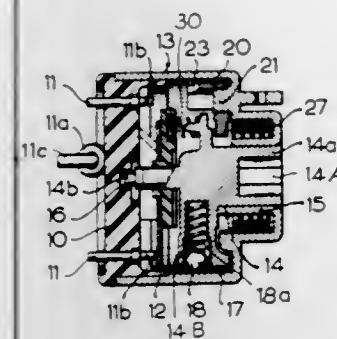
Int. Cl. H01h 19/58, 9/28

U.S. Cl. 200—11

14 Claims

An ignition switch wherein the key can move a rotor, which carries the movable switch contact, unidirectionally from an "off" position through an "ignition" position to a "start" position and wherein a spring biases the rotor from "start" position back to "ignition" position. Repeated movement of the rotor from "ignition" position to "start" position is prevented by a two-armed lever which is actuated by a pair of cams on the rotor whereby one of the cams cooperates with a leaf spring to move the lever

to blocking position when the rotor is moved from "ignition" position to "start" position and the other cam cooperates with the leaf spring to move the lever to unblocking position when the rotor is returned from "ignition" position to "off" position. The rotor is thereupon free to again move from the "off" position through the "ignition" position and to the "start" position. In this way, the lever prevents actuation of the starter when the engine is running.



3,539,738

MINIATURE INDUSTRIAL LIMIT SWITCH

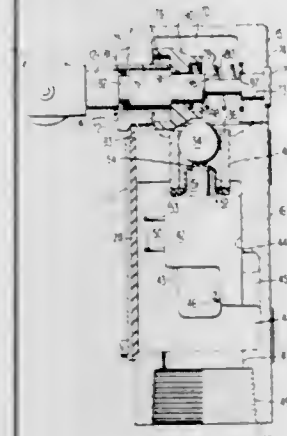
Jack L. Bowen, Waseca, Minn., and Richard L. Chace, Bloomington, Ill., assignors to General Electric Company, a corporation of New York

Filed Nov. 12, 1968, Ser. No. 774,987

Int. Cl. H01h 3/16

U.S. Cl. 200—47

7 Claims



Included in a limit switch are a head portion and a body portion. The head portion comprises a motion converter which translates motion of a device with which the switch is associated into a standard switch motion. A switch assembly is disposed in the body portion and is actuated by motion of a retained sphere which couples the standard switch motion thereto. Diverse types of motion converters may be used in the head portion without any modification of the body portion, and the spherical actuator therein permits orientation of each head portion in a number of positions relative to the body portion.

3,539,739

CONNECTOR ASSEMBLY

Raymond R. Boggs, Jr., Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 15, 1968, Ser. No. 744,801

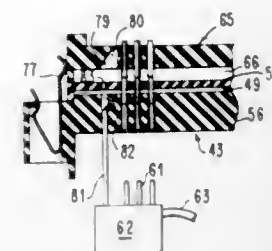
Int. Cl. H01r 33/30

U.S. Cl. 200—51.1

19 Claims

A connector assembly includes first and second housings secured to each other with a plurality of electrically

conductive members disposed therebetween. Each of the electrically conductive members has a first portion disposed in the first housing and a second portion disposed in the second housing. A control member is slidably mounted on the second housing and connects a plurality of the electrically conductive members to exterior electrically conductive members to form circuits therebetween when the control member is in a first position. When a



3,539,740

ANTI-DISTURBANCE SWITCH

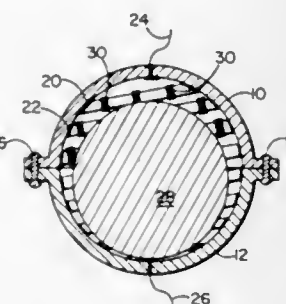
Ernest H. Isenor, Coon Rapids, and Carl G. Karsten, Crystal, Minn., Joseph B. Kearsley, Bountiful, Utah, Richard G. Moe, China Lake, Calif., and James W. Smith, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 26, 1968, Ser. No. 755,347

Int. Cl. H01h 35/14

U.S. Cl. 200—61.45

3 Claims



An anti-disturbance switch providing a switching function when forces external to the switch induce relative motion between a conductive sphere and a pair of spiral, spaced conductors within a spherical switch housing.

3,539,741

MAGNETICALLY ACTIVATED DOOR SWITCH
Elmo W. Volland, Indianapolis, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Continuation of application Ser. No. 590,732, Oct. 31, 1966. This application Aug. 8, 1969, Ser. No. 849,603

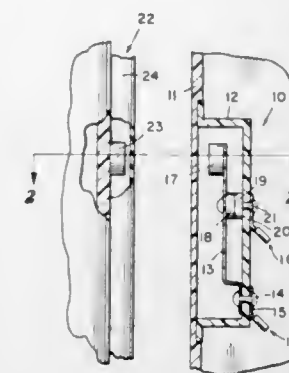
Int. Cl. H01h 3/16

U.S. Cl. 200—61.62

4 Claims

A leaf spring fixedly connected at one end to a housing disposed within a casing for a compartment carries a magnet at one end of the spring and an electrical contact near its center. A second magnet of opposite polarity from the

first is disposed within the casing of a door adapted to close the opening of the compartment so that when the door is closed the repelling force of the magnets actuates the switch.



3,539,742

ELECTRICAL SNAP SWITCH HAVING STRESSED BLADE

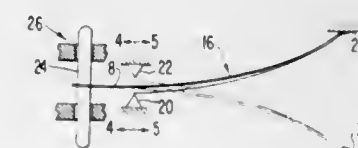
Donald F. Wilkes, Albuquerque, N. Mex., assignor to Rolamite Technology, Incorporated, San Francisco, Calif., a corporation of California

Filed Dec. 4, 1968, Ser. No. 781,120

Int. Cl. H01h 13/36

U.S. Cl. 200—67

29 Claims



An electrical switch of the type having a switch blade movable between a pair of opposed contacts and a plunger that is spring biased for displacing the blade from engagement with one contact into engagement with the other contact. The switch has an elongated blade that is supported by a reaction surface in the switch housing so that one end of the blade is movable between the opposed electrical contacts. An actuator mounted in the housing engages the blade for effecting displacement of the blade end from one contact to the other. The blade is arranged to provide spring bias for urging the actuator toward an inactive position. When the actuator is displaced sufficiently to deflect the blade, the contact end of the blade snaps from one contact to the other and when the actuator is released, the contact end of the blade snaps back to the first contact. The various components of the switch may be modified to provide a variety of modes of operation and characteristics without altering the basic switch structure.

3,539,743

ELECTROFLUIDIC SWITCHING CIRCUIT

Harry Winter, Franklin Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

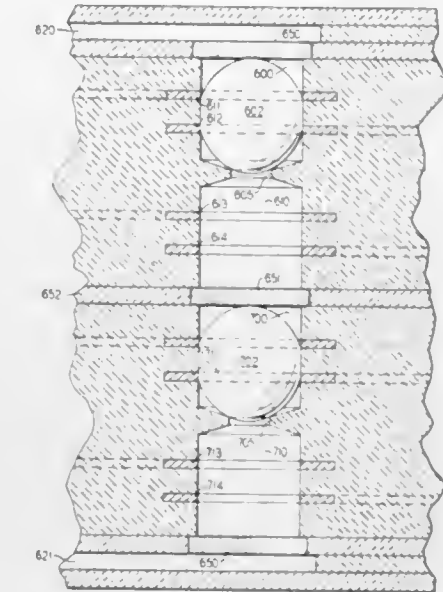
Filed Aug. 10, 1967, Ser. No. 659,686

Int. Cl. H01h 29/28

U.S. Cl. 200—81.6

4 Claims

A laminate array of fluid-pressure-operated metallic-contact switching elements are operatively associated through a foraminous interface with fluid logic elements. The individual fluid-pressure-operated switching elements each comprise an hourglass-shaped capillary tube having



3,539,744

COMBINATION ELECTRICAL SWITCH AND FLUID ACCUMULATOR CHAMBER

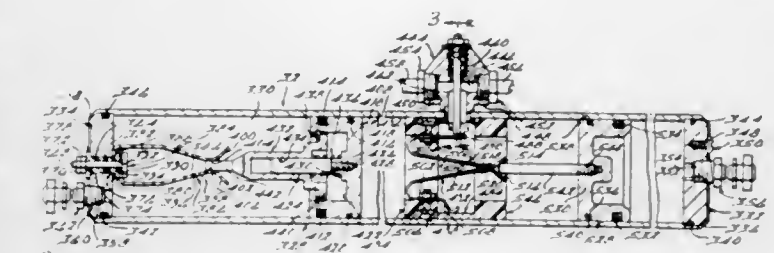
William W. Higginbotham, Monroe, Mich., assignor to Monroe Auto Equipment Co., Monroe, Mich., a corporation of Michigan

Original application Mar. 24, 1966, Ser. No. 537,056, now Patent No. 3,409,397, dated Nov. 5, 1968. Divided and this application Jan. 8, 1968, Ser. No. 722,506

Int. Cl. H01h 35/38

U.S. Cl. 200—82

9 Claims



In combination with a vehicle leveling system having a fluid actuable elevating mechanism and an electrically energized fluid pumping means, a combination electrical switch and fluid accumulator assembly, the assembly comprising an elongated cylindrical housing, piston means slidably disposed within the housing and dividing the interior thereof into first and second fluid chambers, one of the chambers being communicable with a source of pressurized fluid and the other of the chambers containing actuating fluid for the elevating mechanism and being communicable therewith, with the piston means being movable longitudinally of the housing in response to preselected differential pressure conditions between the chambers, first and second terminal means on the housing, first and second contact means disposed within one of the chambers, the contact means having portions connected to each terminal means and second portions normally engaged with each other, whereby to complete a circuit between the first and second terminal means, and means on the piston means movable to and from a position separating the engaged portions of the contact means to open and close an electrical circuit associated with the pumping means.

3,539,745

GAS PRESSURE OPERATED ELECTRIC SWITCHING DEVICE

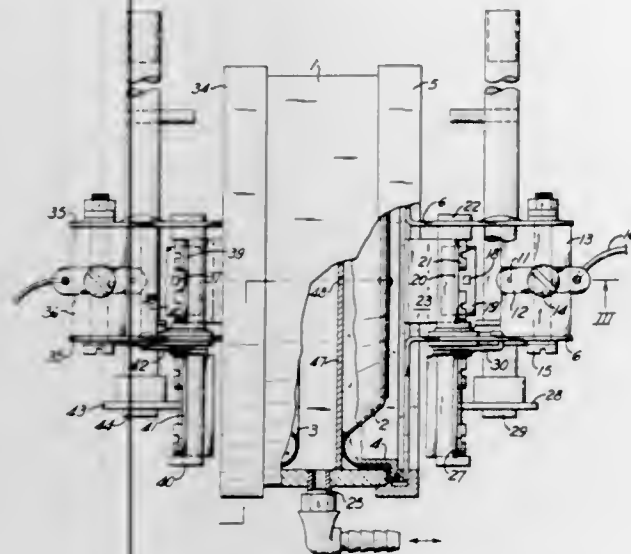
Allen G. Schoener, Verona, and Ellison L. Davison, Glenshaw, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 14, 1967, Ser. No. 682,896

Int. Cl. H01h 35/40

U.S. Cl. 200—83

6 Claims



A housing forms a chamber provided with an inlet and outlet for a gas. A wall of the chamber is formed by a flexible diaphragm that is responsive to gas pressure in the chamber. A switch is spaced from the diaphragm, and there is switch-actuating means movable by the diaphragm toward the switch far enough to actuate it. Means are provided for varying the resistance of the actuating means to movement by the diaphragm.

3,539,746

RELAY SWITCH WITH DIAPHRAGM OPERATED BY EXPLOSIVE GAS MIXTURE

Göran Anders Henrik Hemdal, Tyreso, and Karl Gunnar Brunberg, Segeltorp, Sweden, assignors to Telefonaktiebolaget L. N. Ericsson, Stockholm, Sweden, a corporation of Sweden

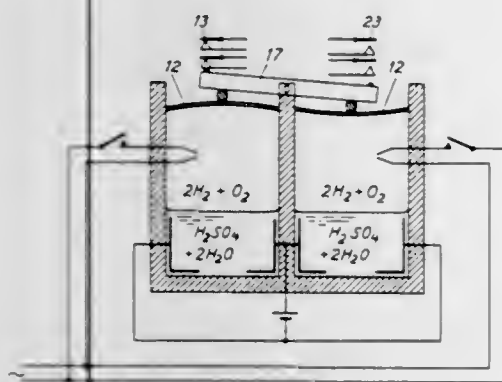
Filed Apr. 17, 1968, Ser. No. 722,032

Claims priority, application Sweden, May 31, 1967, 7,620/67

Int. Cl. H01h 35/34

U.S. Cl. 200—83

7 Claims



A relay includes a container with at least a portion of one wall being deformably outward to actuate an electrical or mechanical device. Within the container is an electrolyte in contact with a pair of electrodes connected to a direct current source. By electrolysis an explosive gas mixture is generated. Switch-operator ignition means within the container controllably explode the gas mixture to cause the deformable portion of the wall to actuate the device.

3,539,747

DAMPED BELLOWS CONSTRUCTION

Alfred Alexander Robinson, Stafford, England, assignor to The English Company Limited, London, England, a British company

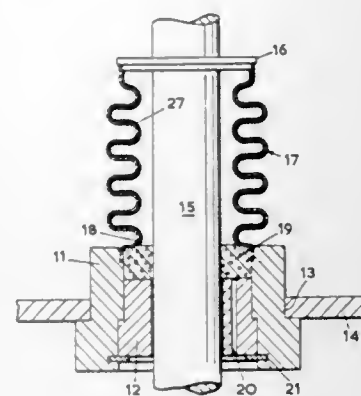
Filed Mar. 27, 1968, Ser. No. 716,532

Claims priority, application Great Britain, Apr. 13, 1967, 16,992/67

Int. Cl. H01h 33/66

U.S. Cl. 200—144

11 Claims



A reservoir for a hysteresis liquid, which comprises an absorbent resilient material, is held in contact with part of a bellows by which the movable contact of a vacuum circuit interrupter is sealed to the evacuated casing. When the reservoir has been loaded with hysteresis liquid (e.g. by injection through a hole in the bearing which slidably supports the movable contact) hysteresis liquid creeps up the internal surface of the bellows so that a film of the hysteresis liquid is formed on the surface of the bellows wall. The presence of such a film of hysteresis liquid substantially reduces the mechanical vibrations induced in the bellows during operation of the vacuum circuit interrupter.

3,539,748

CENTER TAP POTENTIOMETER CENTER BIASED BY LINEARLY MOVABLE MICROSWITCH ACTUATING CONTROL RODS

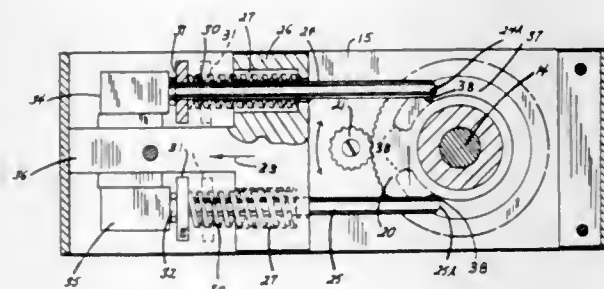
Karl E. Neumeier, Stillwater, Minn., assignor to Programmed & Remote Systems Corporation, St. Paul, Minn., a corporation of Minnesota

Filed May 1, 1968, Ser. No. 725,617

Int. Cl. H01h 21/24

U.S. Cl. 200—153

14 Claims



A control switch of the rotary type having a center off position and controlling movement of a load in two different directions by moving the switch to either side of a center off position. The switch controls a center tap potentiometer and not only turns the load on and off and controls the direction of movement of a load, but also controls speed of the load. The farther the switch is moved from its off position the faster the load is moved. The switch utilizes an improved arrangement for positively returning the switch to its center off position whenever it is released so that very accurate control of the load can be obtained.

3,539,749

MOVABLE CONTACTS WITH OPPOSITELY INCLINED KEYING SLOTS FOR PROVIDING WIPING ACTION IN A PUSHBUTTON SWITCH

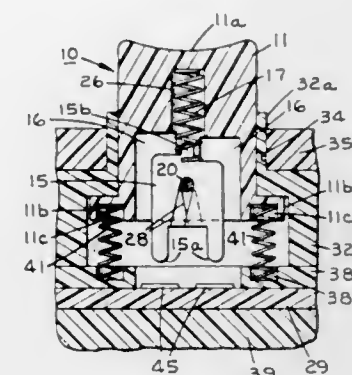
Alexander M. MacPheat, Indianapolis, Ind., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 18, 1968, Ser. No. 784,654

Int. Cl. H01h 3/12, 1/44, 13/66

U.S. Cl. 200—159

19 Claims



A spring-biased, pushbutton switch assembly for general use, but particularly adapted for use in making and breaking electrical circuit connections on printed circuit boards. The switch contacts are pivotally mounted and spring biased within the pushbutton housing in such a way that upon depressing the housing against a member with stationary contacts thereon, both lateral and vertical movement are imparted to the switch contacts. The switch contacts also exhibit a self-leveling action.

Another embodiment of the pushbutton switch assembly additionally effects selectively controlled movement of a cross-slide mechanism which, in turn, can be utilized to actuate associated circuitry.

3,539,750

SWITCH FOR HIGH AMPERAGE CURRENT

Per Holm, Skoghall, Sweden, assignor to Uddeholms Aktiebolag, Uddeholm, Sweden

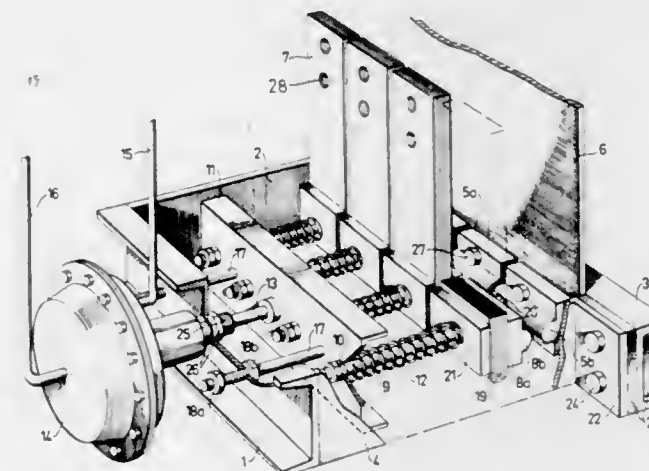
Filed May 16, 1968, Ser. No. 729,685

Claims priority, application Sweden, June 5, 1967, 7,877/67

Int. Cl. H01h 1/50

U.S. Cl. 200—170

4 Claims



A switch for high current operation contains a stationary contact and a movable contact. The movable contact is operated by an operating member actuated by a pressurized fluid. Locking means are provided for maintaining the contacts into engagement whenever desired.

3,539,751

INSULATING IMPLEMENT FOR USE IN A MICROWAVE OVEN

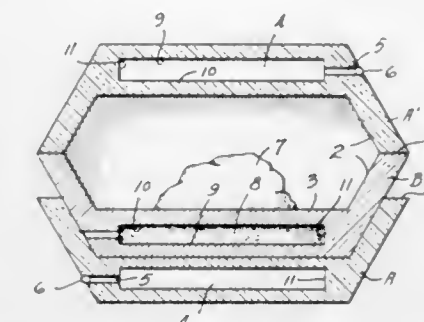
Melvin L. Levinson, 1 Meinzer St., Avenel, N.J. 07001

Filed Oct. 26, 1966, Ser. No. 589,626

Int. Cl. H05b 5/00, 9/06

U.S. Cl. 219—10.55

13 Claims



An insulating implement for use with apparatus employing electromagnetic wave irradiation. The implement includes a microwave permeable body having a cavity therein formed by a plurality of surfaces, at least one of the surfaces being heat reflective. The cavity has disposed therein a heat insulator, such as a vacuum.

3,539,752

FABRICATION OF STEEL MATS

Walter Ernst, Strump, Post Osterath, Germany, assignor to Bau-Stahlgewebe G.m.b.H., Dusseldorf-Oberkassel, Germany, a corporation of Germany

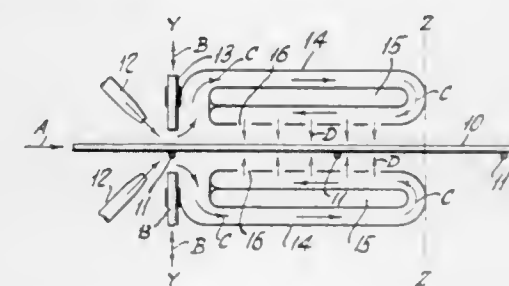
Filed Aug. 3, 1966, Ser. No. 569,873

Claims priority, application Germany, Aug. 12, 1965, B 83,235

Int. Cl. B23k 9/00; C21d 1/00

U.S. Cl. 219—56

3 Claims



In the fabrication of metal mats made up of a plurality of longitudinal and cross bars welded at their intersections by applying the cross bars to the longitudinal bars and feeding the partially welded mats in the direction of the longitudinal bars past any array of spot welding devices, the parts of the bars in the vicinity of the intersections are pre-heated above ambient temperature and passed, after welding, through a heat field having a temperature distribution gradually decreasing, in the feeding direction, from the elevated to ambient temperature.

3,539,753

MONITORING APPARATUS FOR ELECTRO-EROSION PULSE GENERATOR

Werner Ullmann, Locarno-Muralto, and Franco Donati, Locarno, Switzerland, assignors to A.G. für industrielle Elektronik AGIE, Losone-Locarno, Switzerland, a corporation of Switzerland

Filed Feb. 10, 1966, Ser. No. 526,528

Claims priority, application Switzerland, Feb. 11, 1965, 1,858/65

Int. Cl. B23p 1/08

U.S. Cl. 219—69

10 Claims

An improved monitoring or supervising apparatus is disclosed for electro erosion pulse generators incorporating a pulse shaper, amplifier and output stages coupled with the work or erosion gap. The monitoring apparatus comprises a first switch and functions to detect a voltage

drop at the work gap due to the formation of an arc thereof and responds to suppress the generation of work pulses from the electro-erosion pulse generator. After a predetermined



mined time interval, a second switch of the monitoring apparatus is actuated to reset the first switch and thus reset the monitoring apparatus.

3,539,754

VARIABLE ECCENTRIC OVERCUTTING ELECTRICAL DISCHARGE MACHINING DEVICE

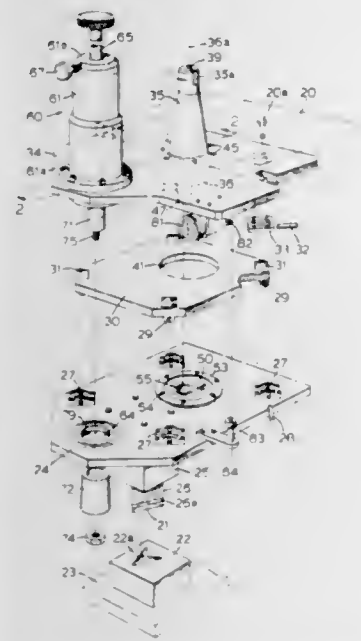
David James Furze, Chateauguay, Quebec, and Joseph Louis Lagasse and Vilmos Gyula Fodor, Montreal, Quebec, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Aug. 31, 1967, Ser. No. 664,750

Int. Cl. B23p 1/08, 1/12

U.S. Cl. 219—69

9 Claims



An apparatus for the electrical discharge machining of a die opening or cavity in which the electrode is orbited by lateral reciprocation in two mutually transverse directions to increase the overcut. An eccentric on a drive shaft engages a circular disc cam which is rotatable on the eccentric and in a matching aperture in a platen carrying the electrode. The throw of the cam is adjustable by a non-reciprocating projection loosely engaging a second aperture in the platen.

3,539,755

ELECTRICAL DISCHARGE MACHINING PULSE CONTROL METHOD AND APPARATUS

Kiyoshi Inoue, Tokyo, Japan

(100 Sakato, Kawasaki, Kanagawa, Japan)

Continuation-in-part of application Ser. No. 493,473, Oct. 6, 1965, now Patent No. 3,360,683, dated Dec. 26, 1967. This application Nov. 14, 1967, Ser. No. 682,824

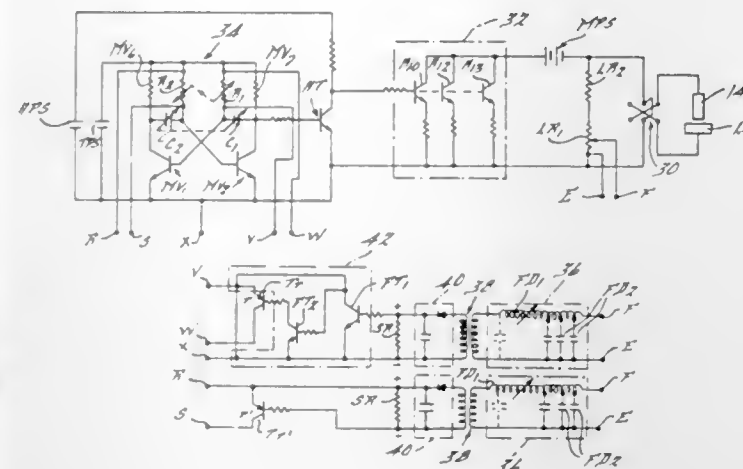
Int. Cl. B23p 1/08

U.S. Cl. 219—69

16 Claims

A system for controlling machining pulse on-off time to limit gap power in response to a short or an open circuit

machining gap condition in electrical machining systems wherein a multivibrator applies a preset on-off time at an electronic switch between the power supply and the



3,539,756

WELDING APPARATUS

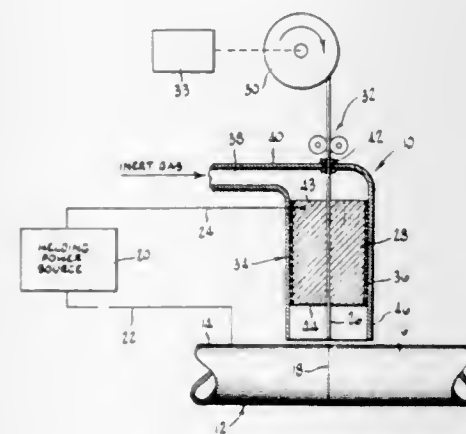
Harry Schwartzbart, Evergreen Park, and Zalman P. Saperstein, Glenwood, Ill., and John F. Rudy, Littleton, Colo., assignors to IIT Research Institute, Chicago, Ill., a not-for-profit corporation of Illinois

Filed Aug. 30, 1967, Ser. No. 664,318

Int. Cl. B65d 9/02

U.S. Cl. 219—74

21 Claims



At least one fiber metallurgical body may be used for transferring electric current to a welding electrode. This or another fiber metallurgical body may function as a getter for removing contaminants from an inert shielding gas used in inert gas arc welding.

3,539,757

GAS SHIELDED ARC WELDING TORCH

John K. Young, Chesham, England, assignor to The British Oxygen Company Limited, a British company

Filed July 20, 1967, Ser. No. 654,812

Claims priority, application Great Britain, July 22, 1966, 33,194/66

Int. Cl. B23k 9/16, 9/24

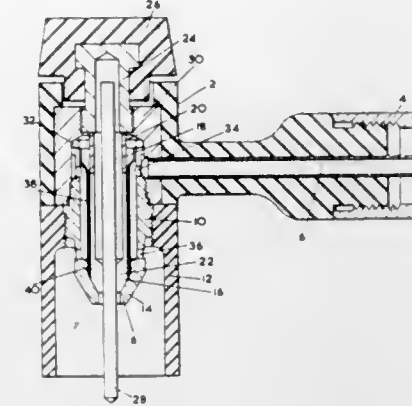
U.S. Cl. 219—75

5 Claims

The flow of shielding gas through a torch using a non-

consumable electrode is made independent of the dimensions or configuration of the electrode or the chuck gripping

region with the semiconductor wafer substantially only edge supported in a carrier structure adapted for positioning within a high frequency energy inductive field to introduce electromagnetic heating effects which are confined to the regions of the wafers as supported.



3,539,758

VERSATILE STUD WELDING GUN

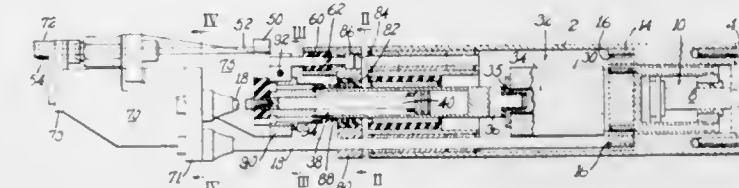
Donald H. Ettinger, Royal Oak, Mich., assignor to Warren Fastener Corporation, Mount Clemens, Mich., a corporation of Michigan

Filed June 24, 1968, Ser. No. 739,272

Int. Cl. B23k 9/20

U.S. Cl. 219—98

3 Claims



A versatile arc welding gun of the type wherein studs are automatically fed to the welding position and there secured to the recipient structure. The gun is designed so that the collet is offset from the axis of an elongated housing and said collet is rotatable through 360° by a combination of guide rods which may be arranged in a different pattern changing the general location of the collet and angular adjustment of the collet within the location determined by the position of the guide rods.

3,539,759

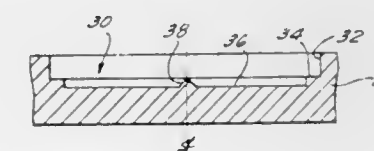
SUSCEPTOR STRUCTURE IN SILICON EPITAXY
Andrea Spiro, Pleasant Valley, and William H. White, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 8, 1968, Ser. No. 774,339

Int. Cl. H05b 5/00, 9/00

U.S. Cl. 219—10.49

4 Claims



This invention is directed to apparatus to process semiconductor wafers. It provides carrier apparatus for supporting the semiconductors for treatment in a heated

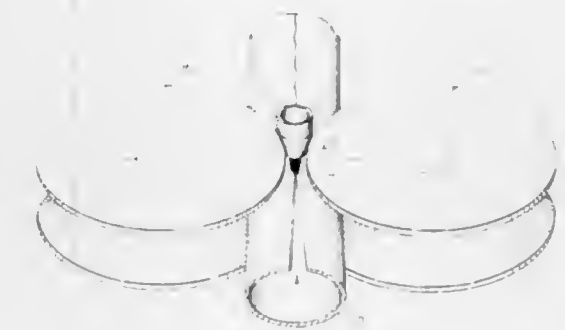
3,539,760
ELECTRON BEAM FORGE WELDING
Wallace C. Rudd, Larchmont, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Nov. 27, 1968, Ser. No. 779,461

Int. Cl. B23k 31/06, 15/00

U.S. Cl. 219—121

4 Claims



In electron beam welding, as performed today, with either vacuum or non-vacuum type of equipment, the melt from the edges of the workpieces being joined is allowed to flow together and solidify to produce a pure cast type of weld. In this invention, a forge pressure is used in combination with an electron beam heating means to form a weld having improved characteristics.

3,539,761

FORGE WELDING

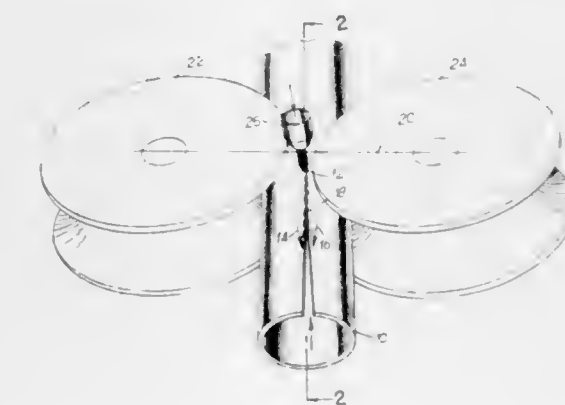
Wallace C. Rudd, Larchmont, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Feb. 5, 1969, Ser. No. 796,702

Int. Cl. B23k 15/00

U.S. Cl. 219—121

3 Claims



Metal workpieces that are to be joined by welding are brought to or near forge welding temperature by a first heating means such as a high frequency resistance heating means or a high frequency induction heating means. At the same time that the workpieces are being heated to their desired temperature by the first heating means or at a short interval of time thereafter, an electron beam from an electron beam generating means is directed to and impinges upon the metal workpieces to increase the temperature of the workpieces to make more plastic or fluid metal at the weld seam.

3,539,762

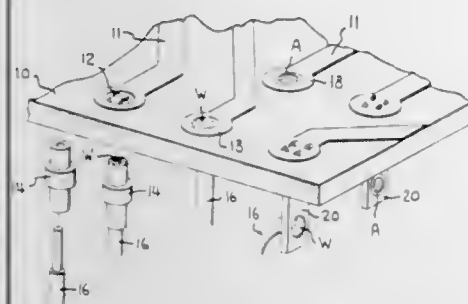
WELDED CONNECTION METHOD AND MEANS
Robert Charles Swengel, Sr., Hellam, Emerson Marshall
Reyner II, Harrisburg, and J. A. Crumley, Mechanics-
burg, Pa., assignors to AMP Incorporated, Harrisburg,
Pa.

Continuation-in-part of application Ser. No. 433,350,
Feb. 17, 1963. This application Apr. 12, 1968,
Ser. No. 720,776

Int. Cl. B23k 9/00

U.S. Cl. 219—127

6 Claims



A method and means is disclosed for welding metal of copper-to-copper or aluminum-to-aluminum systems to provide an electrical connection. The welding method is based upon fusion of the material of workpiece elements by an arc drawn between an anodic welding electrode and cathodic workpiece elements through the discharge of a capacitor. The weld is made with the electrode in motion and the rate of electrode withdrawal is controlled. A small quantity of aluminum is introduced into the melt of material of the workpiece elements for the copper-to-copper system by incorporating a small ring of aluminum into the end of one of the elements. In both material systems optimum parameters of applied power and rate of electrode withdrawal are reported.

3,539,763

METHOD OF ARC WELDING OF BARS WITH SHEET OF PROFILED MEMBERS AND A DEVICE FOR EFFECTING SAME

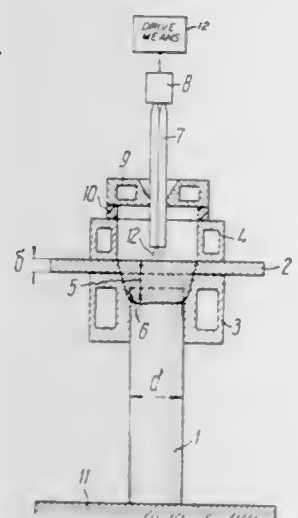
Arkady Yakovlevich Brodsky, B. Cherkizovskaya ulitsa 4 kvartal 4, kv. 51, and Leonid Nikolaevich Skorokhodov, Perovskoe shosse 26, kv. 2, both of Moscow, U.S.S.R.

Filed July 13, 1967, Ser. No. 653,183

Int. Cl. B23k 9/00

U.S. Cl. 219—137

6 Claims



Arc welding is achieved by continuously advancing a consumable electrode into a member, which is to be welded to a bar, while maintaining an arc between the electrode and member to cause melting of the member in the region of the arc, the electrode ultimately passing through the member to cause melting of an underlying bar whereby the molten material fills a cavity in a mould,

in which the bar is inserted and the member placed against, so that upon cooling a fused welded connection is obtained between the bar and member.

3,539,764

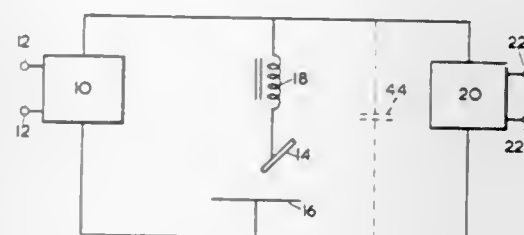
GAS SHIELDED ELECTRIC ARC WELDING
John A. Lucey, Chalfont St. Peter, England, assignor to
The British Oxygen Company Limited, a British com-
pany

Filed Dec. 13, 1965, Ser. No. 513,498
Claims priority, application Great Britain, Dec. 15, 1964,
51,092/64

Int. Cl. B23k 9/00

U.S. Cl. 219—137

3 Claims



In a dip transfer welding process in which molten electrode material is drawn off by the electrode dipping into the weld pool and short-circuiting the arc the power supplied to the electrode is cycled between two different and distinct levels. At the higher level an arc free from short-circuits is preferably produced, but at the lower level the arc melts the electrode at a speed lower than its feed rate, so that eventually it comes into short-circuiting contact with the weld pool.

3,539,765

TUBULAR COMPOSITE ARC WELDING ELECTRODE

Robert B. Duttera, Spring Garden Township, York County, and William T. De Long, West Manchester Township, York County, Pa., assignors to The McKay Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed June 20, 1968, Ser. No. 738,658

Int. Cl. B23k 35/22

U.S. Cl. 219—146

18 Claims

A tubular composite automatic and semi-automatic arc welding electrode for producing non-austenitic mild and alloyed steel weld deposits of improved impact strength comprising a steel sheath formed into tubular shape and enclosing a core comprising the following listed components in the specified weight percentages of the electrode: 5-60% of material commonly used in the art according to the welding process employed, such as arc stabilizers, fluxing agents, atmosphere generators, deoxidizer metals, metals and metal alloys, and .2-3% of magnesium in metallic form. Preferred forms of the electrode contain .3-1% of magnesium in metallic form.

3,539,766

APPARATUS FOR TAKING IMPRESSIONS OF SURFACE PATTERNS

Wolfgang E. Eder, Alberta, Canada, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Oct. 11, 1968, Ser. No. 766,821

Claims priority, application Great Britain, Oct. 18, 1967, 47,415/67

Int. Cl. B21j 1/06

U.S. Cl. 219—149

9 Claims

Apparatus for taking replicas or impressions of physical patterns on surfaces, comprising a body or housing having incorporated in it an ejection system for ejecting a platen

3,539,768

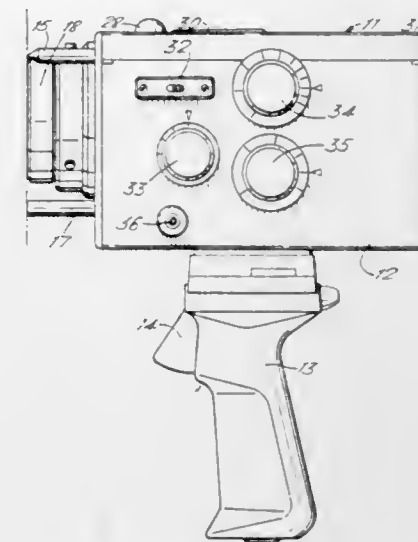
ELECTRICAL SPACE HEATING SYSTEM

Paul Eisler, 57 Exeter Road, London, NW. 2, England
Continuation-in-part of abandoned applications Ser. No. 11,761, Feb. 29, 1960, and Ser. No. 345,424, Feb. 17, 1964. This application Mar. 9, 1967, Ser. No. 621,839
Claims priority, application Great Britain, Mar. 3, 1959, 7,288/59; May 26, 1964, 21,688/64

Int. Cl. H05b 1/00

U.S. Cl. 219—213

19 Claims



ture, and a firing device which energizes the ejection system discharging the platen when a selected temperature is achieved. The application also discloses a novel method.

3,539,767

SPACE HEATER HAVING ELECTRICAL RESISTANCE HEATING FILM

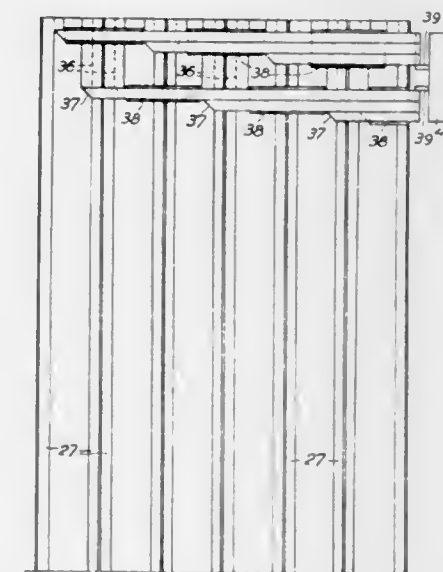
Paul Eisler, 57 Exeter Road, London, NW. 2, England
Original application Jan. 12, 1962, Ser. No. 165,736, now
Patent No. 3,282,284, dated Nov. 1, 1966. Divided
and this application Oct. 28, 1966, Ser. No. 590,400

Claims priority, application Great Britain, Jan. 20, 1961, 2,384/61

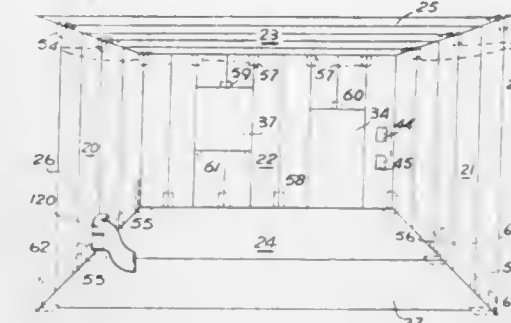
Int. Cl. H05b 1/00, 3/66

U.S. Cl. 219—213

6 Claims



Space heating means having an electrical resistance heating film comprising a meander pattern of conductive foil with terminals at least in part integral and of lower resistance than the pattern. The film may be disposed between two layers of which one is a floor or wall covering and the film being bonded to one of the layers and having at least one of the layers composed of a material supplied in roll form and laid in parallel adjacent lengths over a floor or wall surface and metallic strips connecting the heating film to a low voltage supply source.



Radiant low voltage electric heating films covering a major part of the walls of each of a plurality of rooms normally operate at low power but are switchable, as by area or voltage control, to high power when an occupant enters a room, the power automatically returning to normal after a short time. Supply may be from mains, with a battery for heavy load, e.g., two rooms entered simultaneously. Spacing of the film from the wall may be variable, e.g., by inflatable insulation. Closable slots in front of the film may control radiation and convection. The walls may store heat, heat flow may be controlled by thermal insulation and two spaced films separated by insulation may be used.

3,539,769

APPARATUS FOR THE VAPORISATION OF METALS OR METALLOIDS

Dennis Walter Barker, Horsham, Sussex, England, assignor to Edwards High Vacuum International Limited, Crawley, Sussex, England

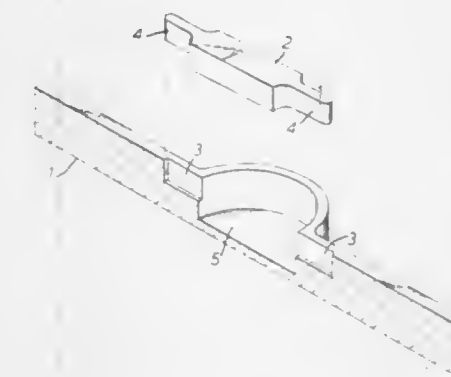
Filed Sept. 29, 1967, Ser. No. 671,771

Claims priority, application Great Britain, Sept. 30, 1966, 43,845/66

Int. Cl. C23c 13/00

U.S. Cl. 219—275

11 Claims



A vaporisation source for the vaporisation of metals or metalloids including an evaporator base onto which the material to be vaporised may be fed and a radiator heater element which is formed with a cavity across which the evaporator base is supported. The evaporator base and the heater element are both suitable for connection as electrical resistance heaters so that the evaporator base is heated both by its own function as a resistance heater and by radiation from the walls of the cavity.

3,539,770

ELECTRIC INFRARED HEATER

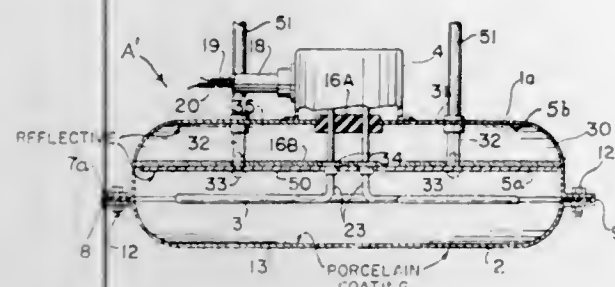
Donald C. Wallace, Novelty, Ohio, assignor to The Barber Manufacturing Company, Bedford Heights, Ohio, a corporation of Ohio

Filed Nov. 14, 1967, Ser. No. 682,883

Int. Cl. H05b 3/00

U.S. Cl. 219—345

3 Claims



An enclosed electric infrared heater having an electric resistance heating coil, a reflector positioned above the coil and a porcelain infrared emitted pan of large area below the coil. The emitter pan can be maintained at a temperature of 850° to 900° F. at which temperatures it has an emissivity of at least 0.86 and emits a major portion of its infrared radiation in the 3.0 to 5.0 micron wavelength band. For some reason the process of the invention increases radiation output by more than 10 percent as compared to the radiation output of conventional electric infrared heaters. The invention preferably includes a separate cover above the coil with the reflector mounted on said cover between the top of the coil and the bottom of the cover and spaced therefrom to provide an insulated air space.

3,539,771

HEATING APPARATUS FOR TREATING PLASTIC PIPE

Ervin C. Zeiser, 380 SE. 1st Terrace,

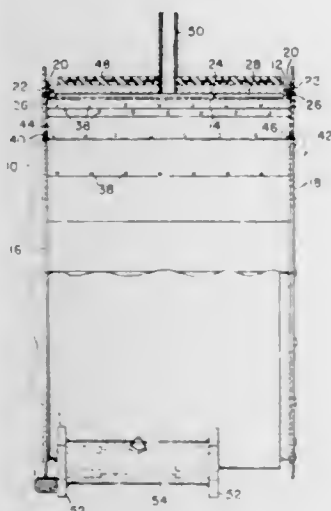
Pompano Beach, Fla. 33060

Filed Oct. 23, 1967, Ser. No. 677,225

Int. Cl. H05b 1/00

U.S. Cl. 219—373

7 Claims



A heater for heating plastic tubes and the like has a pair of concentrically arranged spaced annular walls joined together by annular end members to form a pair of concentric chambers. Means are provided to supply a pressurized fluid, preferably air, into the outer chamber and the wall between the chamber is formed with tangential apertures for discharging fluid from the outer chamber into the inner chamber. An electric heating coil surrounds the outer chamber to heat the fluid therein. The end members are provided with aligned, coaxial circular openings through which the end of a pipe to be

treated may be passed into the inner chamber. Heated air discharged into the inner chamber whirls about the end of the pipe being treated and escapes through the openings in said end members.

3,539,772

HEATABLE PACKAGE WITH DISPLACEABLE FLUENT SUBSTANCE

Paul Eisler, 57 Exeter Road, London, WC. 2, England

Original application Nov. 17, 1967, Ser. No. 684,068.

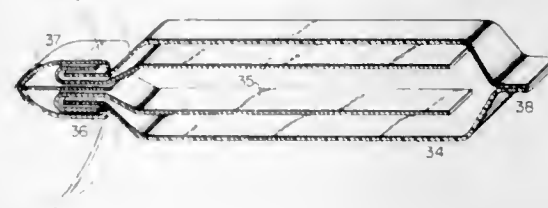
Divided and this application Aug. 28, 1969, Ser.

No. 853,892

Int. Cl. F27d 11/02; H05b 3/34

U.S. Cl. 219—386

11 Claims



Dispensable containers are disclosed with a dispensable heating film arranged to heat displaceable fluent contents which are discharged in a flow path in intimate contact with the heating film. The containers may be deformable to squeeze contents out a nozzle portion. Separate compartments may contain different substances mixed at the nozzle. The container structure may have special construction features to squeeze out all the contents through the discharge flow path.

3,539,773

ELECTRICAL APPLIANCES FOR HEATING LIQUIDS

William Edward Wilson, 25 Te Awa Kura Terrace,

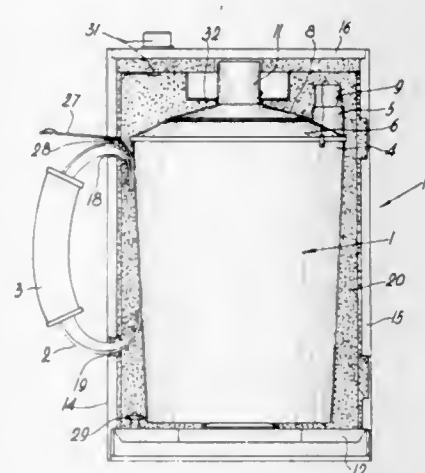
Christchurch, New Zealand

Filed Aug. 7, 1967, Ser. No. 658,884

Int. Cl. H05b 1/02, 3/82

U.S. Cl. 219—432

7 Claims



An appliance for a motor vehicle having a source of electrical power comprising a liquid container having at least one closable opening in the upper part thereof whereby liquid can be placed into and poured from said container. A restricted vent means is provided in the upper part whereby steam can normally escape from within the container. Supporting and retaining means for the container is mounted on the motor vehicle for releasably holding the container and means upon the supporting and retaining means thermally insulate the container from

the motor vehicle. An electrical heating element is provided for the container and means for connecting and disconnecting the heating element to said source of electrical power is provided so that liquid within the container may be heated.

3,539,774

ELECTRICALLY OPERATED KETTLES

William H. B. Thornton, 28 Fidlers Walk,

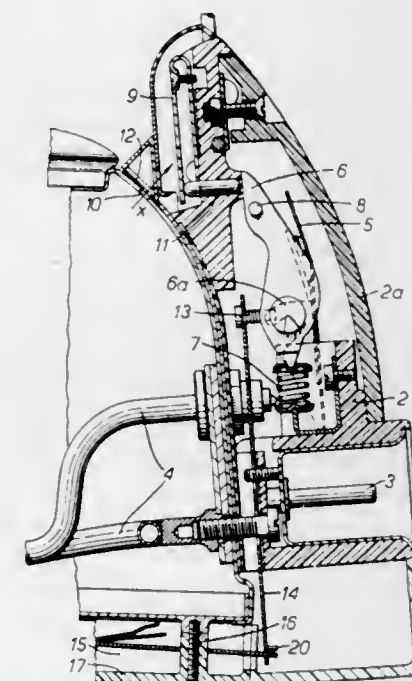
Wargrave, Berkshire, England

Filed July 5, 1968, Ser. No. 742,873

Int. Cl. F27d 11/02

U.S. Cl. 219—442

10 Claims



An electrically operated kettle comprising thermal means heated by steam or vapour generated upon boiling and adapted to actuate a switch mechanism to interrupt the current supply to the heating element, and means responsive to the weight of the kettle and operable to break the heater element circuit when the water in the kettle falls below a predetermined value.

3,539,775

DOUBLE-MAKE CONTACT SWITCHING APPARATUS WITH IMPROVED ALTERNATING CURRENT ARC SUPPRESSION MEANS

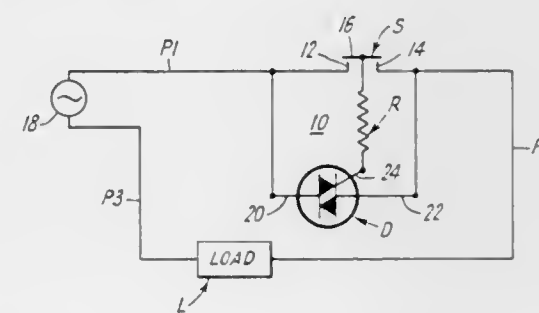
Charles F. Casson, Winslow, Ind., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Oct. 10, 1968, Ser. No. 766,505

Int. Cl. H05b 1/02

U.S. Cl. 219—501

6 Claims



A circuit utilizing a double-make (double-break) switch to connect a load to an A.C. source is provided with a protective loop having a bilateral semiconductor triode connected across the switch with the triode gate connected to the switch bar through a resistance.

3,539,776

REMOVABLE POINTER FOR VOTING MACHINES OR THE LIKE

Michael T. Moldovan, Jr., Jamestown, N.Y., assignor to AVM Corporation, Jamestown, N.Y.

Continuation-in-part of application Ser. No. 780,134,

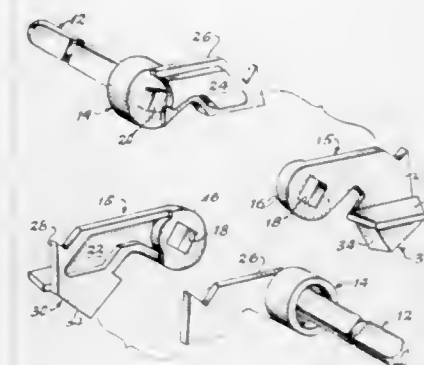
Nov. 29, 1968. This application Oct. 6, 1969, Ser.

No. 683,933

Int. Cl. G07c 13/00

U.S. Cl. 235—54

4 Claims



A voting machine pointer comprising a mounting hub portion coupled by a drive shaft to a vote registering device and a lever arm portion removably carried on the mounting hub portion. The lever arm portion features a "dog-leg" shaped front view configuration terminating at its free end in a main arrowhead shaped portion having at one angular side thereof a forwardly extending flange which is also arrowhead shaped in front view. When the pointer is in a non-voted position it is substantially concealed behind a cover device and only the flange portion of the lever arm projects beyond the cover device such that it is available for manual actuation of the pointer. When in this position, the flange portion points toward an indicia bearing plaque corresponding to the vote selection which will be registered upon pulling against the flange, so as to swing the lever arm portion from behind the cover device into voted position. When the lever arm is swung into voted position the main arrowhead shaped portion thereof exits from behind the cover device and points directly at the same indicia bearing plaques thereby visually confirming to the voter that his intended vote selection has been made. The cover device is removably mounted on the machine, so as to permit attachment of lever arm portions only on mounting hub portions of drive shafts, which correspond to vote selections to be registered. When a lever arm portion is removed from its mounting hub portion, the latter is fully shielded from voter view and fraudulent or unintended manipulation of its drive shaft prevented.

3,539,777

DATA SENSING SYSTEM

William S. Rohland, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 9, 1967, Ser. No. 608,089

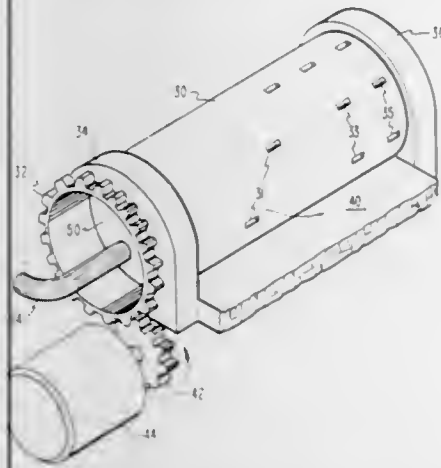
Int. Cl. G02b 5/14; G06k 7/10; G08b 5/00

U.S. Cl. 235—61.11

4 Claims

Mark sensing is performed by an optical scanner having a single light source and a single photodetector. Optical fibers distribute the light to plural sensing channels and also transmit reflected light from each channel to the photodetector. A rotating shutter serializes inputs from the several channels to the photodetector. An area of predetermined reflectivity is included on the shutter just ahead of each sensing aperture so that each data signal from the scanner is preceded by a test signal representing the optical response of the channel which is generating the data signal. The test signals are employed to

control the gain of the data signal amplifier in inverse relation to optical response so that the data signals from the different sensing channels are normalized. Marks are detected by sensing the reflectivity thereof and generating an intermediate signal having a magnitude in accordance therewith. A final output signal is generated by increasing

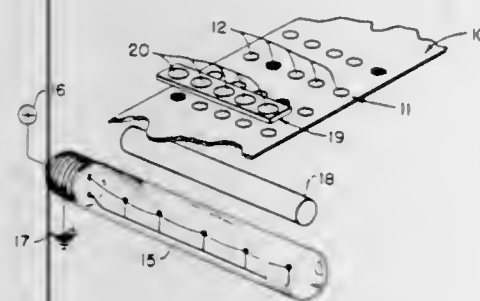


the magnitude of the intermediate signal in accordance with the width of the mark above a predetermined minimum width threshold. When two or more marks are detected in an area which should contain only one mark, the mark having the largest final output signal is selected as the most valid mark.

3,539,778

PHOTOELECTRIC READER

Charles A. Glorioso, Chicago, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed June 9, 1966, Ser. No. 556,351
Int. Cl. G06k 5/00, 7/14; G01n 21/00
U.S. Cl. 235-61.11 13 Claims



A device for reading original documents and for detecting which of a plurality of marks on the document is the most opaque comprising a plurality of photosensitive devices each for sensing light passing through one of the marks on the document, means for detecting when each of the photosensitive devices has sensed a predetermined amount of light and means for detecting when all of the photosensitive devices except one have sensed the predetermined amount of light thereby determining the most opaque of the marks.

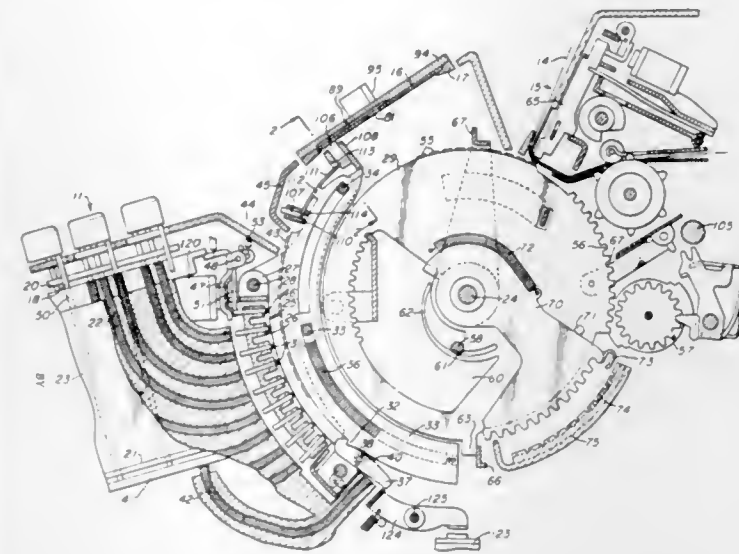
3,539,779

PERFORATED CARD CONTROLLED REGISTERING MACHINE

Hugh L. Clary, San Marino, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed May 16, 1968, Ser. No. 729,744
Int. Cl. G06k 7/04

U.S. Cl. 235-61.11 11 Claims
A data registering and/or recording machine having members differentially movable to different positions to represent different digits and adapted to be controlled by

a credit card or the like having a field of control perforations therein. Two different forms of perforations are provided which are effective to control respective ones only



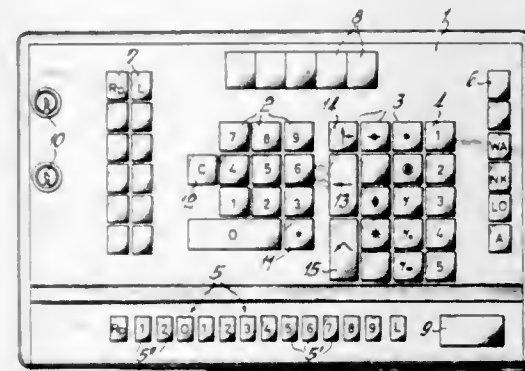
of two spaced feeler elements carried by each differentially movable member whereby to permit the size of the field of perforations to be reduced.

3,539,780

DATA PROCESSING AND PRINTING ACCOUNTING MACHINE

Richard Ernst, Werner Magde, Joachim Hilgendorf, and Arnd Reuter, Villingen, Germany, assignors to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Feb. 27, 1967, Ser. No. 619,530
Claims priority, application Germany, Feb. 25, 1966, K 58,559
Int. Cl. G06r 17/00

U.S. Cl. 235-61.9 15 Claims



An electronic computer is combined with an accounting machine having a high speed printer cooperating with a platen on a carriage which can be tabulated between different positions. Key switches of the accounting machine introduce values and desired functions into the computer which has program means, and controls the carriage and the printer so that the carriage places selected columns of a form opposite the printer in accordance with the program whereby numbers calculated by the computer are printed in program-determined columns.

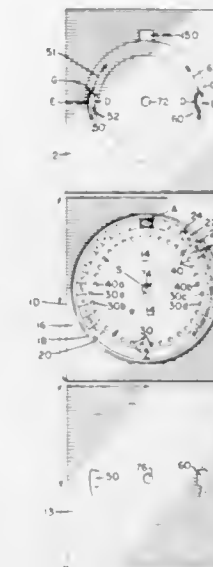
3,539,781

NUMERICAL SEQUENCE COMPUTER

Roy E. Pryor, 8301 Cincinnati-Dayton Road, Westchester, Ohio 45069
Filed Jan. 15, 1968, Ser. No. 697,748
Int. Cl. G06c 3/00, 27/00; G09g 1/02
U.S. Cl. 235-88 28 Claims

A compact, numerical sequence computer having duplicate sequences of colored numerals on one member arranged relative to and on opposite sides of a central

reference area, and having a window and associated apertures in a second member arranged to selectively dispose a number and a color of the first member in the



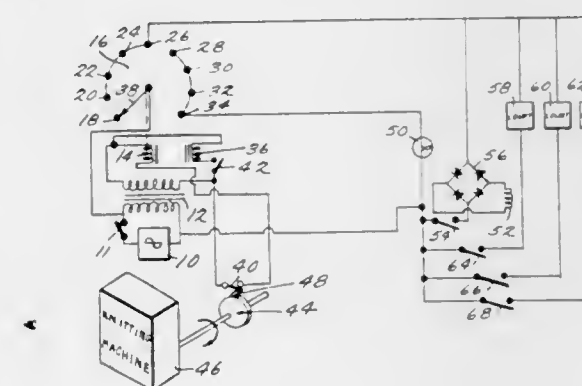
window of the second member for indicating the unit amount of the next wager and the color upon which the wager should be placed.

3,539,782

APPARATUS FOR MEASURING THE LENGTH OF YARN OR THE LIKE CONSUMED IN A PREDETERMINED NUMBER OF CYCLES OF A CYCLICALLY OPERATED MACHINE SUCH AS A TRICOT KNITTING MACHINE

Littleton Upsbur, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Filed Feb. 16, 1967, Ser. No. 616,576
Int. Cl. G06m 3/08

U.S. Cl. 235-92 13 Claims



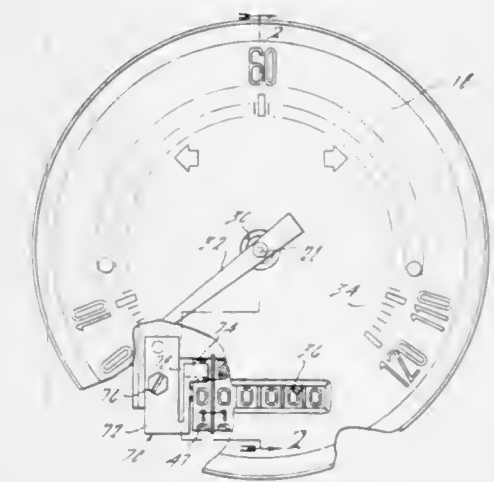
An apparatus for measuring the length of yarn consumed in a predetermined number of operational cycles of a textile machine. For instance, if it is desired to measure the length of yarn consumed in knitting 960 courses of fabric on a tricot knitting machine and if 240 courses are knitted for each cycle of the machine, a stepping relay is provided in accordance with one aspect of the invention, whereby a counting device is connected to an appropriate source of electrical power by the stepping relay for four steps of the relay, the relay being stepped in response to each cycle of the machine. Thus, the counter will be connected to the electrical power source for a total of 960 courses. The length of yarn consumed in knitting 960 courses will be measured because of an impuler switch consisting of a pair of contact points which are

closed by a cam driven by a pair of wheels of known diameter in friction contact with the yarn on the beam. The cam and wheel are arranged so that one contact closure occurs for each inch of linear movement of the periphery of the wheel. Since the impuler switch assembly is connected in circuit with the counter and since electrical power is supplied to the counter through the impuler switch assembly for a period of time corresponding to the amount of time required to knit 960 courses of fabric, the counter will register the total length of yarn consumed in knitting 960 courses.

3,539,783

TAMPER-PROVING ODOMETER

Rudolph Bergsma and Rex R. Holbrook, Ann Arbor, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Mar. 26, 1969, Ser. No. 810,715
Int. Cl. G01c 22/00
U.S. Cl. 235-96 10 Claims



A tamper-proofing or detecting odometer construction in which the peripheral surface of at least the highest order odometer wheel is indelibly marked or stained by a marking instrumentality as the wheel is advanced past the viewing window in which the stained portion of the wheel will appear as a telltale signal if the odometer setting has been changed either by forward or reverse driving or picking of the wheels to reduce the actual mileage accumulated thereon and featuring means for periodically disengaging the marking instrumentality from the wheel to prevent a skewed or misaligned read out display otherwise resulting from the braking or drag effect of the marking instrumentality on the wheel or wheels being marked.

3,539,784

PROCESS INSTRUMENTATION AND CONTROL THROUGH MEASUREMENTS OF TIME-SEPARATED PROCESS VARIABLES

Robert A. Woodle, Nederland, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed July 31, 1967, Ser. No. 657,418
Int. Cl. G06f 15/46; G06g 7/58

U.S. Cl. 235-151.12 20 Claims

A method and system for monitoring and control of processes such as hydrofinishing, solvent refining, and other processes used in the oil refining industry, wherein measurements of process variables are made at a point early in the process and recorded on a moving memory member, such as a recording chart or tape, the speed of which is regulated as a function of other process characteristics, preferably, in linear relationship thereto. Measurements of process variables are made at a point in time later in the process; and the recorded information is

given number of columns is skipped in the direction toward the less significant (lower) decimal digits of



the accumulator, and the multiplier columnar value next to be read out of the accumulator is reduced by 1 before the reading and adding operation is repeated.

3,539,792

SQUARE ROOT EXTRACTING SYSTEMS FOR INDICATING, RECORDING, INTEGRATING, CONTROLLING AND THE LIKE

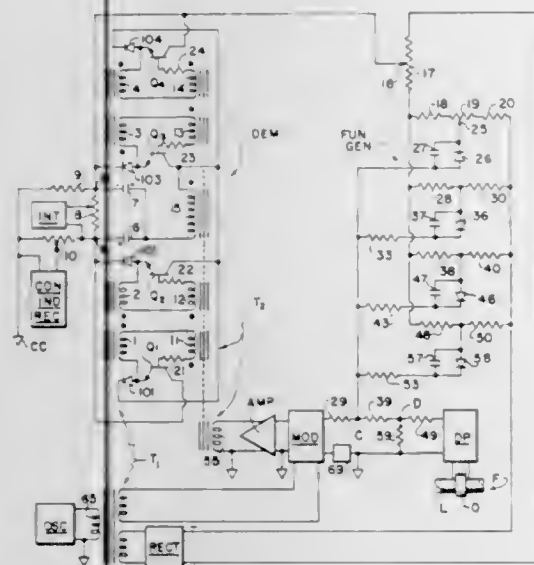
Charles H. Gebo, Chili, N.Y., assignor to Taylor Instrument Companies, Rochester, N.Y., a corporation of New York

Filed June 28, 1967, Ser. No. 649,547

Int. Cl. G06g 7/20

U.S. Cl. 235—193.5

11 Claims



An amplifier system including a carrier wave amplifier has a phase sensitive, full wave, voltage doubling, transistor demodulator, and a function generator feedback loop causing the demodulator output voltage to be a square root function of amplifier input signal. The function generator includes a diode circuit that makes the demodulator output signal substantially zero for input signal in a neighborhood including zero input signal. A device measuring pressure drop in a flowing fluid produces the input signal as a straight line function of pressure drop. The demodulator output signal is used for indicating, recording, integrating, controlling and/or like purposes. Suitable output circuitry provides for simultaneous use for these purposes and for varying the relation between input signal range and output signal range.

3,539,793

SUPERVISORY APPARATUS

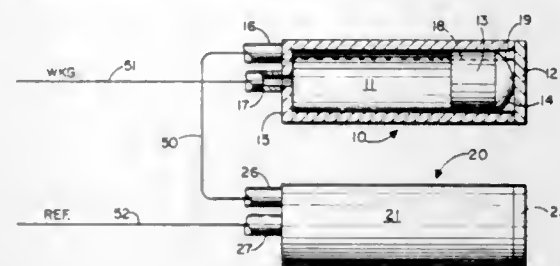
John A. Kallevig, Shoreview, and Neil C. Sher, St. Paul, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 14, 1968, Ser. No. 767,259

Int. Cl. G06c 11/02

U.S. Cl. 235—201

3 Claims



Fluid apparatus for giving a first positive indication when working pressure exists in a fluid line, and a second positive indication when the working pressure does not exist in the line. The invention resides in the interconnection of known indicators to accomplish the new result.

3,539,794

SELF-CONTAINED CHEMILUMINESCENT LIGHTING DEVICE

Michael McKay Rauhut, Norwalk, and George Warren Kennerly, Darien, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Sept. 12, 1967, Ser. No. 667,116

Int. Cl. F21v 9/16

U.S. Cl. 240—2.25

10 Claims

Self-contained devices for providing chemiluminescent light from a chemical reaction of suitable compounds in the presence of a fluorescent compound, in which the chemiluminescent components are stored, admixed and from which the chemiluminescent light is displayed.

3,539,795

LIGHTING FIXTURE

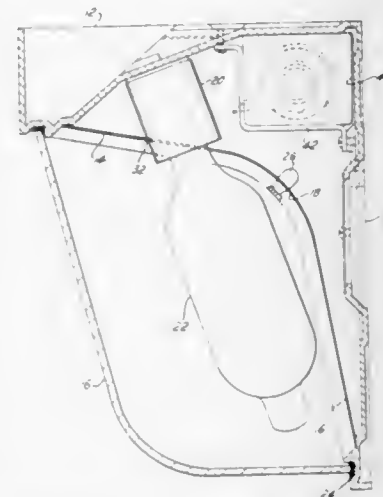
William L. Hawley, Rexdale, Ontario, Canada, assignor to General Telephone & Electronics International Incorporated, a corporation of Delaware

Filed Dec. 15, 1967, Ser. No. 690,985

Int. Cl. F21p 5/00

U.S. Cl. 240—3

3 Claims



A surface mounted integral ballast mercury or incandescent luminaire or fixture adapted for low-glare lighting of roadway underpasses, subways, deep cut roadway sections, areas adjacent buildings and the like, wherein the walls or ceilings provide a ready mounting location. The fixture has a hollow housing enclosing a reflector having two inclined flat sections joined by an integral bent section. A lamp holder extends through one of the flat sections toward the other flat section.

3,539,796

ELECTROLUMINESCENT LIGHTING UNITS

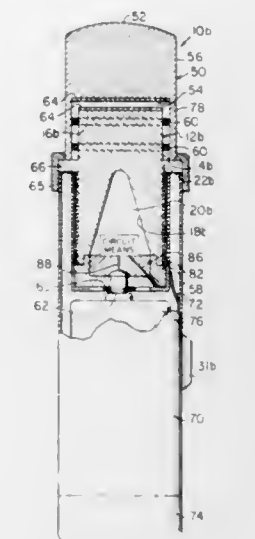
Edward Zychal, Cornwells Heights, Pa., assignor to Elco Corporation, Willow Grove, Pa., a corporation of Delaware

Filed Jan. 11, 1968, Ser. No. 697,124

Int. Cl. F21l 7/00

U.S. Cl. 240—10.6

7 Claims



An electroluminescent lighting unit provides concentrated light by means of a light transmitting rod having a rearward portion comprised of a reflecting surface and a forward portion comprised of a light emitting face. An electroluminescent panel is positioned about the outer periphery of the rod adjacent said reflecting surface, and the reflecting surface reflects incident light emitted from the electroluminescent panel through the light transmitting rod and out the emitting face at the forward portion of the rod.

3,539,797

WATERPROOF LANTERN WITH NOVEL REFLECTOR ASSEMBLY

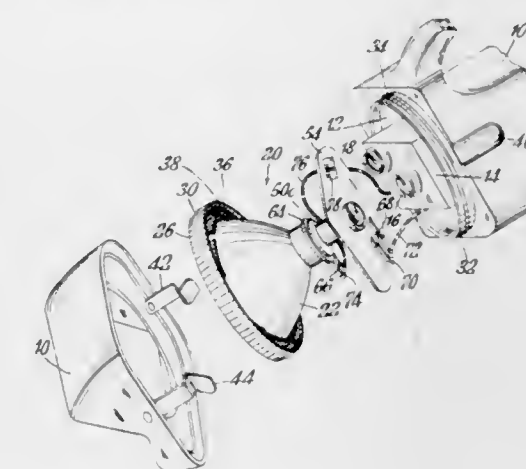
Robert E. Brindley, New York, N.Y., and Francis Stahl, St. Albans, Vt., assignors to Union Carbide Corporation, a corporation of New York

Filed Aug. 13, 1968, Ser. No. 752,307

Int. Cl. F21l 7/00, 9/00, 11/00

U.S. Cl. 240—10.6

8 Claims



A waterproof lantern having a one-piece molded plastic lantern case is provided with a novel reflector assembly which can be threadably mounted onto the front open end portion of the lantern case by rotating the lens having a threaded peripheral rim which engages with a threaded lens mounting flange formed on the lantern case but without entangling the electrical lead wires for carrying current to the lamp bulb. A rotatable contact ring is so mounted and arranged within the reflector assembly as to enable the lens and reflector body to be rotated completely with the electrical lead wire attached to the ring remaining in a substantially stationary position.

3,539,798

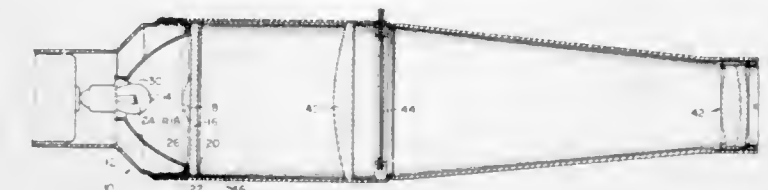
SHADOWLESS PROJECTION SYSTEMS

Donald M. Perry, P.O. Box 495, Gresham, Oreg. 97030
Filed July 18, 1967, Ser. No. 654,225

Int. Cl. F21v 13/04

U.S. Cl. 240—41.3

4 Claims



In FIG. 1, a compensating lens on the cover glass of a flashlight collimates light from the lamp to fill the portion of the beam which otherwise would be a shadow from the lamp opening in the parabolic reflector of the flashlight. The light from the flashlight travels through a field lens adjacent a transparency and the image of the transparency travels through a projection lens. The compensating lens evens the illumination from one edge of the flashlight beam to the other. In FIG. 2, a compensating lens focused on a light source at one focal point of an elliptical reflector, which has a shadow-creating opening for the light source, focuses the light from the light source through a transparency to the other focal point of the reflector to illuminate the area of the shadow from the opening. A projection lens projects an image of the transparency onto a screen or the like.

3,539,799

HEADLIGHT

Marcel Dangauthier, Paris, France, assignor to Automobiles Peugeot, Paris, and Regie Nationale des Usines Renault, Billancourt, France, both French body corporations

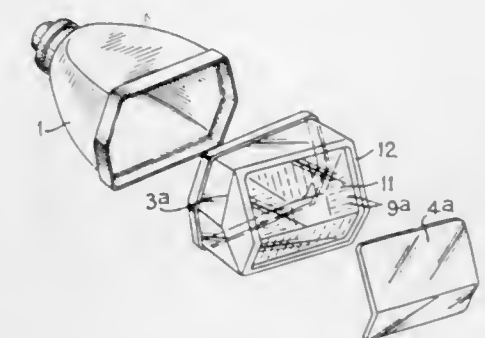
Filed Oct. 24, 1967, Ser. No. 677,692

Claims priority, application France, Feb. 13, 1967, 94,643

Int. Cl. F21v 7/00, 5/00

U.S. Cl. 240—41.35

2 Claims



A headlight for a vehicle having a reflector, a transparent plastic spacer and a thin glass cover. The transparent plastic spacer is mounted on the reflector and has a transverse wall which is provided with optical grooves on its rear face. The front face of the plastic spacer is provided with a peripheral flange in which is mounted the thin glass cover.

3,539,800

FLASHLIGHT WITH MAGNETIC SUPPORT

William H. Doring, Old Greenwich, Conn., assignor to Union Carbide Corporation, a corporation of New York

Filed Jan. 12, 1968, Ser. No. 697,387

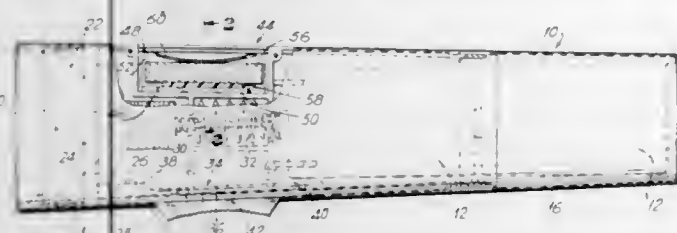
Int. Cl. F21l 15/18

U.S. Cl. 240—52.15

10 Claims

A magnet assembly for detachably attaching a flashlight to a magnet attracting surface. The assembly comprises a magnet positioned within the flashlight, a collector asso-

ciated with the magnet, and a spring maintaining the magnet and collector away from the outer wall of the flashlight. The magnet assembly is substantially hidden when



not in use but partially protrudes from the flashlight when the flashlight is positioned near to a magnet attracting surface and magnetically attaches the flashlight to the surface.

3,539,801

LIGHT FIXTURE

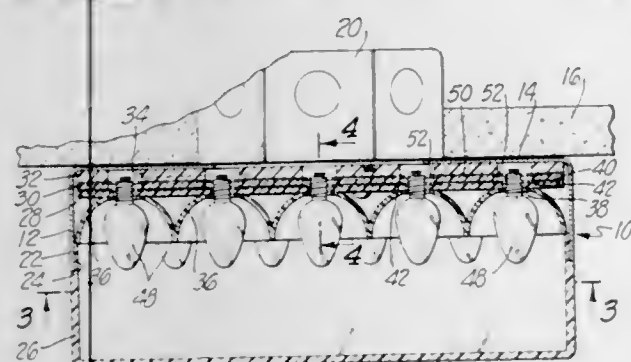
Mitchell Bobrick, 605 Erskine Drive,
Pacific Palisades, Calif. 90272

Filed Apr. 3, 1967, Ser. No. 628,004

Int. Cl. F21s 1/06

U.S. Cl. 240—78

7 Claims



A ceiling mounted light fixture is formed by a pan having overlying insulating sheets forming a cluster of juxtaposed light socket openings, the sheets mounting an individual reflector aligned with each socket opening and the reflectors may be integral. Each socket opening has electrical contacts extending into interference therewith. A pair of networks of electrical conducting material are mounted between the insulating sheets, each network extending integrally between and electrically connecting the multiple sockets and electrical contacts thereof for supplying electrical power to bulbs in the sockets retained by the contacts.

3,539,802

LATCH

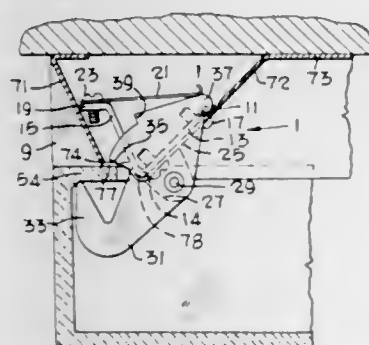
Willard R. Garnett, Bellefontaine Neighbors, and Walter J. Trantina, St. Louis County, Mo., assignors to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed May 31, 1968, Ser. No. 733,699

Int. Cl. F21v 17/06

U.S. Cl. 240—128

19 Claims



A latch for holding an intumed lip of a lighting enclosure to a lamp housing. The latch is stable in both an open and a closed position. In the closed position a

finger on the latch urges the lip against the housing. A set of latches on opposite sides of the enclosure allow the enclosure to be pulled straight down until the latches reach their open position, moved laterally free of one set of latches and hinged around the latches on the other side of the enclosure. Trigger shoulders above the fingers release the latches from their open position when the enclosure is pushed upward against the shoulders.

3,539,803

PYROELECTRIC DETECTOR ASSEMBLY

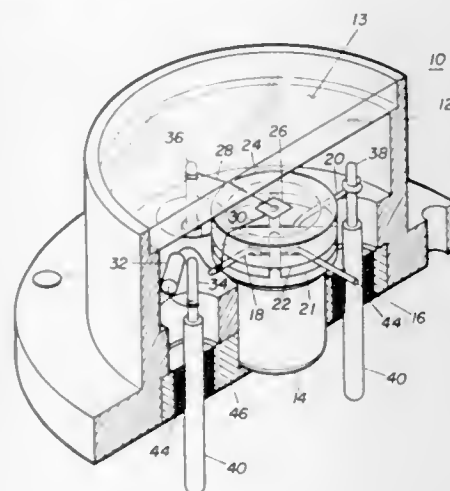
Henry P. Beerman, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed Dec. 21, 1967, Ser. No. 692,379

Int. Cl. H01l 1/02

U.S. Cl. 250—83

3 Claims



A field effect transistor and a resistor of high value are incorporated within the same evacuated housing as a pyroelectric detector in order to provide a detector assembly having a low output impedance, thereby allowing the detector assembly to be used with commercially available meters, amplifiers, and other utilization devices.

3,539,804

FLUID ANALYSIS BY INFRARED ABSORPTION

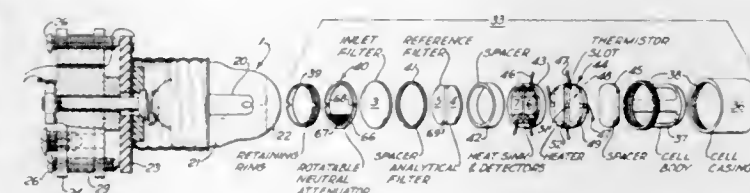
Adrian C. Billetdeaux, Pittsburgh, Glenn H. Fertig, Cheswick, and Ray S. Freilino, Pittsburgh, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Continuation of application Ser. No. 434,908, Feb. 24, 1965. This application Dec. 23, 1968, Ser. No. 788,682

Int. Cl. G01n 21/26, 21/34

U.S. Cl. 250—43.5

17 Claims



1. An infrared absorption analyzer for measuring one component of a fluid mixture where that component has a defined infrared absorption band that is substantially overlapped by the absorption band of a masking component of the mixture and where the masking component also has a defined infrared absorption band that is outside of the absorption band of the component to be measured, said analyzer comprising a source of infrared radiation that includes a first band of infrared radiation comprising at least part of the overlapping portions of the absorption bands of the component to be measured and of the masking component and also includes a second

band of infrared radiation comprising at least part of a non-overlapping portion of the absorption band of the masking component alone, an analytical filter and a reference filter for receiving separately beams of radiation emitted from the source, the analytical filter being transparent to at least a part of said first band but to substantially none of said second band of radiation and the reference filter being transparent to at least a part of said second band but to substantially none of said first band of radiation, means for exposing the mixture to be analyzed in the optical path of said radiation beams, and radiation responsive means for receiving and measuring both the radiation transmitted through the mixture and the analytical filter and the radiation transmitted through the mixture and the reference filter; said radiation responsive means being lead sulfide photo resistors mounted on an aluminum heat sink, said heat sink being in contact with a heater means to maintain uniform temperature of the radiation responsive means, said heater means being an electrical resistance element mounted on a ceramic substrate.

3,539,805

HEAD POSITIONING DEVICE FOR DENTAL X-RAY SYSTEMS

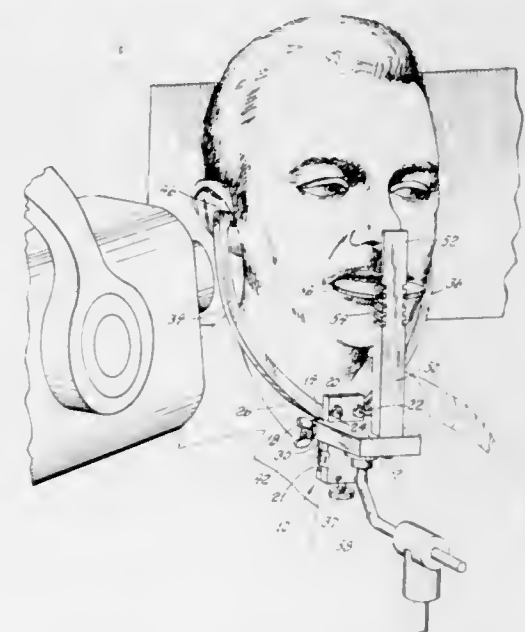
William R. Shiller, R.F.D. 5, Box 597, Gales Ferry, Conn. 06335, and Mieczyslaw F. Zyza, 1002 Hampden St., Holyoke, Mass. 01040

Filed Mar. 21, 1969, Ser. No. 809,360

Int. Cl. G01n 21/00

U.S. Cl. 250—50

6 Claims



A head orientation and positioning fixture having ear-engaging, nose-abutting, teeth-spreading components to be used as an accessory for a panoramic scan dental X-ray machine, to sustain the subject's head stably in anterior-posterior, superior-inferior, and lateral positions during the substantial fraction of a minute required to complete a full mouth X-ray exposure and also locate the subject's head in essentially the same position at a later time for another full mouth X-ray exposure whereby time-spaced X-rays can be overlaid to facilitate detection of changes.

3,539,806

DIRECTION DETERMINING GAMMA-RAY DETECTOR

Norman B. Humphrey, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Mar. 8, 1966, Ser. No. 532,691

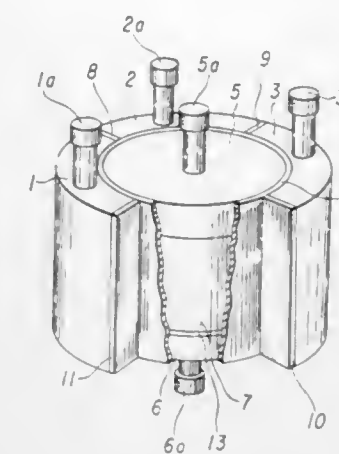
Int. Cl. G01t 1/16, 1/18; H01j 39/00, 39/28

U.S. Cl. 250—71.5

16 Claims

Disclosed is a gamma-ray scintillator detector that determines the direction of a source of gamma-rays with-

out movement of the scintillator detector. Also disclosed are means to distinguish a scintillation of a central scin-



tillator from a scintillation of an outside scintillator when both scintillations are recorded by the same detecting means.

3,539,807

TEMPERATURE-EMISSIVITY SEPARATION AND TEMPERATURE INDEPENDENT RADIOMETRIC ANALYZER

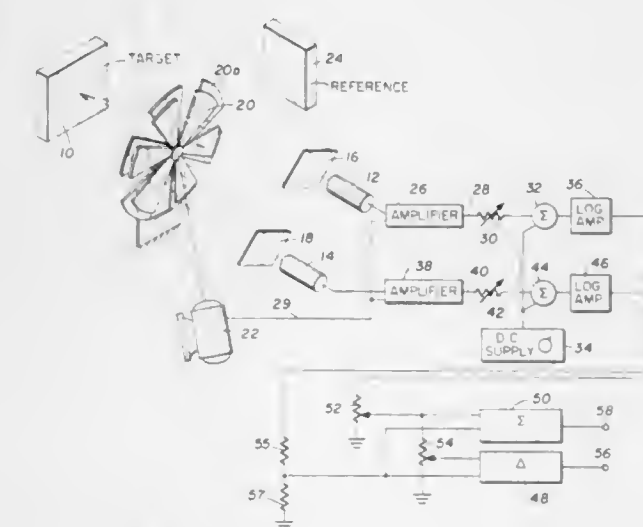
Samuel H. Bickel, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 4, 1968, Ser. No. 718,757

Int. Cl. G01j 7/09

U.S. Cl. 250—83.3

16 Claims



Apparatus and a method for producing a target identification by means of radiometric techniques generating a temperature independent target composition identification signal. Differences between the radiation power from a target and a reference body at two independent wavelengths are combined to produce the target identification signal. In the usual manner, detection of the radiation power from the target and the reference source results in a power difference signal for each of the wavelengths which is independent of extraneous sources. These power difference signals are weighted to compensate for system parameters and a DC bias voltage added to enable subsequent logarithmic amplification of the weighted difference signals. After logarithmic amplification, additional weighting takes place to properly ratio the various independent wavelength difference signals to each other. A temperature independent target composition identification signal is produced by taking the difference between

at least two of the weighted outputs of the logarithm amplifiers and a target temperature signal will be produced from a summation of at least two of the weighted power difference signals after logarithmic amplification.

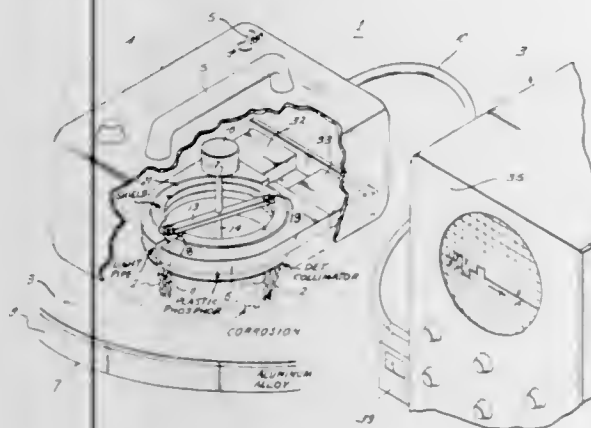
3,539,808

MEASURING CORROSION ON A COATED METALLIC SURFACE BY MEANS OF BACK-SCATTERED NUCLEAR RADIATION

Linus K. Hahn, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Apr. 22, 1966, Ser. No. 544,458
Int. Cl. G01n 23/00

U.S. Cl. 250—83.3

4 Claims



In one form the present invention relates to the measurement of corrosion on a metallic surface protected by a cover, such as paint. According to one of the methods, the corrosion is detected by the steps of irradiating the protected member with beta nuclear radiation having an energy range that presents a substantially infinite thickness response from the metallic member, measuring the backscatter radiation from the protected member, and correlating the backscatter measurement with the thickness of the corrosion. The apparatus for scanning a member utilizes a number of apertures in a collimator, and a source means, so arranged that the source successively scans along the same direction on the protected member. A circular arrangement of apertures, some offset, can be used with two sources rotating with a support arm, to provide the continuous scan along the same direction.

3,539,809

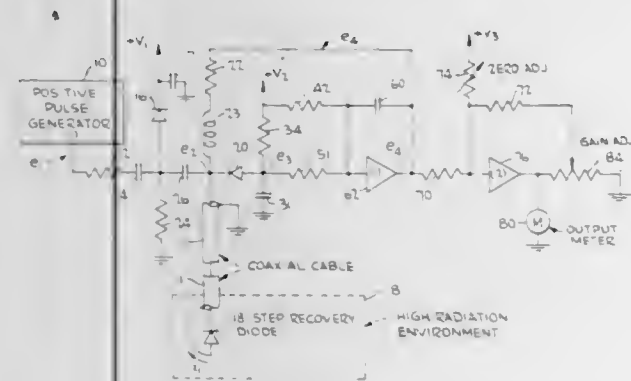
NUCLEAR RADIATION DOSIMETER USING A STEP RECOVERY DIODE

David T. Loverson, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 20, 1967, Ser. No. 692,028
Int. Cl. G01t 1/16

U.S. Cl. 250—83.3

6 Claims



A system for determining the cumulative nuclear radiation impinging on a monitored region using a step-recovery diode as a transducer. The step-recovery diode

is subjected to the radiation to be cumulatively measured. By measuring the change in parameters of the diode to determine what change the radiation has had on its minority carrier lifetime, the cumulative radiation fluence that the diode has been subjected to can be determined.

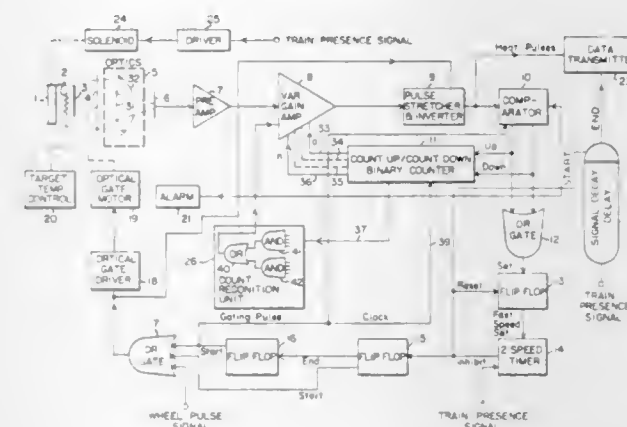
3,539,810

CALIBRATED OVERHEATED BEARING INDICATOR

Walter G. Pettitt, Rochester, and Henry C. Sibley, Adams Basin, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York
Filed May 27, 1968, Ser. No. 732,453
Int. Cl. G01j 5/06, 5/16

U.S. Cl. 250—83.3

13 Claims



An improved overheated bearing indicator wherein the output signal of an infrared detector in response to a target of controlled temperature is servoed to a predetermined value.

3,539,811

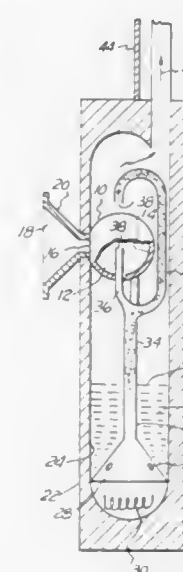
STANDARD OR REFERENCE SOURCE OF INFRARED RADIATION

Ojars Risgin, Ann Arbor, Mich., assignor to Chain Lakes Research Associates, Inc., Detroit, Mich., a corporation of Michigan

Filed Aug. 15, 1968, Ser. No. 752,880
Int. Cl. H01j 35/00

U.S. Cl. 250—85

6 Claims



A standard or reference source of infrared radiation consisting of a hollow black body whose cavity is provided with a viewing aperture and maintained at a substantially constant temperature by spraying of the outer surface of the black body with a mixture of boiling liquid and vapors of a chemically pure fluid.

3,539,812

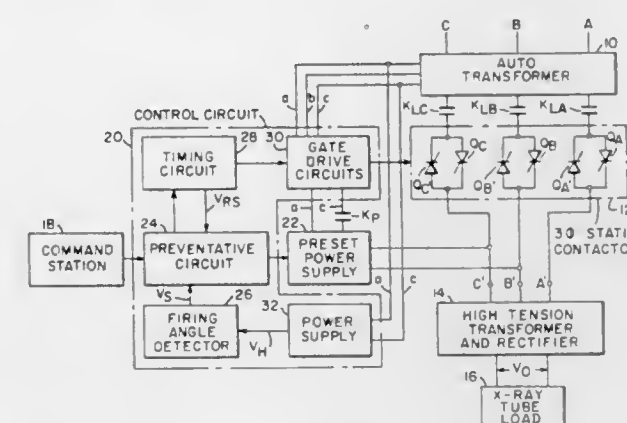
POLYPHASE POWER SUPPLY FOR X-RAY APPARATUS WITH MEANS FOR PREVENTING SATURATION IN THE TRANSFORMER

Frederick O. Johnson, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 23, 1968, Ser. No. 699,829
Int. Cl. H05g 1/32

U.S. Cl. 250—103

10 Claims



The present disclosure relates to a power supply control system for X-ray apparatus which employs a solid state contactor comprising controlled switching devices, such as silicon controlled rectifiers, for controlling the flow of power to the high tension transformer of X-ray apparatus under the control of a control circuit. The control circuit is operative to preset the high tension transformer to prevent it from going into saturation during the generation of the output pulse voltages. Also the control circuit is operative to limit ringing of the high tension transformer, which could cause excessively high secondary voltage to be generated, by selectively energizing switching devices of the solid state contactor.

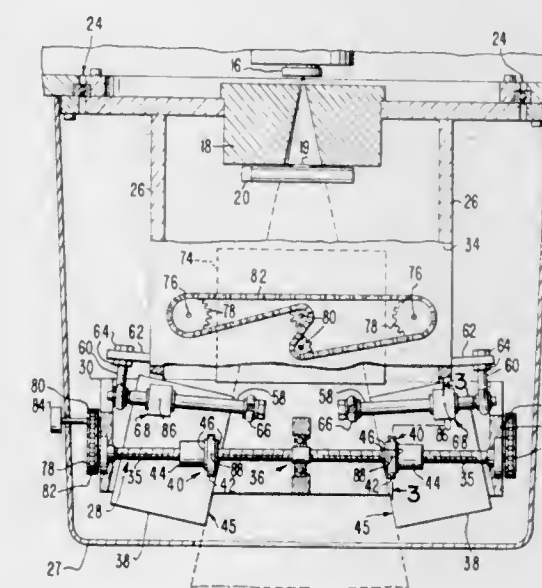
3,539,813

BEAM WIDTH DEFINING STRUCTURE FOR LINEAR ACCELERATOR RADIOTHERAPY DEVICES

Larry Resnick, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Nov. 24, 1967, Ser. No. 685,533
Int. Cl. G03b 41/16

U.S. Cl. 250—105

2 Claims



A pair of heavy metal jaws have facing surfaces which define the width of an X-ray beam passing between the jaws. Each jaw is supported on (1) a threaded shaft perpendicular to the beam axis and (2) a shaft which forms

an angle with the threaded shaft. The angle and the positions of attachment between jaws and shafts are selected so that the facing surface on each jaw is maintained substantially parallel to the beam edge as the jaws are moved, thus reducing stray radiation at the beam edges.

3,539,814

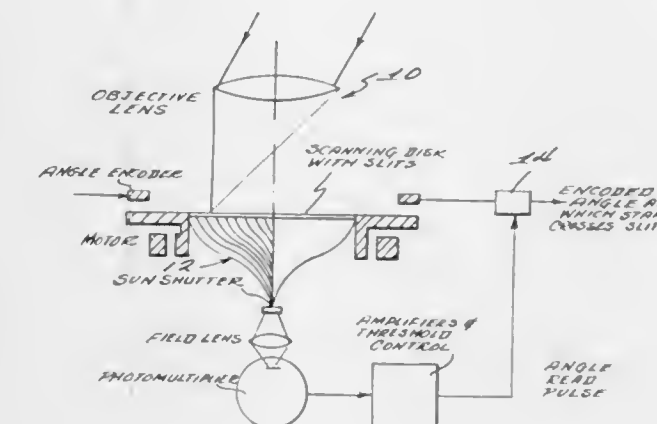
STAR RECOGNITION APPARATUS WITH AN OPTICAL SCANNING DISC

Robert L. Lillestrand, Edina, Lawrence D. Kane, St. Paul, and Bruce D. Vannelli, Savage, Minn., assignors to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Apr. 3, 1967, Ser. No. 627,762
Int. Cl. G01d 5/36; G01j 1/06

U.S. Cl. 250—203

8 Claims



An arrangement for determining the orientation of a vehicle in space by directing a scanning disk having slits therein towards a star field and providing relative rotation between the disk and the field. Incident radiation passing through the slits is utilized in conjunction with rotational information as data from which polar coordinates of stars in the field of view can be calculated. This in turn permits the angular separations between stars to be calculated. By comparing this angular separation information with known star separations, the actual identity and position of the stars are ascertained and the three axis orientation of the space vehicle can be determined.

3,539,815

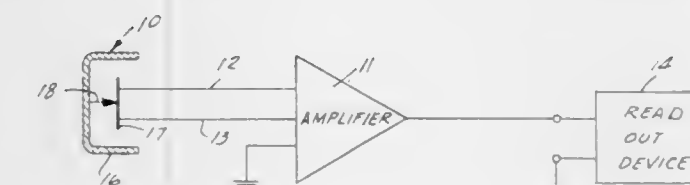
SEALED DETECTOR WITH LIGHT IMPERVIOUS HOUSING

James M. Dean, Des Plaines, Ill., assignor, by direct and mesne assignments, to Charles P. De Vito, Albert P. De Vito, Ralph R. Erlich, and Michael N. Fine, as trustees

Filed May 1, 1968, Ser. No. 725,755
Int. Cl. H01j 39/12

U.S. Cl. 250—211

6 Claims



A light sensing device which includes a small probe adapted to be positioned in a vicinity where light intensity is to be measured. The device includes a light sensing element which is formed by a field effect semiconductor secured to the interior surface of a housing and having leads extending therefrom for connection to the input of an amplifier. The field effect semiconductor is connected to an amplifier and read-out device and detects energy in

the visible spectrum. The light sensing element is entirely encapsulated within a light impervious housing but detects light or other energy impinging on the outside of the housing.

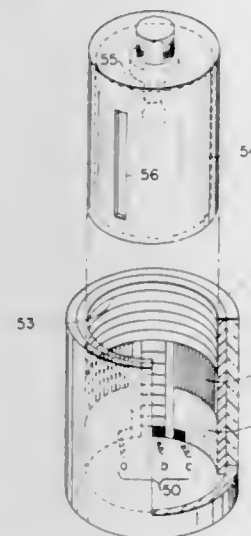
3,539,816

CONTACTLESS POTENTIOMETER USING ROTATABLE SLITTED CYLINDER

Rhodes R. Chamberlin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Original application Apr. 21, 1966, Ser. No. 544,193, now Patent No. 3,449,705, dated June 10, 1969. Divided and this application Aug. 20, 1968, Ser. No. 812,479
Int. Cl. H01L 15/06

U.S. Cl. 250—211

1 Claim



The present invention relates to an improved contactless potentiometer. A photoresistive assembly, comprising a flexible photoconductive film between a flexible low-resistance film and a flexible high-resistance film upon a flexible anodized aluminum foil, is used in the contactless potentiometer. The photoresistive assembly allows for easier contactless potentiometer fabrication.

3,539,817

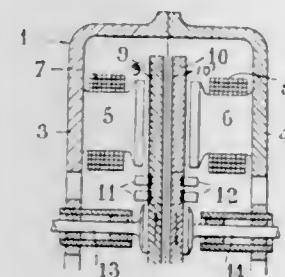
ROTARY ELECTRIC MACHINE WITH ROTOR IN THE FORM OF A DISC

Georges Darrieus, Houilles, France, assignor to Compagnie Electro-Mecanique, Paris, France, a body corporate

Filed Jan. 17, 1969, Ser. No. 792,029
Claims priority, application France, Jan. 29, 1968, 137,796

Int. Cl. B601 11/00; H02k 23/54
U.S. Cl. 290—9

5 Claims



A rotary electrical machine of the axial air-gap type includes a pair of stator elements each comprising a cup-like casing containing a ring of circumferentially spaced poles alternating in polarity and between which a pair of co-axially mounted disc-type armatures are arranged for rotation in opposite directions to supply a load. The respective windings on the armature discs are ener-

gized by equivalent currents but of opposite sign thereby to develop, through opposition of their ampere-turns, a mutual compensation of the armature reaction with respect to the external magnetic circuit through the casing and poles.

3,539,818

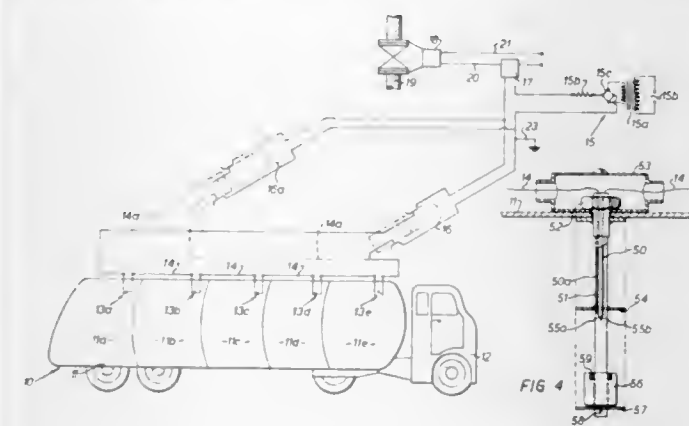
SYSTEM FOR CONTROLLING THE TRANSFER OF MATERIALS INTO OR OUT OF A RESERVOIR

Thomas C. Covill, Sunbury-on-Thames, England, assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed July 19, 1968, Ser. No. 746,136
Claims priority, application Great Britain, July 24, 1967, 33,869/67

U.S. Cl. 307—9

Int. Cl. B67d 5/30

9 Claims



A system for controlling the transfer of material into or out of a mobile reservoir such as a fuel tank. A switch device associated with an electrical circuit interrupts said circuit when the amount of material in the reservoir falls outside a selected limit. The reservoir may be compartmentalized into a plurality of horizontally separated compartments which are separately controlled by the same electrical circuit.

3,539,819

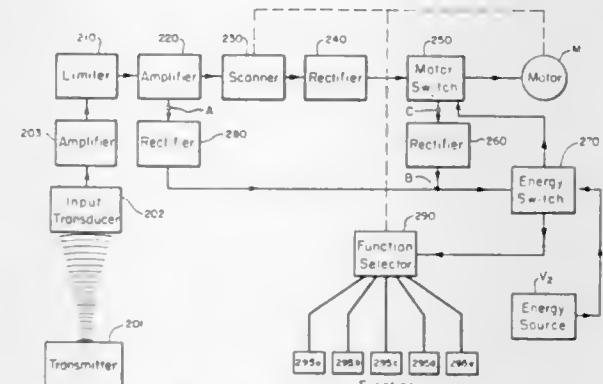
MULTIPLE-CHANNEL REMOTE CONTROL SYSTEM

Wilbert Parisoe, Highland Park, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed May 27, 1968, Ser. No. 732,434
Int. Cl. H02j 3/14

U.S. Cl. 307—38

13 Claims



A remote control system of the type responsive to control signals of a continuous-wave nature and of a plurality of different control frequencies for selectively energizing any of a corresponding plurality of controlled devices from a common energy source. A microphone and amplifier combination is utilized to convert a received sonic control signal into an electrical output signal suitable for detection by a scanner. The scanner comprises a motor-driven sequence switch having a frequency-selective de-

vice (such as an inductor) connected to each of the switch contact positions; each component is tuned to a different control frequency corresponding to a different controlled device. The movable contact of the switch sequentially selects one of the particular devices to complete a bridged-T null circuit and a null is obtained when the device tuned to the received control frequency is attained. The system is essentially immune to extraneous signals. Moreover, when a particular function has been selected, the other functions cannot be inadvertently energized during the operation of the selected function.

3,539,820

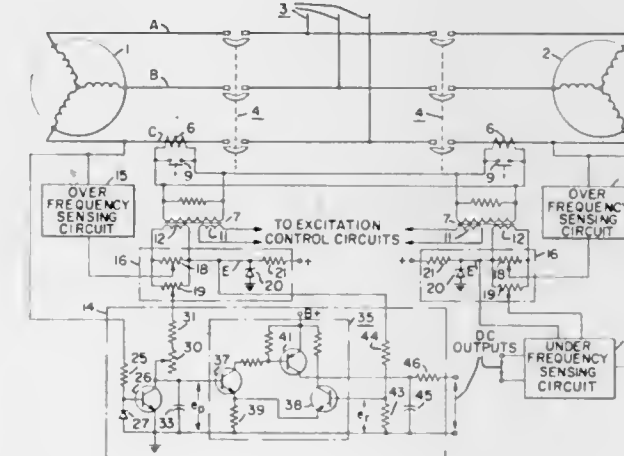
REAL LOAD UNBALANCE PROTECTION CIRCUIT FOR ALTERNATING CURRENT POWER SOURCES CONNECTED FOR PARALLEL OPERATION

Leland L. Kessler, Lima, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 10, 1968, Ser. No. 696,756
Int. Cl. H02j 3/46

U.S. Cl. 307—87

6 Claims



The invention comprises a simple unbalanced load detection circuit for effecting operating control or isolation of a faulted alternating current power source connected in parallel operation with a plurality of such sources when the faulted source fails to divide real load evenly with the other sources in an AC power system. The detection circuit comprises an inexpensive frequency sensing circuit which includes a simple voltage detector. The sensing circuit is biased by a voltage differential produced by an unbalanced load condition resulting from the faulted power source supplying more or less than its proper share of load current; when the unbalanced load condition reaches a predetermined level the detector operates to produce an output voltage which may be employed to effect removal of the faulted source from the system or to govern the prime mover of the faulted source.

3,539,821

TRANSDUCER OPERATED SWITCHES

John Raymond Ashley and Kenneth John Horstmann, both % Newbridge Works, Bath, Somerset, England
Filed May 1, 1969, Ser. No. 820,895

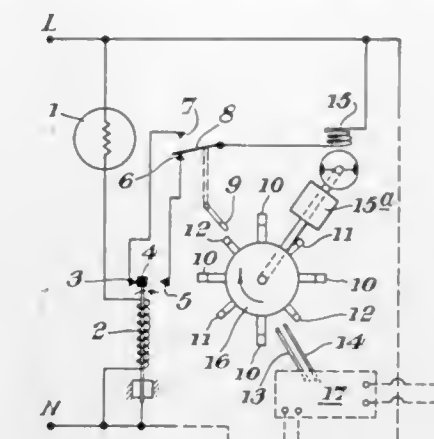
Claims priority, application Great Britain, May 3, 1968, 21,017/68
Int. Cl. H01h 37/00

U.S. Cl. 307—117

2 Claims

A transducer-controllable ON/OFF switching mechanism comprises a primary changeover switch biased to one condition and changeable by the transducer to the other condition, a second changeover switch in circuit with the first switch and an electric motor driving a rotor carrying alternate main ON and OFF switch actuators

with, between each two adjacent main actuators, a second switch actuator for changing over the second switch, and parallel connections between the first and second



switches, whereby on any change of the first switch the motor starts, a main actuator effects a main switching operation and thereafter a second actuator changes the second switch to stop the motor.

3,539,822

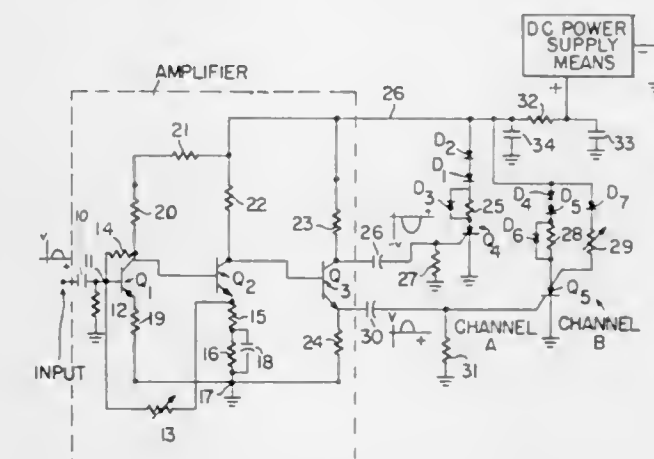
SEMICONDUCTOR CONTROL CIRCUIT

Edward D. Padgett, Morristown, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Oct. 26, 1967, Ser. No. 678,462
Int. Cl. H03k 17/00

U.S. Cl. 307—252

5 Claims



A control circuit having a conditioned amplifier to provide phase-coded pulses to four-layer semiconductor devices to obtain reliable scheduled initiation of the devices to their conduction states. A conditioning network is provided to cancel out the effects that voltage variations would have on the conduction state of the semiconductor devices.

3,539,823

LOGIC CIRCUIT

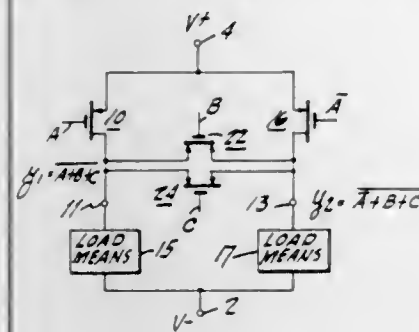
Borys Zuk, Somerville, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Aug. 6, 1968, Ser. No. 750,586
Int. Cl. H03k 19/34

U.S. Cl. 307—215

9 Claims

A logic circuit to provide two related "NORED" output functions at two output points. Each output function includes two sets of variables. The first set of one function is identical to the first set of the other function and the variables in the second set of one function are the complement of the variables in the second set of the other function. A parallel combination of transistors connected

between the two output points is used to generate the first set of each function. The transistors are bidirectional devices capable of conducting current in one and the



opposite direction, whereby the two output points of a pair share the transmission path provided by the parallel combination of transistors.

3,539,824

CURRENT-MODE DATA SELECTOR

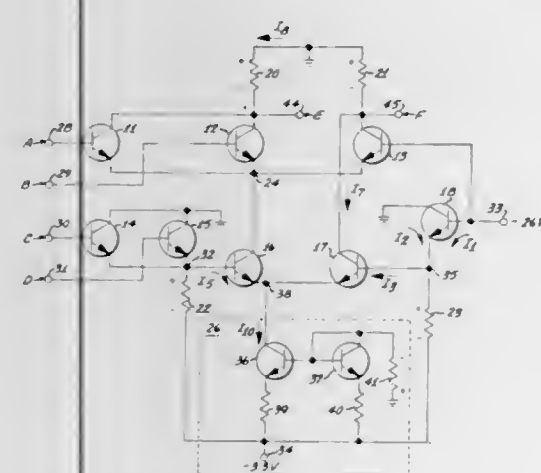
Jonathan K. Yu and Darrell L. Fett, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed Sept. 3, 1968, Ser. No. 756,945

Int. Cl. H03k 19/22

U.S. Cl. 307-218

10 Claims



A plurality of transistors in a current-mode circuit uses control signals to select data from a plurality of sources of data and provides true and complementary output signals.

3,539,825

HIGHLY LINEAR VOLTAGE TO FREQUENCY CONVERTER

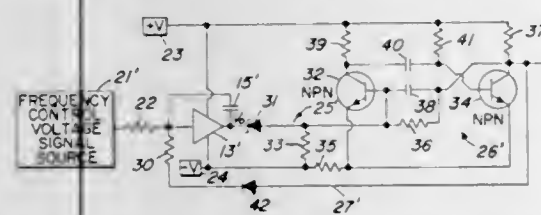
Fred W. Hardaway, Arlington, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Jan. 24, 1967, Ser. No. 611,445

Int. Cl. H03k 4/08

U.S. Cl. 307-228

2 Claims



A DC to AC converter circuit providing a highly linear conversion and using a DC operational amplifier with a feedback capacitor that together act as an integrator developing a sloping curve of one direction in the voltage out of the amplifier during a first time portion of each cycle of operation, and then, during a second time portion of each cycle, a "reset" portion, a reverse direction

sloping curve. This entails charging of the feedback capacitor as primarily determined by a DC controlling voltage input acting through the DC operational amplifier through the first time portion of each cycle and then reverse direction charging of the feedback capacitor as determined by the summed DC controlling voltage input and a reset voltage through a reset circuit and with the reset voltage being the predominate voltage through a predetermined consistent time period for each cycle. Voltage level threshold activated circuitry connected to the output of the DC operational amplifier develops a voltage that activates the reset circuit through a predetermined time length portion of each operational cycle of the converter circuit.

3,539,826

ACTIVE VARIABLE IMPEDANCE DEVICE FOR LARGE SIGNAL APPLICATIONS

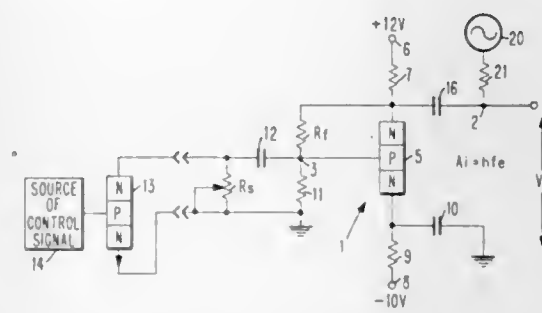
William G. Crouse, Raleigh, N.C., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 1, 1967, Ser. No. 665,074

Int. Cl. G06g 7/12

U.S. Cl. 307-229

3 Claims



An inverting amplifier includes a shunt feedback impedance element connected between its input and output terminals. The feedback current is divided between a series input resistance R_{in} and an impedance R_s shunting R_{in} . Either R_s or R_{in} is in the form of a variable impedance semiconductor device and a suitable source of control signals is applied to the semiconductor device to cause it to have a variable impedance. This variable impedance causes the output impedance Z_o of the amplifier to vary as a function of the input control signals to the semiconductor device. The output impedance is resistive, capacitive, inductive, or the like, depending upon the nature of the feedback impedance of the amplifier; and the device is useful in varied applications such as automatic gain control, frequency and phase control, power regulation, delay equalizers, modulators, and the like.

3,539,827

FREQUENCY SELECTIVE CIRCUIT

Dale A. Crowe, Sedro Woolley, Wash., assignor to Rothenbuhler Engineering Co., Woolley, Wash., a corporation of Washington

Filed Jan. 17, 1968, Ser. No. 698,617

Int. Cl. H03k 5/20

U.S. Cl. 307-233

10 Claims

A frequency selective circuit comprises a monostable multivibrator which is triggered via triggering means from an alternating current waveform. The output of the multivibrator is coupled to integrating means so that, as the frequency of the input waveform increases, the integrated output increases until the quasi-stable period of the multivibrator approximates the period of the input waveform. However, at higher input frequencies the integrated output of the multivibrator decreases, the multivibrator being re-triggered to its stable state by

triggering means responsive to the input waveform. As a result, a peak output is produced corresponding to a



given input frequency or frequency range, and the circuit does not respond at harmonic frequencies.

3,539,828

FREQUENCY DISCRIMINATOR-DETECTOR FOR DATA TRANSMISSION SYSTEM OF THE FREQUENCY SHIFT KEYING TYPE

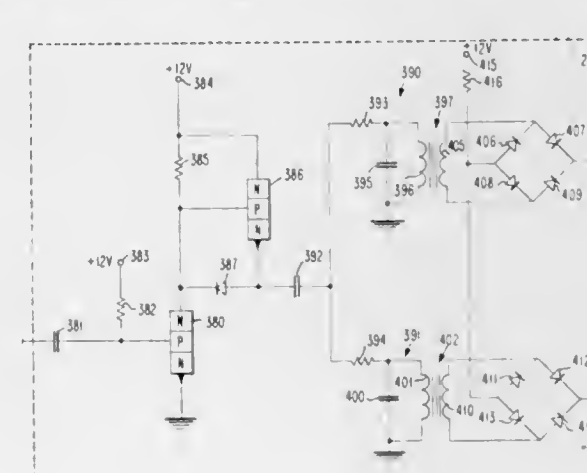
William G. Crouse, Raleigh, N.C., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Original application Apr. 15, 1965, Ser. No. 448,521, now Patent No. 3,432,616. Divided and this application Apr. 24, 1968, Ser. No. 723,762

Int. Cl. H03k 9/06

U.S. Cl. 307-233

3 Claims



The improved circuit responds to data in the form of an alternating current carrier at one or the other of two frequencies to produce a direct current output voltage which is at one or the other of two levels representative of a logical "1" or a logical "0" data bit. A pair of resonant circuits are each tuned to one of the frequencies; their outputs are rectified and subtracted from each other; and the resultant signal is applied to a pair of matched transistor amplifiers having their emitters connected to each other and to a low pass filter which removes the carrier from the resultant signal. The polarity of the resultant signal causes one of the amplifiers to be operated in its on or off state to produce a logical "1" or "0" level at its collector.

3,539,829

tone DETECTION CIRCUIT

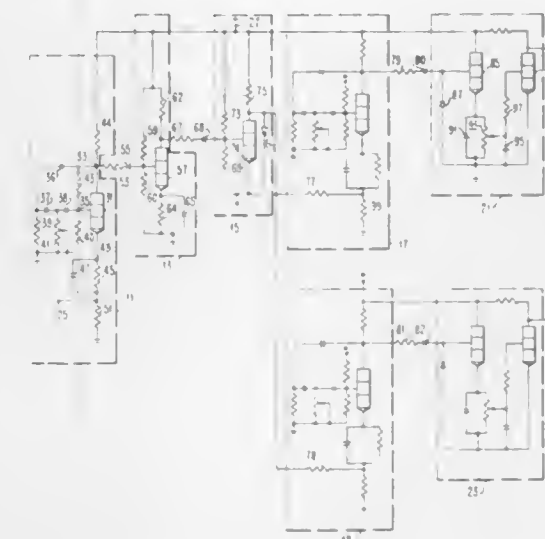
Matthew P. Langendorf and William H. Sebastian, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 17, 1968, Ser. No. 737,497

Int. Cl. H03k 1/16

U.S. Cl. 307-233

6 Claims



A circuit for detecting predetermined tone or signal frequency combinations comprising a plurality of similar active resonant filters connected as bandpass stages and tuned stages and integrating circuits responsive to the output signals of the tuned stages. Each resonant filter consists of an amplifier with a phase shift feedback network which provides a positive feedback signal at the select frequency. The input signal is applied to the emitter junction which isolates the frequency selection components from the input impedance. An unbypassed emitter dampens the amplifier and prevents oscillation. Proper sizing of this resistor allows the amplifier to be utilized as a bandpass filter or as a sharply tuned filter.

3,539,830

SWITCHING CIRCUIT PARTICULARLY FOR OPERATION IN RESPONSE TO VARIATIONS IN RESISTIVITY OF AT LEAST ONE SENSOR RESISTOR

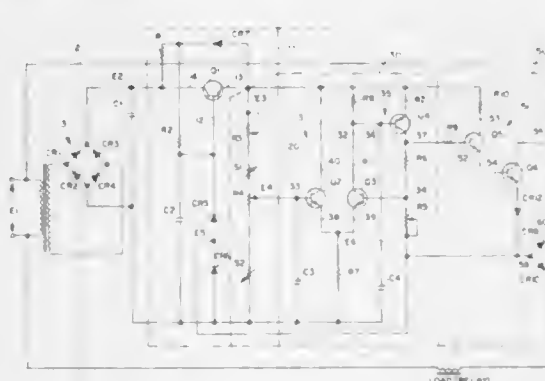
Richard J. Zollinger, Sierra Madre, Calif., assignor, by mesne assignments, to Whittaker Corporation, Los Angeles, Calif.

Filed Aug. 8, 1966, Ser. No. 570,994

Int. Cl. H03k 5/20; G01n 27/00

U.S. Cl. 307-235

7 Claims



The circuit disclosed includes a voltage regulator connected for powering a pair of strain gauges from which a voltage is fed to one side of a differential amplifier. The other side of the differential amplifier receives a reference voltage, as well as a positive feedback from

the output of the differential amplifier for snap action without changing the reference level. The output of the differential amplifier controls current through an A-C or D-C load. The reference voltage is produced in the regulator so that variations reflect on both inputs of the differential amplifier.

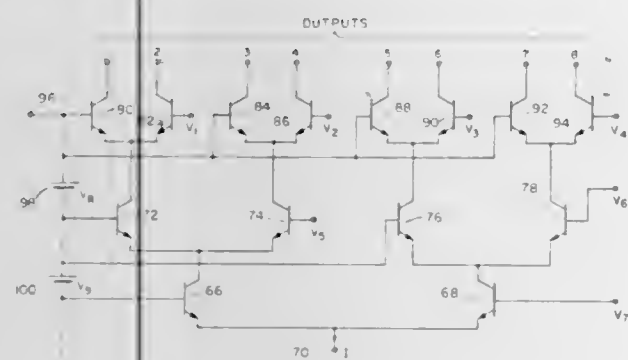
3,539,831

SWITCHING CIRCUIT INCLUDING PLURAL RANKS OF DIFFERENTIAL CIRCUITS

Barrie Gilbert, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed June 15, 1967, Ser. No. 646,330
Int. Cl. H03k 5/20, 13/02

U.S. Cl. 307-235

11 Claims



A switching circuit is provided comprising a plurality of differential amplifiers arranged in ranks with the differential outputs from lower rank amplifiers providing the inputs to higher rank amplifiers. Control terminals of the differential amplifiers are coupled together to a common analog control voltage, but the differential amplifiers are biased to switch their outputs at different control voltage values. In this manner, a given magnitude of control voltage will select a current path through the various ranks of differential amplifiers.

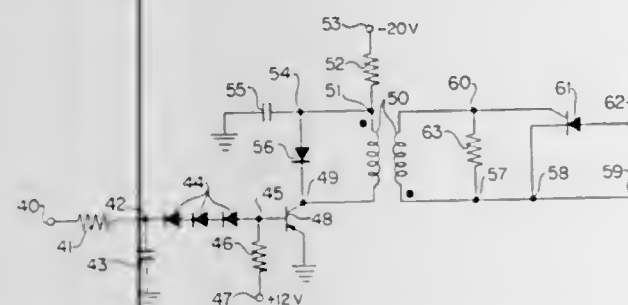
3,539,832

SWITCHING MEANS EMPLOYING UNIDIRECTIONAL SIGNAL TRANSLATING DEVICE

Lowery K. Jones, Jr., and James D. Turner, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Original application Apr. 27, 1964, Ser. No. 362,854, now Patent No. 3,375,497, dated Mar. 26, 1968. Divided and this application Oct. 10, 1967, Ser. No. 674,344
Int. Cl. H03k 17/00

U.S. Cl. 307-246

4 Claims



Switching circuitry for establishing and interrupting electrical conduction in a circuit path. A unidirectional signal translating device, such as a silicon controlled rectifier, having an anode, a cathode, and a control gate, is employed. Initiation of conduction of this signal translating device, through the anode and the cathode thereof, is controlled by application of a signal to the control gate,

over a branch circuit. Termination of conduction of the signal translating device is caused by operation of a separate reset circuit to reverse-bias the signal translating device for a short period of time.

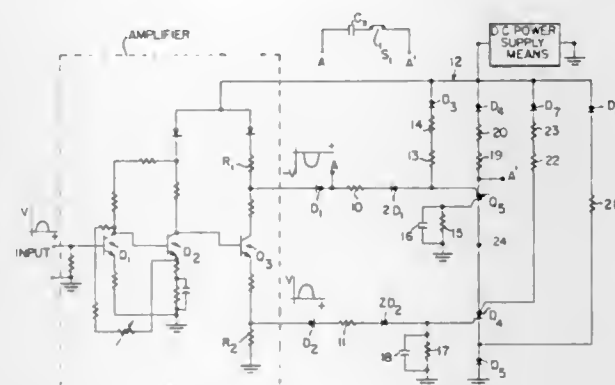
3,539,833

LOGIC CIRCUIT FOR USE WITH ADAPTION KITS AND LIKE MISSILE DEVICES

Edward D. Padgett, Morristown, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 26, 1967, Ser. No. 678,461
Int. Cl. H03k 17/72

U.S. Cl. 307-252

10 Claims



A semi-conductor logic circuit having a conditioned amplifier which applies phase-coded pulses to silicon-controlled switches to obtain reliable scheduled initiation of the switches into the conduction state. The initiation of the switches allows a plurality of previously open circuited load devices to conduct as though they were connected in a parallel configuration.

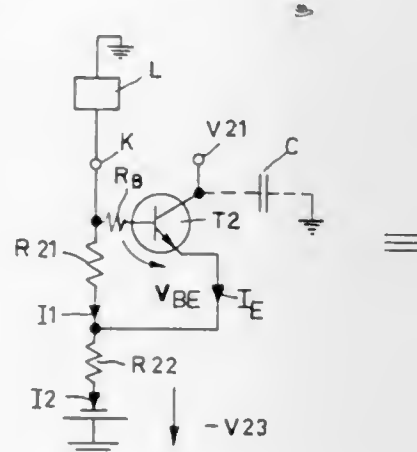
3,539,834

CONSTANT-CURRENT TRANSISTOR CIRCUITS

Herbert Stopper, Litzelstetten, Germany, assignor to Telefunken, Patentverwertungsgesellschaft m.b.H., Ulm, Danube, Germany
Filed July 24, 1967, Ser. No. 655,464
Claims priority, application Germany, July 26, 1966, T 31,679

U.S. Cl. 307-254

6 Claims



A constant-current transistor circuit including a first D.C. voltage source, a voltage-divider including at least two resistors connected in series between the first D.C. voltage source and the output terminal of the circuit, and a transistor connected as an emitter-follower to the voltage-divider with the base of the transistor being connected to the output terminal of the circuit and the emitter and collector electrodes of the transistor being connected in series between the junction of two of the voltage-divider resistors and a second D.C. voltage source.

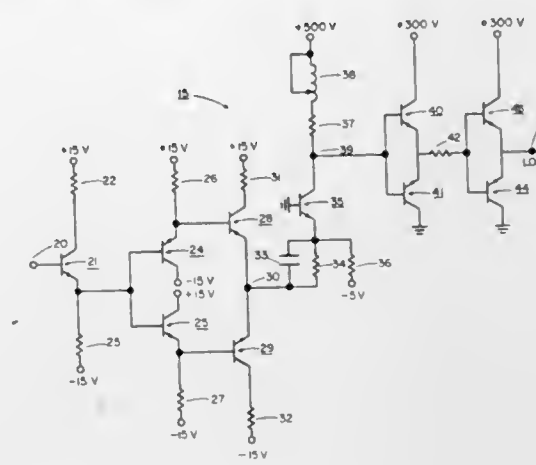
3,539,835

ELECTRONIC DRIVER FOR TRANSVERSE MODE POKKEL CELL

Ralph H. Hinz, Houston, Tex., assignor to Dresser Systems, Inc., Dallas, Tex., a corporation of Delaware
Filed July 31, 1967, Ser. No. 657,234
Int. Cl. H03k 5/00

U.S. Cl. 307-268

3 Claims



An emitter follower pre-amp stage is coupled into a common base output stage, the output of which is coupled through a pair of complementary emitter follower stages. The circuit transforms low voltage pulses into pulses of varying amplitudes up to approximately 220 volts having widths of 500 nanoseconds and repetition rates varying from D.C. to 30 megacycles even into capacitive loads.

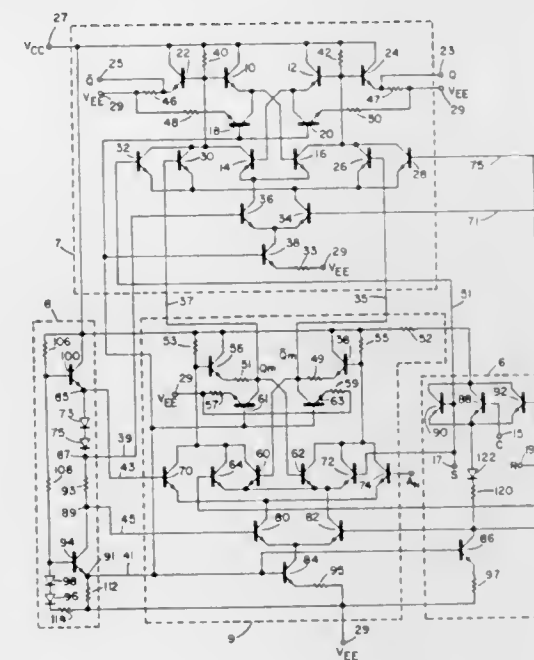
3,539,836

CLOCKED DELAY TYPE FLIP FLOP

Walter C. Seelbach, Scottsdale, and Ury Priel, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Dec. 16, 1966, Ser. No. 602,194
Int. Cl. H03k 17/26, 3/12

U.S. Cl. 307-269

7 Claims



A gated delay memory element also known as a gated D type flip flop which operates in the current mode and utilizes a master-slave scheme. This flip flop is constructed as a monolithic integrated circuit using high speed emitter-coupled transistor circuitry and features asynchronous set-reset logic capability. The master and slave flip flop portions each include a basic internal bistable switching element to which is connected emitter coupled transistor logic circuitry for controlling the conductive state of the bistable element in each flip flop portion.

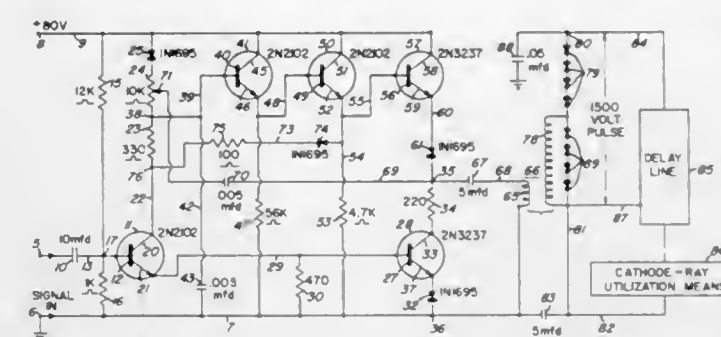
3,539,837

SOLID-STATE HORIZONTAL SWEEP DRIVING CIRCUIT

Eugene H. Stevens, Newbury Park, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed July 29, 1968, Ser. No. 748,467
Int. Cl. H03k 3/26

U.S. Cl. 307-270

6 Claims



A transformer-transistor combination or network for driving a horizontal delay line for a cathode-ray tube circuit or the like. A minimum number of transistor devices, all of the same NPN type, are connected in a three-stage circuit configuration with emitter-follower coupling between stages. Between the output stage and the utilization circuit coupling is provided a step-up transformer feeding into a delay line. An input stage consisting of one transistor with feed back from two of the other stages is coupled by emitter-follower coupling to a control transistor stage in series with the output stage and normally bias off.

A bleeder resistor circuit is provided between a positive supply lead for the transistor circuits and the negative supply lead, with a resistor section in the impact circuit for biasing off the input transistor until a negative square-wave signal is received, such as a negative square-wave horizontal synchronizing pulse in a cathode-ray tube system for example.

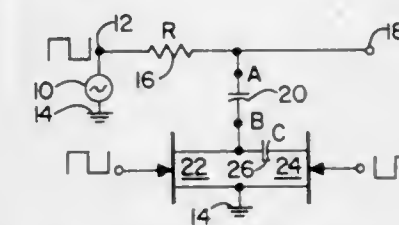
3,539,838

SWITCHING APPARATUS HAVING A 4 RC TIME CONSTANT

Adrian J. Moses, Rush City, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 12, 1967, Ser. No. 645,386
Int. Cl. H03k 17/28, 5/00; G06g 7/18

U.S. Cl. 307-293

6 Claims



A circuit for providing an amplitude lag function or a high pass function wherein the time constant of the lag or high pass is 4RC.

3,539,839

SEMICONDUCTOR MEMORY DEVICE

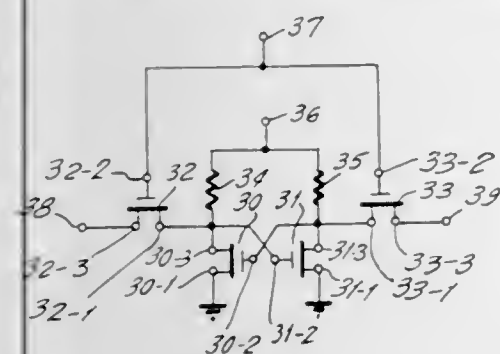
Ryo Igarashi, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan
Filed Jan. 26, 1967, Ser. No. 611,868
Claims priority, application Japan, Jan. 31, 1966, 41/5,489

U.S. Cl. 307-303

7 Claims

This invention deals with semiconductor elements, especially those employing semiconductor components commonly referred to as MOS transistors. Such MOS transistors are coupled in a predetermined manner to form

a memory element capable of performing non-destructive readout. Such memory elements are normally comprised of first and second MOS transistors connected in a cross-coupled manner with suitable resistive components so as to form a bistable or flip-flop circuit capable of maintaining a predetermined binary memory state indefinitely. Third and fourth MOS transistors are coupled to the flip-flop circuits, and suitable potential levels are applied at their gate electrodes for performing non-destructive readout. The gate electrodes of such MOS transistors are normally comprised of a silicon oxide film which bridges two p-type regions formed in an n-type silicon substrate. By adjustment of the width and length of the silicon oxide film bridging two p-type regions, it is possible to alter the drain current flowing between the remaining two elec-



trodes of the transistor by significant amounts. Selecting the width and length of the silicon oxide film of the first and second transistors as to form a ratio w/l , which ratio is substantially greater for the first and second above mentioned MOS transistors than the w/l ratio for the third and fourth above mentioned MOS transistors, it is possible to increase the drain current of the write-in readout transistors significantly so as to achieve the dual objects of preventing the occurrence of destructive readout and securing a large readout signal amplitude. By adjustment of the above mentioned ratios, it is possible to completely compensate for the varying threshold voltages of MOS transistors which, though all produced in a single batch fabrication, will be found to have threshold voltages varying over a substantially large range.

3,539,840

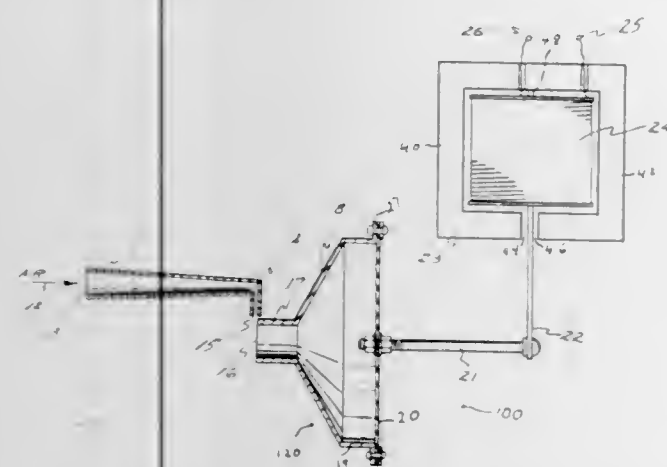
ELECTRICAL POWER SOURCE

Carl J. Campagnuolo, Chevy Chase, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 27, 1966, Ser. No. 605,108
Int. Cl. H02n 11/00

U.S. Cl. 310—2

3 Claims



Air is passed through the longer side of an L-shaped hollow tube. The air is discharged from the shorter side of the L-shaped hollow tube and passed parallel to an

entrance port of a Helmholtz fluid resonator. One side of the Helmholtz resonator is defined by a diaphragm which has the same resonant frequency as the resonator itself. A connecting rod at one of its ends is joined to said diaphragm and at its other end to a soft iron reed which is surrounded by an electrical coil having two output wires. Surrounding the electrical coil is a permanent magnet. When the pressure of the air discharging from the shorter side of the hollow tube matches the resonant frequency of the Helmholtz resonator, resonance occurs, and the diaphragm is vigorously vibrated and, by the connecting rod, vigorously vibrates the soft iron reed between the poles of the permanent magnet. Since the electrical coil is inside the permanent magnet a voltage is induced across the two output wires of the electrical coil.

3,539,841

PIEZOELECTRIC VOLTAGE GENERATOR

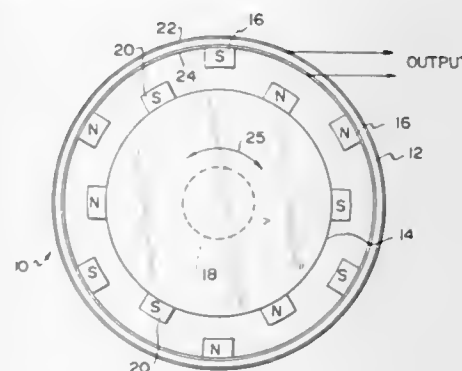
James A. Riff, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Feb. 21, 1968, Ser. No. 707,248

Int. Cl. H01v 7/00

U.S. Cl. 310—8.1

8 Claims



A dynamoelectric machine having a stator which includes a hollow cylinder made of piezoelectric ceramic material. A rotor is positioned within the ceramic cylinder and includes a magnetic structure having pole pieces and windings thereon. A plurality of magnets are connected in a spaced relation about the inner surface of the piezoelectric cylinder. The rotor rotates relative to the stator and the rotor windings cause the flux flow through the magnets of the stator to be changed thereby flexing the piezoelectric element to generate an output voltage.

3,539,842

INDUCTION MHD GENERATOR

Herbert Weh, 4 Brahmstrasse, 33 Braunschweig, Germany

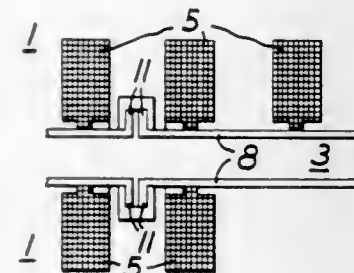
Filed Aug. 14, 1967, Ser. No. 660,365

Claims priority, application Germany, Aug. 16, 1966, W 42,211

Int. Cl. H02n 4/02

U.S. Cl. 310—11

6 Claims



An improvement of an induction MHD generator for the reduction of generator eddy current energy loss. The flow channel for constraining the flow of conductive fluid medium through the generator is divided into a plurality of electrically insulated wall sections.

3,539,843

LINEAR INDUCTION MOTOR

Yves J. Pelenc, La Tronche, France, assignor to Merlin Gerin, Societe Anonyme, Grenoble, France

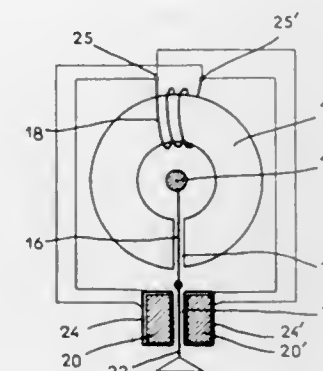
Filed Aug. 15, 1968, Ser. No. 752,929

Claims priority, application France, Sept. 1, 1967, 119,804

Int. Cl. H02k 41/02

U.S. Cl. 310—13

8 Claims



Linear induction motor comprising a fixed cylindrical conductor surrounded by a movable annular magnetic core member and surrounding a magnetic return structure. Two windings are disposed in the core member, one for supplying current to the second when the conductor is energized by an alternating current, the second winding producing a magnetic traveling field cooperating with said conductor which operates also as an armature so as to move the core member along the conductor.

3,539,844

ONE-WAY DIRECTIONAL MEANS FOR SYNCHRONOUS MOTORS

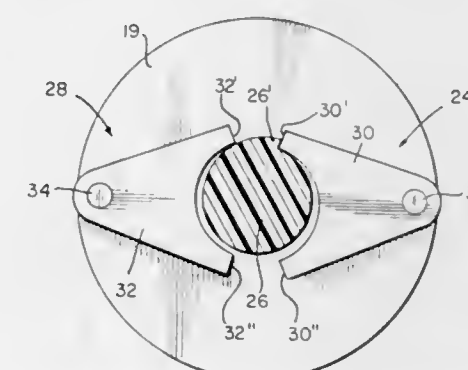
Wallace L. Linn, Indianapolis, Ind., assignor to P. R. Malory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Apr. 14, 1969, Ser. No. 815,571

Int. Cl. H02k 7/118

U.S. Cl. 310—41

2 Claims



A cam-programming means which is attached to the rotor of a synchronous motor includes at least one arcuate step adapted to engage oppositely disposed pawls pivotally carried by the shell of the motor.

3,539,845

MOTOR WHOSE MAGNETIC CIRCUIT COMPRISES A THIN LAYER OF HARD MAGNETIC MATERIAL

Georges Stcherbatcheff, Paris, France, assignor to Societe de Recherches en Matiere de Micro-Moteurs Electriques SOCREM, Paris, France

Filed May 6, 1969, Ser. No. 822,203

Claims priority, application France, May 10, 1968, 151,281

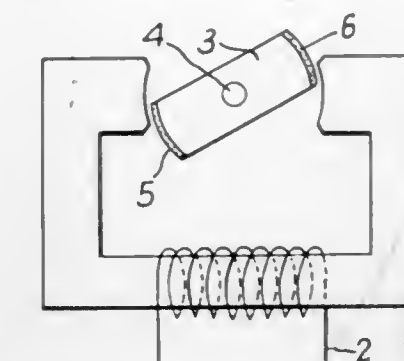
Int. Cl. H02k 21/12

U.S. Cl. 310—46

7 Claims

The invention relates to electric motors for clockwork movements and, more particularly, to miniature motors

wherein both the current drain and the static torque should be very small.



The instant invention more particularly provides for a motor the rotor of which includes a permanently magnetized thin layer, the stator magnetic flux being transverse to the said layer, whereby the motor static torque is substantially cancelled.

3,539,846

DC TORQUER BRUSH ARRANGEMENT

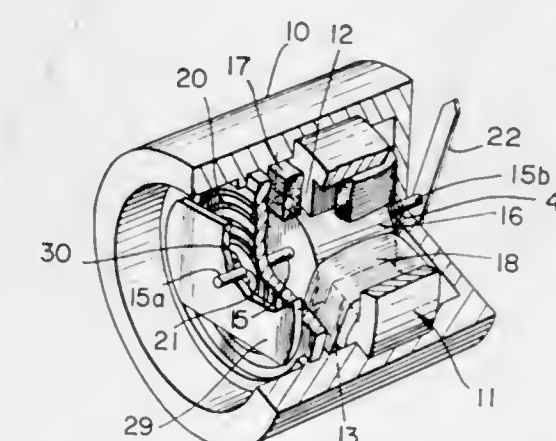
Richard G. Jewell, Swampscott, Mass., assignor to General Electric Company, a corporation of New York

Filed July 25, 1969, Ser. No. 844,874

Int. Cl. H02k 37/00

U.S. Cl. 310—46

10 Claims



A torque motor suitable for direct drive of instrument pointer and tape-type displays. A double brush arrangement eliminates peaks in the motor torque-angle characteristic to prevent unstable operation. An integrally formed commutator, slip rings, and follow-up potentiometer construction reduces cost, weight and size.

3,539,847

NUTATING STEP MOTOR FOR AC OR PULSE OPERATION

John F. Gifford, P.O. Box 117,

Corrales, N. Mex. 87048

Filed Oct. 18, 1968, Ser. No. 768,621

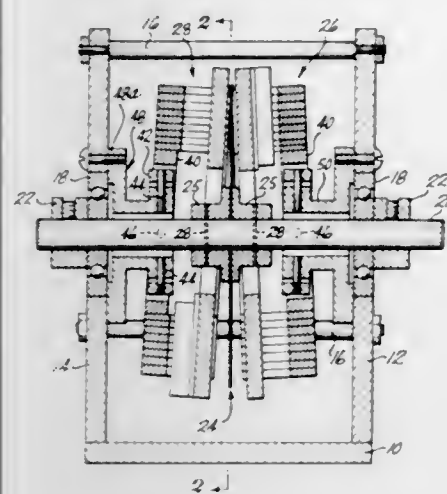
Int. Cl. H02k 37/00

U.S. Cl. 310—49

16 Claims

A nutation type motor is disclosed with its rotor clampingly engaged between nutative stators, in rolling contact with opposing stators. Each stator has two or more circumferentially spaced permanent magnet poles and two or more intervening electromagnet poles addressed to poles on the opposing stator. The permanent magnets and cooperable permeable poles of the electromagnets cooperate to "lock" the rotor and stators in any of selected indexing or stepping positions with energization removed from the electromagnets. Impulse energization in selected sequence and polarity of the electromagnets of the respective stators produces stepwise nutation thereof, hence stepwise rotor motion, in one direction or the other. With AC

energization of the stator electromagnets synchronous motor operation is achieved. Polyphase and related split-phase versions of the invention are also disclosed, as is a



servo loop application, and alternative energizing control circuits achieving modified modes of operation of the motor embodiments.

3,539,848

MOUNTING ARRANGEMENT FOR THE COOLING OF MOTOR CONTROL CIRCUIT ELEMENTS
Peter Dosch, Jona, St. Gall, and Manfred Oehmann, Ebnat-Kappel, St. Gall, Switzerland, assignors to Heberlein & Co. A.G., Wattwil, St. Gall, Switzerland, a corporation of Switzerland

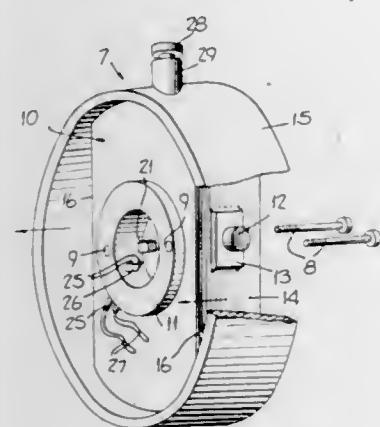
Filed Nov. 21, 1967, Ser. No. 684,767

Claims priority, application Switzerland, Nov. 22, 1966, 16,727/66

Int. Cl. H02k 1/32, 11/00

U.S. Cl. 310—64

3 Claims



The circuit components for controlling the speed of a motor are mounted on and imbedded within a block arranged to be joined to the motor housing at one end. The components of the circuit requiring cooling are mounted within air passages aligned with the normal cooling ducts in the motor housing.

3,539,849

SUBMERSIBLE MOTOR FOR SUBMERSIBLE PUMP

George W. Kampfen, San Jose, Calif.
(410 N. Monterey St., Morgan Hill, Calif. 95037)

Filed June 2, 1969, Ser. No. 829,321

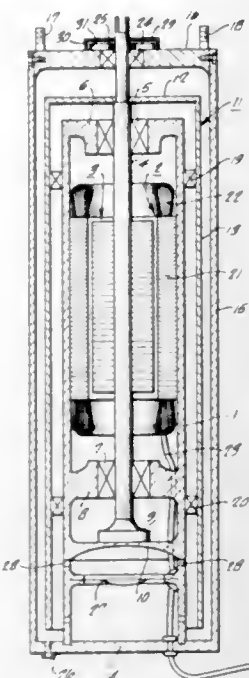
Int. Cl. H02k 5/12

U.S. Cl. 310—67

18 Claims

An electrical device, which is particularly useful in a well for driving a submerged pump, has a housing or baffle that rotates with the rotor element which makes shaft seals unnecessary. The rotor element may be mounted

on a shaft, with the housing being cylindrical in shape with one closed end securely attached in a watertight



manner to the shaft. Alternatively, the rotor element may be mounted on an inner surface of the housing with no shaft extending internally in the motor.

3,539,850

SEMICONDUCTOR RECTIFIER ASSEMBLY FOR COMBINATION WITH VEHICLE-TYPE GENERATORS

Suguru Sato, Kariya-shi, Aichi-ken, Japan, assignor to Nippon Denso K.K., Kariya-shi, Aichi-ken, Japan, a corporation of Japan

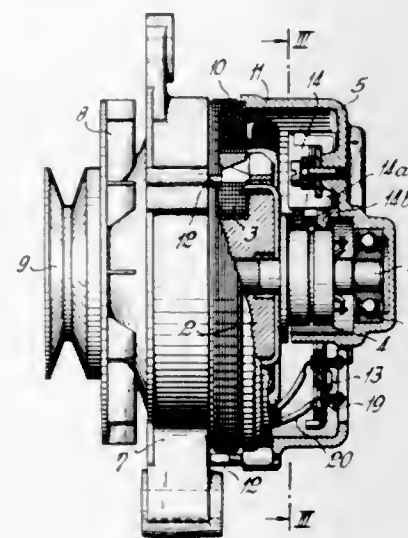
Filed Apr. 14, 1969, Ser. No. 816,880

Claims priority, application Japan, Apr. 13, 1968 (utility model), 43/30,150

Int. Cl. H02k 11/00

U.S. Cl. 310—68

10 Claims



A single, essentially circular ring-shaped insulating plate carries a group of fan-shaped sector plates on one side into which semiconductor rectifier elements are set in pairs, with housings of opposite polarity; at the other side of the insulating plate, plate-like connecting elements are secured thereto, the opposite terminals of the semiconductor rectifiers being connected to the plates on the other side through openings in the insulating plate, into which the rectifiers fit. The insulating plate therefore becomes a single, unitary carrier for the entire circuitry as well as the active elements of the rectifier assembly, for ready combination in and assembly to the end bell of a vehicle-type alternator.

3,539,851

DYNAMOELECTRIC MACHINE STATOR MOUNTING

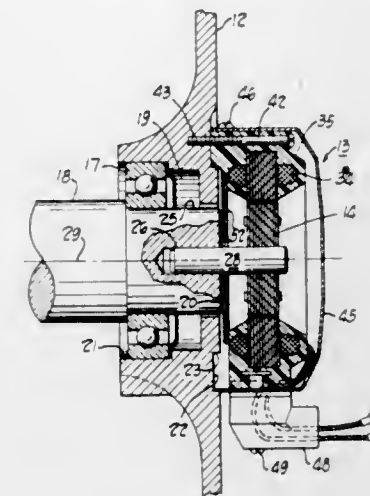
Alexander E. Bozsvai, Solon, Ohio, assignor to Reliance Electric Company, a corporation of Delaware

Filed Oct. 11, 1968, Ser. No. 766,760

Int. Cl. H02k 5/00

U.S. Cl. 310—91

3 Claims



The dynamoelectric machine mounting is disclosed as mounting the stator of a tachometer onto a frame which may be a motor or generator frame having a rotatable shaft. The tachometer has a rotor rotating with the shaft and a cooperating stator. The stator includes a stator core, permanent magnets and a winding with the magnets encapsulated in a hardened plastic to waterproof the winding. Further the hardened plastic establishes the stator coaxially with the rotor by interfitting rabbeted shoulders and further the hardened plastic is fastened directly to the motor or generator to support the entire tachometer stator.

3,539,852

HOMOPOLAR ELECTRICAL MACHINES
Anthony Derek Appleton and Robert Beattie MacNab, New Castle upon Tyne, England, assignors to International Research & Development Company Limited, Newcastle upon Tyne, England

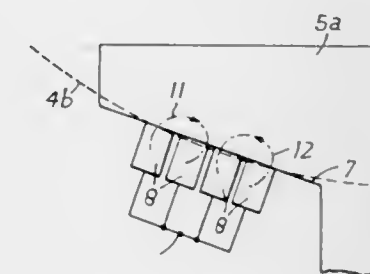
Filed Aug. 20, 1969, Ser. No. 851,682

Claims priority, application Great Britain, Aug. 26, 1968, 40,643/68

Int. Cl. H02k 31/00, 13/00

U.S. Cl. 310—178

13 Claims



A dynamo-electric machine, particularly a disc-type homopolar machine with a superconducting field coil, having a current-transfer interface shaped to conform to the lines of force of the magnetic field in order to avoid circulating currents in the brush gear and the contact surface engaged by the brush gear. A convenient approximation which does not require complex brush shapes is provided by two frustoconical contact surfaces coaxial with the rotor.

3,539,853

HEAT TRANSFER ARRANGEMENT FOR MAGNETIC POLES IN ELECTROMAGNETIC DEVICES

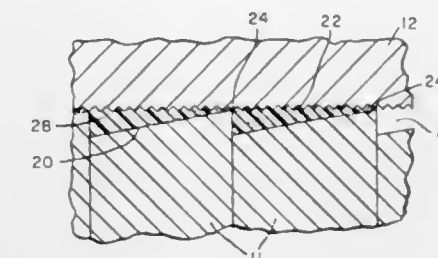
Christie J. Photiadis, Kenmore, Gordon P. Gibson, Orchard Park, and Adalbert G. Posluszny, Grand Island, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 30, 1968, Ser. No. 771,711

Int. Cl. H02k 1/00

U.S. Cl. 310—216

9 Claims



A filler or layer of material disposed between the frame of a dynamoelectric machine and the frame engaging face or surface of a pole piece, the layer of material filling spaces between the frame and pole piece, the layer of material reducing substantially the temperature drop and the ampere turns loss across the interface between the frame and pole piece.

3,539,854

COMMUTATOR FOR A MINIATURE MOTOR
Bodo Futterer, Lucerne, Switzerland, assignor to Inter-electric, Sachseln OW, Switzerland, a company of Switzerland

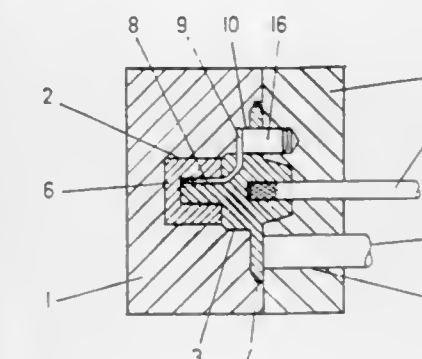
Filed Sept. 16, 1968, Ser. No. 760,008

Claims priority, application Switzerland, Sept. 15, 1967, 13,055/67

Int. Cl. H02k 13/04

U.S. Cl. 310—233

6 Claims



A commutator for a motor in which the wire segment parts have a pre-tension toward the commutator axis in the region of the insulating core, and the method of making such a commutator by plastic molding.

3,539,855

ELECTRODYNAMIC MACHINE

Willi Blume, Buhlertal, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Mar. 18, 1968, Ser. No. 714,130

Claims priority, application Germany, Mar. 18, 1967, B 70,245

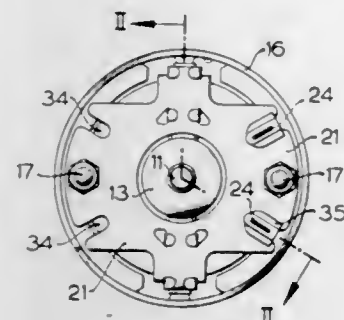
Int. Cl. H02k 13/00

U.S. Cl. 310—239

16 Claims

An electrodynamic machine comprises a rotatable armature having an axis of rotation and including a shaft which extends along this axis. A commutator is carried by the shaft. A supporting plate is mounted ad-

adjacent to the commutator in a plane normal to the axis of rotation of the armature and carries a plurality of commutator brushes. A plurality of electric terminals



are adapted to be connected to an external electric circuit and are conductively associated with the brushes. The terminals are mounted directly on the supporting plate so as to be carried by the same.

3,539,856

ROTARY ELECTRIC MACHINES

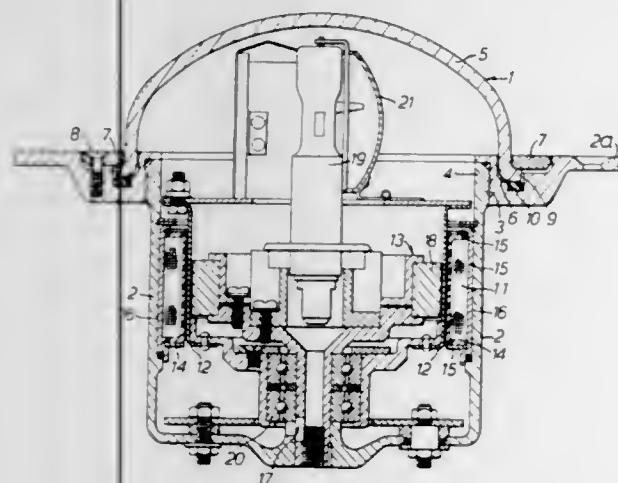
Brian James McCormick, Ilford, Essex, England, assignor to The Plessey Company Limited, Ilford, England, a British company

Filed Aug. 20, 1968, Ser. No. 753,912

Int. Cl. H02k 1/22

U.S. Cl. 310—266

3 Claims



A stepping motor affording a high torque to inertia ratio comprises a hollow cylindrical rotor press pierced through its cylindrical surface to define equiangularly spaced rotor poles, the rotor being coaxially interposed between—and rotatable with respect to—an annular coil structure and a pole structure having the same number of permanently magnetized poles as the rotor.

3,539,857

ANTIMONY ACTIVATED YTTRIUM PHOSPHATE PHOSPHOR

Francis N. Shaffer, Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 16, 1968, Ser. No. 729,742

Int. Cl. C09k 1/36; H01j 1/63

U.S. Cl. 313—109

6 Claims

Compounds of yttrium phosphate activated by antimony and compounds of terbium activated yttrium phosphate co-activated by antimony are novel and useful phosphors which luminesce when exposed to cathode ray excitation and 2537 Å. excitation.

3,539,858
FILAMENT SUPPORT STRUCTURE HAVING ANTIBOWING MEANS

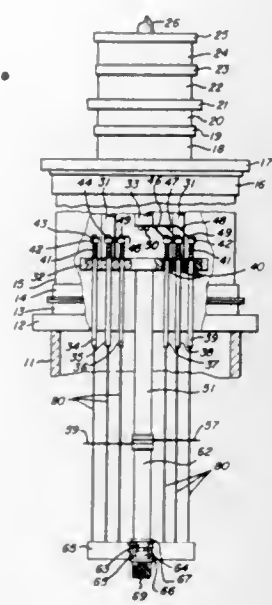
Jacob A. Randmer, Wilton, Conn., and George J. Agule, Sr., Sandgate, Vt., assignors to The Machlett Laboratories, Incorporated, Springfield, Conn., a corporation of Connecticut

Filed Jan. 30, 1968, Ser. No. 701,759

Int. Cl. H01d 1/94, 19/48

U.S. Cl. 313—278

7 Claims



A filament support structure for an electron tube, comprising thin metallic arms which have one end insulatively attached to a center mast of the tube and which extend radially from opposite sides of the center mast in planes perpendicular to a linear array of parallel filament wires disposed longitudinally on opposite sides of the center mast. The respective filament wires are held in axial alignment by respective apertures located in the center of respective intersecting slots which are accurately spaced apart in the respective metallic supporting arms. Resilient tangs, formed in the thin metallic arms where the respective slots merge with the respective apertures, are flexed by the respective filament wires of larger diameter passing through the adjacent aperture. The contacting edges of the respective tangs press against the sides of the respective filament wires and sink into the softened material of the wires when the filaments are heated to incandescence. Pressure is maintained on the contacted surfaces of the respective filament wires by the respective tangs during longitudinal movement of the filament wires. The flexibility of the respective thin metallic arms allows the respective filament wires to move longitudinally when the latter are undergoing thermal elongation and permits differences in longitudinal expansion of the respective filament wires.

3,539,859

X-RAY GENERATOR TUBE WITH GRAPHITE ROTATING ANODE

Francoise Bouglé, Paris, France, assignor to Compagnie Generale de Radiologie, Paris, France, a corporation of France

Filed Mar. 21, 1968, Ser. No. 714,919

Claims priority, application France, Mar. 28, 1967, 100,395

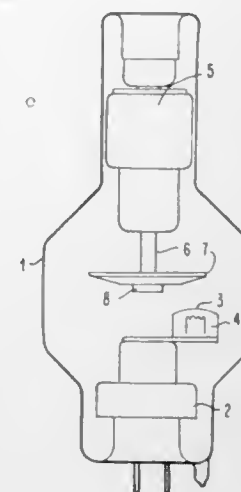
Int. Cl. H01j 35/10, 35/26

U.S. Cl. 313—330

4 Claims

The anode is formed of high density graphite, with a focal track thereon, only, covered by an emissive band of a metal, or alloy, which is refractory and has a high

atomic number, such as rhenium or tungsten, or alloys thereof, so that the entire anode is lighter than a metal selected level, and temperature responsive means for dis-



anode and has a heat dissipation approaching black body radiation.

3,539,860

VECTOR GENERATOR

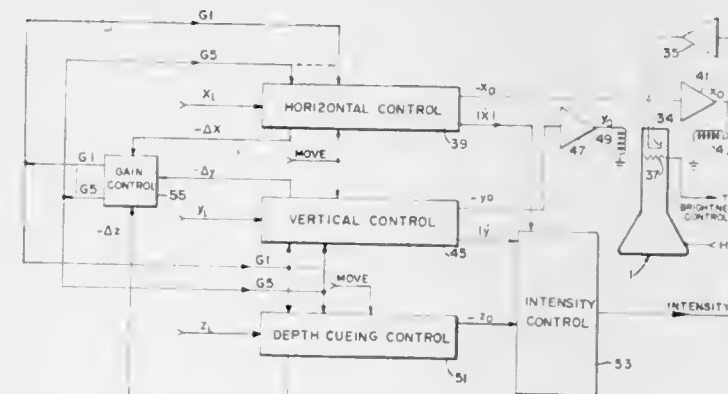
Solomon M. Max, Brookline, and John B. Porter, Wellesley Hills, Mass., assignors to Adage, Inc., Boston, Mass., a corporation of Massachusetts

Filed Apr. 1, 1969, Ser. No. 812,218

Int. Cl. H01j 29/52, 29/72

U.S. Cl. 315—22

25 Claims



Apparatus for transforming a series of digital coordinates X, Y and Z into a display on a cathode ray tube in which each set of digital values is converted to a set of analog values and presented on the tube as a visible or invisible trace proportional in length to $\sqrt{X^2 + Y^2}$, with the visible traces having an intensity determined by Z. The length of the vectors that are visibly presented determines the rate at which the electron beam is moved so that the intensity of the visible trace is relatively independent of the length of the trace but is determined by Z.

3,539,861

CONTROL FOR LUMINAIRES EMPLOYING GASEOUS DISCHARGE LAMPS AT LOW AMBIENT TEMPERATURES

Wallace F. Blackford, Greendale, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

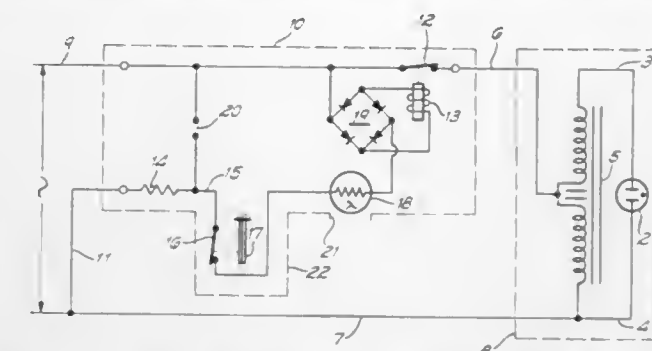
Filed May 22, 1968, Ser. No. 731,243

Int. Cl. H01j 17/36, 39/12; H05b 41/232

U.S. Cl. 315—118

10 Claims

A light sensitive control device for gaseous discharge lamps having normally closed switch means for controlling the power into the gaseous discharge lamps, light sensitive circuit means for opening the normally closed



switch means when the ambient light level reaches a preselected level, and temperature responsive means for dis-

3,539,862

DUAL CONDUCTOR STORAGE PANEL

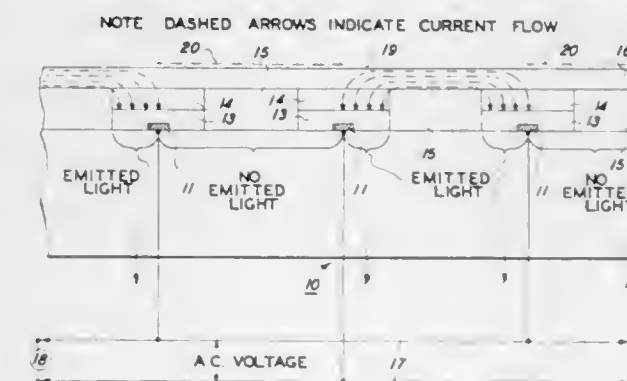
Benjamin Kazan, Pasadena, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Apr. 18, 1968, Ser. No. 722,285

Int. Cl. H05b 37/00; H01j 1/62

U.S. Cl. 315—169

35 Claims



This application relates to a solid state storage panel wherein a field effect semiconductor layer is utilized to control current flow between adjacent interdigital electrodes through an electroluminescent material. The electrodes comprise a thin, narrow, opaque conductor surrounded by an overlying conductive strip.

3,539,863

AUTOMATIC IGNITION AND IONIZATION DETECTION CIRCUIT FOR GAS TUBES

William B. F. Hogan, 36 Thomas St., Oberlin, Ohio 44074

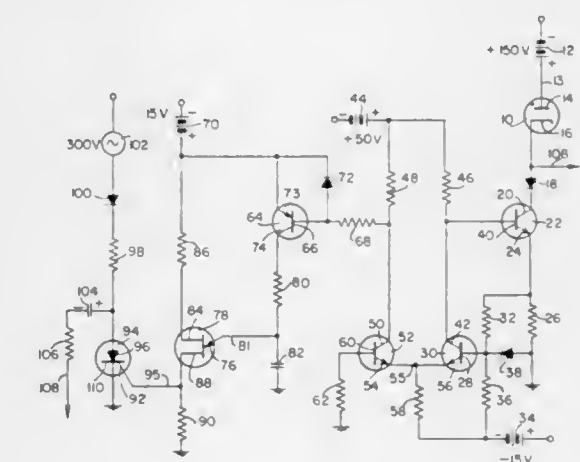
Filed Apr. 11, 1967, Ser. No. 646,438

(Filed under Rule 47(b) and 35 U.S.C. 118)

Int. Cl. H05b 41/00

U.S. Cl. 315—171

12 Claims



A detecting circuit comprising a detecting switch in combination with a charging circuit and a gas tube. The

detecting circuit also is responsive to ionization of the tube and is so disposed as to either maintain electrical pulses from the charging circuit to the tube or to inhibit the transmission of the pulses to the tube. The detecting switch comprises a switching device, an oscillator, and a control rectifier all acting in response to ignition or non-ignition of the tube. If the tube ignites, detection occurs, and the electrical pulses cease. If the tube fails to ignite, the electrical pulses will continue being applied to the tube until ignition occurs.

3,539,864

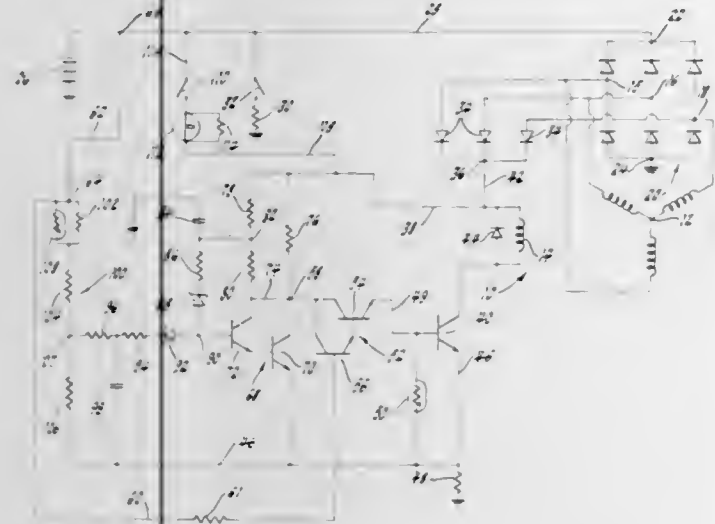
VOLTAGE PROTECTION OF GENERATOR REGULATING SYSTEMS

Glen E. Hayland, Jr., and Charles G. Hanson, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 23, 1968, Ser. No. 770,047
Int. Cl. H02h 7/06; H02p 9/30

U.S. Cl. 317—13

10 Claims



This invention relates to a protection system for generator regulating systems utilizing a transistor voltage regulator. The regulator of this invention is used to regulate the output voltage of an alternating current generator which is connected with a bridge rectifier that is used to supply the electrical loads on a motor vehicle including charging the battery. The field of the generator is supplied with current by a plurality of auxiliary diodes through a transistor voltage regulator operating in a switching mode. The voltage regulator includes a control transistor connected with the base of the output transistor of the regulator which is operative to block base drive to the output transistor whenever the voltage sensing circuit of the voltage regulator is disconnected from a circuit connecting the bridge rectifier and the battery. The system also includes an arrangement for regulating the output voltage of the generator at a value higher than the desired regulated value whenever the bridge rectifier becomes disconnected from a conductor which feeds the battery and other electrical loads on a motor vehicle.

3,539,865

CROWBAR PROTECTION DEVICE

Keith Hugh Billings, Charlwood, England, assignor to Roband Electronics Limited, Charlwood, England

Filed May 15, 1969, Ser. No. 824,957

Claims priority, application Great Britain, Nov. 12, 1968, 53,571/68

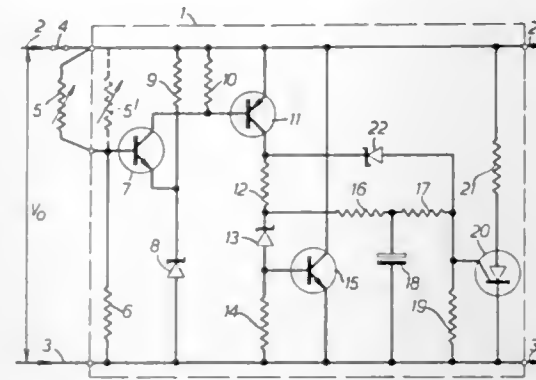
Int. Cl. H02h 3/20

U.S. Cl. 317—16

9 Claims

The specification describes crowbar protection apparatus in which a current control device is arranged to pass a current proportional to any excess in the output

voltage above a first predetermined threshold and a switch operative when the output voltage exceeds the second



and higher threshold level to draw from a source of current sufficient to actuate an over-current protection device.

3,539,866

MULTI-ZONE FAULT PROTECTION SYSTEMS

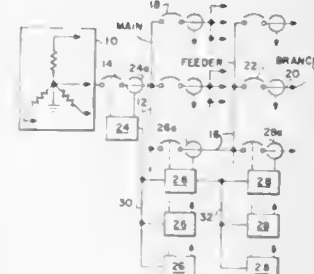
Robert A. Stevenson, Toronto, Ontario, Canada, assignor to Federal Pacific Electric Company, a corporation of Delaware

Filed Oct. 11, 1967, Ser. No. 674,606

Int. Cl. H02h 3/28, 7/26

U.S. Cl. 317—18

23 Claims



A multi-zone ground fault protective system is described that includes main, feeder and branch circuit breakers or other forms of fault-responsive interrupters. Each circuit breaker has its own ground-fault tripper which may be instantaneous or it may have its own time delay, in responding to a fault in its immediate zone. In case a fault occurs in a downstream zone of a system, operation of the upstream circuit breakers is inhibited during a zone-coordination delay to allow time for the downstream breaker of the faulted zone to operate and clear the fault in its zone. If the downstream breaker should fail to clear the fault within the allotted time, the ground-fault control of the next-upstream breaker functions. If the ground fault occurs within the zone of an upstream circuit breaker (above a next-downstream circuit breaker), the upstream breaker responds immediately or with its own time delay, but without the zone-coordination time delay.

3,539,867

GROUND-FAULT PROTECTION SYSTEMS

William Harold Edmunds, Valley Forge, Pa., assignor to Federal Pacific Electric Company, Newark, N.J., a corporation of Delaware

Filed Aug. 26, 1968, Ser. No. 755,228

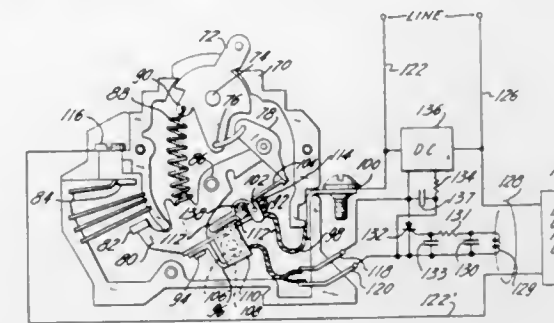
Int. Cl. H02h 3/16; H01h 47/00

U.S. Cl. 317—18

5 Claims

The present invention relates to a ground-leakage protector including a ground-fault release coil controlled by

a ground-fault detector. The ground-fault release coil is normally energized, and is de-energized when a ground



fault appears which disables a restraining latch which results in the opening of the circuit breaker.

3,539,868

POWER REVERSAL PROTECTION SYSTEM

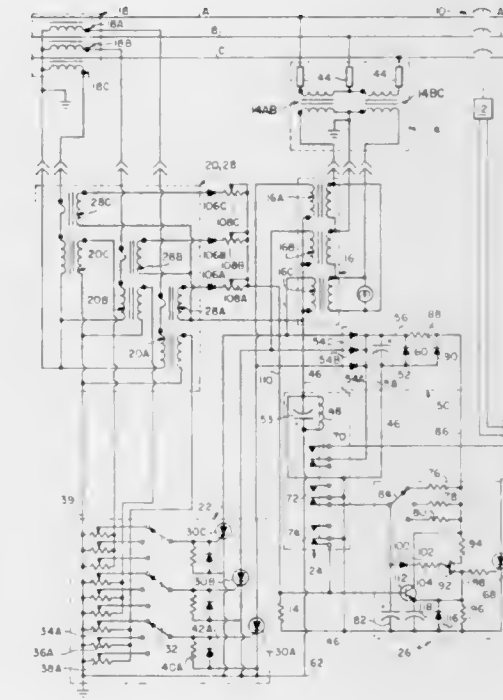
Robert A. Stevenson, Toronto, Ontario, Canada, assignor to Federal Pacific Electric Company, Newark, N.J., a corporation of Delaware

Filed Sept. 12, 1968, Ser. No. 759,408

Int. Cl. H02h 3/18

U.S. Cl. 317—27

10 Claims



A system for sensing reverse current in an alternating current system by comparing the phase relationship between the voltage and current of the system. This is accomplished by providing a pulse forming means connected to one of the input quantities, wherein the pulse has time and polarity relationship to the other input quantity. Comparison means is provided responsive to the pulse and the other input quantity. The output from the comparison means is fed to a circuit breaker which is operative to disconnect the load upon the occurrence of a reverse flow of current.

3,539,869

FREQUENCY GENERATOR WITH OVERLOAD PROTECTION

William H. Blasfield, Galion, Ohio, assignor to North Electric Company, Galion, Ohio, a corporation of Ohio

Filed Oct. 7, 1968, Ser. No. 765,548

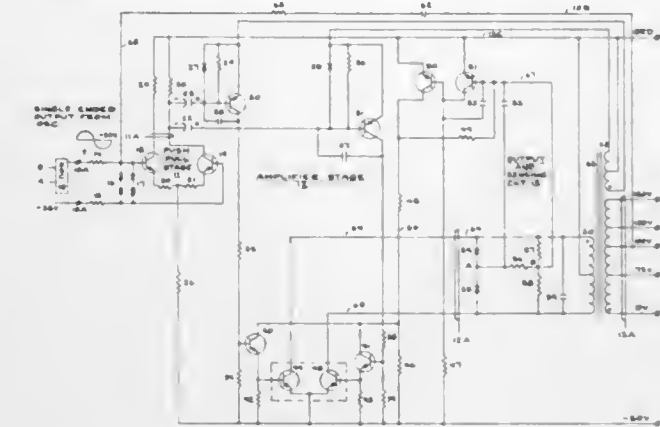
Int. Cl. H02h 7/12; G05f 1/14

U.S. Cl. 317—33

10 Claims

A frequency generator having an output transformer for connecting the generator output to a load, and a sensing network comprising a pair of equal value resistances connected across the primary winding of the trans-

former to derive a signal with the occurrence of an overload condition which as compared with a reference signal controls associated transistor means in the adjustment of the output of an amplifier stage in the generator to



provide a reduced current output to the load. As the sensor means detects an end to the overload condition, the signal output of the transistor means returns the amplifier output and the load current to a normal value.

3,539,870

VACUUM TUBE ISOLATOR, CIRCUIT PROTECTOR, AND VOLTAGE REGULATOR

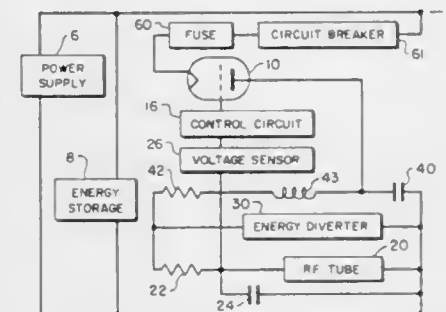
Sol Schneider, Little Silver, and George W. Taylor, Brielle, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Jan. 15, 1969, Ser. No. 791,459

Int. Cl. H02h 7/20

U.S. Cl. 317—51

4 Claims



This disclosure relates to energy control and particularly to energy control in the form of isolation and protection for multiple, amplifier circuits operating from a common power source. More particularly, this disclosure is of the use of vacuum tubes as switches for isolating and protecting individual pulse-amplifier circuits or units of a multiple-unit system having a common power supply. This disclosure teaches the connection of a vacuum tube to each of the circuits to switch it off when the circuit faults or short circuits and to switch the circuit back on when the fault clears itself. This avoids draining the main capacitor bank through the short-circuit, which could damage the individual circuit and interfere with the operation of other circuits using the same, common, power supply. The system also provides regulation of voltage to the individual circuits to increase their efficiency.

3,539,871

CIRCUIT PROTECTING, GAS-TUBE, DISCHARGE INTERRUPTER

Sol Schneider, Little Silver, and George W. Taylor, Brielle, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Jan. 15, 1969, Ser. No. 791,460

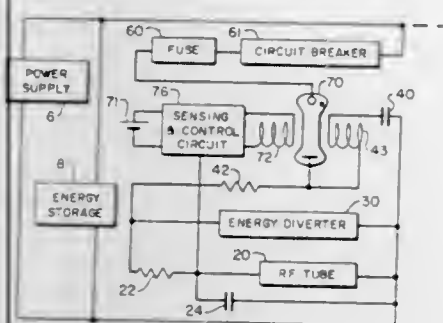
Int. Cl. H02h 7/20

U.S. Cl. 317—51

3 Claims

This disclosure relates to energy control and particularly to energy control in the form of isolation and protection for multiple, amplifier circuits operating from a

common power source. More particularly, this disclosure is of the use of gas tubes as switches for isolating and protecting individual pulse-amplifier circuits or units of a multiple-unit system having a common power supply. This disclosure teaches the connection of a gas tube controlled by a magnetic field to each of the circuits to switch



it off when the circuit faults or short circuits and to switch the circuit back on when the fault clears itself. This avoids draining the main capacitor bank through the short-circuit, which could damage the individual circuit and interfere with the operation of other circuits using the same, common, power supply.

3,539,872

ELECTRIC IGNITER CONTROL CIRCUITRY

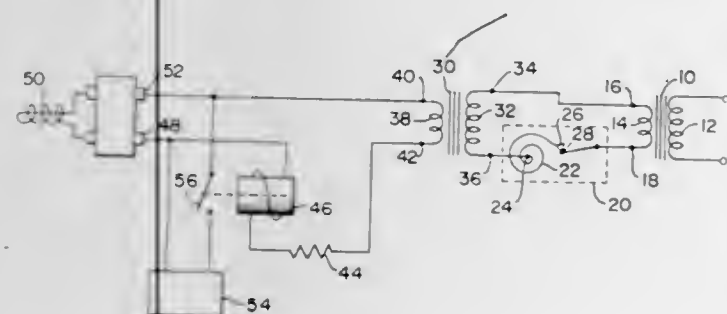
Hugh Jean Tyler, Santa Ana, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Mar. 5, 1969, Ser. No. 804,634

Int. Cl. F23g 7/02

U.S. Cl. 317-79

10 Claims



Control circuitry for electric igniters including a transformer for providing proper electrical power to an electric igniter and control system circuitry and components, the transformer being arranged to permit the control system circuitry and components to be operated at a first voltage level and a first current level and the electric igniter to be operated at a second voltage level lower than the first voltage level and a second current level higher than the first current level.

3,539,873

MATRIX BOARD APPARATUS

Roger L. Rosenberg, Arlington Heights, and Robert D. Zielinski, Mount Prospect, Ill., assignors to C. P. Clare & Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 19, 1967, Ser. No. 676,465

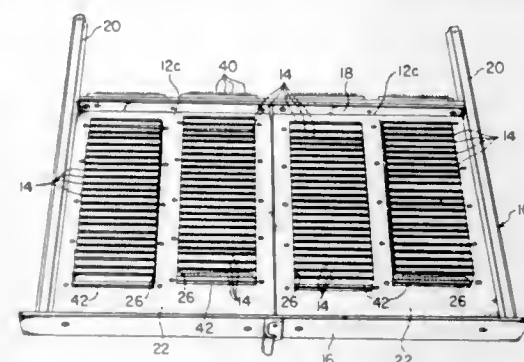
Int. Cl. H02b 1/04

U.S. Cl. 317-99

6 Claims

A pair of main printed circuit boards are mounted in a drawer assembly, and each supports several terminal connectors upon which subsidiary boards are releasably mounted. Input and output conductors are supported on the main board, and each subsidiary board supports all

of the crossing points of one input conductor with all of the output conductors. Diodes are connected on the sub-



subsidiary boards between selected input and output conductors.

3,539,874

MOUNTING ARRANGEMENT FOR CIRCUIT BOARDS IN INDICATING INSTRUMENTS

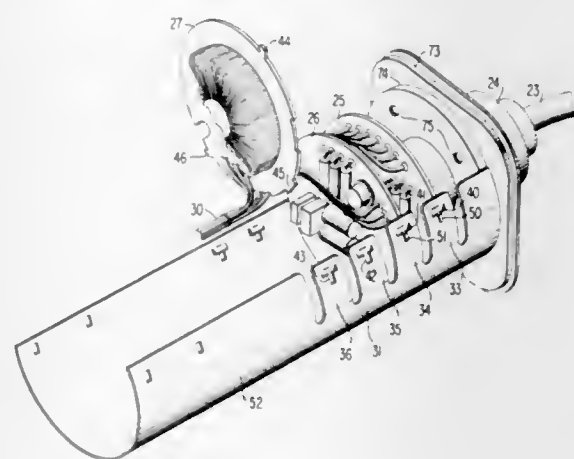
Harry G. Swanson, Tewksbury, Mass., assignor to General Electric Company, a corporation of New York

Filed Jan. 2, 1968, Ser. No. 695,105

Int. Cl. H02b 1/02

U.S. Cl. 317-101

13 Claims



A cradle for mounting planar electrical and mechanical supporting members in an instrument. A longitudinally extending, stiffly resilient member partially peripherally encompasses all the supporting members. Apertures adjacent the peripheral cradle terminations are arranged in pairs to engage and dispose the supporting members in a parallel orientation. At least one cradle portion terminates with spaced, deflectable portions adapted to individually release the support members.

3,539,875

HARDWARE ENVELOPE WITH SEMICONDUCTOR MOUNTING ARRANGEMENTS

Victor Fong, Cumberland, and Bradford K. Harrington, Coventry, R.I., assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 25, 1968, Ser. No. 762,562

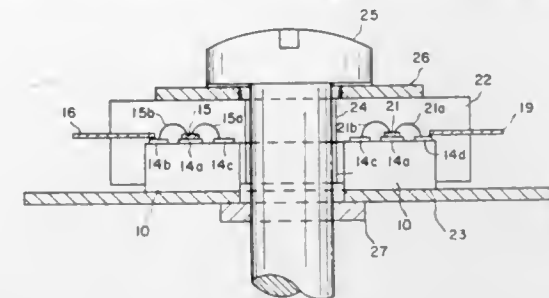
Int. Cl. H01l 1/22, 1/10, 1/12

U.S. Cl. 317-100

8 Claims

A semiconductor assembly housing is constructed by mounting a semiconductor chip or wafer structure on a ceramic base member which has been provided with a plurality of electrically isolated metalized segments, upon one of which the semiconductor structure is mounted, a number of individual leads connecting the remaining electrodes on the semiconductor structure to other segments of the metalized areas. Connection to the metalized area is made by external electrodes which are directly mounted

to the respective metalized area on the ceramic base. The ceramic base is then encapsulated in a plastic encapsulant and a central aperture, passing through the encapsulant



and the ceramic base, is utilized for mechanically fastening the assembly to a chassis or mounting plate or surface under portion of the ceramic base making direct contact with the mounting surface.

3,539,876

MONOLITHIC INTEGRATED STRUCTURE INCLUDING FABRICATION THEREOF

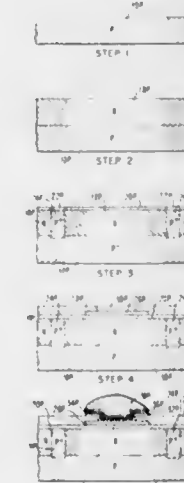
Irving Feinberg, Poughkeepsie, and Jack L. Langdon and Carl L. Sittler, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed May 23, 1967, Ser. No. 640,610

Int. Cl. H02b 1/04; H05k 1/16

U.S. Cl. 317-101

35 Claims



This invention relates generally to monolithic integrated structures including the fabrication thereof and, more particularly, to a monolithic integrated structure that is used to provide a multiplicity of various circuit interconnections so as to permit more than one circuit to be made for each structure. Many logic type integrated structures can be fabricated from a single master slice configuration which contains a number of components in a pattern favorable to the formation of any selected logic circuit from a class of many such circuits. Additionally, fabrication techniques are described for facilitating formation of the integrated chip which include mask alignment techniques, chip testing techniques, chip identification, process step identification, engineering change number identification, etc.

3,539,877

SYSTEM FOR REMOTE TESTING OF TELEPHONE SUBSCRIBERS' LINES

Chauncey R. Davies, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Original application May 27, 1965, Ser. No. 459,396, now Patent No. 3,410,966, dated Nov. 12, 1968. Divided and this application Jan. 22, 1968, Ser. No. 721,906

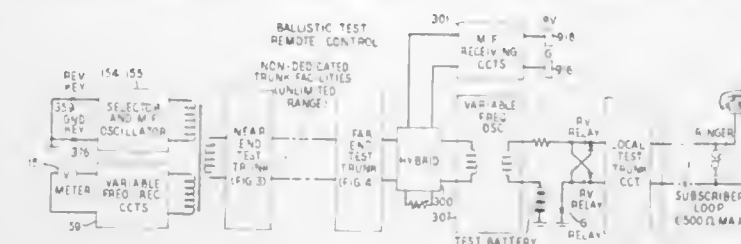
Int. Cl. H01h 47/20

U.S. Cl. 317-138

3 Claims

A remotely controlled telephone loop testing system is disclosed in which local key operations are translated into multifrequency tone bursts which operate and release

remote test relays. These test relays set up the loop test circuits and the direct current in the remote loop is translated into a variable frequency for transmission back to the local operator. At the local station, the variable frequency signal is retranslated to direct current and dis-



3,539,878

APPARATUS FOR CONTROLLING A SERIES OF SEQUENTIAL OPERATIONS

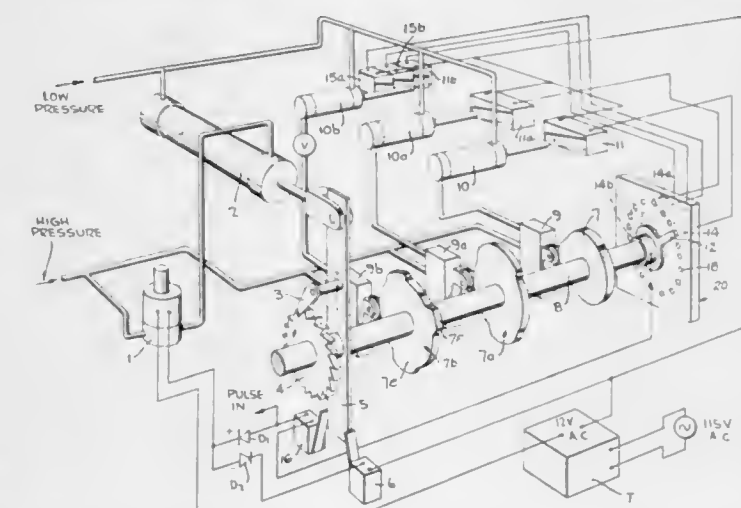
Charles C. Bell and Edward L. Kent, Warwick, and Kurt W. Niederer, Saunderton, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts

Filed Mar. 3, 1967, Ser. No. 620,454

Int. Cl. H01h 47/00

U.S. Cl. 317-157

6 Claims



A sequencing pulse programmer applicable to automating various operations such as metal working and textile machinery is described. The programmer comprises an activating means, an indexing cylinder, a work shaft, a shaft indexing means, work cylinders and a rotary contact switch. The various elements of the programmer are constructed and arranged to initiate a work operation and at the end of the work operation feed back a pulse to initiate an additional operation. Numerous sequential operations can be programmed into the device including time delays between operations.

3,539,879

RETAINING CLIP AND GUIDE FOR A CIRCUIT BOARD

Alan W. Bradley, Edinburgh, and David D. Leahy, West Lothian, Scotland, assignors to Hewlett-Packard Ltd., West Lothian, Scotland, a corporation of Great Britain

Filed Sept. 6, 1968, Ser. No. 757,914

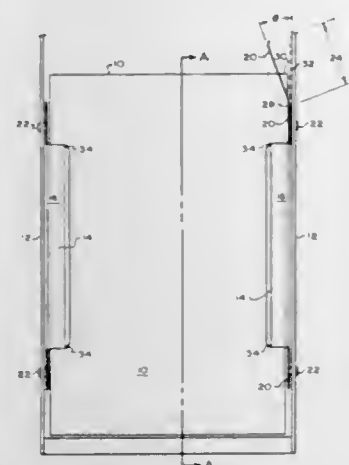
Int. Cl. H05k

U.S. Cl. 317-101

1 Claim

A strip of resilient material having an elongated hole is mounted on a frame such as an instrument chassis for retaining a planar member, as for example a circuit board, in a selected position along a pair of longitudinal grooves

which support opposite edges of the board. The strip is disposed along an edge of the circuit board, near one of the board corners whereby it resiliently bends across the corner and receives the corner to retain the board in



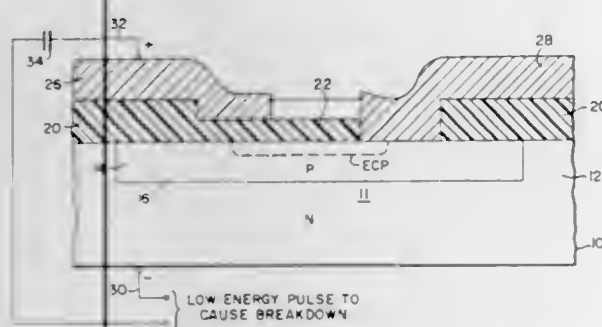
the selected position. At least one of the longitudinal grooves is formed by an elongated portion of the strip remote from the hole, thus providing a unitary clip and guide for retaining a circuit board in an instrument chassis.

3,539,880 MIS-FET PERMANENT REPAIR PHYSICAL DEVICE

Jon S. Squire, Linthicum Heights, and James R. Cricchi, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 31, 1968, Ser. No. 788,199
Int. Cl. H01L 19/00

U.S. Cl. 317-234 8 Claims



Two contact terminals of a component of an integrated circuit are insulated from each other by a layer of silicon oxide, or other insulator, of a predetermined thickness. As required, a low energy pulse is applied so that a sufficient field is produced in the insulator to break it down and form a permanent low resistance electrical path between the two electrical contacts. The permanent change from high to low resistance may be used for electrically disconnecting faulty semiconductor elements from a digital system as well as for electrically connecting elements into a digital system.

3,539,881 ELECTROLYTIC CAPACITOR CONTAINING AN ORGANIC ACID-BASE AZEOTROPIC MIXTURE AS THE ELECTROLYTE

Daniel J. Anderson, Indianapolis, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 581,149, Sept. 22, 1966. This application July 9, 1969, Ser. No. 840,525

Int. Cl. H01G 9/02

U.S. Cl. 317-230 21 Claims
A capacitor comprising a binary organic system which forms in the correct proportions an azeotropic composi-

tion having a boiling point higher than that of either of the system's pure components.

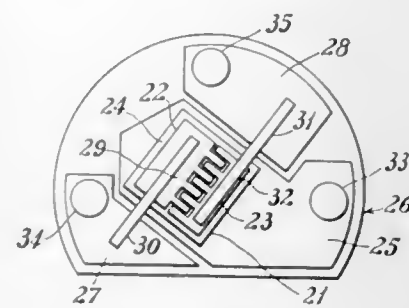
3,539,882 FLIP CHIP THICK FILM DEVICE

Charles D. Mulford, Jr., Union, and Charles F. Carroll, West Long Branch, N.J., assignors, by mesne assignments, to Solitron Devices, Inc., Tappan, N.Y., a corporation of New York

Filed May 22, 1967, Ser. No. 640,301

Int. Cl. H01L 3/00, 5/00, 11/00

U.S. Cl. 317-234 3 Claims



A thick film device that utilizes a flip chip type of semiconductor device mounted in an inverted manner on a thick film substrate.

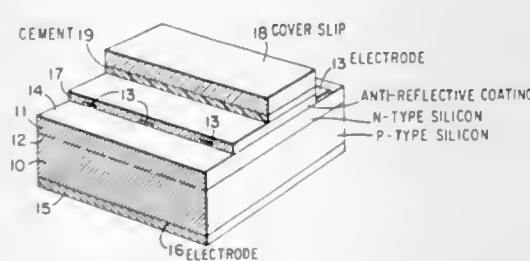
3,539,883 ANTIREFLECTION COATINGS FOR SEMICONDUCTOR DEVICES

Stanley Harrison, Bedford, Mass., assignor to Ion Physics Corporation, Burlington, Mass., a corporation of Delaware

Filed Mar. 15, 1967, Ser. No. 623,439

Int. Cl. H01L 15/04

U.S. Cl. 317-234 7 Claims



This invention teaches that solar cells can be made to absorb and utilize more of the solar spectrum, in which such cells have peak efficiency, by applying a coating of cerium oxide between the cell and its cover slip.

3,539,884 INTEGRATED TRANSISTOR AND VARIABLE CAPACITOR

Gerald Schaffner, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Sept. 18, 1968, Ser. No. 760,634

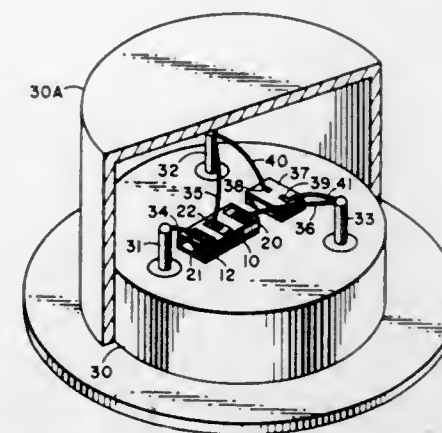
Int. Cl. H01L 1/06

U.S. Cl. 317-235 2 Claims

A monolithic chip has an NPN transistor and a variable capacitance diode junction extending therein from the same surface. A common electrode which connects the cathode and the collector respectively of the variable capacitance diode and the transistor is a conductive case terminal of a package. The base and emitter electrodes of the transistor and the anode of the diode are connected to different insulated posts. A ceramic chip bypass capacitor is mounted on the conductive case electrode but not connected electrically to it and connected respectively to the base and the anode insulated posts.

A common collector supply and reversed bias supply for the variable capacitance diode is provided to the com-

mon case electrode. The circuit is usable for AFC and any other tunable circuit wherein the control bias is used to control the tuning.



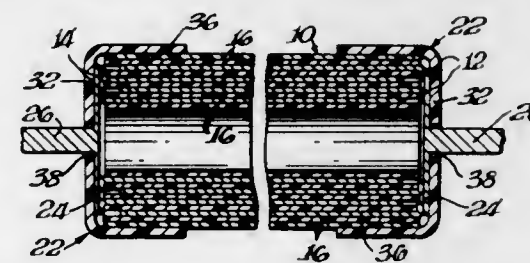
3,539,885 EXTENDED FOIL CAPACITOR

Walter F. England, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Aug. 20, 1968, Ser. No. 753,981

Int. Cl. H01G 1/01, 1/14

U.S. Cl. 317-258 6 Claims



An extended foil capacitance section is terminated on each end by a headed lead which extends through a supporting end cap. The head of each lead is welded to the extended foil of the section, and the end caps are closely fitted to the section and bonded to the lead-head.

3,539,886 FLAT, WOUND, HIGH VOLTAGE CAPACITOR ARRANGEMENT

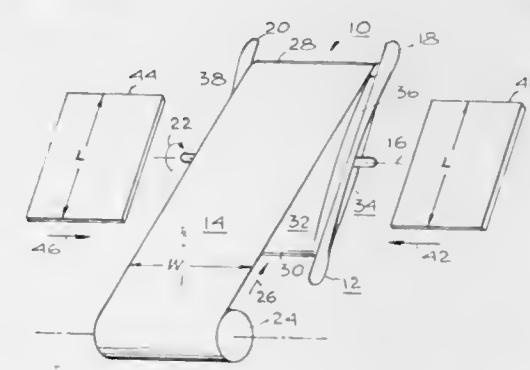
David Kellerman, 1485 S. Cardiff,

Los Angeles, Calif. 90035

Filed Apr. 11, 1969, Ser. No. 815,335

Int. Cl. H01G 3/17

U.S. Cl. 317-260 14 Claims

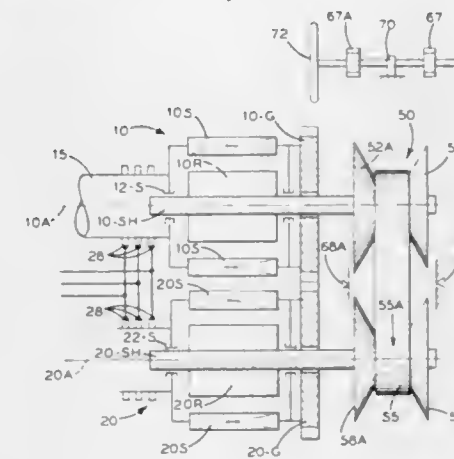


A high voltage capacitor arrangement in which a thin sheet dielectric is spirally wound around a spindle. During the continuous winding process capacitor plates may be selectively inserted between adjacent layers of the winding and one or more of such plates may be grouped together and electrically connected together to form a first capacitor plate and one or more other plates may

3,539,887 INFINITELY VARIABLE REVERSIBLE ALTERNATING CURRENT DRIVE

Kenneth R. Dennick, 1161 York Ave.,
New York, N.Y. 10021
Continuation-in-part of application Ser. No. 709,855,
Feb. 9, 1968. This application Feb. 27, 1969, Ser.
No. 805,994

Int. Cl. H02P 5/46 19 Claims
U.S. Cl. 318-8



Two motors are arranged with their rotor and stator members disposed for independent rotation, and the normal operative speed and relative direction of rotation in each case still exists. A mechanical speed changer, utilizing a common drive such as a belt between two conical pulleys, such as the Reeves Drive, connects the two pulleys to the respective rotor elements of the two motors to establish desired relative speed rotation between the two rotors. The relative speeds of the two stator members are also thereby varied. Appropriate gearing is disposed between the two stator members, and is connected to an output shaft to derive the variable output speed.

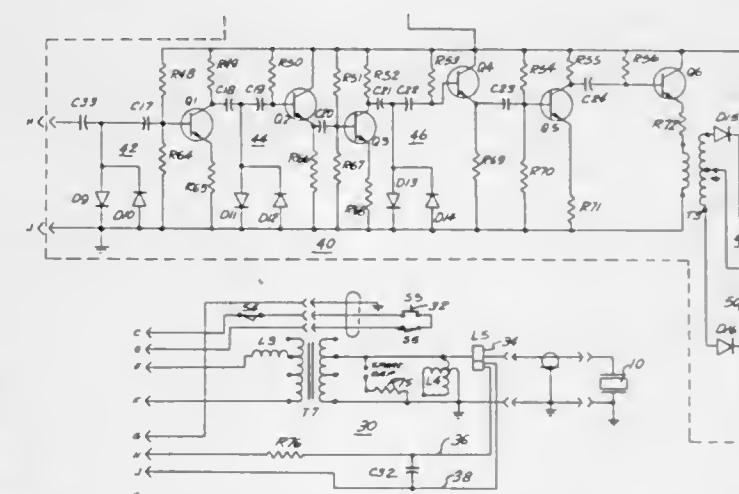
3,539,888 AUTOMATIC FREQUENCY CONTROL CIRCUIT FOR USE WITH ULTRASONIC SYSTEMS

Carmine F. De Prisco, Glen Mills, James G. Young, Phoenixville, and Nicholas Maropis, West Chester, Pa., assignors to Aeroprojects Incorporated, West Chester, Pa., a corporation of Pennsylvania

Filed July 24, 1968, Ser. No. 747,136

Int. Cl. H02N

U.S. Cl. 318-116 10 Claims



An automatic frequency control circuit for an ultrasonic system includes means to detect the ultrasonic fre-

quency of the system, irrespective of load; the signal is fed through a circuit that maintains its proper phase for synchronization; the signal is then applied to a free running oscillator which controls an inverter circuit in the power supply. The low level control signal forces the oscillator to synchronize to the signal frequency and hence the frequency of the power applied to the transducer is changed to the detected frequency.

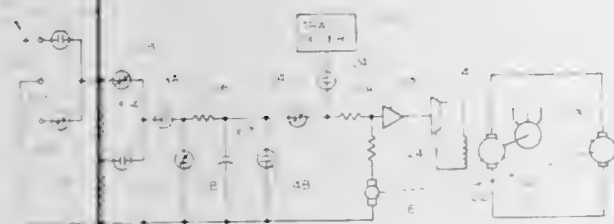
3,539,889

MEANS FOR CONTROLLING MOTOR DRIVEN VEHICLES

Arthur R. Borch, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Feb. 12, 1968, Ser. No. 704,741
Int. Cl. H02p 5/22

U.S. Cl. 318—143

4 Claims



A vehicle driven by an electric motor powered by a generator is movable between two stations. The generator output voltage and polarity are controlled to control the direction and velocity of the vehicle. Magnetic sensing elements are located adjacent each of the two stations and switches on the vehicle sense the proximity of the magnets to selectively open and close and provide control signals to control the generator output through an electrical servo system using a direct current source as the control signal source. The control signal source is applied through a resistance-capacitance circuit that integrates the electrical control signal applied to the generator to start the vehicle towards a selected station and control its acceleration. Upon approaching the second station, the switches operate to connect a lower level of the direct current source into the system. This lower level signal is similarly integrated to control the deceleration of the vehicle. To move the vehicle back to the initial position, the control system is activated to connect the opposite polarity of the direct current source into the system in the same manner, but resulting in movement of the vehicle in the opposite direction.

3,539,890

SYNCHRONOUS MOTOR STATIC STARTING CONTROL

Richard Zechlin, Beloit, Wis., assignor to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware

Filed July 11, 1967, Ser. No. 652,530

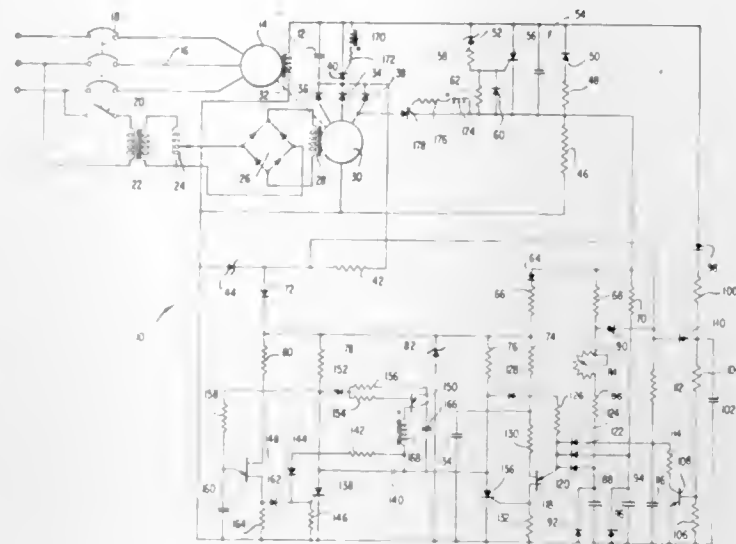
Int. Cl. H02p 1/50

U.S. Cl. 318—181

8 Claims

The synchronous motor static starting control constitutes a static semiconductor control circuit for a synchronous motor and exciter which are mounted on a common shaft. The static starting control connects a resistive circuit across the motor field while the motor is accelerating toward synchronous speed, measures the slip frequency of the motor, and at an adjustable slip frequency applies the output of the exciter to the motor field at a relatively fixed portion of the slip frequency waveform to provide high pull in torque. The control circuit disconnects the re-

sistive circuit after the exciter output is applied to the motor field and monitors the resistive circuit thereafter. Also the control circuit resynchronizes the motor in case it



is pulled out of synchronism and reapplies the motor field if the exciter output is temporarily disconnected or drops to a low value.

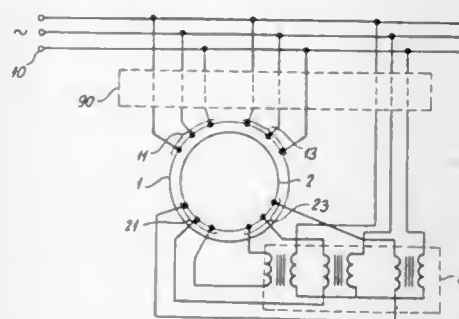
3,539,891

DOUBLE-FED POLYPHASE CASCADE MACHINES AND A METHOD OF PRODUCING SUCH MACHINES

Ferenc Kovessi, Budapest, Hungary, assignor to Villamosipari Kutató Intézet, Budapest, Hungary
Filed Jan. 29, 1968, Ser. No. 701,452
Int. Cl. H02p 7/36

U.S. Cl. 318—197

11 Claims



A double-fed polyphase cascade machine is provided with primary and secondary windings. The numbers of poles of the primary windings (p_1, p_2) are so chosen that they cannot induce any voltage in one another. The iron body of the cascade machine is combined to form a magnetic circuit provided with a single air gap. The primary windings are connected to supply systems, the secondary windings are short-circuited with one another. The number of phases and the number of poles of the secondary windings are so chosen and combined with one another in such a phase sequence that one primary winding induces a voltage into the other primary winding through the secondary windings, and vice versa.

3,539,892

MOTOR REGULATING SYSTEM

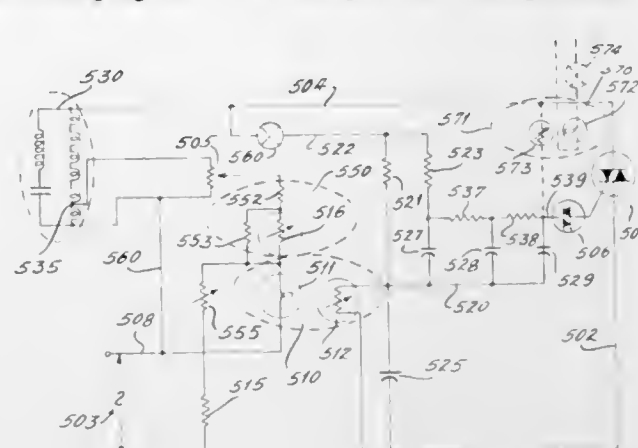
Allan W. Lindberg, St. Louis, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed Aug. 13, 1968, Ser. No. 752,198
Int. Cl. H02p 5/40

U.S. Cl. 318—227

14 Claims

A speed control system wherein variations in voltage from an A.C. source are compensated includes a solid state switch electrically connected to the A.C. source, a triggering device for the solid state switch, and a photo-couple cell having a lamp and a photoconductive resistor,

the lamp being electrically connected, mediately or immediately, to said A.C. source and the photoconductive resistor being electrically connected in parallel to capacitors electrically connected to the triggering device, whereby the charging rate of the capacitors is dependent upon



and a function of the resistance of the photoconductive resistor, and the intensity of the lamp, hence the resistance of the photoconductive resistor, is dependent upon and a function of the source voltage. A variable resistor in the lamp circuit is used to accomplish motor speed control.

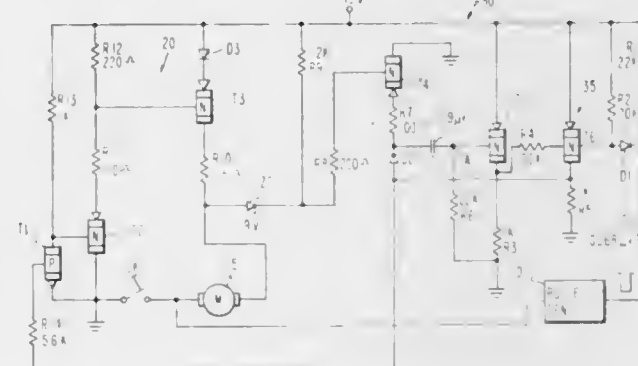
3,539,893

HYBRID MOTOR CONTROL CIRCUIT FOR PROVIDING IMPROVED SPEED REGULATION

Peter P. Tong, Madison, Wis., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 12, 1967, Ser. No. 690,022
Int. Cl. H02p 5/06

U.S. Cl. 318—331

6 Claims



A motor control circuit is provided which samples the analog back EMF voltage to determine how much energy should be applied to the motor. Variations in the amount of energy applied to the motor for speed regulation is achieved by applying current to the motor for variable lengths of time in relationship to the magnitude of the back EMF voltage.

3,539,894

GARAGE DOOR CONTROL CIRCUIT

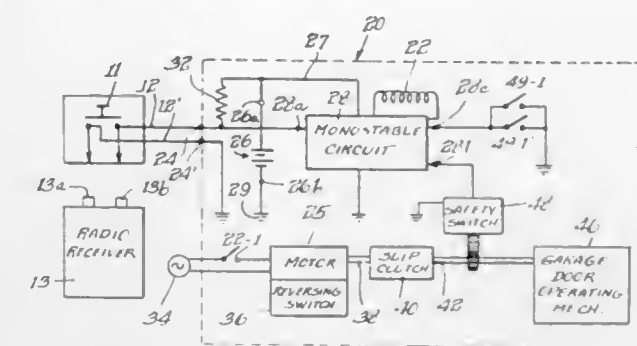
Harold Feldman, Skokie, Ill., assignor to Chamberlain Manufacturing Corporation, Elmhurst, Ill., a corporation of Iowa
Filed May 27, 1968, Ser. No. 732,253
Int. Cl. H02h 7/085

U.S. Cl. 318—463

8 Claims

A garage door control circuit responsive to the speed of rotation of the output shaft of a slip clutch coupled between a drive motor output shaft and the garage door, the control circuit including a monostable circuit responsive to the speed of the slip clutch output shaft and having a normal stable state which deenergizes said motor and an unstable state which operates said motor, and

means for holding the monostable circuit in its unstable state while the slip clutch output shaft is running at a normal speed and permitting the monostable circuit to



return to its stable state when the slip clutch output shaft operates at a lower speed indicating substantial slippage between the slip clutch output shaft and the motor output shaft.

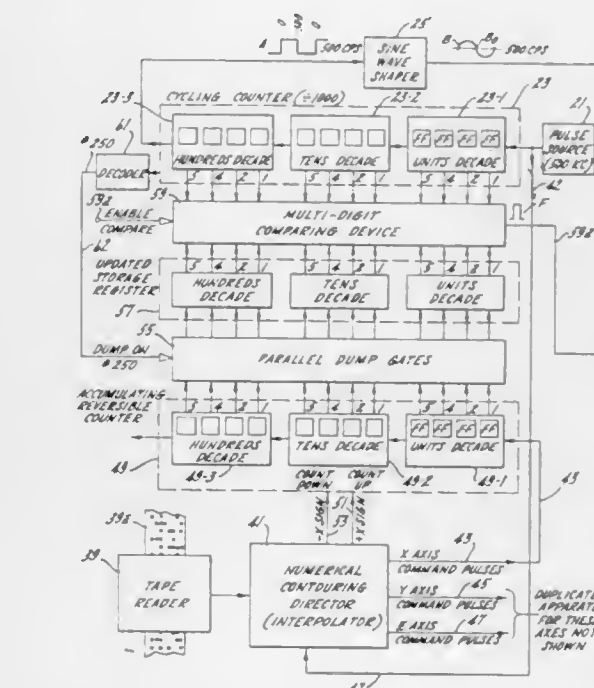
3,539,895

APPARATUS FOR CONTROLLING THE INSTANTANEOUS POSITIONS AND VELOCITIES OF MOVABLE ELEMENTS ACCORDING TO DIGITAL NUMERICAL COMMANDS

John K. McGee, Houston, Tex., assignor to Giddings & Lewis, Inc., Fond du Lac, Wis., a corporation of Wisconsin
Filed June 3, 1966, Ser. No. 555,048
Int. Cl. G05b 19/24

U.S. Cl. 318—570

7 Claims



A numerical control for machine tools or the like which is concerned with the control of movable elements to translate them through distances, in directions, and at velocities which correspond respectively to the amount, sense, and average rate of change of dynamically and periodically changing digital command numbers. The digital signal is converted directly into an analogue signal which varies accurately in phase, relative to a reference wave, by direct digital comparison of the command number with a digitally signalled reference number which cyclically changes in synchronism with the reference wave. The reference wave is utilized to create a feedback signal which varies in phase, relative to such reference, according to the sense and extent of the displacement of the movable element, and which is compared with the phase variable commanded signal to create a polarized error signal applied to a servomotor coupled to drive the movable element.

3,539,896

SERVOMECHANISM INCLUDING A FEED RATE COMPARATOR FOR A FREQUENCY SIGNAL PROPORTIONAL TO SYSTEM ERROR WITH A PROGRAMMED FREQUENCY

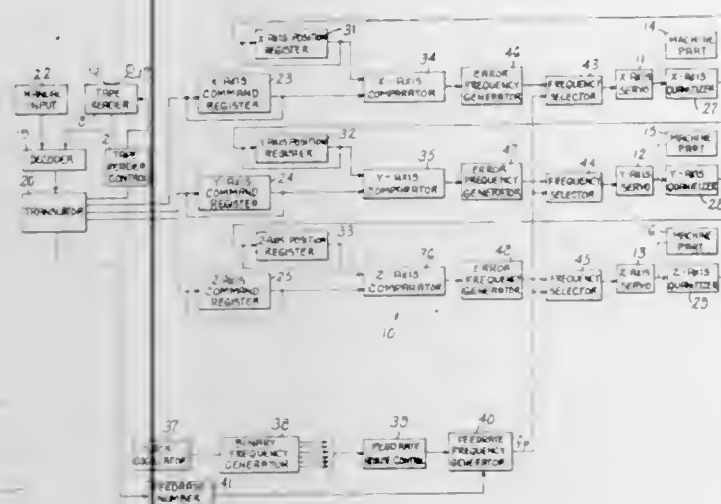
Johann F. Reuteler, Elmwood, Conn., and Robert F. Anderson, Rochester, N.Y., assignors to Pratt & Whitney Inc., West Hartford, Conn.

Filed Apr. 17, 1967, Ser. No. 631,275

Int. Cl. G05b 19/28

U.S. Cl. 318—571

8 Claims



A numerical control system in which a substantially constant pulse frequency is generated in response to a programmed feedrate and a second pulse frequency proportional to the magnitude of the position error is generated. The two frequencies are compared and the lower frequency is applied to a pulse responsive servo system to move a controlled part a predetermined distance at a predetermined rate.

3,539,897

SERVO CONTROL SYSTEM INCLUDING MEANS TO COMPARE PROGRAMMED VELOCITY WITH ACTUAL VELOCITY TO ELIMINATE VELOCITY ERROR

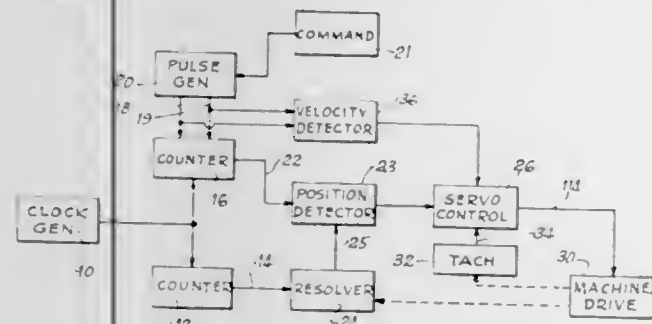
Marcel R. Sommeria, Palos Heights, Ill., assignor to Hyper-Loop, Inc., Summit, Ill., a corporation of Illinois

Filed July 22, 1968, Ser. No. 746,445

Int. Cl. G05b 19/38

U.S. Cl. 318—618

10 Claims



This disclosure relates to a servo control system as used in combination with numerical control apparatus for machine tools. The servo control system responds to an input signal comprising a train of pulses, the separation of which is modulated to designate programmed movement of the machine. The servo control system controls a servo drive apparatus in response to the frequency of the input pulse train, in addition to controlling the servo

drive apparatus in accordance with the instantaneous position and velocity of the driven apparatus, so that the lag between actual and programmed positions of the driven apparatus may be reduced with no attendant system instability.

3,539,898

CHARGING MEANS FOR ELECTRICAL APPLIANCE

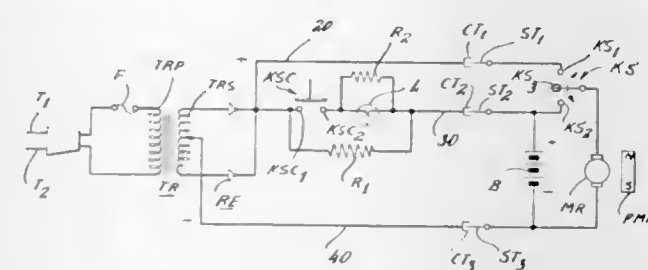
Robert J. Tolmie, Fairfield, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 695,221, Jan. 2, 1968. This application Nov. 4, 1968, Ser. No. 777,977

Int. Cl. H02j 7/00

U.S. Cl. 320—22

5 Claims



This disclosure is directed to charging means for an electrical portable appliance having a replenishable power supply wherein the charging means include control means operable to selectively vary the magnitude of the applied power at the output of the charging means to vary the rate of charge of the replenishable power supply.

3,539,899

THIRD ELECTRODE SENSING CIRCUIT FOR ON-OFF BATTERY CHARGING

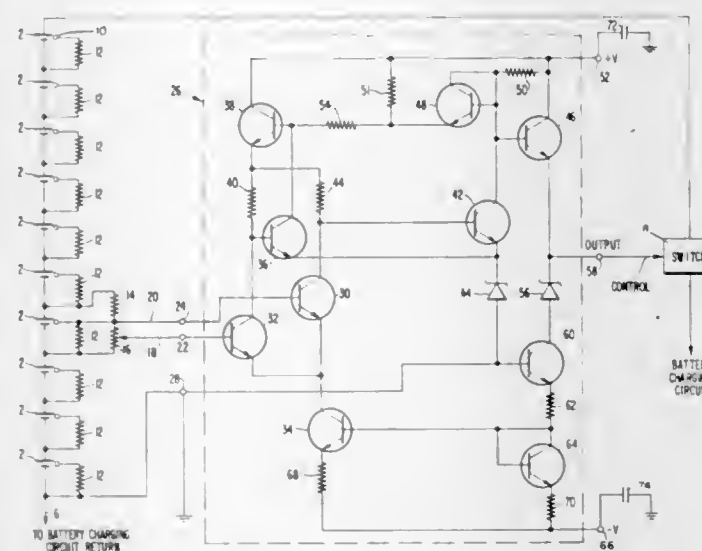
James D. Dunlop, Gaithersburg, and Ronald W. Bounds, Baltimore, Md., assignors to Communications Satellite Corporation, a corporation of Washington, D.C.

Filed Aug. 9, 1968, Ser. No. 751,412

Int. Cl. H02j 7/04

U.S. Cl. 320—46

7 Claims



A circuit for controlling charging of Nickel-Cadmium secondary cells by applying the total cell voltage of a selected cell and the third-electrode (adhydride) signal voltage to a differential comparator having an "on" or "off" output dependent on the relative magnitudes of the compared voltages, so that the comparator operates a switch in the charging circuit to interrupt charging when the signal from the adhydride, proportional to the state of charge of the cell, reaches a predetermined level.

3,539,900

RECTIFIER LOCKOUT CIRCUIT

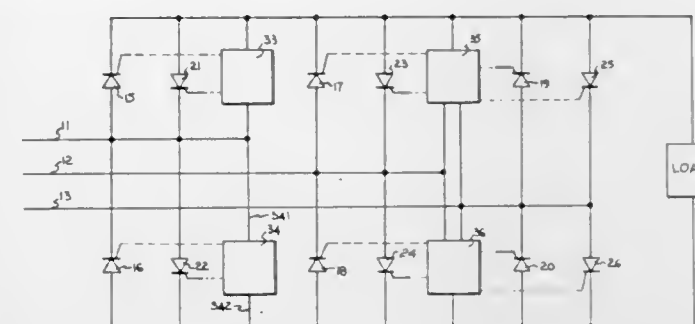
Burnette P. Chausse and Charles E. Konrad, Roanoke, Va., assignors to General Electric Company, a corporation of New York

Filed June 4, 1969, Ser. No. 830,338

Int. Cl. H02m 7/20

U.S. Cl. 321—5

5 Claims



A circuit for preventing the firing of the thyristors of one polarity in a full wave rectifier while the thyristors of opposite polarity are still conducting. In the circuit a voltage signal is developed across the nonconducting thyristors and applied to a Zener diode which selectively causes the signal to be applied to a transistor arranged to short-circuit a transformer winding, which condition is reflected in the voltage level of another winding of the transformer for inhibiting the thyristor firing circuits.

3,539,901

RECTIFIER FREQUENCY CONVERTER

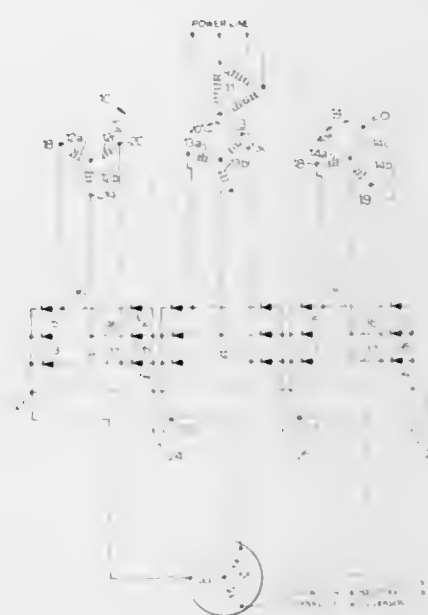
George M. Rosenberry, Jr., Elnora, N.Y., and Dennis F. Williamson, Peterborough, Ontario, Canada, assignors to Canadian General Electric Company, Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed June 2, 1969, Ser. No. 829,478

Int. Cl. H02m 5/14, 5/16, 5/30

U.S. Cl. 321—7

4 Claims



Cycloconverter comprising a firing circuit and a delta configuration of three full-wave bridges in which each has three parallel legs with at least two thyristors per leg connected in series anode to cathode. Three Y connected secondaries of a three-phase transformer provide a standard frequency input to the bridges. An adjustable frequency output is taken from the corners of the delta. Each transformer secondary is connected to a different bridge to three legs respectively thereof between the thyristors. According to this invention the circulating currents in the delta bridge configuration is reduced by displacing the voltage of the three Y secondaries.

3,539,902

STATIC SPLIT-PHASE INVERTER HAVING SEQUENTIALLY CONDUCTING AMPLIFIER STAGES COUPLED TO ENERGIZE DIFFERENT SEGMENTS OF AN OUTPUT TRANSFORMER PRIMARY WINDING

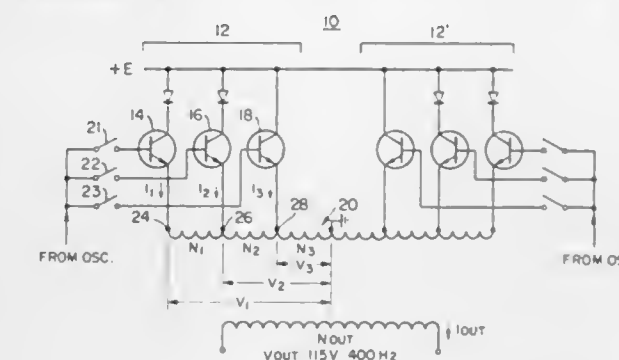
Colin D. Hickling, Clarkson, Ontario, Canada, assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Apr. 29, 1968, Ser. No. 724,762

Int. Cl. H02m 1/12, 7/52

U.S. Cl. 321—9

7 Claims



A static inverter circuit utilizing a plurality of amplifier stages to control the conversion of a constant DC voltage to an AC output developed from an output transformer. The output waveform is a reproduction of an input control signal applied to the amplifier stages to control their conduction. The primary winding of the output transformer has a plurality of separate sections and the individual amplifier stages control the current to the respective sections so as to in effect vary the turns ratio of the output transformer at different levels of the control signal.

3,539,903

CASCADE RECTIFIER VOLTAGE MULTIPLIER WITH RESONANCE COIL

Walter Goebel, 41 Honlestrasse, Munich 42, Germany

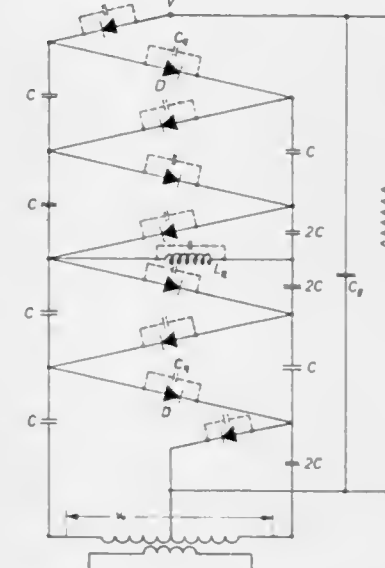
Filed Nov. 9, 1967, Ser. No. 681,744

Claims priority, application Germany, Nov. 9, 1966, B 89,734

Int. Cl. H02m 3/18

U.S. Cl. 321—15

2 Claims



A cascade rectifier voltage multiplier having a high voltage transformer, two parallel columns of series connected capacitors coupled at one end to the transformer secondary winding, an equal number of rectifiers interconnecting the two columns to form a zig-zag ladder network, and a transverse coil connected between the two columns to form a series resonant circuit with the capacitors between it and the transformer having a frequency equal to the operating frequency.

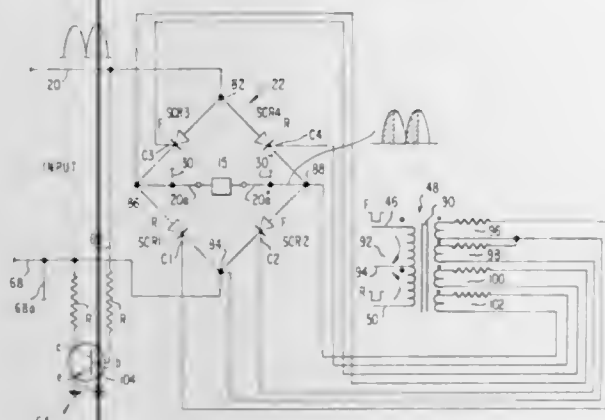
3,539,904

AUTOMATIC TAPPING MACHINE CONTROL SYSTEM

Harry B. Brown, 2350 Duke St., Alexandria, Va. 22314
Original application Sept. 10, 1965, Ser. No. 486,419, now
Patent No. 3,371,258, dated Feb. 27, 1968. Divided
and this application Dec. 4, 1967, Ser. No. 707,903
Int. Cl. H02m 7/68; H02p 1/40

U.S. Cl. 321—45

3 Claims



In combination with a direct current electric motor which drives a thread tapping tool there is a power control system which governs the action of the motor so as to effect periodic reversals of the motor at arbitrary intervals and momentary reversals in response to motor overload. Pulsating D.C. is fed to the input terminals of an SCR bridge circuit whose output terminals are connected to the motor winding; and A.C. synchronized with the pulsating D.C. is phase controlled, shaped and routed to provide on-turning pulses for one of the other opposed pairs of the SCR's in the bridge so as to control the power and direction of the current through the motor winding. A switch opens the pulsating D.C. supply circuit to the bridge each time the voltage drop substantially to zero so as to prevent continuation of flow of current through the SCR's beyond the duration of the individual D.C. pulses which might otherwise result from the inductive load of the motor winding.

3,539,905

SATURATION CURRENT PROTECTION APPARATUS FOR SATURABLE CORE TRANSFORMERS

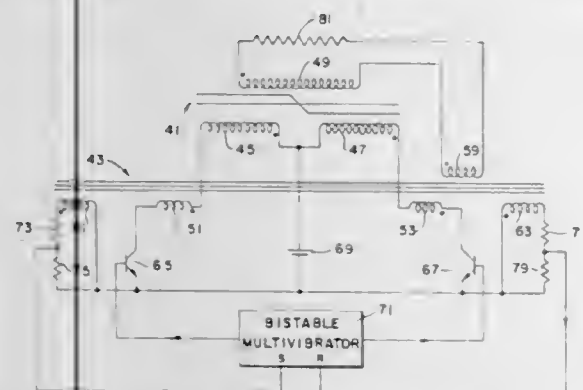
Francis C. Schwarz, Weston, Mass., assignor to the
United States of America as represented by the Ad-
ministrator of the National Aeronautics and Space
Administration

Filed Nov. 14, 1968, Ser. No. 775,870

Int. Cl. H02m 7/52; H03k 3/26

U.S. Cl. 321—45

6 Claims



A saturation current protection apparatus for saturable core transformers. A cut core (air gap) transformer detects the occurrence of rapidly increasing magnetic current in the saturable core transformer. When a rapidly increasing current condition occurs, the cut core transformer applies a suitable signal to a switching means. The switching means terminates the application of current to the saturable core transformer to protect it from an undesirable over current condition.

3,539,906

EXCITATION OF A SYNCHRONOUS MACHINE IN ACCORDANCE WITH THE MAGNITUDE AND FREQUENCY OF THE STARTING ALTERNATING VOLTAGE

Adolf Haböck, Erlangen, Germany, assignor to Siemens
Aktiengesellschaft, Berlin and Munich, Germany, a
corporation of Germany

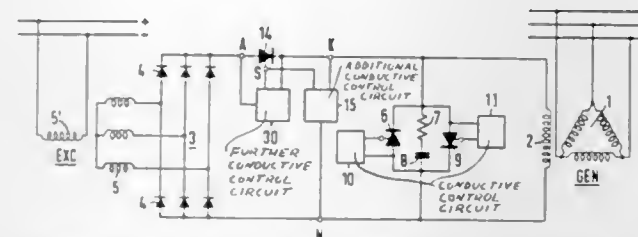
Filed Apr. 26, 1968, Ser. No. 724,529

Claims priority, application Germany, Apr. 29, 1967,
S 109,664; Feb. 17, 1968, S 114,190

Int. Cl. H02p 9/30

U.S. Cl. 322—24

13 Claims



A circuit for exciting a synchronous machine has an excitation winding which is adapted to be short-circuited by contact-free circuit components. The circuit arrangement comprises a current control circuit for controlling the current in the excitation winding of the synchronous machine in accordance with the magnitude and frequency of the starting alternating voltage of the machine. The current control circuit comprises a pair of controlled rectifiers connected in parallel with each other with opposite polarities and in parallel with the excitation winding of the synchronous machine with opposite polarities. Each of the controlled rectifiers has a conductive control connected thereto for controlling the conductivity thereof in accordance with the magnitude of the starting alternating voltage. A controlled rectifier is connected in series with the excitation winding of the synchronous machine. An additional conductive control is connected to the controlled rectifier for controlling the conductivity of the rectifier in accordance with the frequency of the starting alternating voltage.

3,539,907

INTEGRATED CIRCUIT VOLTAGE REGULATING ARRANGEMENT

Hans Linstedt, Stuttgart, Germany, assignor to Robert
Bosch GmbH, Stuttgart, Germany

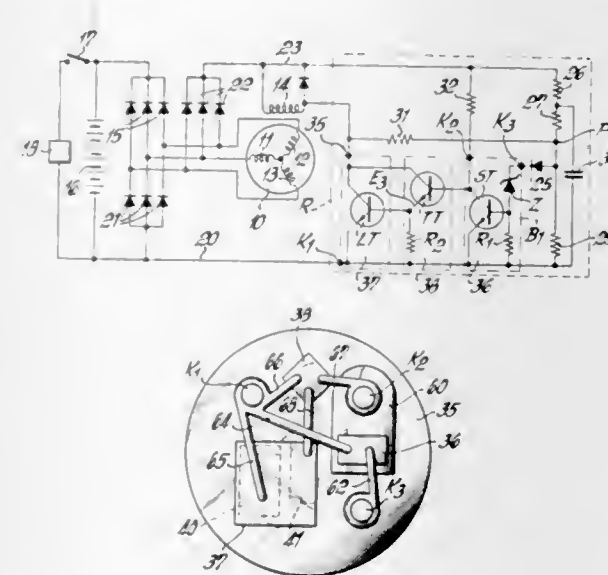
Filed Sept. 11, 1968, Ser. No. 759,160

Claims priority, application Germany, Sept. 12, 1967,
1,588,072

Int. Cl. H02p 9/30

U.S. Cl. 322—28

7 Claims



The field winding of the voltage generator to be regulated, is connected in series with the emitter-collector path of a power transistor. A control transistor controls

NOVEMBER 10, 1970

the operating state of the power transistor. The reference voltage source is provided by a Zener diode connected between the generator and the control transistor. The control transistor, diode and resistor connected between the emitter and base of the control transistor, are within one semiconducting chip. The power transistor is contained within a separate semiconducting chip.

3,539,908

INSTRUMENT-TYPE TRANSFORMER ARRANGEMENT FOR TRANSFORMING BOTH POLARITIES OF A UNIDIRECTIONAL CURRENT

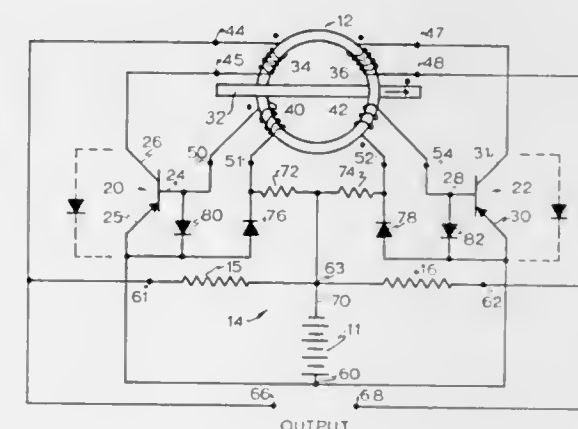
William B. Zelina, Erie, Pa., assignor to General Systems,
Inc., Erie, Pa., a corporation of Pennsylvania

Filed May 20, 1968, Ser. No. 730,542

Int. Cl. G05f 3/06; G01r 33/02

U.S. Cl. 323—48

12 Claims



A unidirectional current transformer arrangement for transforming unidirectional current of both polarities. A magnetic core inductively coupled with a unidirectional current to be transformed, is connected in feed-back coupling relation with a pair of transistor devices tending to establish opposing conducting conditions. A diode is connected across a pair of electrodes of each of the transistor devices so that for a given polarity of the unidirectional current to be transformed one transistor device is maintained nonconducting while the other transistor device is transferred between conducting and nonconducting conditions in accordance with the occurrence of opposite sense flux changes in the core means. Flux change in one sense is due to ampere-turns supplied by the unidirectional current to be transformed and in the opposite sense due to ampere-turns supplied by current from a unidirectional voltage source connected with the transistors. Thus a pair of output terminals are energized to produce an output which is proportional to the magnitude of the unidirectional current which was inductively coupled to the core means and with the polarity of such output indicative of the polarity of the unidirectional current to be transformed.

3,539,909

CONTROLLABLE ELECTRONIC ATTENUATOR HAVING ZERO DIFFERENTIAL PHASE SHIFT

John G. Morrison, Syosset, N.Y., assignor to Sperry Rand
Corporation, a corporation of Delaware

Filed Jan. 28, 1969, Ser. No. 794,539

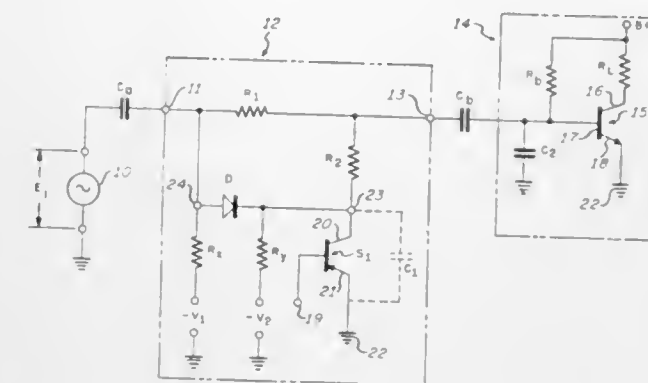
Int. Cl. H02j 3/18

U.S. Cl. 323—111

5 Claims

An electronic attenuator circuit comprising a voltage divider having a switch connected thereto for controlling the voltage ratio between the input and output terminals of the divider and operating in conjunction with a diode and resistor network energized by first and second volt-

age sources for forward and reverse biasing the diode accordingly as the control switch is opened and closed



thereby causing the output signal to have the same phase shift relative to the input signal for both states of the switch.

3,539,910

METHODS AND APPARATUS FOR INVESTIGATING EARTH FORMATIONS WHEREIN A FIXED RELATIONSHIP IS MAINTAINED BETWEEN EMITTED CURRENT AND MEASURED POTENTIAL DIFFERENCE

Louis Henry, Chevilly-Larue, Val-de-Marne, and Broni-
slav Seeman, Meudon, Hauts-de-Seine, France, as-
signors to Schlumberger Technology Corporation, New
York, N.Y., a corporation of Texas

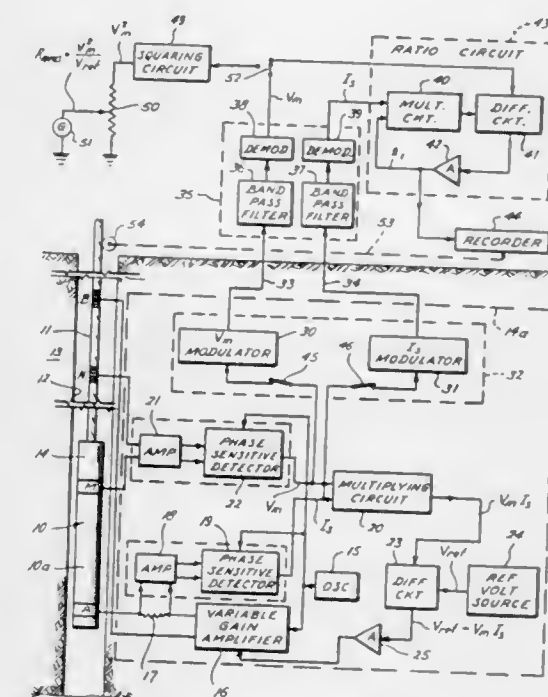
Filed Oct. 29, 1968, Ser. No. 771,517

Claims priority, application France, Nov. 16, 1967,
28,399

Int. Cl. G01v 3/18

U.S. Cl. 324—1

19 Claims



In accordance with an illustrative embodiment of the present invention, an electrode array having survey current-emitting and return electrodes and a pair of potential measuring electrodes is moved through a borehole. Survey current is passed between the current-emitting and return electrodes for emission into the surrounding formations. The amount of emitted current is measured, as is,

the potential difference set up between the potential measuring electrodes. The product of the measured survey current and measured potential difference is taken and the survey current is adjusted to maintain this product substantially constant. To provide a measure of formation resistivity or conductivity, either the measured current or measured voltage, or the ratio therebetween can be utilized.

3,539,911

INDUCTION WELL LOGGING APPARATUS HAVING INVESTIGATIVE FIELD OF ASYMMETRIC SENSITIVITY

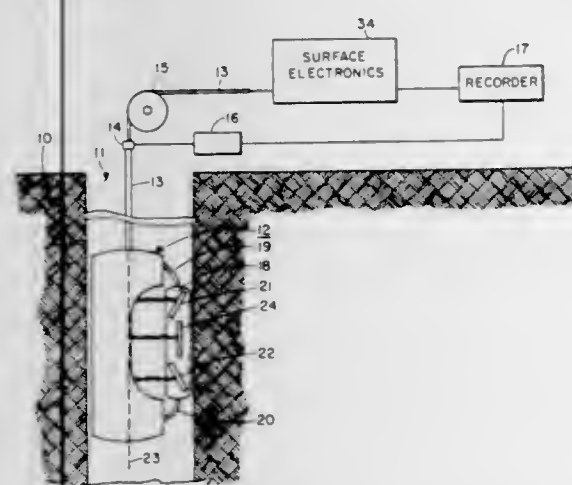
Arthur H. Youmans and Eric C. Hopkinson, Houston, Tex., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed June 21, 1968, Ser. No. 738,941

Int. Cl. G01v 3/10

U.S. Cl. 324—6

7 Claims



A pad-type of induction well logging instrument having one or more pads is adapted to traverse an earth borehole. In one embodiment, the pads each have a pair of transmitter coils wound in series opposition wherein each of the transmitter coils is positioned at an acute angle relative to the longitudinal axis of the instrument. A receiver coil positioned parallel to the longitudinal axis of the instrument is provided for each pair of transmitter coils. In an alternative embodiment, one of the pads has the transmitter and receiver coils rotated through a predetermined angle compared to the angles and positions set forth in the first embodiment.

3,539,912

PORTABLE TEST UNIT FOR A NON-CONTACTING PICKUP UTILIZING A ROTATING SWASH SURFACE AND MEANS TO ADJUST THE PICKUP RELATIVE THERETO

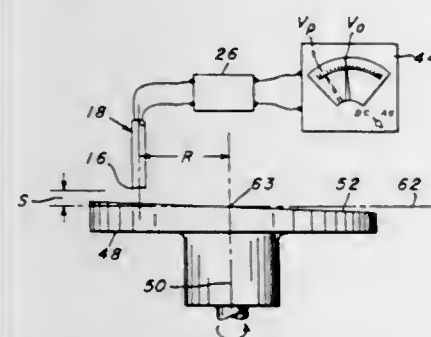
William D. Wardle, Columbus, Ohio, assignor to International Research and Development Corporation, Worthington, Ohio, a corporation of Ohio

Filed Apr. 30, 1969, Ser. No. 820,389

Int. Cl. G01r 35/00

U.S. Cl. 324—34

3 Claims



A portable test unit for field testing and calibrating non-contact pickups. Such test units include a rotatable swash

surface. The present invention provides means for adjusting a pickup to position the sensing tip thereof accurately relative to the swash-surface.

3,539,913

GAS ANALYSIS APPARATUS HAVING OPPOSITELY ENERGIZED AIR GAPS

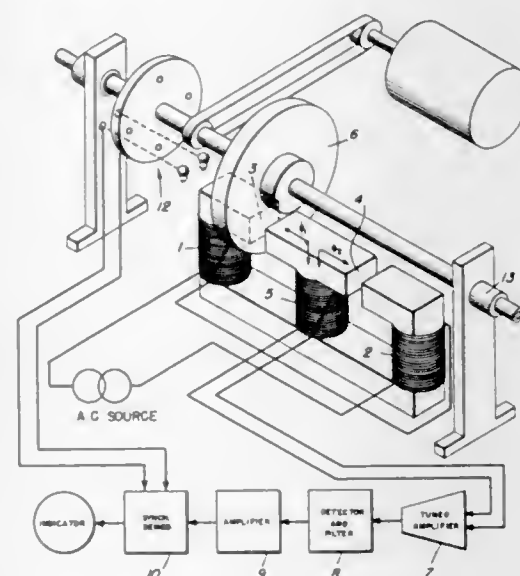
Harris G. Prival, 4214 Heathfield Road, Rockville, Md. 20853

Filed June 10, 1968, Ser. No. 735,743

Int. Cl. G01r 33/12

U.S. Cl. 324—36

6 Claims



The gas analysis apparatus includes a magnetic structure having one or more pairs of symmetrically disposed air gaps, each of which is excited by a high frequency alternating current supplied to a pair of field coils arranged to cause substantially equal magnetic fields in said air gaps. A sensing coil surrounding a common portion of the magnetic circuit of each pair of field coils and corresponding airgaps detects the difference in the flux in the two airgaps and provides an electrical signal proportional to this flux difference; the electrical signal constituting a residual signal with no sample in the air gaps. The residual signal is amplitude modulated by periodically inserting and withdrawing a sample of a gas to be analyzed into one of the airgaps of each airgap pair and detector means are provided to recover the amplitude modulation component.

3,539,914

SIGNALLING MAGNETIC FLAW DETECTOR

Joseph Wm. McClughan and Frederick Pruter, Jr., Houston, Tex., assignors, by direct and mesne assignments, to Smith International, Inc., Midland, Tex., a corporation of California

Filed Oct. 11, 1967, Ser. No. 674,472

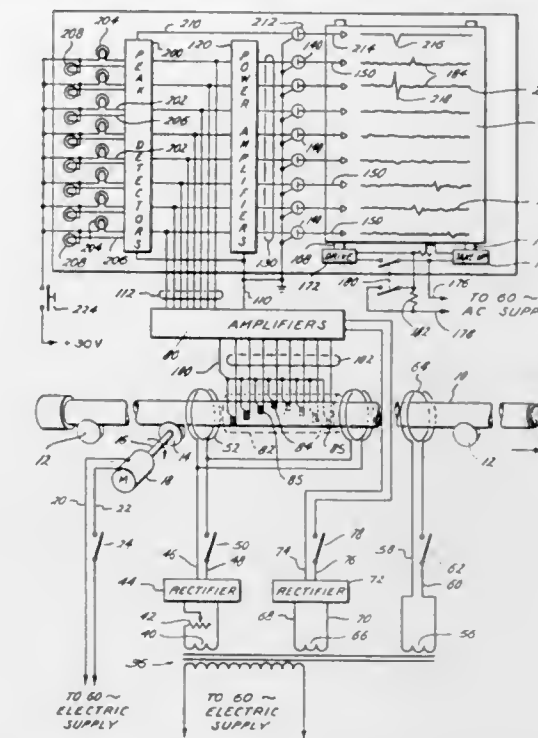
Int. Cl. G01r 33/12

U.S. Cl. 324—37

3 Claims

Apparatus for inspection of material to detect flaws therein includes a direct current coil for magnetizing the pipe being inspected, and pick up coils annularly disposed around the inside of a member through which the pipe extends, the pipe and buggy being relatively axially movable. The outputs of the amplifiers from the coils also feed peak detector circuits each adapted to conduct current whenever the applied voltage exceeds a predeter-

mined value. Whenever a peak detector passes current it illuminates an incandescent lamp in series therewith and circuit constituted by a non-magnetic and a magnetic yoke, the two yokes being interconnected by two magnetic legs which include a permanent magnet. A mag-



in addition such current may, through a galvanometer, drive an event marking pen.

3,539,915

PIPELINE INSPECTION APPARATUS FOR DETECTION OF LONGITUDINAL DEFECTS BY FLUX LEAKAGE INSPECTION OF CIRCUMFERENTIAL MAGNETIC FIELD

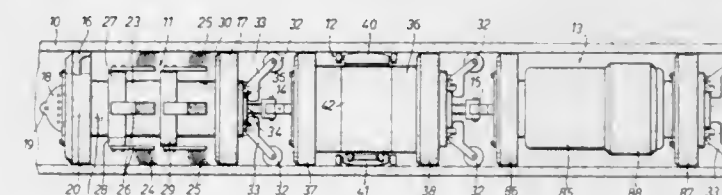
William T. Walters, Houston, Fenton M. Wood, Sugarland, and Alfred E. Crouch, Houston, Tex., assignors to American Machine & Foundry, New York, N.Y., a corporation of New Jersey

Filed Nov. 3, 1967, Ser. No. 680,452

Int. Cl. G01r 33/12

U.S. Cl. 324—37

4 Claims



This application discloses pipeline inspection apparatus of the type propelled through a pipeline by the product being transported. The apparatus includes means for producing circumferential residual magnetic flux in the pipeline wall, along with flux leakage detector means rotating around the interior surface of the pipe wall to detect flux deflected out of the wall by longitudinally oriented flaws, principally stress corrosion cracks in the exterior of the pipe wall. Circumferential flux is produced by high current pulses applied to successive overlapping longitudinal sections of the pipeline using axially spaced conductive brushes or spurs. Circuitry for producing the sequential pulses is included.

3,539,916

MAGNETIC FIELD DIRECTION SENSING MEANS UTILIZING MAGNETO-RESISTORS MOUNTED IN A ROTATABLE CARRIER

Ernst Vatter, Otto Beckstrasse 27, Mannheim, Germany

Filed Mar. 7, 1968, Ser. No. 711,330

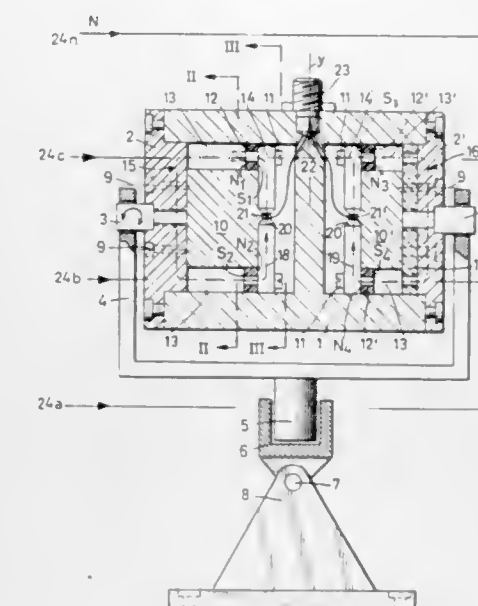
Claims priority, application Germany, Mar. 8, 1967 V 33,192

Int. Cl. G01r 33/02

U.S. Cl. 324—46

2 Claims

A compass includes a universally mounted magnetic



neto-resistor is arranged in an air gap in the magnetic yoke for measuring the magnetic flow in the circuit, and an electrical measuring bridge is connected to the resistor.

3,539,917

METHOD OF MEASURING THE WATER CONTENT OF LIQUID HYDROCARBONS

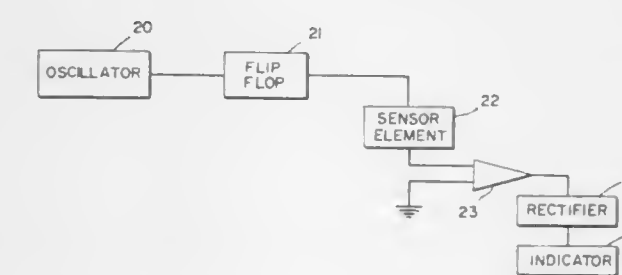
David J. Chleck, Brookline, Mass., assignor to Panametrics, Inc., Waltham, Mass., a corporation of Massachusetts

Filed Apr. 24, 1968, Ser. No. 723,828

Int. Cl. G01r 27/26

U.S. Cl. 324—61

1 Claim



A method of measuring the water content of hydrocarbon liquids by immersing a sensor within the liquid, where the sensor is formed of an aluminum oxide coating on a base electrode with a second water permeable electrode covering at least a portion of the aluminum oxide. Variations in the water content of the hydrocarbon result in variations in the impedance of the sensor. When the liquid hydrocarbon is in equilibrium with the gas space above it, the water content of the hydrocarbon may be measured by placing the sensor in the gas space and measuring its change of impedance.

3,539,918

SYSTEM FOR SELECTIVELY CONNECTING AN ELECTRICAL DEVICE TO A TEST SET

Charles H. Boyd, Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 29, 1968, Ser. No. 724,878

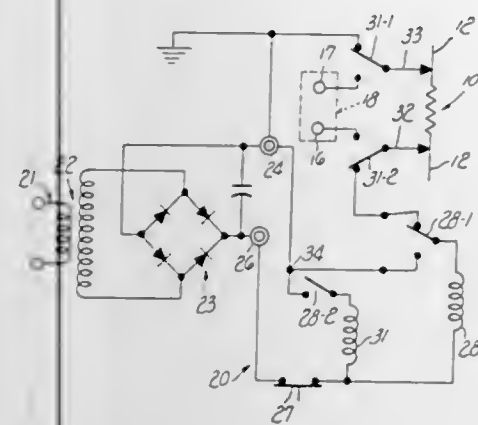
Int. Cl. G01r 27/02

U.S. Cl. 324—62

8 Claims

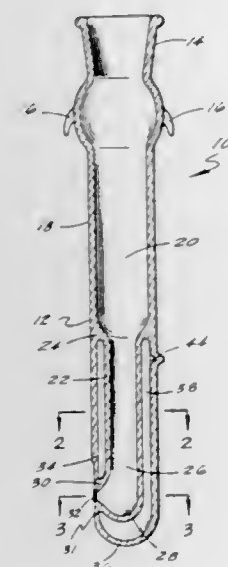
Circuits include a silicon-controlled rectifier, or other

selectively operated devices, which are triggered by current through a resistor placed in testing terminals to op-



erate a relay and connect a measuring bridge circuit to the resistor.

3,539,919
METHOD FOR MAKING GLASS APERTURE TUBE AND PRODUCT PRODUCED THEREBY
Walter R. Hogg, Hialeah, Fla., assignor to Coulter Electronics, Inc., Hialeah, Fla., a corporation of Illinois
Continuation-in-part of application Ser. No. 601,172, Dec. 12, 1966. This application Apr. 25, 1968, Ser. No. 724,181
Int. Cl. G01n 27/00; C03b 23/24
U.S. Cl. 324-71 15 Claims



An aperture tube for use with a Coulter particle analyzing apparatus and having a chamber defining a low-dielectric constant layer positioned between an outer tube wall having a closed bottom and carrying an aperture means and between an inner tube wall carrying an inner body of liquid electrolyte and said layer being communicatively isolated from the interior of said inner tube whereby shunt capacitance paths between said inner body and an outer body of liquid electrolyte as used with the Coulter apparatus are materially reduced and wherein a guard electrode is provided along a substantial portion of said chamber and isolated from the inner body of liquid electrolyte contained in the inner tube wall, the guard electrode potential being maintained the same as that of the outer liquid electrolyte body, and the capacitance between the bodies of liquid electrolyte thereby rendered independent of changing outer liquid level.

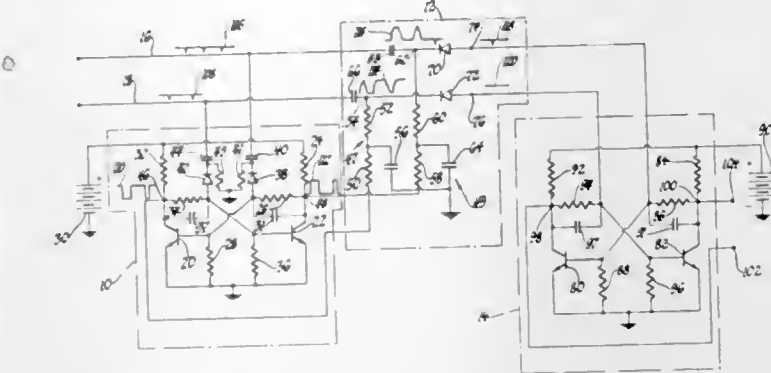
3,539,920
CIRCUIT FOR DETERMINING WHICH OF TWO REPETITIVE PULSE SIGNALS HAS THE HIGHEST FREQUENCY

Charles D. Boltz, Jr., Greenwood, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 22, 1968, Ser. No. 715,403
Int. Cl. G01r 23/00

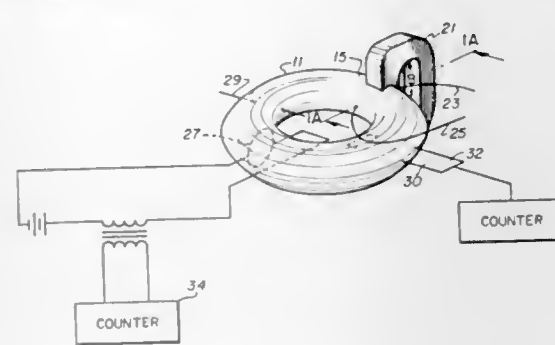
U.S. Cl. 324-79

3 Claims



A circuit for determining which of two repetitive pulse signals has the highest frequency comprising a bistable circuit and a gate circuit wherein a pulse is gated from the pulse signal having the highest frequency in response to the occurrence of two consecutive pulses from that pulse signal without the occurrence of an intervening pulse from the other pulse signal.

3,539,921
SIMPLIFIED INTEGRATING MOTOR
Theodore A. Cohen, Bronx, N.Y., and Hugh E. Riordan, Wyckoff, N.J., assignors to Singer-General Precision, Inc., Little Falls, N.J., a corporation of Delaware
Filed Nov. 6, 1967, Ser. No. 680,866
Int. Cl. H03k 13/00; G21d 7/02; G01r 19/26
U.S. Cl. 324-93 5 Claims

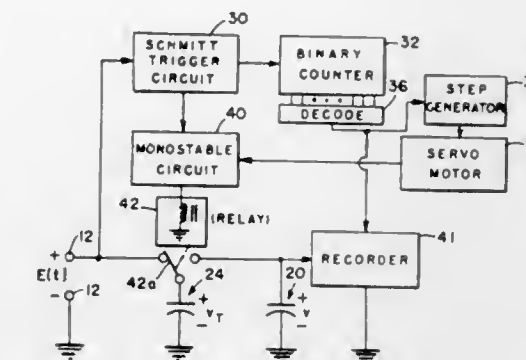


A toroidal container disposed in a defined plane, with a conducting fluid having a bead of non-conducting material therein; a magnetic field generator disposed so as to create a magnetic field at right angles to said defined plane; and sensing means disposed at a sensing station next to the toroidal container adapted to sense the passage of said bead past said station, whereby the number of times said bead rotates around said toroidal container past said station during a time interval is a digital count of the applied voltage over said time interval.

3,539,922
APPARATUS FOR FILTERING STATISTICAL NOISE
William H. Brockman, Ames, Iowa, assignor to Iowa State University Research Foundation Inc., Ames, Iowa, a corporation of Iowa
Filed May 29, 1967, Ser. No. 642,042
Int. Cl. G01r 1/00, 19/00

U.S. Cl. 324-111 5 Claims
Apparatus for reducing noise in a periodic input signal wherein a switching circuit receives the input signal and couples it to a first capacitor during one part of each

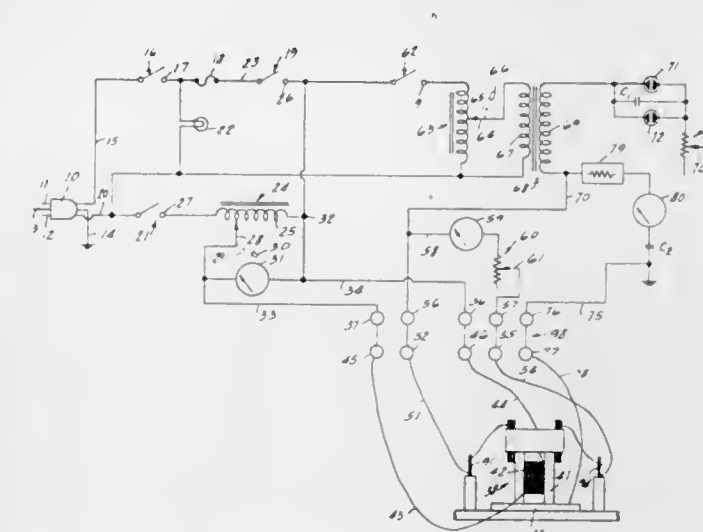
cycle thereby charging it to a voltage at a fixed time during the cycle. The switch then couples the first capacitor in parallel with a second output capacitor for the



3,539,923
TESTING APPARATUS FOR DETECTING SHORTS, LEAKAGE AND CONTINUITY IN WINDINGS
Athanasios N. Tsergas, Des Plaines, Ill., assignor to Ram Tool Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 6, 1967, Ser. No. 680,932
Int. Cl. G01r 31/06

U.S. Cl. 324-158

10 Claims



A device for testing the fields of motors, generators, or any rotating machine so as to determine if there are any shorts or other faults in the windings of the motor which would render the assembled motor defective. Also, the windings of the motor are tested at high voltage, for leakage and ground.

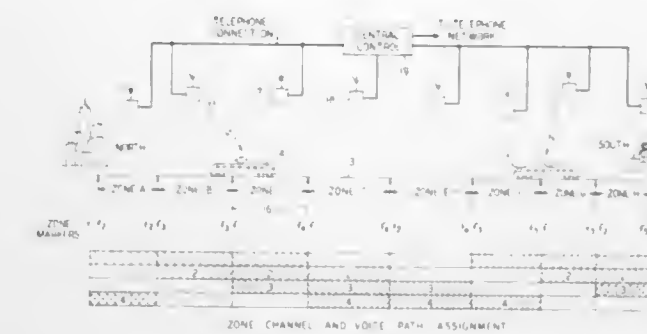
3,539,924
ZONED MOBILE RADIO TELEPHONE SYSTEM
Andrew Daskalakis, Lincroft, Richard H. Frenkiel, Manalapan Township, Harry W. Nylund, Murray Hill, Charles E. Paul, Deal, and Philip T. Porter, Colts Neck, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Oct. 12, 1967, Ser. No. 674,941
Int. Cl. H04b 1/00

U.S. Cl. 325-51

12 Claims

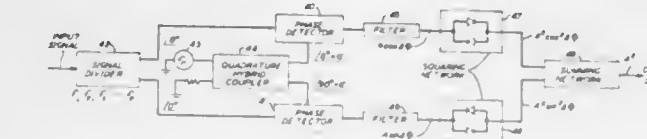
A mobile radio telephone system for operation along a fixed route in which a plurality of channels are staggered in a plurality of zones to provide continuity of communications as the mobile unit moves from zone to zone. The mobile unit determines the zonal location and situa-

tion from zone boundary indications. Apparatus on the mobile, operating in response to these boundary indica-



tions, selects the radio channel for both calls originating from the mobile and from fixed stations.

3,539,925
ALMOST-COHERENT PHASE DETECTION
Harold Seidel, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Feb. 28, 1968, Ser. No. 709,130
Int. Cl. H04b 1/10; H03d 5/00; H04j 1/17
U.S. Cl. 325-65 7 Claims



The advantages of coherent phase detection are realized by means of a phase diversity detection system which uses two phase detectors and an "almost-coherent" reference signal, nominally tuned to the frequency of the signal to be detected.

The input signal is divided into two components, each of which is coupled to a different one of the two detectors. Similarly, the reference signal, which is locally generated and not synchronized with the signal to be detected, is also coupled to the detectors. Phase diversity is realized by shifting the relative phase of either the input signals or the reference signals coupled to the two detectors such that either the two input signals or the two reference signals are 90 degrees out of time phase with respect to each other.

Means are described for combining the outputs from the two phase detectors to produce either a direct current or alternating current output signal. Also described is a highly secure communication system using almost-coherent phase detectors.

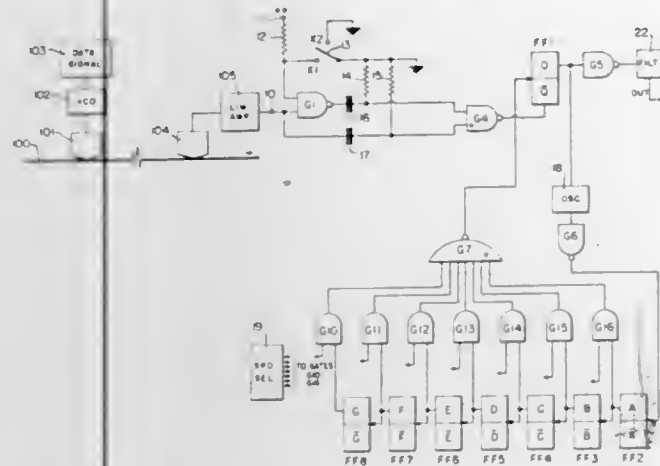
3,539,926
DIGITALLY PROGRAMMABLE MONOSTABLE MULTIVIBRATOR
Ivars P. Breikss, Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 26, 1967, Ser. No. 641,662
Int. Cl. H03k 21/36

U.S. Cl. 328-41

2 Claims

A digitally programmable monostable multivibrator is disclosed wherein a high frequency oscillator is keyed into oscillation by an incoming signal. Simultaneously, an output pulse signal is initiated through logical gate means. The output signals from the oscillator are used to initiate the counting process in a binary counter. Through digitally programmed selection means, the output of a se-

lected one of the counter stages is connected to turn off the oscillator after a predetermined but variable time delay and simultaneously to reverse the state of the gate means to determine the length of the output pulse signal.



Means are provided for producing signal which is a proportional to the ratio of ON time to OFF time of the output pulse as a function of the frequency of the input signal.

3,539,927

SYSTEM FOR AND METHOD OF GENERATING A RANDOM INDEPENDENT SEQUENCE OF TWO TYPES OF PULSES

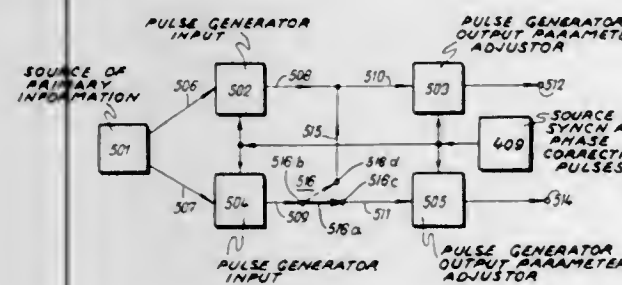
Jan Havel, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia
Filed May 31, 1967, Ser. No. 642,533

Claims priority, application Czechoslovakia,
June 1, 1966, 3,703/66

Int. Cl. H03k 5/00, 5/13

U.S. Cl. 328—61

5 Claims



A first branch of a pulse generator system provides a random binary sequence of two types of pulses at a determined repetition rate. A second branch of the pulse generator system provides a random binary sequence of two types of pulses at the determined repetition rate. The first and second branches are in parallel relation with each other. A switch interconnects the first and second branches in a manner whereby in one operating condition of the switch each of the first and second branches functions independently of the other to provide corresponding random binary sequences of two types of pulses. In another operating condition of the switch, the first and second branches are combined to provide a random binary sequence of two types of pulses at twice the determined repetition rate.

3,539,928

OPERATIONAL MULTIPLEXER

Thomas E. Gardner, Sunnyvale, Calif., and Bertram F. Kupersmith, Bloomfield, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Nov. 13, 1968, Ser. No. 775,247

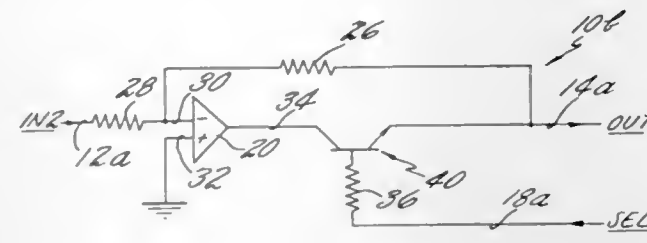
Int. Cl. H03k 17/00

U.S. Cl. 328—104

2 Claims

A plurality of data channels, each having an operational amplifier therein, are selectively multiplexed to a single data channel by means of a switch in the forward

path of a feedback network connected to the operational amplifier. Since the switch is connected within the forward path of the feedback network, any impedances introduced



by the switch, or offset voltages when the switch comprises dynamic elements, are eliminated from the signal as a result of the feedback.

3,539,929

PULSE DISCRIMINATION CIRCUIT

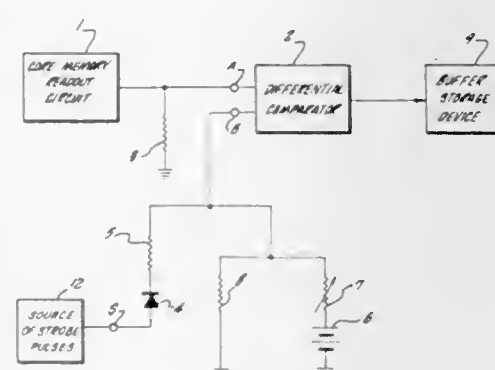
Charles P. Gerrard, Pasadena, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Oct. 17, 1966, Ser. No. 587,089

Int. Cl. H03k 5/20

U.S. Cl. 328—115

9 Claims



Pulses to be discriminated are applied to one input of a differential comparator. A source of strobe pulses is applied through a diode to the other input of the differential comparator. Between strobe pulses the diode is forward biased, thereby holding the input of the differential comparator at a voltage level that exceeds the maximum voltage of the pulse signal to be discriminated. Upon the occurrence of a strobe pulse, the diode is back-biased, thereby coupling a threshold level voltage to the second input of the differential comparator.

3,539,930

METHOD AND AN ELECTRICAL SIGNAL COMPARATOR SYSTEM TO DETECT A DIFFERENCE BETWEEN ENCODED SIGNAL INFORMATION ON A PAIR OF DIFFERENT ELECTRICAL SIGNALS

John C. Strole, Dumont, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Aug. 7, 1967, Ser. No. 658,898

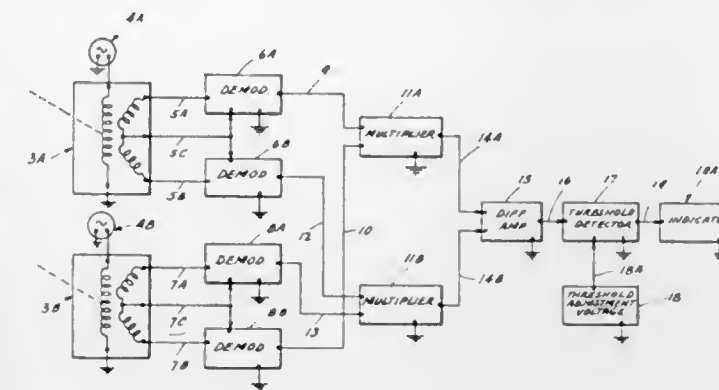
Int. Cl. H03k 5/20

U.S. Cl. 328—119

14 Claims

A method and signal comparator system in which the amplitudes of X and Y components from an electrical signal device, such as a resolver synchro or potentiometer, excited by one source and the amplitudes of the X and Y components of a second electrical signal device, such as a resolver, synchro or potentiometer, excited by a different source have the X component of each multiplied by the

Y component of the other. The resulting signals are then applied to a suitable summing device such as a difference



amplifier which produces a signal upon a difference in the signal information encoded on the compared electrical signals.

3,539,931

CURRENT-FREQUENCY CONVERTER WHEREIN OUTPUT FREQUENCY IS PROPORTIONAL TO THE SQUARE ROOT OF THE INPUT CURRENT

Philippe Jouve, Pontacq, France, assignor to Societe Anonyme dite: Societe Nationale des Petroles d'Aquitaine, a corporation of France

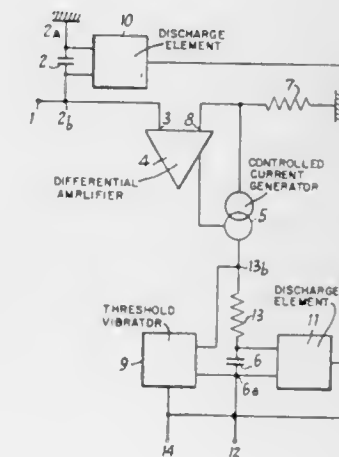
Filed Feb. 13, 1968, Ser. No. 705,080

Claims priority, application France, Feb. 16, 1967,
95,258

Int. Cl. G06g 7/12

U.S. Cl. 328—144

2 Claims



This invention relates to a current-frequency converter which provides impulses at a frequency proportional to the square root of the current applied at the input of the device and which comprises a condenser, a voltage converter, a second condenser, circuit elements for measuring the charging voltage of the said second condenser and circuit elements for effecting the simultaneous discharge of the two condensers.

3,539,932

CIRCUITS AND METHODS FOR MEASURING THE AMPLITUDE OF PLURAL SIGNALS

James B. Briggs, La Crescenta, Calif., assignor to Hoffman Electronics Corporation, El Monte, Calif., a corporation of California

Filed June 14, 1966, Ser. No. 557,558

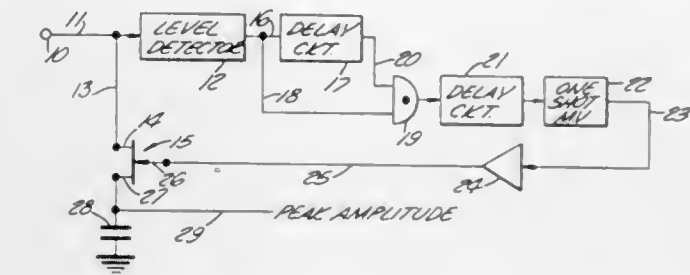
Int. Cl. H03k 17/00

U.S. Cl. 328—151

10 Claims

Several circuits and methods are disclosed for measuring the peak amplitude of pulses and providing an out-

put signal which follows the peak amplitude thereof. Several circuits are disclosed which receive plural signals occurring in signal pairs having a predetermined spacing between the signals of the pairs, and wherein a delayed first signal of each pair is used to generate a trigger pulse which in turn is used to sample the peak amplitude of the second pulse of the respective pair. With one circuit the



first pulse is delayed slightly less than the spacing between the signal pairs, and in another circuit the first pulse is delayed slightly greater than the spacing. In each instance the resulting delayed pulses are employed to generate trigger pulses for sampling purposes. In another embodiment, the peak amplitudes of signals of given width may be measured by using each signal to generate a sampling signal which in turn samples the peak amplitude of the signal.

3,539,933

SWITCHOVER LOGIC CIRCUIT

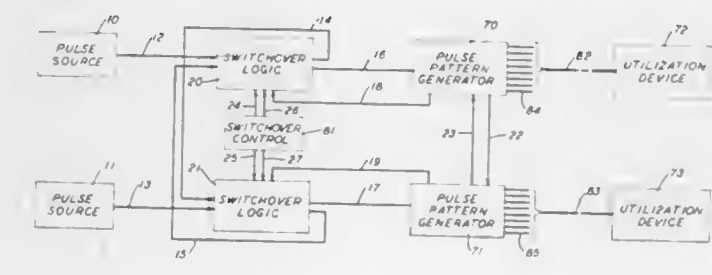
Herbert J. White, Narberth, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Sept. 7, 1967, Ser. No. 666,109

Int. Cl. H03k 17/00

U.S. Cl. 328—154

10 Claims



In an electronic clock, one of two crystal controlled signal sources operating independently at the same frequency drives a pair of pulse pattern generators. A logic circuit, comprising a binary counter, is described which permits switching between the two signal sources without a momentary increase in pulse rate of the pulse pattern generators.

3,539,934

MONOSTABLE MULTIVIBRATOR CIRCUIT WITH A LINEAR VOLTAGE CONTROLLED PULSE WIDTH

Ralph G. Rudolph, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Aug. 7, 1968, Ser. No. 750,922

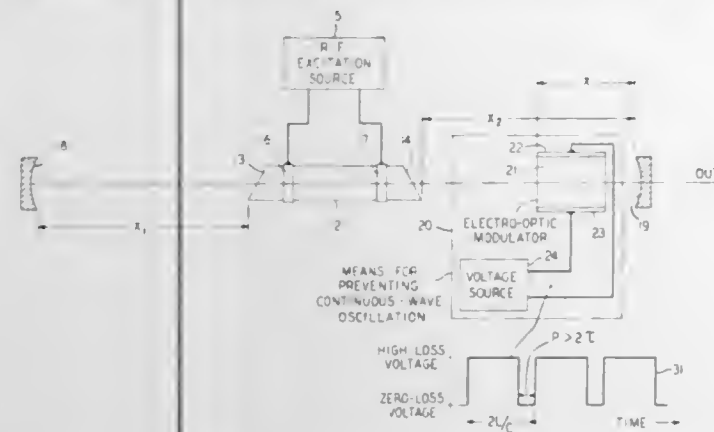
Int. Cl. H03k 3/10

U.S. Cl. 328—207

10 Claims

A monostable multivibrator circuit uses a source of trigger voltage pulses to provide an output from a first comparator. The output is connected through a timing circuit to provide an essentially linear changing voltage to a first input of a second comparator and to change

condition throughout a period that is longer than twice the maximum pulse duration but much shorter than the



period between passages of the pulse through the vicinity of the one reflector.

3,539,943

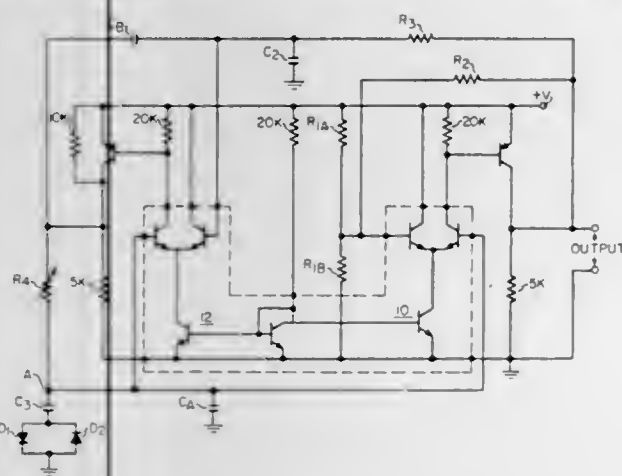
OSCILLATOR UTILIZING GYRATOR CIRCUIT
Desmond F. Sheahan, San Carlos, Calif., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Mar. 7, 1969, Ser. No. 805,240

Int. Cl. H03b 5/00

U.S. Cl. 331-108

4 Claims



A stable RC oscillator, utilizing a gyrator circuit including amplifiers and requiring no matched components, can be tuned by varying the value of a single resistor or capacitor, and its frequency stability is limited only by the stability of the RC products used in its implementation.

3,539,944

DIRECT COUPLED TWO TRANSISTORS CRYSTAL OSCILLATOR

Yasutomo Miyake, Yokohama, and Toshio Shinada, Tokyo, Japan, assignors to Kabushiki-Kaisha Kinseki-sha-Kenkyujo, Tokyo, Japan, a corporation of Japan

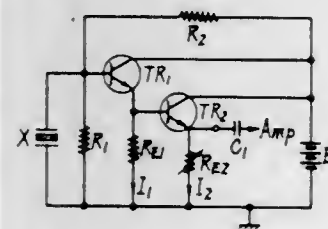
Filed Aug. 8, 1968, Ser. No. 751,245

Claims priority, application Japan, Aug. 15, 1967, 42/52,545

Int. Cl. H03b 5/36

U.S. Cl. 331-116

1 Claim



The present transistorized crystal oscillator has a pair of transistors coupled directly together for providing relatively small-sized high frequency oscillators having simplified integral circuits.

3,539,945
METHODS OF MODULATING INJECTION DIODES FOR MAXIMUM OPTICAL POWER

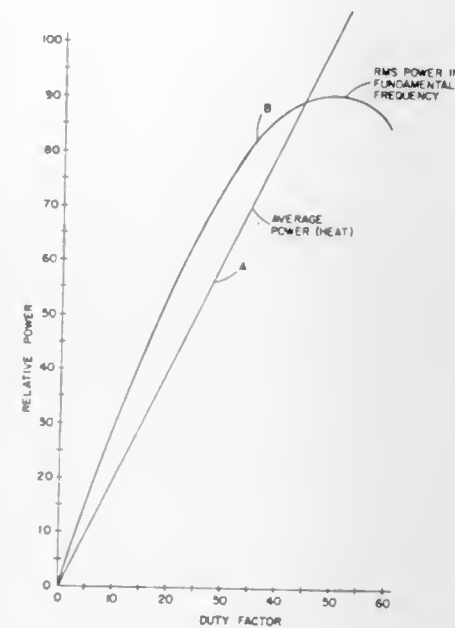
Jimmy R. Duke and Walter E. Miller, Jr., Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army

Filed Mar. 25, 1969, Ser. No. 810,302

Int. Cl. H01s 3/00

U.S. Cl. 332-7.51

3 Claims



An injection (light emitting) diode is powered by a rectangular current wave, with either the duty factor or the maximum amplitude (or both) of the wave being set to realize maximum optical power. The duty factor or amplitude settings (or both) are determined by partial differential solutions of the equation which defines the optical power in terms of the diode characteristics.

3,539,946

SOLID STATE WIDE BAND MICROWAVE VOLTAGE CONTROLLED OSCILLATOR WITH IMPROVED FREQUENCY MODULATION CAPABILITY

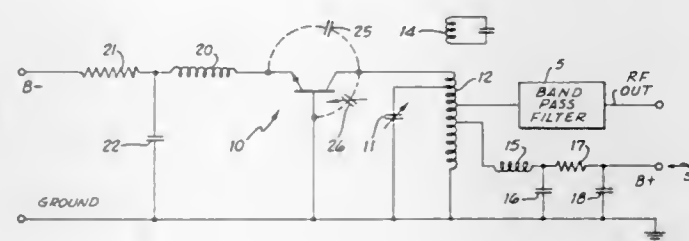
Jorgen P. Vinding, Monte Sereno, Joseph J. Digiovanni, Mountain View, and Thomas D. Lusk, Sunnyvale, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Dec. 28, 1966, Ser. No. 605,315

Int. Cl. H03b 5/12; H03c 3/16

U.S. Cl. 332-16

6 Claims



A high frequency transistor is mounted in a strip-transmission line resonator circuit. Modulation is accomplished by varying the collector B+ voltage with a modulating signal. To obtain the proper output frequency, the operating frequency of the oscillator is doubled by the non-linear junction capacitance of the transistor, and the fundamental frequency and all other harmonics are suppressed by the strip line bandpass filter tuned to the second harmonic of the oscillator frequency.

3,539,947

METHOD OF OPERATING A SINGLE-STAGE AS A LINEAR AMPLITUDE MODULATOR

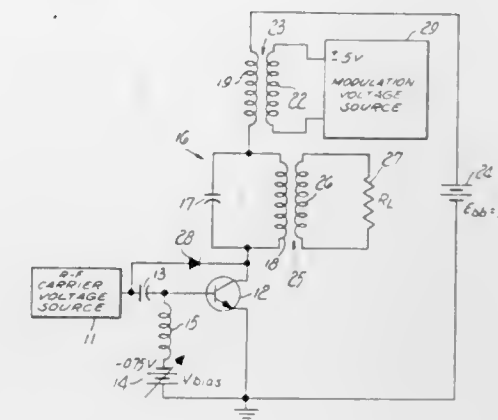
Robert D. Frantz, Temple, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 10, 1968, Ser. No. 728,246

Int. Cl. H03c 1/06

U.S. Cl. 332-31

1 Claim



A carrier signal is impressed upon the base electrode of a transistor to generate an output signal and a modulation signal is impressed upon the collector electrode to modulate the output. A current diverting means is connected between the base circuit and collector electrode of the transistor. The current diverting means is actuated in response to an approaching condition of saturation in the transistor to divert base current from the base electrode to the collector electrode of the transistor to prevent saturation.

3,539,948

RADIO FREQUENCY DIRECTIONAL COUPLERS

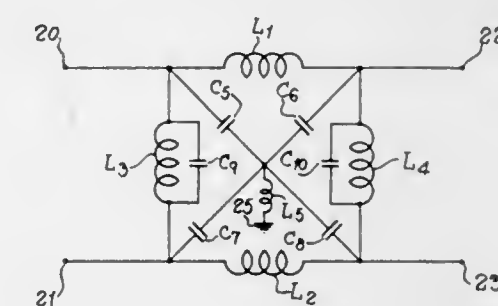
Edward Salzberg, 19 Black Oak Road, Wayland, Mass. 01778

Filed Nov. 6, 1968, Ser. No. 773,925

Int. Cl. H01p 5/14; H03h 7/04

U.S. Cl. 333-10

1 Claim



Four terminal directional couplers are described in which radio frequency energy fed into a first terminal selectively divides between two of the remaining terminals with negligible output at the fourth terminal. The described couplers use lumped values in the form of five inductors and four capacitors in a manner to approximate the parameters of a branch line coupler.

3,539,949

STACKED PRINTED CAPACITOR DELAY LINE

Ronald K. Floser, North Adams, Mass., and John W. Guetersloh, Hamburg, N.Y., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Apr. 3, 1968, Ser. No. 718,525

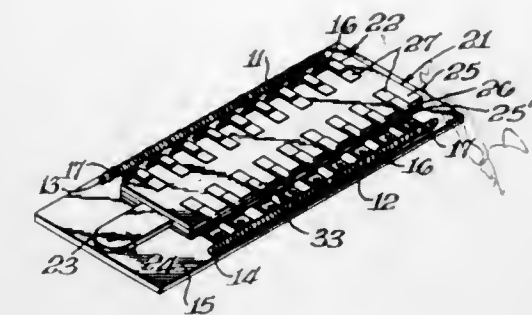
Int. Cl. H03h 7/32; H01g 3/07

U.S. Cl. 333-29

4 Claims

A delay line having stacked printed mica capacitors connected to inductors is characterized by small size

achieved by lamination of the capacitors, and improved interconnection means between capacitors and inductors. The capacitors are laminated using a bonding and insulating agent which preserves the electrical and mechanical properties of the capacitor. Capacitor-to-inductor inter-



connection is achieved by means of a lead frame whose inner terminals correspond to conductive areas on the capacitor surfaces and whose outer terminals correspond to inductor connection points. These terminals are secured in a single and/or unified operation.

3,539,950

MICROSTRIP RECIPROCAL LATCHING FERRITE PHASE SHIFTER

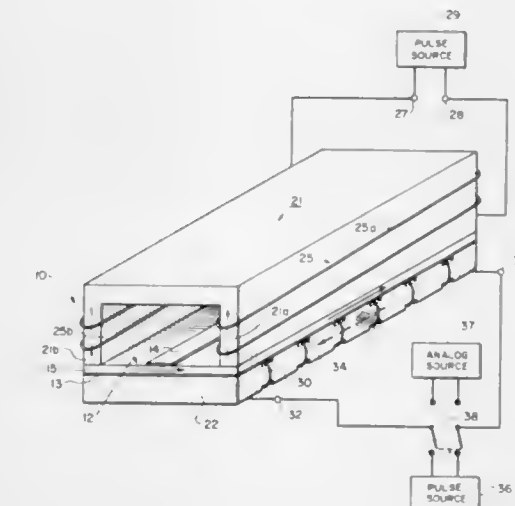
Elmer Freibergs, West Long Branch, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed July 23, 1969, Ser. No. 844,122

Int. Cl. H03h 7/30

U.S. Cl. 333-31

10 Claims



A microstrip reciprocal latching ferrite phase shifting device operating in either the digital or analog mode having a microwave ferrite forming an integral portion of the microstrip line wherein a difference in phase shift occurring between longitudinally and transversely magnetized states of the microwave ferrite is accomplished by using two separate ferrite members of low coercive force and high remanence, each combining with the microwave ferrite to form a distinct closed magnetic flux path and each member carrying a separate energizing windings for establishing a magnetic field within said microwave ferrite, which magnetic flux in the microwave ferrite portion of one of the closed magnetic flux paths being in a direction normal to the direction of propagation of the microwave energy and parallel to the magnetic field associated with the propagated microwave energy and the magnetic flux

in the microwave ferrite portion of the other closed magnetic flux path being perpendicular to the magnetic field in the microwave ferrite portion of said one closed magnetic flux path.

3,539,951

HIGH FREQUENCY DEVICE COMPENSATION

Frederick J. Tischer, Raleigh, N.C., assignor to

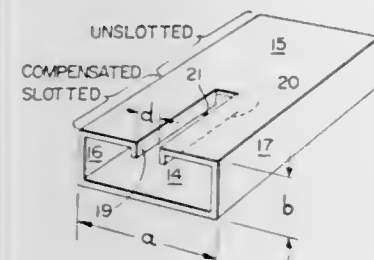
Andrew Alford, Winchester, Mass.

Filed Mar. 16, 1967, Ser. No. 623,684

Int. Cl. H01p 1/00; H03h 7/34

U.S. Cl. 333—34

9 Claims



A rectangular waveguide is formed with a longitudinal slotted portion and unslotted portion of substantially the same height and width and having substantially the same impedance and propagation characteristics over a relatively wide bandwidth as a result of means for reducing the height between conducting surfaces in the vicinity of a plane perpendicular to the broad walls that passes through the longitudinal slot. This means typically comprises inward extensions of the walls defining the longitudinal slot, a ridge opposite the longitudinal slot extending inward from the opposite broad wall. The compensating means may be stepped, tapered, or combinations thereof.

3,539,952

MAGNETO-PIEZO ELECTROMECHANICAL FILTER

Harold P. Boettcher, Brookfield, Wis., and Andrew C.

Thompson, Wonder Lake, Ill. (2455 NE. 51st, Apt.

E-109, Fort Lauderdale, Fla. 33308); said Boettcher

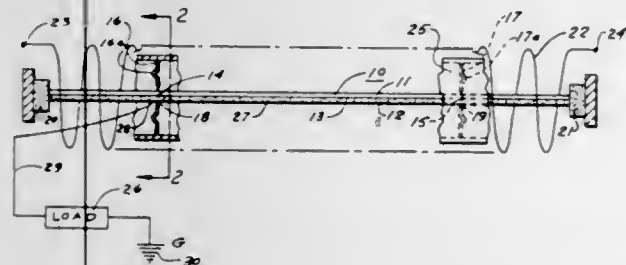
assignor to said Thompson

Filed May 20, 1966, Ser. No. 551,671

Int. Cl. H03h 9/00

U.S. Cl. 333—72

5 Claims



An electromechanical filter is built as a composite of magnetostrictive and electrostrictive elements, bonded together for resonance as a unitary member. The member is proportioned for peak resonance in selected mode at the desired frequency. The mode and frequency are established by appropriate dimensioning of the member and its elements, and the manner of support. An input coil drives the member by exciting the magnetostrictor. The electrostrictor, or piezo element, resonates integrally with the magnetostrictor, transducing the resultant mechanical stress wave to electrical output at the resonant frequency, with voltage corresponding to the stress characteristic and amplitude. A substantially dimensionless bond at a neutral or nodal plane virtually precludes coupling loss between the elements.

3,539,953

MAGNETICALLY TUNABLE COMB LINE BANDPASS FILTER

Raymond R. Jones, San Jose, Calif., assignor to Western

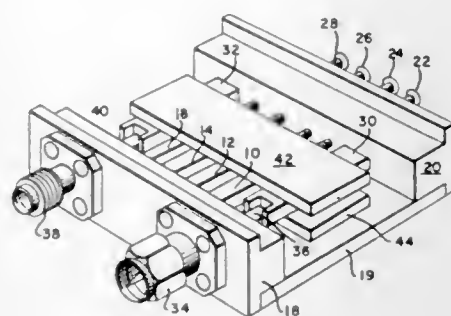
Microwave Laboratories Inc., Santa Clara, Calif.

Filed July 27, 1967, Ser. No. 656,442

Int. Cl. H03h 7/10

U.S. Cl. 333—73

2 Claims



A magnetically tunable comb line bandpass filter containing a plurality of microwave resonator elements which are each coupled at one end to a common longitudinal member in spaced, parallel relationship to form an array of resonator elements, with a plurality of capacitors each coupled between the other end of a corresponding resonator element and ground, and means for generating a magnetic field at any selected angle with respect to the longitudinal axis of the array of resonator elements to change their resonant frequency or to be colinear with the longitudinal axis. A ferrite is placed adjacent to the array of resonator elements, and electromagnet coils are positioned parallel to and at right angles to the longitudinal axis of the array of resonator elements for selectively generating longitudinal and/or transverse magnetic fields and for varying the angle between the resultant magnetic field and the longitudinal axis of the filter. The filter can be fabricated in printed circuit form by depositing a copper comb line circuit on a ceramic-ferrite substrate which is attached to a conductive ground plane. Mutually perpendicular bias wires are passed through the ceramic substrate underneath the ferrite for producing longitudinal or transverse magnetic fields or a resultant field at any angle therebetween.

3,539,954

REMOVABLE ELECTRICAL CONNECTOR FILTER ASSEMBLY

Norman H. Camire, Hollywood, Calif., assignor to Inter-

national Telephone and Telegraph Corporation, New

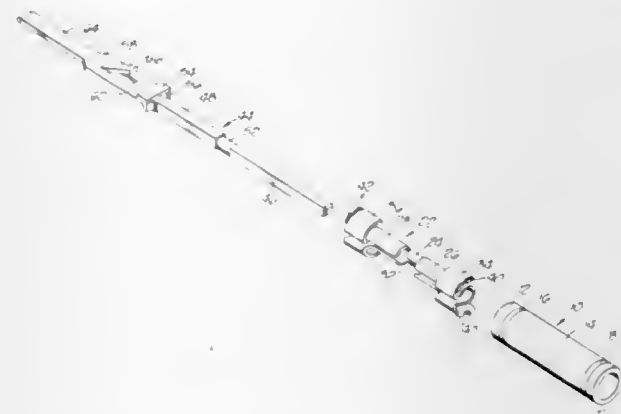
York, N.Y., a corporation of Delaware

Filed July 29, 1969, Ser. No. 845,859

Int. Cl. H04b 15/02; H03h 7/04

U.S. Cl. 333—79

5 Claims



A removable electrical connector filter assembly comprising an electrically conductive clip for mounting on a

terminal pin member. The clip has a reduced central portion and adjacent enlarged portions with a spring member externally secured to each of the enlarged portions. An electrical filter member formed of dielectric material has a conductive inner surface portion removably secured on the clip with the spring members secured to the filter member inner surface. The terminal pin member may contain a reduced diameter central undercut portion, the clip being removably mounted on the terminal pin member with the reduced central portion of the clip being normally secured to the terminal pin member undercut portion.

3,539,955

INTERVALOMETER

John J. Nash, Ferguson, Mo., assignor to Alseco, Inc.,

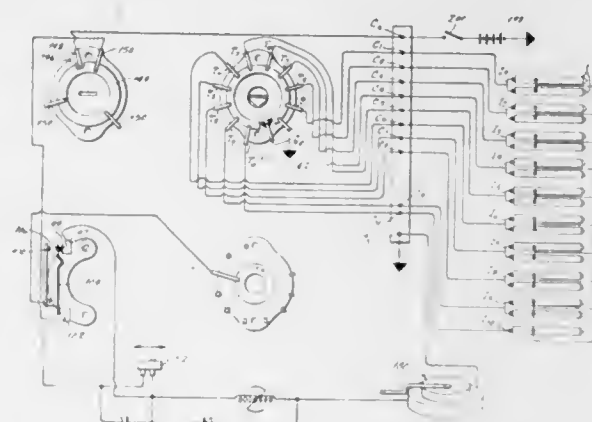
St. Louis, Mo., a corporation of Delaware

Filed Dec. 31, 1968, Ser. No. 788,227

Int. Cl. H01h 51/08

U.S. Cl. 335—138

15 Claims



An intervalometer comprises a connector means adapted to be electrically connected to a source of electricity, a solenoid in electrical connection with the connector means, a plurality of output terminals, a distributor tab adapted to move to each of the output terminals, and switch means between the connector means and the distributor tab. The switch means is movable from an open position wherein the distributor tab is electrically disconnected from the connector means to a closed position wherein the distributor tab is electrically connected to the connector means. Mechanism responsive to the actuation of the solenoid is adapted to cause the switch to move to its closed position and to cause the distributor tab to move to each of the output terminals. Biasing means yieldably maintains the switch in its open position so that the distributor tab and the output terminals are electrically disconnected from the connector means whenever the solenoid is deactivated.

3,539,956

LOW PROFILE RELAY

Clifford H. Andersen, Niles, and Harry Chanowitz, Skokie,

Ill., assignors to C. P. Clare Company, Chicago, Ill., a

corporation of Delaware

Filed July 9, 1968, Ser. No. 743,528

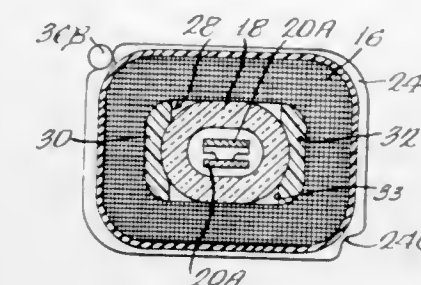
Int. Cl. H01h 51/28

U.S. Cl. 335—154

6 Claims

A low profile relay using a sealed magnetic switch disposed in the axial opening of a coil-bobbin assembly. The switch housing is oval in section with the major axis of the section extending parallel to the flat, overlapping ends of the reeds. The center section of the bobbin comprises two walls of a height generally the same as the minor axis of the oval housing spaced from each other

generally the length of the major axis so that the coil lies against the elongated walls of the switch housing. Thus,



the height of the switch and coil-bobbin assembly is reduced and the coil is moved closer to the operating gap.

3,539,957

MAGNETIC SWITCH

Victor G. Matto, Kinnelon, and Sandor A. Veres, Ruther-

ford, N.J., assignors to Aerolite Electronics Corpora-

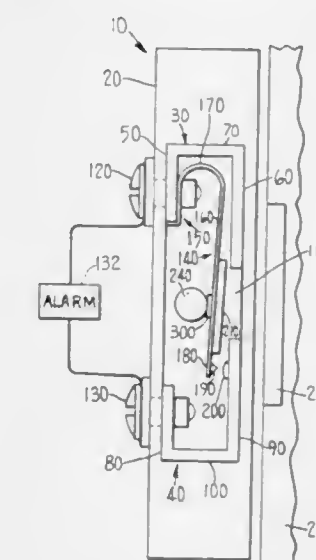
tion, Union City, N.J., a corporation of New Jersey

Filed Aug. 9, 1968, Ser. No. 751,614

Int. Cl. H01h 51/28

U.S. Cl. 335—205

8 Claims



A magnetic switch which includes two magnetic pole pieces spaced apart with an air gap between them and secured to a housing by means of conductive fasteners which are accessible outside the housing. A spring member is provided in the housing and carrying a magnetic plate for bridging the gap between the pole pieces and to complete a circuit between them. An external push button member is provided to perform an auxiliary switch-closing operation, and an auxiliary pole piece may be provided to form an auxiliary electrical circuit with the spring member and one of the pole pieces.

3,539,958

PUSH-BUTTON MATRIX SWITCHING DEVICE

Gozewijn van Gelder and Gerrit Johannes Elzinga, Hil-

versum, Netherlands, assignors to U.S. Philips Corpo-

ration, New York, N.Y., a corporation of Delaware

Filed Feb. 26, 1969, Ser. No. 802,495

Claims priority, application Netherlands, Mar. 7, 1968,

6803209

Int. Cl. H01h 51/28

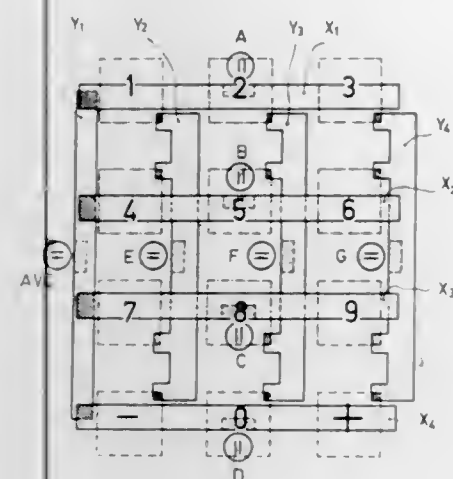
U.S. Cl. 335—206

10 Claims

A push-button switching device comprising spring-loaded coupling members, arranged along coordinates

and provided with permanent magnets and contacts in airtight envelopes actuated by said magnets said device

as Teflon or polyethylene. Each end flange includes an axially extending neck portion ensleeved on the central tubular portion, and the neck portion includes a layer of



comprising a plurality of push-buttons for the selective actuation of the coupling members.

3,539,959

TRANSFORMER HAVING SANDWICHED COILS AND COOLING MEANS

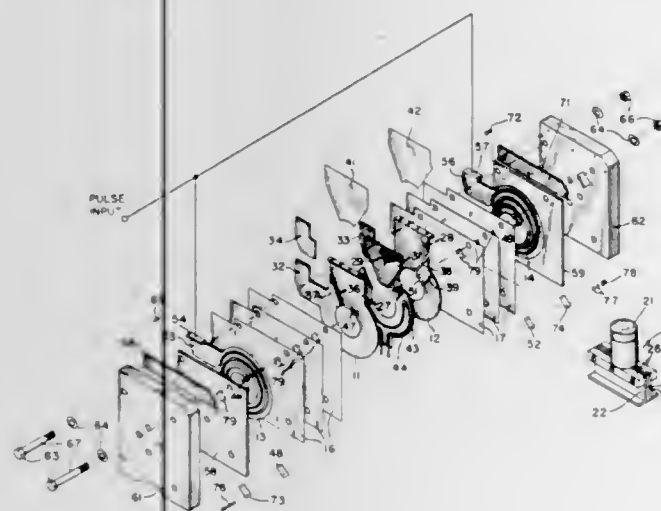
Paul Wildi, San Diego, Calif., assignor to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

Filed May 17, 1968, Ser. No. 730,052

Int. Cl. H01f 27/08, 27/30

U.S. Cl. 336—60

1 Claim



A transformer is described including two pairs of windings of substantially flat configuration positioned to be inductively coupled and secured together with suitable insulation in a sandwich assembly.

3,539,960
INDUCTOR

George A. Young, Bay Village, Ohio, assignor to Precision Paper Tube Company, Wheeling, Ill., a corporation of Illinois

Filed Apr. 21, 1969, Ser. No. 817,989

Int. Cl. H01j 27/30; B65h 75/14

U.S. Cl. 336—198

9 Claims

A bobbin for use in making an inductor wherein the end flanges are heat fused to the central tubular portion of the bobbin. The central tubular portion of the bobbin is formed of laminates of materials generally classified as plastics, and the outer surface of the tubular portion is coated with a material which can be heat activated, such

The isolator is designed to protect electrical appliances from electrical current in excess of a predetermined value. The device which is plugged by means of a male plug member into an ordinary three prong grounded wall receptacle has a female receptacle for receiving the prongs of a plug connected to an appliance. The male plug member and the female receptacle are electrically interconnected by fusible wire. An arc plate, connected to a third prong, is disposed adjacent the male prong members of the isolator so when current in excess of a predetermined value flows through the device the fuse wire is burned out and the current is carried by the arc plate to ground thereby effectively isolating the appliance and saving it from damage.

3,539,962

MOVABLE CONTACT FOR ELECTRIC CURRENT

Richard T. Erban, Flushing, N.Y., assignor to Encoder Research and Development Corporation, Huntington, N.Y.

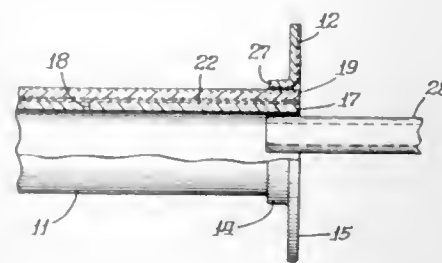
Filed July 12, 1965, Ser. No. 471,316

Int. Cl. H01c 5/04

U.S. Cl. 338—202

5 Claims

A movable contact device such as used in potentiometers, commutators and slip-rings wherein contact with a moving contact roller is established at polar regions thereof to minimize friction, wear and electrical noise and wherein the surfaces of the roller and of the cooperating



heat activatable plastic adjacent the central tubular portion so that the plastic of the end flange may be heat fused to the plastic of the tubular portion.

3,539,961

ISOLATOR

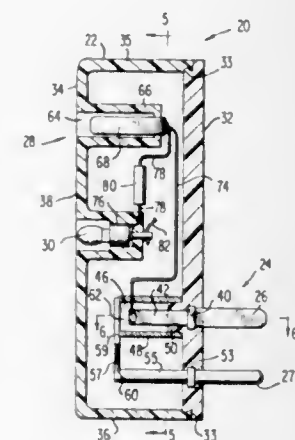
James F. Worthington, 1783 40th St. S., St. Petersburg, Fla. 33711

Filed Apr. 11, 1969, Ser. No. 815,384

Int. Cl. H01h 85/54

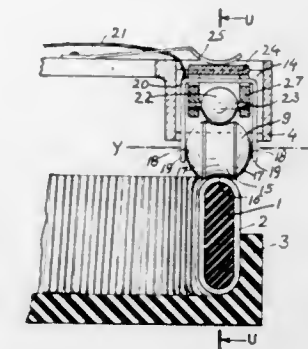
U.S. Cl. 337—197

5 Claims



contact members are shaped to provide a rolling-contact area which, under operating pressure, is elongated transversely to the direction of travel of the roller to reduce

manner that permits relative axial shifting of the conductors, the second conductor having an internal passage-way into which the first conductor passes as the conductors shift; the bus bar joint comprising a support element, ex-



the contact pressure per unit of area in order to keep the mechanical stress inside the contact material within the limits applicable to said material for prevention of fatigue by repetitive stress cycling.

3,539,963

ELECTRICAL CONTACT FOR MOVING WIRE

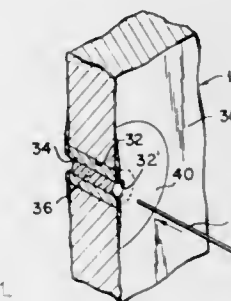
George F. Schrader, Lakewood, Calif., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Oct. 2, 1967, Ser. No. 672,032

Int. Cl. H01r 41/00

U.S. Cl. 339—9

5 Claims



A device for providing electrical contact with a moving wire with a minimum of resistance to the movement of the wire past the point of contact. An aperture having a relatively small diameter but sufficiently large enough to pass the wire, e.g., a $\frac{1}{16}$ inch diameter aperture for passing a $\frac{1}{32}$ inch diameter wire, is provided in an electrically conductive holder. The inner wall of the aperture is comprised of an electrically conductive material that will amalgamate an electrically conductive liquid metal, e.g., mercury. The mercury is placed in the aperture and is held there by surface tension and amalgamation. The wire is passed through the aperture and the liquid mercury envelops the portion of the wire being passed through the aperture to provide secure electrical contact therewith. The material of the holder adjacent to the aperture does not amalgamate with mercury to thereby avoid creeping of the mercury away from the aperture.

3,539,964

EXPANSION JOINT FOR ENDWISE JOINING OF CONDUCTORS OF AN ISOLATED PHASE BUS BAR

Joseph A. Turgeon, Toronto, Ontario, Canada, assignor to I-T-E Circuit Breaker (Canada) Limited, Port Credit, Ontario, Canada, a limited-liability company of Canada

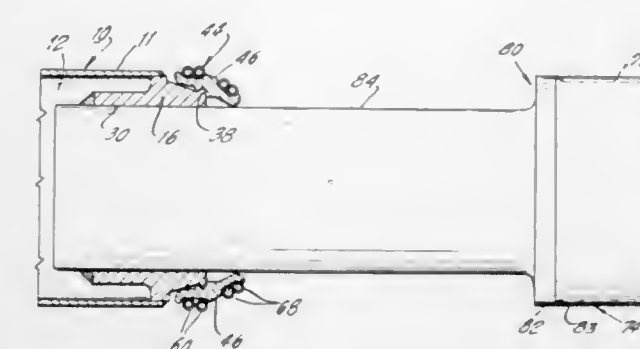
Filed Dec. 4, 1968, Ser. No. 780,990

Int. Cl. H01r 41/00

U.S. Cl. 339—9

11 Claims

An isolated phase bus bar, comprising two conductors to be mechanically and electrically joined endwise in a



tending from the end of the second conductor, on which a plurality of spring-biased contact elements are supported for rocking motion to receive and securely engage an end port on the first conductor.

3,539,965

SOCKET CONNECTOR ASSEMBLY

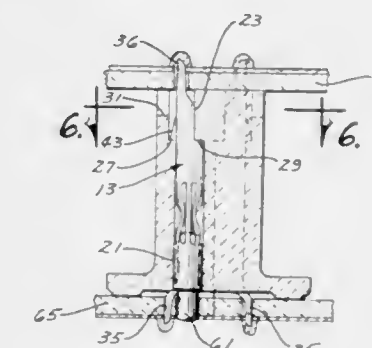
Ronald C. Morehart and Byron C. Conrad, Columbus, Nebr., assignors to Dale Electronics, Inc., Columbus, Nebr., a corporation of Nebraska

Filed June 28, 1968, Ser. No. 741,096

Int. Cl. H01r 13/42; H05k 1/10

U.S. Cl. 339—17

4 Claims



A socket connector assembly including a socket and a connector block. The connector block has at least one elongated cavity extending therethrough which is circular in cross-section for a majority of its length. The cavity has a flat anti-rotational surface formed therein and is also provided with a slot in communication with the cavity. The contact socket is comprised of an elongated cylindrical socket adapted to be received by the cavity and having a cut-out section adapted to engage the flat anti-rotational surface within the cavity to prevent rotation of the socket with respect to the connector block. The socket also has a lance extending outwardly therefrom which engages the slot in the cavity to detachably maintain the socket therein. The socket is provided with a plurality of contact springs extending inwardly from its wall surface into its interior in a staggered manner.

3,539,966

MICROWAVE CONNECTOR

Denis J. Logan, Huntington Station, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed July 23, 1968, Ser. No. 746,824

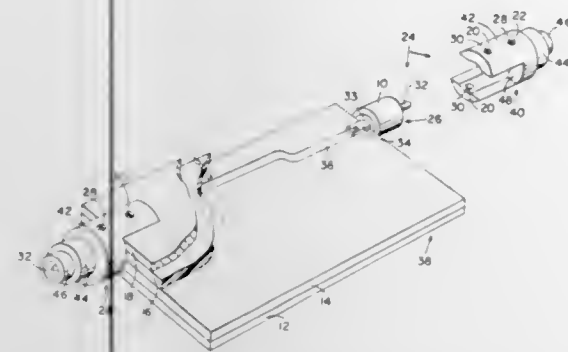
Int. Cl. H01r 17/04; H05k 1/07

U.S. Cl. 339—17

4 Claims

A strip transmission line-to-coaxial line connector which can be attached to etched strip transmission line circuits. A coaxial line adapter is visually aligned and resistance

soldered in place on the etched strip transmission line with an outer shell assembly clamped over the adapter for



connecting to a coaxial cable and held in place by three set screws.

3,539,967

ELECTRICAL CONNECTOR

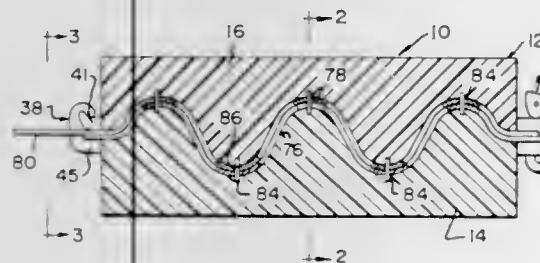
John W. Clements, Naperville, Ill., assignor to Flexicon Electronics, Inc.

Filed July 10, 1967, Ser. No. 652,171

Int. Cl. H05k 1/12; H01r 7/06

U.S. Cl. 339-17

2 Claims



An electrical connector for selectively connecting a plurality of longitudinally extending transversely spaced conductors on a dielectric ribbon to similar conductors on another dielectric ribbon without abrasion of any of the conductors.

3,539,968

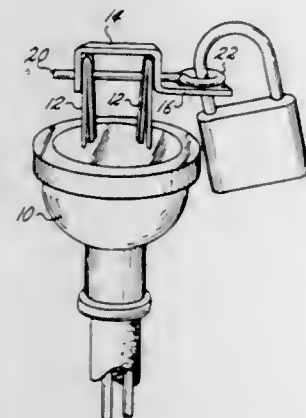
ELECTRICAL PLUG BLADE SAFETY COVER
Wilfred Tunstall, 12874 2nd St., Yucaipa, Calif. 92399,
and Albert Wegner, 223 Syllmer Court, Calimesa,
Calif. 92320

Filed Sept. 24, 1968, Ser. No. 762,101

Int. Cl. H01r 13/44

U.S. Cl. 339-37

1 Claim



Apparatus for protectively covering the blades of a conventional electrical plug and locking the covering thereto in a manner to prevent dangerous insertion by a child into a standard outlet.

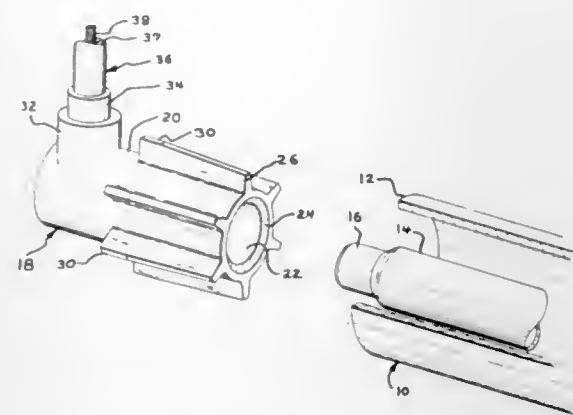
3,539,969
HIGH VOLTAGE CONNECTOR
Erlon Fitch Johnson and Jay Calvin Gerber, Elizabeth-
town, Pa., assignors to AMP Incorporated, Harrisburg,
Pa.

Filed Feb. 20, 1968, Ser. No. 706,833

Int. Cl. H01r 33/08

U.S. Cl. 339-52

11 Claims



A high voltage connector assembly is disclosed which includes a hollow mating portion adapted to support and terminate a fragile cylindrical member such as a xenon lamp. The connector mating portion includes a series of radially extending ribs tapered along the length thereof and spaced apart to provide lamp support and ventilation when connectors are plugged into each end of a protective tube. The connector mating portion and ribs are of a material sufficiently yieldable to facilitate plugging of the connector and lamp in position against accidental disfracturing such tube, but at the same time maintaining the connector into a thin walled glass protective tube without placement. A further connector is included which provides a connection to the starter winding of the xenon lamp spirally disposed therearound with the lead to such further connector extended through the space between the ribs of the mating portion. The foregoing connector structures provide support of xenon lamps and a termination of starter and supply high voltage leads therefor which can be easily and readily changed in the field.

3,539,970

CAM ARRANGEMENT FOR PROGRAMMING SYSTEM

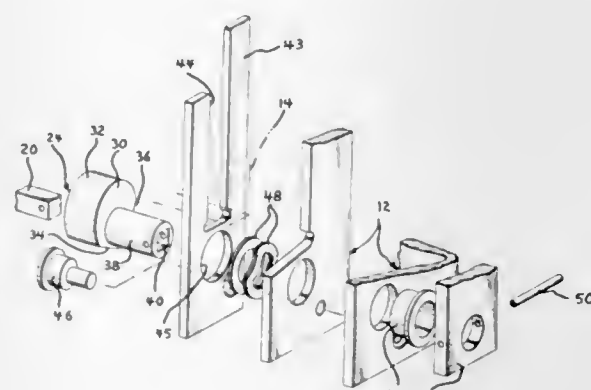
Joseph La Rue Lockard and William Henry Rose, Harris-
burg, Pa., assignors to AMP Incorporated, Harrisburg,
Pa.

Filed Nov. 29, 1968, Ser. No. 779,806

Int. Cl. H01r 13/54

U.S. Cl. 339-75

5 Claims



Improved cam arrangement for patchcord programming system. Each camming member comprises a one-piece molding with a larger diameter cam surface and a

smaller diameter bearing surface. The members are second chamber. The gases thus passing into the second chamber may be dissipated relatively slowly through a indexing precision in the frame of the system.

3,539,971

ELECTRICAL CONNECT-DISCONNECT DEVICE

Ronald P. Bridges, % Bridges Electric Inc., 2451

Wisconsin St., Downers Grove, Ill. 60515

Continuation-in-part of application Ser. No. 592,093,

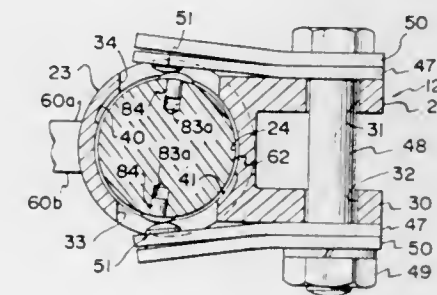
Nov. 4, 1966. This application Apr. 4, 1968, Ser.

No. 722,525

Int. Cl. H01r 13/32

U.S. Cl. 339-109

18 Claims



An electrical connect-disconnect device for making a switching connection between electrical lines, with the disconnect device including a male member that is insertable within a female member, with latching means being provided to releasably, yet positively, retain the members in assembled relationship with respect to one another. The male and female members include respective contact members that make electrical contacting engagement with one another when the male member is inserted axially and then rotated into latching engagement with the female member. In a preferred embodiment, the contacts on the male member are rotated into a latching and contacting position in which they are slightly circumferentially offset from the contacts on the female member, with spring means urging the contacts on the female member toward the contacts on the male member so that camming surfaces on the contacts releasably lock the male and female members together.

3,539,972

ELECTRICAL CONNECTOR FOR HIGH VOLTAGE ELECTRICAL SYSTEMS

Robert Ruete and Rudolph P. Aldighieri, Long Valley,
and Frank A. Silva, Basking Ridge, N.J., assignors, by
mesne assignments, to Amerace Esna Corporation,
New York, N.Y., a corporation of Delaware

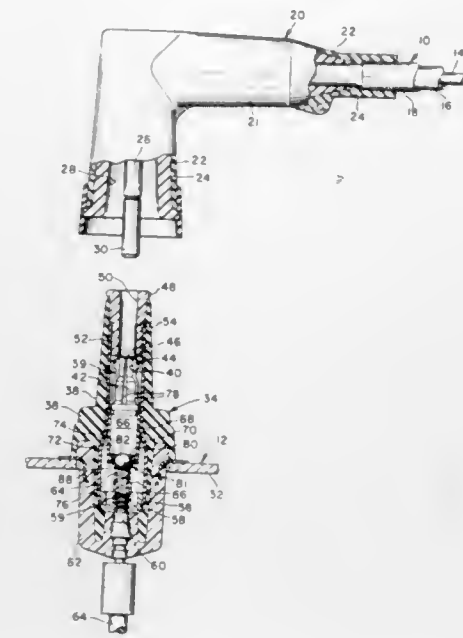
Filed May 21, 1968, Ser. No. 730,807

Int. Cl. H01r 13/52

U.S. Cl. 339-111

18 Claims

An electrical connector element for use in high voltage electrical systems and capable of being connected and disconnected under high voltage load conditions and being safely connected under short circuit conditions by virtue of a structural arrangement which accommodates gases generated by an electric arc ordinarily struck during such connection and disconnection, the connector element including a cavity, an electrical contact, a wall dividing the cavity into a first chamber in open communication with the portion of the contact where the electric arc is struck and a second chamber, and a valve interconnecting the first and second chambers such that gases generated by the electric arc at the portion of the contact may be relieved from the first chamber into the



relatively small passage, preferably leading back into the first chamber.

3,539,973

ELECTRICAL CONNECTOR

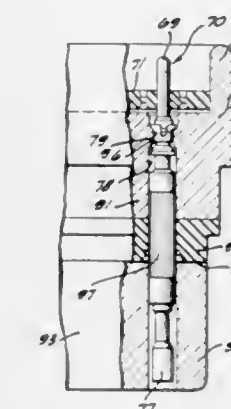
Jack E. Antes, Lakewood, and Jackie Wright, Costa Mesa,
Calif., assignors to Hughes Aircraft Company, Culver
City, Calif., a corporation of Delaware

Filed Feb. 12, 1968, Ser. No. 704,867

Int. Cl. H01r 13/34

U.S. Cl. 339-143

29 Claims



A connector providing radio frequency shielding and preventing propagation of unwanted noise into electronic equipment. In one embodiment two mating connector sections are oppositely mountable on the apertured equipment frame. One section comprises a connector body; a solid gasket of elastomer impregnated with conductive material, or a laminated gasket of alternate layers of such material and metal, a surrounding flanged gasket constricting radio frequency interference shield having a shield aperture; a filter contact support and isolation block which covers the shield aperture and has a metal surfaced boss thicker than the shield aperture depth inserted through the aperture; and tension connecting jack-screw means. The block member, gasket, and body have transverse apertures to removably retain filter pin or socket contacts. Each filter contact comprises a tubular pi filter having an external capacitor plate interference fitted in a gasket aperture. The shield and gasket are of structure, configuration, and material so that pressure

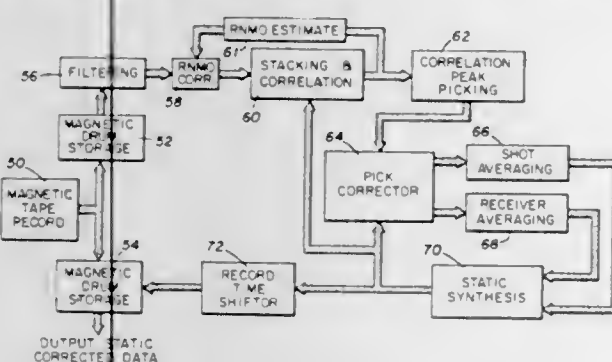
tubes have a space relationship such that, when simultaneously viewed through the stereoscopic system, a three-dimensional image appears. A control module selects the stored points to be displayed on the cathode ray tubes, thereby orienting the three-dimensional image. The stereoscopic display may also be rotated around one of the three coordinate axes and reduced or enlarged in scale from the control module.

3,539,982 METHOD AND APPARATUS FOR CONSISTENT STATIC CORRECTION OF COMMON DEPTH POINT SEISMIC SIGNALS

James A. Hileman, Plano, and William Aippli Schneider, Peter Embree, and Milo M. Backus, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 3, 1969, Ser. No. 803,548
Int. Cl. G01v 1/36

U.S. Cl. 340—15.5

27 Claims



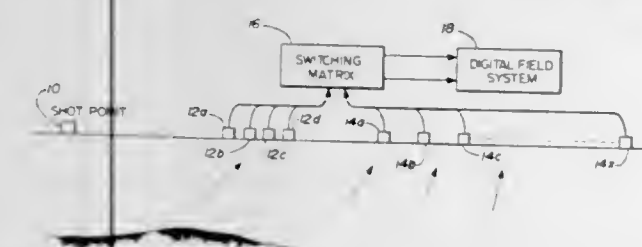
Shot and receiver static corrections are determined for sets of common depth point seismic signals using cross-correlations between each of the seismic signals and the average of the remaining seismic signals of the set. Correlation time delays are sensed and are arranged in an array corresponding to the shot-receiver relationships of the seismic signals. The correlation time delays related to a common shot and the time delays related to a common receiver location are each averaged to provide estimates of the shot and receiver static corrections. The appropriate shot and receiver corrections are combined to give consistent static corrections for each of the seismic signals.

3,539,983 METHOD AND APPARATUS FOR RECORDATION OF SHALLOW AND DEEP SEISMIC REFLECTION DATA

Kenneth E. Burg, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 16, 1969, Ser. No. 816,636
Int. Cl. G01v 1/24

U.S. Cl. 340—15.5

12 Claims



A first array of closely spaced seismic receivers generate first electrical signals in response to the reception of seismic reflections from relatively shallow subsurface horizons. A second array of widely spaced seismic receivers generate second electrical signals in response to the reception of reflections from relatively deep subsurface horizons. A timer circuit switches a set of recording channels between the outputs of the first and second arrays in order that reflections from the shallow subsurface hori-

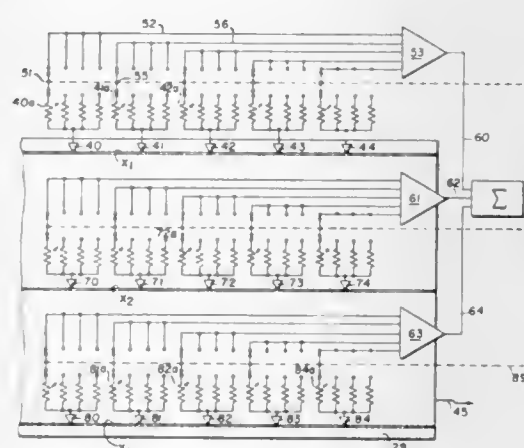
zons may be first recorded on the recording channels and then followed by the later arriving reflections from the relatively deep subsurface horizons.

3,539,984 OPTIMUM HORIZONTAL STACKING

William Aippli Schneider, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Continuation of abandoned application Ser. No. 672,404, Oct. 2, 1967, which is a continuation of abandoned application Ser. No. 356,776, Apr. 2, 1964. This application Sept. 22, 1969, Ser. No. 860,109
Int. Cl. G01v 1/28

U.S. Cl. 340—15.5

12 Claims



Disclosed is a method of removing multiple reflection signals from common depth point seismic records wherein each signal from a given depth point is modified in accordance to the relationship of its signal path to and from the reflection point with respect to the paths of the other signals to and from the same reflection point, said modification being by the filter operator $Y_j(f)$ as defined in the matrix relationship:

$$[S_{ij}*(f) + N_{ij}*(f)][Y_j(f)] = [S_{io}*(f)]$$

where

 $i=1, 2, 3 \dots n;$ $j=1, 2, 3 \dots n;$ $S_{ij}(f)$ = the cross spectral density between channels i and j for signal; $N_{ij}(f)$ = the cross spectral density between channels i and j for noise; and $S_{io}(f)$ = the cross spectral density between the desired output signal and the signal in channels $i=1, 2, 3 \dots n$,

and the modified signals are thereafter combined.

3,539,985 OPTIMUM MULTIPLE SEISMIC RECORD STACKING

William A. Schneider, Dallas, Emir L. Tavella, Irving, and Milo M. Backus, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

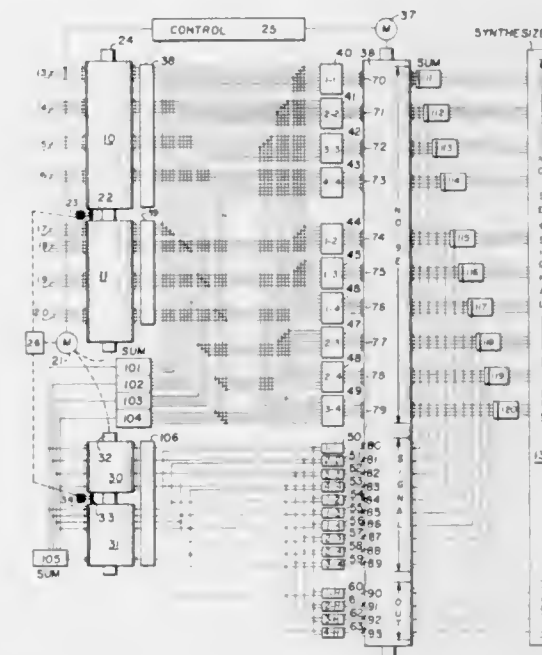
Continuation of abandoned application Ser. No. 628,779, Apr. 5, 1967, which is a continuation of application Ser. No. 389,100, Aug. 12, 1964. This application Sept. 22, 1969, Ser. No. 860,115
Int. Cl. G01v 1/28

U.S. Cl. 340—15.5

9 Claims

Disclosed is a seismic exploration and signal processing technique wherein there is produced an ensemble of electrical seismic traces representative of seismic signal reflections recorded at a plurality of detector stations subsequent to each of several seismic disturbances created at different times and/or locations, each ensemble comprising several sets wherein each trace of a given set is

more closely related to the other traces of its set (as by originating from the same seismic disturbance or by being detected at the same detector station), than it is to the traces of any other set. After standard static and dynamic corrections to the traces, a suite of correlation signals, N_{ij} , which characterize noise components in each set of traces is generated by correlating each trace of a set with itself and with each of the other traces of the set a suite of correlation signals S_{ij} which characterize desired components of each set of traces is generated by correlating the sum of the traces of each set with itself and with the sum of the traces of each of the

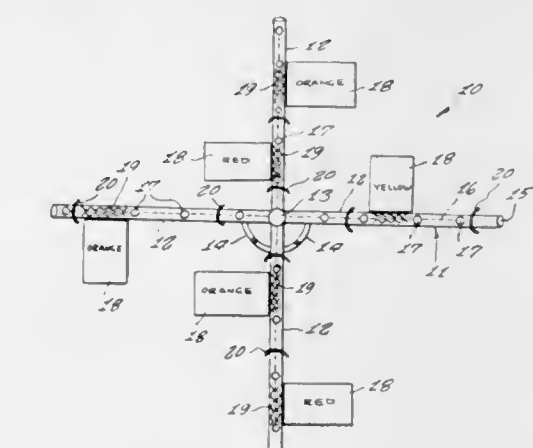


other sets, and a suite of correlation signals Z_{io} which characterize noise free desired components of each set of traces is generated by correlating the sum of the traces of each set of traces with the sum of all traces in the ensemble. Thereafter, from the suites of correlation signals a plurality of control signals Y_i are generated which are related to the correlation signals as expressed in the matrix equation $(S_{ij} + N_{ij})(Y_i = Z_{io})$. Each of the traces is then modified according to its related control signals as by time domain filtering. The modified traces of each set are then summed to produce a single trace for each set wherein the desired components thereof are enhanced relative to the noise components.

3,539,986 PORTABLE LANDING ZONE

U.S. Cl. 340—26

5 Claims



A portable indicator, for identifying an aircraft landing field and including a frame formed of pipes, several

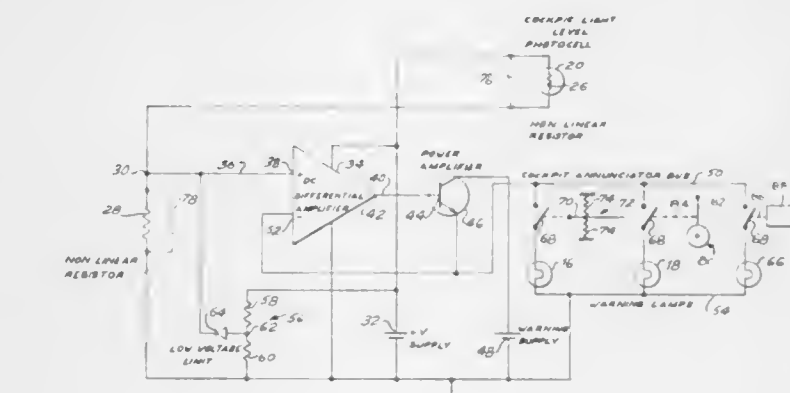
air panels of different colors secured to the pipes, and wiring carried through said pipes for illuminating a series of lamps positioned along the length of the pipes so to guide an aircraft in take off and in landing.

3,539,987 AUTOMATIC REGULATOR FOR ANNUNCIATOR LIGHTS IN AIRPLANE COCKPITS

Leonard M. Greene, Chappaqua, N.Y., assignor to Safe Flight Instrument Corp., White Plains, N.Y., a corporation of New York
Filed July 14, 1967, Ser. No. 653,518
Int. Cl. G01j 1/32; G05d 25/00

U.S. Cl. 340—27

6 Claims



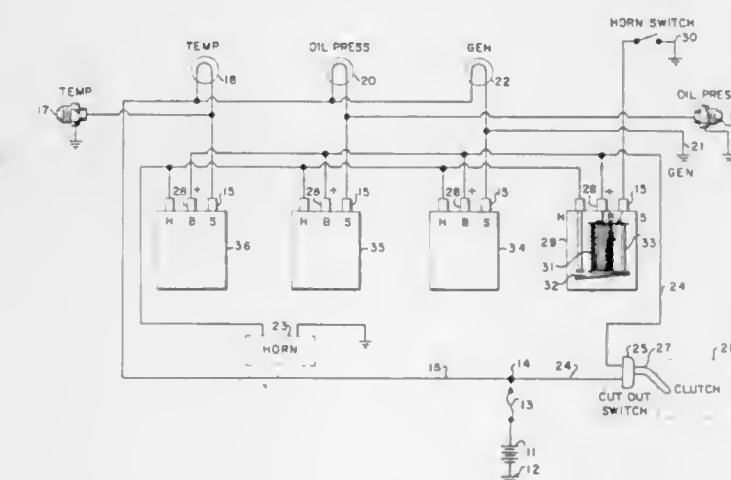
A system comprising annunciator lights which upon the occurrence of predetermined events are energized from an annunciator bus that is supplied with a voltage that is a function of the level of light within the airplane cockpit as measured by a photocell.

3,539,988 WARNING LIGHT DEVICE AND THEFT ALARM

Guy E. Humphress, 106 Greenhaven, San Antonio, Tex. 78201
Filed Apr. 18, 1967, Ser. No. 631,630
Int. Cl. B60r 25/00; B60q 1/00

U.S. Cl. 340—52

7 Claims



A warning system for an internal combustion engine vehicle comprising a multiplicity of motor operating conditions sensing units, a corresponding multiplicity of warning lights, and horn relays including an audible alarm interconnected by an above ground wiring harness to a grounded source of electric potential; the wiring cir-

cuit so arranged as to sound the alarm if any sensor or portion of the circuit is grounded unless the alarm is deactivated by means of the cutout switch.

3,539,989

SYMBOL READING SYSTEM

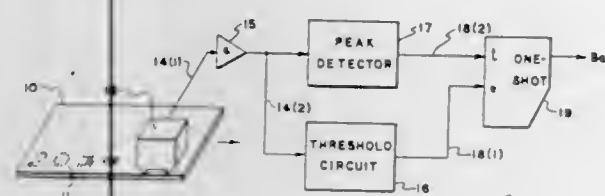
Leland J. Hanchett, Jr., Glendale, Ariz., Paul R. La Bahn, Santa Ana, Calif., and Richard E. Milford, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed May 31, 1966, Ser. No. 554,148

Int. Cl. G06k 9/00

U.S. Cl. 340-146.3

8 Claims



A symbol recognition system is disclosed for recognizing printed symbols on a document formed by a plurality of spaced bars, employing a detector for producing a signal pulse starting substantially at each bar center line and providing for measuring the spacings between the signal pulses to permit recognition of symbols having bars with printing imperfections.

3,539,990

MEANS AND METHODS FOR VALIDATING CREDIT CARDS

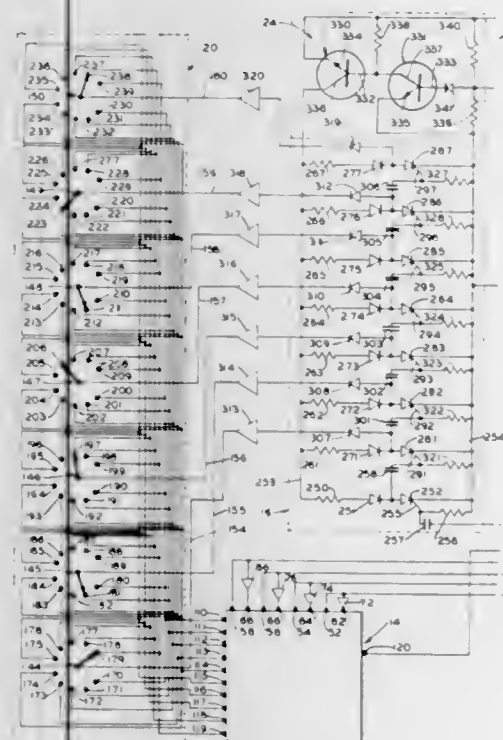
Randal J. Colvert, St. Louis, County, Mo., assignor of twenty percent to Joseph A. Fenlon, St. Louis County, Mo.

Filed Aug. 3, 1966, Ser. No. 569,901

Int. Cl. H04q 1/20; G11b 5/00

U.S. Cl. 340-149

9 Claims



This invention relates to a credit card validating system which enables an operator to set manually on a control panel any given card number, and to compare that given number, through electronic digital comparison techniques and a new and unique plus coded tape approach, against

a list of prerecorded card numbers which are to be dishonored. The comparison is made on a digit by digit match basis for each digit in each sequence against the given number, with automatic resequencing at the end of each preselected number.

3,539,991

FREQUENCY RESPONSIVE ELECTRONIC LOCK MECHANISM

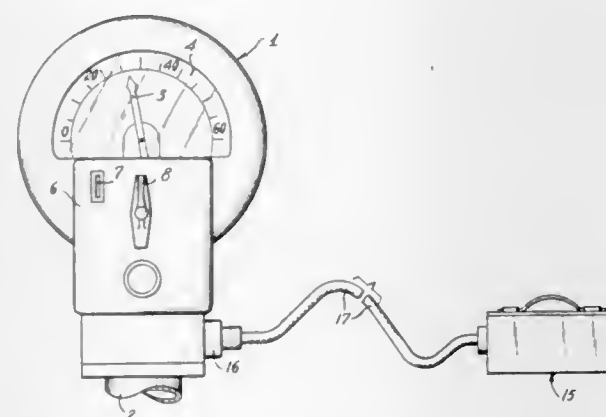
Carlos A. Irazoqui, New York, N.Y., assignor to Ragen Precision Industries, Inc., a corporation of New Jersey

Filed July 18, 1967, Ser. No. 654,171

Int. Cl. H04q 9/12

U.S. Cl. 340-171

8 Claims



The present invention relates to an actuating system responsive to a coded electrical signal. The invention may be particularly adapted for use as a locking system on a parking meter or some other similar device. In such an embodiment a portable encoder is provided which includes both a battery or other power source for providing an operating voltage, and a generator for producing coded electrical signals. The coin box on the parking meter is provided with a lock mechanism which may be selectively opened, in response to the proper coded signal, by the operating voltage from the encoder. A flexible electric cord is attached to the encoder and may be plugged into a suitable receptacle in the parking meter to complete the electrical circuits between the encoder and meter. Installed within the meter box is a decoder circuit which senses the presence of a coded signal and emits a command signal in response thereto. The command signal is returned to the encoder via a feedback circuit and causes the operating voltage to be supplied to the lock mechanism to open it. A logic circuit is provided as part of the decoder circuit in order to inhibit the system from operating should the operating voltage be applied before the coded signal or should an incorrect coded signal be applied. The coded signals may take the form of one or more electrical signals of different frequency or may include a series of coded digital signals.

3,539,992

MISSING CHARACTER DETECTOR

John J. J. Kernahan, La Grange, Ill., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Jan. 18, 1968, Ser. No. 698,925

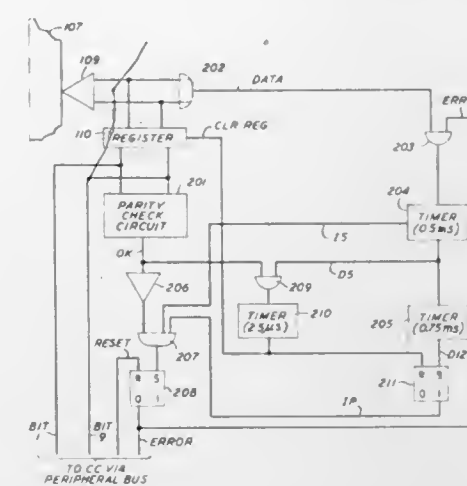
Int. Cl. G06f 11/10

U.S. Cl. 340-146.1

10 Claims

Circuitry is disclosed which checks the bit parity of characters obtained from a magnetic tape and which is responsive to the absence of a character within a block of such characters. The nominal time interval between characters on the tape is known and the receipt of a

character from the tape causes the circuit to start timing the interval within which the next character should ap-



pear. If the next character does not appear within this interval, a parity failure indication is generated.

3,539,993

HIGH-SPEED REGISTRATION TECHNIQUE FOR POSITION CODE SCANNING

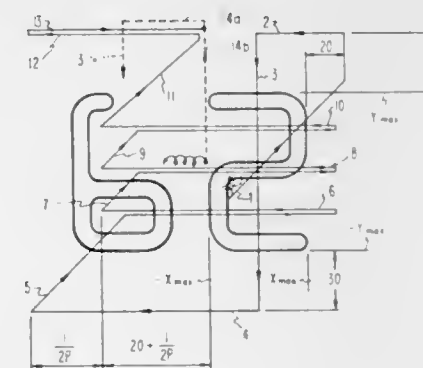
William W. Hardin and Reini J. Norman, Stewartville, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Feb. 28, 1967, Ser. No. 619,226

Int. Cl. G06k 9/04

U.S. Cl. 340-146.3

19 Claims



A cathode ray tube scanning system scans characters on a document so that they may be recognized. The scan pattern is a series of horizontal and vertical bars. A horizontal and a vertical voltage divider are provided for calculating reference positions used in the scan pattern. Track hold circuits set up the initial biasing of the voltage dividers. Based upon reference positions from this initial bias, the scan pattern begins. Resettable amplifiers monitor the deflection signals. Voltage discriminators detect where the scanning beam is in the scan pattern. To coordinate the amplifier signals with the voltage dividers, a reset circuit is provided which resets both the amplifiers and the voltage dividers to the same reference point on the character being read. As the scanning pattern proceeds the first character is read and the right-hand edge of the next character is detected. After the first character has been read the scan pattern is shifted horizontally by resetting the horizontal amplifier. The reset is based upon the right-hand edge detected for the next character. During the scanning of the next character the vertical reference positions in the scan pattern are reset by detecting the top of the next character and resetting the vertical voltage divider to that reference. If the next character is greatly misregistered with respect to the previous character, this condition is detected and a curve follow search and register routine is initiated.

3,539,994

ADAPTIVE TEMPLATE PATTERN CATEGORIZING SYSTEM

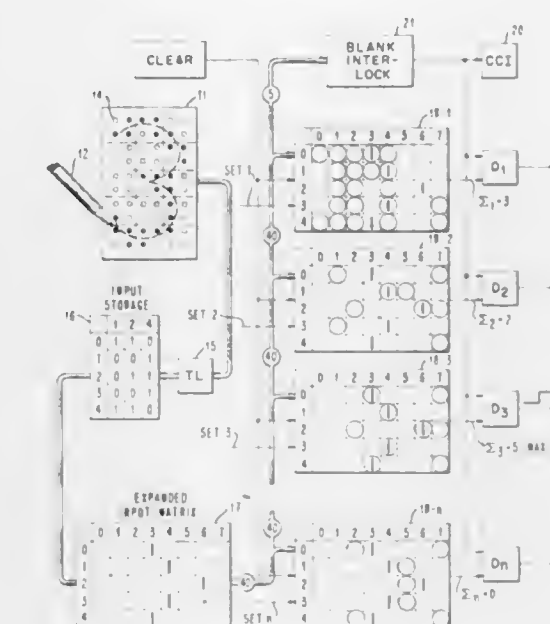
Genung L. Clapper, Raleigh, N.C., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 14, 1967, Ser. No. 667,836

Int. Cl. G06k 9/12; G11c 5/02

U.S. Cl. 340-146.3

3 Claims



A pattern categorization system in which a plurality of binary bits representing a pattern is expanded and applied in parallel to a group of previously trained adaptive templates for categorizing the pattern.

3,539,995

MATRIX FOR THE COORDINATE DETECTION OF POINT SOURCE RADIATION IN A TWO-DIMENSIONAL PLANE

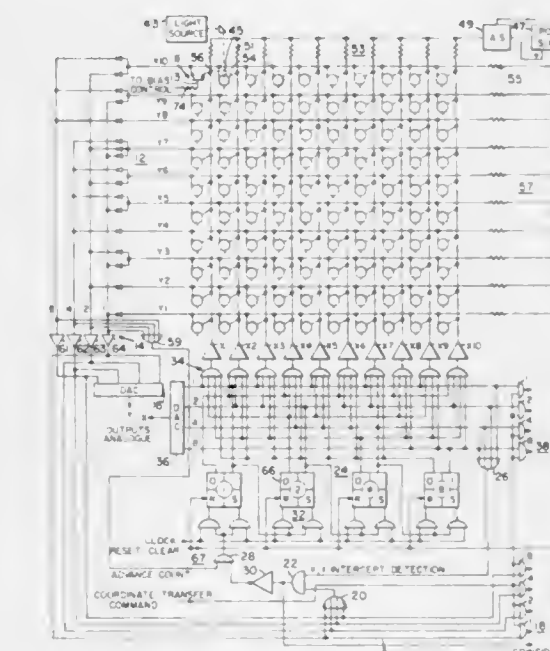
Raymond A. Brandt, 3215 Teton Drive NW., Huntsville, Ala. 35810

Filed Feb. 12, 1968, Ser. No. 704,667

Int. Cl. H04q 9/00

U.S. Cl. 340-166

10 Claims



The matrix will provide an output indicative of the interception of an x, y, coordinate by a point source of

light. The matrix is composed of a plurality of light activated silicon controlled rectifiers fed by a sustaining power supply such that once a rectifier is conducting, it will remain conducting until reset by a switch which disconnects the power supply. A stepping circuit directs, in steps, voltage along the x axis until a full output is obtained on the y axis, and at this point the stepping circuit is stopped and the desired output can be read out.

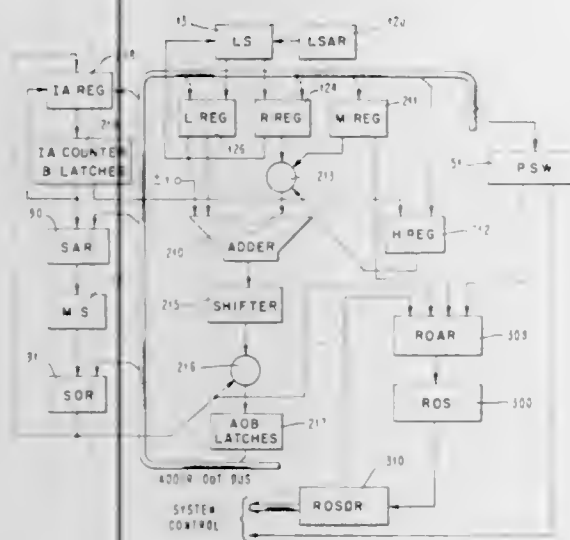
3,539,996 DATA PROCESSING MACHINE FUNCTION INDICATOR

Mark W. Bee, Hopewell Junction, Donald J. Lang, Wappingers Falls, and Alan D. Snyder, Hopewell Junction, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 15, 1968, Ser. No. 697,742
Int. Cl. G06f 11/00

U.S. Cl. 340—172.5

5 Claims



An electronic data processing machine including hardware controls for providing re-execution of instructions upon detection of a machine malfunction. The illustrative embodiment shows an electronic data processing machine which contains a read only control storage which controls execution of instructions contained in a stored program. Upon detection of an error, hardware controls will restore the machine to a previous correct state and attempt re-execution from said previous correct state.

3,539,997 SYNCHRONIZING CIRCUIT

John P. Mahony, Weehawken, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 5, 1962, Ser. No. 243,203
Int. Cl. G06f 7/02

U.S. Cl. 340—172.5

16 Claims

15. The method of establishing which bits in a bit stream are data bits and which are framing bits, where the framing bits appear in predetermined positions and

have a predetermined sequence of values, comprising the steps of

- (1) comparing to one another the values of bits in respective bit positions in successive equal length groups of bits,
- (2) registering which respective positions in said groups of bits have a sequence of bit values inconsistent with said predetermined framing sequence as ascertained by repetitions of the comparing step, and
- (3) counting the number of successive bit positions in the bit stream wherein the sequence of bit values has been ascertained as inconsistent with the predetermined framing sequence, whereby the framing bit positions are established when the number of successive bit positions counted is equal to the total number between the framing bit positions.

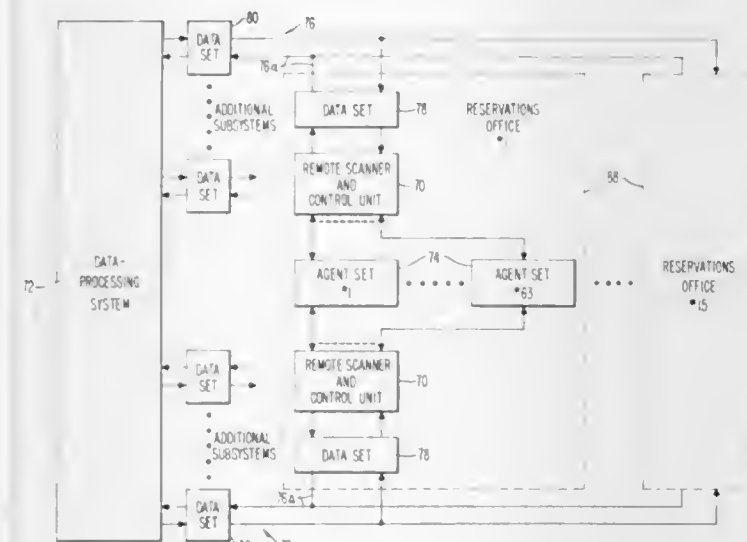
3,539,998 COMMUNICATIONS SYSTEM AND REMOTE SCANNER AND CONTROL UNITS

Richmond D. Belcher, Wayne, David L. Griffith, Media, and Richard G. Sacher, King of Prussia, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed July 12, 1967, Ser. No. 652,759
Int. Cl. H04j 3/06

U.S. Cl. 340—172.5

10 Claims



A communications terminal unit having a receive section and a transmit section provides communication service to a data processing system and to a number of devices which in one form are input/output devices. One or more of the inventive communications terminal units may be used in a given communications system, and each communications terminal unit has address capacity to service a number of the input/output devices. In the illustrated embodiment of the invention the input/output devices are agent sets.

Receive data transmitted from the data processing system is addressed to a specific communications terminal unit and to a specific input/output device served by that communications terminal unit. Each communications terminal unit monitors all data on the receive channel and accepts only those messages that are properly addressed to it. The communications terminal unit recognizes its address and the address of the specific input/output device and routes the message to the addressed input/output device.

The data processing system may send poll messages at any time, generally addressed to a specific communications terminal unit. Receipt of a properly addressed poll message by a communications terminal unit causes its transmit section to be activated and to service all its input/output devices that are awaiting transmit service to the data processing system.

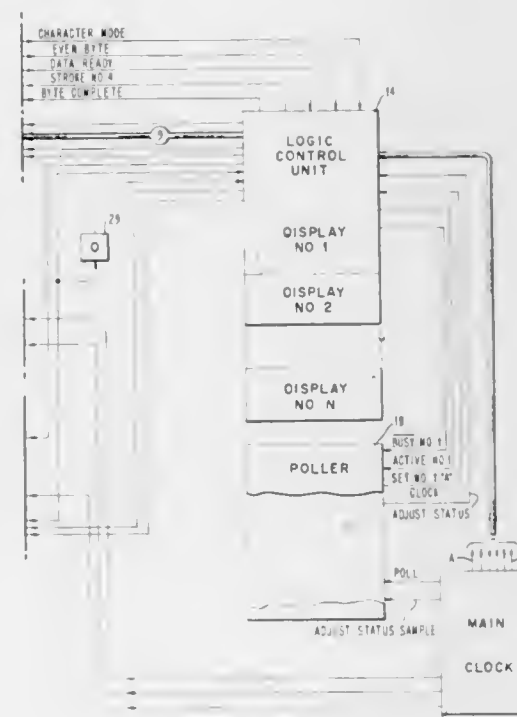
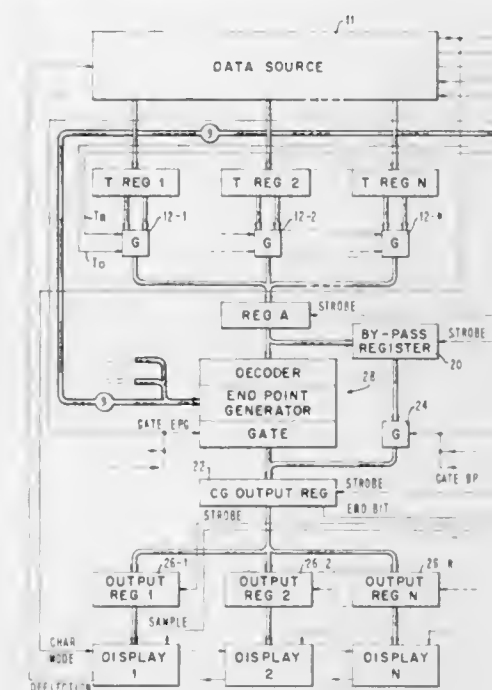
3,539,999 CONTROL UNIT FOR MULTIPLE GRAPHIC AND ALPHANUMERIC DISPLAYS

Russell Houldin, San Jose, Calif., and Robert J. Sippel, Kingston, and James T. Zahorsky, Saugerties, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 8, 1967, Ser. No. 659,122
Int. Cl. G06f 3/14

U.S. Cl. 340—172.5

12 Claims



Graphic and alphanumeric data for each display in a multiple display arrangement is inserted in a unique temporary store and retained an optimum variable length of time under control of unique circuit means responsive to the data source and the common transmission channel.

3,540,000 CRISS-CROSS SORTING METHOD AND MEANS

Dennis L. Bencher, Fishkill, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

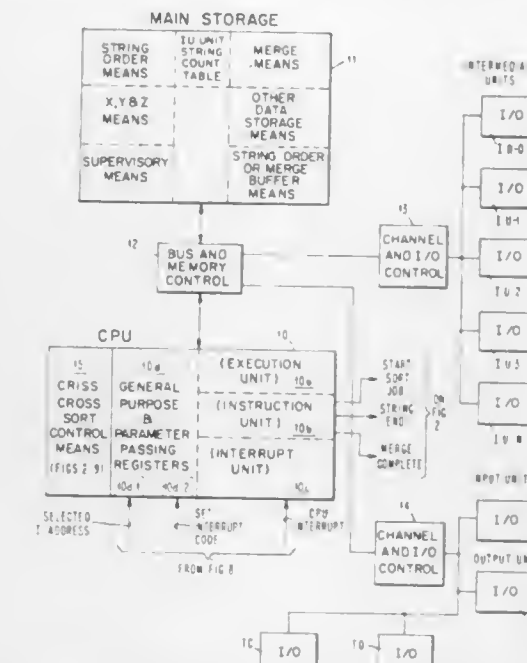
Filed Nov. 2, 1967, Ser. No. 680,260
Int. Cl. G06f 7/06

U.S. Cl. 340—172.5

30 Claims

A circuit arrangement for controlling the selection among N number of I/O units. Initial strings are written on $(N-1)$ of these I/O units before these strings are

read, merged and written onto the N th I/O unit. The circuit arrangement causes this operation to be repeated $(N-1)$ times on different I/O units, which results in recording a base level of $(N-1)$ merge strings on $(N-1)$ respective I/O units, wherein each merge string includes $(N-1)$ initial strings.



Then a merge string is written on each of $(N-2)$ of the I/O units, selecting them in reverse order, the N th unit of the base level contains no string. These $(N-2)$ merge strings are controlled to merge with one of the base level merge strings, resulting in a group-merge string that includes $(N-2)^2$ initial strings being written on the N th I/O unit. This is repeated $(N-1)$ times and yields a new base level of group-merge strings, each including $(N-1)^2$ initial strings. Continuing in this manner, successive base levels of initial string length $(N-1)^3$, $(N-1)^4$, etc. may be generated and written until an end-of-file is reached. At this point, an $(N-1)$ way merge is performed to write the final output.

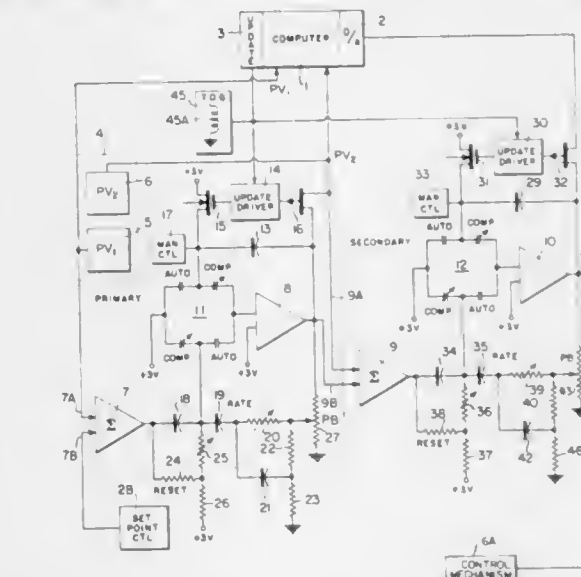
3,540,001 CONTROL CIRCUIT

Joseph Gornley, Southampton, and James A. Hogan, Hatfield, Pa., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 27, 1967, Ser. No. 678,672
Int. Cl. G05b 15/00

U.S. Cl. 340—172.5

9 Claims



The circuit disclosed provides control means for an industrial process. The control means includes a two stage or cascaded controller network whereby a plurality of variables may be controlled. The cascaded controllers provide a back-up control for a computer which normally directs the process.

3,540,002

CONTENT ADDRESSABLE MEMORY

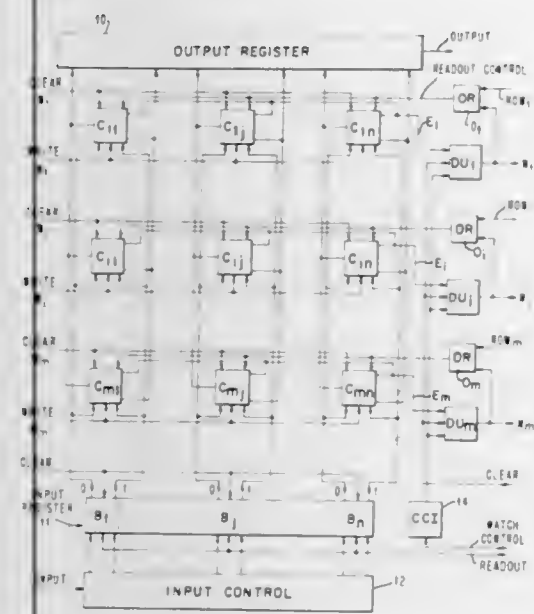
Genung L. Clapper, Raleigh, N.C., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Feb. 26, 1968, Ser. No. 708,333

Int. Cl. G11c 15/00

U.S. Cl. 340—172.5

11 Claims



A word oriented solid state content-addressable memory having a four-state input register with one position for each bit position in the word for simultaneously applying an input code to all bit positions of each word in the memory. Each memory element matching the associated input bit providing a discrete output to an associated word summation line. A decision unit connected to each summation line and to a common interlock circuit indicates that summation line having the highest output and thus the match or best match for the input.

3,540,003

COMPUTER MONITORING SYSTEM

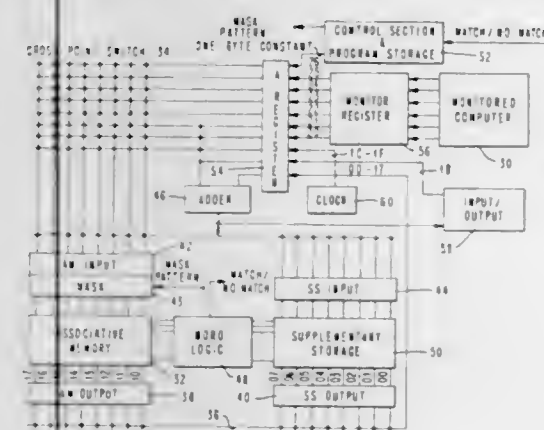
Robert W. Murphy, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 10, 1968, Ser. No. 735,892

Int. Cl. G06f 11/00

U.S. Cl. 340—172.5

5 Claims



Apparatus for monitoring the operation of a computer and for accumulating statistics relative to the activity of various elements of the computer or for plotting the performance of its program. The monitor includes an associative memory for retaining data corresponding to states of the computer and a supplementary storage for collecting statistics relative to the states stored in the associative memory. Data path switching controlled by a program in the monitor is provided so that monitored data may be routed to any field of the associative memory. This allows the execution of parallel program instructions, and simultaneous routing of data for real-time analysis of the computer operation.

3,540,004

BUFFER STORAGE CIRCUIT

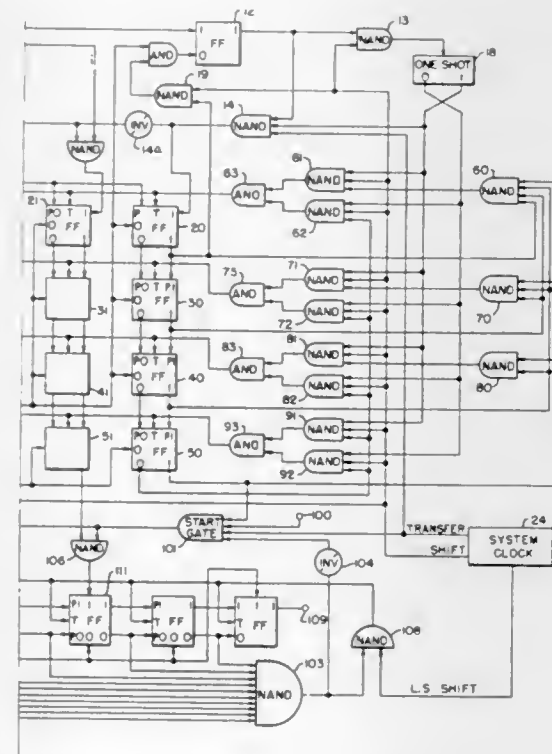
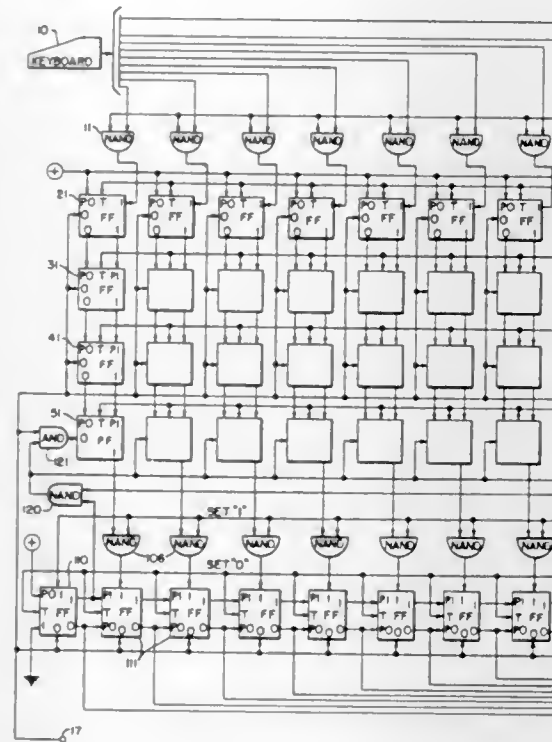
Theodore A. Hansen, Park Ridge, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed July 5, 1968, Ser. No. 742,888

Int. Cl. G11c 19/00

U.S. Cl. 340—172.5

7 Claims



A multi-stage buffer storage circuit in the form of a multi-level, multi-stage shift register is placed between the parallel output of a keyboard or a receiving distributor and a transmitting distributor for the purpose of interfacing between a slow speed input and a relatively high speed output. Information is obtained from the register on demand of an external facility, such as a computer; and information is shifted through the register to an output stage or a subsequent stage under the control of high-speed shift pulses. If a stage of the register already has information stored in it, the shifting pulses are blocked from shifting additional information into that stage. If a plurality of subsequent stages of the register are empty at the time information is stored in the input stage, the information rapidly is shifted through succeeding stages into the output stage or the last stage which has no information stored in it.

3,540,005

DIODE COUPLED READ AND WRITE CIRCUITS FOR FLIP-FLOP MEMORY

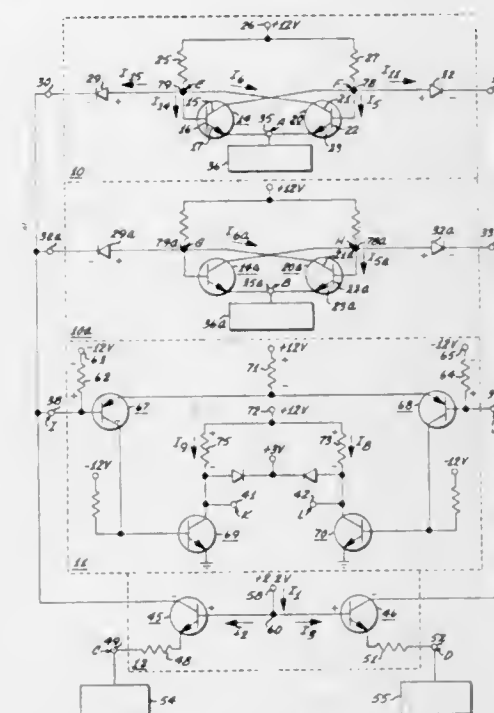
Donn E. Bernhardt and John R. Nowell, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed June 7, 1967, Ser. No. 644,370

Int. Cl. G11c 7/00, 11/40; H03k 3/26

U.S. Cl. 340—173

8 Claims



Flip-flops store data words in response to two-level input signals and two-level word selection signals without the use of coincidence logic gates. Each flip-flop employs two transistors cross-coupled to each other. The emitters of both transistors are connected to a source of synchronizing pulses and the collector of each transistor is coupled to a source of binary signals. The value of the binary signals and the value of the synchronizing pulses are selected so that the simultaneous application of binary signals and synchronizing pulses set the flip-flop to the desired state.

3,540,006

ELECTROCHEMICAL COMPUTER MEMORY DEVICE

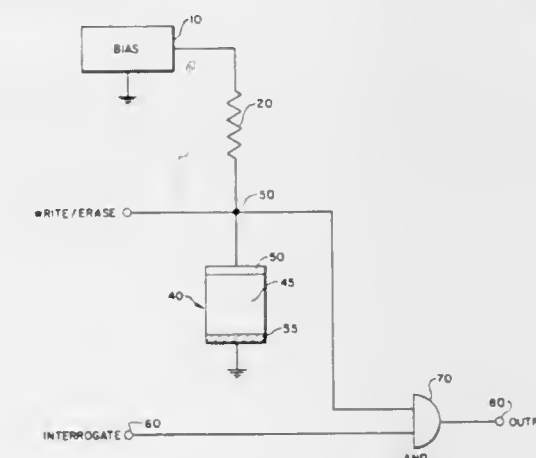
George Lauer, Hollywood, Calif., assignor to North American Rockwell Corporation

Filed Aug. 30, 1967, Ser. No. 664,467

Int. Cl. H03k 4/88; G11c 13/02

U.S. Cl. 340—173

4 Claims



A nonvolatile memory device employs a solid state electrochemical capacitor which becomes either conducting or nonconducting after being pulsed by a current of sufficient amplitude and polarity and remains in such conducting or nonconducting state until re-pulsed by a current of opposite polarity and sufficient amplitude.

3,540,007

FIELD EFFECT TRANSISTOR MEMORY CELL

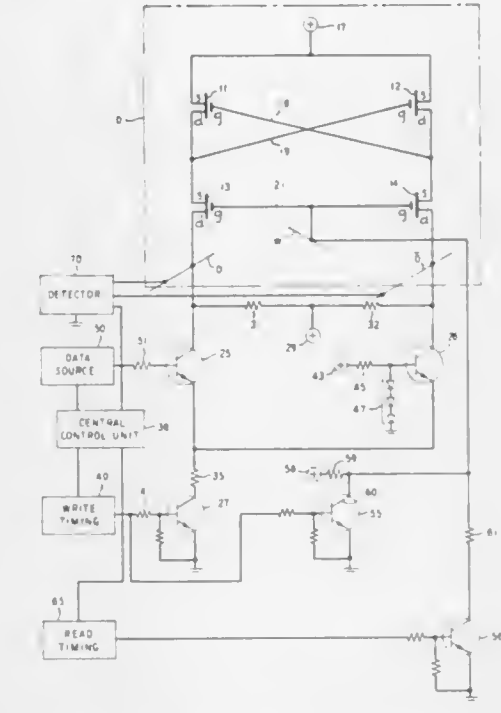
David A. Hodges, Mountainside, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Oct. 19, 1967, Ser. No. 676,491

Int. Cl. G11c 7/00, 11/40; H03k 3/286

U.S. Cl. 340—173

6 Claims



A cross-coupled flip-flop stage, or memory cell, for a word oriented array of memory cells is developed from four insulated-gate field-effect transistors which perform storage, loading, and gating functions of the cell. The functions of the cell are controlled by three different voltage levels coupled by a word line to all cells of a memory word.

Associated with the array are bipolar transistor word-line-select and digit-write circuits used for achieving a low select-read-write cycle time for the memory cells.

3,540,008

SOLID STATE STORAGE DEVICES HAVING NON-CORONA EXTINCTION CAPABILITY

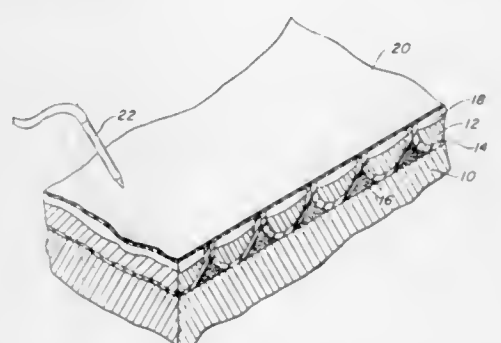
Paul F. Evans, Pittsford, and Harold D. Lees, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 20, 1967, Ser. No. 692,150

Int. Cl. G11c 11/42

U.S. Cl. 340—173

18 Claims



Several methods of non-corona extinction of solid state storage devices and the associated structure for carrying out said methods are disclosed herein. The primary method involves the application of a potential to a transparent dielectric layer having specified electrical properties which overlays the field-effect semiconductor layer in a solid state storage device of the class to which the present invention relates to bring about the extinction of electro-luminescent phosphors of the image storage device. An.

alternative approach utilizes a stream of moist air directed toward the control layer of a solid state display device to darken it.

3,540,009

CONTROLLED SWITCH STORE FOR EXTENDING SAMPLING TIME INTERVALS

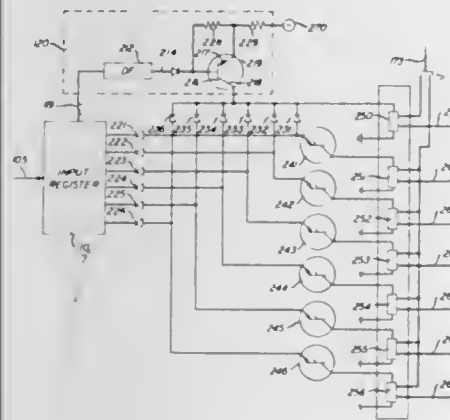
Anthony J. Donato and Paul R. Miller, Gahanna, Ohio, assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed May 31, 1968, Ser. No. 733,399

Int. Cl. G11c 11/34; H03k 3/26

U.S. Cl. 340—173

10 Claims



A store circuit includes a group of controlled switches to store received information for a predetermined time. Each controlled switch is connected to a source that generates a pulse when information is in the register. The generated pulse is applied to each controlled switch after information is transferred thereto to maintain the information stored in the switch for the duration of the pulse. The state of each controlled switch is sampled in this time interval and the stored information is transferred to a utilization device.

3,540,010

DIODE-COUPLED SEMICONDUCTIVE MEMORY

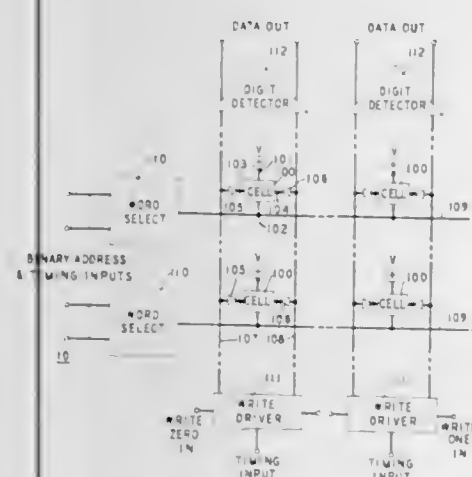
John D. Heightley, Basking Ridge, Dennis J. Lynes, Madison, and William C. Slemmer, Chatham, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Aug. 27, 1968, Ser. No. 755,590

Int. Cl. G11c 11/36

U.S. Cl. 340—173

9 Claims



A semiconductor memory system characterized in that simple storage cells are coupled through diodes to the

information lines. The invention is advantageously employed in a memory comprising semiconductive integrated circuit arrays.

3,540,011

ALL SOLID STATE RADIATION IMAGERS

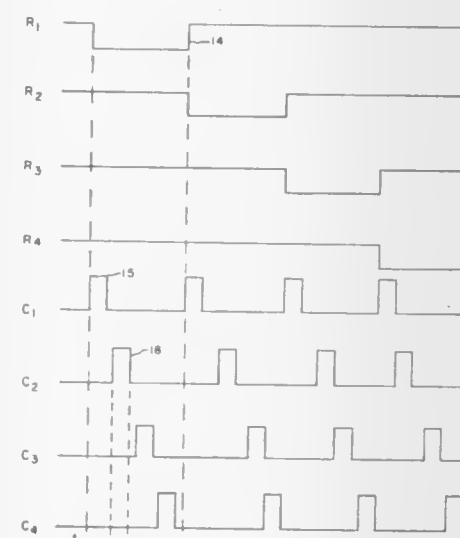
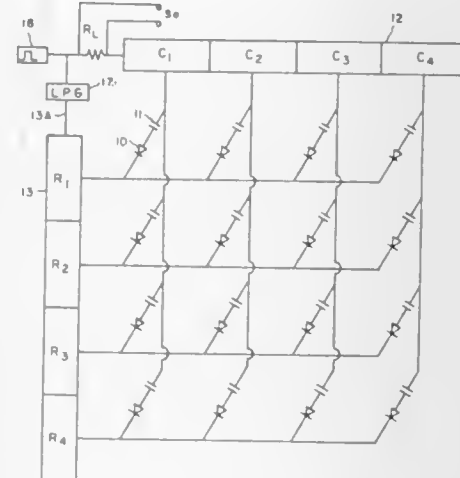
Edward H. Stupp, Spring Valley, Pieter G. Cath, Briarcliff, and Zolt Szilagy, Ossining, N.Y., assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 6, 1968, Ser. No. 758,086

Int. Cl. G11c 11/36, 11/42

U.S. Cl. 340—173

5 Claims



A flat screen target for receiving and storing an optical image is composed of an array of photosensitive diode elements each serially connected with a capacitor to form an array of two terminal devices having each of their respective first terminals interconnected along a plurality of row lines and each of their respective second terminals connected along a plurality of column lines. Sequential coincident pulses are applied along respective row and column lines for reading the stored condition of each two terminal device.

3,540,012

CRT DISPLAY EDITING CIRCUIT

Carl W. Ehrman, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,670

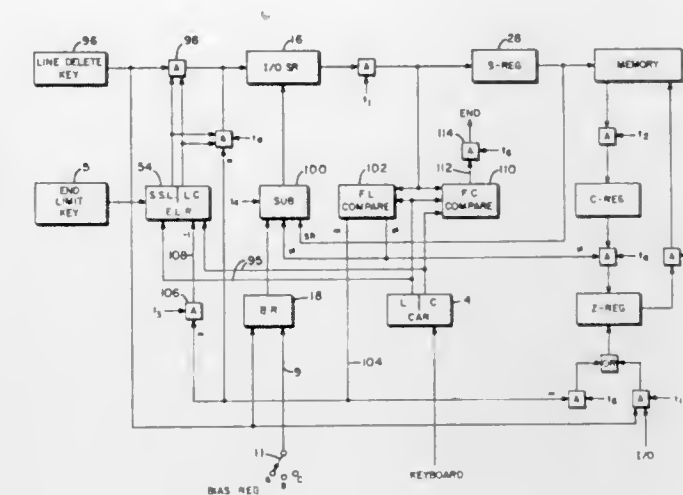
Int. Cl. G06f 3/14

U.S. Cl. 340—172.5

4 Claims

In a CRT display unit having characters displayed in lines and columns, an editing circuit for enabling an

operator to select a window of characters on the display having selectively variable line and column boundaries



and causing predetermined ones of the lines of characters in the window to be shifted upward or downward one or more lines.

3,540,013

MECHANICAL MEMORY DEVICE, MAGNETICALLY ACTUATED

Pierre Duchemin, Le Vesinet, and Jean-Claude Etienne, Le Chesnay, France, assignors to La Telemecanique Electrique, Nanterre, Hauts-de-Seine, France, a joint-stock company of France

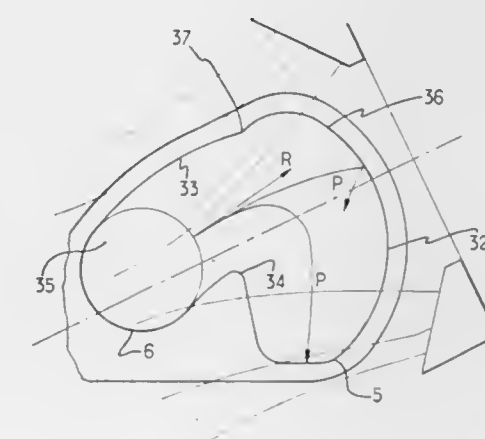
Filed Nov. 27, 1968, Ser. No. 779,471

Claims priority, application France, Dec. 1, 1967, 130,719

U.S. Cl. G11c 23/00

U.S. Cl. 340—173

7 Claims



The invention relates to improvements to numerical read-out systems for moving bodies which fundamentally utilize a movable mass rolling in a block provided with a conduit, said mass resting alternately through gravity in two cavities of the conduit which has the shape of an inverted V with two downwardly directed branches. According to the invention, the branches are curved and correspond to the course of the movable mass which has the shape of a thin-walled cylinder. The curved branches permit, under the influence of a magnetic field, the resultant of which corresponds to the direction of one branch of the V inclined with regard to a horizontal line, the said course to be approximately an arc of parabola above the ridge separating the curved branches.

3,540,014 ELECTROLYTIC METHODS AND APPARATUS FOR STORAGE OF INFORMATION

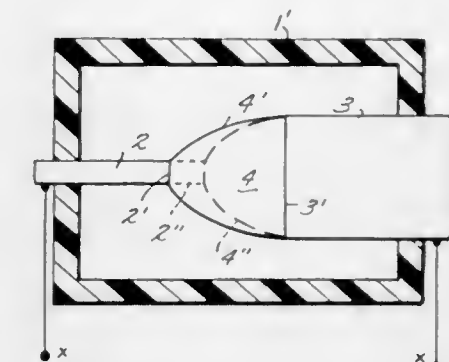
William J. Finney, 570 Apple Valley Road, Accokeek, Md. 20607

Continuation-in-part of application Ser. No. 303,441, Aug. 20, 1963, which is a continuation of application Ser. No. 798,710, Mar. 11, 1959. This application Oct. 10, 1969, Ser. No. 865,395

Int. Cl. G11c 13/02, 27/00

U.S. Cl. 340—173

27 Claims



A system and method for reproducing a time-varying signal waveform having a bandwidth time-duration product of greater than one-half including apparatus for forming a single-crystal solid body by electrolytic deposition wherein the body has successive superimposed layers of material with different layers having differing elemental internal composition. An electrolyte is provided together with a pair of electrodes and the characteristics of the electrolyte are varied in accordance with a signal that is to be recorded so as to cause the internal compositions of the successive layers to differ from one layer to another as the recording process progresses. Apparatus is also provided for progressively electrolytically dissolving the successive layers of the single-crystal body to recover a substantial replica of the recorded signal waveform.

3,540,015

SELECTION CIRCUIT FOR CORE MEMORY

Nico Nissen, Hamburg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

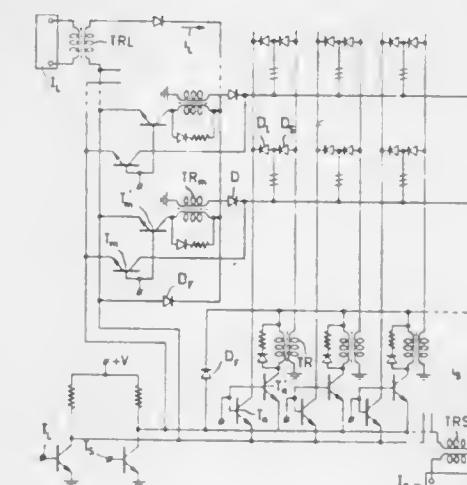
Filed June 5, 1967, Ser. No. 643,553

Claims priority, application Germany, June 30, 1966, P 39,825

Int. Cl. G11c 7/00

U.S. Cl. 340—174

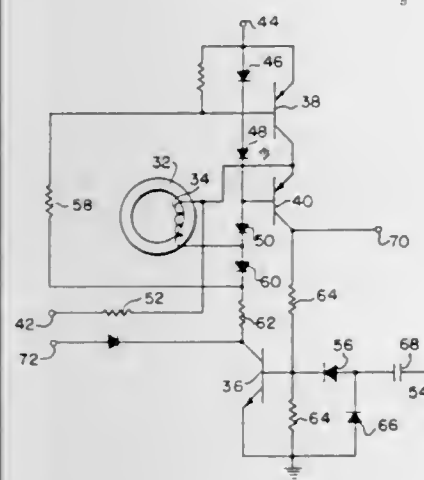
2 Claims



A group selection circuit for a magnetic core memory utilizing a common current source and a plurality of core line selection switches each connected across the

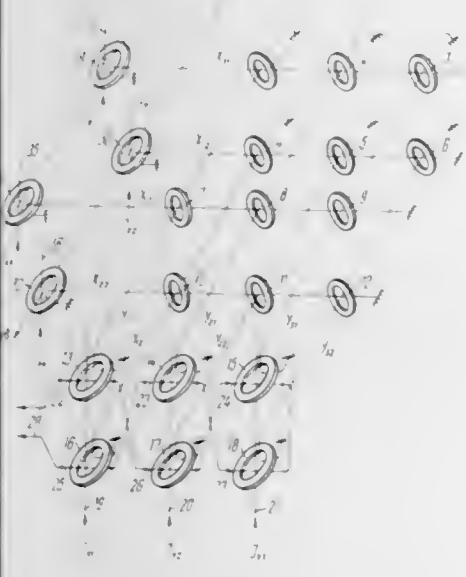
common current source. Each switch consists of a series connected transistor emitter-collector path and the primary winding of a transformer. The transformer secondary winding is connected, via a diode, to the core selection line.

3,540,016
MAGNETIC STORAGE INTEGRATED CIRCUIT FOR PERFORMING LOGICAL FUNCTIONS
 Sadia S. Guterman, Jamaica Plain, and Robert D. Kodis, Brookline, Mass., assignors to Di/An Controls, Inc., Boston, Mass., a corporation of Massachusetts
 Filed Nov. 9, 1965, Ser. No. 507,080
 Int. Cl. G11c 7/00; H01l 19/00; H03k 19/08
 U.S. Cl. 340-174 9 Claims



An integrated device comprises a single magnetic core, at most two windings and a logic circuit, all encapsulated as a unit. The logic circuit serves to enable the performance of all of the usual functions of the magnetic core notwithstanding the small number of windings.

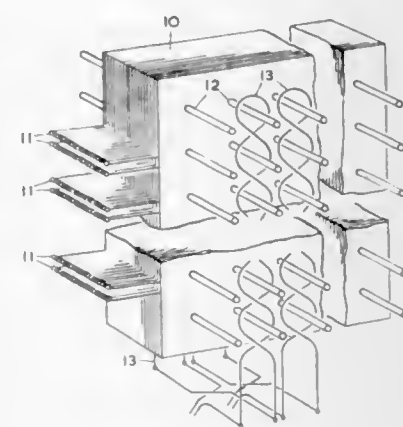
3,540,017
PULSE TRANSFORMER DRIVEN MEMORY MATRIX
 Alexei Sergeevich Fedorov, 1 Ulitsa Izmalovskogo zverintsa 7, kv. 1, Moscow, U.S.S.R.
 Filed July 12, 1967, Ser. No. 652,882
 Int. Cl. G11c 5/02, 11/06, 7/02
 U.S. Cl. 340-174 2 Claims



A memory unit comprises a matrix of a plurality of memory elements, the number of memory elements being equal to the number of digits the matrix can

memorize, the matrix consisting of columns and rows of magnetic elements. Each of the magnetic elements along the columns and rows is coupled with two orthogonal busbars arranged to feed the magnetic elements with partial switching currents, the magnetic elements being located only at cross points of even columns and even rows and of odd columns and odd rows. A pulse transformer is associated with an individual one of the columns of the matrix, each transformer having first, second and third windings. The first winding of each transformer is connected to the busbar which is coupled to the memory elements of the associated column of the matrix, the transformer being divided into pairs, each pair corresponding to an odd and an even column which are adjacent, the second windings of each pair of transformers being connected together, the third windings of each pair of transformers being connected in opposition and all the third windings being connected in series to form a reading winding.

3,540,018
READ-ONLY MAGNETIC DATA STORE
 Vinodchandra Jatashanker Shah, London, England, assignor to English Electric Computers Limited, London, England, a British company
 Filed Dec. 18, 1967, Ser. No. 691,660
 Int. Cl. G11c 5/02, 11/04, 17/00
 U.S. Cl. 340-174 1 Claim

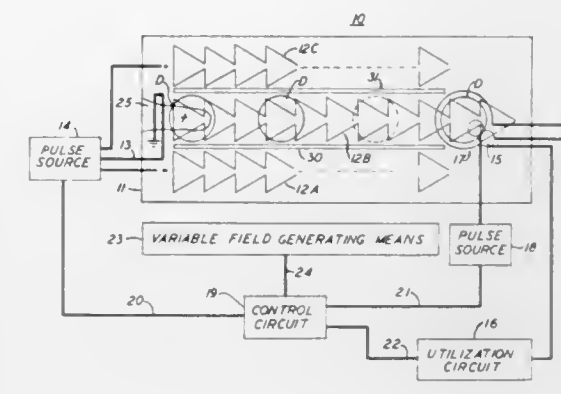


A read-only memory comprises a rectangular array of ferrite rods, each row of rods having a plurality of drive lines coupled to selected ones of the rods in the row. A separate sense line is coupled to each column of rods. Energisation of a drive line therefore causes an associated stored word to appear on the sense lines. Each line is coupled to adjacent rods in the column in opposite senses, thereby minimising the effects of coupling from one rod to adjacent rods. Each sense line also comprises two sensing windings on each rod, one at each end of the rod, thereby minimising the effect of the position of the drive winding on the amplitude of the output signal.

3,540,019
SINGLE WALL DOMAIN DEVICE
 Andrew H. Bobeck, Chatham, and Robert F. Fischer, Livingston, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
 Filed Mar. 4, 1968, Ser. No. 710,031
 Int. Cl. G11c 11/14, 19/00
 U.S. Cl. 340-174 10 Claims

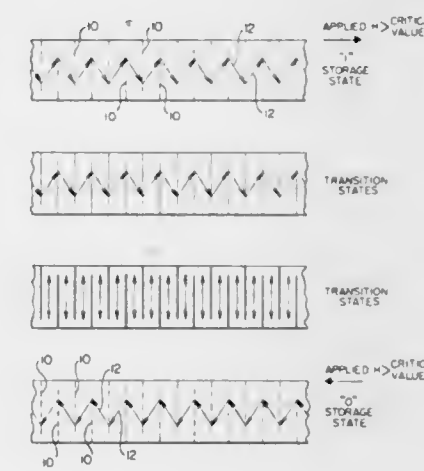
Propagation of single wall domains in a sheet of magnetic material is achieved in the absence of multiphase propagation wiring. Unidirectional movement of domains along propagation channels in a magnetic sheet is effected by a superimposed magnetic layer patterned to convert alternate expansion and contraction of domains

into translation along prescribed axes. Propagation is powered by a modulated bias field in one alternation of which are useful over a range of operating parameters different from the range over which single wall domains are useful. The different operating parameters permit the



which all domains in the sheet first expand and then contract.

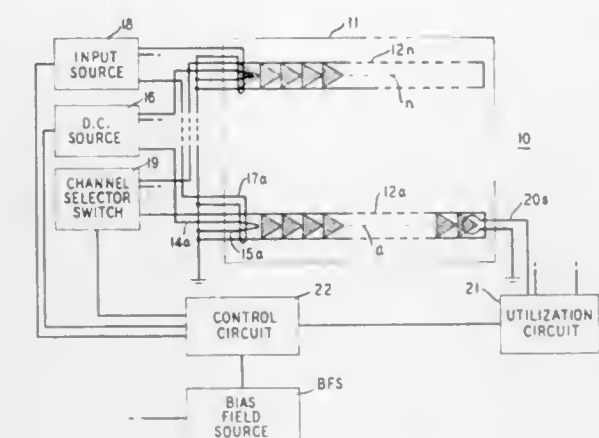
3,540,020
MAGNETIC STORAGE DEVICE HAVING A RIPPLED MAGNETIZATION PATTERN AND PERIODIC EDGE DISCONTINUITIES
 Sidney J. Schwartz, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
 Filed Apr. 3, 1967, Ser. No. 627,820
 Int. Cl. G11c 11/14, 5/02
 U.S. Cl. 340-174 6 Claims



Magnetic storage devices consisting of narrow strips of thin magnetic film material having an established stable rippled magnetization pattern are disclosed in which adjacent magnetization vectors are displaced alternately in a clockwise direction and a counter-clockwise direction. The periodic reproducibility of the magnetic domains that create the rippled magnetization pattern of the present disclosed invention is enhanced by introducing periodic discontinuities along the edges of the thin magnetic film strips.

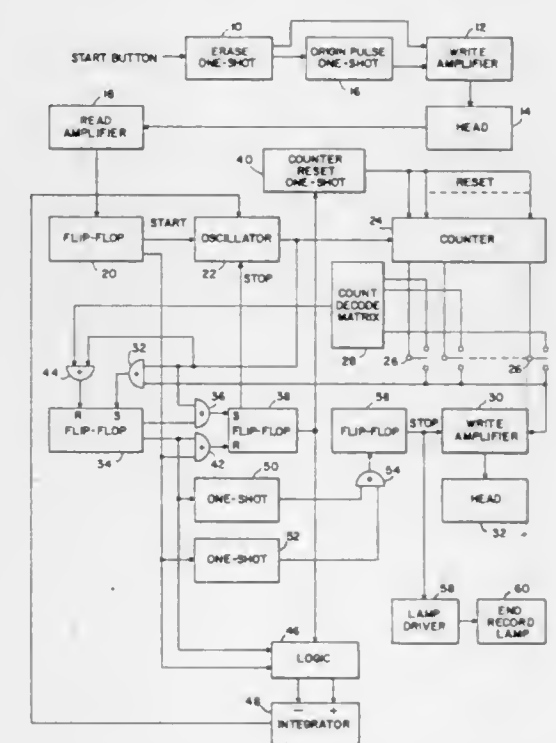
3,540,021
INVERTED MODE DOMAIN PROPAGATION DEVICE
 Andrew H. Bobeck, Chatham, Robert F. Fischer, Livingston, and Henry E. D. Scovil, New Vernon, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
 Filed Aug. 1, 1968, Ser. No. 749,433
 Int. Cl. G11c 19/00, 11/14
 U.S. Cl. 340-174 12 Claims

A single wall domain propagation device operating in an inverted mode is described. Information is represented as the presence and absence of interdomain spacings



use of more readily available magnetic materials which are relatively easy to tailor to device requirements for information propagation.

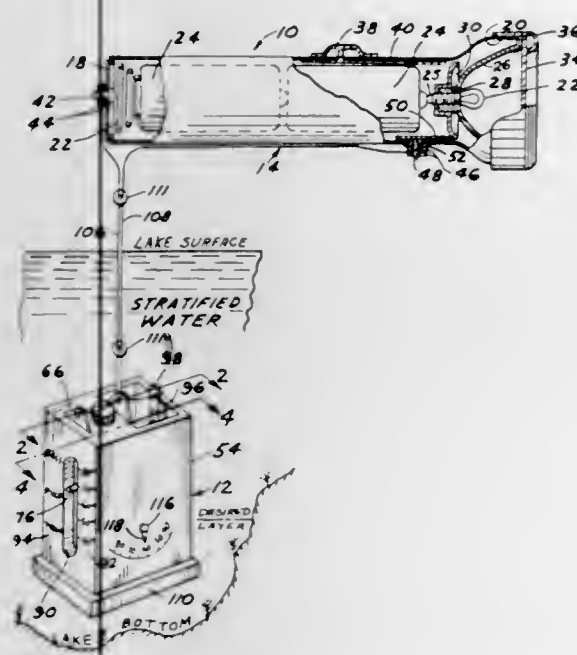
3,540,022
ROTATING MEMORY CLOCK RECORDER
 James K. Berger, Sherman Oaks, Calif., assignor to Singer-General Precision, Inc., a corporation of Delaware
 Filed Mar. 15, 1968, Ser. No. 713,547
 Int. Cl. G11b 23/30, 27/10, 27/12
 U.S. Cl. 340-174.1 7 Claims



Electronic apparatus for magnetically recording a pre-selected number of clock pulses on a rotating magnetic memory. The reference pulse is recorded on the clock channel and, upon the next rotation, this initiates the recording of a pre-selected number of clock pulses, at some arbitrary frequency on an auxiliary recording channel. Circuitry detects the lack of closure or the overlap between the reference pulse and the end of the clock pulses and automatically adjusts the frequency of the clock recording oscillator to achieve coincidence. The recorded clock is then transferred from the auxiliary recording channel to the clock channel. During this transfer, the pulses are smoothed to remove phase jitter.

3,540,023 FISHERMAN'S WATER TEMPERATURE LOCATING APPARATUS

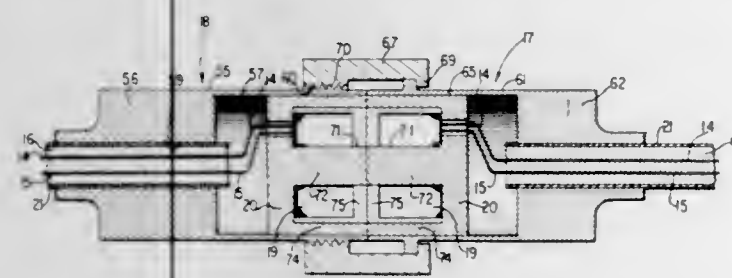
Walter Potoroka, Sr., Rochester, Mich.
(3505 Adams Road, Lake Orion, Mich. 48035)
Filed Feb. 13, 1967, Ser. No. 615,829
Int. Cl. A01k 97/12; G08b 21/00; G12b 1/02
U.S. Cl. 340—227.1 10 Claims



This application discloses inexpensive apparatus, the operation of which is based on published scientific evidence that each species of game fish is found most frequently at a particular temperature or temperature range, that includes an element that can be set for a desired temperature (species) and lowered into thermally stratified water until the desired temperature is reached, at which time a signal will be automatically produced, the signal portion of the preferred electrical embodiment of the apparatus comprising an ordinary flashlight simply modified for such use but still usable for its original purpose and other purposes.

3,540,024 SYSTEM WITH INDUCTIVELY COUPLED TEMPERATURE SENSING UNITS

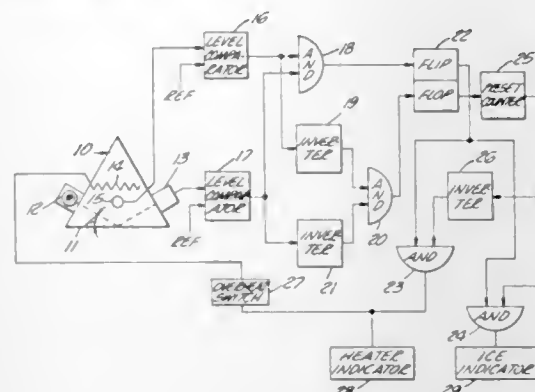
Roger B. Jones, North Caldwell, N.J., assignor to Walter Kidde & Company, Inc., Belleville, N.J., a corporation of Delaware
Filed Sept. 24, 1968, Ser. No. 762,115
Int. Cl. G08b 17/00
U.S. Cl. 340—228 6 Claims



A temperature sensing system including a thermistor element composed of inductively coupled sections joined end to end, and a circuit connected to one end of the element for detecting a change in the resistance of the thermistor material by monitoring the impedance reflected back to the circuit through the inductive couplings.

3,540,025 ICE DETECTOR

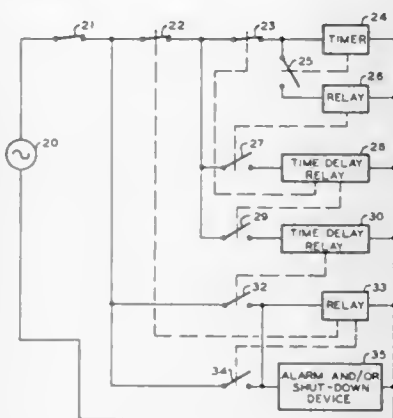
Berton P. Levin, Studio City, and Clark I. Bright, Encino, Calif., assignors to The Sierracin Corporation, Sylmar, Calif., a corporation of California
Filed Jan. 20, 1967, Ser. No. 610,667
Int. Cl. G08b 21/00
U.S. Cl. 340—234 4 Claims



A total internal reflection type of ice detector for aircraft or the like together with logic circuitry for discriminating against signals caused by conditions other than icing. The detector includes a prism having at least one surface on which ice or other foreign matter may be deposited. Light sensing means sense light internally reflected in said prism. A sensor is provided for sensing the temperature of the prism, as is a heater for raising the temperature of the prism upon a command from logic circuitry. The circuitry itself detects and compares with a reference the temperature of the prism and output of light sensing means and performs various logical operations on the resultant signals, giving an indication when the foreign matter deposited on the prism is ice. This is accomplished by providing a sensor for sensing the temperature of the prism and a heater for raising the temperature of the prism upon a command from the logic circuitry. The circuitry itself detects and compares with a reference the temperature of the prism and output of the photodetector and performs various logical operations on the resultant signals, giving an indication when the foreign matter deposited on the prism is ice.

3,540,026 DELAY MECHANISM FOR MONITORING DEVICES

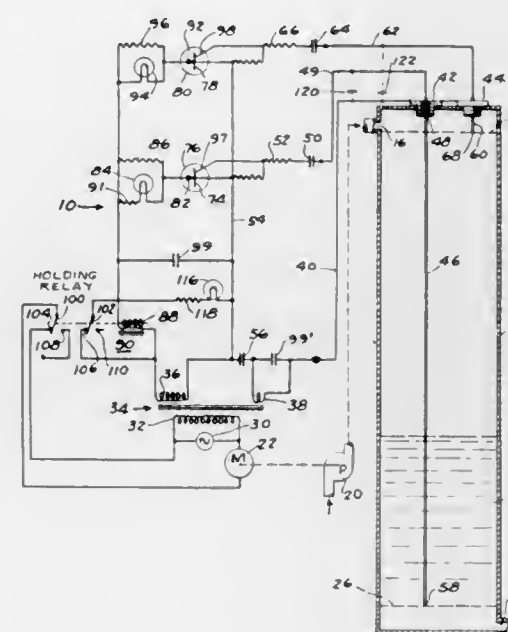
Thomas L. Scott, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 19, 1967, Ser. No. 676,412
Int. Cl. G08b 21/00
U.S. Cl. 340—239 4 Claims



A safety monitoring device is provided with a delay mechanism which counts the number of output signals from the monitoring device in a predetermined time interval. An alarm or shut-down system is activated only when the number of such output signals exceeds a pre-selected value, thereby preventing unnecessary alarms or shutdowns if only momentary disruptions occur.

3,540,027 LIQUID LEVEL CONTROL AND INDICATING APPARATUS

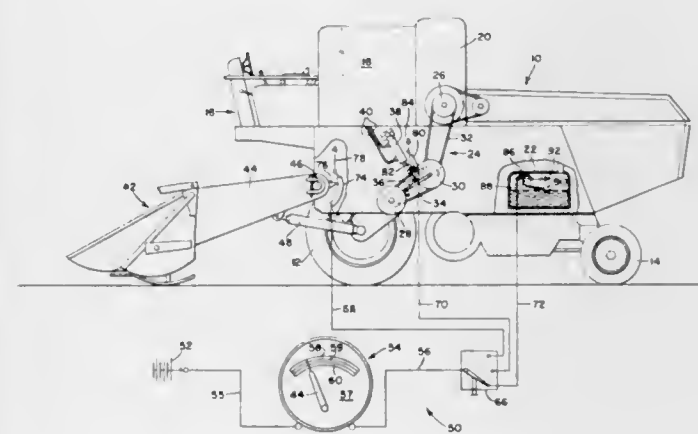
Robert W. Rauth, Port Huron, and Yee Lee, Lexington, Mich., assignors to The Bin-Dicator Company, Detroit, Mich., a corporation of Michigan
Filed Feb. 17, 1966, Ser. No. 528,309
Int. Cl. G08b 21/00
U.S. Cl. 340—244 3 Claims



A holding relay having its actuating coil connected in series with paralleled control branch circuits, one of which is controlled by a high level probe and the other of which is controlled by a low level probe. When the high level probe and the low level probe both contact the liquid, the combined current through both branch circuits energizes the relay, but after initial energization the current through the branch controlled by the low level probe is sufficient to maintain the relay energized. However, the current through the branch circuit controlled by the low level probe is insufficient to initially energize the relay.

3,540,028 SYSTEM FOR INDICATING VARIABLE HARVESTING MACHINE CONDITIONS

Mahlon Lloyd Love, Zweibrücken, Germany, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Aug. 14, 1967, Ser. No. 660,347
Claims priority, application Germany, Oct. 11, 1966, D 51,275
Int. Cl. A01d 75/00; G08b 19/00
U.S. Cl. 340—267 3 Claims

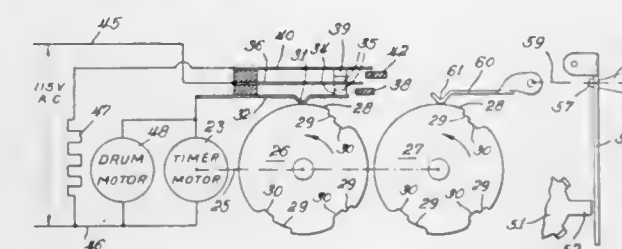


A self-propelled combine having a vertically adjustable header, an infinitely variable belt type propulsion drive, and an integrated indicating system having a single indicator at the operator's station responsive to the current in

an electric circuit, the current being alternately and selectively varied by variable resistances responsive to the vertical position of the header, the ratio in the infinitely variable drive, and the quantity of fuel in the fuel tank.

3,540,029 APPLIANCE TIMER WITH BUZZER CONTROL

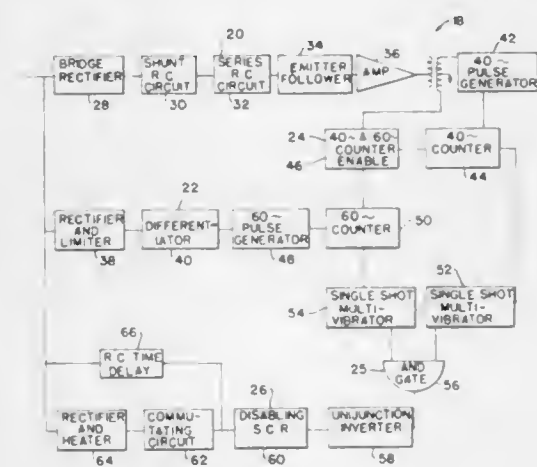
Ronald M. Bassett, Chicago, Ill., assignor to International Register Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 14, 1967, Ser. No. 690,519
Int. Cl. G04c 21/18
U.S. Cl. 340—309.1 14 Claims



A motor driven timer for an electrical appliance is arranged to place in operation a buzzer operated by the motor in advance of the termination of an operating cycle to signal audibly such termination.

3,540,030 STRUCTURE FOR AND METHOD OF POWERLINE LOAD REMOTE CONTROL

Frank M. Hartz, Detroit, Mich., assignor to The Detroit Edison Company, Detroit, Mich., a corporation of New York
Continuation of application Ser. No. 514,188, Dec. 16, 1965. This application Sept. 29, 1969, Ser. No. 863,015
Int. Cl. H02j 13/00
U.S. Cl. 340—310 6 Claims



A structure for and method of taking a load off a power distribution system for a predetermined time in response to a signal sensed at a remote location from a power generation location is disclosed. The means for effecting removal of the load from the distribution system is responsive to the full power of the distribution system in accordance with the method disclosed. More specifically structure at the utilizing location for removing the load includes means for counting control signals impressed on an alternating power signal at the power generation location in a predetermined length of time, means for counting the number of cycles of the power signal in the predetermined length of time, means for providing a single output signal only on simultaneous occurrence of a predetermined number of control signals and power signal cycles in the predetermined time and relay means actuated by the entire power signal responsive to the output signal for removing the load from the power distribution system.

3,540,031

CHARACTER CODE TRANSLATOR

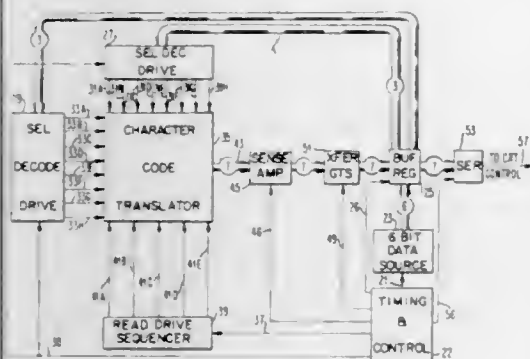
Robert W. Love, Rhinebeck, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 14, 1965, Ser. No. 496,016

Int. Cl. H01j 31/10; H03k 13/247

U.S. Cl. 340—324

3 Claims



A character translator for converting coded information into video signals for display and regeneration storage or to another code includes a planar array of magnetic cores in the form of individual matrices, each character matrix including a plurality of magnetic cores disposed in a configuration corresponding to shape of the specified character. The cores for the specified character are selected by coincident energization of the associated core windings, and are then sequentially reset by a timing pulse distributor to generate video signals which in turn are detected by magnetic core sense windings. To eliminate the noise problem during readout resulting from the random number and polarity of cores in the matrix, a compensating core technique is employed to balance each drive line.

3,540,032

DISPLAY SYSTEM USING CATHODE RAY TUBE DEFLECTION YOKE NON-LINEARITY TO OBTAIN CURVED STROKES

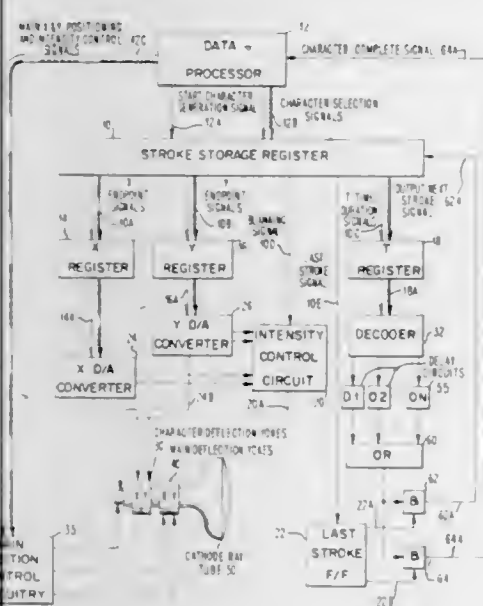
Tony N. Criscimagna, Woodstock, and Donald J. Hinkein, Germantown, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 12, 1968, Ser. No. 697,484

Int. Cl. H01j 29/70

U.S. Cl. 340—324

12 Claims



A character display system in which a character is generated on the face of a cathode ray tube using a plurality of predetermined straight and curved line strokes generated in a predetermined order. Both straight and curved line strokes are generated without the need

of special wave shaping circuitry for producing the deflection yoke currents. A straight line is generated by providing matched operation of the nonlinear current vs. time characteristics of the X and Y deflection yokes, whereby a straight line stroke is obtained despite the non-linearity of the individual X and Y characteristics. A curved line stroke is generated by providing mismatched operation of the non-linear X and Y deflection yoke current vs. time characteristics, whereby the existing non-linearity is used to advantage to permit a curved line stroke to be obtained without requiring special wave shaping circuitry.

3,540,033

DATA DISPLAY SYSTEM

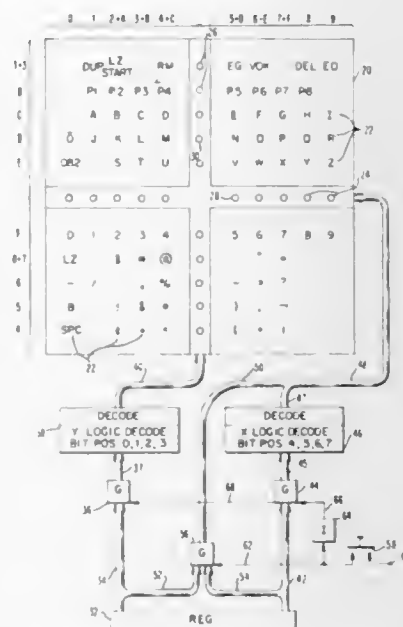
John K. Crawford, La Grange, Donald C. Croll, Pleasant Valley, John C. Hulsizer, La Grange, Frank T. Kendall, Poughkeepsie, and George B. Schaeffer, Jr., La Grange, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 28, 1967, Ser. No. 694,313

Int. Cl. G08b 11/00

U.S. Cl. 340—324

10 Claims



A data display has a matrix of passive indicia provided with coordinate indicator lights arranged in cross configuration, medially of the field of indicia for close correlation with an indicium to be indicated. Part of the input data is decoded to operate a light in one coordinate axis, and the rest is decoded to operate a light in the other axis. The matrix and decoder can be limited to handling only certain values, and a switch can be provided to connect the indicator lights of one axis as data bit lights for reading other values.

3,540,034

CODE CONVERSION SYSTEM FOR CONVERTING ANALOG INPUT SIGNALS TO TRINARY CODE OUTPUT SIGNALS

Masao Kawashima and Shunroku Sasaki, Yokohama-shi, and Shyoichi Kurita, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

Filed May 17, 1967, Ser. No. 639,144

Claims priority, application Japan, May 18, 1966, 41/31,925

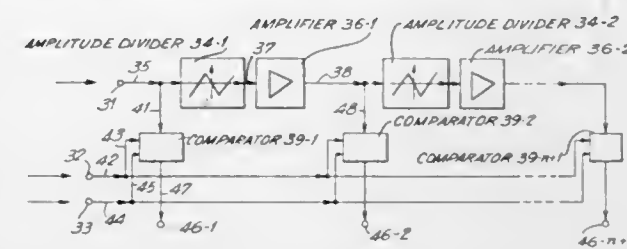
Int. Cl. H03k 13/17

U.S. Cl. 340—347

4 Claims

A code conversion system converts analog input signals to multinary code output signals. Each of a plurality of stages comprises a comparator for determining the polarity of the input signal and comparing the input signal with reference signals. The comparator provides a multinary code output signal in accordance with the polarity and

comparison. An amplitude divider divides the input signal in amplitude in a determined manner into a determined number of divided portions of equal amplitude and positions the divided portions of the input signal adjacent each other to lengthen the time duration of the



divided portions. An amplifier amplifies the output signal of the amplitude divider a number of times equal to the determined number of divided portions. The output of the amplifier of each stage is supplied to the input of the next succeeding stage.

3,540,035

DIGITAL-TO-ANALOG CONVERTER EMPLOYING PROPAGATING DOMAINS

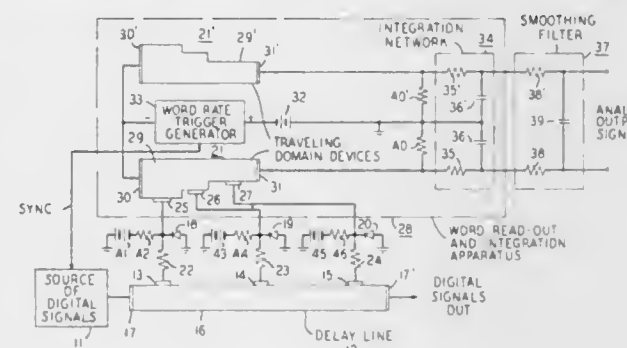
Tingye Li, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed July 12, 1968, Ser. No. 744,417

Int. Cl. H03k 13/02

U.S. Cl. 340—347

8 Claims



In the digital-to-analog converter disclosed, the digital information bits of a word are temporarily stored and fed into a plurality of output signal paths substantially simultaneously and are then read out by a traveling domain apparatus and integrated to produce a sequence of amplitude modulated pulses each representative of a digital information word. The traveling domain apparatus illustratively includes a multiple-valley semiconductive body to which the respective signal paths are coupled to shunt current around the propagating domain in direct proportion to a predetermined weighting for the respective signal paths as well as in response to the digital information bits. Integration of the weighted pulses representing the respective bits is illustratively achieved by a resistive-capacitive network coupled to the semiconductive body to integrate the current flow therethrough.

3,540,036

ANALOG-TO-DIGITAL ENCODER

Edward L. Packard, Glendale, Calif., assignor to Singer-General Precision, Inc., a corporation of Delaware

Continuation of application Ser. No. 429,350, Feb. 1, 1965. This application July 22, 1968, Ser. No. 757,171

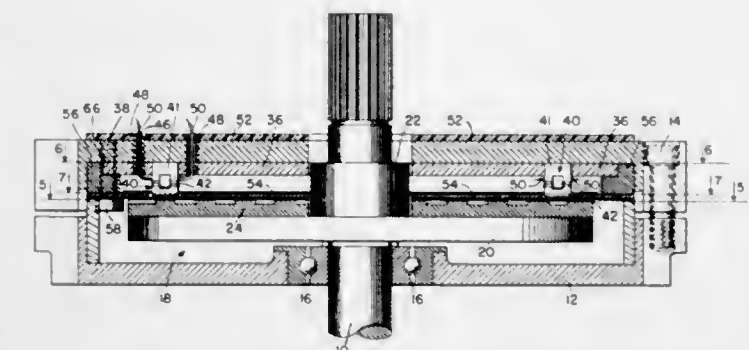
Int. Cl. G08c 9/04

U.S. Cl. 340—347

2 Claims

This invention relates to a novel and improved magnetic analog-to-digital encoder having a ferrite disc with milled raised and recessed segments, a shunt plate associated with the pickup cores and a ferromagnetic backplate. The entire disc is magnetized with the N-S poles on the top and

bottom surfaces of the disc. Toroidal coils, equivalent to contact brushes of a conventional brush contact analog-to-digital converter or encoder are supported in space related position adjacent the raised and recessed segments. A suitable AC generator supplies electrical power to the toroids driving them near but not at saturation. As the raised segments of the disc pass under the toroids, the magnetic flux from the raised segments, having a shorter air path greater than it is when a recessed segment is under the toroid. Consequently the magnetic influence of the flux flowing from the N-pole surface of the disc to the S-pole surface of the disc has a greater influence on the toroids when over a raised segment than when over a recessed segment.



In order to provide magnetic return path through the coils, they are backplated and supported by a ferromagnetic plate. In order to prevent magnetic leakage and cross talk to a recessed portion from an adjacent raised portion a shunt plate is provided. Said shunt plate having holes therein receives therethrough the ends of the cores of the toroids and is positioned between the disc and the windings on the toroids. A single insulating disc having holes therein also accepts the ends of the cores therethrough and is positioned between the shunt plate and the windings and protects the windings from shorting out on the shunt plate. This protection greatly simplifies the construction of these encoders and greatly enhances the ruggedness of the encoder.

3,540,037

TIME SHARED BIPOLAR ANALOG-TO-DIGITAL AND DIGITAL-TO-ANALOG CONVERSION APPARATUS

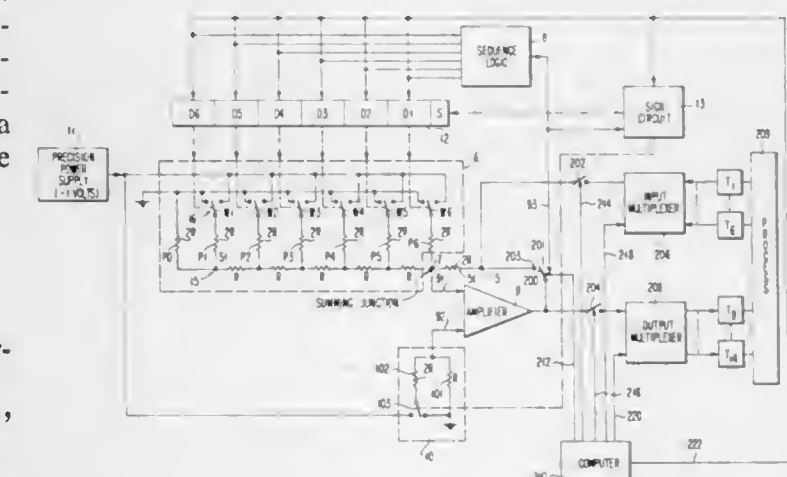
Hjalmar Ottesen, Oslo, Norway, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 20, 1967, Ser. No. 654,762

Int. Cl. H03k 13/02

U.S. Cl. 340—347

8 Claims



Conversion apparatus of the successive approximation type selectively operable as a bipolar analog-to-digital converter (ADC) or as a bipolar digital-to-analog converter (DAC); the mode of operation is determined by

switching the output of an amplifier and thereby changing the functional nature of that amplifier. The amplifier serves as a comparator in the ADC mode and alternatively as an operational amplifier in the DAC mode.

3,540,038

MULTI-COLOR SINGLE AXIS MAGNETICALLY ACTUATED DISPLAY OR INDICATING ELEMENT

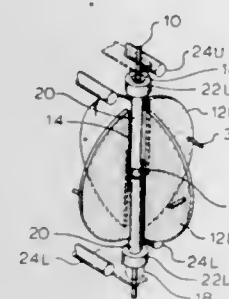
Maurice K. Taylor, Weston, Ontario, and Donald Winrow, Downsview, Ontario, Canada, assignors to Ferranti-Packard Limited, Toronto, Ontario, Canada

Filed July 31, 1969, Ser. No. 846,432

Int. Cl. G08b 5/00; G09f 11/23, 19/00

U.S. Cl. 340—373

8 Claims



Two independently magnetically actuable elements are mounted on substantially the same axes. These elements may be independently magnetically controlled to present in a predetermined direction a choice of four alternative pieces of information.

3,540,039

WARNING DEVICE FOR AUTOMATIC WASHING AND DRYING MACHINES

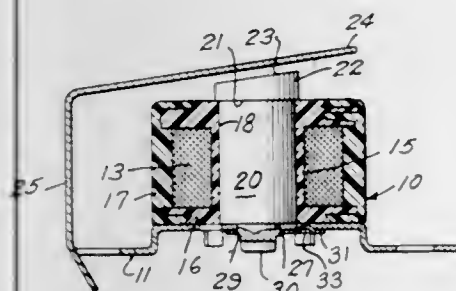
William Raymond McCarty, Jr., Skokie, and John W. Hanna, Barrington, Ill., assignors to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Oct. 16, 1967, Ser. No. 675,587

Int. Cl. G10k 9/14

U.S. Cl. 340—392

11 Claims



Warning for automatic appliances such as washing machines, drying machines, dishwashers and the like, signalling the termination of a preselected washing or drying cycle. The signalling device comprises a buzzer connected in the timer of the washing machine or dryer, or in the case of washing machines, to the door switch of the washing machine. The buzzer includes an electromagnetic coil encapsulated in insulating material. A central pole piece extends through the center of the coil and is in association with the clapper arm extending over the pole piece. The clapper arm is formed integral with the mounting bracket for the electromagnetic coil and extends at a preselected angle with respect to the top of the coil. The pole piece has an angularly extending tip facing the clapper and is adjustable to vary the air gap between the clapper and pole piece and thereby vary the level of sound

by the mere turning of the pole piece within its electromagnetic coil. The loudest sound is attained when the plane of the tip of the pole piece is parallel to the plane of the clapper and no sound is attained when the pole piece is turned 180°.

3,540,040

DIGITAL TELEMETRY TRANSDUCERS

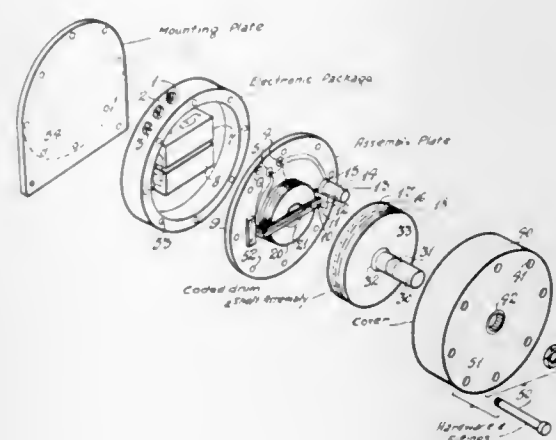
Frederick G. Sheane, Clarkson, Ontario, Canada, assignor to Electro Dynamics & Telecom Limited, Chatham, Ontario, Canada

Filed Dec. 29, 1966, Ser. No. 605,707

Int. Cl. H03k 13/00

U.S. Cl. 340—347

3 Claims



A shaft angle encoder having a transparent code member coupled to the shaft. The code member has opaque indicia which characterize the incremental angular positions of the shaft. A small light source is positioned on one side of the code member, adjacent the indicia, and a photodetector is fixed to a tine of a tuning fork, in line with the light source and positioned on the opposite side of the code member. The tuning fork is vibrated thereby causing the photodetector to scan across the indicia and hence to produce a repetition of groups of digital signals which characterize each incremental position of the shaft.

3,540,041

FIRE WARNING SYSTEM IMPROVEMENT

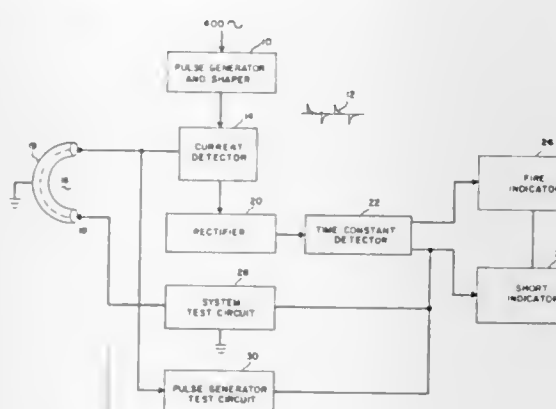
Donald W. Payne, Anaheim, Calif., assignor, by mesne assignments, to Whittaker Corporation, Los Angeles, Calif., a corporation of California

Filed July 24, 1967, Ser. No. 655,446

Int. Cl. G08b 17/06, 29/00

U.S. Cl. 340—409

7 Claims



An electronic system which, when coupled to a eutectic salt heat sensor as used in aircraft, will not only provide an indication of excessive heat but will also distinguish

between excessive heat and a malfunction of the heat sensor. A continuous train of electrical pulses is applied through a current sensor to the heat sensor. If a physical fault is developing in the eutectic salt, the pulses will generally cure the fault; however, if the salt sensor is overheating or if an incurable fault exists, thus reducing the impedance of the salt, the current sensor detects the current increase in the pulse train and applies a signal to circuitry which, by determination of the current change rate, distinguishes between a malfunction or a true overheating condition. Further reliability of the system is improved by various test circuits which provide indications of malfunction of the pulse train generator and the various indicator circuits.

3,540,042

INTEGRITY CHECK FOR FIRE ALARM CIRCUITS

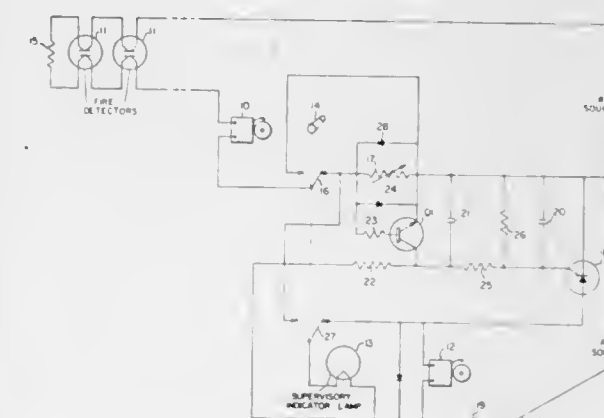
John T. Morrow, Old Greenwich, and Walter E. Rowley, Jr., New Milford, Conn., assignors to Edwards Company, Inc., Norwalk, Conn., a corporation of Connecticut

Filed June 26, 1967, Ser. No. 648,684

Int. Cl. G08b 29/00

U.S. Cl. 340—409

13 Claims



A normally inactive alarm circuit is energized by an alternating current and comprises two resistors and an alarm device in series. The alarm can be sounded by the operation of an alarm detector which shunts one of the resistors, and thereby increases current flow through the alarm device. A capacitor in a separate supervisory circuit is intermittently charged through a diode from a source of alternating current, and is subject to discharge each time a supervisory signal is generated across a diode which is connected in multiple with the other resistor in the alarm circuit. If a charge is permitted to build up on the capacitor, a supervisory alarm is activated.

3,540,043

ALARM SYSTEM

Marion J. Crosthwait, 3108 N. Glen Oaks Drive, Midwest City, Okla. 73110

Filed Oct. 19, 1967, Ser. No. 676,483

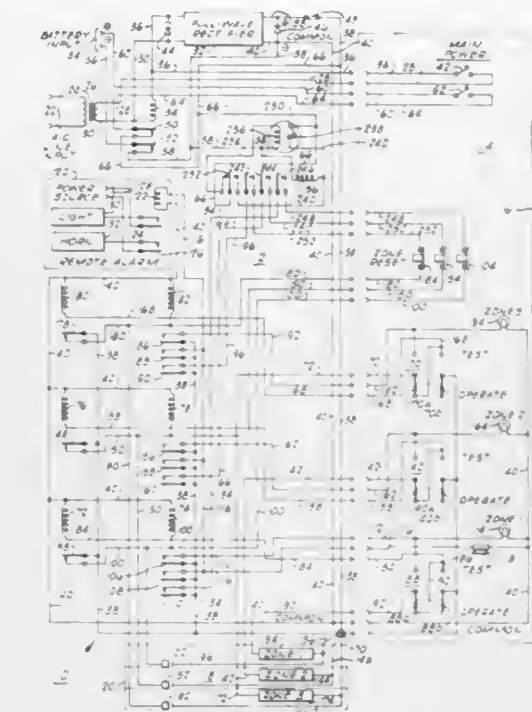
Int. Cl. G08b 13/08, 17/06, 19/00

U.S. Cl. 340—420

15 Claims

An apparatus for providing an alarm indication in response to any violation of the integrity of a building or such enclosure having access openings; the apparatus consisting of both a plurality of normally closed intrusion responsive switches as well as a plurality of normally-open, heat-sensitive fire detection switches, each of the pluralities of switches being distributed through zone divisions of the building or space being protected. The pluralities of detection sensors for each zone are then

made responsive through a separate relay system such that alarm indications pertaining to intruder entry or fire



will also indicate the general location in the building or such protected installation.

3,540,044

REDUNDANCY ELIMINATING RADIO NAVIGATION METHOD AND SYSTEM

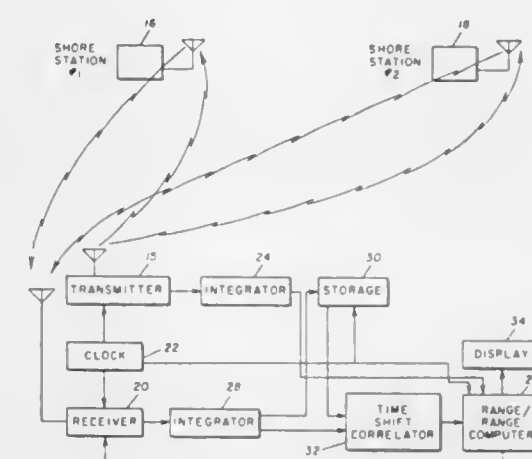
Kenneth E. Burg, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 18, 1968, Ser. No. 738,059

Int. Cl. G01s 9/06, 9/56

U.S. Cl. 343—6.5

8 Claims



Pulse signals are periodically transmitted from a moving station to a pair of fixed position transponders. The transponders respond with pulses which are transmitted back to the moving station. In the initial operation of the system, the time intervals between the transmitted pulse signals and the received pulses are measured at the moving station to provide a range/range indication of the position of the moving station. After this initial accurate measurement has been made, only the time correlation between successive received pulses from each transponder is measured to provide range/range information of the change of position of the moving station from the initial accurate measurement.

3,540,045 ELECTROMAGNETIC POLARIZATION SYSTEMS AND METHODS

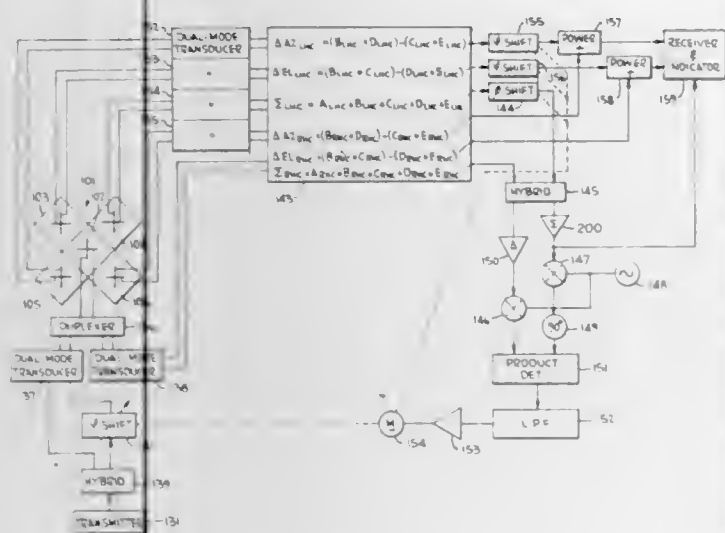
Ralph E. Taylor, Silver Spring, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Jan. 10, 1969, Ser. No. 790,420

Int. Cl. H04b 7/10; G01s 9/22

U.S. Cl. 343—7.5

31 Claims



The polarization tilt angle of linearly polarized electromagnetic waves is determined by converting the linearly polarized waves into a pair of oppositely sensed circularly polarized waves, having a relative electrical phase difference indicative of the polarization tilt angle. The phase difference between the circularly polarized waves is determined with a feedback network including a phase shifter responsive to one of the circularly polarized waves and a detector for deriving an output indicative of the ratio of the difference of the phase shifted and other circularly polarized waves to the sum of the phase shifted and other circularly polarized waves. A system for at will controlling the polarization directions of circularly and linearly polarized electromagnetic waves, as well as the major and minor axes of elliptical polarized waves, includes a pair of hybrids, the first of which is driven with waves of reference and variable phase. A sum output port of the first hybrid is coupled through a variable phase shifter to a port of the second hybrid, while a difference output of the first hybrid is coupled to another port of the second hybrid. The second hybrid responds to the inputs thereof to drive a pair of orthogonal linear feeds. The transmitter and receiver are combined with a five-element monopulse antenna array and a monopulse diversity polarization receiver. A monopulse array is driven by a linearly polarized wave, the polarization tilt angle of which is controlled in response to a polarization receiver responsive to right and left-hand circularly polarized energy derived from the monopulse array.

3,540,046 ANTENNA PATTERN GENERATOR

Bernd Falk, Fort Worth, Tex., assignor to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware

Filed Dec. 18, 1968, Ser. No. 784,642

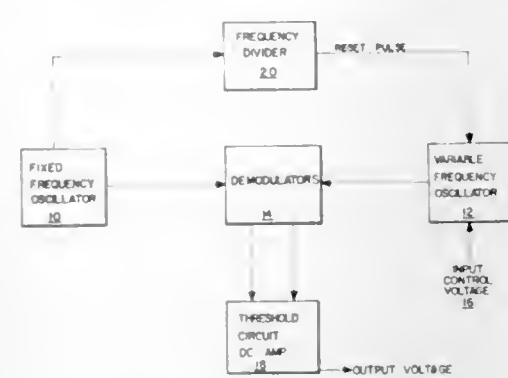
Int. Cl. G01s 7/40; G09b 9/00

U.S. Cl. 343—17.7

6 Claims

A circuit and related method for reproducing antenna patterns for simulation applications by demodulation of the outputs from a fixed frequency oscillator and a variable frequency oscillator, thus generating the characteristic $\sin X/X$ functions and variations thereof which are utilized in simulating the desired antenna patterns. This reproduction of antenna patterns is accomplished by gen-

erating an output voltage which is proportional to the instantaneous gain of a simulated antenna in response to



an input voltage which is proportional to the instantaneous antenna pointing angle.

3,540,047 THIN FILM MAGNETODIELECTRIC MATERIALS

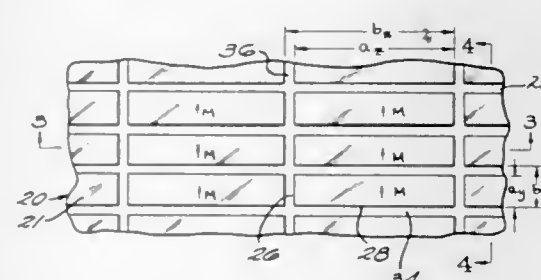
Rodger M. Walser, Austin, Tex., and Ralph J. Hach, Fort Lauderdale, Fla., assignors to Conduction Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed July 15, 1968, Ser. No. 744,742

Int. Cl. H01q 17/00

U.S. Cl. 343—18

40 Claims



A magnetic media that is penetrable by electromagnetic energy in a frequency range from radio frequencies up to millimeter wavelengths comprising a plurality of macroscopic thin film elements individually arranged in an orderly array and suspended in an insulating media so that all of the elements in the array have a common uniaxial anisotropy axis. Layers of thin film elements are stacked alternately with layers of insulating material. The thin film elements are nickel-iron alloys or nickel-iron-cobalt alloys, commonly known as "permalloy." The metallic, thin film elements have a thickness that is small compared with the smallest skin depth encountered in the frequency range of interest, for example, 10 mHz. to 100 GHz., and have transverse dimensions much smaller than the smallest corresponding wavelength in the frequency range of interest. By separating a thin film into discrete macroscopic elements and arranging the elements in an orderly array, either a single or a multiple layer array, certain desirable properties of a thin ferromagnetic film are retained, contrary to what might be expected, whereas the conductivity is virtually eliminated.

3,540,048 DEEP SPACE-MONITOR COMMUNICATION SATELLITE SYSTEM

George W. Clemens, Jr., Concord, and Alfred C. Masey, Sunnyvale, Calif., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Oct. 19, 1966, Ser. No. 588,651

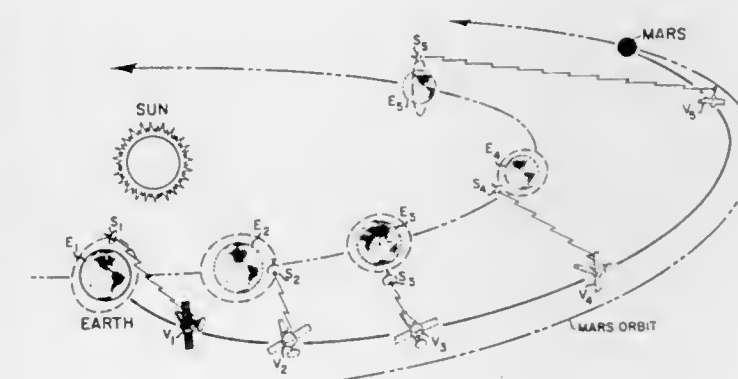
Int. Cl. B64g 3/00; H04b 7/20

U.S. Cl. 343—100

16 Claims

This invention teaches the use of a single Earth orbiting relay communications satellite to eliminate the tracking

occultation problems experienced by ground tracking stations continuously monitoring interplanetary missions. The tracking occultation experienced by ground tracking stations is caused by the Earth's rotation and atmosphere giving a constantly changing and distorted line-of-sight between the tracking station and the interplanetary mission being monitored. This problem is eliminated when using the relay satellite by the proper selection of the satellite's orbital parameters to give a minimum angular change between the line-of-sight between Earth and the space vehicle relative to the orbital plane of the satellite. This condition is achieved by placing the communications relay satellite in a nearly polar orbit, which has an orbital plane



perpendicular to the line-of-sight between the Earth and the interplanetary space vehicle. Because most planetary missions are in the plane of the ecliptic, the continuously monitoring relay satellite requires an orbit which is perpendicular to the ecliptic plane and has a retrograde orbital precession rate equal to the rate of change of the line-of-sight of space mission with respect to Earth. For the major part of an interplanetary mission, the change in the Earth to mission vehicle line-of-sight is nearly constant. The small rate of change in the line-of-sight not compensated for by the satellite's orbital precession rate is easily corrected by steering the relay satellite's onboard antennas.

3,540,049 HYBRIDLESS SIGNAL TRANSFER CIRCUITS

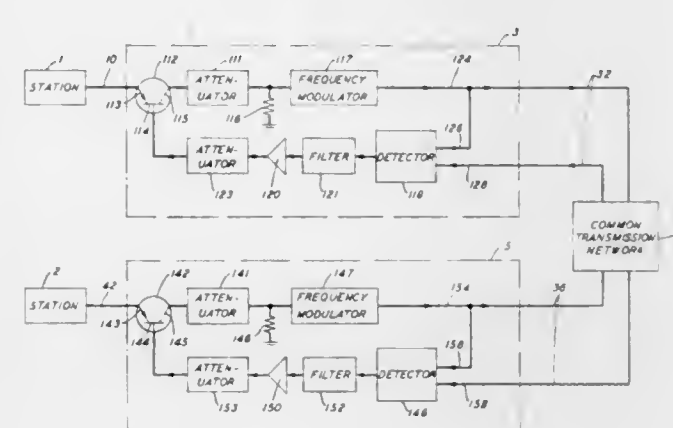
Wilmer B. Gaunt, Jr., Boxford, Mass., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Oct. 26, 1967, Ser. No. 678,398

Int. Cl. H04b 3/20

U.S. Cl. 343—180

23 Claims



A signal transfer system using modulation for simultaneously exchanging signals between a plurality of stations is described in which hybridless bilateral transmission circuits are connected between each station and

a common transmission network. Each bilateral circuit includes a modulator and a demodulator interconnected by a negative feedback path, which arrangement stabilizes signal transmission. Attenuator networks may be inserted in the bilateral circuit to provide impedance matching to each interconnected station.

3,540,050 ELECTRONIC SCANNING OF 2-CHANNEL MONOPULSE PATTERNS

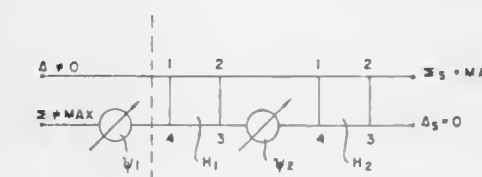
Richard F. Schmidt, Seabrook, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed June 25, 1969, Ser. No. 836,367

Int. Cl. H01q 3/26

U.S. Cl. 343—100

9 Claims



This disclosure describes a monopulse scanning network suitable for scanning a two-channel, three-dimensional volumetric antenna pattern, such as an equiangular spiral antenna pattern. The scanning network is formed of a phase shifter and a weighting circuit. The weighting circuit comprises a pair of 90-degree or quadrature hybrids and an intermediate phase shifter. The signals from the two channels are applied to the network and the phase shifter shifts one of the signals so that the relative phase difference between the two signals is reduced to zero or π radians. The intermediate phase shifter is then adjusted to reduce one of the two channel signals to zero and increase the other to a maximum value.

3,540,051 AIRCRAFT POSITION COMPUTER SYSTEM

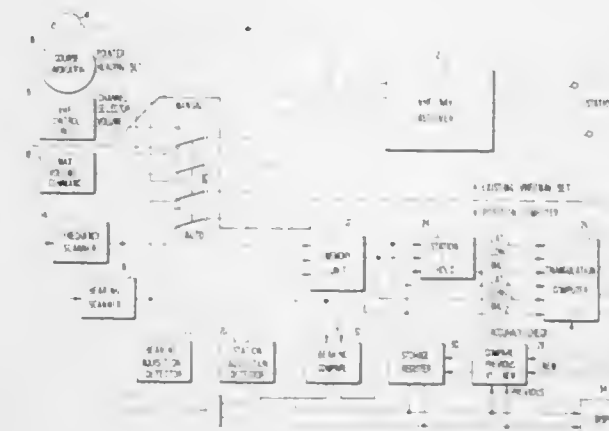
Arthur M. Forsythe, Jr., Shelburne, Vt., assignor to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York

Filed Nov. 18, 1968, Ser. No. 776,643

Int. Cl. G01s 5/08

U.S. Cl. 343—112

5 Claims

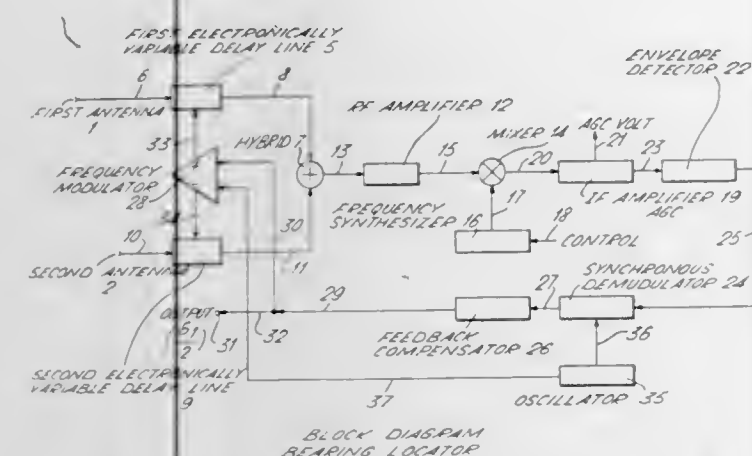


A position computer system for aircraft which performs tuning and plotting functions continuously and automatically on a VHF/NAV receiver, by using computer storage techniques, provides station or facility locations and frequencies for determining continuously by the process of triangulation on the position of the aircraft in flight.

3,540,052
**APPARATUS FOR INDICATING THE BEARING
 OF A VEHICLE RELATIVE TO A POINT**
 Gordon C. Dewey, New York, and Nathan Stern, Brook-
 lyn, N.Y., assignors to The G. C. Dewey Corporation,
 New York, N.Y., a corporation of New York
 Filed Mar. 7, 1968, Ser. No. 711,326
 Int. Cl. G01s 3/46

U.S. Cl. 343-113

12 Claims



The bearing of a vehicle relative to a transmission point is determined by the phase difference between a wave front impinging upon each of a pair of antennae mounted on the vehicle a predetermined distance apart.

3,540,053

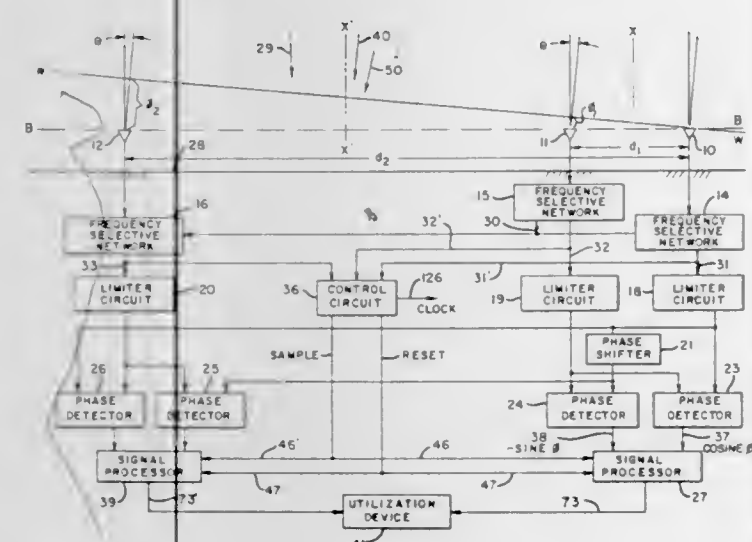
**SIGNAL PROCESSOR FOR DETERMINING THE
ANGLE OF WHICH TWO ORTHOGONAL SINUS-
OIDAL SIGNALS ARE A FUNCTION**

Joseph J. Sparagna, Saratoga, and Fred B. Badal and
Charles E. Thompson, Mountain View, Calif., assignors
to Sylvania Electric Products Inc., a corporation of
Delaware

Filed May 2, 1968, Ser. No. 726,191
Int. Cl. G01s 3/04

U.S. Cl. 343-113

19 Claims



The outputs of the two antennas of a short baseline phase interferometer are heterodyned with a local oscillator signal and limited to provide two constant amplitude IF signals. Each IF signal is applied to the same pair of phase detectors, one of the signals being delayed 90° prior to application to only one of the detectors. The detector outputs are a function of the sine and cosine of the phase difference between the signals received by the antennas, and thus are a function of the direction of arrival of a received signal. This phase difference can vary over $\pm 180^\circ$ over all possible directions of arrival of an incident signal. These detector

outputs are detected and compared to produce a 3-bit word indicating the polarities of the outputs and the output having the smaller absolute value. This 3-bit word indicates the half-quadrant or 45° sector of the phase difference associated with a received signal. The detector output having the smaller absolute magnitude is converted to a 6-bit word defining in the half-quadrant a phase angle associated with the received signal. The 3-bit and 6-bit words are logically combined to produce an 8-bit binary indication of the phase difference between the antenna outputs and thus the direction of arrival of the received signal.

3,540,054

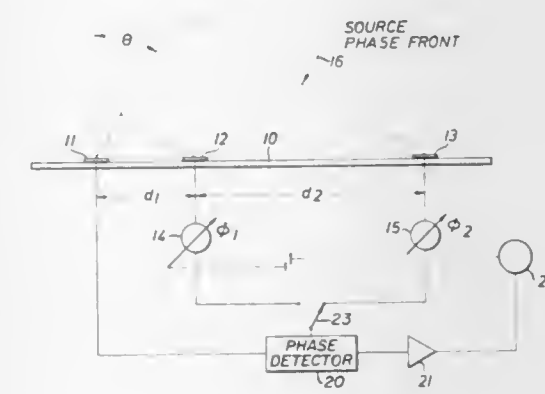
**RADAR ANTENNA SYSTEM FOR ACQUISITION
AND TRACKING**

Richard F. Broderick, Houston, Tex., assignor to the
United States of America as represented by the Ad-
ministrator of the National Aeronautics and Space
Administration

Filed Oct. 9, 1968, Ser. No. 766,170
Int. Cl. G01s 3/48

U.S. Cl. 343—113

1 Claim



A fine tuning acquisition and tracking interferometer radar antenna system. It includes a first antenna array of at least three receiving antennas. The array includes a receiving antenna, a coarse tuning antenna and a fine tuning antenna, arranged such that the linear spacing distance between the fine tuning antenna and the reference antenna is at least ten times the linear spacing distance between the coarse tuning antenna and the reference antenna. Phase detector means are provided for detecting and comparing the phases of signals received by the reference antenna, the fine tuning antenna and the coarse tuning antenna and producing an electrical output representative of phase differences, whereby the coarse tuning antenna may be used for acquisition and the fine tuning antenna may be used for tracking purposes.

3,540,055
FREQUENCY DIVERSITY RADIO RECEIVER HAVING AUTOMATIC MAINTENANCE OF ZERO FREQUENCY DIFFERENCE BETWEEN TWO IF SIGNALS

Masao Takagi, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan

Filed Oct. 20, 1967, Ser. No. 676,890

Claims priority, application Japan, Oct. 22, 1966.

41/69,539

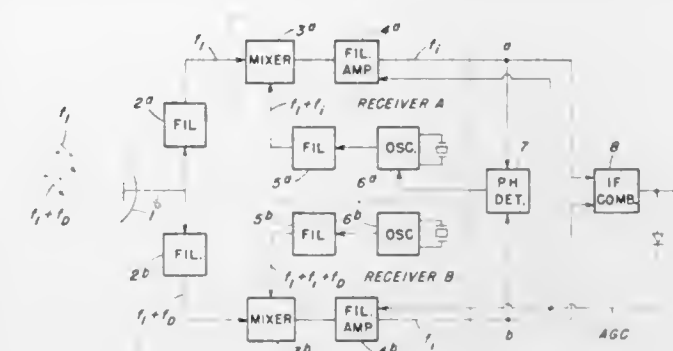
Int. Cl. H04b 7/12

U.S. Cl. 343—205

6 Claims

6 Claims
A dual frequency diversity radio receiver, including two oscillators, one providing a fixed frequency signal and the other a variable frequency signal, for deriving first and second components having different frequencies for conversion into third and fourth components having the same predetermined intermediate frequency; and a phase detector responsive to a phase difference between

the third and fourth components for providing a voltage varying in magnitude in correspondence with such phase difference to activate the variable frequency oscillator



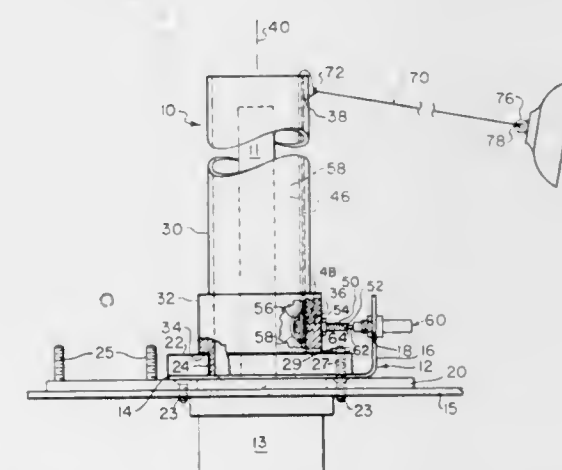
to simultaneously vary the first and second component frequencies in opposite senses to maintain zero phase difference between the third and fourth component.

3,540,056
VHF/UHF PARASITIC PROBE ANTENNA
Herbert E. Cribb, Satellite Beach, Fla., assignor to the
United States of America as represented by the Ad-
ministrator of the National Aeronautics and Space
Administration

Filed Sept. 6, 1967, Ser. No. 666,555
Int. Cl. H01g 1/40

U.S. CL. 343-703

1 Claims



A parasitic probe antenna which couples RF energy from a spacecraft antenna to other antennas located at remote points from the spacecraft. The parasitic probe antenna consists of a tubular member having an aluminumized tape on the interior thereof for receiving RF

energy from the spacecraft antenna when the tubular member is positioned over the spacecraft antenna. The radio signals received by the aluminized tape are transmitted by transmission lines to the remote antennas. The remote antennas transmit the radio signals through free space to distant buildings housing equipment used to test the spacecraft prior to launch.

3,540,057

**VERTICAL ANTENNA WITH REMOTELY
CONTROLLED LOADING COIL AND
TUNING INDICATOR**

Sten I. Persson, Naples, and Gordon M. Wendell, Victor,
N.Y., assignors to Elenex, Inc., Naples, N.Y., a corpo-
ration of New York

Continuation-in-part of application Ser. No. 590,248,
Oct. 28, 1966. This application Mar. 4, 1968, Ser.
No. 710,353

U.S. Cl. 343—703

6 Claims



A dielectric sleeve, which is secured on a tubular support, is surrounded by a helical wire inductance coil that is connected at one end to a metal whip rod and at its opposite end to a transmitter. A ferrite tuning core is supported for adjustment in the bore of the sleeve by a plastic rod which extends through the tubular support to a housing having manually operable means for adjusting the rod axially. A metal sleeve projects from the lower end of the dielectric sleeve coaxially around the tubular support to form a ground plane for the antenna. A directional coupler and an ammeter are mounted in the housing to indicate optimum adjustment of the core.

DESIGNS

NOVEMBER 10, 1970

219,121 TOOTHBRUSH

Jan Hugo Krahner, Huskvarna, Sweden, assignor to Huskvarna Borstfabrik AB, Huskvarna, Sweden
Filed Dec. 12, 1969, Ser. No. 20,478
Term of patent 14 years
Int. Cl. D4—02

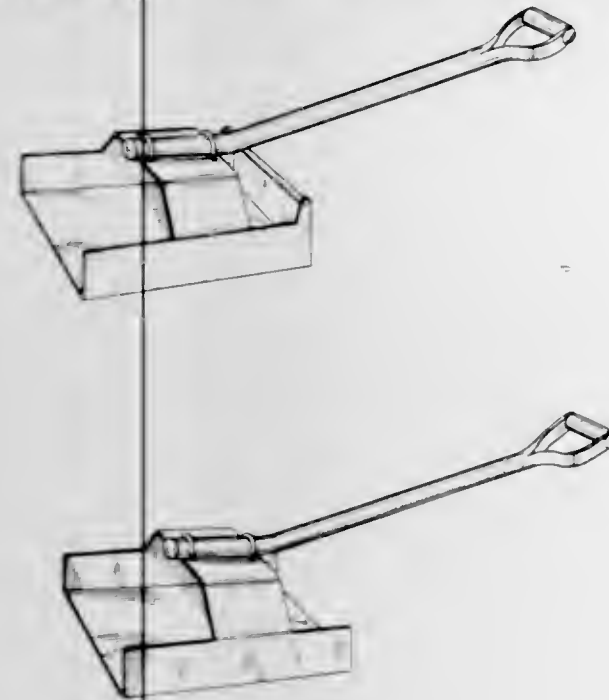
U.S. Cl. D4—25



219,122 FEED BUNK SHOVEL

Melvin E. Dreier, Dumont, Iowa 50625
Filed Oct. 3, 1969, Ser. No. 19,407
Term of patent 14 years
Int. Cl. D8—07

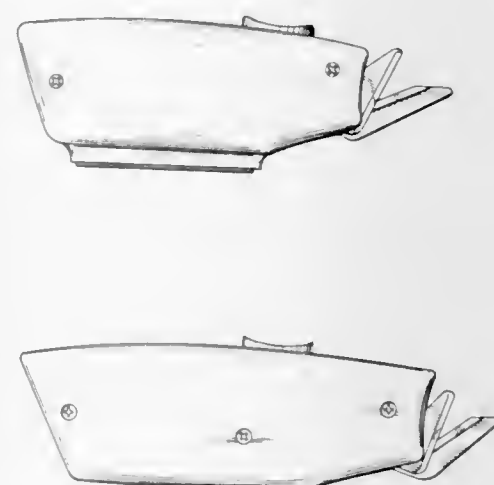
U.S. Cl. D8—10



219,123 ELECTRIC SCISSORS

Alan F. Eckel, Chicago, Ill., assignor to Sears, Roebuck and Company, Chicago, Ill., a corporation of New York
Continuation of design applications Ser. No. 11,504 and Ser. No. 11,506, Apr. 18, 1968. This application Dec. 13, 1968, Ser. No. 18,105
Term of patent 14 years
Int. Cl. D8—02

U.S. Cl. D8—61



219,124
PRESSURIZED DISPENSING CONTAINER
Norman Gortz, 11151 Coventry Place, Santa Ana, Calif. 92700, and Michael B. Maccarone, 1793 Gillman Ave., Irvine, Calif. 92664
Filed Nov. 13, 1969, Ser. No. 20,069
Term of patent 14 years
Int. Cl. D9—01

U.S. Cl. D9—8



NOVEMBER 10, 1970

U. S. PATENT OFFICE

723

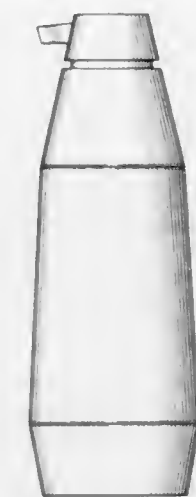
219,125
PRESSURIZED DISPENSING CONTAINER
Norman Gortz, 11151 Coventry Place, Santa Ana, Calif. 92700, and Michael B. Maccarone, 17932 Gillman Ave., Irvine, Calif. 92664
Filed Nov. 13, 1969, Ser. No. 20,067
Term of patent 14 years
Int. Cl. D9—01

U.S. Cl. D9—9



219,127
PRESSURIZED DISPENSING CONTAINER
Norman Gortz, 11151 Coventry Place, Santa Ana, Calif. 92700, and Michael B. Maccarone, 17932 Gillman Ave., Irvine, Calif. 92664
Filed Nov. 13, 1969, Ser. No. 20,074
Term of patent 14 years
Int. Cl. D9—01

U.S. Cl. D9—9



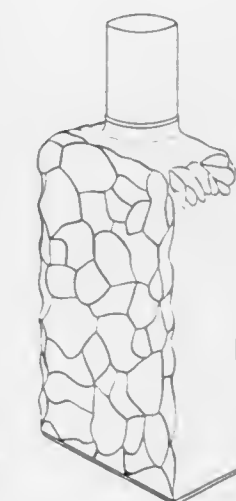
219,126
PRESSURIZED DISPENSING CONTAINER
Norman Gortz, 11151 Coventry Place, Santa Ana, Calif. 92700, and Michael B. Maccarone, 17932 Gillman Ave., Irvine, Calif. 92664
Filed Nov. 13, 1969, Ser. No. 20,073
Term of patent 14 years
Int. Cl. D9—01

U.S. Cl. D9—9



219,128
BOTTLE
Jacques Leonard, 7 Boulevard Richard Wallace, Neuilly-sur-Seine, Hauts-de-Seine, France
Filed July 7, 1969, Ser. No. 18,088
Term of patent 14 years
Int. Cl. D9—01

U.S. Cl. D9—71

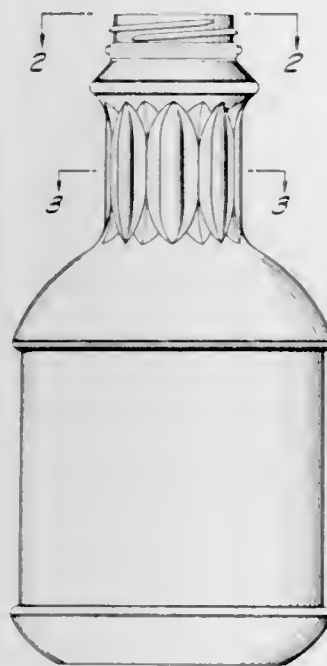


219,129
DECANTER

William F. Wood, Alhambra, Calif., assignor to Knudsen Corporation, Los Angeles, Calif., a corporation of California

Filed Sept. 19, 1969, Ser. No. 19,225
Term of patent 14 years
Int. Cl. D9—01

U.S. Cl. D9—92



219,130
CONTAINER FOR LIQUIDS

Michael Clement Dickins, Bletchley, England, assignor to Twinpak Ltd., Lachine, Quebec, Canada

Filed Sept. 22, 1969, Ser. No. 19,238
Term of patent 14 years
Int. Cl. D9—07

U.S. Cl. D9—175

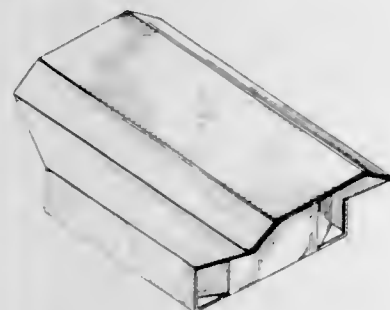


219,131
CARTON

James H. Katzenmeyer, Elkhart, Ind., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Sept. 2, 1969, Ser. No. 18,934
Term of patent 14 years
Int. Cl. D9—04

U.S. Cl. D9—180

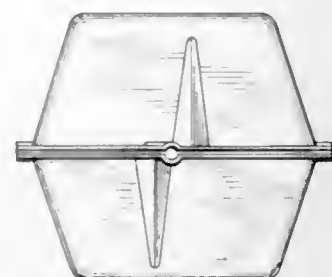


219,132
PACKAGE FOR FRAGILE ARTICLES

Peter A. Latham, Newburyport, and Paul E. Brefka, Southboro, Mass., assignors, by mesne assignments, to Debel Manufacturing Corporation, Cambridge, Mass., a corporation of New York

Filed Oct. 14, 1969, Ser. No. 19,548
Term of patent 14 years
Int. Cl. D9—04

U.S. Cl. D9—182

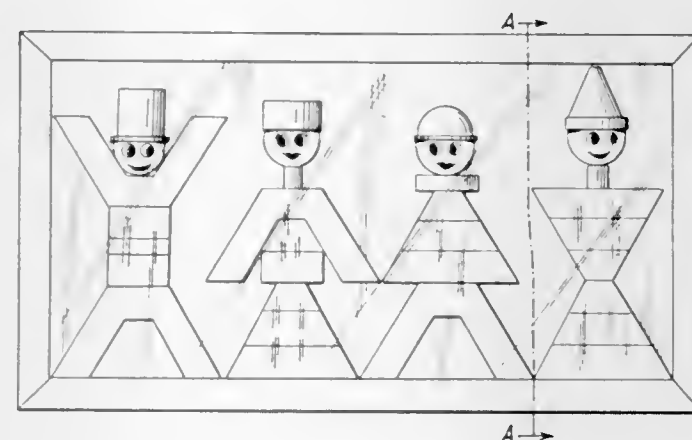


219,133
PACKAGE OF TOY CONSTRUCTION FIGURES

Simon Gompes and Herman Schepkor, both of Nieuwe Keizersgracht 58, Amsterdam, Netherlands

Filed Mar. 5, 1969, Ser. No. 16,069
Term of patent 14 years
Int. Cl. D9—04

U.S. Cl. D9—193

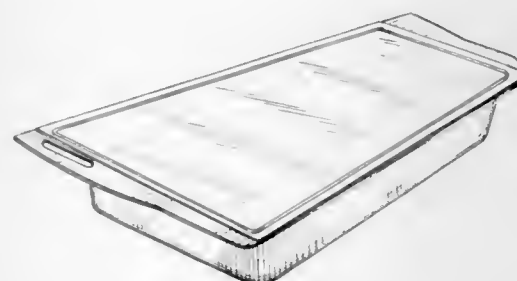


219,134
COMBINED FOOD PACKAGING AND COOKING CONTAINER

Bruce C. Hartman, Chicago, Ill., assignor to Booth Fisheries, Division of Consolidated Foods Corp., Chicago, Ill., a corporation of Maryland

Filed Sept. 11, 1969, Ser. No. 19,110
Term of patent 14 years
Int. Cl. D9—04

U.S. Cl. D9—219

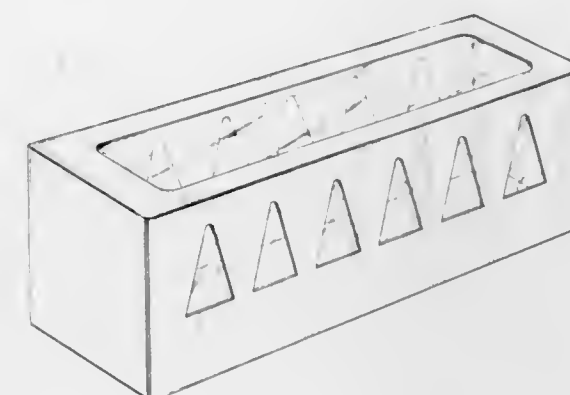


219,135
MULTIWINDOWED DISPLAY CONTAINER OR SIMILAR ARTICLE

Saul M. Horblitt, Malverne, N.Y., assignor to Berwick Industries Incorporated, Parmus, N.J., a corporation of Pennsylvania

Filed June 26, 1969, Ser. No. 17,891
Term of patent 14 years
Int. Cl. D9—04

U.S. Cl. D9—224

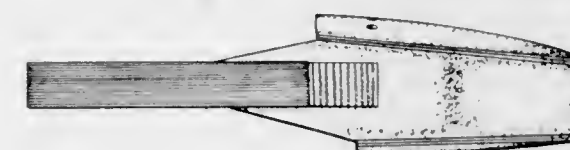


219,136
CAST COVER FOR THE TOE PORTION OF THE FOOT

Gilbert G. Mace, 4755 Beach Court, Denver, Colo. 80211

Filed Sept. 13, 1968, Ser. No. 13,523
Term of patent 14 years
Int. Cl. D2—04

U.S. Cl. D2—277

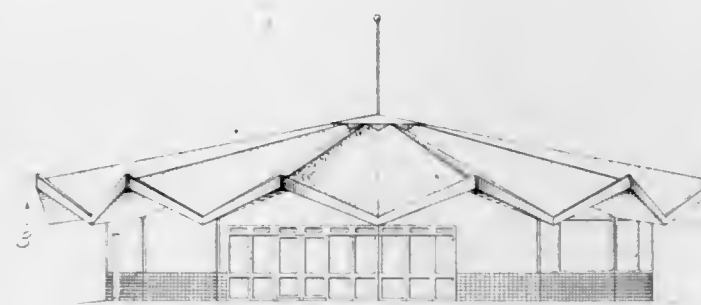


219,137
BUILDING

Jay B. Peterson, Jr., Hudson, Wis., assignor to Quarterback Sports Federation, Inc., Bloomington, Minn., a corporation of Minnesota

Filed Apr. 1, 1969, Ser. No. 16,550
Term of patent 14 years
Int. Cl. D25—04

U.S. Cl. D13—1



219,138
AIR TERMINAL BUILDING

Walter Russell Miller, North Canton, Conn., assignor to Kaman Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed Sept. 2, 1969, Ser. No. 18,972
Term of patent 14 years
Int. Cl. D25—04

U.S. Cl. D13—1



219,139
ARMORED MOTOR VEHICLE

Russell E. Bauer, Grosse Pointe, Mich., assignor, by mesne assignments, to KDI-Bauer Corporation, Warren, Mich., a corporation of Delaware

Filed Feb. 19, 1969, Ser. No. 15,840
Term of patent 14 years
Int. Cl. D12—13

U.S. Cl. D14—3

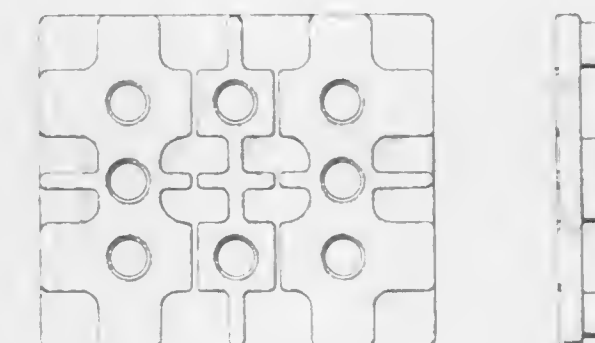


219,140
MOLDED PLASTIC CARGO PALLET

Elmer H. Good, Claremont, and Lowell D. Hammond, San Marino, Calif., assignors to Nash-Hammond, Inc., City of Industry, Calif., a corporation of California

Filed Sept. 22, 1969, Ser. No. 19,237
Term of patent 14 years
Int. Cl. D12—99

U.S. Cl. D14—3



219,141

MOLDED PLASTIC CARGO PALLET

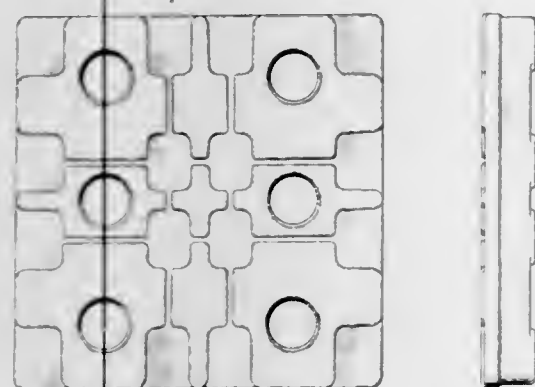
Elmer H. Good, Claremont, and Lowell D. Hammond, San Marino, Calif., assignors to Nash-Hammond, Inc., City of Industry, Calif., a corporation of California

Filed Sept. 22, 1969, Ser. No. 19,252

Term of patent 14 years

Int. Cl. D12—99

U.S. Cl. D14—3



219,142

CAMPER TOP

William A. Ritter, 1030 Arroyo St., San Fernando, Calif. 91340

Filed July 25, 1969, Ser. No. 18,399

Term of patent 7 years

Int. Cl. D12—14

U.S. Cl. D14—27



219,143

CORNER SOFA AND TABLE COMBINATION OR THE LIKE

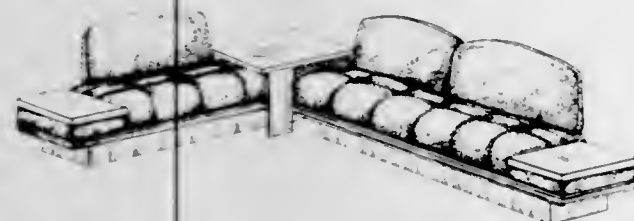
Richard M. Chapin, Charlotte, N.C., assignor to Dolly Madison Industries, Huntingburg, Ind., a corporation

Filed June 10, 1969, Ser. No. 17,625

Term of patent 3½ years

Int. Cl. D6—01

U.S. Cl. D15—11



219,144

RECOIL PAD

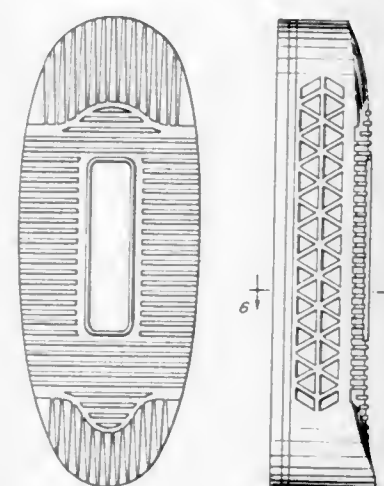
Russell N. Hofmeister, Waseca, Minn., assignor to Herter's, Inc., Waseca, Minn., a corporation of Minnesota

Filed Nov. 6, 1968, Ser. No. 14,331

Term of patent 14 years

Int. Cl. D22—02

U.S. Cl. D22—9



219,145

FISHING LURE RETRIEVER

Denny L. Howerter, 3817 NW. 60, Oklahoma City, Okla. 73112

Filed July 17, 1969, Ser. No. 18,237

Term of patent 14 years

Int. Cl. D22—99

U.S. Cl. D22—31



219,146

CASING FOR TEACHING DEVICE

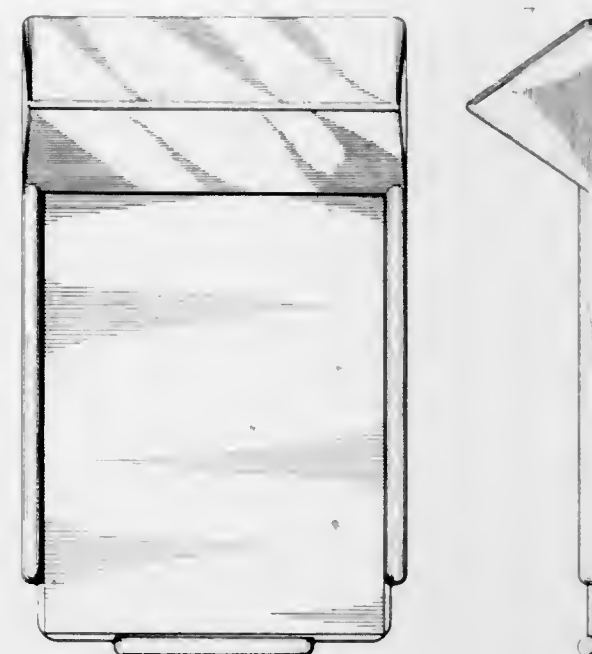
Jack L. Lamberson, Miami, Fla. (3825 S. Monaco Parkway, No. 152, Denver, Colo. 80237)

Filed Aug. 13, 1969, Ser. No. 18,657

Term of patent 14 years

Int. Cl. D19—08

U.S. Cl. D25—1



219,148

FACSIMILE RECEIVER

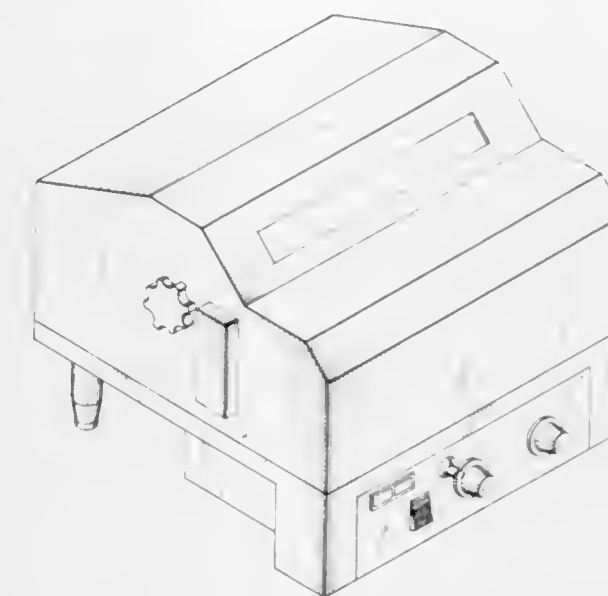
Edmund F. Priessnetz, Baldwin, N.Y., assignor to Electronic Transmission Systems, Inc., New York, N.Y.

Filed Oct. 29, 1969, Ser. No. 19,825

Term of patent 14 years

Int. Cl. D14—01

U.S. Cl. D26—14



219,149

COVER FOR LIQUID ANIMAL FEEDER

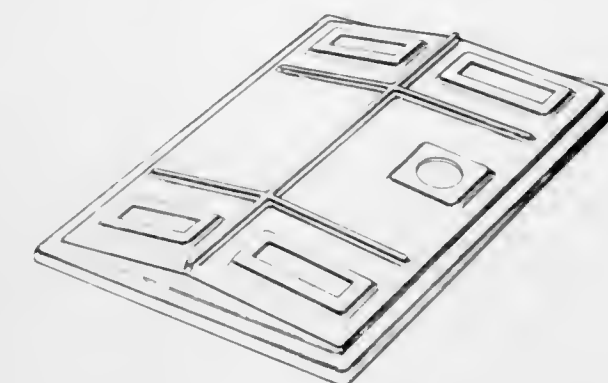
Leighton G. Dotson, 9443 Sherwood Glen, Dallas, Tex. 75228

Filed Nov. 17, 1969, Ser. No. 20,144

Term of patent 14 years

Int. Cl. D30—02

U.S. Cl. D30—13



219,147

ELECTRICAL BUSHING OR SIMILAR ARTICLE

Richard F. Propst, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed July 17, 1969, Ser. No. 18,244

Term of patent 14 years

Int. Cl. D13—03

U.S. Cl. D26—10



219,150

COMBINATION SADDLE PROTECTOR AND TAG HOLDER

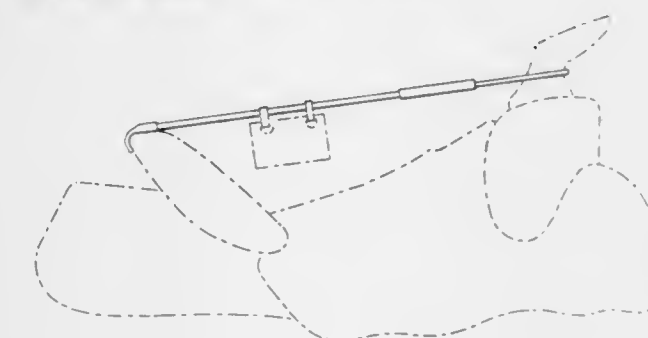
Edwin M. Martin, 3215 9th St., Boulder, Colo. 80302

Filed Feb. 28, 1969, Ser. No. 15,979

Term of patent 14 years

Int. Cl. D30—03

U.S. Cl. D30—20



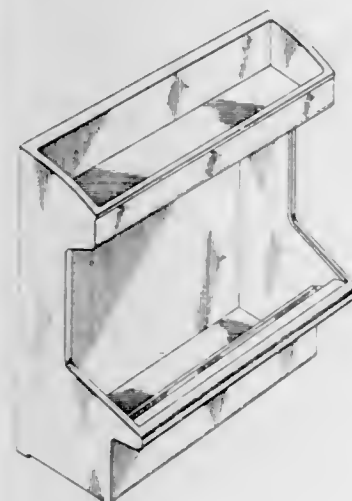
219,151
HACKAMORE ATTACHMENT TO A BIT
 Deborah L. Cookman, Box 49,
 Lahaska, Pa. 18931
 Filed Feb. 24, 1969, Ser. No. 15,883
 Term of patent 14 years
 Int. Cl. D30—03

U.S. Cl. D30—21



219,152
STORAGE RACK OR SIMILAR ARTICLE
 Dwight N. Wooters, Wooster, Ohio, assignor to Rubber-
 maid Incorporated, Wooster, Ohio, a corporation of
 Ohio
 Filed July 28, 1969, Ser. No. 18,431
 Term of patent 14 years
 Int. Cl. D6—99

U.S. Cl. D33—3



219,153
TOY FIGURE
 Peter Rauls, Muhlhausen, Germany, assignor to Iris Pro-
 duktions- und Vertriebsgesellschaft von Schmuckkarten
 und kunstgewerblichen Artikeln m.b.H., Frankfurt am
 Main, Germany
 Filed Jan. 21, 1969, Ser. No. 15,546
 Term of patent 14 years
 Int. Cl. D21—02

U.S. Cl. D34—2



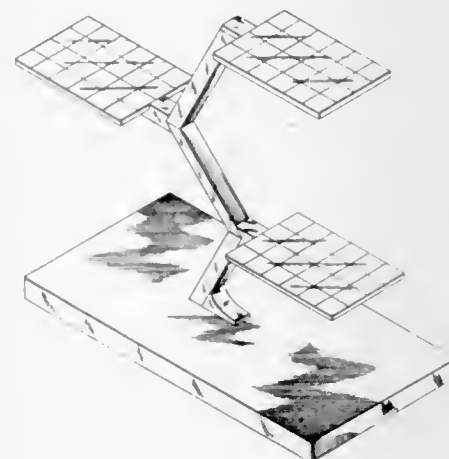
219,154
BOWLING GAME TABLE
 John K. Miles and John D. Vogel, Columbus, Ind., as-
 signors to Arvin Industries, Inc., Columbus, Ind., a cor-
 poration of Indiana
 Filed Aug. 19, 1969, Ser. No. 18,755
 Term of patent 14 years
 Int. Cl. D21—01

U.S. Cl. D34—5



219,155
THREE-DIMENSIONAL CHESS BOARD
 Edwin F. Gribbon, Jr., 457 Central Ave.,
 Cedarhurst, N.Y. 11516
 Filed Aug. 25, 1969, Ser. No. 18,839
 Term of patent 14 years
 Int. Cl. D21—01

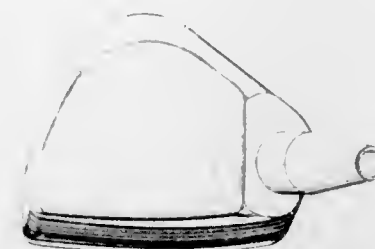
U.S. Cl. D34—5



219,156
GOLF CLUB HEAD
 John D. Risher, 127 Bonnett St. SW.,
 North Canton, Ohio 44720
 Continuation-in-part of design application Ser. No. 9,539,
 Nov. 24, 1967. This application Feb. 3, 1969, Ser. No.
 18,848

Term of patent 14 years
 Int. Cl. D21—01

U.S. Cl. D34—5

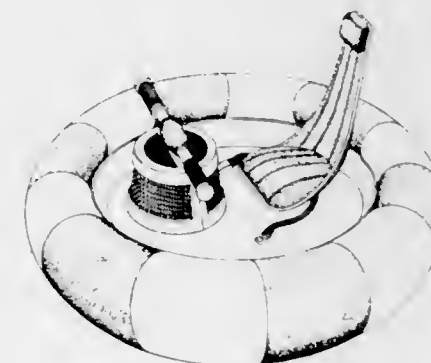


219,157
**INTENTIONAL-IMPACT REBOUNTING
 AMUSEMENT VEHICLE**
 Earl D. Barnes, 1181 Valencia Drive, Colton, Calif.
 92324, and Ellno C. Barnes, 911 E. Virginia, Rialto,
 Calif. 92376

Filed Sept. 2, 1969, Ser. No. 18,967

Term of patent 14 years
 Int. Cl. D21—04

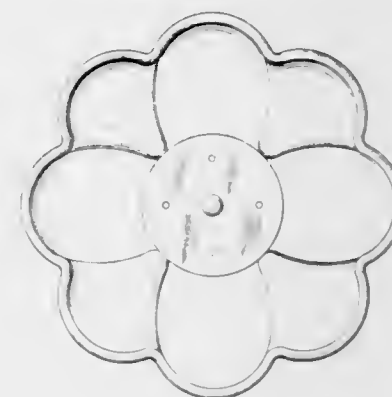
U.S. Cl. D34—5



219,158
FLYING SAUCER TOY
 Leonard Gray, Sharon, Mass., and Carl Cederholm,
 Providence, R.I., assignors to Hasbro Industries, Inc.,
 Pawtucket, R.I., a corporation of Rhode Island
 Filed Aug. 18, 1969, Ser. No. 18,742

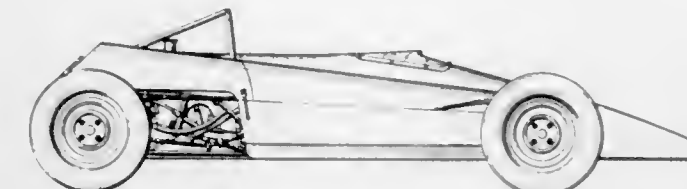
Term of patent 14 years
 Int. Cl. D21—02

U.S. Cl. D34—15



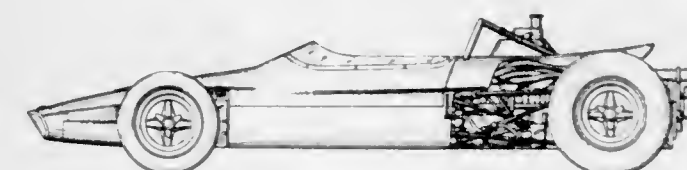
219,159
MODEL RACING CAR
 Anthony Colin Bruce Chapman, Norfolk, England, as-
 signor to Lotus Cars Limited, Norfolk, England
 Filed Nov. 10, 1969, Ser. No. 20,024
 Claims priority, application Great Britain May 8, 1969
 Term of patent 7 years
 Int. Cl. D21—02

U.S. Cl. D34—15



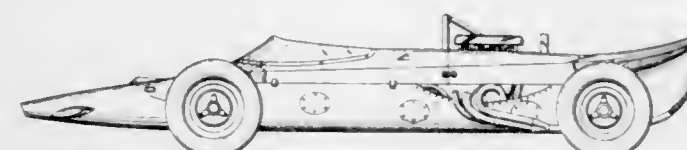
219,160
MODEL RACING CAR
 Anthony Colin Bruce Chapman, Norfolk, England, as-
 signor to Lotus Components Limited, Norfolk, England
 Filed Dec. 18, 1969, Ser. No. 20,557
 Claims priority, application Great Britain June 19, 1969
 Term of patent 7 years
 Int. Cl. D21—02

U.S. Cl. D34—15



219,161
MODEL RACING CAR
 Anthony Colin Bruce Chapman, Norfolk, England, as-
 signor to Lotus Cars Limited, Norfolk, England
 Filed Dec. 24, 1969, Ser. No. 20,624
 Claims priority, application Great Britain June 28, 1969
 Term of patent 7 years
 Int. Cl. D21—02

U.S. Cl. D34—15



219,162

MODEL RACING CAR

Bruce Leslie McLaren, Weybridge, England, assignor to Bruce McLaren Motor Racing Limited, Colnbrook, Buckinghamshire, England

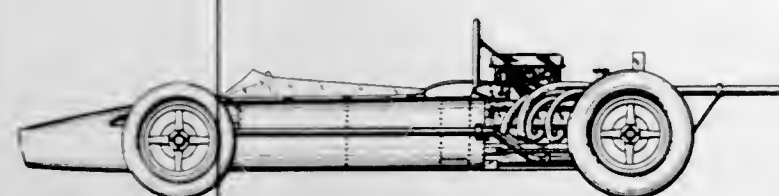
Filed Jan. 2, 1970, Ser. No. 20,730

Claims priority, application Great Britain July 5, 1969

Term of patent 7 years

Int. Cl. D21—02

U.S. Cl. D34—15



219,163

TUMBLER HOLDER

Arthur Anthony Welsh, Hartlepool, England, assignor to James A. Jobling & Company Limited, Sunderland, England, a British company

Filed Dec. 13, 1968, Ser. No. 14,964

Term of patent 7 years

Int. Cl. D7—99

U.S. Cl. D44—10



219,164

COFFEE POT

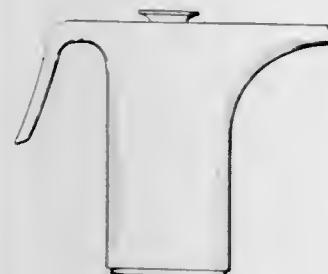
Walter G. Gropius, Lincoln, Mass., assignor to Rosenthal Aktiengesellschaft, Selb, Bavaria, Germany, a corporation of Germany

Filed May 23, 1969, Ser. No. 17,298

Term of patent 14 years

Int. Cl. D7—02

U.S. Cl. D44—26



219,165

TEA POT

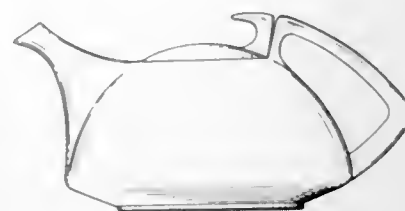
Walter G. Gropius, Lincoln, Mass., assignor to Rosenthal Aktiengesellschaft, Selb, Bavaria, Germany, a corporation of Germany

Filed May 23, 1969, Ser. No. 17,309

Term of patent 14 years

Int. Cl. D7—02

U.S. Cl. D44—26



219,166

CLOTHES AIRER

Carl L. Olsen, Ickwell Green, near Biggleswade, England, assignor to George Salter & Company Limited, West Bromwich, Staffordshire, England

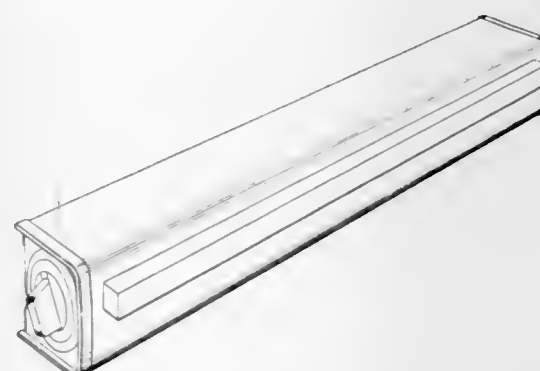
Filed June 16, 1969, Ser. No. 18,861

Claims priority, application Great Britain Dec. 17, 1968

Term of patent 7 years

Int. Cl. D7—06

U.S. Cl. D49—1



219,167

ULTRASONIC CLEANING APPARATUS

Herman A. Rissolo, Norwalk, Conn., assignor to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware

Filed May 9, 1969, Ser. No. 17,098

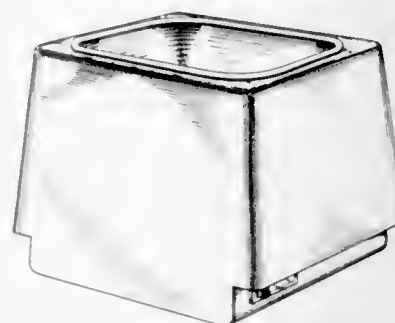
The portion of the term of the patent subsequent to

Aug. 18, 1983, has been disclaimed

Term of patent 14 years

Int. Cl. D7—06; D15—06

U.S. Cl. D49—11



219,168

PAPER DISPENSER

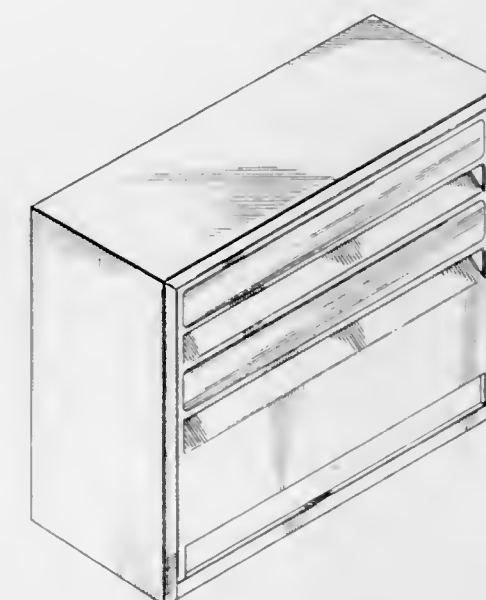
David O. Chase and George L. Down, Skaneateles, N.Y., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana

Filed May 1, 1969, Ser. No. 16,969

Term of patent 14 years

Int. Cl. D6—99; D9—99

U.S. Cl. D52—2



219,170

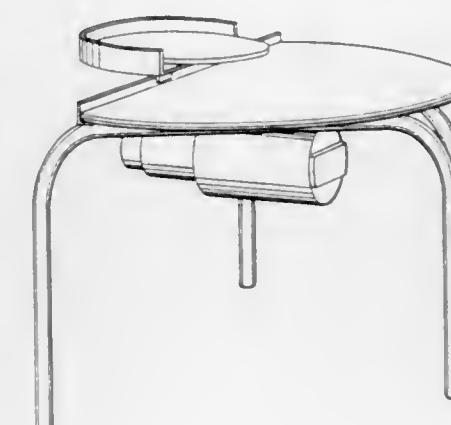
ELECTRIC POTTER'S WHEEL

Paul E. Soldner, P.O. Box 917, Aspen, Colo. 81611
Filed July 3, 1969, Ser. No. 18,051

Term of patent 14 years

Int. Cl. D15—05

U.S. Cl. D55—1



219,171

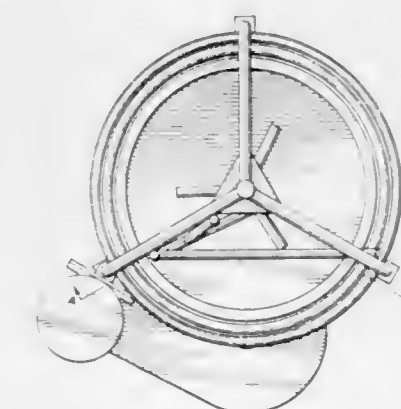
CLAY MIXER

Paul E. Soldner, P.O. Box 917, Aspen, Colo. 81611
Filed July 22, 1969, Ser. No. 18,293

Term of patent 14 years

Int. Cl. D15—05

U.S. Cl. D55—1



219,169

ANTIFREEZE TESTER OR SIMILAR ARTICLE

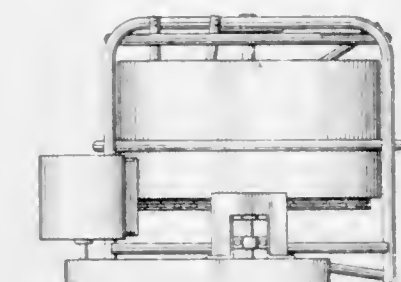
Loren P. Tichy, Mound, Minn., assignor to Thexton Manufacturing Company, Hopkins, Minn., a corporation of Minnesota

Filed Nov. 5, 1968, Ser. No. 14,326

Term of patent 14 years

Int. Cl. D10—07

U.S. Cl. D52—7

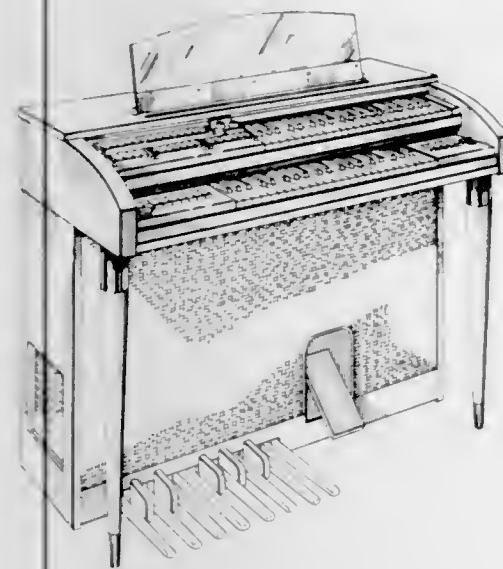


219,172
ORGAN CONSOLE

Winsor D. White, Jr., Blowing Rock, N.C., assignor to
D. H. Baldwin Company, Cincinnati, Ohio, a corpo-
ration of Ohio

Filed May 21, 1969, Ser. No. 17,268
Term of patent 14 years
Int. Cl. D17—01

U.S. Cl. D56—2

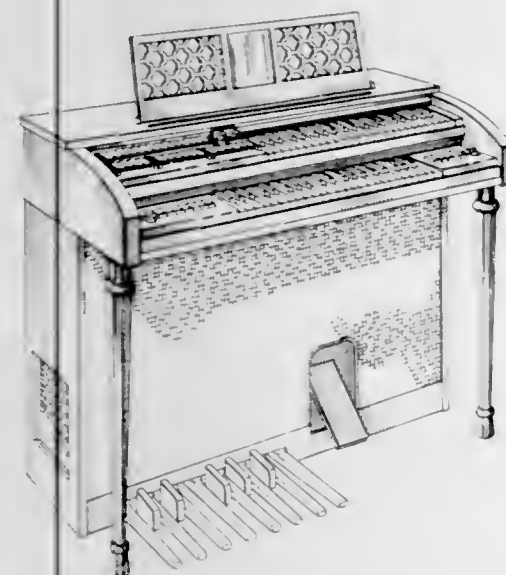


219,173
ORGAN CONSOLE

Winsor D. White, Jr., Blowing Rock, N.C., assignor to
D. H. Baldwin Company, Cincinnati, Ohio, a corpo-
ration of Ohio

Filed May 21, 1969, Ser. No. 17,269
Term of patent 14 years
Int. Cl. D17—01

U.S. Cl. D56—2

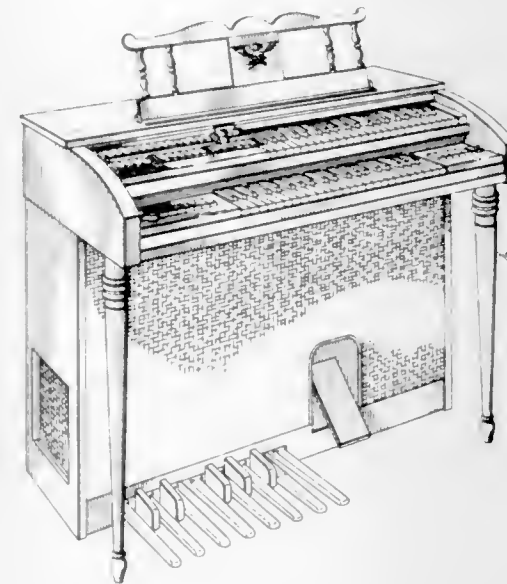


219,174
ORGAN CONSOLE

Winsor D. White, Jr., Blowing Rock, N.C., assignor to
D. H. Baldwin Company, Cincinnati, Ohio, a corpo-
ration of Ohio

Filed May 28, 1969, Ser. No. 17,389
Term of patent 14 years
Int. Cl. D17—01

U.S. Cl. D56—2

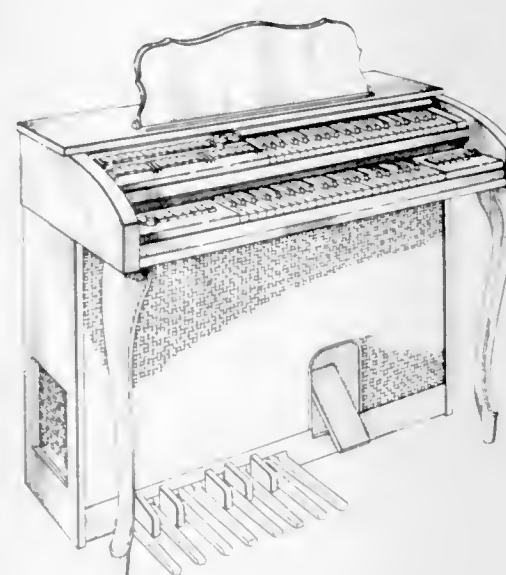


219,175
ORGAN CONSOLE

Winsor D. White, Jr., Blowing Rock, N.C., assignor to
D. H. Baldwin Company, Cincinnati, Ohio, a corpo-
ration of Ohio

Filed Aug. 1, 1969, Ser. No. 18,501
Term of patent 14 years
Int. Cl. D17—01

U.S. Cl. D56—2

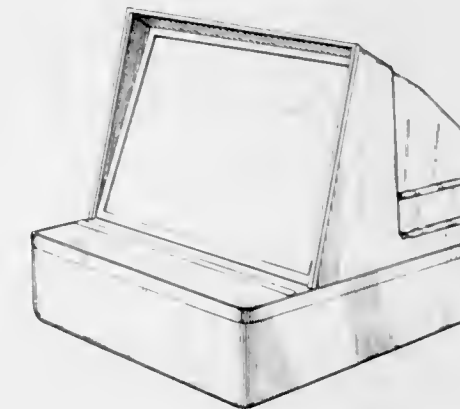


219,176
MICROFICHE VIEWER

James B. Single, Hilliard, Ohio, assignor to Nu-Way
Automotive Systems, Inc., Columbus, Ohio, a corpo-
ration of Ohio

Filed Aug. 26, 1969, Ser. No. 18,856
Term of patent 14 years
Int. Cl. D16—03

U.S. Cl. D61—1

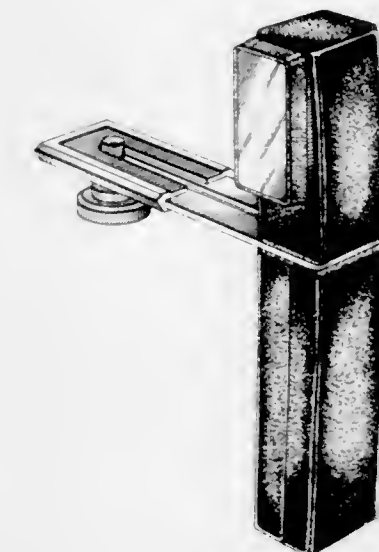


219,178
CAMERA FLASH ATTACHMENT

Peter T. Quinn, Littleton, Colo., assignor to Honeywell,
Inc., Minneapolis, Minn., a corporation of Delaware

Filed Sept. 3, 1969, Ser. No. 18,988
Term of patent 14 years
Int. Cl. D16—07

U.S. Cl. D61—1



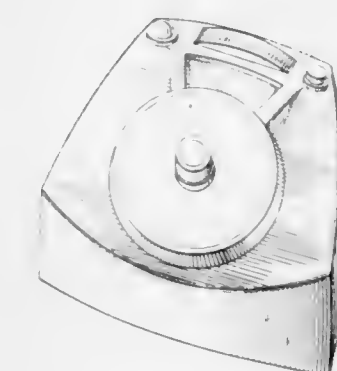
219,177
CAMERA FLASH ATTACHMENT
Peter T. Quinn, Littleton, Colo., assignor to Honeywell
Inc., Minneapolis, Minn., a corporation of Delaware
Filed Sept. 3, 1969, Ser. No. 18,977
Term of patent 14 years
Int. Cl. D16—07

U.S. Cl. D61—1



219,179
EXPOSURE METER
John T. Armbruster, Niagara Falls, N.Y., assignor to
American Optical Corporation, Southbridge, Mass., a
corporation of Delaware
Filed Nov. 4, 1969, Ser. No. 19,941
Term of patent 7 years
Int. Cl. D16—07

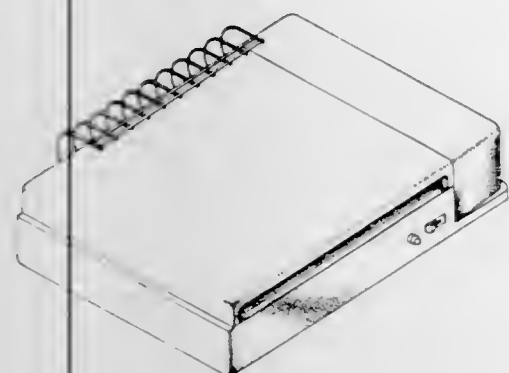
U.S. Cl. D61—1



219,180
STABILIZATION PROCESSOR FOR
PHOTOGRAPHIC FILM

Wesley Arthur Stewart, Glendale, and Peter Meyers, Sepulveda, Calif., assignors to M. P. Goodkin Company, Irvington, N.J., a corporation of New Jersey
Filed Dec. 12, 1969, Ser. No. 20,482
Term of patent 14 years
Int. Cl. D16—06

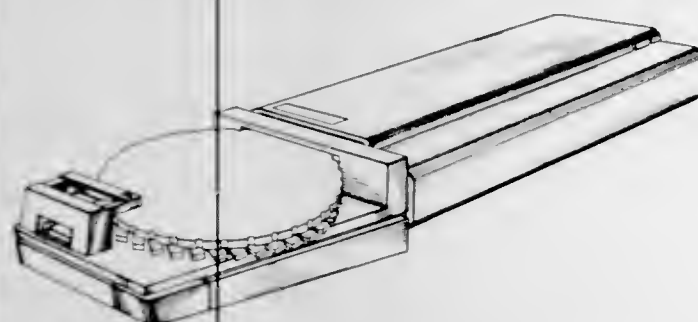
U.S. Cl. D61—1



219,181
TAPE EMBOSSING TOOL

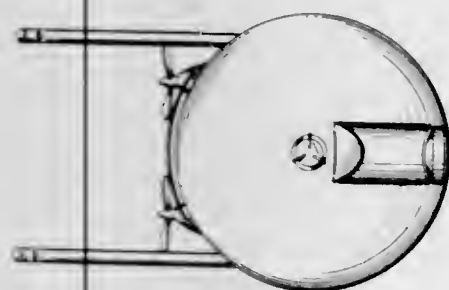
Charles R. Rhodes, Pleasant Hill, Calif., assignor to Dymo Industries, Inc., Emeryville, Calif., a corporation of California
Filed Aug. 26, 1969, Ser. No. 18,855
Term of patent 14 years
Int. Cl. D18—99

U.S. Cl. D64—10



219,182
UNDERWATER SCOOTER
Pierre Poutout, 41 Rue du Haut-Charlin, 33 Merignac, France
Filed Jan. 27, 1969, Ser. No. 15,552
Term of patent 14 years
Int. Cl. D12—13

U.S. Cl. D71—1



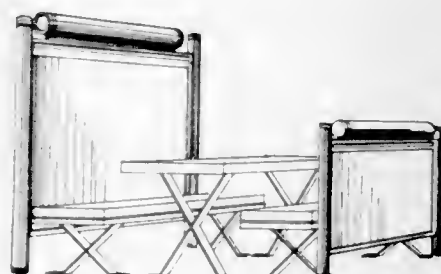
219,183
ELECTRIC PENCIL SHARPENER
William Macowski, Jr., Caldwell, N.J., assignor to Ket-cham & McDougall, Inc., Roseland, N.J., a corporation of New Jersey
Filed Oct. 15, 1969, Ser. No. 19,562
Term of patent 14 years
Int. Cl. D19—99

U.S. Cl. D74—21



219,184
BOOTH FOR A LOUNGE OR THE LIKE
Billy Joe Walters, 1916 "B" Demere Road, Saint Simons Island, Ga. 31522
Filed May 26, 1969, Ser. No. 17,359
Term of patent 14 years
Int. Cl. 6—01

U.S. Cl. D80—2



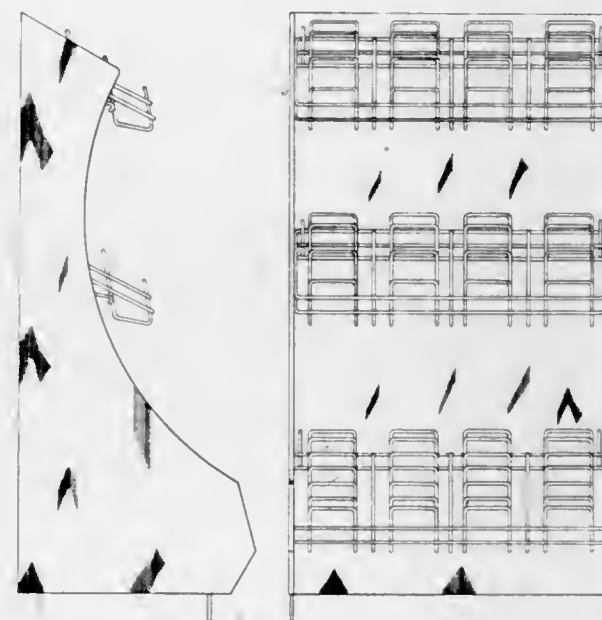
219,185
BELT AND CHAIN HANGER
Grayce T. Stetson, Providence, R.I., assignor to Jewels by April, Inc., Providence, R.I., a corporation of Rhode Island
Filed May 26, 1969, Ser. No. 17,336
Term of patent 14 years
Int. Cl. D6—07

U.S. Cl. D80—8



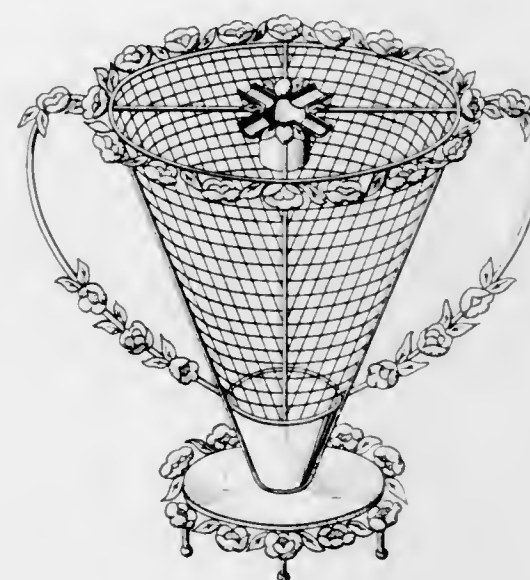
219,186
MERCHANDISE DISPLAY STAND
William S. Leath, Birmingham, Ala., assignor to EBSCO Industries, Inc., a corporation of Delaware
Filed July 17, 1969, Ser. No. 18,248
Term of patent 14 years
Int. Cl. D6—01

U.S. Cl. D80—9



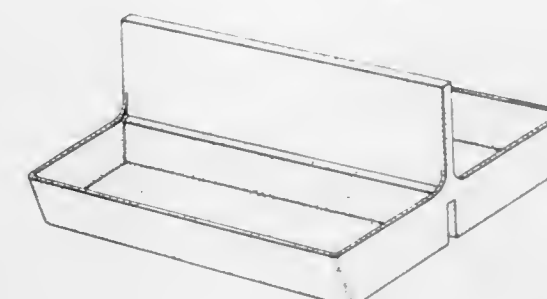
219,187
COMBINATION TRASH AND
SMOKER'S RECEPTACLE
Barbara Ellen Boykin, 106 Oakland Ave., Manning, S.C. 29102
Filed Oct. 24, 1969, Ser. No. 19,710
Term of patent 14 years
Int. Cl. D27—03

U.S. Cl. D85—2



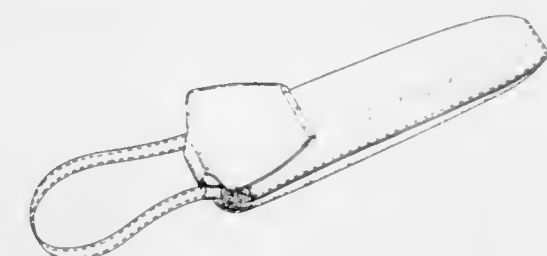
219,188
UTILITY TRAY
James E. Joyce, 878 Darien Circle, Rochester, Mich. 48063
Filed Jan. 14, 1969, Ser. No. 15,332
Term of patent 14 years
Int. Cl. D3—99

U.S. Cl. D87—1



219,189
PACKAGED UMBRELLA
Heinz Seelig, Solingen, Germany, assignor to Telesco Brophey Limited, Montreal, Quebec, Canada
Filed Aug. 14, 1969, Ser. No. 18,681
Claims priority, application Germany Feb. 14, 1969
Term of patent 14 years
Int. Cl. D3—03

U.S. Cl. D87—1



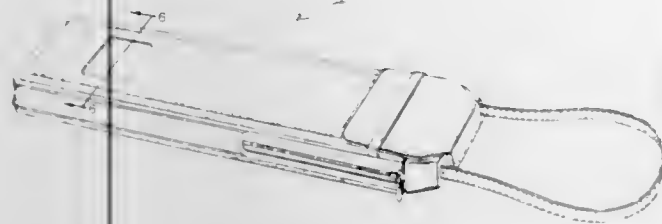
219,190
CASING FOR FLAT UMBRELLAS
Joachim Seidel, Solingen-Wald, Germany, assignor to Kortenbach & Rauh Kommanditgesellschaft, Solingen-Weyer, Germany
Filed Aug. 22, 1969, Ser. No. 18,803
Term of patent 14 years
Int. Cl. D3—03

U.S. Cl. D87—1



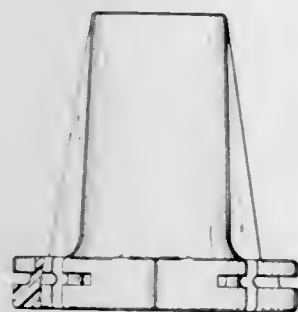
219,191
COMBINED UMBRELLA AND SHEATH
 Fritz Bremshey, 28 Wilhelmstrasse,
 565 Solingen-Ohligs, Germany
 Filed Nov. 3, 1969, Ser. No. 19,891
 Term of patent 14 years
 Int. Cl. D3—03

U.S. Cl. D87—1



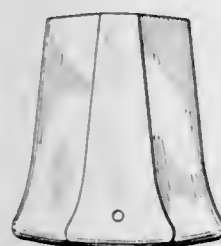
219,192
UMBRELLA RUNNER
 Günter Vogel, Solingen-Merscheid, Germany, assignor to
 Kortenbach & Rauh Kommanditgesellschaft, Solingen-
 Weyer, Germany
 Filed Sept. 18, 1969, Ser. No. 19,207
 Term of patent 14 years
 Int. Cl. D3—03

U.S. Cl. D88—3



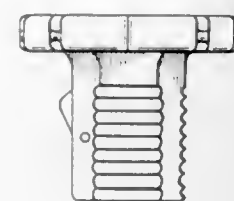
219,193
UMBRELLA HANDLE
 Günter Rotthier, Burg (Wupper), Germany, assignor to
 Kortenbach & Rauh Kommanditgesellschaft, Solingen-
 Weyer, Germany
 Filed Aug. 22, 1969, Ser. No. 18,804
 Term of patent 14 years
 Int. Cl. D3—03

U.S. Cl. D88—3



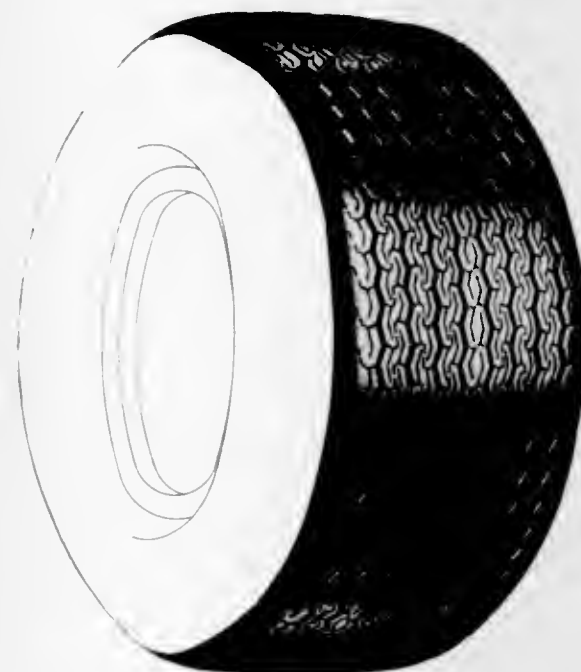
219,194
AUXILIARY UMBRELLA RUNNER
 Günter Granrath, Solingen-Merscheid, Germany, assignor
 to Kortenbach & Rauh Kommanditgesellschaft, Solingen-
 Weyer, Germany
 Filed Sept. 18, 1969, Ser. No. 19,208
 Term of patent 14 years
 Int. Cl. D3—03

U.S. Cl. D88—3



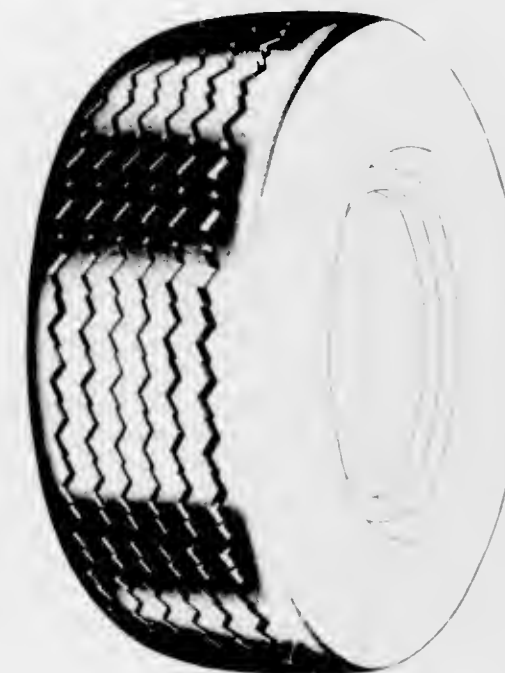
219,195
TIRE
 Richard J. Skerl, Barberton, Ohio, assignor to The B. F.
 Goodrich Company, New York, N.Y., a corporation of
 New York
 Filed Nov. 21, 1969, Ser. No. 20,208
 Term of patent 14 years
 Int. Cl. D12—14

U.S. Cl. D90—20



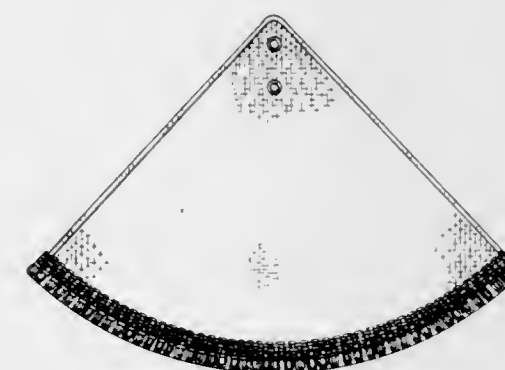
219,196
TIRE
 Lemuel G. Burnett, Norristown, Pa., assignor to The
 B. F. Goodrich Company, New York, N.Y., a corpo-
 ration of New York
 Filed Dec. 11, 1969, Ser. No. 20,453
 Term of patent 14 years
 Int. Cl. D12—14

U.S. Cl. D90—20



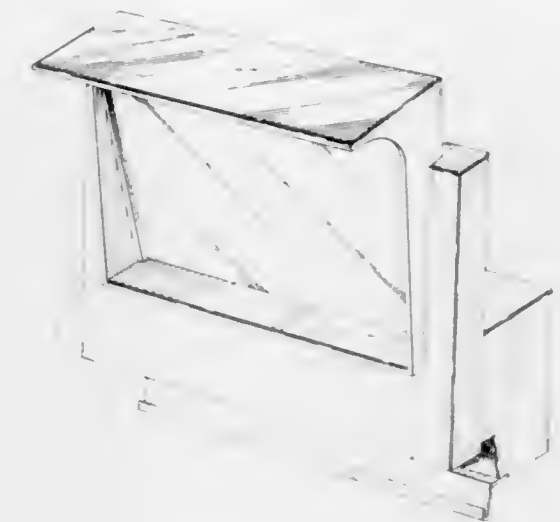
219,197
HAND TOWEL
 Yvonne B. Robinson, 7105 Slater St.,
 Merriam, Kans. 66204
 Filed Aug. 14, 1969, Ser. No. 18,683
 Term of patent 14 years
 Int. Cl. D6—09

U.S. Cl. D92—26



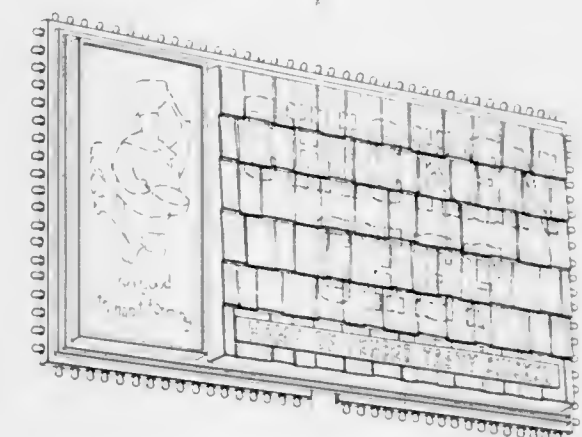
219,198
SEQUENTIAL DISPLAY DEVICE
 Roger F. Rex, Hales Corners, Wis., assignor to Display
 Corporation, Milwaukee, Wis., a corporation of Wis-
 consin
 Filed Apr. 9, 1969, Ser. No. 16,640
 Term of patent 14 years
 Int. Cl. D20—03

U.S. Cl. D96—12



219,199
SIGN
 James L. Herbert, Jr., Jackson, Miss., assignor to The
 Chicken Chef Systems, Incorporated, a corporation of
 Mississippi
 Filed Apr. 24, 1969, Ser. No. 16,879
 Term of patent 7 years
 Int. Cl. D20—03

U.S. Cl. D96—12



LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 10TH DAY OF NOVEMBER, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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- AB SKF (Aktiebolaget Svenska Kullagerfabriken): *See—*
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- Abe, Goro: *See—*
Noda, Ikuya, Yamamoto, Akira, Ueta, Takashi, Minami, Hisao, Hirano, Ryo, Ishiguro, Ken, Inoue, Shinichiro, Someno, Fujio, Hokari, Sadao, and Abe, Goro, 3,538,732.
- Abe, Hiroshi: *See—*
Ozawa, Koiti, and Abe, Hiroshi, 3,539,098.
- Ables, Billy D., to Texas Instruments, Incorporated. Step and repeat camera with computer controlled film table. 3,539,256, Cl. 355-53.
- ACF Industries, Incorporated: *See—*
Nelson, Norman A., and Tomlin, Jerry B., 3,538,948.
- Acker, Stanley, to Cosmetically Yours, Inc. Cosmetic storage and display unit. 3,539,237, Cl. 312-234.
- Adage, Inc.: *See—*
Max, Solomon M., and Porter, John B., 3,539,860.
- Adamovske Strojirny: *See—*
Jiruse, Jaroslav, and Horak, Jaroslav, 3,539,055.
Janecek, Jaroslav, and Vidensky, Frantisek, 3,539,175.
- Adams, J. D., Co.: *See—*
Adams, James D., 3,538,963.
- Adams, James D., to Adams, J. D., Co. Lumber component cutting machine. 3,538,963, Cl. 143-6.
- Adams, James T., to Ball, B. J., Limited. Bed support. 3,538,522, Cl. 5-327.
- Adams, Mark F.: *See—*
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- Addressograph-Multigraph Corporation: *See—*
Miles, John R., 3,539,258.
- Advance Bakery Corporation: *See—*
Alt, Rudolph, and Giuffrida, Pasquale, 3,538,859.
- A.E.I. Corporation: *See—*
Christine, William C., and Pierce, Joseph E., 3,538,997.
- Aerodyne Machinery Corporation: *See—*
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- Aeroglide Corporation: *See—*
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- Aerolite Electronics Corporation: *See—*
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- Aeroprojects Incorporated: *See—*
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- Affanastiev, Mikhail Andreevich: *See—*
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- Agence de Realisations et d'Etudes Commerciales: *See—*
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- Agfa Aktiengesellschaft: *See—*
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- AGFA-Gevaert Aktiengesellschaft: *See—*
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- Agranat, Edward A., to Amicon Corporation. Ultrafiltration batch cell. 3,539,155, Cl. 259-8.
- Agtech Systems Corporation: *See—*
Carnell, Richard M., 3,538,695.
- Aguilar, Henry. Seat tilting chair. 3,539,220, Cl. 297-320.
- Agule, George J., Sr.: *See—*
Randmer, Jacob A., and Agule, George J., Sr., 3,539,858.
- Ahn, Kie Y., and Shafer, Merrill W., to International Business Machines Corporation. Film of magneto-optical rare earth oxide including method therefor. 3,539,382, Cl. 117-106.
- Air Balance, Inc.: *See—*
Metti, Sam S., and Tarnoff, Sherwin S., 3,538,975.
- Aisin Seiki Company Limited: *See—*
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- Aisin Seiki Kabushiki Kaisha: *See—*
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- Aizawa, Tatsuo: *See—*
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- Akeley, Lloyd T., to Simmonds Precision Products, Inc. Temperature indication circuitry utilizing a thermistor sensor and a ratiometer indicator. 3,538,771, Cl. 73-362.
- Akins, Robert J.: *See—*
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- Aktiebolaget Astra: *See—*
Eriksson, Sven Axell, 3,539,682.
- Aktiebolaget Electrolux: *See—*
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- Aktiebolaget Overumes Bruk: *See—*
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- Aktiengesellschaft Gebrueder Loepk: *See—*
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- Aladdin Rubber Corporation: *See—*
Se Breny, Bernard S., 3,539,149.
- Alberts, Robert A., to SCM Corporation. Method for improving the cure rate of polyesters. 3,539,479, Cl. 260-22.
- Alco Standard Corporation: *See—*
Polin, Jerry, 3,538,883.
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- Aldighieri, Rudolph P.: *See—*
Ruete, Robert, Aldighieri, Rudolph P., and Silva, Frank A., 3,539,972.
- Aldridge, Clyde L., to Esso Research and Engineering Company. Preventing catalyst poisoning by sulfur. 3,539,297, Cl. 23-213.
- Alexander, John Malcolm, and Lengyel, Bela, to National Research Development Corporation. Extrusion method and apparatus. 3,538,730, Cl. 72-60.
- Alford, Andrew: *See—*
Tischer, Frederick J., 3,539,951.
- Allen, Andrew J., Anderson, Rodney H., Campbell, Trevor G., and Lee, Emil B., Jr., to Caterpillar Tractor Company. Ejector type bucket loader. 3,539,069, Cl. 214-767.
- Allen, Charles D. Towing apparatus. 3,539,062, Cl. 214-86.
- Allerton, George L., Marshall, Howard D., and Siegel, Robert L., III, to Western Electric Company, Incorporated. Methods and apparatus for anodizing serial resistances, in particular, a resistance pad attenuator. 3,539,459, Cl. 204-15.
- Alleva, Leon L.: *See—*
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- Allied Chemical Corporation: *See—*
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- Allison, Birt, Jr.: *See—*
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- Allison, Dale Clifford. Automatic doorstop hinge. 3,538,539, Cl. 16-191.
- Alquist, Henry E.: *See—*
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- AlSCO, Inc.: *See—*
Nash, John J., 3,539,955.
- Alt, Rudolph, and Giuffrida, Pasquale, to Advance Bakery Corporation. Hollow bakery shells. 3,538,859, Cl. 107-4.
- Aluminum Company of America: *See—*
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- Amemiya, Kunio: *See—*
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- American Bilrite Rubber Co., Inc.: *See—*
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- Chein-Ho, Wu, to Shell Oil Company. Method and apparatus for manufacture of high clarity polyolefin film. 3,539,669, Cl. 264-95.
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- Chleck, David J., to Panametrics, Inc. Method of measuring the water content of liquid hydrocarbons. 3,539,917, Cl. 324-61.
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- Clarke, Michael E., and Morell, Bryan, to British Oxygen Company Limited. The Reciprocating piston engine. 3,538,815, Cl. 92-127.
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- Cooke, Anson R., to Amchem Products, Inc. Method of controlling plant transpiration. 3,539,373, Cl. 117-3.
- Cooley, William C., to Exotech Incorporated. Hydraulic ram jet device. 3,539,104, Cl. 239-102.
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- Cox, James P., to Inglis, John, Frozen Foods Company. Machine for trimming projections from globular articles. 3,538,969, Cl. 146-81.
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- Crawford, John K., Croll, Donald C., Hulsizer, John C., Kendall, Frank T., and Schaeffer, George B., Jr., to International Business Machines Corporation. Data display system. 3,540,033, Cl. 340-324.
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- Cummins, Billy H., to Texaco Inc. Furfural extraction of middle distillates. 3,539,504, Cl. 208-327.
- Cunningham, Cecil R., to Owens-Corning Fiberglas Corporation. Method and apparatus for controlling delivery of filamentary material to rotatable collectors. 3,538,699, Cl. 57-90.
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- Cutler, Albert Ernest, to Communications Patents Limited. Electronic type composing apparatus. 3,539,718, Cl. 178-6.8
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- Davis, Martin A., and Humber, Leslie G., to American Home Products Corporation. 1,2,3,7,8,12 b-Hexahydrobenzo [1,2] cyclohepta[3,4,5-d,e]isoquinolinomethylencamidoximes and esters thereof. 3,539,576, Cl. 260-286.
- Davis, Martin A., and Humber, Leslie G., to American Home Products Corporation. Isoquinoline carboxamides. 3,539,577, Cl. 260-287.
- Davis, Steven S., Davis, Kent L., and Brozovich, John C., to Envirotech Corporation. Disc sector and method of assembly thereof. 3,539,050, Cl. 210-486.
- Davis, William J., to Polymer Corporation, The. Polyamide smoke filter. 3,538,920, Cl. 131-10.
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- de Besme, Henry Geneste, to O.E.M. Medical, Inc., mesne. Pneumatic pulsating body supporting construction. 3,538,910, Cl. 128-24.
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- de la Cruz, Rodolfo V., and Goodman, Richard E., to University of California, The Regents of the. Device and method of determining rock stress. 3,538,755, Cl. 73-88.
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- De Lorenzo, Paul, to Clark Equipment Company, mesne. Drawer construction for a refrigerator, cabinet or other enclosure. 3,539,240, Cl. 312-333.
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- Denver Wood Products Co.: *See—*
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- De Prisco, Carmine F., Young, James G., and Maropis, Nicholas, to Aeroprojects Incorporated. Automatic frequency control circuit for use with ultrasonic systems. 3,539,888, Cl. 318-116.
- Dereniuk, Paul, and Blecharczyk, Walter J., to Davol Inc. Method of manufacturing a plastic catheter. 3,539,674, Cl. 264-130.
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Lewis, Morton, to Swift & Company. Fatty amido amines. 3,539,601, Cl. 260-403.
Li, Tingye, to Bell Telephone Laboratories, Incorporated. Digital-to-analog converter employing propagating domains. 3,540,035, Cl. 340-347.
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Lich, Richard L., to General Steel Industries, Inc. Elastomerically sprung transom and bolster car truck. 3,538,856, Cl. 105-182.
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Lillestrand, Robert L., Kane, Lawrence D., and Vannelli, Bruce D., to Control Data Corporation. Star recognition apparatus with an optical scanning disc. 3,539,814, Cl. 250-203.
Lillibridge, Duane J., and Peck, Lawrence G., to Unarco Industries, Inc. Storage rack and sprinkler arrangement. 3,539,108, Cl. 239-209.
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Linsell, Russell, and Parsley, George, to Esso Research and Engineering Company. Apparatus for determining contamination of flowing liquids in a pipe. 3,538,748, Cl. 73-61.1
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Liss, Theodor Arthur, and Vinton, William Howells, to Du Pont de Nemours, E. I., and Company. Synthetic polyamide fiber dyed with copper complex of monoazo dyestuffs. 3,539,288, Cl. 8-42.
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Lloyd, Norman E., to Standard Brands Incorporated. Ammonium phosphate derivatives of starch. 3,539,553, Cl. 260-233.5
Lochridge, Joe C., Rochelle, William R., and Desai, Ardesir Rustomji, to Brown & Root, Inc. Method and apparatus for connecting a rigid ramp used for pipe laying operations to a marine vessel. 3,538,712, Cl. 61-72.3
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Loe, Wallace D., to Loe Industries. Means and techniques for handling and dispensing fluids from large metal drums. 3,539,079, Cl. 222-176.
Loew, Theodore, to Cee Bee Mfg. Co., Inc. Automotive protective device. 3,539,201, Cl. 280-150.
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Longyear, Douglas M., Jr., and Cooper, Donald R., to Bendix Corporation, The. Mechanically deflected fluid stream servo valve. 3,538,936, Cl. 137-83.
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Ludt, William C., and Jones, John T., to Ethyl Corporation. Humidity controller. 3,538,715, Cl. 62-177.
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Mahony, John P., to Bell Telephone Laboratories, Incorporated. Synchronizing circuit. 3,539,997, Cl. 340-172.5.

Maillard, Bernard, to Brevets Aero-Mecaniques S.A. Barrel attachment for a firearm. 3,538,810, Cl. 89-159.

Malling, Alfred J. Moisture extracting and drying apparatus. 3,538,616, Cl. 34-92.

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Marburg, Arthur. Method of assembling the walls of a box-like structure. 3,539,425, Cl. 156-247.

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Marlin, Glenn Adrian, McConnell, James Clifford, and Schmidt, Wilhelm Emil Albert, to Western Electric Company, Incorporated. Apparatus for assembling sealed contact switches. 3,539,323, Cl. 65-139.

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Massa, Frank, Jr., to Massa Division, Dynamics Corporation of America. Underwater electroacoustic transducer which resists intense pressure. 3,539,980, Cl. 340-8.

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Matthies, Alan A., to Controls Company of America. Refrigeration system control arrangement including heat motor operated expansion valve. 3,538,717, Cl. 62-212.

Mattke, Charles F., to Bell Telephone Laboratories, Incorporated. Transmitting typewriter apparatus. 3,539,723, Cl. 178-81.

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McGee, John K., to Giddings & Lewis, Inc. Apparatus for controlling the instantaneous positions and velocities of movable elements according to digital numerical commands. 3,539,895, Cl. 318-18.

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- Osborne, Phillip W., to Commonwealth of Puerto Rico. Steady state fracture device. 3,538,757, Cl. 73-100.
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- Pearson, Anthony Fabian Austin. Means for collecting flotsam. 3,539,048, Cl. 210-242.
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- Perry, Donald M. Shadowless projection systems. 3,539,798, Cl. 240-41.3.
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- Psarras, Theodore, and Sandy, Charles A., to Du Pont de Nemours, E. I., and Company. Trialkyl plumbides and unsymmetrical tetraalkyl leads, 3,539,608, Cl. 260-437.
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- Rees, Donald W., Hilliard, Robert C., and Hoogland, Jan, to United States of America, Army, mesne. Wide angle television projection device, 3,539,721, Cl. 178-7.89
- Regie Nationale des Usines Renault: *See—*
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- Reich, Manfred, to Chemische Werke Huels A.G. Preparation of cycloparaffins from corresponding cycloolefins, 3,539,649, Cl. 260-666.

- Reichenbach, Roy E., and Talladira, Joseph A. Home type barbecur-ing, 3,538,905, Cl. 126-25.
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- Reid, Otto S., and Frahm, Carl E. Valve construction, 3,539,151, Cl. 251-242.
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- Reiner, Kenneth. Hair roller including internal cylindrical insert con-taining a heat storage medium, 3,538,925, Cl. 132-39.
- Reliance Electric Company: *See—*
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- Remaud, Jacques, to Regie Nationale des Usines Renault Automobiles Peugeot. Trim corrector control devices of vehicles, 3,539,197, Cl. 280-104.
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- Remsen, Irving B.: *See—*
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- Repholz, John M.: *See—*
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- Requa, Stanley C., and Izatt, Jerald R., to Northrop Corporation. Elec-tron beam scanning device, 3,539,719, Cl. 178-7.7
- Resistoflex Corporation: *See—*
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- Resnick, Larry, to Varian Associates. Beam width defining structure for linear accelerator radiotherapy devices, 3,539,813, Cl. 250-105.
- Response Systems Corporation: *See—*
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- Reuteler, Johann F., and Anderson, Robert F., to Pratt & Whitney, Inc. Servomechanism including a feed rate comparator for a frequency signal proportional to system error with a programmed frequency, 3,539,896, Cl. 318-18.
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- Reynolds, Charles Edward, to AMP Incorporated. Coaxial connector with controlled characteristic impedance, 3,539,976, Cl. 339-177.
- Reynolds, Joseph Howard, and Levee, Arthur Benjamin, to Ceeco Products Pty. Limited. Shive extractor and method of extracting shives, 3,538,591, Cl. 29-427.
- Reynolds, Reginald John William: *See—*
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- Richards, Robert Doughty, and Vincent, Alan Howard, to Muirhead Instruments, Inc. Electrolytic recording medium, 3,539,457, Cl. 204-2.
- Rider, Allison L., and Rider, Clinton H. Tubular pump, 3,539,279, Cl. 418-48.
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- Ries, Christian, to Collardin, Gerhard, GmbH. Solutions for the deposi-tion of protective layers on zinc surfaces and process therefor, 3,539,403, Cl. 148-6.14
- Ries, Herman E., Jr.: *See—*
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- Riordan, Robert Michael, to Dresser Industries, Inc. Pilot-actuated shut-off valve, 3,538,944, Cl. 137-496.
- Ripka, Josef, Hortlik, Frantisek, Junek, Jan, and Marsalek, Milan, to Uzkumy Ustav Bavlarsky. Break-spinning apparatus, 3,538,698, Cl. 57-58.95
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- Risgin, Ojars, to Chain Lakes Research Associates, Inc. Standard or reference source of infrared radiation, 3,539,811, Cl. 250-85.
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- Rochester Paper Company: *See—*
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- Rohland, William S., to International Business Machines Corporation. Data sensing system, 3,539,777, Cl. 235-61.11
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- Rosenberg, Peretz. Rotary sprinkler, 3,539,109, Cl. 239-222.15
- Rosenberg, Ralph. Pigmentation in poultry husbandry, 3,539,686, Cl. 424-195.
- Rosenberg, Roger L., and Zielinski, Robert D., to Clare, C. P., & Com-pany. Matrix board apparatus, 3,539,873, Cl. 317-99.
- Rosenberry, George M., Jr., and Williamson, Dennis F., to Canadian General Electric Company, Limited. Rectifier frequency converter, 3,539,901, Cl. 321-7.
- Rosenthal, Arnold J.: *See—*
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- Rosenthal, Paul: *See—*
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- Roth, Sam W. Resilient cartridge holder having an elongated base con-taining a plurality of cartridge-receiving recesses, 3,538,636, Cl. 42-87.
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Rudd, Wallace C., to American Machine & Foundry Company. Forge welding. 3,539,761, Cl. 219-121.

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Ruete, Robert, Aldighieri, Rudolph P., and Silva, Frank A., to America Esna Corporation, mesne. Electrical connector for high voltage electrical systems. 3,539,972, Cl. 339-111.

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Salam, William T., and Middleton, Charles G., to Stromberg Hydraulic Brake and Coupling Company. Automatic control for hydraulic mechanism. 3,538,708, Cl. 60-54.5.

Salews, Richard H. Hot water system. 3,538,892, Cl. 122-177.

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Salverda, Robert E. Tilt top pool. 3,539,188, Cl. 273-110.

Salzberg, Edward. Radio frequency directional couplers. 3,539,948, Cl. 333-10.

Sampson, Carl J., to Jackson, Byron, Inc. Bumper. 3,539,173, Cl. 267-140.

Samuels, Carl E. Ball projecting device having two rotatable wheels. 3,538,900, Cl. 124-1.

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Sator, Karl, and Gill, Robert F., to Tekform Products Co., mesne. Hermetically sealed enclosure. 3,539,704, Cl. 174-52.

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Schimert, George, and Bohm, Toivo John. Artificial heart valve. 3,538,514, Cl. 3-1.

Schirmer, Henry G., to Grace, W. R., & Co. Method for preparing a non-woven fabric-like member. 3,539,666, Cl. 264-51.

Schlabs, Charles V. Tandem plow packer. 3,539,015, Cl. 172-202.

Schleifenbaum, Karl, to Meteor-Seigen Apparatebau Paul Schmeck G.m.b.H. Apparatus for processing light-sensitive sheet material by means of a processing solution. 3,538,836, Cl. 95-89.

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Schmidt, Richard F., to United States of America, National Aeronautics and Space Administration. Electronic scanning of 2-channel monopulse patterns. 3,540,050, Cl. 343-100.

Schmidt, Roger M., and Truskolaski, Bernard S., to Minnesota Mining and Manufacturing Company. Decorative ribbon and bow. 3,539,431, Cl. 161-9.

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Schneider, Sol, and Taylor, George W., to United States of America, Army. Vacuum tube isolator, circuit protector, and voltage regulator. 3,539,870, Cl. 317-51.

Schneider, Sol, and Taylor, George W., to United States of America, Army. Circuit protecting, gas-tube, discharge interrupter. 3,539,871, Cl. 317-51.

Schneider, William A., Tavella, Emir L., and Backus, Milo M., to Texas Instruments, Incorporated. Optimum multiple seismic record stacking. 3,539,985, Cl. 340-15.5.

Schneider, William Apple, to Texas Instruments, Incorporated. Optimum horizontal stacking. 3,539,984, Cl. 340-15.5.

Schneider, Wolfgang, to Goodrich, B. F., Company, The. Preparation of cis-1,4-dienes. 3,539,652, Cl. 260-680.

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Schwartz, Sidney J., to National Cash Register Company, The. Magnetic storage device having a rippled magnetization pattern and periodic edge discontinuities. 3,540,020, Cl. 340-174.

Schwartzbart, Harry, Saperstein, Zalman P., and Rudy, John F., to IIT Research Institute. Welding apparatus. 3,539,756, Cl. 219-74.

Schwarz, Francis C., to United States of America, National Aeronautics and Space Administration. Saturation current protection apparatus for saturable core transformers. 3,539,905, Cl. 321-45.

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Schweiker, Malcolm A., and Watson, Wayne C., to American Olean Tile Company, Inc. Tile blending apparatus. 3,539,007, Cl. 209-75.

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Se Breny, Bernard S., to Aladdin Rubber Corporation. Gate for above-ground irrigation pipe. 3,539,149, Cl. 251-145.

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Secrist, David, and Secrist, Robert. Vehicle for loading and unloading bales of hay and like articles. 3,539,067, Cl. 214-512.

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Sedlatschek, Karl, and Leuprecht, Reginald. Tantalum capacitors and tantalum having exterior dielectric oxide film tantalum capacitors. 3,539,460, Cl. 204-56.

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Seelbach, Walter C., and Priel, Ury, to Motorola, Inc. Clocked delay type flip flop. 3,539,836, Cl. 307-269.

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Selke, William A., to Kimberly-Clark Corporation. Method of making carbonized cellulose fibers for incorporation in electrically conductive paper. 3,539,296, Cl. 23-209.4.

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Shetty, Bola Vithal, to Pennwalt Corporation. 2-Cycloalkyl-substituted-tetrahydro-halo-sulfamyl-quinazolinones. 3,539,570, Cl. 260-256.5.

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- Shiller, William R., and Zyra, Mieczyslaw F. Head positioning device for dental X-ray systems. 3,539,805, Cl. 250-50.
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- Smith, Roy E., to Owens-Corning Fiberglass Corporation. Glass fiber forming apparatus with roll means for advancing linear material. 3,539,317, Cl. 65-11.
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- Smith, Willard S., to Plastic Products Company, Inc. Clicker toy. 3,538,637, Cl. 46-189.
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- Smitzer, Louis A., to Stromberg Datagraphix, Inc., mesne. Film transport. 3,539,254, Cl. 353-95.
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- Smulders, August Hendrik Maria, to N.V. Industrielele. Apparatus for transferring fluids between a vessel and the shore. 3,538,880, Cl. 114-230.
- Smyers, William H., Jr., and Russo, Ronald D., to Koehler-Dayton, Inc. Automatic macerator unit. 3,539,010, Cl. 210-143.
- Snoddy, Arnon O., Diehl, Francis L., Smith, Norman R., and Callen, Joseph E., to Procter & Gamble Company. The. Detergent composition. 3,539,521, Cl. 252-137.
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- Sparks, Robert A., to S&S Tool Company. Carpet finishing tool. 3,538,523, Cl. 7-14.1.
- Sparks, Robert E., to Mohawk Industries International Incorporated, mesne. Stencil cap and process of making. 3,539,492, Cl. 204-282.
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- Springuel, Paul Francois, and Chantaine, Edmond Guillam, to Springuel, Paul Francois. Delivering system for paper-making machine. 3,539,447, Cl. 162-336.
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- Steenberg, Laurence R., and Stofa, Frank, to Universal Oil Products Company. Production of low-sulfur fuel oil. 3,539,496, Cl. 208-89.
- Stefanik, Donald J., to SCM Corporation. Noise rejection circuit. 3,539,722, Cl. 178-69.
- Steinberg, Jay M., and Rosenthal, Arnold J., to Celanese Corporation. Thermally stable polymeric fibers and process for producing same. 3,539,677, Cl. 264-184.
- Steinle, Melvin E., to United States of America, Army, mesne. Method for coating oxidizer particles with a polymer. 3,539,377, Cl. 117-62.2.
- Steitz, Alfred, Jr., to Standard Oil Company. 1,1,3-Trimethyl-3-cyclohexylidene-4',5'-dicarboxylic acid. 3,539,619, Cl. 260-475.
- Stemme, Walter, to Braun Aktiengesellschaft. Toothbrush. 3,538,530, Cl. 15-22.
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Stevenson, Roy S. Boat trailer and dock. 3,539,066, Cl. 214-506.

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Stewart, Mary J., and Carlson, Otto K., to FMC Corporation. Thermal stabilization of saturated linear polyesters with substituted alkanes and alkanols. 3,539,640, Cl. 260-45.95.

Stewart, Wayne R., to Pulaski Rubber Company, The. Planter wheel tire having soil pinching structure. 3,538,971, Cl. 152-352.

Stewart-Warner Corporation: *See—*
Boos, Philip D., Jr., 3,539,148.

Stiles, Tony W. Duffel bag carrier. 3,539,194, Cl. 280-47.13.

Stillwagon, George B., Jr., to Gardner-Denver Company. Method of magnetizing a driving tool. 3,538,792, Cl. 76-101.

Stivers, Edward C.: *See—*
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Stoeck, Georg: *See—*
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Stoffel, Oly O. Vibrating ripper. 3,538,986, Cl. 172-40.

Stoffel, Paul J., to Monsanto Company. Oxamyl chloride substituted carbamates. 3,539,618, Cl. 260-47.1.

Stokeld, Richard W., Jr., to Texaco Inc. Molecular sieve description with a mixture of hydrocarbons. 3,539,501, Cl. 208-310.

Stolarz, Edward M.: *See—*
Kohner, Frank, D'Elia, Anthony N., and Stolarz, Edward M., 3,538,620.

Stolfa, Frank: *See—*
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Stolfi, Julius E. Collapsible airway for resuscitation. 3,538,913, Cl. 128-145.5.

Stone Container Corporation: *See—*
Galockin, Longin, Glazewski, Walter A., and Sitkowski, Eugene R., 3,538,583.

Stone, Ellery W., to Schering Corporation, mesne. Body fluid collector and separator having improved flow rate. 3,539,300, Cl. 23-253.

Stone, John G., to Cerro Corporation. Method of making long lengths of epoxy resin insulated wire. 3,539,409, Cl. 156-56.

Stone, Kurt S., to Dorr-Oliver Incorporated. Sedimentation tank with pier-supported rotary rake structure. 3,539,051, Cl. 210-520.

Stoneburner, George R.: *See—*
Tobias, George S., Cooper, Jonathan C., and Stoneburner, George R., 3,538,896.

Stonner, Frederik W., to Sterling Drug Inc. Steroid-pyrazole anti-inflammatory compositions. 3,539,556, Cl. 260-239.5.

Stopper, Herbert, to Telefunken, Patentverwertungsgesellschaft m.b.H. Constant-current transistor circuits. 3,539,834, Cl. 307-254.

Stott, Thomas Charles Felix, to General Motors Corporation. Gear selector mechanisms. 3,538,782, Cl. 74-473.

Strachan, Joseph D., and Williams, Thomas C., to Union Carbide Corporation. Siloxane-polyarylene polyether copolymers. 3,539,655, Cl. 260-824.

Stratton, Boyd L., and Poulett, Anthony, to Ampex Corporation. Method and apparatus for recording and reproducing television or other broad band signals with an altered time base effect. 3,539,716, Cl. 178-46.

Strauss, Georg: *See—*
Klee, Helmut, Schorning, Dieter, Herget, Georg, Strauss, Georg, and Niermann, Hermann, 3,539,695.

Strauss, Leopold. Combination door release and door check. 3,538,537, Cl. 16-66.

Stream, Ralph M., to Owens-Corning Fiberglass Corporation. Method for producing curly glass fibers. 3,538,722, Cl. 65-2.

Stretton, Joseph B.: *See—*
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Strole, John C., to Bendix Corporation, The. Method and an electrical signal comparator system to detect a difference between encoded signal information on a pair of different electrical signals. 3,539,930, Cl. 328-119.

Stromberg Datagraphix, Inc.: *See—*
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Stromberg Hydraulic Brake and Coupling Company: *See—*
Salam, William T., and Middleton, Charles G., 3,538,708.

Stromberg-Carlson Corporation: *See—*
Smitzer, Louis A., 3,539,132.

Strouse, Arthur Frank. Corrosion inhibitor and lubricant. 3,539,514, Cl. 252-40.5.

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Stupp, Edward H., Cath, Pieter G., and Szilagy, Zsolt, to U.S. Philips Corporation, mesne. Solid state radiation imagers. 3,540,011, Cl. 340-173.

Suh, John T., Judd, Claude I., and Skorz, Joseph A., to Colgate-Palmolive Company. 5-Substituted-2,1-benzisothiazolines. 3,539,584, Cl. 260-304.

Sulkowski, Theodore S., and Mascitti, Albert A., to American Home Products Corporation. 4-Hydroxy-2-thiazoline-5-alkanoic acids. 3,539,585, Cl. 260-306.7.

Sulzer Brothers Limited: *See—*
Sprenger, Walter, 3,538,579.

Sundin, George H.: *See—*
Wagtskjold, Halvor Paul, Sundin, George H., and Carlson, Lorian A., 3,538,797.

Suozzo, Leonard S. Thermo-mechanical multi-function support device. 3,539,136, Cl. 248-54.

Sutliff, Wayne N., and Downen, Jim L. Apparatus for the simultaneous application to an oil well fish of the direct strain of a drill string and an independent jarring blow. 3,539,025, Cl. 175-297.

Sutliff, Wayne N., and Downen, Jim L. Fishing tool energizer. 3,539,026, Cl. 175-299.

Suzuki, Jozaburo: *See—*
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Suzuki, Reiichi, and Shioyama, Yutaka, to Nitto Kasei Co., Ltd. Wood preservatives. 3,539,289, Cl. 21-7.

Svanstrom, Kjell A., to Rederiaktiebolaget Nordstjernan. Process for the reduction of metal halides. 3,539,335, Cl. 75-0.5.

Swakon, Edward A., to Standard Oil Company (Indiana). Method of preparing cyclic ureas from N, N'-dialkylammonium N, N'-dialkyl monothiol carbamates and diprimaryamines. 3,539,587, Cl. 260-309.7.

Swanson, Albert S., and Kasper, Joseph G., to Tennant Company. Steering mechanism. 3,539,195, Cl. 280-92.

Swanson, Harry G., to General Electric Company. Mounting arrangement for circuit boards in indicating instruments. 3,539,874, Cl. 317-101.

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SWECO, Inc.: *See—*
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Sweeney, James S., and Greening, Charles P., to North American Rockwell Corporation. Real-time dynamic perspective display. 3,539,696, Cl. 35-10.2.

Sweeney, Richard F., and Price, Alson K., to Allied Chemical Corporation. Halogenated triazinyl derivatives of fluorinated amides. 3,539,566, Cl. 260-249.5.

Swengel, Robert Charles, Sr., Reynier, Emerson Marshall, II, and Crumley, J. A., to AMP Incorporated. Welded connection method and means. 3,539,762, Cl. 219-127.

Swierkot, Henri Blaise: *See—*
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Swift & Company: *See—*
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Switack, John W. Crossbow. 3,538,901, Cl. 124-25.

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Szaj, Arnold P., to Nordberg Manufacturing Company. Bowl liner securing device. 3,539,120, Cl. 241-299.

Szekely, Otto E. Self-releasing cargo hook. 3,539,217, Cl. 294-83.1.

Szilagy, Bela: *See—*
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Szinai, Stephen Slomo, and Chakrabarti, Jiban Kumar, to Lilly, Eli, and Company. Acetylated (1-adamantyloxy) alkylamine compounds. 3,539,630, Cl. 260-561.

Taber, Leroy, and Dillard, James W. Automatic electric parking brake. 3,539,038, Cl. 188-162.

Taccone Corporation: *See—*
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Tafeen, Carl H. Paracervical block anesthesia assembly. 3,539,034, Cl. 128-221.

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Takagi, Masao, to Nippon Electric Company, Limited. Frequency diversity radio receiver having automatic maintenance of zero frequency difference between two IF signals. 3,540,055, Cl. 343-205.

Takashima, Shinji, to Miyata Industry Co., Ltd. Handle-stem for a bicycle. 3,539,209, Cl. 287-54.

Takizawa, Haruki: *See—*
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Tamura, Yoshiaki, and Yamaguchi, Toshimitsu, to Fuji Shashin Film Kabushiki Kaisha. Coating apparatus. 3,538,885, Cl. 118-44.

Tanigawa, Kiko, to Mitsubishi Monsanto Chemical Company. Synthetic protective film for use in plant cultivation and method of making the same. 3,539,545, Cl. 260-92.8.

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Tata, Raymond V.: *See—*
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Taylor, Daniel G., to Honeywell Inc. Photographic flash apparatus. 3,538,825, Cl. 95-11.

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Schneider, Sol, and Taylor, George W., 3,539,871.

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Taylor, Julian S. Flying shear. 3,538,798, Cl. 83-289.

Taylor, Ralph E., to United States of America, National Aeronautics and Space Administration. Electromagnetic polarization systems and methods. 3,540,045, Cl. 343-7.5.

Teac Corporation: *See—*
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Teaching Technology Corporation: *See—*
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Teijin Limited: *See—*
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Tektronix, Inc.: *See—*
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Teldix GmbH: *See—*
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Templeborough Rolling Mills Limited, The: *See—*
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Teotino, Umberto M., and Della Bella, Davide, to Whitefin Holding S.A. 1-(α -Pyrryl)-2-amino ethanol. 3,539,589, Cl. 260-326.5.

Terakado, Takao, Kawada, Isao, and Kuroda, Naoyuki, to Asahi Glass Co., Ltd. Apparatus for continuously drawing a glass sheet upwardly with sensing means. 3,539,324, Cl. 65-158.

Tesoro, Giuliana C., and Ring, Richard N., to Stevens, J. P., & Co., Inc. Bis-2 methoxy ethyl sulfonyl piperazines. 3,539,571, Cl. 260-268.

Tetrick, John D., to Doughboy Industries, Inc. Twist-tie bag closing machine. 3,538,960, Cl. 140-93.

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Griswold, Halsey E., 3,539,502.

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Thompson, William S., to Elkhart Brass Manufacturing Co., Inc. Fire hose nozzle with automatic volume adjustment. 3,539,112, Cl. 239-452.

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Tobias, George S., Cooper, Jonathan C., and Stoneburner, George R., to Calgon Corporation, mesne. Purging gasoline streams employing a bypass. 3,538,896, Cl. 123-136.

Toepel, Richard R., to General Motors Corporation. Multi-cylinder hot gas engine with power control. 3,538,706, Cl. 60-24.

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- Toma, Hiroyuki, and Nishiyama, Matsuju, to Kokan Kako Kabushiki Kaisha. Method of making push rod. 3,538,574, Cl. 29-156.4
- Tomaro, Patrick M., to Remco Industries, Inc. Novelty toy duck. 3,538,639, Cl. 46-232.
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- Tong, Peter P., to International Business Machines Corporation. Hybrid motor control circuit for providing improved speed regulation. 3,539,893, Cl. 318-331.
- Tonjes, Burl D., to Brown, D. S. Company, The. Method for sealing concrete joints with elastomer strips. 3,538,820, Cl. 94-22.
- Torell, Clark R. Automatic animal catching gate. 3,538,890, Cl. 119-98.
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- Tourmen, Louis, to Societe Grenobloise d'Etude et d'Applications Hydrauliques. Breakwater structure. 3,538,710, Cl. 61-4.
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- Trethewey, William C., to Owens-Corning Fiberglas Corporation. Method and apparatus for manufacturing fibrous structures. 3,539,316, Cl. 65-2.
- Trihey, John Massey, to Johns-Manville Corporation, mesne. Method and apparatus for producing flexible metal ducts. 3,538,728, Cl. 72-23.
- Trilli, Paul C. Sewing machine needle positioner. 3,538,871, Cl. 112-219.
- Truskolaski, Bernard S.: *See—*
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- Tsergas, Athanasios N., to Ram Tool Corporation. Testing apparatus for detecting shorts, leakage and continuity in windings. 3,539,923, Cl. 324-158.
- Tsuchiya, Yoichi, to Teac Corporation. Automatic tape recorder operating system. 3,539,734, Cl. 179-100.2
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- Tsuruta, Motohiro, Kimura, Hiroshiro, Koshimo, Akio, Nara, Hirohisa, Goto, Tokujin, and Amemiya, Kunio, to Nippon Rayon Kabushiki Kaisha (Nippon Rayon Co., Ltd.). Apparatus for imparting elasticity to woven textile fabrics. 3,538,563, Cl. 26-18.6
- Tu, Shu-Tung, to USM Corporation. Processes of making microporous polymer sheets. 3,539,388, Cl. 117-161.
- Tu, Shu-Tung, to USM Corporation. Processes of making microporous polymer sheets. 3,539,389, Cl. 117-161.
- Tufo, Thomas G. Evaporation-condensation recovery of fresh water using gas-traversable porous bed. 3,539,454, Cl. 203-11.
- Tull, Roger J., and Pollak, Peter I., to Merck & Co., Inc. Preparation of pyrazinoylguanidines from pyrazinoylurcas. 3,539,569, Cl. 260-250.
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- Turgeon, Joseph A., to I-T-E Circuit Breaker (Canada) Limited. Expansion joint for end-wise joining of conductors of an isolated phase busbar. 3,539,964, Cl. 339-9.
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- Tuttle, Herbert D. Spring mounted baby bottle holder. 3,539,140, Cl. 248-104.
- Tweit, Robert C., to Searle, G. D., & Co. Basic esters of N-phenalkyl-dithiocarbamic acids. 3,539,612, Cl. 260-455.
- Tyler, Hugh Jean, to Roberts Controls Company. Electric igniter control circuitry. 3,539,872, Cl. 317-79.
- Tyler, Loren E., to Letco, Inc. Distributor means for a fertilizer spreader. 3,539,113, Cl. 239-673.
- Uchida, Yoichi, and Hukuma, Keniti, to Teijin Limited. High speed spinning method of viscose rayon filaments having high wet modulus. 3,539,678, Cl. 264-188.
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- Huffman, Kenneth Robert, and Ullman, Edwin Fisher, 3,539,593.
- Ullman, John E., and Rollings, Ernest J., Jr., to United States Steel Corporation. Adhesive applying apparatus. 3,539,420, Cl. 156-578.
- Ullman, John Gerson, to Du Pont de Nemours, E. I., and Company. Spinneret assembly for composite filaments. 3,538,544, Cl. 18-8.
- Ullmann, Werner, and Donati, Franco, to A.G. fur industrielle Elektronik Agie. Monitoring apparatus for electro-erosion pulse generator. 3,539,753, Cl. 219-69.
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- Chapman, Anthony C. B., to Lotus Cars Ltd. Model racing car. 219,161, 11-10-70, Cl. D34-15.
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269	3:538.513	3	3:538.577	232	3:538.658	30	3:538.729	85-70	3:538.808	18	3:538.865
3-1	3:538.514	182.8	3:539.307	236	3:538.659	60	3:538.730	89-1.5	3:538.809	111-6	3:538.866
12.8	3:538.515	197.5	3:539.308	242	3:538.660	108	3:538.731	159	3:538.810		3:538.867
21	3:538.516	200	3:538.578	246	3:538.661	226	3:538.732	198	3:538.811	112-139	3:538.868
4-10	3:538.517	203	3:538.580	262	3:538.662	245	3:538.733	90-16	3:538.812	158	3:538.869
	3:538.518		3:538.581	309	3:538.663	316	3:538.734	91-1	3:538.813	200	3:538.870
67	3:538.519		3:538.581		3:538.664	324	3:538.735	39	3:538.814	219	3:538.871
222	3:538.520		3:538.585	391	3:538.665	388	3:538.736	92-127	3:538.815	239	3:538.872
5-91	3:538.521	207.5	3:538.582	409	3:538.666		3:538.737	93-1	3:538.816	266	3:538.873
327	3:538.522	208	3:538.583	489	3:538.667	436	3:538.738	80	3:538.817	113-120	3:538.874
7-14.1	3:538.523		3:538.584	615	3:538.668	469	3:538.739	93	3:538.818	114-29	3:538.875
8-42	3:539.288		3:538.586	53-14	3:538.669		3:538.740	94-13	3:538.819	55	3:538.876
115.5	3:539.286	235	3:538.587	22	3:538.670	73-3	3:538.741	22	3:538.820	61	3:538.877
	3:539.287	403	3:538.588	35	3:538.671	9	3:538.742	49	3:538.821	68	3:538.878
9-310	3:538.521		3:538.589	67	3:538.672	12	3:538.743	95-1	3:538.822	132	3:538.879
10-11	3:538.525	407	3:538.590	118	3:538.673	23.1	3:538.744	10	3:538.823	230	3:538.880
12-1	3:538.526	427	3:538.591	123	3:538.674	49.2	3:538.745	11	3:538.824	116-129	3:538.881
142	3:538.527	470.3	3:538.592	180	3:538.675		3:538.746		3:538.825	135	3:538.882
13-6	3:539.691	471.1	3:538.593	182	3:538.676	53	3:538.747	5	3:538.826	117-3	3:539.373
9	3:539.692	494	3:538.594	299	3:538.677	61.1	3:538.748		3:538.827	7	3:539.374
26	3:539.693	511	3:538.595	319	3:538.678	63	3:538.749	18	3:538.828	36.2	3:539.375
31	3:539.694	573	3:538.596	376	3:538.679	67.7	3:538.750	27	3:538.829	4	3:539.376
34	3:539.695	588	3:538.597	55-11	3:538.680	8	3:538.751	44	3:538.830	47	3:539.378
14-71	3:538.528	593	3:539.309	48	3:538.681	9	3:538.752		3:538.831	62.2	3:539.377
	3:538.529	596	3:538.598	51	3:538.682		3:538.753		3:538.832	69	3:539.379
15-22	3:538.530	604	3:538.599	67	3:538.683	80	3:538.754		3:538.833	100	3:539.380
104.06	3:538.531		3:538.600	92	3:538.684	88	3:538.755	89	3:538.834	102	3:539.381
230.11	3:538.532	609	3:538.601	230	3:538.685	91	3:538.756		3:538.835	106	3:539.382
236	3:538.533	622	3:538.602	231	3:538.657	100	3:538.757		3:538.836	107	3:539.383
305	3:538.534	631	3:538.603	377	3:538.686	101	3:538.758	94	3:538.837	111	3:539.384
321	3:538.535	30-34	3:538.604	379	3:538.687	116	3:538.759	96-1.4	3:539.340	113	3:539.385
16-16	3:538.536	295	3:538.605	418	3:538.688	117.4	3:538.760		3:539.341	116	3:539.386
66	3:538.537	31-22	3:538.606	56-21	3:538.689	133	3:538.761	27	3:539.342	123	3:539.387
189	3:538.538	33-32	3:538.607	26.5	3:538.690	136	3:538.762	35.1	3:539.343	161	3:539.388
191	3:538.539	134	3:538.608	126	3:538.691		3:538.763	67	3:539.344		3:539.389
17-11.1	3:538.540	172	3:538.609	295	3:538.692	143	3:538.764	90	3:539.345	213	3:539.390
71	3:538.541	180	3:538.610	296	3:538.693	144	3:538.765	91	3:539.346		3:539.391
18-2.6	3:538.542		3:538.611	330	3:538.694	194	3:538.766		3:539.347	227	3:539.392
5	3:538.543	34-11	3:538.612	332	3:538.695	202	3:538.767	99	3:539.348	118-6	3:538.883
8	3:538.544	23	3:538.613	350	3:538.696	204	3:538.768	109	3:539.350	7	3:538.884
12	3:538.545	28	3:538.614	57-6	3:538.697	228	3:538.769	111	3:539.351	44	3:538.885
	3:538.546	74	3:538.615	58.95	3:538.698	336.5	3:538.770	114.5	3:539.352	73	3:538.886
13	3:538.547	92	3:538.616	90	3:538.699	362	3:538.771	8	3:539.353	602	3:538.887
14	3:538.548	97	3:538.617	139	3:538.700	398	3:538.772	130	3:539.349	119-5	3:538.888
30	3:538.549	102	3:538.618	140	3:538.701	451	3:538.773	98-33	3:538.838	82	3:538.889
34	3:538.550	159	3:538.619	145	3:538.702	505	3:538.774	115	3:538.839	98	3:538.890
19-83	3:538.551	35-8	3:538.620	58-23	3:538.703	521	3:538.775	99-1	3:539.354	157	3:538.891
163	3:538.552	9	3:538.621	28	3:538.704	74-5	3:538.776	77.1	3:539.355	122-177	3:538.892
21-7	3:539.289		3:538.622	116	3:538.705	37	3:538.777	88	3:538.840	123-8.09	3:538.893
23-87	3:539.290		3:538.623	60-24	3:538.706	96	3:538.778	100	3:539.356	90.25	3:538.894
109	3:539.291	10.2	3:539.696	39.28	3:538.707	128	3:538.779	107	3:539.357	27	3:538.895
199	3:539.292	12	3:538.624	54.5	3:538.708	202	3:538.780	139	3:539.358	136	3:538.896
200	3:539.293	35	3:538.625	96	3:538.709	469	3:538.781	171	3:539.359	140	3:538.897
	3:539.294	48	3:538.626	61-4	3:538.710	473	3:538.782		3:539.360	179	3:538.898
209.1	3:539.295	36-2.5	3:538.627	38	3:538.711	492	3:538.783	176	3:539.361	182	3:538.899
4	3:539.296	15	3:538.628	72.3	3:538.712		3:538.784	187	3:539.362	124-1	3:538.900
213	3:539.297	37-195	3:538.629	6	3:538.713		3:538.785	212	3:539.363	25	3:538.901
	3:539.298	40-5	3:538.630	62-54	3:538.714	501	3:538.786	243	3:538.841	30	3:538.902
230	3:539.299	64	3:538.631	177	3:538.715	523	3:538.787	100-53	3:538.843	125-39	3:538.903
253	3:539.300	106.51	3:538.632	206	3:538.716	603	3:538.788	98	3:538.844	126-21	3:538.904
254	3:539.301	129	3:538.633	212	3:538.717	689	3:538.789	101-38	3:538.845	25	3:538.905
	3:539.302	152	3:538.634	217	3:538.718	720.5	3:538.790	123	3:538.846		3:538.906
277	3:539.303	42-10	3:538.635	235	3:538.719	781	3:538.791	128.3	3:538.847	38	3:538.907
288	3:539.304	87	3:538.636	352	3:538.720	75-5	3:539.334	269	3:538.848	39	3:538.908
301	3:539.305	44-7	3:539.310	61-21	3:538.721		3:539.335	352	3:538.849	120	3:538.909
315	3:539.306		3:539.311	65-2	3:538.722	3	3:539.336	378	3:538.850	127-51	3:539.393
24-68	3:538.553	76	3:539.312	33	3:539.316	108	3:539.337	102-83	3:538.851	128-24	3:538.910
77	3:538.554	40-189	3:538.637	11	3:539.317	126	3:539.338	89	3:538.852	25	3:538.911
81	3:538.555	232	3:538.638	30	3:539.318	134	3:539.339	104-88	3:538.853	132	3:538.912
90	3:538.556		3:538.639	43	3:539.319	76-101	3:538.792	147	3:538.854	115.5	3:538.913
217	3:538.557	243	3:538.640	99	3:539.320	108	3:538.793	173	3:538.855	165	3:538.914
230	3:538.558	48-184	3:539.313		3:539.321	77-55	3:538.794	105-182	3:538.856	214	3:538.915
249	3:538.559	49-192	3:538.641	108	3:539.322	58	3:538.795	247	3:538.857	217	3:538.916
263	3:538.560	213	3:538.642	139	3:539.323	81-9.5	3:538.796	406	3:538.858	221	3:539.034
	3:538.561	311	3:538.643	158	3:539.324	83-2	3:538.797	106-120	3:539.364	326	3:538.917
25-107	3:538.562	51-8	3:538.644	69-10	3:538.723	109	3:538.799	197	3:539.365	351	3:538.918
26-18.6	3:538.563	15	3:538.645	70-86	3:538.724	153	3:538.800	213	3:539.366	398	3:538.919
28-72.13	3:538.564	34	3:538.646	241	3:538.725	205	3:538.801	271	3:539.367	131-10	3:538.920
2	3:538.564	76	3:539.314	7-1	3:539.325	289	3:538.798	277	3:539.368	20	3:538.921
	3:538.565	95	3:538.647		3:539.326	411	3:538.802		3:539.369	172	3:538.922
29-1	3:538.567	99	3:538.648	34	3:539.327	701	3:538.803	278	3:539.370	186	3:538.923
.1	3:538.568	100	3:538.649		3:539.328	84-1.01	3:538.804	299	3:539.371	261	3:538.924
4.5	3:538.569	148	3:538.650	61	3:539.329	.02	3:539.697	307	3:539.372	132-39	3:538.925
25.18	3:538.570	163	3:538.651	70	3:539.330	.11	3:538.805	107-4	3:538.859	134-102	3:538.926
41	3:538.571	249	3:538.652	71	3:539.331		3:539.698	108-1	3:538.860	144	3:538.927

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145-20	3,538,928	164-170	3,538,979	200-159	3,539,749	222-177	3,539,080	250-203	3,539,814	260-287	3,539,578
136-6	3,539,194	282	3,538,980	170	3,539,750	185	3,539,081	211	3,539,815	293,1	3,539,580
86	3,539,195	338	3,538,981	203-11	3,539,454	232	3,539,082	294,3	3,539,816	294,3	3,539,579
	3,539,196	165-7	3,538,982	204-1	3,539,455	402,24	3,539,083	251-58	3,539,117	7	3,539,581
	3,539,197	104	3,538,983		3,539,456	531	3,539,084	138	3,539,118	8	3,539,582
100	3,539,198	182	3,538,984	2	3,539,457	226-11	3,539,085	145	3,539,119	295	3,539,583
212	3,539,199	172-6	3,538,985	10	3,539,458	25-25	3,539,086	228	3,539,120	299	3,539,584
243	3,539,200	40	3,538,986	15	3,539,459	227-2	3,539,087	242	3,539,121	304	3,539,585
137-77	3,538,929	60	3,538,987	56	3,539,460		3,539,088	252-33	3,539,511	306,7	3,539,586
81	3,538,930	111	3,539,014	67	3,539,461	18	3,539,089	3	3,539,512	309	3,539,587
.5	3,538,931	202	3,539,015	95	3,539,462	229-27	3,539,090	37,2	3,539,513	315	3,539,588
	3,538,932	311	3,539,016	143	3,539,463	34	3,539,091	40,5	3,539,514	326,5	3,539,589
	3,538,933	378	3,539,017	159,17	3,539,464	38	3,539,092	47,5	3,539,515	335	3,539,590
	3,538,934	484	3,539,018	181	3,539,465	39	3,539,093	51,5	3,539,516	340,7	3,539,591
82	3,538,935	512	3,539,019	207	3,539,466	44	3,539,094	62,62	3,539,517	343	3,539,592
83	3,538,936	740	3,539,020	260	3,539,467	51	3,539,095	89	3,539,518	2	3,539,593
195	3,538,937	803	3,539,021	282	3,539,468	232-43,1	3,539,096	106	3,539,519	3	3,539,594
246,12	3,538,938	805	3,539,022	299	3,539,469	233-14	3,539,097	345,8	3,539,520	4	3,539,595
264	3,538,939	174-9	3,539,023	3,539,470	234-115	3,539,098	346,2	3,539,521	346,2	3,539,596	
271	3,538,940	19	3,539,024	3,539,471	235-54	3,539,099	347,3	3,539,522	347,3	3,539,597	
344	3,538,941	52	3,539,025	3,539,472	60,21	3,539,100	348,4	3,539,523	348,4	3,539,598	
451,6	3,538,942	68,5	3,539,026	3,539,473	61,11	3,539,101	349,5	3,539,524	349,5	3,539,599	
493,8	3,538,943	75	3,539,027	3,539,474		3,539,102	350,6	3,539,525	350,6	3,539,600	
496	3,538,944	3,539,028	3,539,475	3,539,475		3,539,103	351,7	3,539,526	351,7	3,539,601	
499	3,538,945	84	3,539,029	3,539,476		3,539,104	352,8	3,539,527	352,8	3,539,602	
512,1	3,538,946	87	3,539,030	3,539,477		3,539,105	353,9	3,539,528	353,9	3,539,603	
550	3,538,947	175-57	3,539,031	3,539,478		3,539,106	354,0	3,539,529	354,0	3,539,604	
554	3,538,948	85	3,539,032	3,539,479		3,539,107	355,1	3,539,530	355,1	3,539,605	
596	3,538,949	297	3,539,033	3,539,480		3,539,108	356,2	3,539,531	356,2	3,539,606	
608	3,538,950	299	3,539,034	3,539,481		3,539,109	357,3	3,539,532	357,3	3,539,607	
611,21	3,538,951	177-16	3,539,035	3,539,482		3,539,110	358,4	3,539,533	358,4	3,539,608	
625,17	3,538,952	83	3,539,036	3,539,483		3,539,111	359,5	3,539,534	359,5	3,539,609	
66	3,538,953	145	3,539,037	3,539,484		3,539,112	360,6	3,539,535	360,6	3,539,610	
65	3,538,954	178-5,2	3,539,038	3,539,485		3,539,113	361,7	3,539,536	361,7	3,539,611	
138-103	3,538,955	3,539,039	3,539,486	3,539,486		3,539,114	362,8	3,539,537	362,8	3,539,612	
120	3,538,956	1	3,539,040	3,539,487		3,539,115	363,9	3,539,538	363,9	3,539,613	
139-384	3,538,957	3,539,041	3,539,488	3,539,488		3,539,116	364,0	3,539,539	364,0	3,539,614	
140-1	3,538,958	3,539,042	3,539,489	3,539,489		3,539,117	365,1	3,539,540	365,1	3,539,615	
92,1	3,538,959	6	3,539,043	3,539,490		3,539,118	366,2	3,539,541	366,2	3,539,616	
93	3,538,960	6	3,539,044	3,539,491		3,539,119	367,3	3,539,542	367,3	3,539,617	
141-61	3,538,961	8	3,539,045	3,539,492		3,539,120	368,4	3,539,543	368,4	3,539,618	
131	3,538,962	7,6	3,539,046	3,539,493		3,539,121	369,5	3,539,544	369,5	3,539,619	
143-6	3,538,963	7	3,539,047	3,539,494		3,539,122	370,6	3,539,545	370,6	3,539,620	
36	3,538,964	8	3,539,048	3,539,495		3,539,123	371,7	3,539,546	371,7	3,539,621	
135	3,538,965	89	3,539,049	3,539,496		3,539,124	372,8	3,539,547	372,8	3,539,622	
141-162	3,538,966	69	3,539,050	3,539,497		3,539,125	373,9	3,539,548	373,9	3,539,623	
318	3,538,967	81	3,539,051	3,539,498		3,539,126	374,0	3,539,549	374,0	3,539,624	
323	3,538,968	179-1	3,539,052	3,539,499		3,539,127	375,1	3,539,550	375,1	3,539,625	
146-81	3,538,969	3,539,053	3,539,499	3,539,499		3,539,128	376,2	3,539,551	376,2	3,539,626	
148-1,5	3,539,001	3,539,054	3,539,500	3,539,500		3,539,129	377,3	3,539,552	377,3	3,539,627	
6,14	3,539,002	2	3,539,055	3,539,501		3,539,130	378,4	3,539,553	378,4	3,539,628	
12,4	3,539,003	6	3,539,056	3,539,502		3,539,131	379,5	3,539,554	379,5	3,539,629	
149-109	3,539,004	15	3,539,057	3,539,503		3,539,132	380,6	3,539,555	380,6	3,539,630	
152-210	3,539,005	18	3,539,058	3,539,504		3,539,133	381,7	3,539,556	381,7	3,539,631	
152	3,539,006	27	3,539,059	3,539,505		3,539,134	382,8	3,539,557	382,8	3,539,632	
354	3,539,007	84	3,539,060	3,539,506		3,539,135	383,9	3,539,558	383,9	3,539,633	
	3,539,008	99	3,539,061	3,539,507		3,539,136	384,0	3,539,559	384,0	3,539,634	
	3,539,009	100,2	3,539,062	3,539,508		3,539,137	385,1	3,539,560	385,1	3,539,635	
156-3	3,539,010	179	3,539,063	3,539,509		3,539,138	386,2	3,539,561	386,2	3,539,636	
	3,539,011	180-89	3,539,064	3,539,510		3,539,139	387,3	3,539,562	387,3	3,539,637	
	3,539,012	181-23	3,539,065	3,539,511		3,539,140	388,4	3,539,563	388,4	3,539,638	
56	3,539,013	21	3,539,066	3,539,512		3,539,141	389,5	3,539,564	389,5	3,539,639	
58	3,539,014	182-77	3,539,067	3,539,513		3,539,142	390,6	3,539,565	390,6	3,539,640	
86	3,539,015	184-6	3,539,068	3,539,514		3,539,143	391,7	3,539,566	391,7	3,539,641	
106	3,539,016	187-8,54	3,539,069	3,539,515		3,539,144	392,8	3,539,567	392,8	3,539,642	
202	3,539,017	188-32	3,539,070	3,539,516		3,539,145	393,9	3,539,568	393,9	3,539,643	
209	3,539,018	162	3,539,071	3,539,517		3,539,146	394,0	3,539,569	394,0	3,539,644	
238	3,539,019	192-076	3,539,072	3,539,518		3,539,147	395,1	3,539,570	395,1	3,539,645	
247	3,539,020	1	3,539,073	3,539,519		3,539,148	396,2	3,539,571	396,2	3,539,646	
249	3,539,021	3	3,539,074	3,539,520		3,539,149	397,3	3,539,572	397,3	3,539,647	
272	3,539,022	8	3,539,075	3,539,521		3,539,150	398,4	3,539,573	398,4	3,539,648	
	3,539,023	18,92	3,539,076	3,539,522		3,539,151	399,5	3,539,574	399,5	3,539,649	
292	3,539,024	56	3,539,077	3,539,523		3,539,152	400,6	3,539,575	400,6	3,539,650	
294	3,539,025	67	3,539,078	3,539,524		3,539,153	401,7	3,539,576	401,7	3,539,651	
321	3,539,026	85	3,539,079	3,539,525		3,539,154	402,8	3,539,577	402,8	3,539,652	
364	3,539,027	99	3,539,080	3,539,526		3,539,155	403,9	3,539,578	403,9	3,539,653	
397	3,539,028	194-92	3,539,081	3,539,527		3,539,156	404,0	3,539,579	404,0	3,539,654	
499	3,539,029	195-51	3,539,082	3,539,528		3,539,157	405,1	3,539,580	405,1	3,539,655	
522	3,539,030	68	3,539,083	3,539,529		3,539,158	406,2	3,539,581	406,2	3,539,656	
523	3,539,031	68	3,539,084	3,539,530		3,539,159	407,3	3,539,582	407,3	3,539,657	
540	3,539,032	103,5	3,539,085	3,539,531		3,539,160	408,4	3,539,583	408,4	3,539,658	
578	3,539,033	103,5	3,539,086	3,539,532		3,539,161	409,5	3,539,584	409,5	3,539,659	
583	3,539,034	198-20	3,539,087	3,539,533		3,539,162	410,6	3,539,585	410,6	3,539,660	
159-12	3,538,973	33	3,538,990	3,539,534		3,539,163	411,7	3,539,586	411,7	3,539,661	
160-1	3,538,975	34	3,538,991	3,539,535		3,539,164	412,8	3,539,587	412,8	3,539,662	
130	3,538,976	35	3,538,992	3,539,536		3,539,165	413,9	3,539,588	413,9	3,539,663	
202	3,538,977	44	3,538,993	3,539,537		3,539,166	414,0	3,539,589	414,0	3,539,664	
161-9	3,538,978	103	3,538,994	3,539,538		3,539,167	415,1	3,539,590	415,1	3,539,665	
15	3,538,979	109	3,538,995	3,539,539		3,539,168	416,2	3,539,591	416,2	3,539,666	
30	3,538,980	131	3,538,996	3,539,540		3,539,169	417,3	3,539,592	417,3	3,539,667	
82	3,538,981	160	3,538,997	3,539,541		3,539,170	418,4	3,539,593	418,4	3,539,668	
86	3,538,982	181	3,538,998	3,539,542		3,539,171	419,5	3,539,594	419,5	3,539,669	
89	3,538,983	200-4	3,538,999	3,539,543		3,539,172	420,6	3,539,595	420,6	3,539,670	
162	3,538,98										

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PATENTS

1 : 3,539,105	6 : 3,538,905	6 : 3,539,357	8 : 3,538,614	9 : 3,539,858	17 : 3,538,521
3,539,286	3,538,909	3,539,364	3,538,852	3,539,896	3,538,535
3,539,328	3,538,924	3,539,369	3,538,926	3,539,898	3,538,571
3,539,455	3,538,925	3,539,377	3,538,963	3,539,941	3,538,583
3,539,565	3,538,936	3,539,394	3,539,926	3,540,042	3,538,596
3,539,617	3,538,940	3,539,411	3,538,508	3,539,043	3,538,606
3,539,945	3,538,953	3,539,412	3,538,529	3,539,114	3,538,621
3,539,995	3,538,957	3,539,421	3,538,547	3,539,288	3,538,638
3,539,023	3,538,965	3,539,450	3,538,548	3,539,607	3,538,646
3,539,888	3,538,976	3,539,453	3,538,588	3,539,613	3,538,669
3,539,160	3,538,986	3,539,495	3,538,589	3,539,615	3,538,673
3,539,675	3,538,987	3,539,533	3,538,635	3,539,622	3,538,674
3,539,685	3,538,999	3,539,550	3,538,670	3,539,670	3,538,708
3,539,824	3,539,008	3,539,609	3,538,707	3,538,607	3,538,724
3,539,836	3,539,018	3,539,634	3,538,735	3,538,876	3,538,725
3,539,881	3,539,025	3,539,658	3,538,811	3,539,701	3,538,736
3,539,989	3,539,026	3,539,696	3,538,845	3,538,523	3,538,738
3,540,005	3,539,036	3,539,704	3,538,855	3,538,551	3,538,745
3,538,819	3,539,057	3,539,709	3,538,892	3,538,578	3,538,746
3,538,844	3,539,062	3,539,716	3,538,944	3,538,650	3,538,788
3,538,513	3,539,079	3,539,719	3,538,981	3,538,686	3,538,796
3,538,524	3,539,083	3,539,779	3,538,982	3,538,692	3,538,801
3,538,533	3,539,093	3,539,801	3,539,010	3,538,695	3,538,830
3,538,546	3,539,117	3,539,813	3,539,013	3,538,807	3,538,831
3,538,555	3,539,118	3,539,830	3,539,051	3,538,822	3,538,832
3,538,568	3,539,123	3,539,837	3,539,074	3,538,864	3,538,833
3,538,585	3,539,131	3,539,849	3,539,078	3,538,893	3,538,843
3,538,593	3,539,132	3,539,862	3,539,096	3,538,938	3,538,849
3,538,611	3,539,151	3,539,872	3,539,147	3,539,176	3,538,871
3,538,617	3,539,152	3,539,886	3,539,245	3,539,184	3,538,906
3,538,623	3,539,163	3,539,928	3,539,246	3,539,211	3,538,907
3,538,636	3,539,173	3,539,929	3,539,266	3,539,217	3,538,908
3,538,644	3,539,190	3,539,932	3,539,314	3,539,235	3,538,942
3,538,647	3,539,196	3,539,938	3,539,346	3,539,275	3,538,958
3,538,653	3,539,220	3,539,943	3,539,367	3,539,507	3,538,973
3,538,662	3,539,248	3,539,946	3,539,397	3,539,686	3,538,975
3,538,663	3,539,254	3,539,953	3,539,409	3,539,703	3,538,993
3,538,664	3,539,264	3,539,954	3,539,415	3,539,771	3,539,009
3,538,685	3,539,272	3,539,959	3,539,448	3,539,919	3,539,012
3,538,721	3,539,273	3,539,963	3,539,458	3,539,949	3,539,021
3,538,755	3,539,278	3,539,968	3,539,574	3,540,001	3,539,027
3,538,772	3,539,279	3,539,973	3,539,593	3,539,553	3,539,028
3,538,774	3,539,284	3,539,999	3,539,608	3,539,673	3,539,054
3,538,777	3,539,294	3,540,006	3,539,611	3,538,565	3,539,058
3,538,804	3,539,298	3,540,022	3,539,638	3,538,917	3,539,069
3,538,887	3,539,321	3,540,025	3,539,671	3,539,327	3,539,085
3,538,888	3,539,325	3,540,036	3,539,794	3,539,432	3,539,089
3,538,899	3,539,330	3,540,041	3,539,800	3,539,451	3,539,108
3,538,900	3,539,332	3,540,048	3,539,803	3,539,790	3,539,111
3,538,901	3,539,334	3,540,053	3,539,805	3,538,520	3,539,124

17	:	3,539,127	21	:	3,539,468	26	:	3,538,922	29	:	3,539,406	34	:	3,539,930	36	:	3,539,637
		3,539,142			3,539,660			3,538,932			3,539,590			3,539,937			3,539,642
		3,539,149			3,539,739			3,538,934			3,539,603			3,539,939			3,539,644
		3,539,157			3,539,829			3,538,950			3,539,618			3,539,942			3,539,646
		3,539,202	22	:	3,538,998			3,538,954			3,539,688			3,539,950			3,539,655
		3,539,224			3,539,297			3,538,970			3,539,802			3,539,957			3,539,672
		3,539,228			3,539,188			3,539,039			3,539,892			3,539,972			3,539,697
		3,539,234	24	:	3,538,510			3,539,063			3,539,955			3,539,997			3,539,700
		3,539,250			3,538,597			3,539,090			3,539,990			3,540,007			3,539,708
		3,539,258			3,538,645			3,539,100	31	:	3,538,889			3,540,010			3,539,710
		3,539,290			3,538,697			3,539,153			3,538,891			3,540,019			3,539,713
		3,539,292			3,538,775			3,539,199			3,538,929			3,540,021			3,539,735
		3,539,358			3,538,916			3,539,200			3,539,219			3,540,021			3,539,759
		3,539,361			3,539,104			3,539,210			3,539,965			3,540,035			3,539,760
		3,539,368			3,539,150			3,539,227	32	:	3,538,890	35	:	3,539,742			3,539,761
		3,539,435			3,539,218			3,539,229			3,539,067			3,539,847			3,539,776
		3,539,471			3,539,262			3,539,240	33	:	3,538,649			3,539,883			3,539,792
		3,539,496			3,539,310			3,539,241			3,538,771	36	:	3,538,514			3,539,797
		3,539,497			3,539,311			3,539,251			3,538,773			3,538,537			3,539,810
		3,539,500			3,539,399			3,539,271			3,538,817			3,538,564			3,539,853
		3,539,522			3,539,429			3,539,313			3,539,309			3,538,582			3,539,876
		3,539,525			3,539,437			3,539,380			3,539,986			3,538,598			3,539,887
		3,539,558			3,539,463			3,539,385	34	:	3,538,553			3,538,620			3,539,901
		3,539,601			3,539,464			3,539,405			3,538,630			3,538,622			3,539,909
		3,539,605			3,539,493			3,539,416			3,538,639			3,538,624			3,539,921
		3,539,612			3,539,526			3,539,417			3,538,676			3,538,628			3,539,962
		3,539,619			3,539,604			3,539,428			3,538,677			3,538,631			3,539,966
		3,539,692			3,539,809			3,539,465			3,538,680			3,538,632			3,539,987
		3,539,722			3,539,840			3,539,473			3,538,684			3,538,657			3,539,991
		3,539,756			3,539,880			3,539,481			3,538,700			3,538,672			3,539,996
		3,539,778			3,539,899			3,539,487			3,538,731			3,538,679			3,540,000
		3,539,815			3,539,913			3,539,535			3,538,737			3,538,694			3,540,003
		3,539,819			3,539,940			3,539,540			3,538,776			3,538,709			3,540,008
		3,539,841			3,540,011			3,539,552			3,538,835			3,538,715			3,540,011
		3,539,873			3,540,045			3,539,561			3,538,846			3,538,719			3,540,031
		3,539,894			3,540,050			3,539,581			3,538,857			3,538,720			3,540,032
		3,539,897	25	:	3,538,527			3,539,596			3,538,873			3,538,726			3,540,033
		3,539,923			3,538,552			3,539,632			3,538,912			3,538,729			3,540,052
		3,539,956			3,538,572			3,539,633			3,538,930			3,538,756			3,540,057
		3,539,967			3,538,573			3,539,653			3,538,972			3,538,763	37	:	3,538,688
		3,539,971			3,538,603			3,539,683			3,539,033			3,538,799			3,538,778
		3,539,992			3,538,739			3,539,689			3,539,052			3,538,803			3,539,323
		3,540,004			3,538,740			3,539,721			3,539,102			3,538,816			3,539,725
		3,540,029			3,538,741			3,539,744			3,539,136			3,538,828			3,539,782
		3,540,038			3,538,749			3,539,758			3,539,147			3,538,863			3,539,826
		3,540,039			3,538,750			3,539,783			3,539,141			3,538,878			3,539,828
18	:	3,538,515			3,538,751			3,539,811			3,539,177			3,538,884			3,539,918
		3,538,576			3,538,753			3,539,889			3,539,207			3,538,898			3,539,951
		3,538,610			3,538,754			3,540,023			3,539,259			3,538,910			3,539,994
		3,538,616			3,538,767			3,540,027			3,539,281			3,538,911			3,540,002
		3,538,618			3,538,859			3,540,030			3,539,295			3,538,913	38	:	3,539,016
		3,538,700			3,539,043	27	:	3,538,511			3,539,340			3,538,914			3,539,019
		3,538,817			3,539,065			3,538,519			3,539,341			3,538,918	39	:	3,538,517
		3,538,910			3,539,070			3,538,599			3,539,374			3,538,928			3,538,518
		3,538,923			3,539,081			3,538,637			3,539,393			3,538,935			3,538,532
		3,538,956			3,539,084			3,538,642			3,539,396			3,538,943			3,538,651
		3,538,959			3,539,094			3,538,652			3,539,408			3,538,991			3,538,682
		3,539,017			3,539,126			3,538,671			3,539,424			3,539,004			3,538,690
		3,539,047			3,539,138			3,538,687			3,539,427			3,539,034			3,538,722
		3,539,064			3,539,155			3,538,797			3,539,433			3,539,044			3,538,758
		3,539,091			3,539,158			3,538,802			3,539,439			3,539,053			3,538,792
		3,539,112			3,539,214			3,538,825			3,539,457			3,539,071			3,538,795
		3,539,143			3,539,216			3,538,960			3,539,476			3,539,075			3,538,805
		3,539,148			3,539,221			3,539,059			3,539,499			3,539,077			3,538,806
		3,539,302			3,539,263			3,539,097			3,539,506			3,539,086			3,538,820
		3,539,360			3,539,277			3,539,113			3,539,515			3,539,092			3,538,858
		3,539,508			3,539,296			3,539,182			3,539,517			3,539,140			3,538,860
		3,539,511			3,539,300			3,539,188			3,539,518			3,539,174			3,538,904
		3,539,587			3,539,315			3,539,195			3,539,523			3,539,193			3,538,961
		3,539,694			3,539,372			3,539,244			3,539,532			3,539,198			3,539,006
		3,539,720			3,539,379			3,539,257			3,539,547			3,539,201			3,539,040
		3,539,741			3,539,395			3,539,336			3,539,549			3,539,208			3,539,041
		3,539,749			3,539,400			3,539,356			3,539,555			3,539,215			3,539,042
		3,539,775			3,539,422			3,539,383			3,539,560			3,539,226			3,539,095
		3,539,844			3,539,442			3,539,386			3,539,562			3,539,237			3,539,103
		3,539,864			3,539,459			3,539,407			3,539,566			3,539,252			3,539,139
		3,539,881			3,539,614			3,539,419			3,539,569			3,539,255			3,539,161
		3,539,920			3,539,691			3,539,430			3,539,600			3,539,312			3,539,180
19	:	3,538,655			3,539,729			3,539,441			3,539,628			3,539,344			3,539,239
		3,538,794			3,539,731			3,539,731			3,539,629			3,539,345			3,539,268
		3,538,881			3,539,846			3,539,738			3,539,635			3,539,349			3,539,316
		3,538,886			3,539,860			3,539,740			3,539,639			3,539,351			3,539,317
		3,539,029			3,539,874			3,539,748			3,539,648			3,539,352			3,539,318
		3,539,068			3,539,885			3,539,777			3,539,656			3,539,353			3,539,354
		3,539,365			3,539,905			3,539,793			3,539,657			3,539,355			3,539,375
		3,539,366			3,539,917			3,539,814			3,539,659			3,539,363			3,539,387
		3,539,551			3,539,948			3,539,838			3,539,663			3,539,382			3,539,404
		3,539,553			3,539,949			3,539,975			3,539,664			3,539,384			3,539,423
		3,539,673			3,539,980			3,539,993			3,539,676			3,539,398			3,539,434
		3,539,787			3,540,016			3,540,012	29	:	3,538,540			3,539,452			3,539,467
		3,539,922			3,540,049			3,538,540									

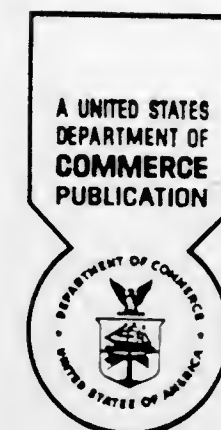
39	3,539,851 3,539,863 3,539,869 3,539,912 3,539,960 3,540,009 3,540,020 3,538,594 3,538,595 3,538,605 3,538,648 3,538,718 3,538,744 3,538,798 3,538,867 3,538,946 3,539,038 3,539,066 3,539,154 3,539,285 3,539,299 3,539,329 3,539,370 3,539,454 3,539,466 3,539,510 3,539,512 3,539,516 3,539,519 3,539,531 3,539,541 3,539,651 3,539,726 3,540,026 3,540,043 3,538,696 3,538,865 3,538,966 3,538,969 3,539,080 3,539,166 3,539,206	41 : 3,539,690 3,539,798 3,539,831 3,538,512 3,538,560 3,538,580 3,538,581 3,538,602 3,538,604 3,538,626 3,538,659 3,538,661 3,538,666 3,538,703 3,538,705 3,538,766 3,538,842 3,538,851 3,538,854 3,538,871 3,538,879 3,538,883 3,538,896 3,538,902 3,538,920 3,538,939 3,538,955 3,538,964 3,538,968 3,538,979 3,538,980 3,538,994 3,538,997 3,539,001 3,539,007 3,539,183 3,539,236 3,539,243 3,539,270 3,539,291	42 : 3,539,308 3,539,362 3,539,373 3,539,381 3,539,391 3,539,420 3,539,440 3,539,441 3,539,446 3,539,459 3,539,479 3,539,480 3,539,514 3,539,520 3,539,534 3,539,585 3,539,588 3,539,640 3,539,684 3,539,705 3,539,745 3,539,762 3,539,765 3,539,785 3,539,796 3,539,804 3,539,812 3,539,857 3,539,867 3,539,908 3,539,933 3,539,934 3,539,936 3,539,947 3,539,969 3,539,970 3,539,974 3,539,976 3,539,998 3,538,757 3,538,633	44 : 3,538,850 3,538,862 3,538,974 3,538,990 3,539,031 3,539,032 3,539,674 3,539,875 3,539,878 3,538,699 3,539,666 3,538,681 3,539,967 3,539,425 3,539,443 3,539,478 3,538,531 3,538,559 3,538,587 3,538,629 3,538,691 3,538,712 3,538,752 3,538,761 3,538,813 3,538,839 3,538,866 3,538,941 3,538,948 3,539,015 3,539,024 3,539,037 3,539,165 3,539,189 3,539,204 3,539,205 3,539,213 3,539,225 3,539,242 3,539,247 3,539,256 3,539,260	48 : 3,539,498 3,539,504 3,539,623 3,539,645 3,539,650 3,539,717 3,539,784 3,539,788 3,539,806 3,539,807 3,539,825 3,539,835 3,539,895 3,539,911 3,539,914 3,539,915 3,539,979 3,539,981 3,539,982 3,539,983 3,539,984 3,539,985 3,539,988 3,540,044 3,540,046 3,540,047 3,540,054 3,538,915 3,538,931 3,539,002 3,539,050 3,539,712 3,538,762 3,539,186 3,538,544 3,538,848 3,539,106 3,539,145 3,539,146 3,539,445 3,539,524 3,539,699	51 : 3,539,900 3,539,904 3,540,051 3,538,528 3,538,608 3,538,640 3,538,760 3,539,060 3,539,115 3,539,133 3,539,456 3,539,827 3,539,388 3,539,389 3,539,461 3,538,713 3,538,716 3,538,717 3,538,789 3,538,962 3,539,022 3,539,046 3,539,073 3,539,119 3,539,120 3,539,121 3,539,179 3,539,181 3,539,185 3,539,203 3,539,222 3,539,469 3,539,575 3,539,584 3,539,789 3,539,861 3,539,890 3,539,893 3,539,952 3,538,536
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Design Patents

1 : 219,186 6 : 219,124 219,125 219,126 219,127 219,129 219,140 219,141 219,142 219,157 219,180	6 : 219,181 8 : 219,136 219,150 219,170 219,171 219,177 219,178 219,138 219,167 219,146	13 : 219,184 17 : 219,123 219,134 219,131 219,154 219,122 219,197 219,132 219,147 219,158	25 : 219,164 219,165 219,139 219,188 219,144 219,169 219,199 219,183 219,135 219,148	36 : 219,155 219,168 219,179 219,143 219,172 219,173 219,174 219,175 219,152 219,156	39 : 219,176 219,195 219,145 219,151 219,196 219,185 219,187 219,149 219,137 219,198
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Plant Patents

6 : 2,996	36 : 2,997	36 : 2,998
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U.S. DEPARTMENT OF COMMERCE
Official Gazette of the United States Patent Office
November 10, 1970 Volume 880 Number 2

TRADEMARKS NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca-Cola Company, Tonic syrup or beverage; **Reg. No. 47,189**, same, Non-alcoholic, maltless beverages and the syrups for making such beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and the syrups for making such beverages, filed Aug. 11, 1970, D.C. Colo. (Denver), Doc. C-2489, *The Coca-Cola Company v. George E. Befort, doing business as North Park Restaurant and Lounge*, same, filed Aug. 24, 1970, D.C., E.D. Ark. (Fort Smith), Doc. T-70-C-28, *The Coca-Cola Company v. Joda (NMI) Nelson, doing business as Joda's Restaurant and Joda's Drive In*, same, filed Mar. 26, 1970, D.C., District of Columbia (Washington), Doc. 912-70, *The Coca-Cola Company v. Emanuel P. Sardelis, etc.* Consent judgment enjoining the defendants, Aug. 24, 1970.

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 617,131 (VOLKSWAGEN), Volkswagenwerk, GmbH, Vehicles—namely, automobiles and trucks, aircraft, boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and

baggage racks; **Reg. No. 631,649** (VW IN CIRCLE), same; **Reg. No. 653,695** (VW), same; **Reg. No. 790,621** (VOLKSWAGEN), same, Automobiles and trucks, aircraft, and boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 790,959** (VW AND DESIGN), same; **Reg. No. 791,311** (VW), same; **Reg. No. 801,869** (VW AND DESIGN), same, Repair and reconditioning of motor vehicles, aircraft and boats; **Reg. No. 808,381** (VOLKSWAGEN), same, Vehicles—namely, automobiles and trucks, aircraft, and boats; and parts and accessories for automobiles and trucks, aircraft and boats—namely, radiators, direction indicators, windshield wipers, shock absorbers, brakes and baggage racks; **Reg. No. 815,632** (VW), same, Repair, reconditioning and replacement of motors and accessories and parts thereof, and repair and reconditioning of motor vehicles, aircraft, and boats; **Reg. No. 819,297** (VOLKSWAGEN), same, filed Aug. 18, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-1833-JWC, *Volkswagenwerk Aktiengesellschaft v. Gerald Jackson, David A. Vernon and Volkswagen Auto Parts, Inc.*

Reg. No. 631,649. (See Reg. No. 617,131.)

Reg. No. 653,695. (See Reg. No. 617,131.)

Reg. No. 790,621. (See Reg. No. 617,131.)

Reg. No. 790,959. (See Reg. No. 617,131.)

Reg. No. 791,311. (See Reg. No. 617,131.)

Reg. No. 801,869. (See Reg. No. 617,131.)

Reg. No. 808,381. (See Reg. No. 617,131.)

CONDITION OF TRADEMARK APPLICATIONS AS OF SEPTEMBER 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 21,999
Date of oldest new application..... July 2, 1969
Date of oldest amended application (filing date)..... January 28, 1966

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISION, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....		12-9-69	1-9-68
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....		11-13-69	1-28-68
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36, 44.....		2-2-70	1-18-68
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....		7-2-69	5-12-68
Renewals (All Classes).....		7-27-70
Sec. 12(c) Publications (All Classes).....		7-27-70

Applications filed during the month of September 1970—2,586

Registrations Issued 451—No. 901,966 to No. 902,416
Renewals Issued 120

THE TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Reg. No. 812,721 (SPRINGNATIONALS), Bristol International Speedway, Inc., Staging of automobile races, filed Nov. 5, 1969, D.C. N.D. Tex. (Dallas), Doc. CA 3-3460-C. *Bristol International Speedway, Inc. v. Dallas International Motor Speedway, Inc. and National Hot Rod Association*. Final decree, none of the parties to this cause has the right to use or register, in the United States Patent Office or elsewhere, the term "SPRINGNATIONALS" for the staging of automobile races. U.S. Service Mark Registration No. 812,721, registered Aug. 9, 1966 for the mark "SPRINGNATIONALS," should be and is hereby canceled.

Reg. No. 815,632. (See Reg. No. 617,131.)

Reg. No. 818,093 (ST. REGIS), St. Regis Paper Company, Shipping containers comprising: corrugated boxes, self-sealing and wet-strength corrugated boxes, bulk boxes, solid fiber boxes, display containers, wirebound boxes, folding boxes and

cartons and blanks therefor, paper tubing, and bottle and can carrier packs; bags comprising: multiwall bags, consumer bags, kraft overwraps, baler bags, bulk bags, plastic bags, textile bags, waterproof paper; lined bags, and open-mesh bags; also paper plates, cups, fluted liners, paperboard trays, egg cartons, and food processing and storage tanks, filed July 8, 1970, D.C., S.D.N.Y., Doc. 70-C-2941, *St. Regis Paper Company v. J & H International Corporation*.

Reg. No. 874,944 (HANG-A-HANDLE), Marketing & Motivation Incorporated, Display tote bag with hook handle closure; 3,452,922, R. L. Hart, DISPLAY TOTE BAG WITH HOOK HANDLE CLOSURE, filed June 26, 1970, D.C., S.D.N.Y., Doc. 70-C-2765, *W. R. Grace & Co. v. Uniflex Incorporated*.

3,452,922. (See Reg. No. 874,944.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 247,985. VEB Staatliche Porzellan-Manufaktur Meissen, Meissen, Germany. Filed June 13, 1966.

Class 50—Merchandise Not Otherwise Classified

For Porcelain Statuettes and Ornamental Figurines of All Kinds—Namely, Figurines, Figurines Used for Chess Sets, Ornamental Animals and Birds, Busts, and Ornamental Dolls (Int. Cl. 21).

First use 1924; in commerce 1924.



SN 254,078. VEB Staatliche Porzellan-Manufaktur Meissen, Meissen, Germany. Filed Sept. 8, 1966.



Dresden Art

Without relinquishing any common law rights, applicant disclaims the words "Dresden Art" apart from the mark as shown.

Class 30—Crockery, Earthenware, and Porcelain

For Porcelain and Porcelain Goods of All Kinds—Namely, Dinnerware Made of Porcelain, Porcelain Cups and Saucers, Porcelain Trays, Porcelain Urns and Vases, Porcelain Flowerpots, and Porcelain Centerpieces (Int. Cl. 21).

Class 50—Merchandise Not Otherwise Classified

For Porcelain Statuettes and Ornamental Figurines of All Kinds—Namely, Figurines, Figurines Used for Chess Sets, Ornamental Animals and Birds, Busts, and Ornamental Dolls (Int. Cl. 21).

First use July 1966; in commerce July 1966.

SN 310,726. Hardt-Gardens, Inc., Nashville, Tenn., by merger from Garden Centers, Inc., Nashville, Tenn. Filed Oct. 29, 1968.



Class 30—Crockery, Earthenware, and Porcelain

For Porcelain and Porcelain Goods of All Kinds—Namely, Dinnerware Made of Porcelain, Porcelain Cups and Saucers, Porcelain Trays, Porcelain Urns and Vases, Porcelain Flowerpots, and Porcelain Centerpieces (Int. Cl. 21).

Class 50—Merchandise Not Otherwise Classified

For Porcelain Statuettes and Ornamental Figurines of All Kinds—Namely, Figurines, Figurines Used for Chess Sets, Ornamental Animals and Birds, Busts, and Ornamental Dolls (Int. Cl. 21).

First use 1730; in commerce 1789.

SN 247,986. VEB Staatliche Porzellan-Manufaktur Meissen, Meissen, Germany. Filed June 13, 1966.



Class 30—Crockery, Earthenware, and Porcelain

For Porcelain and Porcelain Goods of All Kinds—Namely, Dinnerware Made of Porcelain, Porcelain Cups and Saucers, Porcelain Trays, Porcelain Urns and Vases, Porcelain Flowerpots, and Porcelain Centerpieces (Int. Cl. 21).

The lining in the drawing is part of the design. The words "Since 1898" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 724,953 and 725,213.

Class 1—Raw or Partly Prepared Materials

For Field Seed, Lawn Grass Seed, Flower Seed, Bulbs, and Plants (Int. Cl. 31).

Class 6—Chemicals and Chemical Compositions

For Agricultural and Garden Chemicals Comprising Insecticides, Pesticides, Fungicides; and Swimming Pool Chemicals (Int. Cls. 1 and 5).

Class 7—Cordage

For Plant Ties; and Paper Covered Wire and Metal Tape for Cutting Into Plant Ties (Int. Cl. 6).

Class 10—Fertilizers

For Fertilizers, Mulches, and Soil Conditioners (Int. Cl. 1).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hand and Power Driven Yard and Garden Tools—Namely, Grass and Hedge Cutting and Pruning Tools (Int. Cls. 7 and 8).

Class 50—Merchandise Not Otherwise Classified

For Bird Houses, Bird Feeders, and Stamped Wooden and Plastic Identification Strips Used as Plant Labels (Int. Cl. 21).

First use Oct. 10, 1968.

SN 312,252. Wm. E. Wrights Co., West Warren, Mass., by change of name from Wm. E. Wrights & Sons Co., West Warren, Mass. Filed Nov. 14, 1968.

WRIGHTS

Owner of Reg. Nos. 285,536, 815,026, and others.

Class 7—Cordage

For Narrow Fabric Tapes, Ribbons and Bows for Gift Wrapping Purposes (Int. Cl. 26).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Zippers (Int. Cl. 26).

Class 40—Fancy Goods, Furnishings, and Notions

For Rick Rack, Narrow Lace Trimming, Narrow Fabric Tapes, Bias Tapes, Seam Bindings, Ruffings, Braid, Piping, Frillings, Novelty Trims, Hem Facings, and Ribbons (Int. Cl. 26).

First use June 1, 1968.

SN 312,300. Information Systems Architectonics, Inc., Bethesda, Md. Filed Nov. 14, 1968.

DIC**Class 100—Miscellaneous**

For Computer Hardware Systems Engineering (Int. Cl. 42).

Class 101—Advertising and Business

For Analysis, Devising Accounting Systems and Computer Programs, Computer Program Operation and Auditing Operations for Others (Int. Cl. 35).

First use June 15, 1968.

SN 320,992. The Harrington & King Perforating Co., Inc., Chicago, Ill. Filed Mar. 7, 1969.

H & K**Class 1—Raw or Partly Prepared Materials**

For Perforated Strips and Sheets of Plastic, in Whole or in Part, Which Are Sold Principally, But Not Necessarily Exclusively, to Fabricators for Industrial, Functional and Ornamental Applications (Int. Cl. 17).

First use 1963.

Class 12—Construction Materials

For Perforated Strips and Sheets of Wood, Plywood and Hardboard, in Whole or in Part, Which Are Sold Principally, But Not Necessarily Exclusively, to Fabricators for Industrial, Functional and Ornamental Applications (Int. Cl. 19).

First use 1963.

Class 14—Metals and Metal Castings and Forgings

For Perforated Strips and Sheets of Metal, in Whole or in Part, Which Are Sold Principally, But Not Necessarily Exclusively, to Fabricators for Industrial, Functional and Ornamental Applications (Int. Cl. 6).

First use 1963.

Class 37—Paper and Stationery

For Perforated Strips and Sheets of Paper and Cardboard, in Whole or in Part, Which Are Sold Principally, But Not Necessarily Exclusively, to Fabricators for Industrial, Functional and Ornamental Applications (Int. Cl. 16).

First use 1963.

Class 106—Material Treatment

For Custom Perforating of Strips and Sheets of Material Owned by Customers (Int. Cl. 40).

First use 1940.

SN 322,120. Fabbriche Riunite Omino di Ferro e Martazz, S.p.A., Milan, Italy. Filed Mar. 19, 1969.



The drawing is lined for the color red. "Omino di Ferro" means "man of steel."

Class 39—Clothing

For Children's Clothing—Namely, Sweaters, Pants, Dresses, Vests, Suits, Undershirts, Bibs, Shorts, Panties, Bathing Suits, Overalls, T-Shirts, and Bathrobes (Int. Cl. 25).

First use on or before Sept. 26, 1960; in commerce on or about July 1, 1962.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Bed sheets for Cribs and Cradles and the Like (Int. Cl. 24).

First use on or about May 18, 1968; in commerce on or about May 18, 1968.

SN 323,178. Kelite Chemicals Corporation, Los Angeles, Calif. Filed Apr. 2, 1969.

KOTEKLEEN**Class 6—Chemicals and Chemical Compositions**

For Industrial Chemicals Used in the Phosphatizing of Metals (Int. Cl. 1).

Class 52—Detergents and Soaps

For Industrial Detergents Used for Metal Cleaning (Int. Cl. 1).

First use November 1957.

SN 323,326. MCA Inc., Universal City, Calif. Filed Apr. 1, 1969.

DECCA

Owner of Reg. Nos. 115,901, 694,911, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Combination Radio-Phonographs, and Combination Radio and Cassette Players (Int. Cl. 9).

First use 1953.

Class 36—Musical Instruments and Supplies

For Musical Instruments—Namely, Chord Organs, Tape Cartridge Players, Tape Cartridges, Cassette Players, Cassette Recorder and Playback Machines, Recorded and Prerecorded Cassettes, Tape and Head Cleaners for Cassette Cartridges, Tamborines, Cymbals, Cymbal Stands, Drums and Carrying Cases Therefor, Drum Sticks, Drum Brushes, Spindle Adaptors, Automatic Spindles, Record Brushes and Tone Arm Lifts for Phonographs, Dust Covers for Phonograph Record Changers, Amplifiers Especially for Guitars, Guitar Accessories, Namely, Amplifier Cords, Stands, Bags, Strings, Picks, Neck Straps, Tremolo Foot Switches, Cleaning Cloths, and Pitch Pipes Therefor, Wire Racks for Phonograph Records, and Phonograph Record Delivery Bags (Int. Cls. 9 and 15).

First use August 1963.

SN 324,857. Trimble Products Incorporated, Southern Pines, N.C. Filed Apr. 18, 1969.

PRIDE TRIMBLE

Owner of Reg. No. 812,528.

Class 19—Vehicles

For Strollers and Travel Seats (Int. Cl. 12).

Class 22—Games, Toys, and Sporting Goods

For Walkers and Play Swings (Int. Cl. 28).

Class 32—Furniture and Upholstery

For Infant Carriers, High Chairs, Feeding Tables, Baths, Dressing Tables, Cribs, Travel Beds, Portable Infants' Baths, Portable Children's Playpens, Nursery Chairs, Combination Bassinets, Cribs and Playpens, and Play Yards (Int. Cl. 20).

First use Sept. 3, 1968.

SN 325,303. GAF Corporation, New York, N.Y. Filed Apr. 23, 1969.



Owner of Reg. Nos. 509,124, 837,005, and others.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

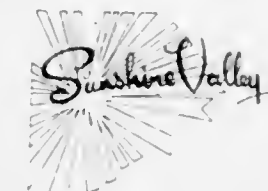
For Tools—Namely, Knives and Utility Knives, Trowels, Seam Cutters, Computing Register Punches for Use With Business Forms, and Film Clips (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Photographic Processing Equipment—Namely, Tray Siphons, Variable Outlet Drain Controls, Drain Stoppers and Adjustable Drainage Control Combinations, Hose Connections Having Suction Cups, and Tube Dispensers (Int. Cl. 9).

First use Feb. 29, 1968.

SN 328,758. Natural Food Supplements, Inc., Canoga Park, Calif. Filed June 2, 1969.



Owner of Reg. No. 749,205.

Class 46—Foods and Ingredients of Foods

For Organic Foods and Natural Food Supplements—Namely, Cakes, Cookies, Imitation Hamburger Made Out of Nuts and Vegetables, Dry Soup Mixes, Ground and Powdered Nuts and Fruits, Fruit and Nut Dessert Mix, Fruit and Nut Spread, Fruit and Vegetable Wafers, Herbs for Seasoning Purposes, Herb Teas, Food Seasonings of a Spice Nature, Vegetable and Fruit Oils, Vinegar, Fruit Concentrates in Liquid, Powder and Culture Form, for Use in Cereals, Desserts, Fruits and Beverages, Protein Concentrates for Use in Beverages and Soups (Int. Cls. 5, 29, 30, and 32).

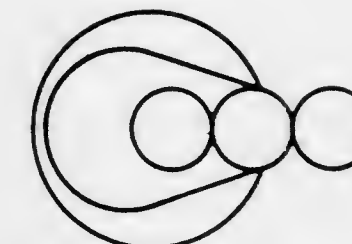
First use on or about Apr. 1, 1956.

Class 51—Cosmetics and Toilet Preparations

For Body Cream, Skin Cream, Nail Creme, and Hair Rinse (Int. Cl. 3).

First use on or about Feb. 8, 1957.

SN 330,199. Rixson Inc., Franklin Park, Ill. Filed June 16, 1969.

**Class 12—Construction Materials**

For Thresholds (Int. Cl. 19).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Builders' Hardware—Namely, Door Closers, Apparatus for Setting Door Closers, Pivot Sets, Door Holders, and Parts Thereof (Int. Cl. 6).

Class 21—Electrical Apparatus, Machines, and Supplies

For Fire Protection Equipment—Namely, Fire Sensing and Detecting Devices Responsive to Products of Combustion; Fire Control Systems Comprising Annunciator Panels, Detector Switches and Relays for Actuating an Alarm; Electro-mechanical Door Holder Releases and/or Door Closers and Latches; and Audible and Silent Alarms and Indicators, Including Bells, Buzzers, Horns, Lights, and Sirens (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Fire Control Systems Comprising Annunciator Panels, Detector Switches and Relays for Actuating Mechanical, Electrical or Pneumatic Fire Protection Equipment or Sprinkler Systems (Int. Cl. 9).

First use May 9, 1969.

SN 332,903. Anetsberger Brothers, Inc., Northbrook, Ill. Filed July 18, 1969.

ANETS

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Bakery and Food Serving Equipment—Namely, Production Tables, Dough Sheeters, Belt Conveyors, Flour Dusters, Flour Brushers, Cross Rollers, Roll Winders, Dough Ollers, Dough Molders, Cinnamon Depositors, Paste Spreaders, Filling Depositors, Sweet Goods Icers, Glazer Icers, Glazer Icer Pumps, Die Cut Units, and Shortening Melter-and-Pump units (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Bakery and Food Serving Equipment—Namely, Proof Boxes and Humidifying Apparatus Thereof, Dough Room Air Conditioners, Steam Boilers, Doughnut Production Fryers, Deep Fat Fryers, Grills, Hot Plates, Food Warmers, Broilers, Counter Ovens, and Food Warming and Serving Carts (Int. Cl. 11).

First use Sept. 30, 1927.

SN 335,439. Donghia's Infinity, Inc., New York, N.Y. Filed Aug. 15, 1969.

& VICE VERSA

Class 37—Paper and Stationery

For Wallpapers (Int. Cl. 27).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Decorative Fabrics Such as Hand Silk-Screened Cottons; Machine Printed Cottons; Embroidered Linens, Wools and Synthetics; Wools; and Linens; All of Which Are Used for Draperies and Wallcoverings (Int. Cl. 24).

First use May 25, 1969.

SN 335,493. Rowland Products, Incorporated, Kensington, Conn. Filed Aug. 18, 1969.

ROWLAND

Owner of Reg. No. 774,706.

Class 1—Raw or Partly Prepared Materials

For Extruded and Block Process Laminated and Nonlaminated Synthetic Plastic Sheet Material for General Use in the Industrial Arts (Int. Cl. 17).

First use on or before Feb. 1, 1966.

Class 6—Chemicals and Chemical Compositions

For Toner for Copying Machines (Int. Cl. 1).

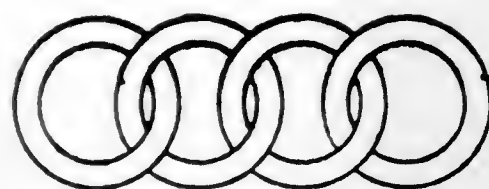
First use on or before June 1, 1967.

Class 50—Merchandise Not Otherwise Classified

For Body Protective Devices and Body Protective and Restraining Devices—Namely, a Manually Gripped Shield for Protecting the User From Projectiles and the Like; and Institutional Shields Used To Control and Subdue Individuals While Protecting the User (Int. Cl. 9).

First use on or before June 1, 1968.

SN 336,890. Audi NSU Auto Union Aktiengesellschaft, Ingolstadt, Germany, by merger and change of name from Auto Union G.m.b.H., Ingolstadt, Germany. Filed Sept. 3, 1969.



Class 19—Vehicles

For Automobiles, Automobile Radiators, Steering Wheels, and Wheel Caps (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Automobile Engines (Int. Cl. 12).

First use Jan. 22, 1936; in commerce June 1955.

SN 338,974. Sterling Electronics Corporation, Houston, Tex. Filed Sept. 26, 1969.



Class 101—Advertising and Business

For Rendering Technical Assistance in the Establishment, Operation and Development of Retail Electronic Equipment Stores for Others (Int. Cl. 35).

First use at least as early as Feb. 15, 1967.

Class 103—Construction and Repair

For Repairing and Servicing of Electronic Equipment (Int. Cl. 37).

First use at least as early as Feb. 15, 1969.

SN 340,968. Youth Care Inc., Elizabeth, N.J. Filed Oct. 16, 1969.

YOUNG 'N FREE

Class 51—Cosmetics and Toilet Preparations

For Hair Cream Rinse, Hair Spray, Hair Conditioner, Hair Setting Lotion, Personal Deodorant, Hand and Body Lotion, Bubble Bath, Cologne, Perfume, Talcum Powder, and Dusting Powder (Int. Cls. 3 and 5).

Class 52—Detergents and Soaps

For Hair Shampoo and Toilet Soap (Int. Cl. 3).

First use Sept. 25, 1969.

SN 341,302. Sarah Coventry, Inc., Newark, N.Y. Filed Oct. 22, 1969.

LORD COVENTRY

Owner of Reg. Nos. 636,452, 800,662, and others.

Class 39—Clothing

For Raincoats (Int. Cl. 25).

Class 51—Cosmetics and Toilet Preparations

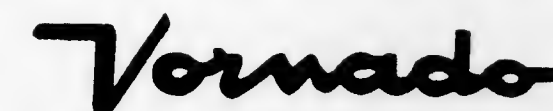
For Cologne, Body Lotion, and Perfume (Int. Cl. 3).

Class 52—Detergents and Soaps

For Shampoo for Men and Women (Int. Cl. 3).

First use on or about Aug. 28, 1969.

SN 342,002. Vornado, Inc., Garfield, N.J. Filed Oct. 29, 1969. Owner of Reg. Nos. 509,417, 875,369, and others.



Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Toasters, Electric Sandwich and Waffle Grills, Electric Frying Pans, Electric Flat Irons, Electric Coffee Makers, Electric Beating and Mixing Machines for Food Stuffs and Parts Thereof, Electric Blenders, Electric Light Bulbs, Radio Receiving Sets and Radio and Phonograph Combinations, and Transistor Radios (Int. Cls. 7, 9, and 11).

First use on or about Jan. 1, 1947.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electric Meat Grinders, Electric Can Openers, Electric Knife Sharpeners, Electric Food Slicers, and Electric Shavers (Int. Cls. 7 and 8).

First use on or about Nov. 5, 1959.

Class 36—Musical Instruments and Supplies

For Record Players and Parts Thereof (Int. Cl. 9).

First use on or about Nov. 5, 1959.

SN 344,440. Paul E. Skarshaug, d.b.a. Skarshaug Testing Laboratory, Ames, Iowa. Filed Nov. 24, 1969.



Class 18—Medicines and Pharmaceutical Preparations

For Medicated Glove Powder (Int. Cl. 5).

First use Feb. 13, 1957.

Class 21—Electrical Apparatus, Machines, and Supplies

For Portable Current Intensity Detector for Aerial Booms (Int. Cl. 9).

First use Dec. 12, 1968.

Class 26—Measuring and Scientific Appliances

For Dielectric Tester for Electrical Insulative Properties of Workmen's Gloves for Handling High Voltage Electrical Conductors (Int. Cl. 9).

First use on or before May 9, 1968.

Class 100—Miscellaneous

For Inspection of Electrical System Safety Equipment and the Issuing of Certification Reports (Int. Cl. 42).

First use on or before Feb. 13, 1957.

SN 344,933. Marshall Research and Development Corp., Burlington, Mass. Filed Dec. 1, 1969.



Class 19—Vehicles

For Aircraft Shock and Vibration Mounts (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Industrial Mounts, Custom Shock and Vibration Isolators, Active Isolators, All for Use With Industrial Machinery and Equipment (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Shock and Vibration Analysis and Synthesis Test Equipment—Namely, Electronic Shock Spectrum Analyzer and Synthesizer, Environmental Shock and Vibration Testing Equipment, Slipables for Use in Translational Vibration Testing, Shock and Vibration Fixtures To Adapt Test Specimens to Shock Machines and Vibration Shakers, Mechanical Shakers for Vibration Testing, and Peak Reading Voltmeters (Int. Cl. 9).

First use Oct. 20, 1967.

SN 347,453. Yardley of London, Inc., New York, N.Y. Filed Dec. 31, 1969.

ORBITA

The mark comprises the Spanish word meaning "orbit."

Class 51—Cosmetics and Toilet Preparations

For Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 52).

First use Dec. 8, 1969.

SN 348,998. T. M. Smith Tool Company, Detroit, Mich. Filed Jan. 19, 1970.



Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Detector for Broken Tools, Improperly Set Tools, or the Existence of No Tool (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Holders and Adapters for Tools Including Taps, Drills, Boring Tools, and Counterbores (Int. Cl. 7).

First use Dec. 16, 1969.

SN 349,095. Geiger Corporation, Harleysville, Pa. Filed Jan. 21, 1970.



Class 6—Chemicals and Chemical Compositions

For Insecticides (Int. Cl. 5).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Fogging Machines for Vaporizing Insecticides (Int. Cl. 7).

First use Mar. 6, 1964.

SN 351,070. Archer Products, Inc., Winston-Salem, N.C. Filed Feb. 11, 1970.

LTS**Class 1—Raw or Partly Prepared Materials**

For Resinous Coated, Heat Sealable Sheet Stock for General Use in the Industrial Arts (Int. Cl. 17).

Class 37—Paper and Stationery

For Resinous Coated Heat Sealable Wrapping Materials (Int. Cl. 16).

First use Mar. 24, 1969.

SN 363,126. Yardley of London, Inc., New York, N.Y. Filed June 19, 1970.

**YARLEY ENGLISH
Lavender**

Owner of Reg. Nos. 370,545, 764,428, and others.

Class 51—Cosmetics and Toilet Preparations

For Hand and Body Lotion, Perfume, Bath Oil, and Tale Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use 1894.

SN 364,862. Universal Security Corporation, Springfield, Mo. Filed July 10, 1970.



The words "Missouri" and "Residential Development Lake-side Resort Linked Together" are disclaimed apart from the mark as shown.

Class 101—Advertising and Business

For Management and Rental of Homes Owned by Others (Int. Cl. 35).

Class 103—Construction and Repair

For Construction of Homes for Others (Int. Cl. 37).

First use on or about June 28, 1968.

SN 366,763. Pet Incorporated, St. Louis, Mo. Filed July 31, 1970.

HCD**Class 26—Measuring and Scientific Appliances**

For Control Panels for Refrigeration Systems and Heat Pumps (Int. Cl. 9).

Class 31—Filters and Refrigerators

For Refrigeration Components—Namely, Compressor and Condensor Assemblies (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Heat Pumps, Particularly for Supermarkets, and Including Heating, Ventilating and Air Conditioning Parts of Heat Pumps (Int. Cl. 11).

First use Sept. 16, 1968.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.103.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials Class 2—Receptacles

SN 328,045. Florida Seed and Feed Company, Ocala, Fla. Filed May 22, 1969.

BIG FAVORITE GREEN

The word "Green" is disclaimed apart from the mark as shown. Owner of Reg. No. 759,306.

For Grass Seed (Int. Cl. 31).

First use May 2, 1969.

SN 358,524. United States Steel Corporation, Pittsburgh, Pa. Filed May 1, 1970.

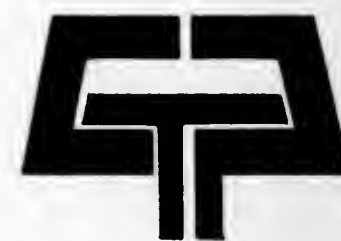
NEXUS

Owner of Reg. No. 843,485.

For Synthetic Resin Adhesive Molding Compounds (Int. Cl. 1).

First use Apr. 16, 1969.

SN 329,335. CTP Industries Inc., Brooklyn, N.Y. Filed June 6, 1969.

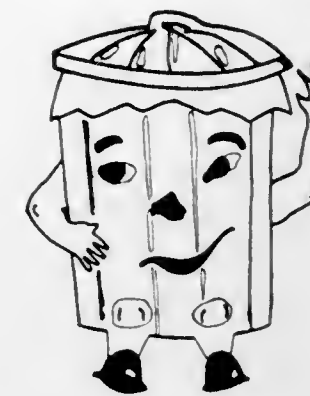


The mark consists of the stylized letters "CTP." For Thermoplastic Packages (Int. Cl. 20).

First use May 5, 1969.

SN 342,958. The Damar Company, Rockville, Md. Filed Nov. 7, 1969.

SN 346,296. Roto-Finish Company, Kalamazoo, Mich. Filed Dec. 15, 1969.



Applicant disclaims the representation of goods apart from the mark as shown.

For Plastic Bags (Int. Cl. 21).

First use Oct. 6, 1969.



The drawing is lined for the color red, but applicant does not claim any particular color as a feature of its mark. Applicant disclaims the word "Finish" apart from the mark as shown. Owner of Reg. Nos. 397,895, 845,398, and others.

For Abrasive Shapes or Forms, Grains, Nuggets, Chips, or Fragments, for Use in Tumbling Barrels, Vibratory Finishing Machines, and Other Types of Finishing Machines, for Grinding, Deburring, Descaling, Edgebreaking, Polishing, Brite-Honing, Burnishing and Otherwise Surface Finishing of Parts or Workpieces of Wood, Metal, Ceramic, Glass, and the Like, Comprising Metal, Metal Oxide, Silicon Oxide, and Silicon Carbide, Including Such Materials Which Are Resin or Ceramic Bonded, Porcelain, and Rock, e.g., Limestone or Granite (Int. Cl. 3).

First use Sept. 1, 1940.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 335,269. Skyway Luggage Company, Seattle, Wash. Filed Aug. 13, 1969.

APOLLO

For Luggage (Int. Cl. 18).

First use Jan. 2, 1969.

SN 341,348. James C. Alderson, d.b.a. Five A Ranch, Pomona, Calif. Filed Oct. 22, 1969.

SPLINT

For Protective Boots for the Ankles, Shins, and Cannon Bones of Horses (Int. Cl. 18).

First use on or about June 15, 1969.

RENAISSANCE

For Furniture Polish (Int. Cl. 3).

First use August 1968; in commerce November 1968.

Class 6—Chemicals and Chemical Compositions

SN 323,723. Nalco Chemical Company, Chicago, Ill. Filed Apr. 4, 1969.

VISCHEM

For Catalyst, Corrosion Inhibitors, De-Salting Chemicals, and Rust and Scale Inhibitors (Int. Cls. 1 and 2).

First use Dec. 26, 1968.

Class 4—Abrasives and Polishing Materials

SN 314,947. Blue Fox Industries, Inc., Brooklyn, N.Y. Filed Dec. 20, 1968.

Blue Fox



Applicant disclaims "Est. 1905" apart from the mark as shown.

For Liquid Furniture Polish and Floor Paste Wax (Int. Cl. 3).

First use Oct. 8, 1968.

For Chemicals—Namely, Calcium Chloride, Sodium Hydroxide, Potassium Ferrocyanide, Sodium Bromide, and Potassium Phosphate (Int. Cl. 1).

First use June 7, 1949.

SN 337,068. Microbiological Sciences, Inc., Salt Lake City, Utah. Filed Sept. 4, 1969.



For Vials of Phosphate Buffer Solution for Diagnostic Laboratory Use (Int. Cl. 1).
First use Aug. 12, 1969.

SN 342,967. The Dow Chemical Company, Midland, Mich. Filed Nov. 7, 1969.

FIXAFRAC

Owner of Reg. No. 589,235.
For Particulate Chemical Diverting Agents for Injection into Subterranean Formations Surrounding Oil and Gas Wells To Temporarily Plug Fractures and Perforations in the Formations and Thereby Temporarily Divert Liquids Used To Treat the Formations (Int. Cl. 1).
First use July 28, 1967.

SN 351,404. Allied Chemical Corporation, New York, N.Y. Filed Feb. 16, 1970.

NACCON

Owner of Reg. Nos. 153,504, 752,334, and others.
For Dyesuffs (Int. Cl. 2).
First use Dec. 10, 1969.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 336,237. Firearms International Corporation (New Jersey corporation), Washington, D.C., assignee of Firearms International Corporation (Delaware corporation), Washington, D.C. Filed Aug. 19, 1969.

CORSAIR

For Pistols (Int. Cl. 13).
First use January 1958.

Class 10—Fertilizers

SN 349,968. W. R. Grace & Co., Cambridge, Mass. Filed Jan. 29, 1970.

REDI-PAK

For Compressed Peat Moss Vermiculite Pellets for Soil Conditioning and Plant Germination (Int. Cl. 1).
First use Dec. 16, 1969.

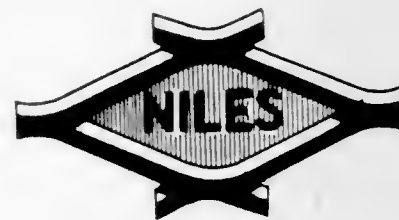
Class 12—Construction Materials

SN 312,287. Easy-Spred, Inc., Bradenton, Fla. Filed Nov. 15, 1968.

"THE MIRACLE IN MORTAR"

Owner of Reg. Nos. 756,258 and 756,562.
For Stucco for Application to Walls and the Like (Int. Cl. 19).
First use Jan. 31, 1960.

SN 345,489. The Niles Expanded Metals Corporation, Niles, Ohio. Filed Dec. 5, 1969.



The drawing is lined for the color red, but the mark is not limited to any color.
For Catwalk and Structural Gratings (Int. Cl. 6).
First use Jan. 20, 1961.

SN 346,174. Hull Industries, Inc., Santa Monica, Calif. Filed Dec. 15, 1969.

POLYBEAMS

For Simulated Wooden Channel Beams or Box Beams Composed of Polyurethane Foam Plastic, or Equivalent Plastic Material (Int. Cl. 19).
First use Jan. 8, 1969.

SN 347,426. Villum Benedikt Kann Rasmussen, d.b.a. Velux International, Soborg, Denmark. Filed Dec. 30, 1969.

VELUX

Owner of Danish Reg. No. 950/42, dated Oct. 3, 1942.
For Skylight Windows (Int. Cl. 19).

SN 350,819. A. J. Industries, Inc., d.b.a. URB Products, Los Angeles, Calif. Filed Feb. 9, 1970.



The drawing is lined to indicate the colors blue and red.
Owner of Reg. No. 887,445.
For Above-Ground Swimming Pools (Int. Cl. 19).
First use on or about Jan. 1, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 327,776. Modulus Corporation, Mount Pleasant, Pa. Filed May 20, 1969.

MODULUS

For Fasteners; Parts Thereof; Related Goods—Namely, Cotter Pins, Threaded Rods, Keys, Pins, Studs, Plugs, Washers, Set Screws, Rivets, Anchors; and Metal Shaped Parts—Namely, Clamps, Valve Stems, Hooks, Hanger Straps, and Collars (Int. Cl. 6).
First use Mar. 13, 1969.

SN 333,194. Somerset Lumber & Hardware Co., Somerset, N.J. Filed July 22, 1969.

SOMERSET

For Bolts and Screws (Int. Cl. 6).
First use February 1963.

SN 335,850. Continental Copper & Steel Industries, Inc., New York, N.Y. Filed Aug. 21, 1969.

MINI-ROLLS

For Wire Screening (Int. Cl. 6).
First use Aug. 1, 1967.

SN 336,822. MSL Industries, Inc., Chicago, Ill. Filed Sept. 2, 1969.

U

For Fasteners—Namely, Screws and Bolts (Int. Cl. 6).
First use at least as early as January 1956.

SN 342,553. United States Banknote Corporation, New York, N.Y. Filed Nov. 3, 1969.



The word "Fastener" is disclaimed apart from the mark as shown without relinquishing of any common law rights in the same.
For Fasteners for Joining Mitered Members (Int. Cl. 16).
First use at least as early as May 3, 1969.

SN 354,328. Pure Stat Corporation, Ann Arbor, Mich. Filed Mar. 17, 1970.

TAPPER

Owner of Reg. No. 893,137.
For Water Faucet Attachment for Improving the Taste of Drinking Water (Int. Cl. 11).
First use Feb. 3, 1970.

SN 354,605. Elkay Manufacturing Company, Broadview, Ill. Filed Mar. 19, 1970.

CUISINE CLASSIQUE

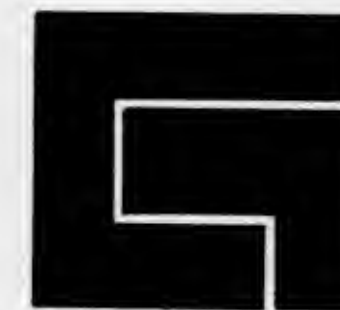
Owner of Reg. Nos. 753,959 and 753,960.
For Sinks (Int. Cl. 6).
First use Feb. 26, 1970.

SN 355,124. The Flintkote Company, White Plains, N.Y. Filed Mar. 26, 1970.

DRAINWAY

For Fibre Pipe Used for Non-Sanitary Water Drainage (Int. Cl. 19).
First use Dec. 1, 1969.

SN 355,874. Grove Valve and Regulator Company, Oakland, Calif. Filed Apr. 3, 1970.



For Manually and Mechanically Operated Valves, Automatic Pressure Relief Valves and Automatic Pressure Regulating Valves and Parts Therefor (Int. Cls. 6 and 7).
First use on or before Sept. 1, 1962.

SN 363,385. Cabot Corporation, Boston, Mass. Filed June 23, 1970.

FLOSAFE

For Plastic Piping, Valves, and Fittings (Int. Cl. 17).
First use Apr. 23, 1970.

Class 15—Oils and Greases

SN 323,239. The British Petroleum Company Limited, London, England. Filed Apr. 1, 1969.

VANELLUS

Owner of British Reg. No. 877,085, dated Mar. 18, 1965.
For Industrial Oils and Greases (Other Than Edible Oils and Fats and Essential Oils); Lubricants, Fuels, Motor Spirit, and Illuminants (Int. Cl. 4).

SN 334,685. Autotronic Systems, Inc., Houston, Tex. Filed Aug. 7, 1969.

FILL-EM FAST

For Petroleum Products—Namely, Gasoline and Motor Oil (Int. Cl. 4).
First use May 21, 1969.

SN 353,494. E. F. Houghton & Co., Philadelphia, Pa. Filed Mar. 9, 1970.

HI-TEMP

Owner of Reg. No. 572,775.
For Lubricants for Industrial Use (Int. Cl. 4).
First use Aug. 26, 1946.

Class 16—Protective and Decorative Coatings

SN 327,400. Products Research & Chemical Corporation, Burbank, Calif. Filed May 15, 1969.

PERMAPOL

Owner of Reg. No. 855,153.
For Elastomeric Protective Decorative Coating and Flowable and Spreadable Surfacing Material Resistant to Abrasion, Water and Wear for Wood, Metal, and Concrete Subsurfaces (Int. Cl. 2).
First use Apr. 10, 1969.

SN 343,608. West Chemical Products, Inc., Long Island City, N.Y. Filed Nov. 14, 1969.

XL TREDCOTE

Owner of Reg. No. 626,787.
For Liquid Floor Preservative Coating Composition or Preparation for All Types of Floor Surfaces Used for Glossy and Slip Resistant Purposes (Int. Cl. 2).
First use Oct. 13, 1969.

SN 352,588. Allentown Paint Manufacturing Company, Inc., Allentown, Pa. Filed Feb. 27, 1970.

PLAIN & FANCY FINISHES

Without waiving any common law rights therein, no claim is made to the term "Finishes" apart from the mark in its entirety.
For Paints (Int. Cl. 2).
First use Feb. 19, 1970.

Class 17—Tobacco Products

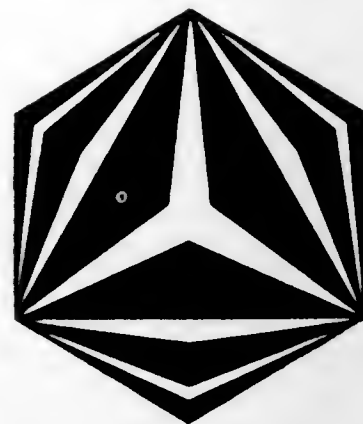
SN 365,089. Havatampa Cigar Corporation, Tampa, Fla. Filed July 13, 1970.



For Cigarettes (Int. Cl. 34).
First use Aug. 6, 1969.

Class 18—Medicines and Pharmaceutical Preparations

SN 287,302. Kyowa Hakko Kogyo Co., Ltd., Chiyoda-ku, Tokyo, Japan. Filed Dec. 20, 1967.



Priority claimed under Sec. 44(d) on Japanese application filed Aug. 30, 1967; Reg. No. 836,425, dated Oct. 31, 1969.
For Amino Acids, Organic Acids, Nucleic Acid Derivatives, Saccharides, Antibiotics, Enzymes, All of the foregoing are for Medical and Pharmaceutical Uses (Int. Cl. 5).

SN 308,036. Savage Laboratories, Inc., Houston, Tex. Filed Sept. 23, 1968.

RUVITE 1000

The number "1000" is disclaimed apart from the mark as shown. Owner of Reg. No. 771,059.
For Pharmaceutical Preparation—Namely, Vitamin B₁₂ (Int. Cl. 5).
First use Jan. 13, 1954.

SN 308,051. Transene Company, Incorporated, Rowley, Mass. Filed Sept. 23, 1968.

ACID-AID

For Suspension of Magnesium Oxide in Glycerin. Used as a First Aid Treatment for Hydrofluoric Acid Burns (Int. Cl. 5).
First use Aug. 1, 1968.

SN 317,869. Raphael P. Platoff, d.b.a. D & C Supplement Co., Studio City, Calif. Filed Jan. 29, 1969.

BE15 FORMULAE

Applicant disclaims exclusive rights to the term "Formulae" apart from the mark as shown.
For Dietary Supplement Containing Vitamins and Minerals (Int. Cl. 5).
First use Feb. 28, 1967.

SN 334,882. Tevcon Industries, Inc., Ralston, Nebr. Filed Aug. 5, 1969.

TEVCOCIN

For Chloramphenicol Preparations for Dogs (Int. Cl. 5).
First use July 5, 1969.

SN 336,308. Baylor Laboratories, Inc., Hurst, Tex. Filed Aug. 26, 1969.

AIRET

For Prescription Medicine for Relief of Bronchopulmonary Insufficiencies Due to Asthma, Bronchitis, Emphysema and Related Disorders (Int. Cl. 5).
First use June 30, 1969.

SN 336,927. Gaba AG, Basel, Switzerland. Filed Sept. 3, 1969.

ELMEX

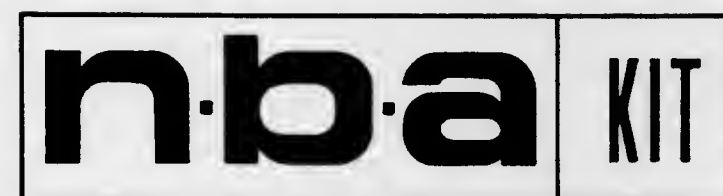
For Fluid for the Topical Floridation of Tooth Enamel and Decay Prevention (Int. Cl. 5).
First use Oct. 20, 1948; in commerce Dec. 16, 1967.

SN 337,069. Microbiological Sciences, Inc., Salt Lake City, Utah. Filed Sept. 4, 1969.



For Pharmaceutical Preparation—Namely, an Antihuman Globulin (Fluoresceinated) (Int. Cl. 5).
First use Aug. 12, 1969.

SN 337,072. Microbiological Sciences, Inc., Salt Lake City, Utah. Filed Sept. 4, 1969.



For Kits Containing the Pharmaceutical Preparation—Namely, Antihuman Globulin (Fluoresceinated) (Int. Cl. 5).
First use Aug. 12, 1969.

SN 338,550. Dermavet Laboratories, Inc., Syosset, N.Y. Filed Sept. 22, 1969.

ZEROMITE

For Preparation for the Treatment of Ear Mites in Dogs and Cats (Int. Cl. 5).
First use July 7, 1969.

SN 341,338. Thompson Medical Company, Inc., New York, N.Y. Filed Oct. 22, 1969.

FIGURE-AID

For Pharmaceutical Preparation To Aid in Reducing (Int. Cl. 5).
First use June 1, 1967.

SN 341,436. Viobin Corporation, Monticello, Ill. Filed Oct. 22, 1969.

VIODINE

For Food Supplements for Human Consumption Comprising Raw Liver Substance in Capsules (Int. Cl. 5).
First use Oct. 6, 1969.

SN 343,581. Sparboe Agricultural Corporation, Litchfield, Minn. Filed Nov. 17, 1969.

AGRI-TECH

For Premixes Containing Vitamins and Minerals (Int. Cl. 5).
First use May 1968.

SN 349,680. Owen Laboratories, Inc., Dallas, Tex. Filed Jan. 26, 1970.

IONAX

Owner of Reg. No. 762,628.
For Topical Cleansing Agent for Use as an Aid in the Treatment of Acne (Int. Cl. 5).
First use Jan. 18, 1963.

SN 350,038. American Home Products Corporation, New York, N.Y. Filed Jan. 30, 1970.

PAMELOR

For Psychotropic Agent (Int. Cl. 5).
First use Dec. 8, 1969.

SN 350,053. Clairol Incorporated, New York, N.Y. Filed Jan. 30, 1970.

UPTIGHT

Owner of Reg. No. 853,814.
For Analgesics (Int. Cl. 5).
First use Jan. 19, 1970.

SN 350,107. Mead Johnson & Company, Evansville, Ind. Filed Jan. 30, 1970.

MUCOMYST

For Nasal Decongestant (Int. Cl. 5).
First use Aug. 16, 1962.

SN 350,197. Abbott Laboratories, North Chicago, Ill. Filed Feb. 2, 1970.

PEDIASOL

For Solutions for Parenteral Administration (Int. Cl. 5).
First use Nov. 25, 1969.

SN 350,253. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories, New York, N.Y. Filed Feb. 2, 1970.

CUPID'S COMPANION

For Vitamins (Int. Cl. 5).
First use at least as early as Dec. 17, 1969.

SN 352,040. The Upjohn Company, Kalamazoo, Mich. Filed Feb. 24, 1970.

daylok

Owner of Reg. No. 809,155.
For Dispenser Containing Pharmaceutical Preparation (Int. Cl. 5).
First use Nov. 17, 1969.

SN 359,057. International Stock Food Corporation, Waverly, N.Y. Filed May 7, 1970.

DAN PATCH

For Mineral and Vitamin Concentrate for Horses (Int. Cl. 5).
First use Apr. 24, 1970.

SN 366,008. E. R. Squibb & Sons, Inc., New York, N.Y. Filed July 23, 1970.

MOTHER'S TOUCH

For Skin Ointment for Babies (Int. Cl. 5).
First use July 8, 1970.

SN 366,276. The Upjohn Company, Kalamazoo, Mich. Filed July 27, 1970.

METHOSARB

For Antineoplastic Agent (Int. Cl. 5).
First use May 13, 1970.

SN 366,462. Miles Laboratories, Inc., Elkhart, Ind. Filed July 28, 1970.

ALKA-GEL

For Antacid Preparation (Int. Cl. 5).
First use on or before July 9, 1970.

SN 366,622. Parke, Davis & Company, Detroit, Mich. Filed July 30, 1970.

PSEUDOGEN

For Vaccine Preparation (Int. Cl. 5).
First use on or before June 29, 1970.

Class 19—Vehicles

SN 300,302. Yamaha Hatsudoki Kabushiki Kaisha, Hamakita-shi, Shizuoka-ken, Japan. Filed June 12, 1968.



For Motorcycles (Int. Cl. 12).
First use Jan. 10, 1968; in commerce Jan. 10, 1968.

SN 305,409. Delhi Manufacturing Corporation, Delhi, La. Filed Aug. 19, 1968.

delhi

Owner of Reg. No. 689,049.
For Boats (Int. Cl. 12).
First use Jan. 5, 1968.

SN 308,158. Strick Corporation, Fairless Hills, Pa. Filed Sept. 24, 1968.



Owner of Reg. No. 541,737.
For Transferrable Non-Self-Propelled Heavy Duty Trailers, Semi-Trailers, Cargo Containers, Truck Bodies, Adapted To Be Mounted on Trailer Trucks, Railway Flat Cars, and Other Conveyances (Int. Cl. 12).
First use at least as early as June 1, 1966.

SN 329,112. B. F. Meyers & Company, Fountain Valley, Calif. Filed June 4, 1969.



For Automotive Vehicles—Namely, Sand Dune Buggies and Kits of Parts for Making the Same—Namely, Bodies, Frames, Roll Bars, Gasoline Tanks, Steering Wheel Braces, Instrument Panels, Steering Brake Levers, Cable Brake Guides, Tow Bars, Skid Plates, Seat Cushions, Wiring Harnesses, Steering Wheels; and Accessories for Use Therewith—Namely, Hoods, Windshields, Front Fender Kits, Rear Fender Kits, Engine Covers, Convertible Tops, Hard Tops, Carpet Kits, Wheels, Front and Rear Bumpers, and Tonneau Covers (Int. Cl. 12).
First use June 11, 1968.

SN 330,524. Maremont Corporation, Chicago, Ill. Filed June 19, 1969.

HI JACKERS

For Shock Absorbers (Int. Cl. 12).
First use May 16, 1969.

SN 331,493. The Commodore Corporation, Omaha, Nebr. Filed July 1, 1969.



For Mobile Homes—Namely, House Trailers (Int. Cl. 12).
First use Mar. 1, 1969.

SN 331,494. The Commodore Corporation, Omaha, Nebr. Filed July 1, 1969.

AUBURN

For Mobile Homes—Namely, House Trailers (Int. Cl. 12).
First use Apr. 21, 1969.

SN 333,534. The Commodore Corporation, Omaha, Nebr. Filed July 25, 1969.

Valhalla

For Mobile Homes—Namely, House Trailers (Int. Cl. 12).
First use May 1, 1969.

SN 333,718. Key West Homes, Inc., Mira Loma, Calif. Filed July 28, 1969.

KEY WEST

For House Trailers (Int. Cl. 12).
First use on or before Apr. 10, 1969.

SN 334,751. Super Tire Engineering Company, Camden, N.J. Filed Aug. 7, 1969.

SUPERTHANE

For Urethane Wheels for Industrial Trucks and Material Handling Vehicles (Int. Cl. 12).
First use May 14, 1962.

SN 336,005. North American Rockwell Corporation, Pittsburgh, Pa. Filed Aug. 22, 1969.



Owner of Reg. Nos. 890,815 and 891,505.
For Automotive Vehicle Components and Parts—Namely, Steering Axles, Trailer Axles and Other Non-Drive Axles and Parts Thereof; Brakes and Brake Operating Systems and Parts Thereof Including Fluid Pressure-Responsive and Electrical Actuators for Service, Parking and Emergency Brakes and Boosters; Suspension Assemblies and Parts Thereof Including Lead, Coil and Air Springs and Combinations Thereof. Beams and Torque Rods; Torsion Bars; Springs; Wheels and Hubs and Bumpers Including Face Bars and Brackets (Int. Cl. 12).
First use Mar. 4, 1969.

SN 336,383. Adelphi Mobile Air Conditioners, Inc., Brooklyn, N.Y. Filed Aug. 27, 1969.

HYDRO-CLIMATE

For Cooling and Air Conditioning Systems—Namely, Air Conditioners for Use in Private and Commercial Vehicles and Truck Cabs (Int. Cl. 11).
First use July 25, 1969.

SN 337,736. White Motor Corporation, Cleveland, Ohio. Filed Sept. 11, 1969.

WHITE WESTERN STAR

Owner of Reg. Nos. 762,204, 763,456, and others.
For Trucks, Highway Tractors and Parts Therefor (Int. Cl. 12).
First use Apr. 26, 1967.

SN 340,754. American Machine & Foundry Company, New York, N.Y. Filed Oct. 15, 1969.



For Inboard, Inboard/Outboard and Outboard Power Boats and Structural Parts Therefor (Int. Cl. 12).
First use July 30, 1969.

SN 342,174. McNeil Corporation, Akron, Ohio. Filed Oct. 30, 1969.

MOD CAPS

For Spoked Wheels for Bicycles and the Like (Int. Cl. 12).
First use on or about Sept. 23, 1969.

SN 343,611. Winnebago Industries, Inc., Forest City, Iowa. Filed Nov. 14, 1969.

WINNEBAGO MOTOR INN

The words "Motor Inn" are disclaimed apart from the mark as shown. Owner of Reg. No. 777,541.
For Vehicles—Namely, Motor Homes, Mobile Offices, Mobile Display and Demonstration Units, Mobile Laboratory, Mobile Recruiting Office, and Mobile Sales Rooms (Int. Cl. 12).
First use Apr. 1, 1969.

SN 343,647. American Machine & Foundry Company, New York, N.Y. Filed Nov. 17, 1969.

AMF

Owner of Reg. Nos. 628,107, 811,921, and others.
For Bicycles; Power Driven Golf Carts; All Terrain Vehicles; Tow Sleds and Trailer Transport Vehicles; Motor Vehicle Trailer Transport Containers and Railroad Tank Car Tanks; Boats—Namely, Power Boats, Sailboats and Sailboats in Unassembled Kit Form; and Snowmobiles, Parts Thereof and Fitted Protective Covers Therefor (Int. Cls. 12 and 22).
First use as early as December 1963.

SN 345,664. W. H. Olsen Manufacturing Company Limited, Tilbury, Ontario, Canada. Filed Dec. 8, 1969.

SUNSPOT

For Boats (Int. Cl. 12).
First use Aug. 29, 1969; in commerce Aug. 29, 1969.

SN 345,665. W. H. Olsen Manufacturing Company Limited, Tilbury, Ontario, Canada. Filed Dec. 8, 1969.

LOON

For Boats (Int. Cl. 12).
First use Aug. 29, 1969; in commerce Aug. 29, 1969.

SN 348,159. S. S. Kresge Company, Detroit, Mich. Filed Jan. 9, 1970.



Applicant disclaims the word "Craft" apart from the mark as shown. Owner of Reg. Nos. 787,715, 831,214, and others. For Boats (Int. Cl. 12).
First use on or before May 9, 1969.

SN 349,145. Toyo Kogyo Co., Ltd., Fuchu-machi, Aki-gun, Hiroshima-ken, Japan. Filed Jan. 21, 1970.



Owner of Japanese Reg. No. 604,390, dated Jan. 26, 1963. For Automobiles and Parts Therefor (Int. Cl. 12).

SN 349,271. Fleetwood Enterprises, Inc., Riverside, Calif. Filed Jan. 22, 1970.

Festival

For Travel Trailers, House Trailers, and Camping Trailers (Int. Cl. 12).
First use Aug. 20, 1969.

SN 362,771. Wald Manufacturing Company, Inc., Maysville, Ky. Filed June 15, 1970.

GROOVY BARS

Applicant disclaims the word "Bars" apart from the mark as shown. For Bicycle Handlebars (Int. Cl. 12).
First use May 6, 1970.

SN 365,518. Transcraft Corporation, Anna, Ill. Filed July 17, 1970.

TRANSCRAFT

For Platform Trailers for Trucks and Parts Therefor (Int. Cl. 12).
First use May 15, 1962.

SN 366,105. D. P. Harris Hardware & Manufacturing Co., Inc., New York, N.Y. Filed July 24, 1970.



Owner of Reg. No. 532,897. For Bicycles, Bicycle Bells, Bicycle Horns, Bicycle Mirrors, Bicycle Chain Guards, Bicycle Kick Stands, Bicycle Pedals, Bicycle Hand Grips, Bicycle Saddles, Bicycle Handlebars, Bicycle Chain Wheels and Cranks, Bicycle Chains, Bicycle Padlocks, Bicycle Foot Pumps, and Bicycle Transmission Cables for Hand Brakes (Int. Cl. 12).
First use January 1940.

SN 366,133. Atlas Tool & Mfg. Co., St. Louis, Mo. Filed July 24, 1970.

COLT

For Motorcycles (Int. Cl. 12).
First use Feb. 16, 1970.

SN 366,192. Motor Wheel Corporation, Lansing, Mich. Filed July 24, 1970.

MULTI-STYLE

For Truck Wheels (Int. Cl. 12).
First use July 9, 1968.

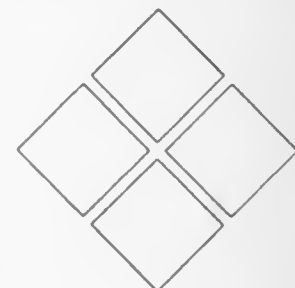
SN 366,204. J. C. Penney Company, Inc., New York, N.Y. Filed July 24, 1970.

SNOWTAMER

For Snowmobiles (Int. Cl. 12).
First use Apr. 16, 1970.

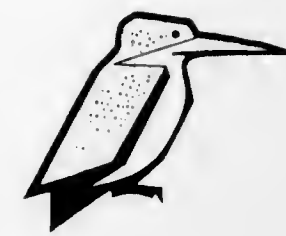
Class 20 — Linoleum and Oiled Cloth

SN 337,594. Tarkett Aktiebolag, Malmo, Sweden. Filed Sept. 10, 1969.



Owner of Swedish Reg. No. 120,869, dated Sept. 1, 1967. For Floor Coverings in the Form of Parquet (Not of Metal) and Vinyl Sheetting, Plastic Carpets, and Plastic Matting; Wall Coverings, and Road Marking Materials (Int. Cl. 27).

SN 349,671. Nairn-Williamson Limited, Lancaster, England. Filed Jan. 26, 1970.



Owner of British Reg. No. 885,502, dated Oct. 13, 1965. For Sheets of Plastics in the Nature of Hangings for Use as Wall Coverings, All Backed With Paper, Bonded Fibres of Textile Materials (Int. Cl. 27).



For Electric Lighting Fixtures (Int. Cl. 11).
First use December 1968.

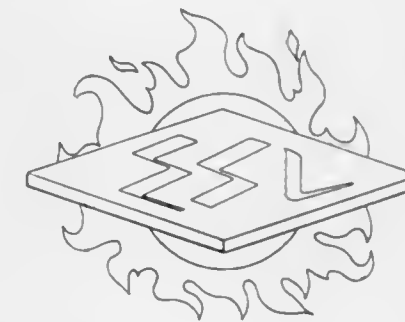
SN 324,836. Reach Electronics, Inc., Lexington, Nebr. Filed Apr. 17, 1969.

PAGE ALARM

Applicant hereby disclaims the word "Alarm" apart from the mark as shown in the drawing, but applicant waives none of the common law rights in the mark shown or any feature thereof.

For Mobile Radio Call Alarm (Int. Cl. 9).
First use Jan. 11, 1964.

SN 325,961. Electro-Science Laboratories, Inc., Philadelphia, Pa. Filed Apr. 30, 1969.



For Resistive, Insulative, Dielectric, Semiconductive and Conductive Compositions Used in the Fabrication of Electrical Circuits (Int. Cl. 17).
First use Mar. 24, 1969.

SN 328,089. Williams Gold Refining Company Incorporated, Buffalo, N.Y. Filed May 22, 1969.

INDUCTOCAST

For Electrically Heated Casting Machines for Melting and Casting Dental Alloys (Int. Cl. 11).
First use in about February 1950.

SN 328,190. The Nippert Company, Delaware, Ohio, by change of name from The Nippert Electric Products Company, Delaware, Ohio. Filed May 23, 1969.

NIPPERT

For Electrical Products—Namely, Commutators, Slip Rings, Stud Bases for Power Rectifiers and Diodes, Rotor Wedges, Canned Motor Windings, Switch Gear Parts and Light Bulb Filament Supports, Alloy Wire, and Drawn Copper Shapes—Namely, Rectangular Bars, Commutator Bars, Rotor Bars, Holding Wedges, Balance Wedge, Materials, Electrodes, Header Wires, and Trolley Feed (Int. Cl. 9).
First use at least as early as January 1963.

SN 321,366. Otto Kadmon, Inc., New York, N.Y. Filed Mar. 11, 1969.

TIP-TOP

For Electric Light Sets and Electric Lamps (Int. Cl. 11).
First use Dec. 11, 1968.

The word "Originals" is disclaimed apart from the mark as shown, without waiving any common law rights. For Electric Lighting Fixtures (Int. Cl. 11).
First use September 1965.

SN 315,240. Subscription Television, Inc., New York, N.Y., assignee of Leach Corporation, South Pasadena, Calif. Filed Dec. 26, 1968.

BALANCED-FORCE

For Relays (Int. Cl. 9).
First use Oct. 1, 1968.

SN 319,074. Rally Industries, Palo Alto, Calif. Filed Feb. 13, 1969.

RALLY/RAP

For Spiral-Cut Plastic Tubing Employed as a Wrapping for Electrical Wiring To Harness, Insulate, and Protect the Same (Int. Cl. 17).
First use Sept. 30, 1968.

SN 330,293. Oxley Developments Company Limited, Ulverston, England. Filed June 17, 1969.

THERMOTRIMMER

Owner of U.S. Reg. No. 751,594.
For Electrical Trimmer Condensers (Int. Cl. 9).
First use 1960; in commerce 1962.

SN 330,773. Proctor-Sillex Incorporated, Philadelphia, Pa. Filed June 23, 1969.

ELECTRA SPONGE

For Household Suction Cleaning Apparatus Including Liquid Pick-Up Units and Accessories—Namely, Nozzles and Liquid Containers (Int. Cl. 9).
First use on or about February 1969.

SN 334,486. Nikko Electric Corporation of America, North Hollywood, Calif. Filed Aug. 5, 1969.

NIKKO

The word "Nikko" means "sunshine" in Japanese.
For Radio Receiving Apparatus, Amplifiers, Tuners, Speakers, and Consoles and Cabinets Designed Therefor (Int. Cl. 9).
First use Nov. 3, 1967.

SN 337,702. Standard Radio Corporation, Sagami-hara-shi, Kanagawa, Japan. Filed Sept. 11, 1969.



Owner of U.S. Reg. Nos. 660,451 and 816,069.
For UHF and VHF Radio Telephones for Marine and Land Use, and Speakers and Antennas Therefor (Int. Cl. 9).
First use Dec. 1, 1968; in commerce Dec. 16, 1968.

SN 341,533. Logicon, Inc., San Pedro, Calif. Filed Oct. 23, 1969.

LI/ON

For Digital Computer Input/Output Networks (Int. Cl. 9).
First use on or about Dec. 1, 1968.

SN 343,037. Consolidated Foods Corporation, Old Greenwich, Conn. Filed Nov. 10, 1969.

ELECTROLUX

Owner of Reg. Nos. 195,691, 562,427, and others.
For Vacuum Cleaner Suction Nozzles (Int. Cl. 9).
First use on or before July 1960.

SN 343,842. Held Electronics, Inc., Baltimore, Md. Filed Nov. 18, 1969.



Applicant disclaims the representation of the two amplifiers and the word "Tester" apart from the mark as shown.
For Transistorized Audible High Voltage Detector (Int. Cl. 9).
First use Aug. 15, 1961.

SN 346,391. Murata Manufacturing Company, Limited, Nagakura-cho, Otokuni-gun, Kyoto-fu, Japan. Filed Dec. 16, 1969.

CERAMIPEC

For Capacitance-Resistance Packaged Circuits, and Printed Circuits (Int. Cl. 9).
First use May 25, 1965; in commerce May 25, 1965.

SN 346,452. California Instruments Corporation, San Diego, Calif. Filed Dec. 17, 1969.

INVERTRON

For Electronic Instruments for Converting AC or DC Electrical Energy Having One Set of Characteristics Into AC Electrical Energy, With a New, Specified Set of Characteristics—Namely, Power Amplifier, Power Supply, and Precision Oscillators (Int. Cl. 9).
First use Mar. 27, 1953.

SN 347,476. The Bunker-Ramo Corporation, Oak Brook, Ill. Filed Dec. 31, 1969.

ASTROPLATE

For Electrical Components Including Coaxial Connectors and Switches To Identify a Non-Tarnishing Finish Applied Thereto (Int. Cl. 9).
First use on or prior to Apr. 14, 1969.

SN 347,497. Electrovert, Inc., Mount Vernon, N.Y. Filed Dec. 31, 1969.

ELECTRO-TY

For Tie for Bundling Electrical Wires (Int. Cl. 9).
First use Dec. 9, 1969.

SN 351,173. RCA Corporation, New York, N.Y. Filed Feb. 12, 1970.

RCA

Owner of Reg. Nos. 167,591, 862,658, and others.
For Remote Control Units for Radio and Television Receivers; Electronic Metal Detectors Used in Connection With Belt Conveyers, for Detecting the Presence of Undesirable Metal Objects Passing Through or by the Detector; Electrical Message Signalling System Used in Hotels; Electronic Railroad Car Detection Devices Designed To Detect the Presence of Moving or Stationary Cars or Locomotives; Radio Operated Public Safety Alarm Systems Utilizing an Emergency Call Box, Base Station Computer Decoder and Visual Display and Print-Out Units (Int. Cl. 9).
First use at least as early as October 1962.

SN 351,174. RCA Corporation, New York, N.Y. Filed Feb. 12, 1970.



Owner of Reg. Nos. 167,591, 862,658, and others.
For Remote Control Units for Radio and Television Receivers; Electronic Metal Detectors Used in Connection With Belt Conveyers, for Detecting the Presence of Undesirable Metal Objects Passing Through or by the Detector; Electrical Message Signalling System Used in Hotels; Electronic Railroad Car Detection Devices Designed To Detect the Presence of Moving or Stationary Cars or Locomotives; Radio Operated Public Safety Alarm Systems Utilizing an Emergency Call Box, Base Station Computer Decoder and Visual Display and Print-Out Units (Int. Cl. 9).
First use at least as early as Oct. 2, 1968; at least as early as October 1962, in another form.

SN 352,236. Scoville Manufacturing Company, Waterbury, Conn. Filed Feb. 24, 1970.

COMMUNICENTER

For Tape Cassette, Radio, and Intercommunication Systems (Int. Cl. 9).
First use Dec. 2, 1969.

SN 355,364. Dominion Electric Corporation, Mansfield, Ohio. Filed Mar. 30, 1970.

PERC-ALERT

For Domestic Electric Coffee Maker (Int. Cl. 11).
First use on or about Dec. 17, 1969.

SN 355,965. Fedtro, Inc., Rockville Centre, N.Y. Filed Apr. 6, 1970.

PLUG-O-MATIC

Owner of Reg. Nos. 844,014, 848,554, and 861,621.
For Accessory Plugs Adapted for Use in Automobile Cigarette Lighters (Int. Cl. 9).
First use Mar. 23, 1970.

SN 357,025. Baudinet International Corporation of America, New York, N.Y. Filed Apr. 16, 1970.

FEM LITE

The word "Lite" is disclaimed apart from the mark as shown.
For Flashlights (Int. Cl. 11).
First use Jan. 15, 1970.

SN 357,834. Imperial Metal Industries (Kynoch) Limited, Witton, Birmingham, England. Filed Apr. 24, 1970.

NIOMAX

Owner of British Reg. No. 904,315, dated Jan. 18, 1967.
For Electrical Conductors (Int. Cl. 9).

SN 358,078. Phelps Dodge Copper Products Corporation, New York, N.Y. Filed Apr. 27, 1970.

CUFLEX

For Coaxial Cables (Int. Cl. 9).
First use on or about Dec. 30, 1969.

SN 358,626. Tempress Electronic Corp., East Orange, N.J. Filed May 1, 1970.

MEMREED

For Electric Switches (Int. Cl. 9).
First use Mar. 23, 1970.

Class 22 — Games, Toys, and Sporting Goods

SN 306,129. Fishmaster Products, Inc., Tulsa, Okla. Filed Aug. 28, 1968.

FISHMASTER

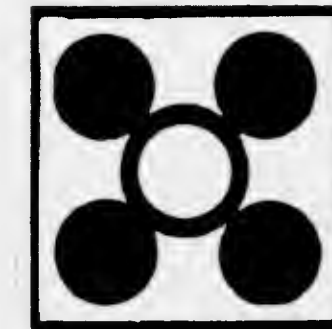
For Fishing Equipment—Namely, Fish Attracting Devices, Bait, Rods, Reels, Leaders, and Lines (Int. Cl. 28).
First use Aug. 28, 1967.

SN 307,444. Harry C. Ehrmantraut, d.b.a. Gynnas Company, Los Altos, Calif. Filed Sept. 16, 1968.

THE INSIDE TRACK

For Isotonic-Type Exercising Device (Int. Cl. 28).
First use Mar. 22, 1968.

SN 319,253. A/S Lego System Billund, Billund, Jutland, Denmark. Filed Feb. 17, 1969.



Owner of Danish Reg. No. 1037/63, dated May 11, 1963.
For Toy Building Blocks (Int. Cl. 28).

SN 329,396. Uneeda Doll Co., Inc., Brooklyn, N.Y. Filed June 6, 1969.



For Dolls and Doll Accessories (Int. Cl. 28).
First use on or about Feb. 18, 1969.

SN 329,436. The J. E. Burke Company, Fond du Lac, Wis. Filed June 9, 1969.



The word "Ball" is disclaimed apart from the mark.
For Playground Equipment—Namely, a Post-Supported Hopper Adapted To Receive a Ball and Provided With One or More Discharge Spouts through Which the Ball Is Delivered (Int. Cl. 28).
First use on or about Mar. 9, 1969.

SN 329,770. J. W. Spears & Sons Limited, Middlesex, England. Filed June 11, 1969.

SPEAROSCOPE

For Toys Utilizing Kaleidoscopic Effects (Int. Cl. 28).
First use May 15, 1969; in commerce May 15, 1969.

SN 329,877. Merchandise Mart, Inc., Milwaukee, Wis. Filed June 12, 1969.



No claim of exclusive right is made to "Sporting Goods" for the good recited.

For Fishing Equipment, Swim Fins and Masks, Water Ski Tow Ropes and Sleeping Bags for Outdoor or Campers or Similar Recreational Use; and Playing Equipment and Its Accessories for Use in Baseball, Football, Basketball, Golf, Tennis, Bowling, Handball and Archery Exclusive of Wearing Apparel (Int. Cls. 20 and 28).
First use Apr. 7, 1969.

SN 330,288. La Salle Extension University, Chicago, Ill. Filed June 17, 1969.

DIDO

For Equipment Distributed as a Unit for Playing a Board-Type Instructional Game (Int. Cl. 28).
First use October 1967.

SN 332,499. Louis Marx & Co., Inc., New York, N.Y. Filed July 14, 1969.

PRO BOWL LIVE ACTION FOOTBALL

No claim is made to the words "Pro Bowl" and "Football" apart from the mark as shown.
For Equipment Sold as a Unit for Playing a Football Board Game (Int. Cl. 28).
First use May 6, 1969.

SN 333,425. Ogasaka Ski Manufacturing Co., Ltd., Nagano, Japan. Filed July 24, 1969.



Owner of Japanese Reg. No. 620,837, dated July 13, 1963.
For Snow Skis and Water Skis (Int. Cl. 28).

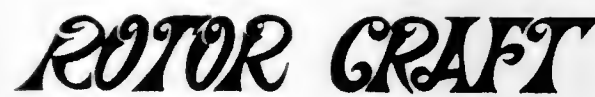
SN 334,508. Boraut Industries, Inc., Cincinnati, Ohio. Filed Aug. 8, 1969.

ORBIT BALL

Applicant without prejudice or effect to its present or future rights disclaims the word "Ball" apart from the mark as shown.

For Baseball Practice Ball on a Cord (Int. Cl. 28).
First use on or about Apr. 12, 1969.

SN 335,246. National Development Corporation, Central Point, Oreg. Filed Aug. 13, 1969.



For Flying Toy in the Nature of a Boomerang (Int. Cl. 28).
First use on or about Dec. 1, 1967.

SN 336,169. Polyform Products Co., Inc., Shiller Park, Ill. Filed Aug. 25, 1969.

DOODLEY-DOO

For Modeling Plastic Compound for Use by Children (Int. Cl. 28).
First use May 10, 1968.

SN 337,074. M. A. Miller Manufacturing Co., Libertyville, Ill. Filed Sept. 4, 1969.

MILLCO

For Sporting Goods—Namely, Billiard Cues, Ski Poles, Ski Boot Trees, Ski Bindings, Ski Safety Straps, Ski Carriers and Similar Ski Accessory Equipment. (Int. Cl. 28).
First use Oct. 19, 1962.

SN 337,798. Hasbro Industries, Inc., Pawtucket, R.I. Filed Sept. 12, 1969.

ADVENTURES IN LIGHT

Applicant disclaims the word "Light" separate and apart from the mark as shown.
For Toy Sets Which Utilize Light for Creating Varied Effects (Int. Cl. 28).
First Use on or about Feb. 24, 1969.

SN 338,634. White Stag Manufacturing Co., d.b.a. Hirsch-Wels Canvas Products Co., Portland, Oreg. Filed Sept. 22, 1969.

THERMO-FLUF

Owner of Reg. No. 647,634.
For Polyester Filling Material Sold as or Incorporated as a Component Part of Sleeping Bags for Outdoor or Campers' or Similar Recreational Use (Int. Cl. 20).
First use Aug. 25, 1969.

SN 339,857. Ray Cook, San Antonio, Tex. Filed Oct. 6, 1969.

AMERICAN OPEN

For Golf Clubs (Int. Cl. 28).
First use May 19, 1969.

SN 342,446. Hasbro Industries, Inc., Pawtucket, R.I. Filed Nov. 3, 1969.

JAVELIN DARTS

Applicant disclaims the word "Darts" separate and apart from the mark as shown.
For Equipment for Playing an Outdoor Dart Game (Int. Cl. 28).
First use in or about October 1968.

SN 342,552. Turfski, Inc., West Dover, Vt. Filed Nov. 3, 1969.

TURFSKI

No registration rights are claimed herein for the word "Ski" apart from the mark as shown in the drawing; but applicant waives none of its common law rights in said mark or any feature thereof.

For Land Skis and Associated Equipment (Int. Cl. 28).
First use Nov. 14, 1966.

SN 345,929. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Dec. 11, 1969.

SUNDANCE

For Beach Tents Used for Recreational Purposes (Int. Cl. 22).
First use Dec. 3, 1969.

SN 346,183. Mattel, Inc., Hawthorne, Calif. Filed Dec. 15, 1969.

ROD RUNNER

For Mechanical Speed Booster for Toy Miniature Automobiles Running on Track, the Booster Being Associated With the Track To Increase the Speed of the Automobiles as They Pass Through the Booster (Int. Cl. 28).
First use Oct. 24, 1969.

SN 350,633. Victor Comptometer Corporation, Chicago, Ill. Filed Feb. 5, 1970.

DING-A-LING

For Golf Clubs (Int. Cl. 28).
First use Jan. 9, 1970.

SN 352,321. Edgar G. Burkhardt, James C. Mulvaney and Spasen S. Spasoff (partnership), Mequon, Wis. Filed Feb. 25, 1970.

MULLIGAN

For Equipment for Use in Playing a Golf-Type Parlor Game (Int. Cl. 28).
First use Feb. 9, 1970.

SN 353,484. The Gyro Club Corporation, Albuquerque, N. Mex. Filed Mar. 9, 1970.

ROTO-CLUB

For Golf Clubs (Int. Cl. 28).
First use Nov. 17, 1969.

SN 355,571. Mattel, Inc., Hawthorne, Calif. Filed Apr. 1, 1970.

CAPTAIN DAN DRAKE

The mark, "Captain Dan Drake" is a fictitious creation and is not known to refer to any particular individual.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Nov. 13, 1969.

SN 355,725. Samsonite Corporation, Denver, Colo. Filed Apr. 2, 1970.

SHIP SHAPES

Applicant disclaims the term "Ship" apart from the mark as shown.
For Kits for Making Various Ships (Int. Cl. 28).
First use Feb. 25, 1970.

SN 355,975. Mattel, Inc., Hawthorne, Calif. Filed Apr. 6, 1970.

SCORPIO

For Space Doll and Accessories (Int. Cl. 28).
First use Nov. 13, 1969.

SN 356,035. Winston E. Brownlee, d.b.a. W. E. Brownlee & Co., Suttons Bay, Mich. Filed Apr. 6, 1970.

GITSMO

For Fishing Line Release Devices and Fishing Line Weighting Devices (Int. Cl. 28).
First use Aug. 13, 1969.

SN 357,177. Mattel, Inc., Hawthorne, Calif. Filed Apr. 17, 1970.

PRIMPY PUP

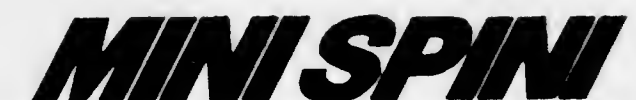
No claim of exclusive right is made to the word "Pup" apart from the mark.
For Toy Stuffed Dog (Int. Cl. 28).
First use Feb. 27, 1970.

SN 357,184. Mattel, Inc., Hawthorne, Calif. Filed Apr. 17, 1970.

GRAND SPORTS

No claim of exclusive right is made to the word "Sports" apart from the mark.
For Toy Automobiles (Int. Cl. 28).
First use Mar. 10, 1970.

SN 357,620. Leisure Dynamics, Inc., Minneapolis, Minn. Filed Apr. 22, 1970.



For Toy Tops (Int. Cl. 28).
First use Oct. 13, 1969.

SN 357,681. Howard S. Gams, Indianapolis, Ind. Filed Apr. 23, 1970.

DIMINISH

For Equipment Sold as a Unit for Playing a Word Game (Int. Cl. 28).
First use Apr. 6, 1970.

SN 357,919. Mattel, Inc., Hawthorne, Calif. Filed Apr. 27, 1970.

BAJA BANDITO

The English meaning of the mark "Baja Bandito" is "lower bandit."
For Toy Automobile and Kit for Making Same (Int. Cl. 28).
First use Feb. 11, 1970.

SN 359,563. Mattel, Inc., Hawthorne, Calif. Filed May 13, 1970.

VOYAGE TO GALAXY III

For Toy Set Comprising a Toy Programmed Vehicle for Traveling on a Surface, a Toy Rotatable Flying Disk, a Doll, a Continuous Belt Driven Vehicle, and Space Environmental Equipment (Int. Cl. 28).
First use Feb. 17, 1970.

SN 359,787. Imperial Jade Mining Inc., Minneapolis, Minn. Filed May 15, 1970.

FARMER'S DAUGHTER

For Fishing Equipment—Namely, Lures (Int. Cl. 28).
First use on or before May 6, 1970.

SN 360,646. Mattel, Inc., Hawthorne, Calif. Filed May 25, 1970.

NIGHT-WINDER

For Toy Tops (Int. Cl. 28).
First use Feb. 17, 1970.

SN 360,648. Mattel, Inc., Hawthorne, Calif. Filed May 25, 1970.

THE PROWLER

For Toy Tops (Int. Cl. 28).
First use Feb. 17, 1970.

SN 361,444. Mattel, Inc., Hawthorne, Calif. Filed June 2, 1970.

CLOUD CLIPPERS

For Toy Kit Containing Tracks, Airplanes, Track Joiners and an Automobile for Launching Airplanes (Int. Cl. 28).
First use Apr. 21, 1970.

SN 365,494. Mattel, Inc., Hawthorne, Calif. Filed July 13, 1970.

ZOPTERS

For Toy Helicopters (Int. Cl. 28).
First use May 25, 1970.

SN 365,998. Mattel, Inc., Hawthorne, Calif. Filed July 23, 1970.

BABY LOVE

Applicant makes no claim of exclusive right to the word "Baby" apart from the mark.
For Dolls (Int. Cl. 28).
First use during or before 1962.
Subj. to Int. with SN 359,029.

SN 366,001. Mattel, Inc., Hawthorne, Calif. Filed July 23, 1970.

WHINER

For Toy Automobile (Int. Cl. 28).
First use June 4, 1970.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 300,358. John The Jack Man Co., Inc., Stafford Springs, Conn. Filed June 13, 1968.

JOHN THE JACK MAN

Applicant disclaims the terminology "Jack" apart from the mark as shown, but does not waive any common law or other right in the mark or in any part thereof.
For Hydraulic Pumps, Hydraulic Jacks, Pneumatic and Electric Impact Tools, and Parts Thereof (Int. Cl. 7).
First use about June 1966.

SN 317,982. Truck Equipment Co., Inc., Buffalo, N.Y. Filed Jan. 30, 1969.

TRUXMORE

For Garbage, Trash and Refuse Loaders and Packer Bodies for Mounting on Trucks (Int. Cl. 12).
First use October 1932.

SN 318,464. Squar-Buff, Inc., Danvers, Mass. Filed Feb. 5, 1969.

SQUAR BUFF

Applicant disclaims the word "Buff," in respect of buffing, apart from the mark as shown.
For Commercial Combination Floor Maintenance Machine for Buffing, Cleaning, Polishing, Scrubbing, Stripping and Sanding Floors (Int. Cl. 7).
First use on or about Apr. 13, 1966.

SN 322,158. Formulabs Industrial Inks, Incorporated, Escondido, Calif. Filed Mar. 19, 1969.

CODEMASTER

For Machinery for Spiral Stripping and/or Solid Coloring Insulated Wire (Int. Cl. 7).
First use Sept. 23, 1968.

SN 322,700. Maurice Constantin & Sons, Inc., Rayne, La. Filed Mar. 25, 1969.



No claim is made to the words "Farm Equipment" apart from the mark as shown without waiving any common law rights therein.

For Pull-Type Land Levelers and Grain Carts With Discharge Augers (Int. Cl. 7).
First use on or about Jan. 1, 1965.

SN 323,500. West Chemical Products, Inc., Long Island City, N.Y. Filed Apr. 2, 1969.

AERO-WEST

Owner of Reg. Nos. 723,244, 867,448, 868,106, and 868,317.
For Automatic Cabinet-Mounted Dispenser Units for Dispensing Disinfectants, Deodorants, Insecticides and the Like (Int. Cl. 7).
First use Feb. 7, 1969.

SN 324,715. Greenline Conveyor Company, Inc., Charlotte, N.C. Filed Apr. 16, 1969.



The drawing is lined for the color green.
For Material Handling Conveyors (Int. Cl. 7).
First use Apr. 19, 1964.

SN 327,467. Artec Corporation, Lansdale, Pa. Filed May 16, 1969.



For Automatic Storage Racks (Int. Cl. 7).
First use Dec. 16, 1966.

SN 329,769. Société Française d'Etiquetage Virey & Garnier, Nogent-Sur-Marne, France. Filed June 11, 1969.



Priority claimed under Sec. 44(d) on French Reg. No. 752,055, dated Dec. 12, 1968. Owner of U.S. Reg. Nos. 828,920 and 828,921.

For Labeling Machines and Parts Thereof (Int. Cl. 7).

SN 331,391. Kolene Corporation, Detroit, Mich. Filed June 30, 1969.

TUFFTRIDE

Owner of Reg. Nos. 704,470 and 736,930.
For Equipment for Treating Metals by a Process Using Molten Salts Containing Sodium Cyanide—Namely, Pots and Cold and Hot Water Rinse Tanks (Int. Cl. 7).
First use on or about Oct. 1, 1959.

SN 331,538. Proctor & Schwartz, Inc., Philadelphia, Pa. Filed July 1, 1969.

FABRIC-FORMER

For Needle Punching Machines (Int. Cl. 7).
First use in or about June 1969.

"POWER-SAVER"

For Fan Clutches for Internal Combustion Engines (Int. Cl. 7).
First use June 5, 1969.

SN 333,140. Masterform Tool Company, Franklin Park, Ill., assignee, by mesne assignment, of Samuel Kaplan and Joseph B. Kaplan (partnership), d.b.a. American Plumbing Supply Company, Chicago, Ill. Filed July 22, 1969.

PLIERENCH

For Multiple-Purpose Tools—Namely, Combination Pliers, Wrench, Pipe Wrench, Clamp Vise, Wire-Cutting Tool, and Wire-Bending Tool (Int. Cl. 8).
First use in 1923.

SN 336,151. Onelda Ltd., Onelda, N.Y. Filed Aug. 25, 1969.

AUTUMN GLOW

For Flatware Made of Non-Precious Metal (Int. Cl. 8).
First use Aug. 13, 1969.

SN 336,282. Esco Corporation, Portland, Oreg. Filed Aug. 12, 1969.

ZIPPER LIP

Applicant disclaims "Lip" apart from the mark as shown.
For Wear-Resistant Shrouds for Excavating Devices—Namely, Scoops, Buckets, Dippers, and the Like (Int. Cl. 7).
First use Feb. 28, 1969.

SN 337,451. Mason & Porter Limited, Auckland, New Zealand. Filed Sept. 9, 1969.

MASPORT

Owner of New Zealand Reg. Nos. 18,381, dated Sept. 20, 1921, and 72,063, dated Oct. 31, 1962.

For Lawnmowers, Tractors, Mowing Machines, Cultivators, Rotary Hoes and Combinations Thereof; Garbage Compactors, Kerosene and Benzine Engines, and Vacuum Pumps (Int. Cl. 7).

SN 338,157. The Micor Corporation, Bensenville, Ill. Filed Sept. 17, 1969.

MICOR

For Carbide Tipped Cutting Tools for the Machining of Wood, Plastic, and Non-Ferrous Metals (Int. Cl. 7).
First use about October 1963.

SN 339,016. Illinois Tool Works Inc., Chicago, Ill. Filed Sept. 26, 1969.

RO4

For Printing Presses (Int. Cl. 7).
First use as early as Dec. 18, 1968.

SN 339,254. Universal Refractories Corporation, Milwaukee, Wis. Filed Sept. 29, 1969.

UNI-BOARD

For Fiber-Type Insert Liners for Hot Top Castings and for Ingot Molds (Int. Cl. 17).
First use January 1969.

SN 339,255. Universal Refractories Corporation, Milwaukee, Wis. Filed Sept. 29, 1969.

UNI-LOC

For Wiper Strips for Hot Top Bottom Ring Assemblies (Int. Cl. 17).
First use May 1961.

SN 339,258. Universal Refractories Corporation, Milwaukee, Wis. Filed Sept. 29, 1969.

HEAT-SAVER

For Hot Top Castings for Hot Topping Steel (Int. Cl. 17).
First use September 1967.

SN 338,449. Triumph Werke Nuernberg Aktiengesellschaft, Nuernberg, Germany. Filed Sept. 19, 1969.



For Typewriting Machines and Parts Thereof (Int. Cl. 16).
First use Apr. 28, 1969; in commerce Sept. 5, 1969.

SN 340,168. Kornylak Corporation, Hamilton, Ohio. Filed Oct. 8, 1969.

MAGNEBELT

For Magnetic Belt Conveyor (Int. Cl. 7).
First use Apr. 4, 1958.

SN 340,170. Minder Industries, Los Angeles, Calif., by change of name from J. W. Minder Chain & Gear Co., d.b.a. Minder, Inc., Los Angeles, Calif. Filed Oct. 8, 1969.

MITER TIGHT LOCK

For Automatic Nailing Machines (Int. Cl. 7).
First use June 11, 1969.

SN 341,900. Arburg Maschinenfabrik Hehl & Sohne, Lossburg/Wuerttemberg, Germany. Filed Oct. 28, 1969.



No claim is made to the representation of the goods apart from the mark as shown.

For Machines, and Parts Thereof, for Molding and Shaping Thermoplastic Material (Int. Cl. 7).

First use February 1968; in commerce February 1968.

SN 343,136. Kirk-Rudy, Inc., Libertyville, Ill. Filed Nov. 10, 1969.



For Imprinters, Tip-On Heads for Tipping of Reply Cards and the Like to Newspaper Supplements, Signatures, Magazines and Catalogs and Labelling Machines for Attaching Labels to Newspaper Supplements, Magazines, and Catalogs (Int. Cl. 7).

First use May 26, 1969.

SN 343,280. Hall & Pickles Limited, Ecclesfield, Sheffield, England. Filed Nov. 12, 1969.

HYDRALOCK

For Cutters for Milling Machines, and Adaptors, Chucks and Other Mounting Members for Such Cutters (Int. Cl. 7).
First use in or about 1963; in commerce in 1968.

SN 343,776. Vermont American Corporation, Louisville, Ky. Filed Nov. 17, 1969.

VETAK

For Metal and Wood Cutting Tools (Int. Cl. 7).
First use Oct. 15, 1969.

SN 344,836. The Duriron Company, Inc., Dayton, Ohio. Filed Nov. 28, 1969.

DURCOMET 100

Owner of Reg. Nos. 395,550, 761,311, and others.
For Centrifugal Pumps and Parts Thereof (Int. Cl. 7).
First use Oct. 24, 1969.

SN 344,976. Great Bend Manufacturing Company, Inc., Great Bend, Kans. Filed Dec. 1, 1969.



Owner of Reg. No. 789,013.
For High Lift Front End Loader on Farm Tractors (Int. Cl. 7).
First use Sept. 25, 1968.

SN 345,034. Wagner Mining Scoop, Inc., Portland, Ore. Filed Dec. 1, 1969.



Applicant disclaims the word "Bucket" apart from the mark as shown.

For Loader Vehicles With Scoop Bucket (Int. Cl. 7).

First use Sept. 9, 1969.

SN 345,469. Rodney Hunt Compnay, Orange, Mass. Filed Dec. 5, 1969.

THERMAL-FLO

For Heat Transfer Rolls for Use in Manufacturing Textiles, Plastic Film and Coated Paper (Int. Cl. 7).
First use Sept. 19, 1969.

SN 346,037. Nippon Accumulator Co., Ltd., Shimizu, Shizuoka Prefecture, Japan. Filed Dec. 12, 1969.

SOLEFTY

For Noise and Pressure Fluctuations Dampeners Consisting of Tanks Specially Adapted for the Storage of Compressible Fluid Arranged To Cushion and Absorb Pulsation and Shock in a Hydraulic Circuit (Int. Cl. 6).
First use Feb. 5, 1969; in commerce May 5, 1969.

SN 346,979. Super Mold Corporation, Lodi, Calif. Filed Dec. 22, 1969.

ACCU TREAD

The word "Tread" is disclaimed apart from the mark as shown.
For Tire Retreading Press (Int. Cl. 7).
First use Sept. 5, 1969.

SN 347,042. Pennsylvania Crusher Corporation, Broomall, Pa. Filed Dec. 23, 1969.



For Ring Type Granulator, Reversible Impactor, Non-Clog Hammermills, Reversible Coal Hammermills, Reversible Stone Hammermills, Non-Reversible Hammermills, Frozen Coal Crackers, Roll-Type Crushers, Breakers and Jaw Crushers (Int. Cl. 7).
First use May 1969.

SN 347,407. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Dec. 30, 1969.

KIT CARSON

For Hunting Knives (Int. Cl. 8).
First use Dec. 4, 1969.

SN 348,022. Dover Corporation, Tulsa, Okla. Filed Jan. 8, 1970.

NOR II MARKS

For Sucker Rods (Int. Cl. 7).
First use Oct. 22, 1968.

JOLLY

For Hydraulic and Hydromechanical Power Transmission Couplings (Int. Cl. 7).
First use Aug. 21, 1969.

SN 351,827. Philip Morris Incorporated, New York, N.Y. Filed Feb. 19, 1970.

CAREFREE

For Razor Blades (Int. Cl. 8).
First use Jan. 29, 1970.

SN 352,141. International Automated Marketing Co., Chicago, Ill. Filed Feb. 24, 1970.

MINI-DRUGS

For Coin-Operated Automatic Dispensing Machines, and Parts Thereof (Int. Cl. 9).
First use Jan. 8, 1970.

SN 352,914. Raygo, Inc., Minneapolis, Minn. Filed Mar. 3, 1970.



Owner of Reg. Nos. 823,629 and 874,218.
For Soil Stabilizing Machines (Int. Cl. 7).
First use Jan. 19, 1970.

SN 353,121. A-T-O Inc., Cleveland, Ohio. Filed Mar. 5, 1970.

PIONEER

For Custom Built Pumping Engine Vehicles for Fire Protection Purposes (Int. Cl. 9).
First use at least as early as October 1964.

SN 354,284. Cesare Bertolaja, Milan, Italy. Filed Mar. 17, 1970.



For Shoe Tree or Shoe Lasts for Shoe Machines (Int. Cl. 7).
First use at least during 1964; in commerce at least on June 13, 1967.

SN 355,029. Edgar K. Beauchamp, d.b.a. Ber Mark Company, Sunnyvale, Calif. Filed Mar. 25, 1970.

SUPERSPEED

For Piston Ring Compressors (Int. Cl. 7).
First use Jan. 10, 1970.

SN 356,000. American Coleman Company, Littleton, Colo. Filed Apr. 6, 1970.



For Truck Mountable, Large Area Motorized Sweepers (Int. Cl. 7).
First use on or about Nov. 1, 1969.

SN 356,460. Mapac, Inc., Long Island City, N.Y., assignee of Haskon, Inc., Long Island City, N.Y. Filed Apr. 10, 1970.

HAS-PAK

Owner of Reg. No. 884,846.
For Packaging Machine Which Automatically Heat Seals a Transparent Film Over a Thermoformed Tray (Int. Cl. 7).
First use July 23, 1969.

SN 356,978. Lambert Incorporated, d.b.a. Hunter Industries, Dayton, Ohio. Filed Apr. 15, 1970.

HUNTER

For Lawnsweepers (Int. Cl. 7).
First use May 1963.

SN 357,351. Fuller Company, Catasauqua, Pa. Filed Apr. 20, 1970.

RAM-FLO

For Pneumatic Conveying Apparatus (Int. Cl. 7).
First use Sept. 4, 1968.

SN 357,783. Donald A. Hjermstad, d.b.a. Midway Industries, Florence, S. Dak. Filed Apr. 24, 1970.

VAC-U-FIL

For Fuel Transfer Apparatus Utilizing Vacuum Induced Flow of Liquid Fuel From a Supply Tank Through a Supply Conduit to a Fuel Tank (Int. Cl. 7).
First use Sept. 24, 1969.

SN 357,980. FMC Corporation, Chicago, Ill. Filed Apr. 27, 1970.

CA

Owner of Reg. Nos. 63,503, 843,658, and others.
For Mechanical Vibrating Screening Apparatus for the Industrial Sizing or Separating of Solids; Such as Limestone, Coal, Sands, Ores, Wood Chips, Food Products and Varieties of Other Raw or Partly or Fully Prepared Materials (Int. Cl. 7).
First use May 20, 1968.

SN 357,981. FMC Corporation, Chicago, Ill. Filed Apr. 27, 1970.



Owner of Reg. Nos. 63,503, 843,658, and others.
For Mechanical Vibrating Screening Apparatus for the Industrial Sizing or Separating of Solids; Such as Limestone, Coal, Sands, Ores, Wood Chips, Food Products and Varieties of Other Raw or Partly or Fully Prepared Materials (Int. Cl. 7).
First use Oct. 21, 1969.

SN 358,015. Heppenstall Company, Pittsburgh, Pa. Filed Apr. 27, 1970.

HUPENDER

Owner of Reg. No. 98,775.
For Lifting Tongs (Int. Cl. 7).
First use Mar. 31, 1969.

SN 360,050. Envirotech Corporation, Salt Lake City, Utah. Filed May 18, 1970.



For Material Handling, Liquid-Solid Separation, and Processing Equipment Used in Mining, Metallurgical and Chemical Fields—Namely, Ball, Rod, and Tube Mills, Crushers, Classifiers, Screens, Thickeners, Jigs, Agitators, Flotation, Loaders, Unloaders, Hoisting Machines, Conveyors, Hoisting Cages, Pumps, Graders, Levellers, Mixers, Air Motors, Compressors, Spreaders, Scarifiers, Scrapers and Scrubber Systems; and Equipment for Preventing, Controlling and Abating Environmental Pollution, Used in the Treatment of Sewage, Water, Slurries, Gases, and/or Industrial Effluents—Namely, Thickeners, Clarifiers, Aerators, Flotators, Dust Collectors, and Liquid-Solid Separators (Int. Cls. 7 and 11).
First use on or about Jan. 30, 1970.

SN 362,962. Nu-Die Mfg. Co., Covina, Calif. Filed June 18, 1970.

SCAMPER

For Jacks for Recreation Vehicles (Int. Cl. 8).
First use May 1958.

Class 24 — Laundry Appliances and Machines

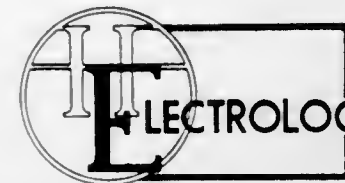
SN 353,467. Excelsior Belting-Equipment Co., Inc., New York, N.Y. Filed Mar. 9, 1970.

490 plus

For Press Pads and Cover for Press Pads Made of Textiles Treated With High Heat Resistant Materials (Int. Cl. 7).
First use Oct. 15, 1969.

Class 25 — Locks and Safes

SN 354,173. Archie H. Harris, d.b.a. Harris Enterprises, San Diego, Calif. Filed Mar. 16, 1970.



For Electro-Mechanical Door Lock Systems (Int. Cl. 6).
First use Oct. 14, 1968.

Class 26 — Measuring and Scientific Appliances

SN 296,722. Siemens Aktiengesellschaft, Berlin, Germany. Filed Apr. 26, 1968.

REFLEKTOMAT

Owner of German Reg. No. 795,189, dated Aug. 7, 1964.
For Electrically Operated Cable Fault Detectors for Measuring Cable Uniformity and for Determining the Location and Extent of Cable Faults; Cable Testing Equipment Composed of an Electronic Pulse Sender, a Measuring Bridge With a Simulating Network, and a Display Unit; Recording Instruments for Recording Cable Reflectograms; and Measuring Instruments for Measuring the Input Impedance of Cables (Int. Cl. 9).
First use on or about Oct. 19, 1964; in commerce on or about Oct. 19, 1964.

SN 312,585. Harcourt, Brace & World, Inc., New York, N.Y. Filed Nov. 19, 1968.

Laboratory Experiences

For Scientific Demonstration Equipment Kit Used for Teaching Scientific Concepts (Int. Cl. 16).
First use at least as early as Apr. 1, 1968.

SN 315,260. N.V. Philips' Gloeilampenfabrieken, Eindhoven, Netherlands. Filed Dec. 26, 1968.



Owner of Reg. Nos. 681,200, 837,968, and others.
For Electronic Measuring and Recording Apparatus and Instruments, Parts and Accessories Thereof—Namely, Amplitude Measuring Apparatus, Analyzers, Counters, Measuring Bridges, Meters, Oscilloscopes, Testers, Adapters, Strain Gauges, Recorders, and Recording Charts (Int. Cl. 9).
First use as early as 1947 on measuring bridges; in commerce as early as 1947.

SN 321,743. Evan J. Anton, Woodside, N.Y. Filed Mar. 14, 1969.

Super-Vision

For Optical and Photographic Lenses, and Photographic Projectors (Int. Cl. 9).
First use Jan. 28, 1969.

SN 321,744. Evan J. Anton, Woodside, N.Y. Filed Mar. 14, 1969.



For Optical and Photographic Lenses, and Photographic Projectors (Int. Cl. 9).
First use Jan. 28, 1969.

SN 326,346. Cherne Industrial, Inc., Hopkins, Minn. Filed May 5, 1969.

CHERNE

Owner of Reg. No. 625,158.
For Pneumatic Testing Equipment, Comprising Pneumatic Test Plugs, Used for Testing for the Possibility of Leaks in Sewers, Drains and the Like (Int. Cl. 9).
First use Aug. 17, 1954.

SN 332,534. Technical Operations, Incorporated, Burlington, Mass. Filed July 14, 1969.

IMAGE QUANTIZER

For Photo-Optical Scanning and Recording Apparatus and Recording Materials Therefor (Int. Cl. 9).
First use on or before Aug. 22, 1968.

SN 333,855. Vaponics Inc., Waltham, Mass. Filed July 29, 1969.

CONTROL-O-MATIC

For Water Quality Control Monitor (Int. Cl. 11).
First use December 1968.

SN 337,068. Microbiological Sciences, Inc., Salt Lake City, Utah. Filed Sept. 4, 1969.



For Blood Diagnostic Kits Containing Cover Slips (Int. Cl. 5).
First use Aug. 12, 1969.

SN 337,067. Microbiological Sciences, Inc., Salt Lake City, Utah. Filed Sept. 4, 1969. SN 344,575. Pantone, Inc., New York, N.Y. Filed Nov. 25, 1969.



For Diagnostic Kits Containing Cover Slips With Human Tissue Culture Cells, Antihuman Globulin, and Phosphate Buffer Solution (Int. Cl. 5).
First use Aug. 12, 1969.

SN 337,070. Microbiological Sciences, Inc., Salt Lake City, Utah. Filed Sept. 4, 1969.



For Diagnostic Blood Test Kits Containing Cover Slips Having Human Tissue Culture Cells (Int. Cl. 5).
First use Aug. 12, 1969.

SN 337,071. Microbiological Sciences, Inc., Salt Lake City, Utah. Filed Sept. 4, 1969.



For Blood Diagnostic Kits Containing Cover Slips With Human Tissue Culture Cells, Anti-Human Globulin, and Phosphate Buffer Solution (Int. Cl. 5).
First use Aug. 12, 1969.

SN 339,476. Whittaker Corporation, Los Angeles, Calif. Filed Oct. 1, 1969.

CRYO-MISER

For Liquid Nitrogen Level Control and Liquid Helium Level Control for Cryogenic Instruments (Int. Cl. 9).
First use at least as early as September 1964.

SN 343,105. Gamon-Calmet Industries, Inc., Newark, N.J. Filed Nov. 10, 1969.

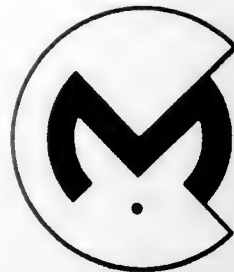
Gamon

Owner of Reg. No. 808,473.
For Fluid Meters; Parts Thereof and Remote Readout Devices Thereof (Int. Cl. 9).
First use Aug. 18, 1969.

BLOCK-TAK

For Ruby Red, Transparent Filtering Film, Opaque to Light in Photography (Int. Cl. 9).
First use Nov. 17, 1969.

SN 345,900. Medcanics, Inc., Hopkins, Minn. Filed Dec. 11, 1969.



The mark consists of a fanciful design of the letters "MC." For Medical-Scientific Devices—Namely, Slide Viewers for Blood Studies (Int. Cl. 9).
First use on or about Sept. 17, 1969.

SN 346,810. Infoton, Incorporated, Burlington, Mass. Filed Dec. 22, 1969.

INFOTON

For Cathode Ray Tube Displays (Int. Cl. 9).
First use Nov. 5, 1969.

SN 347,651. E. R. Squibb & Sons, Inc., New York, N.Y. Filed Jan. 2, 1970.

RENOTEC

For Non-Radioactive Kit for the Production of Diagnostic Technetium Isotopes (Int. Cl. 9).
First use Dec. 12, 1969.

SN 347,860. Flow Technology, Inc., Tempe, Ariz. Filed Jan. 7, 1970.

OMNIFLO

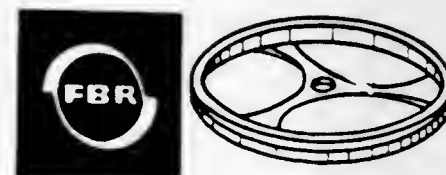
For Fluid Flow Transducers (Int. Cl. 9).
First use Dec. 16, 1969.

SN 352,165. Charles B. Lowe, d.b.a. Charles B. Lowe Mfg. Co., Bridge City, Tex. Filed Feb. 24, 1970.

"GRID-SWITCH"

For Metal Particle Detection Apparatus To Be Installed in the Oil Lubrication System of Engines, Pumps, and the Like (Int. Cl. 9).
First use Feb. 5, 1970.

SN 352,351. Les Fabriques de Balanciers Reunies, Bienne, Switzerland. Filed Feb. 25, 1970.



GLUCYDUR

Owner of Reg. No. 867,539.
For Timers, Frequency Measuring Devices, Vibration Testers (Int. Cl. 9).
First use January 1969; in commerce January 1969.

SN 354,200. Metro Equipment Co., San Francisco, Calif. Filed Mar. 16, 1970.

ACCU-WEIGH

For Weighing Scales (Int. Cl. 9).
First use on or about Nov. 7, 1969.

SN 354,696. SMI, Inc., St. Louis, Mo. Filed Mar. 20, 1970.

SMI

For Data Processing Equipment—Namely, Tape-to-Card Converters, Card Counters, and Adding Machine Card Punch Equipment (Int. Cl. 9).
First use on or about Dec. 31, 1969.

SN 356,102. Lenker Manufacturing Company, Inc., Sunbury, Pa. Filed Apr. 6, 1970.

LENKER

For Leveling Rods (Int. Cl. 9).
First use 1910.

SN 356,929. AEI Scientific Apparatus Limited, Urnston, Manchester, England. Filed Apr. 15, 1970.

MASSMASTER

Owner of British Reg. No. B931,750, dated Oct. 2, 1968.
For Mass Spectrometers and Parts Thereof (Int. Cl. 9).

SN 357,371. Japan Binoculars Export Promotion Association, Itabashi-ku, Tokyo, Japan. Filed Apr. 20, 1970.



For Binoculars (Int. Cl. 9).
First use Nov. 1, 1959; in commerce Nov. 1, 1959.

SN 357,581. Houston O. Bender, d.b.a. J. H. Bender Equipment Company, South Gate, Calif. Filed Apr. 22, 1970.



Owner of Reg. Nos. 693,819 and 694,206.
For Automotive Wheel and Frame Gauges—Namely, Camber and Caster Gauges, Toe Analyzer Gauges, Combined Camber Caster and King Pin Gauges, Wheel Base Gauges, Toe Gauge Bars, Wheel Tracking Synchronizers, and Adapters for Gauges (Int. Cl. 9).
First use Aug. 21, 1968.

SN 357,842. Medical Laboratory Automation, Inc., Mount Vernon, N.Y. Filed Apr. 24, 1970.

ELECTRA 500

For Prothrombin Time Measuring Apparatus (Int. Cl. 9).
First use Sept. 8, 1967.

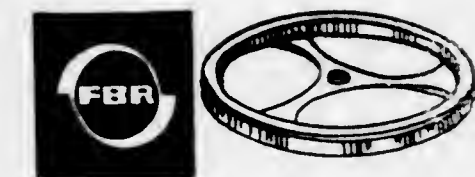
Class 27 — Horological Instruments

SN 335,436. Delvina S.A., Geneva, Switzerland. Filed Aug. 15, 1969.

DELVINA

Owner of Swiss Reg. No. 151,679, dated June 17, 1954.
For Watches and Anchor Movements of All Kinds (Int. Cl. 14).

SN 352,352. Les Fabriques de Balanciers Reunies, Bienne, Switzerland. Filed Feb. 25, 1970.



GLUCYDUR

Owner of Reg. No. 867,539.
For Movements for Watches and Clocks (Int. Cl. 14).
First use January 1969; in commerce January 1969.

SN 354,575. Belair Watch Corporation, New York, N.Y. Filed Mar. 19, 1970.

André Chambord

The name "André Chambord" is fanciful.
For Watches and Watch Movements (Int. Cl. 14).
First use Mar. 10, 1970.

SN 354,576. Belair Watch Corporation, New York, N.Y. Filed Mar. 19, 1970.

EDMONT BOIVERT

The name "Edmont Boivert" is fanciful.
For Watches and Watch Movements (Int. Cl. 14).
First use Mar. 10, 1970.

SN 357,997. Germanow-Simon Machine Co., Inc., Rochester, N.Y. Filed Apr. 27, 1970.

DIVER-TITE

For Watch Crystals (Int. Cl. 14).
First use on or about Feb. 1, 1970.

Class 28 — Jewelry and Precious-Metal Ware

SN 332,533. Sunderland's Inc., Seattle, Wash. Filed July 14, 1969.

FLORALINE

For Jewelry (Int. Cl. 14).
First use July 1968.

Class 29 — Brooms, Brushes, and Dusters

SN 350,292. J. C. Penney Company, Inc., New York, N.Y. Filed Feb. 2, 1970.

TODDLETIME

Owner of Reg. No. 652,405.
For Comb and Brush Sets (Int. Cl. 21).
First use July 14, 1969.

SN 358,649. Baker Brush Co., Inc., New York, N.Y. Filed May 4, 1970.

SMOOTH-FLO

For Palat Roller Sleeves (Int. Cl. 16).
First use at least as early as Jan. 1, 1960.

Class 30 — Crockery, Earthenware, and Porcelain

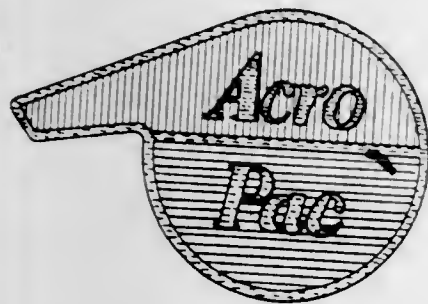
SN 332,944. Oy Wartsila AB, Helsinki, Finland. Filed July 18, 1969.

ARABIA

For Giftware, Cooking Utensils and Dinnerware Made of Porcelain, Earthenware and Stoneware Consisting of Vases, Tiles; Casseroles, Baking Dishes, Skillets; and Plates, Bowls, Saucers and Serving Pieces (Int. Cl. 21).
First use in or about 1937; in commerce in or about 1937.

Class 31 — Filters and Refrigerators

SN 326,190. Aqua-Chem, Inc., Waukesha, Wis. Filed May 2, 1969.



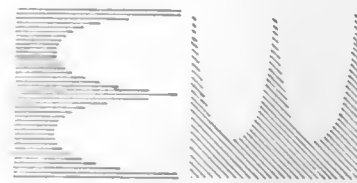
The drawing is lined for red, silver and blue. Owner of Reg. Nos. 735,940, 772,719, and others.
For Apparatus and Parts Thereof, for the Separation, Concentration or Purification of Fluids Through Reverse Osmosis (Int. Cl. 11).
First use Apr. 17, 1968.

SN 330,926. H.T.S. Inc., McCook, Nebr. Filed June 25, 1969.

IMACULATOR

For Apparatus for Filtering and Purifying Edible Fats for Re-Use Commercially (Int. Cl. 11).
First use Apr. 1, 1968.

SN 337,157. Elliott-Williams Company, Inc., Indianapolis, Ind. Filed Sept. 5, 1969.



The drawing is lined for the colors blue and green, but no claim is made to color.
For Refrigeration Equipment—Namely, Commercial Walk-In Refrigerators and Freezers (Int. Cl. 11).
First use May 1966.

SN 337,525. Cornish Containers, Inc., Maumee, Ohio. Filed Sept. 10, 1969.

FRIGI-TOP

For Gel Filled Reuseable Freezable Containers for Use as a Cooling Media for Insulated Food Containers (Int. Cl. 11).
First use Aug. 29, 1969.

SN 354,102. Vortex Manufacturing Company, Claremont, Calif. Filed Mar. 16, 1970.

VORTOX

Owner of Reg. No. 272,928.
For Air Cleaners for Internal Combustion Engines and Panel Filters (Int. Cl. 7).
First use July 6, 1920.

SN 355,248. Modern-United Water Equipment Company, Walworth, Wis. Filed Mar. 27, 1970.

HOLIDAY

For Base Exchange Water Softeners and Parts Thereof (Int. Cl. 11).
First use Mar. 3, 1959.

SN 361,253. Ajax International Corporation, Santa Barbara, Calif. Filed June 1, 1970.

AJAX RO

For Water Treatment Systems—Namely, Reverse Osmosis Water Purification Apparatus (Int. Cl. 11).
First use Apr. 30, 1970.

Class 32 — Furniture and Upholstery

SN 310,891. The Grote Manufacturing Company, Madison, Ind. Filed Oct. 30, 1968.

GROTE

For Medicine Cabinets, Vanity Cabinets, Decorator Wall-Hung Mirrors, Framed and Unframed Institutional Mirrors (Int. Cl. 20).
First use in or about January 1946.

SN 324,600. Needle Painters Guild, Ltd., Weaverville, N.C. Filed Apr. 15, 1969.



For Framed Swiss-Embroidered Pictures (Int. Cl. 16).
First use on or about Feb. 1, 1969.

SN 332,295. Ronald Jackson Gordon-Smith, d.b.a. Designpak, New York, N.Y. Filed July 11, 1969.

designpak

For Furniture—Namely, Tables, Sofas, Chairs, Dining Tables and Chairs, Bar Stools, Beds, Mattresses, and Desks (Int. Cl. 20).
First use June 1, 1969.

SN 332,296. Ronald Jackson Gordon-Smith, d.b.a. Pakdesign, New York, N.Y. Filed July 11, 1969.

pakdesign

For Furniture—Namely, Tables, Sofas, Chairs, Dining Tables and Chairs, Bar Stools, Beds, Mattresses, and Desks (Int. Cl. 20).
First use June 1, 1969.

SN 352,158. Lectrabed Corp., Los Angeles, Calif. Filed Feb. 24, 1970.



For Electrically Operated Adjustable Beds (Int. Cl. 20).
First use Jan. 29, 1969.

SN 363,414. Beauti-Flex Manufacturing Company, Inc., Norfolk, Va. Filed June 23, 1970.

BEAUTI-FLEX

For Head Rests and Pillows (Int. Cl. 20).
First use Sept. 16, 1969.

SN 364,402. Directional Industries, Incorporated, New York, N.Y. Filed July 6, 1970.

CITYSCAPE

For Home, Office and Institutional Furniture—Namely, Beds, Benches, Bookcases Breakfronts, Buffets, Cabinets, Chairs, Chests, Desks, Dressers, Head Boards, Couches, Love Seats, Sofas, Stands, Stools, Tables, Wardrobes and Framed Mirrors (Int. Cl. 20).
First use on or about June 18, 1970.

SN 364,918. Joanna Western Mills Company, Chicago, Ill. Filed July 10, 1970.

WAVERLY

For Window Shades (Int. Cl. 20).
First use in 1916.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 297,513. Air Reduction Company, Incorporated, d.b.a. Murex Welding Products, New York, N.Y. Filed May 7, 1968.

MUREMATIC

Owner of Reg. No. 836,726.
For Electric Arc Welding Equipment—Namely, Power Supplies and Wire Feeders and Welding Wire (Int. Cls. 6 and 9).
First use April 1959.

SN 313,602. Melford Olson Honey Company, Minneapolis, Minn. Filed Dec. 4, 1968.

CAPPING COMBINE

Applicant disclaims the word "Capping" except as utilized with the mark as shown.
For Automatic Honey Processing Apparatus—Namely, a Machine for Heating Honey Combs To Melt and Separate the Honey From the Wax (Int. Cl. 11).
First use Jan. 28, 1966.

SN 331,136. Air Reduction Company, Incorporated, New York, N.Y. Filed June 27, 1969.

KRYOFIN

For Heat Exchangers (Int. Cl. 11).
First use Jan. 27, 1969.

SN 346,874. Dean Products, Inc., Brooklyn, N.Y. Filed Dec. 22, 1969.

TROUGHDEAN

Owner of Reg. Nos. 553,674, 772,822, and 856,516.
For Heating Platens and Plates, Emerson Heaters, Heating Ovens, Heat Exchangers, Melting Tanks, Drum Warmers, Heat Treating Furnaces, Heating Tanks, Heated Filter Presses, Heated Dip Pans, Utensils for Heating Food, Chemicals, Gases and Liquids, Heated Counter Tops, and Heaters for Sterilizing Laboratory Equipment (Int. Cl. 11).
First use Aug. 6, 1969.

SN 347,354. Thermco Products Corporation, Orange, Calif. Filed Dec. 29, 1969.

THERMCO

Owner of Reg. No. 782,085.
For Heat Treating Furnaces and Parts Thereof (Int. Cl. 11).
First use June 5, 1963.

SN 366,245. Ebeo Manufacturing Company, Columbus, Ohio. Filed July 27, 1970.

AQUA-DRI

Owner of Reg. No. 737,542.
For Electrically Actuated Humidifiers (Int. Cl. 11).
First use July 8, 1970.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 334,234. Hurricane Pipe Manufacturing, Inc., Fort Lauderdale, Fla. Filed Aug. 1, 1969.

INTRUSEAL

For Pipe Gaskets (Int. Cl. 17).
First use Oct. 10, 1968.

SN 356,691. Johns-Manville Corporation, New York, N.Y. Filed Apr. 13, 1970.

FL

For Oil Seals (Int. Cl. 17).
First use at least on or about Mar. 3, 1970.

Class 36 — Musical Instruments and Supplies

SN 333,790. Dorothy Mabee Macklin, d.b.a. The Glad Rags, Cripple Creek, Colo. Filed July 25, 1969.



For Phonograph Records (Int. Cl. 9).
First use May 25, 1969.

SN 336,699. Joplin Piano, Inc., Joplin, Mo. Filed Aug. 29, 1969.

Julius Bach

For Musical Instruments—Namely, Pianos and Organs (Int. Cl. 15).
First use on or about Dec. 23, 1964.

SN 345,646. Kraskin Baton Company, Minneapolis, Minn. Filed Dec. 8, 1969.

THE JUNIOR

For Twirling Batons (Int. Cl. 15).
First use as early as May 1953.

SN 347,229. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 29, 1969.

R-360

Owner of Reg. No. 584,955.
For Musical Drum Sets (Int. Cl. 15).
First use on or about Nov. 8, 1968.

SN 359,367. Douglas Jaquith, Salem, Oreg. Filed May 11, 1970.

DE JACQUES

For Bridges for Viol Instruments (Int. Cl. 15).
First use on or about Jan. 15, 1959.

Class 37 — Paper and Stationery

SN 321,950. Lightning Novelties Limited, Downsview, Ontario, Canada. Filed Mar. 17, 1969.

ROLL A COASTER

Priority claimed under Sec. 44(d) on Canadian application filed Sept. 17, 1968; Reg. No. 165,049, dated Sept. 5, 1969. Applicant disclaims the right to the exclusive word "Coaster" apart from the mark.

For Coasters Used for Protecting Furniture and the Like (Int. Cl. 16).

SN 338,422. Thos. J. Moran's Sons, Incorporated, Baton Rouge, La. Filed Sept. 19, 1969.



Applicant does not claim exclusive right to use of the term "Since 1881."
For Business Forms (Int. Cl. 16).
First use Apr. 15, 1965.

SN 343,441. Tekni-Plex Inc., (Brooklyn, N.Y. Filed Nov. 13, 1969.

REZIZTOL

For Varnish Coated Paper Liner Material (Int. Cl. 16).
First use in 1939.

SN 348,496. Carco, Incorporated, Detroit, Mich. Filed Jan. 14, 1970.

PUMPOMATIC

For Brush Pens, Felt Tipped, Nylon Tipped and Bristle Tipped Markers (Int. Cl. 16).
First use Apr. 18, 1969.

SN 349,086. Mrs. Jane Ann Raviele, d.b.a. Easy-Out Company, West Long Branch, N.J. Filed Jan. 20, 1970.

EASY-OUT

For Treated Paper Liners for Cake Pans, Etc. (Int. Cl. 16).
First use July 25, 1963.

SN 353,421. Burroughs Corporation, Detroit, Mich. Filed Mar. 9, 1970.



For Stationery and Supplies—Namely, Printed and Processed Forms, Checks, and Snap Apart Forms (Int. Cl. 16).
First use January 1964.

SN 365,510. Imperial Wallpaper Mill, Inc., Cleveland, Ohio. Filed July 17, 1970.

IMPERIAL GUARANTEED WALLCOVERINGS

Applicant disclaims the term "Guaranteed Wallcoverings" apart from the mark as shown. Owner of Reg. Nos. 438,248, 697,832, and 859,714.

For Paper Wallcoverings, Including Wallpaper and Wallcoverings (Int. Cl. 27).
First use Aug. 7, 1968.

SN 365,994. Kimberly-Clark Corporation, Neenah, Wis. Filed July 23, 1970.

KIM

Owner of Reg. Nos. 229,755, 880,485, and others.
For Plastic Food Wrap (Int. Cl. 16).
First use July 2, 1970.

Class 38 — Prints and Publications

SN 309,184. Production-Research (PR), Incorporated, Coloso, Puerto Rico. Filed Oct. 8, 1968.



The drawing is lined for the colors yellow and red.
For Motion Pictures and Filmstrips (Int. Cl. 9).
First use May 22, 1968.

SN 324,817. Steven K. Herlitz, Inc., New York, N.Y. Filed Apr. 17, 1969.

RESPONDEX

For Advertising Publications—Namely, Brochures Containing Advertisements for Others and Return-Mail Post Cards (Int. Cl. 16).
First use at least as early as Apr. 7, 1969.

TM 880 O.G.—5

SN 330,952. Presses Modernes de France (P.M.F.), Mont-rouge, Seine, France. Filed June 25, 1969.

La Bonne Cuisine
à la portée de tous

The English translation of the mark is "the good cooking for everyone."

For Bi-Monthly Magazine (Int. Cl. 16).
First use November 1953; in commerce July 1, 1959.

SN 334,600. Meredith Corporation, Des Moines, Iowa. Filed Aug. 6, 1969.

ACCESS

For Educational Materials—Namely, Books, Worksheets, Pamphlets and Printed Materials (Int. Cl. 16).
First use Jan. 9, 1968.
Subj. to Intf. with SN 331,005.

SN 339,539. Maria Bragalini, d.b.a. Maria's Cin Cin, New York, N.Y. Filed Oct. 2, 1969.



For Newspaper Column (Int. Cl. 16).
First use Mar. 6, 1969.

SN 341,634. Creative Soul, Inc., Cincinnati, Ohio. Filed Oct. 24, 1969.



For Greeting Cards (Int. Cl. 16).
First use July 16, 1969.

SN 344,340. Country Club Enterprises, Inc., Harrisburg, Pa. Filed Nov. 24, 1969.

COUNTRY CLUB NEWS

For Magazine (Int. Cl. 16).
First use Apr. 29, 1969.

SN 344,549. Communication & Studies, Inc., Atlanta, Ga. Filed Nov. 25, 1969.

PROGRAMMED REFERENCE LIBRARY

For Books (Int. Cl. 16).
First use on or about Jan. 1, 1968.

SN 344,784. The Hearst Corporation, New York, N.Y. Filed Nov. 28, 1969.

SOREL'S NEWS SERVICE

"Sorel's" identifies Edward Sorel, a living individual, whose consent is of record. Without waiving any of its common law rights thereto the applicant disclaims any exclusive rights in the phrase "News Service" apart from the mark as shown. For Syndicated Political Cartoons (Int. Cl. 16). First use Sept. 14, 1969.

SN 347,676. Peter Charles Zarilla, Rochester, Pa. Filed Jan. 2, 1970.

BRACK GALLER

For Cartoon Strip (Int. Cl. 16). First use Mar. 10, 1969.

SN 348,278. Gerald J. Ebensteiner, d.b.a. Peach Land Realty, Forest Lake, Minn. Filed Jan. 12, 1970.

PEACH LAND CALENDAR

The word "Calendar" is disclaimed apart from the mark as shown. For Calendars (Int. Cl. 16). First use Dec. 20, 1969.

SN 350,935. Reidler Decal Corporation, St. Clair, Pa. Filed Feb. 9, 1970.

FLEET-MARK

For Decalcomanias (Int. Cl. 16). First use on or before May 1, 1969.

SN 351,234. Students' Magazine, Inc., Northfield, Ill. Filed Feb. 12, 1970.

DENTAL STUDENT

For Monthly Magazine Directed to Dental Students and Dentistry (Int. Cl. 16). First use Jan. 6, 1970.

SN 353,821. Deborah Hahn, Old Brookville, N.Y. Filed Mar. 12, 1970.

ISRAEL CHAI-LITES

Applicant disclaims the term "Israel" apart from the mark as shown. For Magazine (Int. Cl. 16). First use January 1969.

SN 354,809. Chrysalis Music Corporation, New York, N.Y. Filed Mar. 23, 1970.



For Sheet Music (Int. Cl. 16). First use Mar. 17, 1970.

SN 354,838. Golden Future Publishing Company, St. Louis, Mo. Filed Mar. 23, 1970.

GOLDEN FUTURE

For Newspaper (Int. Cl. 16). First use Dec. 15, 1969.

SN 355,261. The Register and Tribune Syndicate, Inc., Des Moines, Iowa. Filed Mar. 27, 1970.

THE ALUMNAE

For Newspaper Cartoon Feature (Int. Cl. 16). First use Sept. 8, 1969.

SN 355,657. Ka Hagon Associates, Inc., Pittston, Pa. Filed Apr. 1, 1970.

KA HAGON

The term "Ka Hagon" is from the Iroquois Indian tongue and means "In the forest." For Magazine Devoted to Outdoor Life, Hunting, Fishing, and the Like (Int. Cl. 16). First use Sept. 25, 1969.

SN 355,968. The Good Life, North Hollywood, Calif. Filed Apr. 6, 1970.

THE GOOD LIFE

For Magazine (Int. Cl. 16). First use Jan. 2, 1968.

SN 357,875. Joy G. Tucker, d.b.a. Joy Holmes, St. Louis, Mo. Filed Apr. 24, 1970.

WHERE YOU LIVE

For Newspaper Column on Interior Decorating (Int. Cl. 16). First use Mar. 26, 1969.

SN 358,268. The Art Trader, Inc., Cambridge, Mass. Filed Apr. 29, 1970.

THE ART TRADER

For Magazine Listing Art for Sale (Int. Cl. 16). First use at least as early as Mar. 15, 1970.

SN 358,704. Virginia Coy, Riverside, Ill. Filed May 4, 1970.

TRAY-TALK

For Tray and Table Place Mats and Memos Which Carry Printed Messages Thereon (Int. Cl. 16). First use Feb. 10, 1969.

SN 358,979. McGraw-Hill, Inc., New York, N.Y. Filed May 6, 1970.

PERSONAL BUSINESS

For Section of a Weekly Magazine, a Monthly Magazine and a Section of Magazines Published Monthly (Int. Cl. 16). First use Oct. 4, 1952, on a section of a weekly magazine.

SN 359,041. Riback Enterprises, Inc., Chicago, Ill. Filed May 4, 1970.

SN 335,571. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Aug. 18, 1969.



For Paper Goods—Namely, Invitations and Thank-You Notes (Int. Cl. 16). First use on or about Jan. 21, 1970.

SN 360,289. Psychological Associates, Inc., St. Louis, Mo. Filed May 20, 1970.

DSM

For Educational Booklets, Particularly Those Related to Sales and Management Training (Int. Cl. 16). First use Nov. 1, 1969.

SN 361,847. Golf Associates, Inc., Hollywood, Calif. Filed June 5, 1970.

FORE

For Magazine Which Primarily Pertains to Golf (Int. Cl. 16). First use July 5, 1968.

Class 39—Clothing

SN 292,408. New York Glove Co., Inc., New York, N.Y. Filed Mar. 4, 1968.



For Leather Gloves (Int. Cl. 25). First use March 1938.

SN 319,309. Doris Moore of California, Inc., Long Beach, Calif., assignee of Hang Ten of Nevada, Inc., Las Vegas, Nev. Filed Feb. 17, 1969.

HANG TEN

Owner of Reg. Nos. 763,573, 811,306, and others. For Women's Garments—Namely, Shirts, Skirts, Pants, Dresses and Shorts (Int. Cl. 25). First use on or about Feb. 10, 1969.

SN 325,135. L & L Mfg. Co., Inc., Dallas, Tex. Filed Apr. 22, 1969.

HENRI

For Dresses (Int. Cl. 25). First use at least as early as March 1967.

COUNTESS ANTONIETTA NINNI

The mark "Countess Antonietta Ninni" is the name of Countess Antonietta Ninni Riva, a living individual whose consent is of record. For Clothing—Namely Dresses (Int. Cl. 25). First use on or about Aug. 8, 1969.

SN 336,863. Rudin & Roth, Inc., New York, N.Y. Filed Sept. 2, 1969.

TEEN ANGEL

For Socks (Int. Cl. 25). First use Aug. 1, 1969.

SN 339,167. Family Loom, Inc., Charlotte, N.C. Filed Sept. 29, 1969.

LITTLE PRUNE

For Women's Panty Hose (Int. Cl. 25). First use Sept. 15, 1969.

SN 339,664. The Dorsey Company, d.b.a. The Angel Baby Co., New York, N.Y. Filed Oct. 3, 1969.



For Baby Pants (Int. Cl. 25). First use on or about June 30, 1969.

SN 342,022. Chadbourn Inc., Charlotte, N.C. Filed Oct. 29, 1969.



The mark comprises a fanciful display of the letters "CHC" within a wreath design. Owner of Reg. No. 694,269. For Ladies' Hosiery (Int. Cl. 25). First use Sept. 26, 1969.

SN 342,667. Raleigh Shirt Co., Inc., New York, N.Y. Filed Nov. 4, 1969.



Applicant disclaims the words "Of Rome" separate and apart from the mark as shown.

For Men's and Boys' Apparel—Namely, Suits, Coats, Raincoats, Pants, Shoes, Shirts, of All Types, Underwear, Overalls, Ties, Handkerchiefs and Ladies' Dresses and Blouses (Int. Cls. 24 and 25).

First use Aug. 25, 1969.

SN 344,340. Dickson-Jenkins Manufacturing Company, Incorporated, Fort Worth, Tex. Filed Nov. 24, 1969.

LADY D J

Owner of Reg. No. 515,953.

For Ladies' and Girls' Western Clothing—Namely, Pants, Shirts, Jackets, and Blouses (Int. Cl. 25).

First use January 1968.

SN 345,340. Jay-Arr Slimwear, Inc., New York, N.Y. Filed Dec. 4, 1969.

SHASTA

For Brassieres, and Girdles (Int. Cl. 25).

First use June 27, 1969.

SN 345,347. Jay-Arr Slimwear, Inc., New York, N.Y. Filed Dec. 4, 1969.

Marjorie

For Brassieres, and Girdles (Int. Cl. 25).

First use July 3, 1969.

SN 345,683. Shelby Seamless Hosiery Mills, Inc., Shelby, N.C. Filed Dec. 8, 1969.

FULLON

For Hosiery (Int. Cl. 25).

First use Sept. 1, 1969.

SN 349,595. D'Armigene, Inc., Bay Shore, N.Y. Filed Jan. 26, 1970.

UNI-FASHIONS

For Women's Dresses, Blouses, Lounging Costumes, Aprons, Uniforms, Coats, Suits and Capes (Int. Cl. 25).
First use at least as early as Oct. 24, 1969.

SN 349,828. Career Originals Inc., New York, N.Y. Filed Jan. 28, 1970.

CHIN-CHIN

For Women's Coats (Int. Cl. 25).
First use Aug. 1, 1966.

SN 350,080. Gem-Dandy, Inc., Madison, N.C. Filed Jan. 30, 1970.

DOLL RAGS

Applicant disclaims the word "Rags" apart from the mark as shown.

For Robes, Nightgowns, Nightshirts, Culottes, Togas, Slips, Panties, Girdles, Brassieres and Garter Belts (Int. Cl. 25).
First use at least as early as Dec. 16, 1969.

SN 352,355. London-Aire, Inc., Miami Springs, Fla. Filed Feb. 25, 1970.

LONDON FAIR

Applicant disclaims the word "London" apart from the mark as shown without the waiver of any common law rights.

For Women's Hosiery (Int. Cl. 25).
First use Aug. 1, 1969.

SN 352,732. Melville Shoe Corporation, New York, N.Y. Filed Mar. 2, 1970.

Love Bands

For Misses' and Teen's Shoes (Int. Cl. 25).
First use Feb. 1, 1970.

SN 353,631. Union Carbide Corporation, New York, N.Y. Filed Mar. 10, 1970.

DRI BABE

For Disposable Baby Diapers (Int. Cl. 25).
First use on or about Feb. 18, 1970.

SN 356,250. Union Carbide Corporation, New York, N.Y. Filed Mar. 30, 1970.

GLAD NAPPIES

Owner of Reg. Nos. 811,387 and 894,217.
For Disposable Baby Diapers (Int. Cl. 25).
First use on or about Feb. 18, 1970.

SN 356,610. Best Wear Hosiery Mills, Inc., Philadelphia, Pa. Filed Apr. 13, 1970.

LIBERTY BELLE

For Hosiery and Panty Hose (Int. Cl. 25).
First use Mar. 2, 1970.

SN 358,159. Sandy Shaw, Inc., New York, N.Y. Filed Apr. 28, 1970.

groopie

For Ladies' and Children's Dresses, Blouses and Sportswear—Namely, Vests, Pants, Halters, Culottes, Capes, Rompers, Hats and Shirts (Int. Cl. 25).
First use Mar. 11, 1970.

SN 358,873. Lord Jeff Knitting Company, Incorporated, Maspeth, N.Y. Filed May 5, 1970.

BEAU JEFF

Owner of Reg. Nos. 308,056, 427,148, 428,156, and others.
For Men's Knitted Sweaters and Shirts (Int. Cl. 25).
First use March 1970.

SN 358,874. Lord Jeff Knitting Company, Incorporated, Maspeth, N.Y. Filed May 5, 1970.

JEFFMATES

Owner of Reg. Nos. 308,056, 427,148, 428,156, and others.
For Men's Knitted Sweaters and Shirts (Int. Cl. 25).
First use April 1970.

SN 360,942. Warnaco Inc., Bridgeport, Conn. Filed May 27, 1970.

'SMOOTH-AS-YOU'

For Women's Clothing—Namely, Brassieres (Int. Cl. 25).
First use Apr. 29, 1970.

SN 366,243. ESB Incorporated, Philadelphia, Pa. Filed July 27, 1970.

HI-LINE

Owner of Reg. No. 571,183.
For Ear Protectors in the Form of Ear Muffs for Protection Against Noise (Int. Cl. 10).
First use June 10, 1970.

SAFESOUND

For Ear Protectors in the Form of Ear Muffs for Protection Against Noise (Int. Cl. 10).
First use June 10, 1970.

SN 366,832. Nicholas Brecher, New York, N.Y. Filed Aug. 3, 1970.

GIFTED

For Panty Hose (Int. Cl. 25).
First use July 24, 1970.

Class 40—Fancy Goods, Furnishings, and Notions

SN 358,722. Fashion Tress, Inc., Hialeah, Fla. Filed May 4, 1970.

SUPERLON

For Ladies' Wigs and Hairpieces (Int. Cl. 26).
First use Apr. 14, 1970.

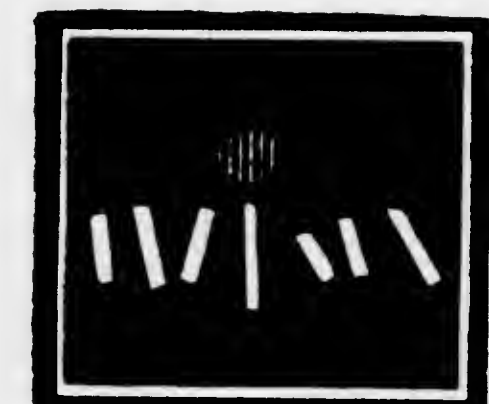
Class 41—Canes, Parasols, and Umbrellas

SN 347,946. Kortenbach & Rauh Kommanditgesellschaft, Solingen-Weyer, Germany. Filed Jan. 7, 1970.

MINIPLANO

Owner of German Reg. No. 862,534, dated May 10, 1968.
For Umbrellas, Umbrella Covers, Umbrella Frames, and Parts Thereof (Int. Cl. 18).

SN 347,974. Telesco Brophey Limited, Montreal, Quebec, Canada. Filed Jan. 7, 1970.



For Umbrellas, Umbrella Frames, Umbrella Runners, Umbrella Notches, Umbrella Cases, Umbrella Case Zipper Pulls, and Umbrella Handles (Int. Cl. 18).
First use Oct. 1, 1969; in commerce Oct. 1, 1969.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 336,684. Fieldcrest Mills, Inc., Eden, N.C. Filed Aug. 29, 1969.

FRESCEAU

For Textile Rugs and Carpeting (Int. Cl. 27).
First use Aug. 12, 1969.

SN 338,004. Textured Products, Inc., Mount Vernon, N.Y. Filed Sept. 15, 1969.

FIBERCOAT

For Piece Goods of Natural or Synthetic Fiber, Sold by the Yard (Int. Cl. 24).
First use Aug. 11, 1969.

SN 340,649. Cannon Mills Company, Kannapolis, N.C. Filed Oct. 14, 1969.

LUSTRELOUR

For Terry Cloth (Int. Cl. 24).
First use Sept. 26, 1969.

SN 341,594. Polaroid Corporation, Cambridge, Mass. Filed Oct. 24, 1969.

POLAROID

Owner of Reg. No. 540,179 and others.
For Cloth Backdrops (Int. Cl. 24).
First use at least as early as December 1966.

SN 348,039. Klopman Mills, Inc., Rockleigh, N.J. Filed Jan. 8, 1970.

SATINESSA

For Fabrics in the Piece, Composed of Man-Made Fibers, and Fabrics in the Piece, Composed of Blends of Cotton Fibers (Int. Cl. 24).
First use at least as early as Sept. 23, 1969.

SN 348,040. Klopman Mills, Inc., Rockleigh, N.J. Filed Jan. 8, 1970.

SCREEN PASS

For Fabrics in the Piece, Composed of Man-Made Fibers, and Fabrics in the Piece, Composed of Blends of Cotton Fibers (Int. Cl. 24).
First use at least as early as May 30, 1969.

SN 348,748. Angelica Corporation, St. Louis, Mo. Filed Jan. 16, 1970.

PINECREST

Owner of Reg. No. 519,331.
For Sheets, Pillow Cases and Sheeting From Which Such Sheets and Pillow Cases Are To Be Made (Int. Cl. 24).
First use Aug. 4, 1948.

SN 349,067. Dan River Inc., Danville, Va., by change of name from Dan River Mills, Incorporated, Danville, Va. Filed Jan. 20, 1970.

VERSATIQUE

For Textile Fabrics in the Piece of Cotton, Synthetic Fibers, and Blends or any Combinations Thereof (Int. Cl. 24).
First use Jan. 9, 1970.

SN 349,222. J. P. Stevens & Co., Inc., New York, N.Y. Filed Jan. 21, 1970.

TEXTOGLOSS

Owner of Reg. No. 584,144.
For High Temperature Woven Fabrics Made from Glass Fibers (Int. Cl. 24).
First use Jan. 12, 1970.

SN 349,345. Gitkin Company, Totowa, N.J. Filed Jan. 22, 1970.

CARNABY

For Cafe Curtains, Valances, Shower Curtains, and Portieres, Made From Plastics (Int. Cl. 24).
First use July 3, 1969.

SN 349,369. Doris Moore of California, Inc., Long Beach, Calif. Filed Jan. 22, 1970.



Owner of Reg. Nos. 763,573, 877,451, and others.
For Towels (Int. Cl. 24).
First use Oct. 25, 1964.

SN 349,768. Klopman Mills, Inc., Rockleigh, N.J. Filed Jan. 27, 1970.

KEYNOTE PLUS

Owner of Reg. No. 789,738.
For Fabrics in the Piece, Composed of Man-Made Fibers, and Fabrics in the Piece, Composed of Blends of Cotton Fibers and Man-Made Fibers (Int. Cl. 24).
First use at least as early as Apr. 12, 1968.

SN 349,769. Klopman Mills, Inc., Rockleigh, N.J. Filed Jan. 27, 1970.

COPASETTA

Owner of Reg. No. 524,531.
For Fabrics in the Piece, Composed of Man-Made Fibers, and Fabrics in the Piece, Composed of Blends of Cotton Fibers and Man-Made Fibers (Int. Cl. 24).
First use at least as early as Dec. 15, 1948.

SN 350,531. J. P. Stevens & Co., Inc., New York, N.Y. Filed Feb. 4, 1970.

TASTEMAKER

Owner of Reg. Nos. 670,661, 776,673, and 860,207.
For Table Napery, Mattress Pads, Bath Rugs, Sheets and Pillow Cases, Blankets, Carpet, Dish Cloths and Towels of One or More Natural Fibers Including Wool and Cotton, or Synthetic Fibers or Cellulosic Fibers or Blends of the foregoing (Int. Cls. 24 and 27).
First use Nov. 15, 1963.

SN 352,515. Henry Pollak Inc., New York, N.Y. Filed Feb. 26, 1970.

ESKILOO

Owner of Reg. No. 873,102.
For Pile Fabric Piece Goods (Int. Cl. 24).
First use Jan. 16, 1970.

SN 352,598. Applied Synthetics, Inc., East St. Louis, Ill. Filed Feb. 27, 1970.

SYNCEL

For Synthetic Fabric for Use in Making Pillow Cases, Garments, Sheets, or the Like (Int. Cl. 24).
First use August 1969.

SN 352,635. Graham Manufacturing Company, Holyoke, Mass. Filed Feb. 27, 1970.

web-ee

For Reinforced Towels (Int. Cl. 24).
First use July 25, 1969.

SN 352,796. The Emplre Bloomer Company, New York, N.Y. Filed Mar. 2, 1970.

SILGLO

For Fabric Especially for Ladies' Panties, Slips, and Half Slips (Int. Cl. 24).
First use Sept. 12, 1969.

SN 366,099. The Design Works of Bedford-Stuyvesant, Inc., Brooklyn, N.Y. Filed July 24, 1970.



For Fabrics for Sale as Yardgoods and in the Making of Apparel and Decorative and Other Items (Int. Cl. 24).
First use on or about June 10, 1970.

Class 43 — Thread and Yarn

SN 349,783. New Bedford Rayon Inc., New Bedford, Mass. Filed Jan. 27, 1970.

COLOR-SPUN

For Viscose Rayon Yarn (Int. Cl. 23).
First use September 1969.

SN 352,483. S. S. Kresge Company, Detroit, Mich. Filed Feb. 26, 1970.



For Thread and Knitting Yarns (Int. Cl. 23).
First use in or before January 1968, on knitting yarns.

SN 352,484. S. S. Kresge Company, Detroit, Mich. Filed Feb. 26, 1970.



Owner of Reg. No. 803,473.
For Thread (Int. Cl. 23).
First use on or before Feb. 15, 1970.

SN 352,801. Fiber Industries, Inc., Charlotte, N.C. Filed Mar. 2, 1970.

CEDILLA

Owner of Reg. Nos. 307,458 and 882,686.
For Yarns of Man-Made Fibers (Int. Cl. 23).
First use Dec. 10, 1968.

SN 358,161. A. Zegna Società in Accomandita Semplice, Vallemosso, Vercelli, Italy. Filed Apr. 28, 1970.

BARUFFA

"Baruffa" means "quarrel, brawl or scuffle" in Italian.
For Threads and Yarns (Int. Cl. 23).
First use Jan. 23, 1968; in commerce Jan. 23, 1968.

Class 44 — Dental, Medical, and Surgical Appliances

SN 344,830. John Adam Dante, Dallas, Tex. Filed Nov. 28, 1969.

TAK-A-MASSAGE

For Electric Therapeutic Vibrators (Int. Cl. 10).
First use Apr. 11, 1969.

SN 353,381. Propper Manufacturing Company, Inc., Long Island City, N.Y. Filed Mar. 9, 1970.

MINDER-SWITCH

For On-Off Switch for Illuminated Pocket Medical Diagnostic Instruments—Namely, Oscopes, Ophthalmoscopes, and Diagnostic Illuminators (Int. Cl. 10).
First use November 1969.

SN 360,536. Bird Corporation, Palm Springs, Calif. Filed May 22, 1970.

MARK 1

Owner of Reg. Nos. 811,084, 851,521, and others.
For Automatic Portable Respirators (Int. Cl. 9).
First use Apr. 24, 1970.

SN 360,665. American Hospital Supply Corporation, Evanston, Ill. Filed May 25, 1970.

SO-LO

For Dental Chair (Int. Cl. 10).
First use on or before Feb. 16, 1970.

SN 360,695. Baxter Laboratories, Inc., Morton Grove, Ill. Filed May 25, 1970.

SPECULETTE

For Vaginal Speculum (Int. Cl. 10).
First use Feb. 18, 1970.

SN 360,697. Becton, Dickinson and Company, East Rutherford, N.J. Filed May 25, 1970.

UNI-DRAPE

For Disposable Drapes for Use in Surgical Procedures (Int. Cl. 5).
First use at least as early as Feb. 8, 1970.

SN 361,729. IMS Limited, Los Angeles, Calif. Filed June 4, 1970.

ADD-A-JET

For Medicament Containers, Injectors, and Components Thereof (Int. Cl. 10).
First use May 1970.

SN 361,731. Johnson & Johnson, New Brunswick, N.J. Filed June 4, 1970.

SURGINE

Owner of Reg. Nos. 306,367, 532,747, and others.
For Surgical Caps (Int. Cl. 25).
First use Apr. 17, 1970.

SN 362,353. Dentsply International Inc., York, Pa. Filed June 11, 1970.

ORTHOCEM

Owner of Reg. No. 515,974.
For Dental Treatment Cement Used To Cement Orthodontic Bands and Appliances Within the Oral Cavity (Int. Cl. 5).
First use Feb. 23, 1970.

SN 362,440. American Optical Corporation, Southbridge, Mass. Filed June 12, 1970.

SURE-GUARD

Owner of Reg. Nos. 805,659, 810,771, and 812,596.
For First Aid Kits (Int. Cl. 5).
First use May 1962.

SN 362,493. Cutter Laboratories, Inc., Berkeley, Calif. Filed June 12, 1970.

RESICATH

For Catheter (Int. Cl. 10).
First use on or about June 5, 1969.

SN 362,942. Chesebrough-Pond's Inc., New York, N.Y. Filed June 17, 1970.

ELASTO

For Bandages (Int. Cl. 10).
First use Apr. 28, 1970.

SN 362,990. C. R. Bard, Inc., Murray Hill, N.J. Filed June 18, 1970.

ABDO BAG

For Surgical Drainage Collection Receptacle (Int. Cl. 10).
First use September 1960.

SN 363,196. Jack B. Taylor and Associates, Inc., Oakland, Calif. Filed June 19, 1970.



For 30 cc. Plastic Two Part Syringe-Type Dispenser (Int. Cl. 10).
First use Dec. 19, 1968.

SN 363,298. June B. Greenough, d.b.a. June Greenough Bustette, Omaha, Nebr. Filed June 22, 1970.



For Pre-Formed Prosthetic Breast Pads Adapted To Be Inserted Into a Brassiere (Int. Cl. 10).
First use at least as early as Dec. 1, 1968.

SN 363,418. Depuy Manufacturing Co., Inc., Warsaw, Ind. Filed June 23, 1970.

SOLOSCOPE

For Disposable Stethoscopes (Int. Cl. 10).
First use on or about Apr. 17, 1970.

SN 367,118. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Aug. 5, 1970.

RESTON

Owner of Reg. No. 793,452.
For Floatation Pad for Prevention of Decubitus Ulcers (Int. Cl. 10).
First Use May 19, 1970.

Class 45—Soft Drinks and Carbonated Waters

SN 307,017. Franklin Beverage Company, Elizabeth, N.J. Filed Sept. 10, 1968.

FRANKLIN



BEVERAGE

Applicant disclaims the term "Beverage" apart from the mark as a whole.
For Soft Drinks (Int. Cl. 32).
First use July 10, 1968.

SN 327,640. Fonti Levissima S.p.A., Cepina, Sondrio, Comune di Val di Soito, Italy. Filed May 19, 1969.

TRILLY

Priority claimed under Sec. 44(d) on Italian application filed Dec. 24, 1968; Reg. No. 237,905, dated June 13, 1969.
For Soft Drinks (Int. Cl. 32).

SN 331,360. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed June 30, 1969.

TEVIO

Owner of German Reg. No. 793,622, dated June 12, 1964; and U.S. Reg. No. 875,255.
For Flavored Syrups for the Preparation of Dietetic Soft Drinks (Int. Cl. 5).

SN 340,950. William Seymour & Co. (Sherborne) Limited, Sherborne, Dorset, England. Filed Oct. 16, 1969.

SLIMWAY

Owner of British Reg. No. B883,405, dated Aug. 25, 1965.
For Low Calorie Soft Drinks (Int. Cl. 32).

SN 348,621. Welch Foods, Inc., Westfield, N.Y. Filed Jan. 15, 1970.

SUNSHAKE

For Breakfast Imitation Orange Drink Having Water as a Major Ingredient (Int. Cl. 32).
First use Sept. 29, 1969.

SN 349,617. General Foods Corporation, White Plains, N.Y. Filed Jan. 26, 1970.

POWER BACK

For Powdered Mix To Be Combined With Water for Making Flavored Beverages (Int. Cl. 32).
First use Jan. 5, 1970.

SN 351,756. W. Evans Howell, Baton Rouge, La. Filed Feb. 19, 1970.



For Soft Drinks (Int. Cl. 32).
First use at least as early as Dec. 15, 1969.

SN 358,668. The Pillsbury Company, Minneapolis, Minn. Filed May 4, 1970.

BIG THIRST AMERICA

For Orange Flavored Isotonic Soft Drink (Int. Cl. 32).
First use Mar. 10, 1970.

Class 46—Foods and Ingredients of Foods

SN 272,908. A. Bertolla & Sons, Loxley, Ala. Filed June 2, 1967.



For Fresh Potatoes in Wholesale Lots (Int. Cl. 31).
First use on or about May 8, 1937.

SN 295,629. Fairmont Foods Company, d.b.a. Abbotts Dairies, Omaha, Nebr. Filed Apr. 15, 1968.

ABBOTTS

For Fluid Milk, Buttermilk, Cream, Cottage Cheese, Butter, Food Dip Preparations With Cottage Cheese and Sour Cream Bases, Whipping Cream, Egg Nog (Non-Alcoholic) Vegetable Base Cream Substitute, Ice Cream, Ice Milk, Sherbet, and Frozen Confections in Stick and Bar Form (Int. Cls. 29 and 30).
First use as early as April 1923.

SN 305,913. Brenner Candles, Inc., Atlantic City, N.J. Filed Aug. 26, 1968.



The name "Davy Jones" does not identify any living individual. Owner of Reg. No. 817,902.
For Candy (Int. Cl. 30).
First use on or about May 19, 1966.

SN 314,353. Lake Region, Inc., McAllen, Tex. Filed Dec. 12, 1968.

SALSA RANCHERO

Applicant disclaims exclusive rights to the term "Salsa." The English translation of "Salsa Ranchero" is "rancher's sauce."
For Hot Sauce (Int. Cl. 30).
First use Sept. 16, 1968.

SN 315,330. Perugia S.p.A. Cioccolato & Confetture, Perugia, Italy. Filed Dec. 27, 1968.



Applicant disclaims any rights in the word "Bac" apart from the mark as a whole. "Bac" is the Italian word for "kisses." Owner of Italian Reg. No. 200,567, dated Dec. 31, 1966; and U.S. Reg. No. 799,323.
For Candy—Namely, Candy Kisses (Int. Cl. 30).

SN 316,404. Ulrich Baensch, d.b.a. Tetra Werke Dr. Rer. Nat. Ulrich Baensch, Herrenteich, Melle, Germany. Filed Jan. 13, 1969.

TETRAL

Owner of German Reg. No. S20,901, dated Feb. 15, 1963.
For Food for All Pets, Especially Food for Pet Fish, Bird Food, Cat Food, and Dog Food (Int. Cl. 31).

SN 327,953. Oberto Sausage Co., Seattle, Wash. Filed May 21, 1969.

PEP

For Smoked Sausage Sticks (Int. Cl. 29).
First use on or about Mar. 14, 1969.

SN 328,303. Interstate Bakeries Corporation, Kansas City, Mo. Filed May 26, 1969.

HOUSE OF SNOOPY

Owner of Reg. No. 892,549.
For Dog Food (Int. Cl. 31).
First use during December 1968.

SN 328,788. Universal Packers Corporation, Oxnard, Calif. Filed June 2, 1969.

DEL MAR

Owner of Reg. No. 885,137.
For Canned Fish (Int. Cl. 29).
First use May 19, 1969.

SN 330,257. M. A. Craven & Son Limited, Candyland, York, England. Filed June 17, 1969.

CRAVENS

Owner of U.S. Reg. No. 770,939.
For Candy (Int. Cl. 30).
First use 1881; in commerce 1953.

SN 332,111. Land O'Lakes Creameries, Inc., Minneapolis, Minn. Filed July 9, 1969.

EXCEL

For Sweet Dairy Whey Product for Food Manufacturing (Int. Cl. 29).
First use May 19, 1969.

SN 332,421. Mrs. Kinser's Home Style Foods, Inc., Atlanta, Ga. Filed July 14, 1969.

**MRS. KINSER'S
HOME STYLE**

Without waiving any of its common law rights therein, applicant disclaims the expression "Home Style" apart from the mark as shown. Owner of Reg. No. S38,008.

For Refrigerated Prepared Food Mixes—Namely, Barbeque Chicken Salad, Chicken Salad, Cole Slaw, Corned Beef Salad, Egg Salad, Ham Salad, Ham and Cheese Salad, Macaroni Salad, Pimento Cheese, Potato Salad, Tuna Fish Salad, and Ham and Egg Salad (Int. Cls. 29, 30, and 31).

First use 1950.

SN 332,604. Commercial Pan Coating Corp., New York, N.Y. Filed July 15, 1969.

CPC

For All Vegetable Cake Pan Grease Used for Coating Bakers' Pans (Int. Cl. 29).
First use June 2, 1967.

SN 334,352. Lucul-Nahrungsmittelfabrik A.G., d.b.a. Lucul-Food Products Ltd., Zurich, Switzerland. Filed Aug. 4, 1969.

LUCUL

Owner of Reg. No. 441,598.
For Foods and Ingredients of Foods—Namely, Broths, Soups, Spices, and Seasonings in Liquid, Paste and Dry Form (Int. Cls. 29 and 30).
First use June 15, 1934; in commerce Aug. 14, 1950.

SN 336,715. H. B. Reese Candy Co., Inc., Hershey, Pa. Filed Aug. 29, 1969.



The words "Peanut Butter Cups" are disclaimed separate from the mark as shown. The drawing is lined for the colors brown and yellow.

For Peanut Butter Cup (Int. Cl. 30).
First use July 18, 1969.

SN 339,926. Plochman, Inc., Chicago, Ill. Filed Oct. 6, 1969.

TOMAT-O-MATE

For Condiment—Namely, a Tomato-Based Sauce for Table Use (Int. Cl. 30).
First use Aug. 25, 1969.

SN 341,681. National Tea Co., Chicago, Ill. Filed Oct. 24, 1969.

TOP TASTE

Owner of Reg. Nos. 444,626, 849,783, and others.
For Unpopped Yellow and White Popcorn, Dry Breakfast Cereals, Dehydrated Foods—Namely, Instant Mashed Potatoes, Vegetable Oils and Shortening, Used in Domestic Cooking; Seasoning Compounds—Namely, Black Pepper, No Calorie Sweeteners; and Frozen Pre-Baked Dough Products—Namely, Waffles, Dinner Rolls, and Biscuits (Int. Cls. 1, 29, and 30).
First use Aug. 17, 1965.

SN 341,923. Goodalls of Ireland Limited, Dublin, Ireland. Filed Oct. 28, 1969.

ALANNA

"Alanna" is an Irish term of endearment, derived from the Gaelic word for "my child."

For Salt, Mustard, Pepper, Vinegar, Spices, Meat, Fish and Game Sauces, and Sauces for Use on Other Foodstuffs of a non-Dessert Nature (Int. Cl. 30).

First use Nov. 10, 1964; in commerce Nov. 10, 1964.

SN 345,806. Diane's Foods, Inc., McMinnville, Ore. Filed Dec. 10, 1969.

DIANE'S

For Scandinavian and Mexican Food Products—Namely, Frozen Leftse and Tortillas and Unfrozen Taco Shells (Int. Cl. 30).

First use Dec. 8, 1966.

SN 346,399. Quaker City Packing Company, Inc., Allentown, Pa. Filed Dec. 16, 1969.



For Dog Food (Int. Cl. 31).
First use Apr. 11, 1969.

SN 346,414. Vigo Importing Company, Tampa, Fla. Filed Dec. 16, 1969.



For Combination Package Containing Yellow Rice and Assorted Seafood for Making a Complete Dinner (Int. Cl. 30).
First use July 7, 1969.

SN 347,289. Little Chef Food Products, Inc., Newark, N.J. Filed Dec. 29, 1969.

ANZIO

For Frozen Pizza (Int. Cl. 30).
First use June 1969.

SN 348,087. The Procter & Gamble Company, Cincinnati, Ohio. Filed Jan. 9, 1970.

CLIMAX

Owner of Reg. No. 91,446.
For Edible Vegetable Oil (Int. Cl. 29).
First use Nov. 11, 1911.

SN 348,217. Jib-Jab Enterprises, Inc., Youngstown, Ohio. Filed Jan. 12, 1970.



For Meatless Sauces (Int. Cl. 30).
First use at least as early as Dec. 13, 1969.

SN 349,164. Cumberland Packing Corp., Brooklyn, N.Y. Filed Jan. 21, 1970.

SWEET MAGIC

The word "Sweet" is disclaimed apart from the mark as shown, without prejudice to applicant's common law rights therein.

For Sugar Substitute (Int. Cl. 1).
First use Jan. 5, 1970.

SN 349,314. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 22, 1970.

QUIK FEST

For Dog Food (Int. Cl. 31).
First use at least as early as Dec. 30, 1969.

SN 349,316. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 22, 1970.

COUNTRY STAR

For Pork Sausage (Int. Cl. 29).
First use at least as early as September 1969.

SN 352,080. Roy A. Brog, d.b.a. Dairy Monitoring of America, Logan, Utah. Filed Feb. 24, 1970.

Pep Teen

For Dairy Products Comprising Fluid Milk (Int. Cl. 29).
First use Feb. 6, 1970.

SN 352,192. O'Donnell-Usen Fisheries Corporation, Boston, Mass. Filed Feb. 24, 1970.

DEEP SEA PRIZES

The words "Deep Sea" are disclaimed except when used in connection with the mark as shown.
For Frozen Fish (Int. Cl. 29).
First use Dec. 30, 1969.

SN 352,605. Beatrice Foods Co., Chicago, Ill. Filed Feb. 27, 1970.

PUFF'NS

For Candy (Int. Cl. 30).
First use Oct. 1, 1969.

SN 357,937. American Sugar Company, New York, N.Y. Filed Apr. 27, 1970.

EAGLE

For Sugar (Int. Cl. 30).
First use Aug. 1, 1899.

SN 362,619. The Pillsbury Company, Minneapolis, Minn. Filed June 15, 1970.

RESPOND

For Dietary Food Bar in Concentrated Form, Nutritiously Complete and Suitable as a Substitute for a Meal (Int. Cl. 5).
First use Jan. 23, 1970.

SN 366,454. The Jel Sert Company, Bellwood, Ill. Filed July 28, 1970.



No claim is made to the words "Giant Bar" apart from the mark shown. Owner of Reg. Nos. 830,709, 886,794, and others. For Flavored Liquid in Bar-Shaped Packages To Be Frozen Therein To Make Ice Bars (Int. Cl. 30). First use Dec. 16, 1968.

SN 366,625. Sunshine Biscuits, Inc., New York, N.Y. Filed July 30, 1970.

OLÉ

For Flavored Snack Crackers (Int. Cl. 30). First use June 12, 1970.

SN 366,768. Carter-Wallace, Inc., New York, N.Y. Filed July 31, 1970.

SUNDAY MORNING

For Cheese Spread (Int. Cl. 29). First use July 15, 1970.

Class 47—Wines

SN 323,939. Castellanos & Co. Ltd., Seville, Spain. Filed Apr. 8, 1969.



The drawing is lined for the color brown, but no claim is made to the color. For Sweet Wine (Int. Cl. 33). First use Feb. 12, 1969; in commerce Feb. 12, 1969.

SN 340,662. Garvey Sociedad Anonima Bodegas de San Patricio-Jerez de la Frontera, Jerez de la Frontera, Cadiz, Spain. Filed Oct. 14, 1969.

FINO SAN PATRICIO

No claim is made to the word "Fino" apart from the mark as shown. The words "San Patricio" are the Spanish equivalent of "Salut Patrick." Owner of U.S. Reg. No. 746,021. For Sherry Wine (Int. Cl. 33). First use 1925; in commerce August 1950.

SN 341,780. Baron Philippe de Rothschild, Pauillac, Gironde, France. Filed Oct. 27, 1969.

*Château
Mouton-Ron Philippe*

For Wines (Int. Cl. 33). First use Mar. 18, 1959; in commerce Mar. 7, 1963.

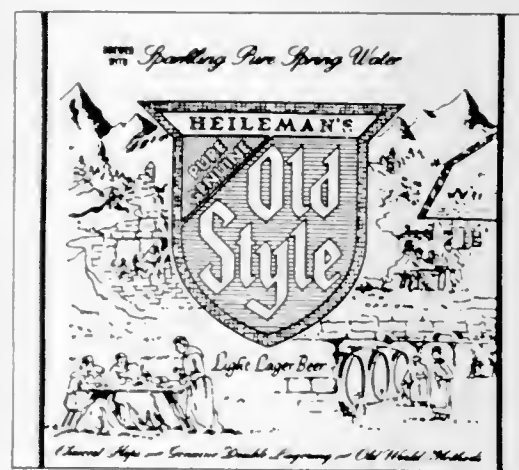
SN 357,038. National Distillers and Chemical Corporation, d.b.a. Munson Shaw Co., New York, N.Y. Filed Apr. 16, 1970.

CHAMBRAISE

Owner of Reg. No. 764,800. For Apertif Wine (Int. Cl. 33). First use Apr. 25, 1969.

Class 48—Malt Beverages and Liquors

SN 332,824. G. Hellemann Brewing Company, Inc., La Crosse, Wis. Filed July 17, 1969.



The drawing is lined for the colors blue, red and gold. Without waiving its common law rights, applicant hereby disclaims, apart from the mark shown, all wording appearing in the drawing of the mark except "Hellemann's Old Style." Owner of Reg. Nos. 63,492, 780,692, and others.

For Beer (Int. Cl. 32). First use June 11, 1947; as early as January 1902 in a different form.

SN 346,221. Carlsberg Bryggerierne, d.b.a. The Carlsberg Breweries, Copenhagen, Denmark. Filed Dec. 15, 1969.

ELEPHANT

Owner of U.S. Reg. No. 673,627. For Beer and Malt Liquor (Int. Cl. 32). First use on or about May 18, 1967; in commerce on or about May 18, 1967.

SN 365,392. Grain Belt Breweries, Inc., Minneapolis, Minn. Filed July 16, 1970.

GBX

For Malt Liquor (Int. Cl. 32). First use June 1, 1970.

Class 49—Distilled Alcoholic Liquors

SN 343,729. Mediterranean Importing Co., Inc., Long Island City, N.Y. Filed Nov. 17, 1969.

VILLA D'ESTE

The English translation of "Villa d'Este" is "villa of the East." Owner of Reg. No. 631,459. For Liqueurs (Int. Cl. 33). First use Aug. 21, 1969.

SN 348,879. Loren Bear, d.b.a. Bearline Products, Cedar Rapids, Iowa. Filed Jan. 19, 1970.

WINDIWHEEL

For Ornamental Windmill, Weather Cock and Flower Stand (Int. Cl. 20). First use June 7, 1968.

SN 349,154. George P. Andrews, d.b.a. Craft Plastix Company, McKeesport, Pa. Filed Jan. 21, 1970.



For Novelty Fun Hats (Int. Cl. 25). First use Aug. 1, 1967.

Class 50—Merchandise Not Otherwise Classified

SN 339,006. The Franklin Mint, Inc., Yeadon, Pa. Filed Sept. 26, 1969.

BIG GAME

For Non-Monetary Coins, Tokens, Medals, and Medallions (Int. Cl. 14). First use Sept. 24, 1969.

SN 341,886. Iva Jane Burns, Arkansas City, Kans. Filed Oct. 27, 1969.

MEMORY

For Wreaths and Crosses Made of Plastic for Use as Decorations for Graves (Int. Cl. 20). First use May 1, 1967.

SN 344,254. Arthur A. Pearson, d.b.a. Pearson Portable Dock Co., Fairfield, Mont. Filed Nov. 21, 1969.

HICKORY DICKORY DOCKS

Applicant disclaims any right to exclusive use of the word "Docks" aside and apart from the mark as shown. For Portable Docks (Int. Cl. 19). First use Nov. 4, 1969.

Class 52—Detergents and Soaps

SN 325,527. Mantek Corporation, Dallas, Tex. Filed Apr. 24, 1969.

CCR-22

For Preparation for General Purpose Cleaning and for Removing Wax From Floors (Int. Cl. 3). First use Nov. 4, 1968.

SN 347,533. D. A. Stuart Oil Co., Limited, Chicago, Ill. Filed Dec. 31, 1969.

DASCO KLEEN

Without waiving any of its common law rights, applicant disclaims the word "Kleen" apart from the mark as shown. Owner of Reg. Nos. 524,061, 806,617, and others. For Cleaning Compounds for Removal of Dirt, Soil, and Other Foreign Matter From All Types of Surfaces (Int. Cl. 3). First use June 1, 1957.

SERVICE MARKS

Class 100—Miscellaneous

SN 328,575. Ole Smokey, Inc., Lubbock, Tex. Filed May 28, 1969.

SN 322,625. Smokey's Bar-B-Q International, Inc., Overland Park, Kans. Filed Mar. 24, 1969.



Applicant disclaims any exclusive right in and to the words "Bar-B-Q International" apart from the mark as shown in the drawing.

For Restaurant Services (Int. Cl. 42). First use Jan. 27, 1969. Subj. to Intf. with SN 328,575.



For Restaurant Services (Int. Cl. 42). First use Nov. 17, 1966. Subj. to Intf. with SN 322,625.

SN 340,581. National Association of Plumbing-Heating-Cooling Contractors, Washington, D.C. Filed Oct. 14, 1969.



For Association Services—Namely, Services Comprising the Advancement and Encouragement of Better Methods and Practices in the Fields of Plumbing, Heating, and Cooling (Int. Cl. 42).

First use June 26, 1968.

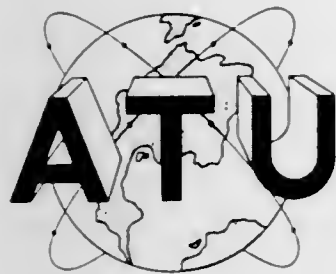
SN 341,145. Carson International Inc., d.b.a. Honey Bear Farm, Itasca, Ill. Filed Oct. 20, 1969.

HONEY BEAR FARM

For Restaurant Services (Int. Cl. 42).
First use 1952.

Class 101—Advertising and Business

SN 311,664. Auto-Tronix Universal Corporation, Denver, Colo., assignee, by mesne assignment, of Auto-Tronix Universal Corporation, Denver, Colo. Filed Nov. 8, 1968.



Owner of Reg. No. 812,303.

For Business Services in and Relating to the Field of Electronic Data Processing—Namely, Computer Programming, Systems Design, Systems Analysis, Management Consulting and Data Processing Operations (Int. Cl. 35).

First use May 1966.

SN 316,304. Franchise Data Service Corporation, Colorado Springs, Colo. Filed Jan. 10, 1969.



For Providing Information to Interested Persons Pertaining to Available Franchised Business Opportunities (Int. Cl. 35).

First use Oct. 8, 1968.

SN 324,747. Photo Reproduction Service, Inc., Los Angeles, Calif. Filed Apr. 16, 1969.

PRS

For Printing, Graphic Design, Art, and Photography Services (Int. Cl. 35).

First use at least as early as 1946.

SN 324,838. Sally Beauty Company, Inc., New Orleans, La. Filed Apr. 17, 1969.

SALLY

For Beauty Salon and Barber Shop Supply Store Services (Int. Cl. 35).

First use prior to Oct. 2, 1961.

SN 328,204. Charlie See, d.b.a. Charlie See Enterprises, Hollywood, Calif. Filed May 23, 1969.

MISS TOURISM

For Promoting the Sale of Goods and Services of Others Through the Medium of Periodic Beauty Contests (Int. Cl. 35).

First use Feb. 18, 1969.

SN 330,767. Panelrama, Inc., Philadelphia, Pa. Filed June 23, 1969.



For Retail Home Building Supply Store Services (Int. Cl. 35).

First use Sept. 16, 1968.

Subj. to Intf. with SN 349,906.

SN 331,978. GAF Corporation, New York, N.Y. Filed July 8, 1969.

GAF

Owner of Reg. Nos. 509,124, 837,005, and others.

For Design of Business Forms to the Order and/or Specification of others; Printing Business Forms for Others (Int. Cl. 35).

First use Sept. 10, 1967.

SN 332,275. Arrowhead International, Inc., Atlanta, Ga. Filed July 10, 1969.



For Technical Assistance in the Establishment and/or Operation of Campsite (Int. Cl. 35).

First use no later than Jan. 26, 1969.

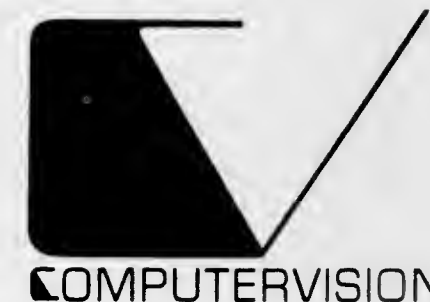
SN 357,536. L'Academie Montessori, Inc., Fort Lauderdale, Fla. Filed Apr. 21, 1970.



For Providing Technical Assistance, Advice and Financial Support in the Establishment and Operation of Pre-School and Day Care Educational Centers (Int. Cl. 35).

First use Mar. 30, 1970.

SN 358,233. Computervision Corporation, Burlington, Mass. Filed Apr. 29, 1970.



The mark comprises the stylized letters "CV" and the word "Computervision."

For Design and Development of Computer Programs (Int. Cl. 35).

First use at least as early as October 1969.

SN 360,199. Fotomat Corporation, La Jolla, Calif. Filed May 19, 1970.

FOTOMAT DRIVE THRU

Applicant disclaims the wording "Drive Thru" apart from the mark as shown. Owner of Reg. No. 868,275.

For Retail Drive-In Photographic Supply Store Services (Int. Cl. 35).

First use Sept. 14, 1967.

Class 102—Insurance and Financial

SN 315,771. Robert J. Kistler, d.b.a. Kistler Associates, Philadelphia, Pa. Filed Jan. 3, 1969.



The mark consists of a representation of the letter "K" and the letter "A" which stand for "Kistler Associates."

For Insurance Underwriting Services (Int. Cl. 36).

First use Sept. 6, 1968.

SN 323,226. Birmingham Bloomfield Bank, Birmingham, Mich. Filed Apr. 1, 1969.

SMART MONEY

Applicant disclaims the word "Money" apart from the mark as shown.

For Banking Services—Namely, Checking, Savings and Credit Reserve Loan Account Services (Int. Cl. 36).

First use Feb. 13, 1969.

SN 330,296. Northern Virginia Savings and Loan Association, Arlington, Va. Filed June 17, 1969.



Applicant disclaims "Virginia" and "Savings and Loan Association" separate and apart from the mark as shown.

For Savings and Loan Services—Namely, Savings Accounts, Real Estate Loans, Travelers' Checks, Christmas Club Accounts, U.S. Government and Freedom Shares (Int. Cl. 36).

First use Sept. 21, 1953.

SN 332,515. Pan American Bank of Miami, Miami, Fla. Filed July 14, 1969.



For Banking Services (Int. Cl. 36).
First use May 19, 1961.

SN 335,545. California-Western States Life Insurance Company, Sacramento, Calif. Filed Aug. 18, 1969.



No registration rights are claimed for the words "Graduate Estate Plan" apart from the mark shown, but applicant waives none of its common law rights in the mark shown and all features thereof.

For Underwriting Life Insurance, Specially Designed for the College Senior and Graduate (Int. Cl. 36).

First use July 7, 1969.

SN 336,110. Federated Department Stores, Inc., d.b.a. The F. & R. Lazarus & Company, Columbus, Ohio. Filed Aug. 25, 1969.

FPD REVOLVING PLAN

The words "Revolving Plan" are disclaimed apart from the mark as shown.

For Revolving Account Services (Int. Cl. 36).

First use July 1, 1969.

SN 360,428. The Northwestern Mutual Life Insurance Company, Milwaukee, Wis. Filed May 21, 1970.

NML

Owner of Reg. Nos. 653,553 and 694,035.
For Underwriting of Variable Annuity Programs, Mutual Fund and Investment Advisory Services (Int. Cl. 36).
First use Dec. 16, 1968.

Class 103—Construction and Repair

SN 318,806. Obed Oas, Moorehead, Minn. Filed Feb. 10, 1969.



Applicant disclaims the wording "Shine" and "Free Car Wash" apart from the mark as shown. No claim is made to color, lining being used for purposes of shading only.

For Automotive Gasoline and Automatic Car Washing Services (Int. Cl. 37).

First use Dec. 7, 1966.

SN 336,222. Astro-Matic Lubricare, Inc., Nashville, Tenn. Filed Aug. 21, 1969.

ASTRO-LUBE

For Automotive Lubricating Services (Int. Cl. 37).
First use May 16, 1969.

SN 344,636. Elton W. Miller, d.b.a. M & W Security, Harrisonburg, Va. Filed Nov. 26, 1969.



We Sell Protection!

For Services—Namely, Installation and Maintenance of Alarm and Security Systems (Int. Cl. 37).
First use Oct. 20, 1969.

SN 362,122. The Metal Products Company, d.b.a. Stamex, Niles, Ohio. Filed June 9, 1970.

STAMEX

For Custom Metal Stamping and Fabrication Services (Int. Cl. 42).
First use Apr. 30, 1970.

Class 105—Transportation and Storage

SN 329,206. ABC Travel Service, S.A., Mexico City, Mexico. Filed June 5, 1969.



Applicant disclaims the word "Mexican" apart from the mark as shown.

For Travel Agency Services (Int. Cl. 39).

First use Apr. 1, 1969; in commerce Apr. 1, 1969.

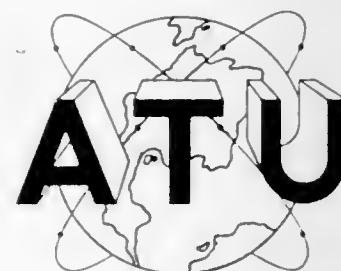
SN 366,449. Andrews Van Lines, Inc., Norfolk, Nebr. Filed July 28, 1970.



The drawing is lined for the color red.
For Packing, Storage and Truck Transportation of the Goods of Others (Int. Cl. 39).
First use 1960.

Class 107—Education and Entertainment

SN 311,663. Auto-Tronix Universal Corporation, Denver, Colo., assignee, by mesne assignment, of Auto-Tronix Universal Corporation, Denver, Colo. Filed Nov. 8, 1968.



Owner of Reg. No. 812,303.
For Educational Services—Namely, Resident and Correspondence Instruction, Training, and Education in the Field of Data Processing (Int. Cl. 41).
First use May 1966.

SN 313,152. American Sportsman's Club, Inc., Denver, Colo. Filed Nov. 27, 1968.



No claim is made to the word "Club" apart from the mark as shown. The drawing is lined for the colors blue, green, and orange.

For Providing Suitable Sites for Hunting and Fishing for the Benefit of Club Members (Int. Cl. 41).

First use Aug. 11, 1968.

Subj. to Intf. with SN 365,808.

SN 332,390. Jon W. Whirry, d.b.a. Jonathan W. Little, Madison, Wis. Filed July 11, 1969.

Underground Sunshine

For Entertainment Services Provided by Vocal and Instrumental Group (Int. Cl. 41).
First use May 1, 1968.

SN 354,182. Franklin K. Howard College Boards Institute, Inc., Mineola, N.Y. Filed Mar. 16, 1970.

FKH

SN 335,244. Master Minds International, Inc., Dallas, Tex. Filed Aug. 13, 1969.



For Organizing and Conducting Seminars To Enable People To Discuss Social Problems (Int. Cl. 41).
First use Feb. 15, 1969.

For Educational Services—Namely, Tutoring Services and the Conduct of College Preparation Courses—Namely, Instruction in Mathematical and Verbal Skills (Int. Cl. 41).
First use Jan. 2, 1970.

SN 361,223. Jantzen Inc., Portland, Oreg. Filed June 1, 1970.

JANTASTICS

For Entertainment Services—Namely, Musical Entertainment Rendered by an Orchestra (Int. Cl. 41).
First use May 6, 1970.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 340,585. Numerical Control Society, Princeton, N.J. Filed Oct. 13, 1969.

SN 327,480. The "Fagowees," Washington, D.C. Filed May 16, 1969.



The name "Fagowees" comes from a nomadic Indian tribe, which was always on the move seeking new places and new adventures. The drawing is lined for shading purposes only and not to represent color.

For Indicating Membership in Applicant.
First use Aug. 16, 1966.



The mark consists of a design incorporating the letters NCS. For Indicating Membership in Applicant.
First use Feb. 5, 1963.

SN 365,866. The National Collegiate Athletic Association, Kansas City, Mo. Filed July 22, 1970.

NCAA

For Indicating Membership in Applicant.
First use at least as early as 1950.

CERTIFICATION MARKS

Class A—Goods

SN 327,283. J. O. Lambert, Jr., Dallas, Tex. Filed May 14, 1969.

LAMBERT GREEN

The mark certifies that said goods are prepared in accordance with applicant's formula and complies with certain requirements as to quality established by applicant.

For Ready-Mixed Oil-Based Paint.
First use on or about June 1, 1940.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials Class 5—Adhesives

- 901,966. FLAVORITA CALF. Carl Freudenberg. SN 310,559. Pub. 8-25-70. Filed 10-30-68.
- 901,967. BACHMAN'S. Bachman's Inc. MULTIPLE CLASS (Classes 1, 50, 100, and 101). SN 311,425. Pub. 8-25-70. Filed 11-6-68.
- 901,968. GENOFIL. Canadian Hoechst Limited. SN 338,223. Pub. 8-25-70. Filed 9-18-69.
- 901,969. QUINDELL. Merle J. Lucas, d.b.a. Green Forest Nursery. SN 338,587. Pub. 8-25-70. Filed 9-22-69.
- 901,970. LNP ENGINEERING PLASTICS AND DESIGN. Liquid Nitrogen Processing Corporation. SN 347,104. Pub. 8-25-70. Filed 12-24-69.
- 901,971. FRAGRAN. Ralston Purina Company. SN 359,682. Pub. 8-25-70. Filed 5-14-70.

Class 2—Receptacles

- 901,972. LINEX. Ipeco Hospital Supply Corporation. SN 335,026. Pub. 8-25-70. Filed 8-11-69.
- 901,973. MURPHY'S. G. C. Murphy Company. MULTIPLE CLASS (Classes 2 and 50). SN 335,591. Pub. 8-25-70. Filed 8-21-69.
- 901,974. TRYATITE. Sprinter-Pack Aktiebolag. SN 337,984. Pub. 8-25-70. Filed 9-15-69.
- 901,975. FESTIVAL. Columbian Carbon Company. SN 341,630. Pub. 8-25-70. Filed 10-24-69.
- 901,976. VM DESIGN. Vinyl Mald, Inc. SN 345,400. Pub. 8-25-70. Filed 12-4-69.
- 901,977. PALCUP. Arthur C. Popham, Jr. SN 349,681. Pub. 8-25-70. Filed 1-26-70.
- 901,978. BEAUTYWARE AND TULIP DESIGN. Lincoln Metal Products Corporation. MULTIPLE CLASS (Classes 2 and 13). SN 350,423. Pub. 8-25-70. Filed 2-4-70.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 901,979. PEARSE. Pearse Leather Products Co., Inc. MULTIPLE CLASS (Classes 3 and 39). SN 331,266. Pub. 8-25-70. Filed 6-30-69.
- 901,980. ROYAL ROOST. Excelsior Pet Products, Inc. SN 337,914. Pub. 8-25-70. Filed 9-15-69.
- 901,981. LADY COVENTRY. Sarah Coventry, Inc. MULTIPLE CLASS (Classes 3, 39, 40, 41, 51, and 52). SN 341,303. Pub. 8-25-70. Filed 10-22-69.

Class 4—Abrasives and Polishing Materials

- 901,982. 3M. Minnesota Mining and Manufacturing Company. SN 344,061. Pub. 8-25-70. Filed 11-20-69.
- 901,983. TY-GRIP. Minnesota Mining and Manufacturing Company. SN 344,064. Pub. 8-25-70. Filed 11-20-69.
- 901,984. ELNA. Topco Associates, Inc. SN 355,500. Pub. 6-30-70. Filed 3-31-70.

- 901,985. SNO-DRIFT. Borden, Inc. SN 357,195. Pub. 8-25-70. Filed 4-17-70.
- 901,986. HUNDRED HOUR. Standard Brands Chemical Industries, Inc. SN 357,252. Pub. 8-25-70. Filed 4-17-70.
- 901,987. Q-T H A N E. K. J. Quinn & Company, Inc. SN 360,371. Pub. 8-25-70. Filed 5-20-70.

Class 6—Chemicals and Chemical Compositions

- 901,988. REWOPOL. Rewo Chemicals, Inc., assignee of Rewo Chemische Fabrik Gesellschaft mit beschränkter Haftung. SN 273,681. Pub. 8-25-70. Filed 6-12-67.
- 901,989. GNI. General Nuclear, Inc. SN 296,419. Pub. 8-25-70. Filed 4-24-68.
- 901,990. DMS. American Cyanamid Company. SN 311,347. Pub. 8-25-70. Filed 11-5-68.
- 901,991. GIVAUDAN. Givaudan Corporation. SN 311,483. Pub. 8-25-70. Filed 11-6-68.
- 901,992. AERO-WEST. West Chemical Products, Inc. SN 323,501. Pub. 8-25-70. Filed 4-2-69.
- 901,993. BIVERT. Stull Chemical Company. SN 323,858. Pub. 8-25-70. Filed 4-7-69.
- 901,994. FORESIGHT. Chemtrust Industries Corporation. SN 325,764. Pub. 8-25-70. Filed 4-28-69.
- 901,995. URICULT. Laaketehtdas Orion Oy. SN 328,313. Pub. 8-25-70. Filed 5-26-69.
- 901,996. SOLO. Uniroyal, Inc. SN 329,018. Pub. 8-25-70. Filed 6-3-69.
- 901,997. PHIX. Pierce Chemical Company. SN 329,885. Pub. 8-25-70. Filed 6-12-69.
- 901,998. IPI 37. Milehem Incorporated. SN 331,924. Pub. 8-25-70. Filed 7-7-69.
- 901,999. TRACELEAK. Universal Oil Products Company, d.b.a. UOP Water Services Division. SN 337,493. Pub. 8-25-70. Filed 9-10-69.
- 902,000. 3M. Minnesota Mining and Manufacturing Company. SN 344,063. Pub. 8-25-70. Filed 11-20-69.
- 902,001. GRANOX. Chipman Chemicals Limited. SN 346,601. Pub. 8-25-70. Filed 12-18-69.
- 902,002. IRGASTAB. Gelgy Chemical Corporation. SN 347,504. Pub. 8-25-70. Filed 12-31-69.
- 902,003. PERISH. S. C. Johnson & Son, Inc. SN 349,801. Pub. 8-25-70. Filed 1-28-70.
- 902,004. H-O-H HAERING CORSCA GLUCOSATE. D. W. Haering & Co. Inc. SN 351,799. Pub. 8-25-70. Filed 2-19-70.
- 902,005. SOFT-PLUS. A. E. Staley Manufacturing Company. SN 352,244. Pub. 8-25-70. Filed 2-24-70.
- 902,006. URIFEED. First Mississippi Corporation. SN 354,830. Pub. 8-25-70. Filed 3-23-70.
- 902,007. ELNA. Topco Associates, Inc. SN 355,503. Pub. 6-30-70. Filed 3-31-70.
- 902,008. DYBLN. E. I. du Pont de Nemours and Company. SN 356,910. Pub. 8-25-70. Filed 4-15-70.
- 902,009. MITABAN. The Upjohn Company. SN 358,399. Pub. 8-25-70. Filed 4-30-70.
- 902,010. BANOMITE. The Upjohn Company. SN 358,400. Pub. 8-25-70. Filed 4-30-70.

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Class 10—Fertilizers

- 902,011. SORBA-SPRAY. Thompson-Hayward Chemical Company, assignee of Lettingwell Chemical Company. SN 280,602. Pub. 8-25-70. Filed 9-18-67.
- 902,012. BEAKER AND FLOWER DESIGN. Sierra Chemical Company. SN 311,976. Pub. 8-25-70. Filed 7-31-68.
- 902,013. SUN-GRO. Red Barn Chemicals Inc. SN 323,125. Pub. 8-25-70. Filed 3-28-69.
- 902,014. HYDRO-PEAK. Chemtrust Industries Corporation. SN 323,327. Pub. 8-25-70. Filed 4-1-69.
- 902,015. CLAWEL. Brandt Chem. Co., Inc. SN 329,829. Pub. 8-25-70. Filed 6-12-69.
- 902,016. DYNATRACE. Dynatron, Incorporated. SN 336,781. Pub. 8-25-70. Filed 9-2-69.
- 902,017. GRO-POWER. Dynatron, Incorporated. SN 336,782. Pub. 8-25-70. Filed 9-2-69.
- 902,018. ROOT-N-SHOOT. Dynatron, Incorporated. SN 336,784. Pub. 8-25-70. Filed 9-2-69.
- 902,019. CLAW. Brandt Chem. Co., Inc. SN 338,220. Pub. 8-25-70. Filed 9-18-69.
- 902,020. MAGNEX. United States Steel Corporation. SN 359,312. Pub. 8-25-70. Filed 5-11-70.
- 902,021. TRIPLE "N." National Chemsearch Corporation. SN 360,838. Pub. 8-25-70. Filed 5-26-70.

Class 11—Inks and Inking Materials

- 902,022. SINCLAIR AND VALENTINE. Martin Marletta Corporation. SN 294,618. Pub. 8-25-70. Filed 3-29-68.

Class 12—Construction Materials

- 902,023. COOL HEAT. L.G.H. Products Corp. SN 292,699. Pub. 8-25-70. Filed 3-7-68.
- 902,024. MIRAL-COTE. Soil Seal, Inc., d.b.a. Soil Seal Corporation. SN 314,275. Pub. 8-25-70. Filed 12-11-68.
- 902,025. MONTAGE. Consolidated Industries, Inc. SN 319,831. Pub. 8-25-70. Filed 2-24-69.
- 902,026. FLAMEFLEX. Nucleonic Products Company, Inc. MULTIPLE CLASS (Classes 12 and 14). SN 321,873. Pub. 8-25-70. Filed 3-17-69.
- 902,027. GLASMESH WOVEN FABRIC. The Reardon Company. SN 329,382. Pub. 8-25-70. Filed 6-6-69.
- 902,028. CAPCO. Cement Asbestos Products Company. SN 331,559. Pub. 8-25-70. Filed 7-7-69.
- 902,029. EF AND DESIGN. Environmental Farms, Inc. SN 336,980. Pub. 8-25-70. Filed 9-4-69.
- 902,030. CERAMIC-TAB. Corning Glass Works. SN 341,505. Pub. 8-25-70. Filed 10-23-69.
- 902,031. RINK. Rink Corporation. SN 342,900. Pub. 8-25-70. Filed 11-6-69.
- 902,032. APA. American Plywood Association. SN 349,812. COLLECTIVE MARK. Pub. 8-25-70. Filed 1-28-70.
- 902,033. EZEE-DRY. Fuqua Industries, Inc., d.b.a. Stormor, Inc. SN 352,956. Pub. 8-25-70. Filed 3-3-70.
- 902,034. FLAIR-FOLD. Justice Manufacturing Co., Inc. SN 352,965. Pub. 8-25-70. Filed 3-3-70.
- 902,035. ENVEL AND DESIGN. Ben Mayer Design, Inc. SN 352,969. Pub. 8-25-70. Filed 3-3-70.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 901,978. (See Class 2 for this trademark.)
- 902,036. ZENITH. Zenith Radio Corporation. MULTIPLE CLASS (Classes 13, 21, and 36). SN 269,594. Pub. 8-25-70. Filed 4-19-67.

- 902,037. VARI-TIME. Toro Manufacturing Corporation. SN 310,508. Pub. 8-25-70. Filed 10-24-68.
- 902,038. MONEX. Monex Corporation. SN 319,552. Pub. 8-25-70. Filed 2-19-69.
- 902,039. IRON DUKE PICTORIAL DESIGN. Riveting Systems Limited. MULTIPLE CLASS (Classes 13 and 23). SN 320,381. Pub. 8-25-70. Filed 2-28-69.
- 902,040. QUICK SAFE ETC. AND CHAIN DESIGN. Dixon Valve & Coupling Co. SN 332,813. Pub. 8-25-70. Filed 7-17-69.
- 902,041. MISCELLANEOUS DESIGN. Wrought Washer Mfg. Co. SN 339,985. Pub. 8-25-70. Filed 10-6-69.
- 902,042. STAR. Fiber Glass Systems, Inc. SN 345,893. Pub. 8-25-70. Filed 12-11-69.

Class 14—Metals and Metal Castings and Forgings

- 902,026. (See Class 12 for this trademark.)
- 902,043. TUFF-BRAZE. Baldwin Steel Company. SN 336,405. Pub. 8-25-70. Filed 8-27-69.

Class 15—Oils and Greases

- 902,044. EXXON. Standard Oil Company. SN 296,761. Pub. 8-25-70. Filed 4-29-68.
- 902,045. SOC AND DESIGN. Southland Oil Corporation. SN 320,187. Pub. 8-25-70. Filed 2-26-69.
- 902,046. C & F BANNER AND DESIGN. Clarkson & Ford Co. SN 325,172. Pub. 8-25-70. Filed 4-22-69.
- 902,047. CONDEX. Sun Oil Company. SN 337,718. Pub. 8-25-70. Filed 9-11-69.
- 902,048. KLEENRING. Sun Oil Company. SN 337,721. Pub. 8-25-70. Filed 9-11-69.
- 902,049. PIERRE MARCHANT. Essex Manufacturing Co. SN 339,871. Pub. 8-25-70. Filed 10-6-69.
- 902,050. COSMOS. Standard Oil Company. SN 347,008. Pub. 8-25-70. Filed 12-23-69.
- 902,051. TRIPLE X. Triple-X Chemical Laboratories, Inc. SN 360,168. Pub. 8-25-70. Filed 5-18-70.

Class 16—Protective and Decorative Coatings

- 902,052. EFFECTS UNLIMITED AND DESIGN. Alfred Jutzl & Associates, Inc., d.b.a. Effects Unlimited. MULTIPLE CLASS (Classes 16, 21, and 100). SN 335,640. Pub. 8-25-70. Filed 8-19-69.
- 902,053. LIEN AND DESIGN. Lien Chemical Company. SN 359,375. Pub. 8-25-70. Filed 5-11-70.

Class 17—Tobacco Products

- 902,054. CONQUISTADORES. Baynk Cigars Incorporated. SN 296,509. Pub. 4-8-69. Filed 4-25-68.
- 902,055. ANZAC. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V. SN 359,834. Pub. 8-25-70. Filed 5-15-70.
- 902,056. RED LINE. American Brands, Inc. SN 359,949. Pub. 8-25-70. Filed 5-18-70.
- 902,057. SAUSALITOS. Consolidated Cigar Corporation. SN 360,411. Pub. 8-25-70. Filed 5-21-70.

- 902,058. TAHOE TIPS. Consolidated Cigar Corporation. SN 360,410. Pub. 8-25-70. Filed 5-21-70.
 902,059. 3X. American Brands, Inc. SN 360,619. Pub. 8-25-70. Filed 5-25-70.

Class 18—Medicines and Pharmaceutical Preparations

- 902,060. ALVA-TRANQUIL. Emile H. Gerchenson. SN 296,421. Pub. 12-9-69. Filed 4-24-68.
 902,061. PRO-SLIM. The J. B. Williams Company, Inc. SN 296,905. Pub. 9-2-69. Filed 4-29-68.
 902,062. PINE-SPA. Majestic Drug Co., Inc. SN 304,011. Pub. 8-25-70. Filed 8-7-68.
 902,063. JAPANESE LETTERS. Kabushiki Kaisha Yama-sakitelokado. SN 314,799. Pub. 8-25-70. Filed 12-18-68.
 902,064. OVULEN-2S. G. D. Searle & Co. SN 319,641. Pub. 8-25-70. Filed 2-19-69.
 902,065. LEGALON. Dr. Madaus & Co. SN 330,370. Pub. 8-25-70. Filed 6-18-69.
 902,066. PROTECT-A-CARE. Protect-A-Care, Inc. SN 330,415. Pub. 8-25-70. Filed 6-18-69.
 902,067. COOPER CANDY. The O. A. Cooper Company. SN 330,446. Pub. 1-13-70. Filed 6-19-69.
 902,068. CRASNITIN. Farbenfabriken Bayer Aktiengesellschaft. SN 331,603. Pub. 8-25-70. Filed 7-2-69.
 902,069. CALBIO. Calbiochem. SN 343,655. Pub. 8-25-70. Filed 11-17-69.
 902,070. CORTIGEL-SO. Savage Laboratories, Inc. SN 345,206. Pub. 8-25-70. Filed 12-3-69.
 902,071. VULVAN. Arnar-Stone Laboratories, Inc. SN 345,291. Pub. 8-25-70. Filed 12-4-69.
 902,072. INNOVETTES. American Home Products Corporation. SN 349,098. Pub. 8-25-70. Filed 1-21-70.
 902,073. NOVETTES. American Home Products Corporation. SN 349,100. Pub. 8-25-70. Filed 1-21-70.
 902,074. ULTRINASE. The Upjohn Company. SN 350,438. Pub. 8-25-70. Filed 2-4-70.
 902,075. LOCID. Smith Kline & French Laboratories. SN 350,799. Pub. 8-25-70. Filed 5-15-70.
 902,076. ACTIGON. American Home Products Corporation. SN 360,406. Pub. 8-25-70. Filed 5-21-70.
 902,077. PACAM. Smith Kline & French Laboratories. SN 360,526. Pub. 8-25-70. Filed 5-22-70.

Class 19—Vehicles

- 902,078. BOLENS. FMC Corporation. MULTIPLE CLASS (Classes 19 and 23). SN 302,886. Pub. 8-25-70. Filed 7-17-68.
 902,079. ACTION-AGE. Action-Age, Inc., assignee of Action-Age, Incorporated. SN 316,512. Pub. 8-25-70. Filed 1-14-69.
 902,080. "SUR-LOCK TOPPER." Del Krome Corp. SN 321,047. Pub. 8-25-70. Filed 3-7-69.
 902,081. TWYNAIR. Peters and Russell, Inc. SN 324,745. Pub. 8-25-70. Filed 4-16-69.
 902,082. BE A SAILOR . . . WITHOUT A TRAILER! Benair Boats, Inc. SN 329,219. Pub. 8-25-70. Filed 6-5-69.
 902,083. DURACHROME. Progressive Yacht Hardware International. SN 330,953. Pub. 8-25-70. Filed 6-25-69.
 902,084. TOOL WAGON. Wells Cargo, Inc. SN 333,465. Pub. 8-25-70. Filed 7-24-69.
 902,085. EXPRESS WAGON. Wells Cargo, Inc. SN 333,466. Pub. 8-25-70. Filed 7-24-69.
 902,086. WORK WAGON. Wells Cargo, Inc. SN 333,467. Pub. 8-25-70. Filed 7-24-69.

- 902,087. DETOMASO. Detomaso Automobili S.p.A. SN 339,153. Pub. 8-25-70. Filed 9-29-69.
 902,088. SUNCHASER. North American Boat Corporation. SN 347,523. Pub. 8-25-70. Filed 12-31-69.
 902,089. OFFSHORE. North American Boat Corporation. SN 347,524. Pub. 8-25-70. Filed 12-31-69.
 902,090. PEA PICKER. Schwinn Bicycle Company. SN 348,181. Pub. 8-25-70. Filed 1-9-70.
 902,091. RANGER. Howard A. Smith and Shirley C. Smith (joint owners), d.b.a. Ranger Fiberglass Boats. SN 349,000. Pub. 8-25-70. Filed 1-19-70.
 902,092. OVERLAND AND DESIGN. Overland Manufacturing, Inc. SN 349,378. Pub. 8-25-70. Filed 1-22-70.
 902,093. TOURMOBILE. Minibus, Inc. SN 351,502. Pub. 8-25-70. Filed 2-16-70.
 902,094. BOOT-LIFT. Martin Engineering Company. SN 353,374. Pub. 8-25-70. Filed 3-9-70.
 902,095. DUESENBERG. Duesenberg Corporation. SN 360,042. Pub. 8-25-70. Filed 5-18-70.
 902,096. TEMPO. Ford Motor Company. SN 360,227. Pub. 8-25-70. Filed 5-19-70.
 902,097. ROLLY TASKER. Rolly Tasker Sails, Inc. SN 360,291. Pub. 8-25-70. Filed 5-20-70.
 902,098. GEORGETOWN. Liberty Homes, Inc. SN 360,567. Pub. 8-25-70. Filed 5-22-70.
 902,099. SCULPTURA. Rubbermaid Incorporated. SN 360,588. Pub. 8-25-70. Filed 5-22-70.

Class 21—Electrical Apparatus, Machines, and Supplies

- 902,036. (See Class 13 for this trademark.)
 902,032. (See Class 16 for this trademark.)
 902,100. EMDEKO. Emdeko International, Inc., assignee of National Housewares, Inc. SN 262,431. Pub. 10-17-67. Filed 1-12-67.
 902,101. PATHE ELECTRONICS AND DESIGN. Pathe Electronics Manufacturing Company, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 290,042. Pub. 8-25-70. Filed 2-1-68.
 902,102. VIAPHONE. Viaphone, Inc. SN 317,167. Pub. 8-25-70. Filed 1-21-69.
 902,103. PAGEFILE. Visual Electronics Corporation. SN 323,493. Pub. 8-25-70. Filed 4-2-69.
 902,104. I. Intel Corporation. SN 325,489. Pub. 8-25-70. Filed 4-24-69.
 902,105. SUPER K-500. S. S. Kresge Company. SN 327,025. Pub. 8-25-70. Filed 5-12-69.
 902,106. ULTRA. American Photocopy Equipment Company. SN 329,424. Pub. 8-25-70. Filed 6-9-69.
 902,107. AIREX OF OHIO. S & A Electronics, Inc., d.b.a. Airex of Ohio Division. SN 330,777. Pub. 8-25-70. Filed 6-23-69.
 902,108. JETCO. Jeteo Electronic Industries, Inc. SN 331,908. Pub. 8-25-70. Filed 7-7-69.
 902,109. LADY ASCOT. Ascot Sales Ltd. SN 332,283. Pub. 8-25-70. Filed 7-11-69.
 902,110. PERMA-PAC. Wehr Corporation. SN 337,844. Pub. 8-25-70. Filed 9-12-69.
 902,111. MINILEVER. Becton, Dickinson Electronics Company, assignee of Endevco Corporation, d.b.a. The Digatron Company. SN 338,235. Pub. 8-11-70. Filed 9-18-69.
 902,112. THE ORIGINAL BLACK BOX. EH Distributors, Inc. SN 342,151. Pub. 8-25-70. Filed 10-30-69.
 902,113. BARK-A-TROL. Wands, Inc. SN 345,774. Pub. 8-25-70. Filed 12-10-69.
 902,114. VADIC AND DESIGN. The Vadle Corporation. SN 347,182. Pub. 8-25-70. Filed 12-29-69.

- 902,115. SONA STREAM. Sona Stream Corporation. SN 350,192. Pub. 8-25-70. Filed 2-2-70.
 902,116. RESILITE. McGraw-Edison Company. SN 350,762. Pub. 8-25-70. Filed 2-6-70.
 902,117. UNIMAX. Unimax Switch Corporation. SN 351,850. Pub. 8-25-70. Filed 2-19-70.
 902,118. NECCOTHERM. McGraw-Edison Company. SN 353,536. Pub. 8-25-70. Filed 3-9-70.
 902,119. SPITFIRE. The Goodyear Tire & Rubber Company. SN 354,425. Pub. 8-25-70. Filed 3-18-70.
 902,120. 915 SUBURBAN. Pinkerton's, Inc. SN 354,516. Pub. 8-25-70. Filed 3-18-70.

Class 22—Games, Toys, and Sporting Goods

- 902,121. WHITMAN. Whitman Publishing Company. SN 278,334. Pub. 10-7-69. Filed 8-15-67.
 902,122. STOW-LITE. Stow-A-Way Products Company, Inc. MULTIPLE CLASS (Classes 22 and 46). SN 301,998. Pub. 8-25-70. Filed 7-5-68.
 902,123. THE IDIOT STICK. Fred Weatherford, d.b.a. Weatherford Enterprises. SN 314,375. Pub. 8-25-70. Filed 12-12-68.
 902,124. DEFENDER. Defender, Inc. MULTIPLE CLASS (Classes 22 and 44). SN 318,766. Pub. 8-25-70. Filed 2-10-69.
 902,125. TOYS "R" US! Children's Supermart, Inc. SN 320,104. Pub. 9-2-69. Filed 3-19-69.
 902,126. SPELL-A-RAMA. Charles Hannon. SN 321,798. Pub. 8-25-70. Filed 3-14-69.
 902,127. BIG LITTLE BOOK. Western Publishing Company, Inc. MULTIPLE CLASS (Classes 23 and 38). SN 322,022. Pub. 8-25-70. Filed 3-18-69.
 902,128. NURSERY PETS. Kenner Products Company. SN 323,306. Pub. 8-25-70. Filed 4-1-69.
 902,129. LANDMARKS OF AMERICA. The Franklin Mint, Inc. SN 328,693. Pub. 8-25-70. Filed 5-29-69.
 902,130. EPOCH AND DESIGN. Epoch Company Ltd. SN 331,277. Pub. 8-25-70. Filed 6-30-69.
 902,131. CARV-WOOD. The Art Award Co., Inc. SN 334,038. Pub. 8-25-70. Filed 7-31-69.
 902,132. MAGAZINE SERIES. Eldon Industries, Inc. SN 339,667. Pub. 8-25-70. Filed 10-3-69.
 902,133. BIG BEND. Eldon Industries, Inc. SN 339,668. Pub. 8-25-70. Filed 10-3-69.
 902,134. SCUBA SCOUT. Eldon Industries, Inc. SN 339,669. Pub. 8-25-70. Filed 10-3-69.
 902,135. EXER-JOG. Dynamic Classics, Ltd. SN 345,410. Pub. 8-25-70. Filed 12-5-69.
 902,136. PUT-A-PATCH. Rainbow Crafts, Inc. SN 352,306. Pub. 8-25-70. Filed 2-25-70.
 902,137. PLAY-DOH FARM SET. Rainbow Crafts, Inc. SN 352,307. Pub. 8-25-70. Filed 2-25-70.
 902,138. SEA DEVILS. Mattel, Inc. SN 359,965. Pub. 8-18-70. Filed 5-18-70.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 902,039. (See Class 13 for this trademark.)
 902,078. (See Class 19 for this trademark.)
 902,139. SNOW BALL. Clawson Machine Co. SN 301,411. Pub. 8-25-70. Filed 6-26-68.
 902,140. ELECTRI-MATIC. Logan Engineering Co. SN 303,619. Pub. 8-25-70. Filed 7-25-68.
 902,141. KEY-LECTRIC. Toro Manufacturing Corporation. SN 310,507. Pub. 8-25-70. Filed 10-24-68.
 902,142. D/B AND DESIGN. Dunham-Bush, Inc. SN 315,662. Pub. 6-9-70. Filed 12-30-68.

- 902,143. DIS-EYE-LIKE. Topps Photos, Inc. SN 317,163. Pub. 8-25-70. Filed 1-21-69.
 902,144. VIGOR AND DESIGN. B. Jadow and Sons, Inc. SN 320,348. Pub. 8-25-70. Filed 2-28-69.
 902,145. AIRETOOL. Dresser Industries, Inc. SN 322,568. Pub. 8-25-70. Filed 3-24-69.
 902,146. DAVIDSON. American Type Founders Co., Inc. SN 325,116. Pub. 8-25-70. Filed 2-24-69.
 902,147. W & H PORTA FILTER. Greer Hydraulics, Inc., assignee of West & Heindinger, Inc. SN 325,318. Pub. 8-25-70. Filed 4-23-69.
 902,148. P.D.Q. Robert G. Evans Company. SN 325,334. Pub. 8-25-70. Filed 4-23-69.
 902,149. JET. Equipment Importers, Inc. SN 325,962. Pub. 8-25-70. Filed 4-30-69.
 902,150. GOLD STANDARD GS AND SHIELD DESIGN. Gold Bell Enterprises, Inc., d.b.a. Gold Standard Products. SN 327,269. Pub. 8-25-70. Filed 5-14-69.
 902,151. SYDCO. Sydnor Hydrodynamics Inc. SN 327,521. Pub. 8-25-70. Filed 5-16-69.
 902,152. TRANS UNION. Trans Union Corporation, assignee of Union Tank Car Company. SN 328,255. Pub. 8-25-70. Filed 5-26-69.
 902,153. MINERDYNE. Cutler-Hammer, Inc. SN 328,673. Pub. 8-25-70. Filed 5-29-69.
 902,154. CIGOL-MATIC. Logie Display Corporation. SN 328,869. Pub. 8-25-70. Filed 6-2-69.
 902,155. BOSDO. Dognin Societe Anonyme. SN 329,611. Pub. 8-25-70. Filed 6-10-69.
 902,156. MAXITORQ. The Carlyle Johnson Machine Company. SN 329,836. Pub. 8-25-70. Filed 6-12-69.
 902,157. GLOMER A. Glomera Aktiengesellschaft. SN 335,341. Pub. 8-25-70. Filed 8-14-69.
 902,158. ECONO-PAK. Waterbury Hydraulic & Pollution Sciences, Inc., by change of name from Waterbury Hydraulic Industries, Inc. SN 336,199. Pub. 8-25-70. Filed 8-25-69.
 902,159. VFC. Barber-Greene Company. SN 338,745. Pub. 8-25-70. Filed 9-24-69.
 902,160. MINI-MITTER. California Car Wash Systems, Inc. SN 339,849. Pub. 8-25-70. Filed 10-6-69.
 902,161. AMHI AND DESIGN. Air-Mo Hydraulics, Inc. SN 340,484. Pub. 8-25-70. Filed 10-13-69.
 902,162. ROSE SHADOW. Onelda Ltd. SN 340,587. Pub. 8-25-70. Filed 10-13-69.
 902,163. FYH. Nippon Pillow Block Mfg. Co., Ltd. SN 348,817. Pub. 8-25-70. Filed 11-26-69.
 902,164. COUNTRY SQUIRE AND DESIGN. Regent Sheffield, Ltd. SN 352,429. Pub. 8-25-70. Filed 2-26-70.
 902,165. PERF-A-TORQ. The X-4 Corporation. SN 354,374. Pub. 8-25-70. Filed 3-18-70.
 902,166. BIG DADDY AND DESIGN. Midas-International Corp. SN 354,865. Pub. 8-25-70. Filed 3-23-70.
 902,167. INTERNATIONAL. International Harvester Company. SN 359,292. Pub. 8-25-70. Filed 5-11-70.
 902,168. SPIN-SURE. Domain Industries, Inc., by change of name from Doughboy Industries, Inc. SN 360,509. Pub. 8-25-70. Filed 5-22-70.

Class 24—Laundry Appliances and Machines

- 902,169. MI-T-FOLD. Ametek, Inc. SN 354,064. Pub. 8-18-70. Filed 3-16-70.

Class 26—Measuring and Scientific Appliances

- 902,101. (See Class 21 for this trademark.)
 902,170. COPEX. Gevaert-Agfa N.V. SN 295,225. Pub. 8-25-70. Filed 4-9-68.

- 902,171. PB AND DESIGN. CEMCO, Inc., by change of name from Continental Electronics Manufacturing Company. SN 307,828. Pub. 8-25-70. Filed 9-20-68.
- 902,172. VIATRON SYSTEM 21 AND DESIGN. Viatron Computer Systems Corporation. SN 314,279. Pub. 8-25-70. Filed 12-11-68.
- 902,173. MAUN. Mann Industries Limited. SN 318,663. Pub. 8-25-70. Filed 2-7-69.
- 902,174. ROCKSYN. Rockwell Manufacturing Company. SN 320,646. Pub. 8-25-70. Filed 3-3-69.
- 902,175. COLORVERTER. Ferrex Corporation. SN 329,349. Pub. 8-18-70. Filed 6-6-69.
- 902,176. CENTRI-SPRAY. Centri-Spray Corporation. SN 336,368. Pub. 8-25-70. Filed 8-27-69.
- 902,177. FORMOL. Data Instruments Co. SN 337,897. Pub. 8-25-70. Filed 9-15-69.
- 902,178. LADY OXWALL. Oxwall Tool Co., Ltd. SN 340,038. Pub. 8-25-70. Filed 10-7-69.
- 902,179. T O N D I C A T O R. Cincinnati, Incorporated. SN 341,503. Pub. 8-25-70. Filed 10-23-69.
- 902,180. BUTTERMASTER. American Buttermaster Corporation. SN 341,612. Pub. 8-25-70. Filed 10-24-69.
- 902,181. TURNABOUTS. Ben-Hur Products, Inc. SN 341,782. Pub. 8-25-70. Filed 10-27-69.
- 902,182. DELTEK. Dodwell and Company, Limited. SN 345,752. Pub. 8-25-70. Filed 12-10-69.
- 902,183. COLOR-SCALE. David P. Nelson, d.b.a. Force Flow Equipment. SN 346,281. Pub. 8-25-70. Filed 12-15-69.
- 902,184. WANG. Wang Laboratories, Inc. SN 350,634. Pub. 8-25-70. Filed 2-5-70.
- 902,185. CONVINCOR. Century Wheels, Inc. SN 360,408. Pub. 8-25-70. Filed 5-21-70.

Class 27—Horological Instruments

- 902,186. MULTISTAR. Mido G. Schaeren & Co. S.A. SN 329,578. Pub. 8-25-70. Filed 6-12-69.
- 902,187. BASIS. Basis Watch, M. Thommen, Uhrenfabrik Tecknau. SN 335,934. Pub. 8-25-70. Filed 8-22-69.
- 902,188. TECHNOTRON. Gebrüder Gunzinger AG., Uhrenfabrik Technos Welschenrohr. SN 335,978. Pub. 8-25-70. Filed 8-22-69.
- 902,189. PRESTO. Jules Racine & Co., Inc. SN 355,323. Pub. 8-25-70. Filed 3-30-70.

Class 28—Jewelry and Precious-Metal Ware

- 902,190. CHANEL. Chanel, Inc. SN 339,492. Pub. 8-25-70. Filed 5-28-69.

Class 29—Brooms, Brushes, and Dusters

- 902,191. FINEPOINT. Art & Sign Brush Manufacturing Corporation. SN 326,028. Pub. 8-18-70. Filed 5-1-69.
- 902,192. MISCELLANEOUS DESIGN. Sona Stream Corporation. SN 350,191. Pub. 8-25-70. Filed 2-2-70.

Class 31—Filters and Refrigerators

- 902,193. ZIPAX. E. I. du Pont de Nemours and Company. SN 356,554. Pub. 8-25-70. Filed 4-13-70.
- 902,194. DU PONT AND DESIGN. E. I. du Pont de Nemours and Company. SN 356,557. Pub. 8-25-70. Filed 4-13-70.

Class 32—Furniture and Upholstery

- 902,195. PALLETOWER. Palletower Limited. SN 313,767. Pub. 8-25-70. Filed 11-29-68.
- 902,196. CAPITOL BEDDING AND DESIGN. G. W. Onthank Company. SN 329,882. Pub. 8-25-70. Filed 6-12-69.
- 902,197. GARDENCOURT. H. J. Scheirich Company. SN 337,466. Pub. 8-25-70. Filed 9-9-69.
- 902,198. ARMED GUARDS. Plastiglilte Manufacturing Corporation. SN 337,562. Pub. 8-25-70. Filed 9-15-69.
- 902,199. WONDA WHEEL AND DESIGN. Knickerbocker Bed Spring Company, d.b.a. Knickerbocker Bed Company. SN 339,572. Pub. 8-25-70. Filed 10-2-69.
- 902,200. R-KIVE II. Fellowes Manufacturing Company. SN 348,210. Pub. 8-25-70. Filed 1-12-70.
- 902,201. DYNAFORM. Eastern Steel Rack Co. SN 348,655. Pub. 8-25-70. Filed 1-15-70.
- 902,202. LESSON BANK. Instructional Concepts, Inc. SN 351,946. Pub. 8-25-70. Filed 2-20-70.

Class 34—Heating, Lighting, and Ventilating Apparatus

- 902,203. IWATANI AND DESIGN. Iwatani & Co. Ltd. SN 251,308. Pub. 8-25-70. Filed 7-29-66.
- 902,204. HIGH SPEED. E. I. du Pont de Nemours and Company. SN 327,203. Pub. 8-25-70. Filed 5-14-69.
- 902,205. KLEANROL. E. I. du Pont de Nemours and Company. SN 331,276. Pub. 8-25-70. Filed 6-30-69.
- 902,206. LITTLE DUTCHMAN. Dolly Madison Industries, Inc. SN 349,195. Pub. 6-30-70. Filed 1-21-70.
- 902,207. APOLLO. American Standard Inc. SN 351,597. Pub. 8-25-70. Filed 2-17-70.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 902,208. SPD. National Cooperatives, Inc. SN 360,841. Pub. 8-25-70. Filed 5-26-70.

Class 36—Musical Instruments and Supplies

- 902,036. (See Class 13 for this trademark.)
- 902,209. DURATAPE. P. R. MALLORY & Co. Inc. SN 333,327. Pub. 8-25-70. Filed 7-24-69.
- 902,210. CAPITOL AND DESIGN. Capitol Records, Inc. SN 334,553. Pub. 8-25-70. Filed 8-6-69.
- 902,211. VOICEBOOKS. Nash Publishing Company, d.b.a. Nash Voicebooks. SN 343,471. Pub. 8-25-70. Filed 11-14-69.
- 902,212. ASTRO RECORDS AND DESIGN. Mercado De Discos, Inc. SN 352,171. Pub. 8-25-70. Filed 2-24-70.

Class 37—Paper and Stationery

- 902,213. STICKADOO. Avery Products Corporation. MULTIPLE CLASS (Classes 37 and 38). SN 305,599. Pub. 8-25-70. Filed 8-21-68.
- 902,214. FLOKOTE. Scott Paper Company. SN 334,869. Pub. 6-2-70. Filed 8-8-69.
- 902,215. TALL TAILS. Chrono Graphics, Ltd. SN 338,831. Pub. 8-25-70. Filed 11-20-69.

- 902,216. FLAIR AND DESIGN. The Gillette Company, d.b.a. The Paper Mate Company. SN 343,698. Pub. 8-25-70. Filed 11-17-69.

Class 38—Prints and Publications

- 902,127. (See Class 22 for this trademark.)
- 902,213. (See Class 37 for this trademark.)
- 902,217. COLOR PAGES. Directory Publishers, Inc. SN 244,809. Pub. 8-25-70. Filed 5-3-66.
- 902,218. MISCELLANEOUS DESIGN. Specialties, Inc. SN 301,972. Pub. 8-25-70. Filed 7-3-68.
- 902,219. EDITIONES HERDER AND DESIGN. Literary Institute Ltd. SN 303,056. Pub. 8-25-70. Filed 7-18-68.
- 902,220. HARBIN. Clyde A. Harbin. MULTIPLE CLASS (Classes 38, 46, and 101). SN 314,125. Pub. 8-25-70. Filed 12-11-68.
- 902,221. PLANAGEMENT. Robert M. Randolph, d.b.a. Planagement Associates. SN 323,767. Pub. 8-25-70. Filed 4-7-69.
- 902,222. INDEX POWER. Carrollton Press, Inc. SN 329,687. Pub. 8-25-70. Filed 6-11-69.
- 902,223. GUIDE TO SCIENTIFIC INSTRUMENTS. American Association for the Advancement of Science. SN 343,812. Pub. 8-25-70. Filed 11-18-69.
- 902,224. AAAS 1848 AND DESIGN. American Association for the Advancement of Science. SN 343,815. Pub. 8-25-70. Filed 11-18-69.
- 902,225. TICKETRON. Ticket Reservation Systems, Inc. SN 344,465. Pub. 8-25-70. Filed 11-24-69.
- 902,226. IN TOUCH. Diana Lyons. SN 347,293. Pub. 8-25-70. Filed 12-29-69.
- 902,227. COMPUSPORT. III-Score Enterprises. SN 358,910. Pub. 8-25-70. Filed 5-6-70.

Class 39—Clothing

- 901,979. (See Class 3 for this trademark.)
- 901,981. (See Class 3 for this trademark.)
- 902,228. FINN-FLARE. Team Oy Flinn-Flare, by change of name from Oy Salon Lenkitukku Flinn-Flare. SN 298,855. Pub. 8-25-70. Filed 5-22-68.
- 902,229. MANDARIN MILLS. Mandarin Mills, Inc. SN 309,599. Pub. 8-25-70. Filed 10-14-68.
- 902,230. REBEL THE REBEL BOOT. Plastic Research and Development Corporation. SN 324,491. Pub. 9-1-70. Filed 4-14-69.
- 902,231. K DESIGN. Kawasaki Motors Corp. SN 327,634. Pub. 8-25-70. Filed 5-19-69.
- 902,232. A AND DESIGN. California Forms, Inc. SN 332,310. Pub. 8-25-70. Filed 7-11-69.
- 902,233. THI LINE. Joseph Bancroft & Sons Company. SN 338,529. Pub. 8-25-70. Filed 9-22-69.
- 902,234. LANSIL. Lansil Limited. MULTIPLE CLASS (Classes 39, 42, and 43). SN 342,924. Pub. 8-25-70. Filed 11-7-69.
- 902,235. ZIG-ZAG. TAH Inc. SN 343,013. Pub. 8-25-70. Filed 11-7-69.
- 902,236. DOODLE BUGS. Royal Park Fashions Inc. SN 343,756. Pub. 8-25-70. Filed 11-17-69.
- 902,237. WASH HUMS AND DESIGN. J. W. Bray Company. Inc. SN 348,255. Pub. 8-25-70. Filed 1-12-70.
- 902,238. NIGHTIE GLOVE. Consolidated Foods Corporation. SN 349,915. Pub. 8-25-70. Filed 1-29-70.
- 902,239. SOLAR KINI. Calne's Mutiny, Inc. SN 350,049. Pub. 8-25-70. Filed 1-30-70.
- 902,240. SOLO KINI. Calne's Mutiny, Inc. SN 350,050. Pub. 8-25-70. Filed 1-30-70.

- 902,241. PROJECTIONS. Sharon Shoe Corp. SN 350,130. Pub. 8-25-70. Filed 1-30-70.
- 902,242. RIGHT THIS WAY. Tiny-Town Togs, Inc. SN 350,147. Pub. 8-25-70. Filed 1-30-70.
- 902,243. LOVEWEAR. The Lovable Company. SN 350,999. Pub. 8-25-70. Filed 2-10-70.
- 902,244. MAGIC ROLL. Thorio, Inc. SN 351,236. Pub. 8-25-70. Filed 2-12-70.
- 902,245. DOVEPRINT. Swanee Paper Company, Inc. SN 351,280. Pub. 8-25-70. Filed 2-13-70.
- 902,246. LOV-IT. Lov-It Creations, Inc. SN 351,488. Pub. 8-25-70. Filed 2-16-70.
- 902,247. BUNDLE AND STICK DESIGN. Manhattan Industries, Inc. SN 359,793. Pub. 8-25-70. Filed 5-15-70.

Class 40—Fancy Goods, Furnishings, and Notions

- 901,981. (See Class 3 for this trademark.)
- 902,248. JOYE. Paragon Hair Goods, Ltd. SN 323,356. Pub. 5-19-70. Filed 4-1-69.
- 902,249. HOPE. Abbott Tresses, Inc. SN 343,238. Pub. 8-25-70. Filed 11-12-69.
- 902,250. MERNA. Abbott Tresses, Inc. SN 343,239. Pub. 8-25-70. Filed 11-12-69.

Class 41—Canes, Parasols, and Umbrellas

- 901,981. (See Class 3 for this trademark.)

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 902,234. (See Class 39 for this trademark.)
- 902,251. EXXON. Standard Oil Company. SN 296,755. Pub. 6-30-70. Filed 4-29-68.
- 902,252. TEMPTIERRA. The Bunker-Ramo Corporation. SN 338,884. Pub. 8-25-70. Filed 9-25-69.
- 902,253. VELVETyme. Platt Segall & Sons, Inc. SN 339,353. Pub. 8-25-70. Filed 9-30-69.
- 902,254. PRANCIAL AND DESIGN. Societe Industrielle des Etablissements B.V.R. (Blais-Mousseron-L. Villemot-A. Rondeau). SN 339,362. Pub. 8-25-70. Filed 9-30-69.
- 902,255. B DESIGN. Berven Carpets Corporation. SN 342,352. Pub. 8-25-70. Filed 11-3-69.
- 902,256. MILLI-PLUS. Deering Milliken, Inc. SN 351,752. Pub. 8-25-70. Filed 2-19-70.
- 902,257. CURIOSITY. Deering Milliken, Inc. SN 351,868. Pub. 8-25-70. Filed 2-20-70.
- 902,258. BUTTERSKIN. Deering Milliken, Inc. SN 351,869. Pub. 8-25-70. Filed 2-20-70.
- 902,259. KITCHEN SPLENDOR. E. T. Barwick Industries, Inc. SN 357,553. Pub. 8-25-70. Filed 4-22-70.
- 902,260. ROYAL MANOR. E. T. Barwick Industries, Inc. SN 357,555. Pub. 8-25-70. Filed 4-22-70.
- 902,261. MILLI-TRONIC. Deering Milliken, Inc. SN 358,500. Pub. 8-25-70. Filed 5-1-70.
- 902,262. WEBSTER MILLS AND DESIGN. Webster Mills, Inc. SN 358,680. Pub. 8-25-70. Filed 5-4-70.
- 902,263. COLOR MIST. E. T. Barwick Industries, Inc. SN 359,767. Pub. 8-25-70. Filed 5-15-70.
- 902,264. TROPICAL STAR. E. T. Barwick Industries, Inc. SN 359,768. Pub. 8-25-70. Filed 5-15-70.

- 902,265. STATESMAN. E. T. Barwick Industries, Inc. SN 359,769. Pub. S-25-70. Filed 5-15-70.
- 902,266. SHADOW LAKE. E. T. Barwick Industries, Inc. SN 359,771. Pub. S-25-70. Filed 5-15-70.
- 902,267. MARINA. E. T. Barwick Industries, Inc. SN 359,772. Pub. S-25-70. Filed 5-15-70.
- 902,268. MAGNUM. E. T. Barwick Industries, Inc. SN 359,773. Pub. S-25-70. Filed 5-15-70.
- 902,269. FAME. Deering Milliken, Inc. SN 360,414. Pub. S-25-70. Filed 5-21-70.
- 902,270. FORTUNE. Deering Milliken, Inc. SN 360,415. Pub. S-25-70. Filed 5-21-70.

Class 43—Thread and Yarn

- 902,234. (See Class 39 for this trademark.)
- 902,271. KONTROL. Glen Raven Mills, Inc. SN 329,617. Pub. S-25-70. Filed 6-10-69.

Class 44—Dental, Medical, and Surgical Appliances

- 902,124. (See Class 22 for this trademark.)
- 902,272. PHYSIO SENTINEL. Mennen-Greatbatch Electronics, Inc. SN 313,321. Pub. S-25-70. Filed 11-29-68.
- 902,273. SONOTONE ETC. AND DESIGN. Sonotone Corporation. SN 322,934. Pub. S-25-70. Filed 3-27-69.
- 902,274. CH ETC. AND DESIGN. Chesebrough-Pond's Inc. SN 326,588. Pub. S-25-70. Filed 5-7-69.
- 902,275. TOUCH-MATIC. Sonotone Corporation. SN 342,329. Pub. S-25-70. Filed 10-31-69.
- 902,276. TELEX. The Telex Corporation. SN 342,332. Pub. S-25-70. Filed 10-31-69.
- 902,277. TASSAWAY. Tassette, Inc. SN 343,015. Pub. S-25-70. Filed 11-7-69.
- 902,278. DIALUNG. Becton, Dickinson and Company, assignee of Cardiovascular Electrodynamics, Inc. SN 343,077. Pub. S-25-70. Filed 11-10-69.
- 902,279. CATHLON IV. Johnson & Johnson, d.b.a. Jeleo Laboratories. SN 344,618. Pub. S-25-70. Filed 11-26-69.
- 902,280. PROGRESS MASTER. Laser Systems & Electronics, Inc. SN 345,178. Pub. S-25-70. Filed 12-3-69.
- 902,281. SUPRYLON. J. Pfeiffer & Co. Erlangen Pharmazeutische Werke. SN 347,173. Pub. S-25-70. Filed 12-29-69.
- 902,282. HANDI-CHAIR. Edward J. Trethaway. SN 347,797. Pub. S-25-70. Filed 1-5-70.
- 902,283. SANABAN. Parke, Davis & Company. SN 352,035. Pub. S-25-70. Filed 2-24-70.

Class 45—Soft Drinks and Carbonated Waters

- 902,284. CAD. The Coca-Cola Company. SN 350,418. Pub. S-25-70. Filed 2-4-70.
- 902,285. MACH I. The Coca-Cola Company. SN 350,808. Pub. S-25-70. Filed 2-9-70.
- 902,286. BRIGHT & EARLY. The Coca-Cola Company. SN 360,628. Pub. S-25-70. Filed 5-25-70.

Class 46—Foods and Ingredients of Foods

- 902,122. (See Class 22 for this trademark.)
- 902,220. (See Class 38 for this trademark.)

- 902,287. CUP DESIGN. Intercontinental Coffee Service, Inc. MULTIPLE CLASS (Classes 46 and 100). SN 291,162. Pub. S-25-70. Filed 2-15-68.
- 902,288. FLAVOR MAID AND DESIGN. Flavor Maid Prepared Mixes, Inc. SN 312,884. Pub. S-25-70. Filed 11-22-68.
- 902,289. "1812." John Tobin White, d.b.a. New Orleans Seasoning Co. SN 315,695. Pub. S-25-70. Filed 12-5-68.
- 902,290. GENUINE SOUTH AFRICAN ROCK LOBSTER TAILS ETC. AND DESIGN. South African Frozen Rock Lobster Packers (Pty.) Ltd. SN 317,768. Pub. S-25-70. Filed 1-28-69.
- 902,291. REAL MEAL. Baltz Bros. Packing Company, d.b.a. Baltz Bros. Packing Co. SN 318,887. Pub. S-25-70. Filed 2-11-69.
- 902,292. SPELL-UMMS AND DESIGN. Educator Blseult Company, Incorporated, d.b.a. Educator Blseult Company. SN 323,543. Pub. S-25-70. Filed 4-3-69.
- 902,293. LISTEN. Wileman Bros. & Elliott, Inc. SN 324,553. Pub. S-25-70. Filed 4-14-69.
- 902,294. TAKASAGO. Takeda Chemical Industries, Ltd. SN 324,850. Pub. S-25-70. Filed 4-17-69.
- 902,295. CHEF ANDRE. Armour-Dial, Inc. SN 328,521. Pub. S-25-70. Filed 5-28-69.
- 902,296. TOAST 'EM. General Foods Corporation. SN 331,740. Pub. S-25-70. Filed 7-3-69.
- 902,297. KARO AND LABEL DESIGN. CPC International Inc. SN 332,458. Pub. S-25-70. Filed 7-14-69.
- 902,298. BERRY BOX. Stafford Foods Limited. SN 334,129. Pub. S-25-70. Filed 7-31-69.
- 902,299. TERRY'S YORK. Joseph Terry & Sons Limited. SN 334,140. Pub. S-25-70. Filed 7-31-69.
- 902,300. TERRY YORK AND PALM TREE DESIGN. Joseph Terry & Sons Limited. SN 334,141. Pub. S-25-70. Filed 7-31-69.
- 902,301. SEAKOVE. Nanticoke Seafood Company, Inc. SN 338,925. Pub. S-25-70. Filed 9-25-69.
- 902,302. PIZZA FLIP. Pizza Flip, Inc. SN 339,452. Pub. S-25-70. Filed 10-1-69.
- 902,303. MR. FLIP AND PIZZA GROTESQUE. Pizza Flip, Inc. SN 339,453. Pub. S-25-70. Filed 10-1-69.
- 902,304. ALTLAND HOUSE. Hanover Brands, Incorporated, d.b.a. Hanover Canning Company. SN 339,567. Pub. S-25-70. Filed 10-2-69.
- 902,305. BEAU TREAT. Friendship Dairies, Inc. SN 341,108. Pub. S-25-70. Filed 10-20-69.
- 902,306. FREEZE-GLOW. Harry G. Walter, d.b.a. Scorb Company. SN 341,234. Pub. S-25-70. Filed 10-20-69.
- 902,307. TOP 'N GOOD. Lever Brothers Company. SN 342,209. Pub. S-25-70. Filed 10-31-69.
- 902,308. SNO BOW. Avery Stirratt, d.b.a. Tasty Products Company. SN 343,432. Pub. S-25-70. Filed 11-13-69.
- 902,309. SNO BOW AND DESIGN. Avery Stirratt, d.b.a. Tasty Products Company. SN 343,433. Pub. S-25-70. Filed 11-13-69.
- 902,310. PILLSBURY FARMS AND DESIGN. The Pillsbury Company. SN 346,819. Pub. S-25-70. Filed 12-22-69.
- 902,311. COACH DESIGN. C. Cretors & Co. SN 347,149. Pub. S-25-70. Filed 12-29-69.
- 902,312. KRAZY KRISP. DCA Food Industries, Inc. SN 348,206. Pub. S-25-70. Filed 1-12-70.
- 902,313. THE BIG LOAFER. Gourmet Bakers, Inc. SN 349,460. Pub. S-25-70. Filed 1-23-70.
- 902,314. MANOR HILL. Manor Hill Salad Company, Inc., d.b.a. Manor Hill Salad Co., Inc. and Manor Hill Salad Co. SN 349,485. Pub. S-25-70. Filed 1-23-70.
- 902,315. TIPICO. Rodriguez Hermanos de Cordoba, S.A. SN 349,805. Pub. S-25-70. Filed 1-28-70.
- 902,316. DANKA. General Foods Corporation. SN 351,326. Pub. S-25-70. Filed 2-13-70.
- 902,317. BLOCKADE. Philip Morris Incorporated. SN 351,826. Pub. S-25-70. Filed 2-19-70.

Class 47—Wines

- 902,318. MARCELIN PICASSOL. Etablissements Sardet et Deribaucourt E.S.E.D. SN 342,429. Pub. S-25-70. Filed 11-3-69.
- 902,319. RONDELLAY. United Vintners, Inc., d.b.a. Inglebrook Vineyards. SN 361,248. Pub. S-25-70. Filed 6-1-70.
- 902,320. GRASS VALLEY. United Vintners, Inc., d.b.a. Itallan Swiss Colony. SN 361,250. Pub. S-25-70. Filed 6-1-70.

Class 48—Malt Beverages and Liquors

- 902,321. MISCELLANEOUS DESIGN. Anheuser-Busch, Incorporated. SN 349,568. Pub. S-25-70. Filed 1-26-70.

Class 49—Distilled Alcoholic Liquors

- 902,322. PATRICIAN AND DESIGN. Mediterranean Importing Co., Inc. SN 325,059. Pub. S-18-70. Filed 4-21-69.
- 902,323. CARLOS I. Pedro Domecq, S.A. SN 327,168. Pub. S-25-70. Filed 5-13-69.
- 902,324. BAJAN. Joseph E. Seagram & Sons, Inc. SN 360,940. Pub. S-25-70. Filed 5-27-70.

Class 50—Merchandise Not Otherwise Classified

- 901,967. (See Class 1 for this trademark.)
- 901,973. (See Class 2 for this trademark.)
- 902,325. FAMOUS FACTS & FACES. The Franklin Mint, Inc. SN 308,687. Pub. S-25-70. Filed 10-2-68.
- 902,326. THE FAMILY CHANUKA BUSH AND DESIGN. Herman Silverman, assignee of Sylvan Pools, Inc. SN 311,949. Pub. S-25-70. Filed 11-12-68.
- 902,327. ENCANTO. David Pollat, d.b.a. Pollat Artesano. SN 313,772. Pub. S-25-70. Filed 10-4-68.
- 902,328. PRIDE OF THE RANCH. Hawkeye Steel Products, Incorporated. SN 320,816. Pub. S-25-70. Filed 3-5-69.
- 902,329. GOING PLACES. The Franklin Mint, Inc. SN 327,614. Pub. S-25-70. Filed 5-19-69.
- 902,330. LANDMARKS OF AMERICA. The Franklin Mint, Inc. SN 328,690. Pub. S-25-70. Filed 5-29-69.
- 902,331. EYE BEAMER. Albert L. Wilson. SN 329,146. Pub. S-25-70. Filed 6-4-69.
- 902,332. PEOPLE PEEKER. Albert L. Wilson. SN 329,147. Pub. S-25-70. Filed 6-4-69.
- 902,333. BOND SMOOTH TWIST. Continental Can Company, Inc. SN 333,101. Pub. S-25-70. Filed 7-22-69.
- 902,334. EYEWITNESS. The Franklin Mint, Inc. SN 336,438. Pub. S-25-70. Filed 8-27-69.
- 902,335. THE FRANKLIN MINT THE WORLD'S FOREMOST PRIVATE MINT. The Franklin Mint, Inc. SN 337,651. Pub. S-25-70. Filed 9-11-69.
- 902,336. TENAFLOWERS. Henry Ten Hagen, d.b.a. Teunflowers Company. SN 342,439. Pub. S-25-70. Filed 11-3-69.
- 902,337. STRING-A-TREE. Wham-O Mfg. Co. SN 360,438. Pub. S-25-70. Filed 5-21-70.

Class 51—Cosmetics and Toilet Preparations

- 901,981. (See Class 3 for this trademark.)
- 902,338. POTEN. Kare, Inc. SN 307,212. Pub. S-25-70. Filed 9-12-68.

- 902,339. ANTI+. Foremost-McKesson, Inc., d.b.a. McKesson Laboratories. SN 348,927. Pub. S-25-70. Filed 1-19-70.
- 902,340. TWICE ON SATURDAY. Carter-Wallace, Inc. SN 358,139. Pub. S-25-70. Filed 4-28-70.
- 902,341. ON SATURDAY. Carter-Wallace, Inc. SN 358,140. Pub. S-25-70. Filed 4-28-70.
- 902,342. SATURDAY MORNING. Carter-Wallace, Inc. SN 358,145. Pub. S-25-70. Filed 4-28-70.
- 902,343. VANISHING POINT. Carter-Wallace, Inc. SN 358,366. Pub. S-25-70. Filed 4-30-70.
- 902,344. SUNBODY. Sterling Drug Inc. SN 358,807. Pub. S-25-70. Filed 5-4-70.

Class 52—Detergents and Soaps

- 901,981. (See Class 3 for this trademark.)
- 902,345. NAVY BRAND. St. Louis Janitor Supply Co., d.b.a. Navy Brand Manufacturing Company. SN 187,806. Pub. S-25-70. Filed 3-2-64.
- 902,346. FA-BOL-US. Sep-Ko Chemicals, Inc. SN 299,043. Pub. S-25-70. Filed 5-24-68.
- 902,347. I.D. Lever Brothers Company. SN 360,285. Pub. S-25-70. Filed 5-20-70.

Service Marks

Class 100—Miscellaneous

- 901,967. (See Class 1 for this trademark.)
- 902,052. (See Class 16 for this trademark.)
- 902,287. (See Class 46 for this trademark.)
- 902,348. ICS. Instrumentation & Control Systems, Inc. SN 282,589. Pub. S-25-70. Filed 10-16-67.
- 902,349. OLD WORLD CHEESE SHOP. Old World Cheese Shop. MULTIPLE CLASS (Classes 100 and 101). SN 292,972. Pub. S-25-70. Filed 3-11-68.
- 902,350. LPM. Lift Parts Mfg., Inc. SN 313,712. Pub. S-25-70. Filed 12-5-68.
- 902,351. AERO AND DESIGN. Aero Enterprises, Inc. MULTIPLE CLASS (Classes 100 and 101). SN 321,373. Pub. S-25-70. Filed 3-11-69.
- 902,352. SWEPCO. Southwestern Electric Power Company. SN 332,160. Pub. S-25-70. Filed 7-9-69.
- 902,353. GIRVES BROWN DERBY AND DESIGN. Brown Derby, Inc. MULTIPLE CLASS (Classes 100 and 101). SN 335,492. Pub. S-25-70. Filed 8-18-69.
- 902,354. SUPCO. Superintendence Company Inc. SN 340,227. Pub. S-25-70. Filed 10-9-69.
- 902,355. U AND DESIGN. Unicare Health Services, Inc. SN 346,437. Pub. S-25-70. Filed 12-17-69.
- 902,356. ESCAPE! Marriott Corporation. SN 351,382. Pub. S-25-70. Filed 2-16-70.

Class 101—Advertising and Business

- 901,967. (See Class 1 for this trademark.)
- 902,220. (See Class 38 for this trademark.)
- 902,349. (See Class 100 for this trademark.)
- 902,351. (See Class 100 for this trademark.)
- 902,353. (See Class 100 for this trademark.)
- 902,357. EDP AND DESIGN. Source EDP, Inc., assignee, by mesne assignment, of EDP Personnel, Inc. SN 252,834. Pub. S-25-68. Filed 8-22-66.

- 902,358. MISCELLANEOUS DESIGN. Stop & Shop, Inc. SN 263,126. Pub. 8-25-70. Filed 1-23-67.
- 902,359. MINI BINGO. Mayfair Productions Ltd., d.b.a. Associated Broadcast Merchandisers. SN 277,960. Pub. 8-25-70. Filed 8-10-67.
- 902,360. GATEWAY PRESS. Gateway Press Incorporated. SN 284,006. Pub. 8-25-70. Filed 11-2-67.
- 902,361. ATU. Auto-Tronix Universal Corporation, assignee, by mesne assignment, of Auto-Tronix Universal Corporation. SN 291,701. Pub. 12-24-68. Filed 2-23-68.
- 902,362. MASCO. Masco Systems Group, Inc. SN 307,036. Pub. 8-25-70. Filed 9-10-68.
- 902,363. HEROES OF THE AMERICAN FRONTIER. The Franklin Mint, Inc., d.b.a. The Franklin Mint. SN 308,690. Pub. 8-25-70. Filed 10-2-68.
- 902,364. ATAR COMPUTER SYSTEMS, INC. AND DESIGN. Atar Computer Systems, Inc. SN 313,670. Pub. 8-25-70. Filed 12-5-68.
- 902,365. COMFORT SUPPLY, INC. BEAR AND ICE DESIGN. Comfort Supply, Inc. SN 313,907. Pub. 8-25-70. Filed 12-0-68.
- 902,366. MISCELLANEOUS DESIGN. Consumers Caravan, Inc. SN 314,531. Pub. 8-25-70. Filed 12-16-68.
- 902,367. DOWNTOWN. Downtown, Inc. SN 315,396. Pub. 8-25-70. Filed 12-30-68.
- 902,368. ARISTACRAFT AND DESIGN. United Sales Associates, Ltd. SN 320,881. Pub. 8-25-70. Filed 3-5-69.
- 902,369. DONNELLEY RETAIL INFORMATION SERVICE. The Reuben H. Donnelley Corporation. SN 321,639. Pub. 8-25-70. Filed 3-13-69.
- 902,370. UNICO AND DESIGN. Military Personnel Placement Service Incorporated. SN 324,925. Pub. 8-25-70. Filed 4-18-69.
- 902,371. AUTOCODE, INC. AND DESIGN. Autocode, Inc. SN 325,570. Pub. 8-25-70. Filed 4-25-69.
- 902,372. COMPUCLAIM. Compumedic Controls Corp. SN 326,354. Pub. 8-25-70. Filed 5-5-69.
- 902,373. HOUSE OF KOSCOT. Koscot Interplanetary, Inc. SN 326,890. Pub. 8-25-70. Filed 5-9-69.
- 902,374. WELCOME FRUIT BASKET AND DESIGN. Mal Fruit Systems, Inc. SN 327,645. Pub. 8-25-70. Filed 5-19-69.
- 902,375. SUDDEN SERVICE DUPLI-PRINT. E. L. Kendall & Sons, Inc. SN 328,704. Pub. 8-25-70. Filed 5-29-69.
- 902,376. LANDMARKS OF AMERICA. The Franklin Mint, Inc. SN 329,072. Pub. 8-25-70. Filed 6-4-69.
- 902,377. ROOSTER DESIGN. Blue Bell, Inc. SN 340,701. Pub. 8-25-70. Filed 10-15-69.
- 902,378. MISCELLANEOUS DESIGN. Payless Cashways, Inc. SN 341,993. Pub. 8-25-70. Filed 10-29-69.
- 902,379. CASHWAY. Payless Cashways, Inc. SN 341,996. Pub. 8-25-70. Filed 10-29-69.
- 902,380. REDDI CLEAN. Fedders Corporation. SN 348,731. Pub. 8-25-70. Filed 1-16-70.
- 902,381. SYND-A-CAKE AND DESIGN. Synd-A-Cake of America, Inc. SN 349,437. Pub. 8-25-70. Filed 1-23-70.
- 902,382. COMPUTER DESIGN. A.C.T. Tax Service, Inc. SN 350,414. Pub. 8-25-70. Filed 2-4-70.

Class 102 — Insurance and Financial

- 902,383. SALARY SECURITY. North American Company for Life and Health Insurance. SN 311,167. Pub. 8-25-70. Filed 11-1-68.
- 902,384. THE TOMORROW PEOPLE. Avco Corporation, assignee of Avco Delta Service Corporation, d.b.a. Avco Delta Service Corporation. SN 328,402. Pub. 8-25-70. Filed 5-27-69.

- 902,385. JMF AND DESIGN. The Johnston Mutual Fund Inc. SN 334,341. Pub. 8-25-70. Filed 8-4-69.
- 902,386. 4 DROP DESIGN. J. F. Freeman & Co., Inc. SN 336,113. Pub. 8-25-70. Filed 8-25-69.

Class 103 — Construction and Repair

- 902,387. AUTOLAB DIAGNOSTIC CENTER AND DESIGN. Riverside Auto Lab, Inc. SN 298,966. Pub. 8-25-70. Filed 5-23-68.
- 902,388. CIRCUIT BOARD DRILLING SERVICE ETC. AND DESIGN. Circuit Board Drilling Service, Inc. SN 327,235. Pub. 8-25-70. Filed 5-14-69.
- 902,389. MISCELLANEOUS DESIGN. Mooney Aircraft Corporation. SN 336,650. Pub. 8-25-70. Filed 8-29-69.
- 902,390. MOONEY AND DESIGN. Mooney Aircraft Corporation. SN 336,654. Pub. 8-25-70. Filed 8-29-69.
- 902,391. AVITAT. Standard Oil Company. SN 349,558. Pub. 8-25-70. Filed 1-26-70.

Class 105 — Transportation and Storage

- 902,392. SELECTOUR. South Shore National Bank. SN 336,477. Pub. 8-25-70. Filed 8-27-69.

Class 106 — Material Treatment

- 902,393. BERKEY. Berkey Photo, Inc. SN 317,310. Pub. 8-25-70. Filed 1-23-69.
- 902,394. PHOTO-RAMA. Photo-Rama, Inc. SN 329,124. Pub. 8-25-70. Filed 6-4-69.

Class 107 — Education and Entertainment

- 902,395. ATU. Auto-Tronix Universal Corporation, assignee, by mesne assignment, of Auto-Tronix Universal Corporation. SN 291,702. Pub. 12-24-68. Filed 2-23-68.
- 902,396. POUNDS-OFF-PER-MONTH CLUB. The Donde Corporation, d.b.a. Pounds-Off-Per-Month Club. SN 314,208. Pub. 8-25-70. Filed 12-11-68.
- 902,397. THE MUDDYWILLOWS. The Muddywillows. SN 329,257. Pub. 8-25-70. Filed 6-5-69.
- 902,398. UPSTAGE PRODUCTIONS. Smart and Associates, Ltd. SN 331,293. Pub. 8-25-70. Filed 6-30-69.
- 902,399. READON. Nelson & Associates, Inc. SN 335,366. Pub. 8-25-70. Filed 8-14-69.
- 902,400. DSM. Psychological Associates, Inc. SN 360,290. Pub. 8-25-70. Filed 5-20-70.

Collective Membership Marks

Class 200

- 902,401. THE AVAILABILITY CLUB AND DESIGN. International Availability Club, Inc. SN 319,605. Pub. 8-25-70. Filed 2-19-69.
- 902,402. THE INTERNATIONAL ACADEMY OF FORENSIC PSYCHOLOGY. The International Academy of Forensic Psychology. SN 326,235. Pub. 8-25-70. Filed 5-2-69.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 13 — Hardware and Plumbing and Class 38 — Prints and Publications Steam-Fitting Supplies

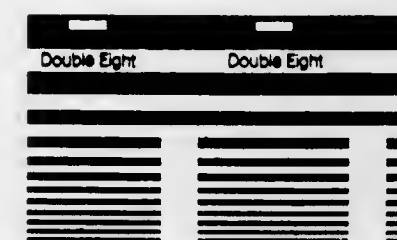
- 902,403. Exclusive China Company, Inc., New York, N.Y. SN 324,433. Filed P.R. 4-14-69; Am. S.R. 8-24-70.

CROMWELL

For Pewter Hollow Ware (Int. Cl. 21).
First use Mar. 1, 1969.

Class 17 — Tobacco Products

- 902,404. American Brands, Inc., New York, N.Y. SN 353,356. Filed 3-9-70.



For Cigarettes (Int. Cl. 34).
First use August 1968; June 18, 1968, as to the words "Double Eight."

Class 28 — Jewelry and Precious-Metal Ware

- 902,405. Mida Mfg. Inc., Philadelphia, Pa. SN 301,853. Filed P.R. 7-2-68; Am. S.R. 8-20-70.



For Jewelry for Personal Use (Int. Cl. 14).
First use October 1967.

Class 32 — Furniture and Upholstery

- 902,406. Harvey Probber, Inc., Fall River, Mass. SN 339,819. Filed P.R. 10-6-69; Am. S.R. 8-27-70.



For Living Room, Bedroom, and Dining Room Furniture; Office Furniture; Chairs, Tables, Desks and Cabinets for Schools, Hospitals, and Libraries (Int. Cl. 20).
First use Aug. 15, 1969; during 1946 as to the mark "Harvey Probber."

- 902,407. Preston Technical Abstracts Co., Evanston, Ill. SN 318,812. Filed P.R. 2-10-69; Am. S.R. 8-3-70.

JOURNAL OF CHROMATOGRAPHIC SCIENCE

For Magazine (Int. Cl. 16).
First use Jan. 10, 1969.

- 902,408. The Petroleum Publishing Company, Tulsa, Okla. SN 341,281. Filed P.R. 10-21-69; Am. S.R. 8-27-70.

OIL, GAS & PETROCHEM EQUIPMENT

For Magazine Published at Regular Intervals (Int. Cl. 16).
First use June 1969.

Class 39 — Clothing

- 902,409. Sears, Roebuck and Co., Chicago, Ill. SN 331,071. Filed P.R. 6-26-69; Am. S.R. 7-30-70.

SIZED-2-YOU

For Men's Slacks (Int. Cl. 25).
First use on or about July 5, 1967.

- 902,410. Willis J. Dunn, Sr., d.b.a. The Youthform Company, Atlanta, Ga. SN 348,136. Filed P.R. 1-9-70; Am. S.R. 8-24-70.



For Brassieres, Panties, Girdles, Panty Girdles, and Garter Belts (Int. Cl. 25).
First use Apr. 25, 1925.

Class 45 — Soft Drinks and Carbonated Waters

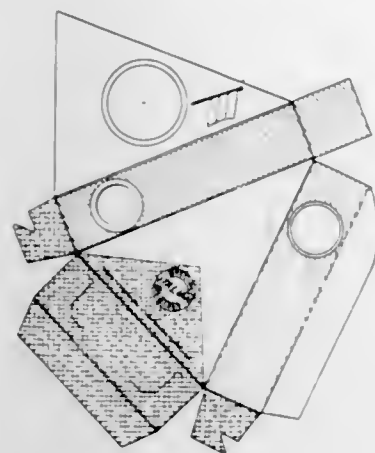
- 902,411. The Coca-Cola Company, Atlanta, Ga. SN 340,877. Filed P.R. 10-16-69; Am. S.R. 8-26-70.

ORANGE MAID

For Frozen Concentrate, Containing Water, for Imitation Orange Juice (Int. Cl. 32).
First use July 25, 1969.

Class 46 — Foods and Ingredients of Foods Class 52 — Detergents and Soaps

902,412. Purity Cheese Company, Mayville, Wis. SN 320,376. Filed P.R. 2-28-69; Am. S.R. 3-12-70.



The drawing is lined for the colors green, red and gold. For Cheese (Int. Cl. 29). First use February 1967.

902,413. Bridgford Foods Corporation, Anaheim, Calif. SN 321,462. Filed P.R. 3-12-69; Am. S.R. 7-16-70.



For Bakery Goods—Namely, Frozen Prepared Bread Dough (Int. Cl. 30). First use Dec. 30, 1968.

902,414. Kem Manufacturing Corporation, Tucker, Ga. SN 329,485. Filed P.R. 6-9-69; Am. S.R. 3-12-70.

NU-GROUT

For Chemical Preparation for Removing Discoloration and Soil From Ceramic Tile (Int. Cl. 3). First use March 1959.

Service Marks**Class 101 — Advertising and Business**

902,415. Professional Nurses Bureau, Inc., San Francisco, Calif. SN 309,894. Filed P.R. 10-17-67; Am. S.R. 7-30-70.

PROFESSIONAL NURSES BUREAU

For Placing Nurses With Hospitals, Industrial Organizations, Doctors, Rest Homes, and the Like (Int. Cl. 35). First use on about Mar. 15, 1958.

902,416. Regensteiner Publishing Enterprises, Inc., Chicago, Ill. SN 317,691. Filed P.R. 1-28-69; Am. S.R. 8-10-70.

REGENSTEINER

For Lithography and Printing Services (Int. Cl. 35). First use on or about Aug. 1, 1965.

TRADEMARK REGISTRATIONS RENEWED

- | | |
|--|---|
| 35,662. JUNIOR. Cl. 46 (Int. Cl. 30). 12-23-1900. | 278,807. "PIPER HEIDSIECK" ETC. AND DESIGN. Cl. 17 (Int. Cl. 34). 12-30-30. |
| 78,948. HUMPTY DUMPTY. Cl. 46 (Int. Cl. 29). 7-26-10. | 279,435. HANK. Cl. 13 (Int. Cl. 6). 1-13-31. |
| 79,462. REPRESENTATION OF 3 INTERTWINED RINGS. Cl. 48 (Int. Cl. 32). 9-13-10. | 280,199. "YELLOWSTONE" AND DESIGN. Cl. 49 (Int. Cl. 33). 2-10-31. |
| 271,344. PERM-O-LITH. Cl. 16 (Int. Cl. 2). 6-3-30. | 280,303. SUPER-CHLOR. Cl. 6 (Int. Cl. 5). 2-10-31. |
| 271,778. I. P. HYDE. Cl. 23 (Int. Cl. 8). 6-17-30. | 280,380. MAYFAIR. Cl. 8 (Int. Cl. 34). 2-17-31. |
| 272,587. I. P. HYDE. Cl. 50 (Int. Cl. 20). 7-8-30. | 444,014. ROBAPHARM DESIGN. Cl. 18 (Int. Cl. 5). 6-6-50. |
| 273,383. "THIOKOL" AND DESIGN. Cl. 1 (Int. Cl. 17). 8-5-30. | 444,253. PARKO AND DESIGN. Cls. 4 and 16 (Int. Cls. 2 and 3). 10-3-50. |
| 274,246. ORPI. Cl. 16 (Int. Cl. 2). 8-26-30. | 444,263. ZINCERON. Cl. 16 (Int. Cl. 2). 10-10-50. |
| 274,386. RADIO TYME. Cl. 39 (Int. Cl. 25). 8-26-30. | 444,276. DUST-D-FIER AND DESIGN. Cl. 23 (Int. Cl. 11). 10-17-50. |
| 274,553. "MOTOMIXER." Cl. 23 (Int. Cl. 7). 9-2-30. | 444,319. PULS-D-FIER AND DESIGN. Cl. 23 (Int. Cl. 7). 11-14-50. |
| 274,645. "SHINOLA" ETC. AND DESIGN. Cl. 4 (Int. Cl. 3). 9-2-30. | 521,911. SWIFTNING. Cl. 46 (Int. Cl. 29). 3-7-50. |
| 274,646. SHINOLA. Cl. 4 (Int. Cl. 3). 9-2-30. | 523,324. PIRATE DESIGN. Cl. 46 (Int. Cl. 29). 4-4-50. |
| 274,770. "EL LIBERADOR SIMON BOLIVAR" AND PORTRAIT. Cl. 23 (Int. Cl. 8). 9-9-30. | 525,689. ECONODRIVE. Cl. 23 (Int. Cl. 7). 5-30-50. |
| 274,949. "STEWARTS" ETC. AND DESIGN. Cl. 45 (Int. Cl. 32). 9-9-30. | 526,277. "PLEE-ZING." Cl. 39 (Int. Cl. 25). 6-13-50. |
| 275,000. SHINOLA. Cl. 16 (Int. Cl. 3). 9-9-30. | 526,847. RED DIAMOND. Cl. 12 (Int. Cl. 19). 6-27-50. |
| 275,169. STIRFLEX. Cl. 23 (Int. Cl. 11). 9-16-30. | 527,483. CHEK-R-TON. Cl. 46 (Int. Cls. 5 and 31). 7-11-50. |
| 275,504. CARBORADIANT. Cl. 34 (Int. Cl. 11). 9-23-30. | 527,958. EVEREDY KAKE-SAVER. Cl. 13 (Int. Cl. 21). 7-18-50. |
| 275,762. INTERNATIONAL. Cl. 19 (Int. Cl. 12). 9-30-30. | 528,035. ROYALCHROME. Cl. 32 (Int. Cl. 20). 7-25-50. |
| 276,532. "V" AND DESIGN. Cl. 39 (Int. Cl. 25). 10-21-30. | 528,256. CHICK GROWENA. Cl. 46 (Int. Cl. 31). 8-1-50. |
| 276,635. ROYAL GEORGE. Cl. 39 (Int. Cl. 25). 10-21-30. | 528,690. K138. Cl. 23 (Int. Cl. 7). 8-8-50. |
| 277,541. SLEEP-CRAFT. Cl. 42 (Int. Cl. 24). 11-18-30. | 528,691. K2S. Cl. 23 (Int. Cl. 7). 8-8-50. |
| 278,280. G.C. Cl. 15 (Int. Cl. 4). 12-16-30. | 528,692. K3H. Cl. 23 (Int. Cl. 7). 8-8-50. |
| 278,352. VISKING. Cl. 46 (Int. Cl. 18). 12-16-30. | 528,693. K4H. Cl. 23 (Int. Cl. 7). 8-8-50. |
| 278,568. "TUF TEX" AND DESIGN. Cl. 42 (Int. Cl. 24). 12-23-30. | 528,694. K5H. Cl. 23 (Int. Cl. 7). 8-8-50. |

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| 528,695. K6. Cl. 23 (Int. Cl. 7). 8-8-50. | 532,058. ROTABELT. Cl. 23 (Int. Cl. 7). 10-17-50. |
| 528,730. ROTO-PAC. Cl. 19 (Int. Cl. 12). 8-8-50. | 532,064. HEAT-X. Cl. 6 (Int. Cl. 5). 10-17-64. |
| 528,764. OLD BALDY AND DESIGN. Cl. 6 (Int. Cl. 1). 8-8-50. | 532,153. SPEAR HEAD AND DESIGN. Cl. 23 (Int. Cl. 8). 10-17-50. |
| 528,970. TRIPPELWARE. Cl. 37 (Int. Cl. 16). 8-15-50. | 532,344. KERRY RIBS. Cl. 39 (Int. Cl. 25). 10-24-50. |
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| 529,293. DRI-VAC & DESIGN. Cl. 23 (Int. Cl. 7). 8-22-50. | 532,591. UNICONTRAST AND DESIGN. Cl. 26 (Int. Cl. 1). 10-24-50. |
| 529,387. SK. Cl. 46 (Int. Cl. 31). 8-22-50. | 532,728. AIRMAT. Cl. 31 (Int. Cl. 11). 10-31-50. |
| 529,424. CLEVELAND. Cl. 36 (Int. Cl. 15). 8-22-50. | 532,806. CHECKER. Cl. 19 (Int. Cl. 12). 10-31-50. |
| 529,457. DAN MATES. Cl. 39 (Int. Cl. 25). 8-22-50. | 533,032. GOLDEN STAR AND DESIGN. Cl. 29 (Int. Cl. 21). 11-7-50. |
| 529,785. NORGE. Cl. 31 (Int. Cl. 11). 8-29-50. | 533,051. W. E. GARRETT & SONS. Cl. 17 (Int. Cl. 34). 11-7-50. |
| 529,836. ENPOS AND DESIGN. Cl. 21 (Int. Cl. 9). 8-29-50. | 533,262. PFAFF. Cl. 23 (Int. Cl. 7). 11-7-50. |
| 529,912. TWIN-SERV. Cl. 31 (Int. Cl. 11). 8-29-50. | 533,316. WEST PEAK. Cl. 46 (Int. Cl. 29). 11-14-50. |
| 529,939. NORGE. Cl. 21 (Int. Cl. 11). 8-29-50. | 533,530. NATUR SWEET. Cl. 46 (Int. Cl. 46). 11-21-50. |
| 530,005. GIBRALTAR. Cl. 103 (Int. Cl. 37). 8-29-50. | 533,641. MANN'S AND DESIGN. Cl. 46 (Int. Cl. 29). 11-21-50. |
| 530,183. AAF. Cl. 31 (Int. Cl. 11). 9-5-50. | 533,657. "SKROO-ZON." Cl. 23 (Int. Cl. 8). 11-21-50. |
| 530,400. DON'T MAKE A MOVE WITHOUT CALLING SMITH'S. Cl. 105 (Int. Cl. 39). 9-5-50. | 533,710. TOPPS PRODUCT AND DESIGN. Cl. 28 (Int. Cl. 14). 11-21-50. |
| 530,408. SOLID AS THE GRANITE HILLS OF VERMONT AND DESIGN. Cl. 102 (Int. Cl. 36). 9-5-50. | 533,726. PENACOLITE. Cl. 5 (Int. Cl. 1). 11-21-50. |
| 530,500. WINTHROP. Cl. 37 (Int. Cl. 16). 9-12-50. | 533,805. A HEUBLEIN PRODUCT. Cl. 46 (Int. Cl. 30). 11-21-50. |
| 530,501. ERVING PAPERS AND DESIGN. Cl. 37 (Int. Cl. 16). 9-12-50. | 533,822. SET-EZE. Cl. 21 (Int. Cl. 9). 11-21-50. |
| 530,502. ERVING. Cl. 37 (Int. Cl. 16). 9-12-50. | 534,025. MISCELLANEOUS DESIGN. Cl. 12 (Int. Cl. 19). 11-28-50. |
| 530,553. FIDELITONE. Cl. 21 (Int. Cl. 9). 9-12-50. | 534,026. DESIGN OF ZIG ZAG LINES. Cl. 12 (Int. Cl. 19). 11-28-50. |
| 530,590. GLUE-LOCKED. Cl. 37 (Int. Cl. 16). 9-12-50. | 534,195. METAL HOLED. Cl. 37 (Int. Cl. 16). 12-5-50. |
| 530,632. TUDOROSE AND DESIGN. Cl. 39 (Int. Cl. 25). 9-12-50. | 534,203. BIRDSBORO HYDRAULIC AND DESIGN. Cl. 23 (Int. Cl. 7). 12-5-50. |
| 530,689. SPEARHEAD AND DESIGN. Cl. 35 (Int. Cl. 17). 9-12-50. | 534,391. LYCOID. Cl. 5 (Int. Cl. 1). 12-5-50. |
| 530,785. MARVELUE. Cl. 39 (Int. Cl. 25). 9-19-50. | 534,402. MOHAWK. Cl. 39 (Int. Cl. 25). 12-5-50. |
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| 530,875. RINGBLOX. Cl. 23 (Int. Cl. 7). 9-19-50. | 534,517. TAKES INCHES-AWAY. Cl. 39 (Int. Cl. 25). 12-5-50. |
| 530,899. GIBSON. Cl. 50 (Int. Cl. 6). 9-19-50. | 534,552. THE DORR THICKENER. Cl. 23 (Int. Cl. 11). 12-12-50. |
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| 531,452. UNAX. Cl. 15 (Int. Cl. 4). 10-3-50. | |
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| 532,045. BANKERS FLAP GLUE-LOCKED. Cl. 37 (Int. Cl. 16). 10-17-50. | |

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 867,539. GLUCYDUR FBR AND DESIGN. Cl. 27. 4-1-69.
 895,203. BANISH. Cl. 52. 7-21-70.

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| 777,183. BALTA. Cl. 2. | 777,228. HEFCO. Cl. 12. |
| 777,187. MARGA. Cl. 4. | 777,230. INSUL-BEAM. Cl. 12. |
| 777,190. WYNN'S AND DESIGN. Cls. 5, 6, 15 and 52. | 777,236. PERMATEL. Cl. 13. |
| 777,194. GUIDITE. Cl. 6. | 777,237. BAR BOY. Cl. 13. |
| 777,197. REDI FIRE. Cl. 6. | 777,241. DESIGN OF TWO GROTESQUE HUMAN FIGURES. Cl. 14. |
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| 777,204. MONOPHEN. Cl. 6. | 777,253. ESONATE. Cl. 18. |
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| 777,209. SURE-FIRE. Cl. 8. | 777,273. VELVET LOCK. Cl. 19. |
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| 777,216. DUO-PLY. Cl. 12. | 777,282. BONAIR. Cl. 21. |
| 777,220. KREX-TONE. Cl. 12. | 777,283. MICROSYNC. Cl. 21. |
| 777,221. RIPONITE. Cl. 12. | 777,289. ZENISTOR. Cl. 21. |
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| | 777,311. UNISPRAY. Cl. 23. |
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 777,580. DOWNY-SOFT. Cl. 22.
 777,581. LEVEL-SPIN AND DESIGN. Cl. 22.
 777,584. DUAL JEWEL. Cl. 28.
 777,590. METROPOLITAN TRANSPORTATION & PLANNING. Cl. 38.
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 777,594. VINYLGLAS. Cls. 42 and 43.
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535,731. HURRICANE. Cl. 23. 1-2-51.
 585,589. CANTERBURY. Cl. 2. 2-9-54.
 589,174. HI-STYLE. Cl. 40. 4-27-54.
 777,857. OPTI-GUARD. Cl. 26. 9-29-64.
 790,040. FANNY PANTY. Cl. 39. 5-25-65.
 881,382. AFRICAN LURE. Cl. 51. 11-25-69.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

34,518. EUREKA. Cl. 11. 4-24-1900. Mittag & Volger, Burroughs Corporation, Detroit, Mich. Amended to Appear.

EUREKA

269,133. BAY WEST MOSINEE SINGLTOWLS. Cl. 37. 3-25-30. Bay West Paper Company, Green Bay, Wis. Amended to appear:

MOSINEE

SINGLTOWLS

269,134. BAY WEST MOSINEE DUBLTOWLS. Cl. 37. 3-25-30. Bay West Paper Company, Green Bay, Wis. Amended to appear:

MOSINEE

Dubltowls

335,400. THE STETSON PLAYBOY. Cl. 39. 6-2-36. John B. Stetson Company, Philadelphia, Pa. Amended to appear:

Playboy

509,362. RY-KRISP. Cl. 46. 5-3-49. Ralston Purina Company, St. Louis, Mo. Amended to appear:

RyKrisp

531,064. METASAP CHEMICAL COMPANY AND DESIGN. Cl. 6. 9-19-50. Metasap Chemical Company, Harrison, N.J. Amended to appear:

METASAP

534,083. CONAP. Cl. 6. 11-28-50. Phoenix Oil Company, Augusta, Ga. Corrected: In the heading, signature and in the statement, column 1, line 1, "Inc." should be deleted.

534,375. SOLARCAINE AND DESIGN. Cl. 18. 12-5-50. Peau d'Or Sales Corporation, Plough, Inc., Memphis, Tenn. Amended: In the statement, column 2, line 10 is deleted, and the drawing is amended to appear:

SOLARCAINE

534,765. HOTPOINT. Cl. 21. 12-12-50. Hotpoint Inc. General Electric Company, Louisville, Ky. Amended to appear:

Hotpoint

535,340. KWIKSET AND DESIGN. Cl. 25. 12-26-50. Kwikset Locks, Inc. Embart Corporation, Hartford, Conn. Amended to appear:

kwikset

540,005. BUTLER. Cl. 19. 3-27-51. Butler Manufacturing Company, Kansas City, Mo. Amended to appear:

BUTLER

546,296. PAPER MATE. Cl. 11. 8-7-51. Frawley Corporation, The Gillette Company, Boston, Mass. Amended to appear:

PAPER MATE

554,068. WAXFIBRE. Cl. 37. 1-22-52. Crown Zellerbach Corporation, also doing business as Western Waxed Paper Company, San Francisco, Calif. Amended to appear:

WAXFIBRE

649,015. MT. OLIVE AND DESIGN. Cl. 46. 6-23-57. Mount Olive Pickle Company, Inc., Mount Olive, N.C. Corrected: In the statement, column 1, line 1, "Inc." should be deleted and *Incorporated* should be inserted.

656,102. DESIGN OF HAND HOLDING GLOBE. Cl. 23. 12-24-57. The Joyce-Cridland Company, Dayton, Ohio. Amended to appear:



775,080. SHUR-SET. Cl. 46. 8-11-64. Anderson, Clayton & Co., Dallas, Tex. Amended to appear:

SHURSET

782,878. CON/TEXT. Cl. 37. 1-5-65. Consolidated Papers, Inc., Wisconsin Rapids, Wis. Amended to appear:

CONTEXT

784,041. BOWLING. Cl. 38. 1-26-65. American Bowling Congress, Milwaukee, Wis. Corrected: In the statement, column 1, line 1, "Wisconsin" should be deleted and *Illinois* should be inserted.

860,795. D-SECT. Cl. 6. 11-26-68. W. R. Grace & Co., New York, N.Y. Amended: In the statement, column 2, line 1, after "killer" *sold in bulk as a liquid concentrate for industrial and institutional uses* is inserted.

872,094. CC AND DESIGN. Cl. 26. 7-1-69. Coulter Electronics, Inc. Hialeah, Fla. Amended to appear:



881,009. ROYAL TREATMENT. Cl. 51. 11-18-69. Paula Payne Products Company, Charlotte, N.C. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

885,189. CHERRY JUBILEE. Cl. 52. 1-27-70. Paula Payne Products Company, doing business as Paula Payne Products Co., Charlotte, N.C. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

888,800. THAT-CURL. Cl. 51. 3-31-70. Paula Payne Products Company, Charlotte, N.C. Corrected: In the statement, column 1, line 1, "Inc." should be deleted.

894,942. SIGNET. Cl. 21. 7-21-70. Superior Continental Corporation, Hickory, N.C. Corrected: In the statement, column 1, lines 7 through 9, "pedestals, splice cases (above and below ground type), load coils, terminal housings" are deleted, in column 2, line 1, after "direct" and should be inserted and in lines 1 through 4, "and telephone carrier apparatus—namely, repeaters, amplifiers, central office and subscriber units" should be deleted and in line 5, "October 1968" both occurrences should be deleted and *no later than June 24, 1968* should be inserted.

895,660. CHARACTER DESIGN OF A MALE AND FEMALE. Cl. 100. 7-28-70. Computer Matching International, Inc., Olive Branch, Miss. Corrected: In the statement, column 1, line 1, "Tennessee" should be deleted and *Colorado* should be inserted.

896,722. AMDAL AND DESIGN. Cl. 10. 8-18-70. Abbott Laboratories, doing business as Amdal Company, North Chicago, Ill. Corrected: In the statement, column 2, line 2, "regulations" should be deleted and *regulators* should be inserted.

INDEX OF REGISTRANTS

NOVEMBER 10, 1970

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- A & A Electronic Research Corp., Detroit, Mich. 777,484, canc. Cl. 44.
A.C.T. Tax Service, Inc., Chicago Heights, Ill. 902,382, pub. 8-25-70. Cl. 101.
Abbott Laboratories, d.b.a. Amdal Co., North Chicago, Ill. 896,722, cor. Cl. 10.
Abbott Tresses, Inc., Pittsburgh, Pa. 902,249-50, pub. 8-25-70. Cl. 40.
Action-Age, Inc., Warrensville Heights, from Action-Age, Inc., Cleveland, Ohio. 902,079, pub. 8-25-70. Cl. 19.
Aero Enterprises, Inc., Washington, D.C. 902,351, pub. 8-25-70. Cl. 100.
Air-Mo Hydraulics, Inc., Minneapolis, Minn. 901,161, pub. 8-25-70. Cl. 23.
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Altman, B., & Co., New York, N.Y. 777,550, canc. Cl. 51.
Amercoat Corp., Brea, Calif. 444,263, ren. 11-10-70. Cl. 16.
American Air Filter Co., Inc., Louisville, Ky. 530,183, ren. 11-10-70. Cl. 31.
American Air Filter Co., Inc., Louisville, Ky. 532,728, ren. 11-10-70. Cl. 31.
American Air Filter Co., Inc., Louisville, Ky. 534,913, ren. 11-10-70. Cl. 31.
American Association for the Advancement of Science, Washington, D.C. 902,223-4, pub. 8-25-70. Cl. 38.
American Bowling Congress, Milwaukee, Wis. 784,041, cor. Cl. 38.
American Brands, Inc., New York, N.Y. 902,056, pub. 8-25-70. Cl. 17.
American Brands, Inc., New York, N.Y. 902,059, pub. 8-25-70. Cl. 17.
American Brands, Inc., New York, N.Y. 902,404, Cl. 17.
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American Cyanamid Co., Wayne, N.J. 901,990, pub. 8-25-70. Cl. 6.
American Home Products Corp., New York, N.Y. 902,072-3, pub. 8-25-70. Cl. 15.
American Home Products Corp., New York, N.Y. 902,076, pub. 8-25-70. Cl. 15.
American Optical Co., South Bridge, Mass. 777,343, canc. Cl. 26.
American Photocopy Equipment Co., Evanston, Ill. 902,106, pub. 8-25-70. Cl. 21.
American Plywood Association, Tacoma, Wash. 902,032, pub. 8-25-70. Cl. 12.
American Standard Inc., New York, N.Y. 902,207, pub. 8-25-70. Cl. 34.
American Type Founders Co., Inc., Nashville, Tenn. 902,146, pub. 8-25-70. Cl. 23.
Ametek, Inc., East Moline, Ill. 902,169, pub. 8-18-70. Cl. 24.
Anadite Inc., South Gate, Calif. 777,371, canc. Cl. 106.
Anderson, Clayton, & Co., Dallas, Tex. 775,080, Am. 7(d). Cl. 46.
Anheuser-Busch, Inc., St. Louis, Mo. 902,321, pub. 8-25-70. Cl. 48.
Armour-Dial, Inc., Chicago, Ill. 902,295, pub. 8-25-70. Cl. 46.
Arnar-Stone Laboratories, Inc., Mt. Prospect, Ill. 902,071, pub. 8-25-70. Cl. 18.
Arnav Shoe Corp., Little Ferry, N.J. 777,440, canc. Cl. 39.
Art Award Co., Inc., The North Bergen, N.J. 902,131, pub. 8-25-70. Cl. 22.
Art & Sign Brush Mfg. Corp., Long Island City, N.Y. 902,191, pub. 8-18-70. Cl. 29.
Ascot Sales Ltd., Hastings-on-Hudson, N.Y. 902,109, pub. 8-25-70. Cl. 21.
Asgrow Seed Co., New Haven, Conn. 777,576, canc. Cl. 1.
Associated Kentucky Distilleries Co., New York, N.Y. 777,601, canc. Cl. 49.
Astro Controls, Inc., Chicago, Ill. 529,912, ren. 11-10-70. Cl. 31.
Atar Computer Systems, Inc., Van Nuys, Calif. 902,364, pub. 8-25-70. Cl. 101.
Autocode, Inc., Washington, D.C. 902,371, pub. 8-25-70. Cl. 101.
Auto-Tronix Universal Corp., Denver, Colo. 902,361, pub. 12-24-68. Cl. 101.
Auto-Tronix Universal Corp., Denver, Colo. 902,395, pub. 12-24-68. Cl. 107.
Avery Products Corp., San Marino, Calif. 902,213, pub. 8-25-70. Multiple Class (Classes 37 and 38).
Avoco Delta Service Corp., Shaker Heights, Ohio. 902,384, pub. 8-25-70. Cl. 102.
B.N.S. International Sales Corp., New York, N.Y. 777,502, canc. Cl. 46.
Bachman's Inc., Minneapolis, Minn. 901,967, pub. 8-25-70. Multiple Class (Classes 1, 50, 100, and 101).
Baldwin Steel Co., Bedford, Ohio. 902,043, pub. 8-25-70. Cl. 14.
Ballantine, P., & Sons, Newark, N.J. 79,462, ren. 11-10-70. Cl. 48.
Baltz Bros. Packing Co., Nashville, Tenn. 902,291, pub. 8-25-70. Cl. 46.
Bancroft, Joseph, & Sons Co., New York, N.Y. 902,233, pub. 8-25-70. Cl. 39.
Barber-Greene Co., Aurora, Ill. 902,159, pub. 8-25-70. Cl. 23.
Barton's Candy Corp., Brooklyn, N.Y. 777,520, canc. Cl. 46.
Barwick, E. T., Industries, Inc., Chamblee, Ga. 902,259-60, pub. 8-25-70. Cl. 42.
Barwick, E. T., Industries, Inc., Chamblee, Ga. 902,263-8, pub. 8-25-70. Cl. 42.
Basic Foods, Inc., Englewood, N.J. 531,167, ren. 11-10-70. Cl. 46.
Basis Watch, M. Thommen, Uhrenfabrik Tecknau, Tecknau, Switzerland. 902,187, pub. 8-25-70. Cl. 27.
Bayuk Cigars Inc., Philadelphia, Pa. 902,054, pub. 4-8-69. Cl. 17.
Bay West Paper Co., Green Bay, Wis. 269,133-4, Am. 7(d). Cl. 37.
Beattie Mfg. Co., The, Little Falls, N.J. 777,461, canc. Cl. 42.
Beaver Baking Co., Inc., Hendersonville, Tenn. 777,503, canc. Cl. 46.
Becton, Dickinson Electronics Co., from Endevco Corp., d.b.a. The Digitron Co., Pasadena, Calif. 902,111, pub. 8-11-70. Cl. 21.
Becton, Dickinson & Co., East Rutherford, N.J. 902,278, pub. 8-25-70. Cl. 44.
Bendix Corp., The, Wilmington, Del. 772,289, canc. Cl. 21.
Ben-Hur Products, Inc., New York, N.Y. 902,181, pub. 8-25-70. Cl. 26.
Bennett Bros. (Hostery Mfrs. & Dyers) Ltd., Hincley, England. 530,632, ren. 11-10-70. Cl. 39.
Berkey Photo, Inc., New York, N.Y. 902,393, pub. 8-25-70. Cl. 106.
Berland, Joseph, New York, N.Y. 777,380, canc. Cl. 28.
Berven Carpets Corp., Fresno, Calif. 902,255, pub. 8-25-70. Cl. 42.
Beseler, Charles, Co., East Orange, N.J. 756,004, canc. Cl. 26.
Bibb Mfg. Co., Macon, Ga. 531,336, ren. 11-10-70. Cl. 42.
Birdsboro Corp., Birdsboro, Pa. 534,203, ren. 11-10-70. Cl. 23.
Blaw-Knox Co., Pittsburgh, Pa. 275,169, ren. 11-10-70. Cl. 23.
Blue Bell, Inc., Greensboro, N.C. 902,377, pub. 8-25-70. Cl. 101.
Rocchese Giuseppe & Fighi S.A.S., Vicenza, Italy. 777,465, canc. Cl. 42.
Bonair Boats, Inc., Merriam, Kans. 902,082, pub. 8-25-70. Cl. 19.
Borden, Inc., New York, N.Y. 901,985, pub. 8-25-70. Cl. 5.
Botany Industries, Inc., Reno, Nev. 777,553, canc. Cl. 51.
Botany Industries, Inc., Reno, Nev. 777,372, canc. Cl. 26.
Bowers Tool & Die Co., Kalamazoo, Mich. 777,209, canc. Cl. 8.
Boza, Gonzalo F., d.b.a. Pan American Agents Corp. of New York, N.Y. 274,770, ren. 11-10-70. Cl. 23.
Bradbury, Agnew & Co. Ltd., London, England. 532,469, ren. 11-10-70. Cl. 38.
Brandt Chem. Co., Inc., Pleasant Plains, Ill. 902,015, pub. 8-25-70. Cl. 10.
Brandt Chem. Co., Inc., Pleasant Plains, Ill. 902,019, pub. 8-25-70. Cl. 10.
Bray, J. W., Co., Inc., Dalton, Ga. 902,237, pub. 8-25-70. Cl. 39.
Bridgeford Foods Corp., Anaheim, Calif. 902,413, Cl. 46.
Bright Top, Inc., North Attleboro, Mass. 777,358, canc. Cl. 26.
Brown Derby, Inc., Cleveland, Ohio. 902,353, pub. 8-25-70. Multiple Class (Classes 100 and 101).
Buck Construction Co., Columbus, Ga. 777,594, canc. Multiple Class (Classes 42 and 43).
Bunker-Ramo Corp., Oak Brook, Ill. 902,252, pub. 8-25-70. Cl. 42.
Burke Flexo-Products Co., Traverse City, Mich. 777,581, canc. Cl. 22.
Butler Mfg. Co., Kansas City, Mo. 540,005, Am. 7(d). Cl. 19.
CPC International Inc., Englewood Cliffs, N.J. 274,645-6, ren. 11-10-70. Cl. 4.
CPC International Inc., Englewood Cliffs, N.J. 275,000, ren. 11-10-70. Cl. 16.
CPC International Inc., Englewood Cliffs, N.J. 902,297, pub. 8-25-70. Cl. 46.
Caine's Mutiny, Inc., New York, N.Y. 902,239-40, pub. 8-25-70. Cl. 39.
Calbiochem, Los Angeles, Calif. 902,069, pub. 8-25-70. Cl. 18.
California Car Wash Systems, Inc., Sun Valley, Calif. 902,160, pub. 8-25-70. Cl. 23.
California Forms, Inc., Culver City, Calif. 902,232, pub. 8-25-70. Cl. 39.
Callaway Mills Co., La Grange, Ga. 777,314, canc. Cl. 23.
Canadian Hoechst Ltd., Montreal, Quebec, Canada. 901,968, pub. 8-25-70. Cl. 1.
Capitol Records, Inc., Los Angeles, Calif. 902,210, pub. 8-25-70. Cl. 36.
Carborundum Co., The, Niagara Falls, N.Y. 275,504, ren. 11-10-70. Cl. 34.
Carrollton Press, Inc., Washington, D.C. 902,222, pub. 8-25-70. Cl. 38.
Caseco Corp., Sycamore, Ill. 777,316, canc. Cl. 23.
Cemco, Inc., from Continental Electronics Mfg. Co., Dallas, Tex. 902,171, pub. 8-25-70. Cl. 26.
Cement Asbestos Products Co., Birmingham, Ala. 902,028, pub. 8-25-70. Cl. 12.

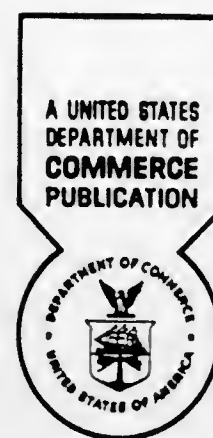
Center for the Gifted Child Inc., San Francisco, Calif. 777-310, can. Multiple Class (Classes 22 and 38).
 Centri-Spray Corp., Livonia, Mich. 902,176, pub. 8-25-70. Cl. 26.
 Century Wheels, Inc., Highland Park, Ill. 902,185, pub. 8-25-70. Cl. 26.
 Chanel, Inc., New York, N.Y. 902,190, pub. 8-25-70. Cl. 28.
 Checker Motors Corp., Kalamazoo, Mich. 532,806, ren. 11-10-70. Cl. 19.
 Chemagro Corp., New York, N.Y. 777,203, can. Cl. 6.
 Chemtrust Industries Corp., Maywood, Ill. 901,994, pub. 8-25-70. Cl. 6.
 Chemtrust Industries Corp., Maywood, Ill. 902,014, pub. 8-25-70. Cl. 10.
 Chesebrough-Pond's Inc., New York, N.Y. 902,274, pub. 8-25-70. Cl. 44.
 Children's Supermart, Inc., Beltsville, Md. 902,125, pub. 9-2-69. Cl. 22.
 Chipman Chemicals Ltd., Hamilton, Ontario, Canada. 902-001, pub. 8-25-70. Cl. 6.
 Chrono Graphics Ltd., New York, N.Y. 902,215, pub. 8-25-70. Cl. 37.
 Cincinnati, Inc., Cincinnati, Ohio. 902,179, pub. 8-25-70. Cl. 26.
 Circuit Board Drilling Service, Inc., Torrance, Calif. 902,388, pub. 8-25-70. Cl. 103.
 City Tank Corp., Culpeper, Va. 528,730, ren. 11-10-70. Cl. 19.
 Clarkson & Ford Co., Clifton, N.J. 902,046, pub. 8-25-70. Cl. 15.
 Clawson Machine Co., Flagtown, N.J. 902,139, pub. 8-25-70. Cl. 23.
 Coca-Cola Co., The, Atlanta, Ga. 902,284-6, pub. 8-25-70. Cl. 45.
 Coca-Cola Co., The, Atlanta, Ga. 902,411, Cl. 45.
 Cole National Corp., Jersey City, N.J. 533,710, ren. 11-10-70. Cl. 25.
 Coleman, Howard, d.b.a. Dianer Host, Falls Church, Va. 777-563, can. Cl. 101.
 Columbian Carbon Co., New York, N.Y. 901,975, pub. 8-25-70. Cl. 2.
 Comfort Supply, Inc., Houston, Tex. 902,365, pub. 8-25-70. Cl. 101.
 Comptone Co., Ltd., New York, N.Y. 777,857, can. Cl. 26.
 Computer Matching International, Inc., Olive Branch, Miss. 895,660, for. Cl. 100.
 Compumedic Controls Corp., New York, N.Y. 902,372, pub. 8-25-70. Cl. 101.
 Consolidated Cigar Corp., New York, N.Y. 902,058, pub. 8-25-70. Cl. 17.
 Consolidated Foods Corp., Chicago, Ill. 902,238, pub. 8-25-70. Cl. 39.
 Consolidated Industries, Inc., Akron, Ohio. 902,025, pub. 8-25-70. Cl. 12.
 Consolidated Papers, Inc., Wisconsin Rapids, Wis. 782,878, Am. 7(d), Cl. 37.
 Consumers Caravan, Inc., Hempstead, N.Y. 902,360, pub. 8-25-70. Cl. 101.
 Conti Boudouline, Firm, Laterina, Italy. 777,532, can. Cl. 47.
 Continental Can Co., Inc., New York, N.Y. 902,333, pub. 8-25-70. Cl. 59.
 Continental Electronics Mfg. Co.: See—
 Cemco Inc.
 Conwood Corp., Memphis, Tenn. 533,051, ren. 11-10-70. Cl. 17.
 Cooper, O. A., Co., The, Humbolt, Nebr. 902,067, pub. 1-13-70. Cl. 18.
 Corning Glass Works, Corning, N.Y. 902,030, pub. 8-25-70. Cl. 12.
 Coulter Electronics, Inc., Hialeah, Fla. 872,094, Am. 7(d), Cl. 26.
 Coventry, Sarah, Inc., Newark, N.Y. 901,981, pub. 8-25-70. Multiple Class (Classes 3, 39, 40, 41, 51, and 52).
 Cretors, C. & Co., Chicago, Ill. 902,311, pub. 8-25-70. Cl. 46.
 Crown Zellerbach Corp., d.b.a. Western Waxed Paper Co., San Francisco, Calif. 554,068, Am. 7(d), Cl. 37.
 Cutler-Hammer, Inc., Denver, Colo. 902,153, pub. 8-25-70. Cl. 23.
 DCA Food Industries, Inc., New York, N.Y. 902,312, pub. 8-25-70. Cl. 46.
 Daizen Shuten Ltd., Chibaken, Japan. 777,531, can. Cl. 47.
 Dan River, Inc., Danville, Va. 529,457, ren. 11-10-70. Cl. 39.
 Dare Products, Inc., Battle Creek, Mich. 533,822, ren. 11-10-70. Cl. 21.
 Data Instruments Co., Sepulveda, Calif. 902,177, pub. 8-25-70. Cl. 24.
 daVida Cosmetics Inc., d.b.a. da Vida, New York, N.Y. 881-382, can. Cl. 51.
 De Cordoba, Rodriguez Hermanos, Cordoba, Spain. 902,315, pub. 8-25-70. Cl. 46.
 Deering Milliken, Inc., New York, N.Y. 902,256-8, pub. 8-25-70. Cl. 42.
 Deering Milliken, Inc., New York, N.Y. 902,261, pub. 8-25-70. Cl. 42.
 Deering Milliken, Inc., New York, N.Y. 902,269-70, pub. 8-25-70. Cl. 42.
 Defender, Inc., Philadelphia, Pa. 902,124, pub. 8-25-70. Multiple Class (Classes 22 and 44).
 Del Krome Corp., Walton, N.Y. 902,050, pub. 8-25-70. Cl. 19.
 Detomaso Automobili S.p.A., Modena, Italy. 902,087, pub. 8-25-70. Cl. 19.
 Diamond Chain Co., Inc., Indianapolis, Ind. 777,326, can. Cl. 23.
 Diamond Fruit Growers, Inc., Hood River, Oreg. 533,316, ren. 11-10-70. Cl. 46.
 Directory Publishers, Inc., Wabash, Ind. 902,217, pub. 8-25-70. Cl. 88.
 Dishmaster Corp., Bloomfield Hills, Mich. 777,237, can. Cl. 13.
 Ditta A. Sutter, d.b.a. A. Sutter, Genoa, Italy. 777,187, can. Cl. 4.
 Ditta A. Sutter, d.b.a. A. Sutter, Genoa, Italy. 777,556, can. Cl. 52.
 Dixon Valve & Coupling Co., Philadelphia, Pa. 902,040, pub. 8-25-70. Cl. 13.
 Dr. Madaus & Co., Cologne-Merheim, Germany. 902,065, pub. 8-25-70. Cl. 18.
 Dodwell & Co., Ltd., London, England. 902,182, pub. 8-25-70. Cl. 26.
 Dognin Societe Anonyme, Villeurbanne, France. 902,155, pub. 8-25-70. Cl. 23.
 Dolly Madison Industries, Inc., Philadelphia, Pa. 902,208, pub. 6-30-70. Cl. 34.
 Domain Industries, Inc., from Doughboy Industries, Inc., New Richmond, Wis. 902,168, pub. 8-25-70. Cl. 23.
 Domecq, Pedro, A.A., Cadiz, Spain. 902,323, pub. 8-25-70. Cl. 49.
 Donde Corp., The, Anniston, Ala. 902,396, pub. 8-25-70. Cl. 107.
 Donnelly, Reuben H., Corp., The, New York, N.Y. 836,323, can. Cl. 38.
 Donnelly, Reuben H., Corp., The, New York, N.Y. 902,369, pub. 8-25-70. Cl. 101.
 Dorr-Oliver Inc., Stamford, Conn. 534,552, ren. 11-10-70. Cl. 23.
 Doughboy Industries, Inc.: See—
 Domain Industries, Inc.
 Douglas Aircraft Co., Santa Monica, Calif. 777,351, can. Cl. 26.
 Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderij Jentehandel N.V., Joure, Netherlands. 902,055, pub. 8-25-70. Cl. 17.
 Downtown, Inc., Butte, Mont. 902,367, pub. 8-25-70. Cl. 101.
 Drackett Co., The, Cincinnati, Ohio. 777,383, can. Cl. 29.
 Dresser Industries, Inc., Dallas, Tex. 902,145, pub. 8-25-70. Cl. 23.
 Dudenhofer, Joseph, Co., Acampo, Calif. 537,791, ren. 11-10-70. Cl. 47.
 Duesenberg Corp., Houston, Tex. 902,095, pub. 8-25-70. Cl. 19.
 Dunham-Bush, Inc., West Hartford, Conn. 902,142, pub. 6-9-70. Cl. 23.
 Dunn, Willis J. S., d.b.a. The Youthform Co., Atlanta, Ga. 902,410, Cl. 39.
 Duquesne Brewing Co. of Pittsburgh, Pittsburgh, Pa. 777-544-5, can. Cl. 50.
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 902,008, pub. 8-25-70. Cl. 6.
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 902,193-4, pub. 8-25-70. Cl. 31.
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 902,204-5, pub. 8-25-70. Cl. 34.
 Dynamic Classics, Ltd., New York, N.Y. 902,135, pub. 8-25-70. Cl. 22.
 Dynatron, Inc., East Detroit, Mich. 902,016-18, pub. 8-25-70. Cl. 10.
 EDP Personnel, Inc., Chicago, Ill. 902,357, pub. 5-28-68. Cl. 101.
 Eagle Knitting Mills, Inc., Milwaukee, Wis. 777,453, can. Cl. 39.
 Eastern Steel Rack Co., Boston, Mass. 902,201, pub. 8-25-70. Cl. 32.
 Eastman Kodak Co., Rochester, N.Y. 532,591, ren. 11-10-70. Cl. 26.
 Educational Development Corp., Palo Alto, Calif. 777,432, can. Cl. 38.
 Educator Bisenit Co., Inc., Lowell, Mass. 902,292, pub. 8-25-70. Cl. 46.
 Eldon Industries, Inc., Hawthorne, Calif. 902,132-4, pub. 8-25-70. Cl. 22.
 Eli Distributors, Inc., Little Rock, Ark. 902,112, pub. 8-25-70. Cl. 21.
 Elmira Tobacco Co., Inc., The, Elmira, N.Y. 772,250, can. Cl. 17.
 Emdeko International, Inc., from National Housewares, Inc., Salt Lake City, Utah. 902,100, pub. 10-17-67. Cl. 21.
 Endeveco Corp.: See—
 Becton, Dickinson Electronics Co.
 Environmental Farms, Inc., Tucson, Ariz. 902,029, pub. 8-25-70. Cl. 12.
 Epoch Co. Ltd., Tokyo, Japan. 902,130, pub. 8-25-70. Cl. 22.
 Equipment Importers, Inc., Tacoma, Wash. 902,149, pub. 8-25-70. Cl. 23.
 Erving Paper Mills, Erving, Mass. 530,500-2, ren. 11-10-70. Cl. 37.
 Essex International, Inc., Detroit, Mich. 537,580, ren. 11-10-70. Cl. 21.
 Essex Mfg. Co., Greensboro, N.C. 902,049, pub. 8-25-70. Cl. 15.
 Etablissements Sardet Derfbaucourt E.S.E.D., Paris-Bercy, France. 902,318, pub. 8-25-70. Cl. 47.
 Evans, L. B., Son Co., Wakefield, Mass. 274,386, ren. 11-10-70. Cl. 39.
 Evans, Robert G., Co., Kansas City, Mo. 902,148, pub. 8-25-70. Cl. 23.
 Evans, W. P., & Son Ltd., Clifton, England. 532,058, ren. 11-10-70. Cl. 23.
 Excelsior Pet Products, Inc., Brooklyn, N.Y. 901,980, pub. 8-25-70. Cl. 3.
 Exclusive China Co., Inc., New York, N.Y. 902,403, Cl. 13.
 FMC Corp., San Jose, Calif. 902,078, pub. 8-25-70. Multiple Class (Classes 19 and 23).

Farrington Mfg. Co., Boston, Mass. 585,589, can. Cl. 2.
 Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 902,068, pub. 8-25-70. Cl. 18.
 Fedders Corp., Edison, N.J. 529,785, ren. 11-10-70. Cl. 31.
 Fedders Corp., Edison, N.J. 529,939, ren. 11-10-70. Cl. 21.
 Fedders Corp., Edison, N.J. 902,380, pub. 8-25-70. Cl. 101.
 Fellowes Mfg. Co., Franklin Park, Ill. 902,200, pub. 8-25-70. Cl. 32.
 Ferrex Corp., Redwood City, Calif. 902,175, pub. 8-18-70. Cl. 26.
 Fiber Glass Systems, Inc., Big Spring, Tex. 902,042, pub. 8-25-70. Cl. 13.
 Fidelitone, Inc., Chicago, Ill. 530,553, ren. 11-10-70. Cl. 21.
 Finch, Joseph S., & Co., New York, N.Y. 777,534, can. Cl. 49.
 Fineline Laboratories, Inc., Syracuse, N.Y. 777,311, can. Cl. 23.
 First Mississippi Corp., Jackson, Miss. 902,006, pub. 8-25-70. Cl. 6.
 Flavor Malt Prepared Mixes, Inc., Shawnee Mission, Kans. 902,288, pub. 8-25-70. Cl. 46.
 Ford Motor Co., Dearborn, Mich. 902,096, pub. 8-25-70. Cl. 19.
 Foremost-McKesson, Inc., New York, N.Y. 902,339, pub. 8-25-70. Cl. 51.
 Forest Industrial Products, Inc., Cleveland, Ohio. 777,433, can. Cl. 38.
 Fort Howard Paper Co., Green Bay, Wis. 535,307, ren. 11-10-70. Cl. 37.
 Franklin Mint, Inc., The, Yeadon, Pa. 902,129, pub. 8-25-70. Cl. 22.
 Franklin Mint, Inc., The, Yeadon, Pa. 902,325, pub. 8-25-70. Cl. 50.
 Franklin Mint Inc., The, Yeadon, Pa. 902,329-30, pub. 8-25-70. Cl. 50.
 Franklin Mint, Inc., The, Yeadon, Pa. 902,334-5, pub. 8-25-70. Cl. 50.
 Franklin Mint, Inc., The, Yeadon, Pa. 902,363, pub. 8-25-70. Cl. 101.
 Franklin Mint, Inc., The, Yeadon, Pa. 902,376, pub. 8-25-70. Cl. 101.
 Frawley Corp., to The Gillette Co., Boston, Mass. 546,296, Am. 7(d), Cl. 11.
 Freeman, J. F., & Co., Inc., Los Angeles, Calif. 902,386, pub. 8-25-70. Cl. 102.
 Freudenberg, Carl, Weinheim, Germany. 901,966, pub. 8-25-70. Cl. 1.
 Friendship Dairies, Inc., Friendship, N.Y. 902,305, pub. 8-25-70. Cl. 46.
 Fuqua Industries, Inc., d.b.a. Stormor, Inc., Atlanta, Ga. 902-033, pub. 8-25-70. Cl. 12.
 Furlow, Jerry, d.b.a. Ah Men, Los Angeles, Calif. 777,437, can. Cl. 39.
 Gateway Press Inc., Louisville, Ky. 902,360, pub. 8-25-70. Cl. 101.
 Gebrüder Gunzinger AG, Welschenrohr (Soleure), Switzerland. 902,188, pub. 8-25-70. Cl. 27.
 Gely Chemical Corp., Ardsley, N.Y. 902,002, pub. 8-25-70. Cl. 6.
 Gemex Precision Metals, Inc., Union, N.Y. 777,382, can. Cl. 28.
 General Foods Corp., White Plains, N.Y. 777,522, can. Cl. 46.
 General Foods Corp., White Plains, N.Y. 902,296, pub. 8-25-70. Cl. 46.
 General Foods Corp., White Plains, N.Y. 902,316, pub. 8-25-70. Cl. 46.
 General Nuclear, Inc., Houston, Tex. 901,989, pub. 8-25-70. Cl. 15.
 Georgia-Carolina Oil Co., Macon, Ga. 278,280, ren. 11-10-70. Cl. 18.
 Gerchenson, Emile H., Chicago, Ill. 902,060, pub. 12-9-69. Cl. 18.
 Gevaert-Agfa N.V., Mortsel, Belgium. 902,170, pub. 8-25-70. Cl. 26.
 Gibraltar Cement Products, Inc., Detroit, Mich. 530,008, ren. 11-10-70. Cl. 103.
 Gibson, A. C., Co. Inc., Buffalo, N.Y. 530,899, ren. 11-10-70. Cl. 50.
 Gillette Co., The, d.b.a. The Paper Mate Co., Boston, Mass. 902,216, pub. 8-25-70. Cl. 37.
 Glvaudan Corp., Clifton, N.J. 901,991, pub. 8-25-70. Cl. 6.
 Glenmore Distilleries Co., Louisville, Ky. 280,199, ren. 11-10-70. Cl. 49.
 Glomera Aktiengesellschaft, Basel, Switzerland. 902,157, pub. 8-25-70. Cl. 23.
 Gold Bell Enterprises, Inc., d.b.a. Gold Standard Products, Detroit, Mich. 902,150, pub. 8-25-70. Cl. 23.
 Golden Star Polish Mfg. Co., North Kansas City, Mo. 533,032, ren. 11-10-70. Cl. 29.
 Goldsmith, Louis, Inc., Philadelphia, Pa. 530,785, ren. 11-10-70. Cl. 39.
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 902,119, pub. 8-25-70. Cl. 21.
 Gourmet Bakers, Inc., Linden, N.J. 902,313, pub. 8-25-70. Cl. 46.
 Grace, W. R., & Co., New York, N.Y. 860,795, Am. 7(d), Cl. 6.
 Graphics, Inc., Kearny, N.J. 777,350, can. Cl. 26.
 Greer Hydraulics, Inc., Los Angeles, from West & Heininger, Inc., Alhambra, Calif. 902,147, pub. 8-25-70. Cl. 23.
 Haering, D. W., & Co., Inc., San Antonio, Tex. 902,004, pub. 8-25-70. Cl. 6.
 Hagen, Henry Ten, d.b.a. Tenaflores Co., Warsaw, N.Y. 902-336, pub. 8-25-70. Cl. 50.
 Halper Brothers, Inc., New York, N.Y. 531,129-30, ren. 11-10-70. Cl. 38.
 Hannon, Charles, Scarsdale, N.Y. 902,126, pub. 8-25-70. Cl. 22.
 Hanover Brands, Inc., Hanover, Pa. 902,304, pub. 8-25-70. Cl. 46.
 Harbin, Clyde A., Whitehaven, Tenn. 902,220, pub. 8-25-70. Multiple Class (Classes 38, 46, and 101).
 Hawkeye Steel Products, Inc., Waterloo, Iowa. 902,328, pub. 8-25-70. Cl. 50.
 Henckels, J. A., Zwillingswerk, Solingen, Germany. 777,241, can. Cl. 14.
 Herrick Iron Works, Hayward, Calif. 777,228, can. Cl. 12.
 Hershkowitz, Inc., Brooklyn, N.Y. 528,970, ren. 11-10-70. Cl. 37.
 Heublein, Inc., Hartford, Conn. 533,805, ren. 11-10-70. Cl. 46.
 Hi-Score Enterprises, Encino, Calif. 902,227, pub. 8-25-70. Cl. 38.
 Hitchcock Publishing Co., Weaton, Ill. 777,590, can. Cl. 38.
 Holmes Associates, Inc., Ferndale, Mich. 777,427, can. Cl. 38.
 Hotpoint Inc., to General Electric Co., Louisville, Ky. 534,765, Am. 7(d), Cl. 21.
 Howard, Paul William, Jr., d.b.a. Pacific Coast Scent Co. and National Scent Co., Garden Grove, Calif. 532,064, ren. 11-10-70. Cl. 6.
 Hyde Mfg. Co., Southbridge, Mass. 271,778, ren. 11-10-70. Cl. 23.
 Hyde Mfg. Co., Southbridge, Mass. 272,587, ren. 11-10-70. Cl. 50.
 Hyland Laboratories, Los Angeles, Calif. 777,206, can. Cl. 6.
 Iford Ltd., Iford, England. 777,204, can. Cl. 6.
 Inco, Joseph F., d.b.a. The Inco Co., Los Angeles, Calif. 777-387-8, can. Cl. 32.
 Ingram-Richardson Mfg. Co., Beaver Falls, Pa. 777,225, can. Cl. 12.
 Instructional Concepts, Inc., Manhasset, N.Y. 902,202, pub. 8-25-70. Cl. 32.
 Instrumentation & Control Systems, Inc., Villa Park, Ill. 902,348, pub. 8-25-70. Cl. 100.
 Insul-Cooustic Corp., Maspeth, N.Y. 777,230, can. Cl. 12.
 Intel Corp., Mountain View, Calif. 902,104, pub. 8-25-70. Cl. 21.
 Interco Inc., St. Louis, Mo. 278,568, ren. 11-10-70. Cl. 42.
 Intercontinental Coffee Service, Inc., Rosemont, Ill. 902,287, pub. 8-25-70. Multiple Class (Classes 46 and 100).
 International Academy of Forensic, The, Waco, Tex. 902,402, pub. 8-25-70. Cl. 200.
 International Availability Club, Inc., Houston, Tex. 902,401, pub. 8-25-70. Cl. 200.
 International Harvester Co., Chicago, Ill. 275,762, ren. 11-10-70. Cl. 19.
 International Harvester Co., Chicago, Ill. 902,167, pub. 8-25-70. Cl. 23.
 International Investigators, Inc., Indianapolis, Ind. 777,560, can. Cl. 100.
 InterRoyal Corp., New York, N.Y. 528,035, ren. 11-10-70. Cl. 32.
 Ipec Hospital Supply Corp., New York, N.Y. 901,972, pub. 8-25-70. Cl. 2.
 Irwin-Willert Co., St. Louis, Mo. 530,790, ren. 11-10-70. Cl. 6.
 Iwatani & Co. Ltd., Osaka, Japan. 902,203, pub. 8-25-70. Cl. 3.
 Jadow, B., & Sons, Inc., New York, N.Y. 902,144, pub. 8-25-70. Cl. 23.
 Jetco Electronic Industries, Inc., Huntsville, Tex. 902,108, pub. 8-25-70. Cl. 21.
 Johnson, Carlyle, Machine Co., The, Manchester, Conn. 902-156, pub. 8-25-70. Cl. 23.
 Johnson & Johnson, New Brunswick, N.J. 777,429, can. Cl. 38.
 Johnson & Johnson, d.b.a. Jelco Laboratories, New Brunswick, N.J. 902,279, pub. 8-25-70. Cl. 44.
 Johnson, S. C., & Son, Inc., Racine, Wis. 902,003, pub. 8-25-70. Cl. 6.
 Johnson-Stuart Co., Evanston, Ill. 777,282, can. Cl. 21.
 Johnson Mutual Fund Inc., The, New York, N.Y. 902,385, pub. 8-25-70. Cl. 102.
 Joyce-Gridland Co., The, Dayton, Ohio. 656,102, Am. 7(d), Cl. 23.
 Justice Mfg. Co., Inc., East Farmingdale, N.Y. 902,034, pub. 8-25-70. Cl. 12.
 Jutzl, Alfred, & Associates, Inc., d.b.a. Effects Unlimited, San Francisco, Calif. 902,052, pub. 8-25-70. Multiple Class (Classes 16, 21, and 100).
 Kabushiki Kaisha Yamasakitelokudo, Tokyo-to, Japan. 902,063, pub. 8-25-70. Cl. 18.
 Kare, Inc., Beverly Hills, Calif. 902,338, pub. 8-25-70. Cl. 51.
 Kawasaki Motors Corp., Santa Ana, Calif. 902,231, pub. 8-25-70. Cl. 39.
 Kayser-Roth Corp., New York, N.Y. 276,635, ren. 11-10-70. Cl. 39.
 Kem Mfg. Corp., Tucker, Ga. 902,414, Cl. 52.
 Kendall, E. L., & Sons, Inc., Dayton, Ohio. 902,375, pub. 8-25-70. Cl. 101.
 Kennametal Inc., Latrobe, Pa. 528,690, ren. 11-10-70. Cl. 23.
 Kennametal Inc., Latrobe, Pa. 528,691-5, ren. 11-10-70. Cl. 23.
 Kenner Products Co., Cincinnati, Ohio. 902,128, pub. 8-25-70. Cl. 22.
 Kenworthy, N. Paul, Jr., d.b.a. Kenworthy's House of Horns, Philadelphia, Pa. 777,319, can. Cl. 23.
 Khalifa A. Algosalbi, d.b.a. Khalifa Algosalbi Fisheries, Dammam, Saudi Arabia. 777,518, can. Cl. 46.
 Kinney Shoe Corp., New York, N.Y. 777,435, can. Cl. 39.
 Kirby, Block Distributing Corp., New York, N.Y. 277,541, ren. 11-10-70. Cl. 42.
 Knickerbocker Bed Spring Co., d.b.a. Knickerbocker Bed Co., Carlstadt, N.J. 902,190, pub. 8-25-70. Cl. 32.
 Kohner Bros., Inc., New York, N.Y. 777,305, can. Cl. 22.
 Kontos, Alex, Fruit Co., Inc., Birmingham, Ala. 529,387, ren. 11-10-70. Cl. 46.

- Koppers Co., Inc., Pittsburgh, Pa. 533,726, ren. 11-10-70. Cl. 5.
 Kosco Interplanetary, Inc., Winter Park, Fla. 902,373, pub. 8-25-70. Cl. 101.
 Kresge, S. S., Co., Detroit, Mich. 902,105, pub. 8-25-70. Cl. 21.
 Kustusch, Edmund A., d.b.a. Atlantic Import Co., Detroit, Mich. 777,367, can. Cl. 26.
 Kwikset Locks, Inc. Enhart Corp., Hartford, Conn. 535,340, Am. 7(d). Cl. 25.
 L.G.H. Products Corp., New York, N.Y. 902,023, pub. 8-25-70. Cl. 12.
 Laaketehtas Orion Oy, Helsinki, Finland. 901,995, pub. 8-25-70. Cl. 6.
 Landers, Frary & Clark, New York, N.Y. 777,179, can. Cl. 2.
 Landers, Frary & Clark, New York, N.Y. 777,236, can. Cl. 13.
 Lansil Ltd., Lancaster, England. 902,234, pub. 8-27-70. Multiple Class (Classes 39, 42, and 43).
 Laser Systems & Electronics, Inc., Tullahoma, Tenn. 902,280, pub. 8-25-70. Cl. 44.
 Lettingwell Chemical Co.: See—
 Thompson-Hayward Chemical Co.
 Les Fabriques de Balanciers Reunies, Bienne, Switzerland. 867,539, can. Cl. 27.
 Lever Bros. Co., New York, N.Y. 902,307, pub. 8-25-70. Cl. 46.
 Lever Bros. Co., New York, N.Y. 902,347, pub. 8-25-70. Cl. 52.
 Liberty Homes, Inc., Syracuse, Ind. 902,098, pub. 8-25-70. Cl. 19.
 Lien Chemical Co., Franklin Park, Ill. 902,053, pub. 8-25-70. Cl. 16.
 Lift Parts Mfg., Inc., Elk Grove Township, Ill. 902,350, pub. 8-25-70. Cl. 100.
 Lincoln Metal Products Corp., Brooklyn, N.Y. 901,978, pub. 8-25-70. Multiple Class (Classes 2 and 13).
 Liquid Nitrogen Processing Corp., Malvern, Pa. 901,970, pub. 8-25-70. Cl. 1.
 Literary Institute Ltd., Basel, Switzerland. 902,219, pub. 8-25-70. Cl. 38.
 Loblaw Inc., Buffalo, N.Y. 777,416, can. Cl. 37.
 Logan Engineering Co., Chicago, Ill. 902,140, pub. 8-25-70. Cl. 23.
 Logic Display Corp., Santa Ana, Calif. 902,154, pub. 8-25-70. Cl. 23.
 Lovable Co., The, Atlanta, Ga. 902,243, pub. 8-25-70. Cl. 39.
 Lov-It Creations, Inc., Milwaukee, Wis. 902,246, pub. 8-25-70. Cl. 39.
 Lucas, Merle J., d.b.a. Green Forest Nursery, Green Forest, Ark. 901,959, pub. 8-25-70. Cl. 1.
 Lyons, Diana, White Plains, N.Y. 902,226, pub. 8-25-70. Cl. 38.
 * M & H Creations, Inc., New York, N.Y. 777,379, can. Cl. 28.
 Majestic Drug Co., Inc., Bronx, N.Y. 902,062, pub. 8-25-70. Cl. 18.
 Mal Fruit Systems, Inc., Miami Beach, Fla. 902,374, pub. 8-25-70. Cl. 101.
 Mallory, P. R., & Co., Inc., Indianapolis, Ind. 901,209, pub. 8-25-70. Cl. 36.
 Mandarin Mills, Inc., New York, N.Y. 902,229, pub. 8-25-70. Cl. 39.
 Manex Machinery Corp., New York, N.Y. 777,328, can. Cl. 23.
 Manhattan Industries, Inc., New York, N.Y. 902,247, pub. 8-25-70. Cl. 39.
 Manor Hill Salad Co., Baltimore, Md. 902,314, pub. 8-25-70. Cl. 46.
 Mardon of Sheboygan Falls, Inc., Sheboygan Falls, Wis. 777,539, can. Cl. 50.
 Marriott Corp., Washington, D.C. 902,356, pub. 8-25-70. Cl. 100.
 Martin Engineering Co., Neponset, Ill. 902,094, pub. 8-25-70. Cl. 19.
 Martin Marietta Corp., New York, N.Y. 902,022, pub. 8-25-70. Cl. 11.
 Masco Systems Group Inc., New York, N.Y. 902,362, pub. 8-25-70. Cl. 101.
 Mattel, Inc., Hawthorne, Calif. 902,138, pub. 8-18-70. Cl. 22.
 Mann Industries Ltd., Mansfield, England. 902,173, pub. 8-25-70. Cl. 26.
 Mayer, Ben, Design, Inc., Los Angeles, Calif. 902,035, pub. 8-25-70. Cl. 12.
 Mayfair Productions Ltd., Ontario, Canada. 902,359, pub. 8-25-70. Cl. 101.
 McGraw-Edition Co., Elgin, Ill. 902,116, pub. 8-25-70. Cl. 21.
 McGraw-Edition Co., Elgin, Ill. 902,118, pub. 8-25-70. Cl. 21.
 McGregor, Robert P., d.b.a. McGregor Mfg. Co., Oxford, Ohio. 777,415, can. Cl. 37.
 Mediterranean Importing Co., Inc., Long Island City, N.Y. 902,322, pub. 8-25-70. Cl. 49.
 Mennen-Greathatch Electronics, Inc., Clarence, N.Y. 902,272, pub. 8-25-70. Cl. 44.
 Mercado De Discos, Inc., New York, N.Y. 902,212, pub. 8-25-70. Cl. 36.
 Merck & Co., Inc., Rahway, N.J. 777,479, can. Cl. 44.
 Metasap Chemical Co., Harrison, N.J. 531,064, Am. 7(d). Cl. 6.
 Meyercoed Co., The, Carol Stream (Wheaton), Ill. 531,313, ren. 11-10-70. Cl. 38.
 Micaela Gutierrez, d.b.a. H. G. De Soto, Calexico, Calif. 777,281, can. Cl. 18.
 Mida Mfg. Inc., Philadelphia, Pa. 902,405, Cl. 25.
 Midas-International Corp., Chicago, Ill. 902,166, pub. 8-25-70. Cl. 23.
 Milchem Ind., Houston, Tex. 901,998, pub. 8-25-70. Cl. 6.
 Military Personnel Placement Service, Vienna, Va. 902,370, pub. 8-25-70. Cl. 101.
 Minibus, Inc., Pico Rivera, Calif. 902,093, pub. 8-25-70. Cl. 19.
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 777,364, can. Cl. 26.
 Minneapolis-Honeywell Regulator Co., Philadelphia, Pa. 777,480, can. Cl. 44.
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 777,413, can. Cl. 36.
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 901,982-3, pub. 8-25-70. Cl. 4.
 Minnesota Mining & Mfg. Co., St. Paul, Minn. 902,000, pub. 8-25-70. Cl. 6.
 Mittag & Volger Burroughs Corp., Detroit, Mich. 34,518, Am. 7(d). Cl. 11.
 Monex Corp., Hialeah, Fla. 902,038, pub. 8-25-70. Cl. 13.
 Mooney Aircraft Corp., Kerrville, Tex. 902,389-90, pub. 8-25-70. Cl. 103.
 Morris, Phillip, Inc., New York, N.Y. 902,317, pub. 8-25-70. Cl. 46.
 Mount Olive Pickle Co., Inc., Mount Olive, N.C. 649,015, cor. Cl. 46.
 Muddywillows, The, Medford, Oreg. 902,397, pub. 8-25-70. Cl. 107.
 Murphy, Brill & Sauer, Inc., New York, N.Y. 532,344, ren. 11-10-70. Cl. 39.
 Murphy, G. C., Co., McKeesport, Pa. 901,973, pub. 8-25-70. Multiple Class (Classes 2 and 50).
 Myers, William H., Grand Rapids, Mich. 777,401, can. Cl. 34.
 N.Y. Verenigde Nederlandse Textielbedrijven J.W. Meljersink & Co. Winterswijk, Holland. 777,462, can. Cl. 42.
 Nanticoke Seafood Co., Inc., Nanticoke, Md. 902,301, pub. 8-25-70. Cl. 46.
 Nash Publishing Co., d.b.a. Nash Voicebooks, Los Angeles, Calif. 902,211, pub. 8-25-70. Cl. 36.
 National Association of Photo Equipment Technicians, Inc., Washington, D.C. 777,575, can. Cl. 200.
 National Biscuit Co., New York, N.Y. 35,662, ren. 11-10-70. Cl. 46.
 National Blank Book Co., Inc., Holyoke, Mass. 534,195, ren. 11-10-70. Cl. 37.
 National Chemsearch Corp., Irving, Tex. 902,021, pub. 8-25-70. Cl. 10.
 National Cooperatives, Inc., Albert Lea, Minn. 902,208, pub. 8-25-70. Cl. 35.
 National Housewares, Inc.: See—
 Emeko International, Inc.
 National Life Insurance Co., Montpelier, Vt. 530,408, ren. 11-10-70. Cl. 102.
 National Metal Products Co., Inc., Kansas City, Mo. 535,731, can. Cl. 23.
 Nelson & Associates, Inc., Evanston, Ill. 902,399, pub. 8-25-70. Cl. 107.
 Nelson, David P., d.b.a. Force Flow Equipment, Oakland, Calif. 902,183, pub. 8-25-70. Cl. 26.
 Nippon Pillow Block Mfg. Co., Ltd., Osaka, Japan. 902,163, pub. 8-25-70. Cl. 23.
 North American Boat Corp., Fort Lauderdale, Fla. 902,088-9, pub. 8-25-70. Cl. 19.
 North American Co. for Life & Health, Chicago, Ill. 902,383, pub. 8-25-70. Cl. 102.
 Nucleonic Products Co., Inc., Canoga Park, Calif. 902,026, pub. 8-25-70. Multiple Class (Classes 12 and 14).
 Oy Salon Leninkitukku Finn-Flare: See—
 Team Oy Finn-Flare
 Ohio Lime Co., Woodville, Ohio. 534,025-6, ren. 11-10-70. Cl. 12.
 Old World Cheese Shop, Ontario, Canada. 902,349, pub. 8-25-70. Multiple Class (Classes 100 and 101).
 Onelda Ltd., Onelda, N.Y. 902,162, pub. 8-25-70. Cl. 23.
 Onthank, G. W., Co., Des Moines, Iowa. 902,196, pub. 8-25-70. Cl. 32.
 Organon Inc., West Orange, N.J. 531,319, ren. 11-10-70. Cl. 18.
 Overland Mfg., Inc., Grand Prairie, Tex. 902,092, pub. 8-25-70. Cl. 19.
 Oxwall Tool Co., Ltd., Flushing, N.Y. 902,178, pub. 8-25-70. Cl. 26.
 Pacific Alaska Fisheries, Inc., Seattle, Wash. 78,948, ren. 11-10-70. Cl. 46.
 Pacific Industries, Inc., d.b.a. Computer Measurements Co., San Fernando, Calif. 777,366, can. Cl. 26.
 Palletower Ltd., Lytham, St. Annes, England. 902,195, pub. 8-25-70. Cl. 32.
 Paragon Hat Goods, Ltd., New York, N.Y. 902,248, pub. 5-19-70. Cl. 40.
 Park Chemical Co., Detroit, Mich. 444,253, ren. 11-10-70. Multiple Class (Classes 4 and 16).
 Parke, Davis & Co., Detroit, Mich. 902,283, pub. 8-25-70. Cl. 44.
 Parrott & Co., San Francisco, Calif. 533,530, ren. 11-10-70. Cl. 46.
 Part Time Research Associates, Inc., New York, N.Y. 777,504, can. Cl. 101.
 Pathe Electronics Mfg. Co., Inc., New York, N.Y. 902,101, pub. 8-25-70. Multiple Class (Classes 21 and 26).
 Payless Cashways, Inc., Iowa Falls, Iowa. 902,378-9, pub. 8-25-70. Cl. 101.
 Payne, Paula, Products Co., Charlotte, N.C. 888,800, cor. Cl. 51.
 Payne, Paula, Products Co., Charlotte, N.C. 881,009, cor. Cl. 51.
 Payne, Paula, Products Co., d.b.a. Paula Payne Products Co., Charlotte, N.C. 885,189, cor. Cl. 52.
 Pearse Leather Products Co., Inc., Salem, Mass. 901,979, pub. 8-25-70. Multiple Class (Classes 3 and 39).
 Peau d'Or Sales Corp. Plough, Inc., Memphis, Tenn. 534,375, Am. 7(d). Cl. 18.
 Peters & Russell, Inc., Springfield, Ohio. 902,081, pub. 8-25-70. Cl. 19.

- Petroleum Publishing Co., The, Tulsa, Okla. 902,408, Cl. 38.
 Pfaff, G. M., AG., Kaiserlautern/Pfalz, Germany. 533,202, ren. 11-10-70. Cl. 23.
 Pfrimmer, J., + Co. Erlangen Pharmazeutische Werke, Erlangen, Germany. 902,281, pub. 8-25-70. Cl. 44.
 Phelan-Faust Paint Mfg. Co., St. Louis, Mo. 777,222, can. Cl. 12.
 Phoenix Oil Co., Augusta, Ga. 534,083, cor. Cl. 6.
 Photo-Rama, Inc., Springfield, Ill. 902,394, pub. 8-25-70. Cl. 106.
 Pick Hotels Corp., Chicago, Ill. 535,464, can. Cl. 100.
 Pied Piper Records, Inc., New York, N.Y. 777,412, can. Cl. 36.
 Pierce Chemical Co., Rockford, Ill. 901,997, pub. 8-25-70. Cl. 6.
 Pillsbury Co., The, Minneapolis, Minn. 902,310, pub. 8-25-70. Cl. 46.
 Pinkerton's, Inc., New York, N.Y. 902,120, pub. 8-25-70. Cl. 21.
 Piqua Machine & Mfg. Co., Piqua, Ohio. 529,886, ren. 11-10-70. Cl. 21.
 Pizza Flip, Inc., Titusville, Fla. 902,302-3, pub. 8-25-70. Cl. 46.
 Plastic Research & Development Corp., Fort Smith, Ark. 902,230, pub. 9-1-70. Cl. 39.
 Plastiglide Mfg. Corp., Santa Monica, Calif. 902,198, pub. 8-25-70. Cl. 32.
 Plee-Zing, Inc., Evanston, Ill. 526,277, ren. 11-10-70. Cl. 39.
 Pollat, David, d.b.a. Pollat Artesano, Madrid, Spain. 902,327, pub. 8-25-70. Cl. 50.
 Popham, Arthur C., Jr., Kansas City, Mo. 901,077, pub. 8-25-70. Cl. 2.
 Preston Technical Abstracts Co., Evanston, Ill. 902,407, Cl. 38.
 Prober, Harvey, Inc., Fall River, Mass. 902,406, Cl. 32.
 Professional Nurses Bureau, Inc., San Francisco, Calif. 902,415, Cl. 101.
 Progressive Yacht Hardware International, Palos Verdes Estates, Calif. 902,083, pub. 8-25-70. Cl. 19.
 Protect-A-Care, Inc., Philadelphia, Pa. 902,066, pub. 8-25-70. Cl. 18.
 Psychological Associates, Inc., St. Louis, Mo. 902,400, pub. 8-25-70. Cl. 107.
 Purity Cheese Co., Mayville, Wis. 902,412, Cl. 46.
 Quaker Oats Co., The, Chicago, Ill. 777,559, can. Cl. 100.
 Qualltron Corp., Newtown, Conn. 777,349, can. Cl. 26.
 Quinn, K. J., & Co., Inc., Malden, Mass. 901,987, pub. 8-25-70. Cl. 5.
 REWO Chemicals, Inc., Plainville, N.Y., from REWO Chemische Fabrik Gesellschaft mit Beschränkter Haftung, Steinau, Germany. 901,985, pub. 8-25-70. Cl. 6.
 REWO Chemische Fabrik Gesellschaft mit Beschränkter Haftung: See—
 REWO Chemicals, Inc.
 Racine, Jules & Co., Inc., New York, N.Y. 902,189, pub. 8-25-70. Cl. 27.
 Rainbow Crafts, Inc., Cincinnati, Ohio. 902,136-7, pub. 8-25-70. Cl. 22.
 Ralston Purina Co., St. Louis, Mo. 509,362, Am. 7(d). Cl. 46.
 Ralston Purina Co., St. Louis, Mo. 527,453, ren. 11-10-70. Cl. 46.
 Ralston Purina Co., St. Louis, Mo. 528,256, ren. 11-10-70. Cl. 46.
 Ralston Purina Co., St. Louis, Mo. 901,971, pub. 8-25-70. Cl. 1.
 Randolph, Robert M., d.b.a. Planagement Associates, Northbrook, Ill. 902,221, pub. 8-25-70. Cl. 38.
 Raven, Glen Mills, Inc., Glen Raven, N.C. 902,271, pub. 8-25-70. Cl. 43.
 Reardon Co., The, Brunswick, Ohio. 902,027, pub. 8-25-70. Cl. 12.
 Red Barn Chemicals, Inc., Tulsa, Okla. 902,013, pub. 8-25-70. Cl. 10.
 Reese Jewelry Corp., New York, N.Y. 777,584, can. Cl. 28.
 Regenstetter Publishing Enterprises, Inc., Chicago, Ill. 902,416, Cl. 101.
 Regent Sheffield Ltd., Farmingdale, N.Y. 902,164, pub. 8-25-70. Cl. 23.
 Revlon, Inc., New York, N.Y. 777,552, can. Cl. 51.
 Revlon, Inc., New York, N.Y. 777,602, can. Cl. 51.
 Revlon, Inc., New York, N.Y. 777,605-7, can. Cl. 51.
 Rex Chainbelt Inc., Milwaukee, Wis. 274,553, ren. 11-10-70. Cl. 23.
 Rexall Drug & Chemical Co., Los Angeles, Calif. 777,543, can. Cl. 50.
 Rink Corp., Hazleton, Pa. 902,031, pub. 8-25-70. Cl. 12.
 Ripon Corp., Bensenville, Ill. 777,221, can. Cl. 12.
 Ritter Bros, Inc., New York, N.Y. 777,592, can. Cl. 39.
 Riverside Auto Lab, Inc., Riverside, Calif. 902,387, pub. 8-25-70. Cl. 103.
 Riveting Systems Ltd., Todmorden, England. 902,039, pub. 8-25-70. Multiple Class (Classes 13 and 23).
 Robapharm, A. G., Basel, Switzerland. 444,014, ren. 11-10-70. Cl. 18.
 Roberts, Thomas J., Charlotte, N.C. 790,404, can. Cl. 39.
 Robertshaw Controls Co., Richmond, Va. 777,347, can. Cl. 26.
 Robins, G. S., & Co., St. Louis, Mo. 280,303, ren. 11-10-70. Cl. 6.
 Robson, John H., Crystal Lake, Ill. 777,298, can. Cl. 22.
 Rockwell Mfg. Co., Pittsburgh, Pa. 902,174, pub. 8-25-70. Cl. 26.
 Rolly Tasker Salls, Inc., Cary, Ill. 902,097, pub. 8-25-70. Cl. 19.
 Royal Park Fashions Inc., Dallas, Tex. 902,236, pub. 8-25-70. Cl. 39.
 Rubbermaid Inc., Wooster, Ohio. 902,099, pub. 8-25-70. Cl. 19.
 S & A Electronics, Inc., d.b.a. Atrex of Ohio Division, Toledo, Ohio. 902,107, pub. 8-25-70. Cl. 21.
 Safety Tool Corp., Watertown, N.Y. 533,657, ren. 11-10-70. Cl. 23.
 St. Louis Janitor Supply Co., d.b.a. Navy Brand Mfg. Co., 902,345, pub. 8-25-70. Cl. 52.
 Sandy Bottom Beef for Freezers of Rockville, Inc., Rockville, Md. 777,500, can. Cl. 46.
 Sasieni Ltd., London, England. 280,380, ren. 11-10-70. Cl. 8.
 Savage Laboratories, Inc., Houston, Tex. 902,070, pub. 8-25-70. Cl. 18.
 Schaefer, Mido G., & Co. S.A., Bienne, Switzerland. 902,186, pub. 8-25-70. Cl. 27.
 Scheirich, H. J., Co., Louisville, Ky. 902,197, pub. 8-25-70. Cl. 32.
 Schenley Distillers, Inc., New York, N.Y. 777,535-6, can. Cl. 49.
 Schreiber, Guido, New York, N.Y. 777,194, can. Cl. 6.
 Schreiber, Guido, New York, N.Y. 777,278, can. Cl. 21.
 Schwinn Bicycle Co., Chicago, Ill. 902,090, pub. 8-25-70. Cl. 19.
 Science Products Co., Inc., Chicago, Ill. 531,884, ren. 11-10-70. Cl. 10.
 Scott Paper Co., Boston, Mass. 902,214, pub. 6-2-70. Cl. 37.
 Scruggs, Thomas M., Millbrae, Calif. 772,273, can. Cl. 19.
 Seagram, Joseph E., & Sons Inc., New York, N.Y. 902,324, pub. 8-25-70. Cl. 49.
 Searle, G. D., & Co., Skokie, Ill. 902,064, pub. 8-25-70. Cl. 18.
 Sears, Roebuck & Co., Chicago, Ill. 902,409, Cl. 39.
 Seeburg Corp., of Delaware, The, Chicago, Ill. 529,424, ren. 11-10-70. Cl. 36.
 Segall, Pitt & Sons, Inc., New York, N.Y. 902,253, pub. 8-25-70. Cl. 42.
 Sep-Ko Chemicals, Inc., Minneapolis, Minn. 902,346, pub. 8-25-70. Cl. 52.
 Sharon Shoe Corp., Hialeah, Fla. 902,241, pub. 8-25-70. Cl. 39.
 Sherwin-Williams Co., The, Cleveland, Ohio. 271,344, ren. 11-10-70. Cl. 16.
 Shiffer, Dan, d.b.a. Vitul Electronics Co., Lansing, Mich. 777,483, can. Cl. 44.
 Sierra Chemical Co., Newark, Calif. 902,012, pub. 8-25-70. Cl. 10.
 Sifo Co., St. Paul, Minn. 777,580, can. Cl. 22.
 Simpson Timber Co., Seattle, Wash. 526,847, ren. 11-10-70. Cl. 12.
 Smart & Associates, Ltd., New York, N.Y. 902,398, pub. 8-25-70. Cl. 107.
 Smith, Howard A., and Shirley C. Smith, d.b.a. Ranger Fiberglass Boats, South Kent, Wash. 902,091, pub. 8-25-70. Cl. 19.
 Smith Kilne & French Laboratories, Philadelphia, Pa. 902,075, pub. 8-25-70. Cl. 18.
 Smith Kilne & French Laboratories, Philadelphia, Pa. 902,077, pub. 8-25-70. Cl. 18.
 Smithfield Packing Co., Inc., The, Smithfield, Va. 777,506, can. Cl. 46.
 Smith's Transfer & Storage Co., Inc., Washington, D.C. 530,400, ren. 11-10-70. Cl. 105.
 Societe Industrielle des Etablissements B.V.R. (Blais-Mousseron-L. Villemot-A. Rondeau), Paris, France. 902,254, pub. 8-25-70. Cl. 42.
 Soll Seal, Inc., Van Nuys, Calif. 902,024, pub. 8-25-70. Cl. 12.
 Sona Stream Corp., Peotone, Ill. 902,115, pub. 8-25-70. Cl. 21.
 Sona Stream Corp., Peotone, Ill. 902,192, pub. 8-25-70. Cl. 29.
 Sonotec, Inc., Santa Ana, Calif. 777,340, can. Cl. 26.
 Sonotone Corp., Elmsford, N.Y. 902,273, pub. 8-25-70. Cl. 44.
 Sonotone Corp., Elmsford, N.Y. 902,275, pub. 8-25-70. Cl. 44.
 South African Frozen Rock Lobster Packers, Cape Town, Republic of South Africa. 902,290, pub. 8-25-70. Cl. 46.
 South Shore National Bank, Quincy, Mass. 902,392, pub. 8-25-70. Cl. 105.
 Southland Oil Corp., Savannah, Ga. 902,045, pub. 8-25-70. Cl. 15.
 Southwestern Electric Power Co., Shreveport, La. 902,352, pub. 8-25-70. Cl. 100.
 Specialties, Inc., Memphis, Tenn. 902,218, pub. 8-25-70. Cl. 38.
 Sprinter-Pack Aktiebolag, Halmstad, Sweden. 901,974, pub. 8-25-70. Cl. 2.
 Stafford Foods Ltd., Ontario, Canada. 902,298, pub. 8-25-70. Cl. 46.
 Staley, A. E., Mfg. Co., Decatur, Ill. 893,203, can. Cl. 52.
 Staley, A. E., Mfg. Co., Decatur, Ill. 902,005, pub. 8-25-70. Cl. 6.
 Standard Brands Chemical Industries, Inc., Dover, Del. 901,986, pub. 8-25-70. Cl. 5.
 Standard International Corp., Andover, Mass. 527,958, ren. 11-10-70. Cl. 13.
 Standard Oil Co., Flemington, N.J. 902,044, pub. 8-25-70. Cl. 15.
 Standard Oil Co., Flemington, N.J. 902,050, pub. 8-25-70. Cl. 15.
 Standard Oil Co., Flemington, N.J. 902,251, pub. 6-30-70. Cl. 42.
 Standard Oil Co., Flemington, N.J. 902,391, pub. 8-25-70. Cl. 103.
 Starr, Hortense D., executrix of the estate of Raymond H. Starr, Kansas City, Mo. 528,764, ren. 11-10-70. Cl. 6.
 Starr, Hortense D., executrix of the estate of Raymond H. Starr, Kansas City, Mo. 531,052, ren. 11-10-70. Cl. 34.
 Starr Pharmaceutical Co., Los Angeles, Calif. 777,253, can. Cl. 18.
 Stearns-Roger Corp., Denver, Colo. 444,276, ren. 11-10-70. Cl. 23.
 Stearns-Roger Corp., Denver, Colo. 444,319, ren. 11-10-70. Cl. 23.

Stein, Hall & Co., Inc., New York, N.Y. 534,391, ren. 11-10-70. Cl. 5.
 Sterling Drug Inc., New York, N.Y. 902,344, pub. 8-25-70. Cl. 51.
 Stetson, John B., Co., Philadelphia, Pa. 335,400. Am. 7(d). Cl. 39.
 Stevens, J. P., & Co., Inc., New York, N.Y. 777,470, can. Cl. 42.
 Stevens, J. P., & Co., Inc., New York, N.Y. 777,472, can. Cl. 42.
 Stewart's Root Beer, Inc., Mansfield, Ohio. 274,949, ren. 11-10-70. Cl. 43.
 Stieratt, Avery, d.b.a. Tasty Products Co. 902,308-9, pub. 8-25-70. Cl. 46.
 Stoker Service & Equipment, Inc., Atlanta, Ga. 777,404, can. Cl. 34.
 Stop & Shop, Inc., Boston, Mass. 902,358, pub. 8-25-70. Cl. 101.
 Stow-A-Way Products Co., Inc., Cohasset, Mass. 902,122, pub. 8-25-70. Multiple Class (Classes 22 and 46).
 Stull Chemical Co., San Antonio, Tex. 901,993, pub. 8-25-70. Cl. 6.
 Sun Oil Co., Philadelphia, Pa. 902,047-8, pub. 8-25-70. Cl. 15.
 Sunshine Biscuits, Inc., New York, N.Y. 533,641, ren. 11-10-70. Cl. 46.
 Superintendent Co., Inc., New York, N.Y. 902,354, pub. 8-25-70. Cl. 100.
 Superior Continental Corp., Hickory, N.C. 804,942, cor. Cl. 21.
 Swannee Paper Co., Inc., New York, N.Y. 902,245, pub. 8-25-70. Cl. 39.
 Swift & Co., Chicago, Ill. 521,911, ren. 11-10-70. Cl. 46.
 Swift & Co., Chicago, Ill. 523,324, ren. 11-10-70. Cl. 46.
 Sydnor Hydrodynamics Inc., Richmond, Va. 902,151, pub. 8-25-70. Cl. 23.
 Sylvan Pools, Inc., Doylestown, Pa. 902,326, pub. 8-25-70. Cl. 50.
 Synd-A-Cake of America, Inc., Knoxville, Tenn. 902,381, pub. 8-25-70. Cl. 101.
 TAI Inc., San Francisco, Calif. 902,235, pub. 8-25-70. Cl. 39.
 Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan. 902,294, pub. 8-25-70. Cl. 46.
 Talens & Son, Inc., Union, N.J. 274,246, ren. 11-10-70. Cl. 16.
 Tassette, Inc., Stamford, Conn. 902,277, pub. 8-25-70. Cl. 44.
 Taylor Brothers, Inc., Wlston-Salem, N.C. 278,807, ren. 11-10-70. Cl. 17.
 Team Oy Finn-Flare, Salo, from Oy Salon Leninkitukku Finn-Flare, Salo, Finland. 902,228, pub. 8-25-70. Cl. 39.
 Telecomputing Corp., Los Angeles, Calif. 777,283, can. Cl. 21.
 Telex Corp., The, Tulsa, Okla. 902,276, pub. 8-25-70. Cl. 44.
 Tension Envelope Corp., Kansas City, Mo. 530,590, ren. 11-10-70. Cl. 37.
 Tension Envelope Corp., Kansas City, Mo. 532,045, ren. 11-10-70. Cl. 37.
 Terry, Joseph, & Sons Ltd., York, England. 902,299-300, pub. 8-25-70. Cl. 46.
 Textron Electronics, Inc., Cumberland, Md. 777,346, can. Cl. 26.
 Thayer, Henry, Co., Cambridge, Mass. 777,519, can. Cl. 46.
 Thermo Reactors, Inc., New York, N.Y. 777,407, can. Cl. 34.
 Thiokol Chemical Corp., Bristol, Pa. 273,383, ren. 11-10-70. Cl. 1.
 Thomas, Bert E., Atlanta, Ga. 777,482, can. Cl. 44.
 Thompson-Hayward Chemical Co., Kansas City, Kans., from Leffingwell Chemical Co., Brea, Calif. 902,011, pub. 8-25-70. Cl. 10.
 Thorlo, Inc., Statesville, N.C. 902,244, pub. 8-25-70. Cl. 39.
 Ticket Reservation Systems, Inc., New York, N.Y. 902,225, pub. 8-25-70. Cl. 35.
 Tinctoria Lombarda S.p.A., Como, Italy. 777,572-3, can. Cl. 108.
 Tiny-Town Toys, Inc., New York, N.Y. 902,242, pub. 8-25-70. Cl. 39.
 Tip-Top Products Co., Omaha, Nebr. 589,174, can. Cl. 40.
 Top Form-Yolande, Inc., New York, N.Y. 777,445, can. Cl. 39.
 Topco Associates, Inc., Skokie, Ill. 901,984, pub. 6-30-70. Cl. 4.
 Topco Associates, Inc., Skokie, Ill. 902,007, pub. 6-30-70. Cl. 6.
 Topps Photos, Inc., Brooklyn, N.Y. 902,143, pub. 8-25-70. Cl. 23.
 Toro Mfg. Corp., Minneapolis, Minn. 902,037, pub. 8-25-70. Cl. 13.
 Toro Mfg. Corp., Minneapolis, Minn. 902,141, pub. 8-25-70. Cl. 23.
 Trans Union Corp., from Union Tank Car Co., Chicago, Ill. 902,152, pub. 8-25-70. Cl. 23.
 Trenton Corp., The, Ann Arbor, Mich. 777,215-16, can. Cl. 12.
 Trohaway, Edward J., Ithaca, N.Y. 902,282, pub. 8-25-70. Cl. 44.
 Triangle Mfg. Co., Inc., Baltimore, Md. 777,450, can. Cl. 42.
 Triple X Chemical Laboratories, Inc., Mundelein, Ill. 902,051, pub. 8-25-70. Cl. 15.
 True Form Foundations, Inc., Darby, Pa. 534,517, ren. 11-10-70. Cl. 39.
 Turtle Wax, Inc., Chicago, Ill. 777,197, can. Cl. 6.
 Unicare Health Services, Inc., Milwaukee, Wis. 902,855, pub. 8-25-70. Cl. 100.
 Unimax Switch Corp., Wallingford, Conn. 902,117, pub. 8-25-70. Cl. 21.
 Union Carbide Corp., New York, N.Y. 278,352, ren. 11-10-70. Cl. 46.
 Union Oil Co. of Calif., Los Angeles, Calif. 531,449, ren. 11-10-70. Cl. 15.
 Union Oil Co. of Calif., Los Angeles, Calif. 531,452, ren. 11-10-70. Cl. 15.
 Union Tank Car Co.: See—
 Trans Union Corp.
 Uniroyal, Inc., New York, N.Y. 901,996, pub. 8-25-70. Cl. 6.
 United Fruit Co., Boston, Mass. 777,528-30, can. Cl. 46.
 United Sales Associates, Ltd., Elberon, N.J. 902,368, pub. 8-25-70. Cl. 101.
 U. S. Plywood-Champion Papers Inc., New York, N.Y. 529,293, ren. 11-10-70. Cl. 23.
 United States Rubber Co., New York, N.Y. 777,450-1, can. Cl. 39.
 United States Steel Corp., Pittsburgh, Pa. 902,020, pub. 8-25-70. Cl. 10.
 United Vintners, Inc., San Francisco, Calif. 902,319-20, pub. 8-25-70. Cl. 47.
 Universal Oil Products Co., d.b.a. UOP Water Services Division, Des Plaines, Ill. 901,999, pub. 8-25-70. Cl. 6.
 Upjohn Co., The, Kalamazoo, Mich. 902,009-10, pub. 8-25-70. Cl. 6.
 Upjohn Co., The, Kalamazoo, Mich. 902,074, pub. 8-25-70. Cl. 18.
 Vadle Corp., The, Palo Alto, Calif. 902,114, pub. 8-25-70. Cl. 21.
 Valley Shoe Corp., St. Louis, Mo. 276,532, ren. 11-10-70. Cl. 39.
 Vance Publishing Corp., Chicago, Ill. 534,513, ren. 11-10-70. Cl. 38.
 Vaughn Machinery Co., The, Cuyahoga Falls, Ohio. 530,875, ren. 11-10-70. Cl. 23.
 Viaphone, Inc., St. Louis, Mo. 902,102, pub. 8-25-70. Cl. 21.
 Viatron Computer Systems Corp., Burlington, Mass. 902,172, pub. 8-25-70. Cl. 26.
 Vinyl Mald, Inc., West Springfield, Mass. 901,976, pub. 8-25-70. Cl. 2.
 Visual Electronics Corp., New York, N.Y. 902,103, pub. 8-25-70. Cl. 21.
 Volgtlander A.G., Braunschweig, Germany. 777,342, can. Cl. 26.
 Walter, Harry G., d.b.a. Scorb Co., Denver, Colo. 902,306, pub. 8-25-70. Cl. 46.
 Wands, Inc., Stamford, Conn. 902,113, pub. 8-25-70. Cl. 21.
 Wang Laboratories, Inc., Tewksbury, Mass. 902,184, pub. 8-25-70. Cl. 26.
 Waterbury Hydraulic Industries, Inc.: See—
 Waterbury Hydraulic & Pollution Sciences, Inc.
 Waterbury Hydraulic & Pollution Sciences, Inc., from Waterbury Hydraulic Industries, Inc., Waterbury, Conn. 902,158, pub. 8-25-70. Cl. 23.
 Weatherford, Fred, d.b.a. Weatherford Enterprises, Hyattsville, Md. 902,123, pub. 8-25-70. Cl. 22.
 Webster Mills, Inc., New York, N.Y. 902,262, pub. 8-25-70. Cl. 42.
 Wehr Corp., Milwaukee, Wis. 902,110, pub. 8-25-70. Cl. 21.
 Wellington Sears Co., New York, N.Y. 777,468, can. Cl. 42.
 Wells Cargo, Inc., Elkhart, Ind. 902,084-6, pub. 8-25-70. Cl. 19.
 Werner, R. D., Co., Inc., Greenville, Pa. 777,540, can. Cl. 50.
 West Bend Co., The, West Bend, Wis. 777,395, can. Cl. 33.
 West Chemical Products, Inc., Long Island City, N.Y. 901,992, pub. 8-25-70. Cl. 6.
 West & Helmlinger, Inc.: See—
 Greer Hydraulics, Inc.
 Western Auto Supply Co., Kansas City, Mo. 537,240, ren. 11-10-70. Cl. 34.
 Western Men Inc., San Francisco, Calif. 777,562, can. Cl. 101.
 Western Publishing Co., Inc., Racine, Wis. 902,127, pub. 8-25-70. Multiple Class (Classes 22 and 38).
 Wham-O Mfg. Co., San Gabriel, Calif. 902,337, pub. 8-25-70. Cl. 50.
 Wheeling-Pittsburgh Steel Corp., d.b.a. Wheeling Corrugating Co., Wheeling, W. Va. 279,435, ren. 11-10-70. Cl. 13.
 White, John T., d.b.a. New Orleans Seasoning Co. 902,289, pub. 8-25-70. Cl. 46.
 Whitman Publishing Co., Racine, Wis. 902,121, pub. 10-7-69. Cl. 22.
 Wileman Bros. & Elliott, Inc., Cutler, Calif. 902,293, pub. 8-25-70. Cl. 46.
 Wolfson, Lorraine G., d.b.a. Robert Rosche Associates, Chicago, Ill. 777,296, can. Cl. 22.
 Williams, J. B., Co., Inc., The, New York, N.Y. 902,061, pub. 9-2-69. Cl. 18.
 Williamson-Dickie Mfg. Co., The, Fort Worth, Tex. 534,402, ren. 11-10-70. Cl. 39.
 Wilmsen, B., Inc., Philadelphia, Pa. 777,538, can. Cl. 50.
 Wilson, Albert L., Rochester, N.Y. 902,331-2, pub. 8-25-70. Cl. 50.
 Wilson Sporting Goods Co., River Grove, Ill. 777,303, can. Cl. 22.
 Wood Conversion Co., St. Paul, Minn. 777,220, can. Cl. 12.
 Wright's, Wil, Ice Cream Shoppes, Inc., Studio City, Calif. 529,284, ren. 11-10-70. Cl. 46.
 Wrought Washer Mfg. Co., Milwaukee, Wis. 902,041, pub. 8-25-70. Cl. 13.
 Wynn Oil Co., Azusa, Calif. 777,190, can. Multiple Class (Classes 5, 6, 15, and 52).
 X-4 Corp., The, West Acton, Mass. 902,165, pub. 8-25-70. Cl. 23.
 Young Radiator Co., Racine, Wis. 525,689, ren. 11-10-70. Cl. 23.
 Zeiss Ikon A.G., Stuttgart, Germany. 777,336-7, can. Cl. 23.
 Zenith Radio Corp., Chicago, Ill. 902,036, pub. 8-25-70. Multiple Class (Classes 13, 21, and 36).
 Zimmermann Packing Co., Cincinnati, Ohio. 530,689, ren. 11-10-70. Cl. 35.
 Zimmermann Packing Co., Cincinnati, Ohio. 532,153, ren. 11-10-70. Cl. 23.



U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

November 17, 1970

Volume 880

Number 3

PATENTS
NOTICESBoard of Appeals Decisions Rendered in the Month of
October 1970

Examiner affirmed	119
Examiner affirmed in part	9
Examiner reversed	21
Total	149

to the Patent Office promptly if no secrecy order is imposed, or upon rescission of such order if one is imposed, and (b) no additional copies will be made by the defense agencies. A record of the removal and return of copies made available for defense inspection will be maintained by the Patent Office. Applications relating to atomic energy are made available to the Atomic Energy Commission as specified in § 1.14 of this chapter.

Effective date.—This revision shall become effective upon publication in the Federal Register.

Issued: September 29, 1970.

WILLIAM E. SCHUYLER, JR.,
Commissioner of Patents.

Approved:

MYRON TRIBUS,
Assistant Secretary for
Science and Technology.

[F.R. Doc. 70-13720; Filed, Oct. 12, 1970; S: 47 a.m.]

Published in 35 F.R. 16013, Oct. 13, 1970

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 3,260,748, S. J. Nelson, Jr., S-(4-VINYLBENZYL)-ISOTHIOUREA AND ISOTHIOURONUM CHLORIDE, decided Aug. 28, 1970, Interference No. 96,407, claim 2.

Patent No. 3,284,374, H. Daimon, K. Kamio, and S. Kojima, PROCESS FOR POLYMERIZING OLEFIN OXIDES WITH A CATALYST CONSISTING OF AN ORGANOZINC COMPOUND AND AN AMINE, decided Aug. 28, 1970, Interference No. 96,353, claims 1, 3, 6, 7 and 8.

Patent No. 3,349,339, L. Thorington, OPTICALLY PUMPED LASER WITH CATHODO-LUMINESCENT PUMPING LIGHT SOURCE, decided June 11, 1970, Interference No. 96,259, claim 1.

Dedication

3,479,190.—Alexander J. Ganz, Wilmington, Del. EDIBLE COMPOSITIONS AND PROCESS. Patent dated Nov. 18, 1969. Dedication filed July 31, 1970, by the assignee, Hercules Incorporated.

Hereby dedicates said patent to the Public.

New Applications Received During August 1970

Patents	8337
Designs	532
Plant Patents	5
Reissues	33
Total	8907

Issue—November 17, 1970

Patents	1550—No. 3,540,058 to No. 3,541,607, incl.
Designs	55—No. 219,200 to No. 219,254, incl.
Plant Patents	5—No. 3,000 to No. 3,004, incl.
Reissues	5—No. 26,978 to No. 26,982, incl.
Total	1615

Classification Order No. 402

Classification Order No. 402, dated September 30, 1970, incorporates changes in the following classes:

- 51, ABRADING
96, PHOTOGRAPHIC CHEMISTRY, PROCESSES AND MATERIALS
180, MOTOR VEHICLES
188, BRAKES
424, DRUG, BIO-AFFECTING AND BODY TREATING COMPOSITIONS

All changes will be incorporated in the Manual of Classification replacement pages dated October 1970.

WALTER W. BURNS, JR.,
Administrator Office of Search Systems
and Documentation.

Disclaimers

3,483,207.—*Erhardt Winkelmann, Kelkheim, Taunus, and Wolf-Helmut Wagner, Frankfurt am Main, Germany.* UNSYMMETRICAL BIS-THIOSEMICARBAZONES. Patent dated Dec. 9, 1969. Disclaimer filed Sept. 18, 1970, by the inventors; the assignee, *Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning*, consenting.

Hereby disclaims the terminal portion of the term of the patent subsequent to Nov. 11, 1986.

3,487,804.—*Elmer Carl Kiekhaefer, Winter Haven, Fla.* UNDERWATER PROPELLER WITH AIR-VENTED SLIP STREAM. Patent dated Jan. 6, 1970. Disclaimer filed Oct. 8, 1970, by the assignee, *Brunswick Corporation*.

Hereby enters this disclaimer to claim 1 of said patent.

3,508,180.—*Joseph C. Mayer, Milwaukee, Wis.* RELAY WITH SEALED CONTACT SWITCH MODULES. Patent dated Apr. 21, 1970. Disclaimer filed Sept. 17, 1970, by the assignee, *Allen-Bradley Company*.

Hereby enters this disclaimer to claims 1, 2 and 3 of said patent.

Office Actions

Effective December 1, 1970, applicants or their attorney or agent will be provided with one carbon copy of all Office actions, and the provision of additional or other reproductions of the ribbon copy will be discontinued.

Heretofore, the Office has provided one or two copies of the examiner's action, depending upon the nature of the action. The practice of furnishing more than one copy will be discontinued and, effective with the above change, the applicant will be furnished one copy of all examiner actions.

RICHARD A. WAHL,
Assistant Commissioner.

Oct. 21, 1970.

Certificates of Correction for the Week of Nov. 17, 1970

3,198,786	3,461,499	3,484,449	3,492,647	3,504,011	3,519,300	3,524,898	3,526,969
3,314,859	3,461,715	3,485,566	3,492,935	3,505,351	3,519,970	3,525,018	3,527,049
3,408,572	3,462,238	3,485,620	3,492,945	3,507,689	3,520,249	3,525,041	3,527,616
3,415,620	3,462,520	3,485,733	3,492,959	3,507,829	3,521,088	3,525,073	3,527,734
3,415,842	3,462,646	3,487,042	3,493,404	3,509,138	3,521,117	3,525,081	3,527,795
3,416,120	3,465,082	3,487,733	3,493,724	3,512,676	3,521,333	3,525,130	3,527,889
3,422,928	3,465,406	3,488,186	3,493,930	3,513,439	3,521,502	3,525,235	3,527,920
3,426,538	3,465,741	3,489,299	3,494,100	3,513,879	3,521,656	3,525,238	3,527,943
3,426,582	3,466,171	3,489,309	3,494,659	3,514,403	3,522,087	3,525,604	3,527,966
3,428,301	3,466,319	3,489,446	3,494,853	3,514,443	3,522,253	3,525,613	3,528,074
3,443,007	3,466,331	3,489,552	3,495,122	3,515,440	3,522,526	3,525,662	3,528,187
3,445,099	3,468,698	3,489,725	3,495,225	3,515,568	3,522,597	3,525,863	3,528,448
3,446,255	3,468,933	3,489,737	3,495,610	3,515,576	3,522,623	3,525,961	3,528,502
3,446,257	3,470,252	3,490,619	3,495,919	3,515,664	3,522,922	3,525,987	3,528,527
3,448,043	3,471,358	3,490,739	3,496,475	3,515,729	3,522,997	3,525,996	3,528,725
3,448,133	3,474,303	3,490,888	3,496,625	3,515,788	3,523,456	3,526,001	3,528,726
3,448,847	3,475,467	3,490,955	3,497,035	3,515,827	3,523,783	3,526,025	3,528,833
3,449,350	3,476,444	3,491,005	3,497,156	3,516,591	3,523,865	3,526,031	3,528,852
3,449,446	3,479,225	3,491,057	3,498,230	3,516,826	3,524,234	3,526,095	3,528,904
3,449,448	3,479,334	3,491,328	3,498,353	3,516,894	3,524,325	3,526,301	3,528,945
3,450,797	3,480,714	3,491,361	3,499,363	3,516,941	3,524,493	3,526,341	3,528,999
3,452,115	3,480,765	3,491,383	3,500,185	3,517,431	3,524,521	3,526,513	3,529,052
3,452,651	3,481,198	3,491,486	3,500,633	3,517,586	3,524,686	3,526,540	3,529,118
3,453,255	3,481,361	3,491,719	3,500,870	3,518,480	3,524,727	3,526,560	3,529,394
3,456,067	3,481,926	3,491,724	3,500,966	3,518,510	3,524,741	3,526,622	3,529,450
3,458,537	3,481,941	3,492,117	3,502,293	3,518,775	3,524,784	3,526,627	3,530,102
3,458,539	3,481,945	3,492,290	3,503,185	3,518,890	3,524,796	3,526,808	3,531,210
3,459,548	3,482,558	3,492,373	3,503,489	3,519,039	3,524,808	3,526,947	
3,460,202	3,483,209	3,492,488	3,503,983	3,519,106	3,524,844	3,526,954	

1

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF NOVEMBER 3, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director.....	2-03-69
Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director.....	10-31-68
Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director.....	7-02-69
Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director....	4-09-70
Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director ..	12-31-68
Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director.....	12-02-69
Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	
SECURITY, GROUP 220—R. L. CAMPBELL, Director.....	4-09-69
Ordinance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director.....	6-05-69
Communications; Multiplexing Techniques; Facsimile; Data Processing; Computation and Conversion; Storage Devices and Related Arts.	
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 260—W. L. CARLSON, Director.....	6-30-69
Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	
PHYSICS, GROUP 280—R. L. EVANS, Director.....	5-13-69
Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	
DESIGNS, GROUP 290—R. L. CAMPBELL, Director.....	2-02-70
Industrial Arts; Household, Personal and Fine Arts.	
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director.....	7-30-69
Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director.....	5-22-69
Manufacturing Processes; Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director.....	6-02-69
Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director.....	10-27-69
Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director.....	9-15-69
Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	
Total number of pending applications (excluding Designs).....	183,364
Total number of Design applications pending.....	3,050

Expiration of patents: The patents within the range of numbers indicated below expiring during November 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents..... Numbers 2,657,382 to 2,660,722, inclusive
Plant Patents..... Numbers 1,226 to 1,231, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE JEROLD J. GOLNER AND WILLIAM G. BAIRD, JR.

No. 8257. Decided May 14, 1970

[57 CCPA —; 425 F.2d 788; 165 USPQ 546]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"HEAT SEALING OF POLYOLEFIN FILMS."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Heat Sealing of Polyolefin Films," as unpatentable over the prior art, is affirmed.

APPEAL from Patent Office. Serial No. 96,072.

AFFIRMED.

Edward J. Hanson, Jr. (John J. Toney, of counsel) for appellants.
Joseph Schimmel (Joseph F. Nakamura, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and McMANUS, *Chief Judge*, Northern District of Iowa, sitting by designation

BALDWIN, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals, adhered to on reconsideration, affirming the rejection of claims 1, 2, 7 and 14-21 of appellants' application¹ on the basis of obviousness under 35 U.S.C. 103 and the further rejection of claims 1, 2 and 14-16 under 35 U.S.C. 112. No claims have been allowed.

THE INVENTION

The invention relates to a process for heat sealing polyolefin films wherein, prior to the heat sealing step, the surfaces to be joined together are first oxidized and then one of those surfaces is coated with a particular adhesive lacquer composition. The films specifically disclosed and claimed are prepared from medium to high density homopolymers and copolymers of ethylene and propylene and have been oriented² in either one or two directions. The specification states that in prior attempts to heat-seal or bond together oriented films of these polymers, it was observed that at the temperatures necessary to provide a practical seal, the film would shrink in the heated areas causing puckering and weakness at the seal. Accordingly, the disclosure goes on, "[t]wo satisfactory classes of coating lacquers have been discovered, which when properly applied to oriented polyolefin films permit sealing at temperatures below that at which significant shrinkage occurs." In the first class of coating compositions, the resin comprises a copolymer of vinyl chloride and vinylidene chloride, and in the second the resin is a mixture comprising at least 80% by weight polyvinyl butyral, at least 19% polyvinyl alcohol and at least 0.3% polyvinyl acetate. Oxidative surface treatment of the films is accomplished

¹ Serial No. 96,072, filed March 16, 1961, for "Heat Sealing of Polyolefin Films."

² Orientation refers to a technique wherein the plastic film, after the actual film-forming step, is heated and then stretched in a direction corresponding to either one or both of its coordinate axes, i.e., in a transverse or a longitudinal (machine) direction. The polymer molecules actually become "oriented" in the direction in which the stretching is accomplished and certain physical and optical properties of the film are thereby enhanced. See generally, 9 Kirk-Othmer, *Encyclopedia of Chemical Technology, Film Materials* (2d ed., 1966).

using known methods, e.g., flame treating, and is said to secure better adhesion of the coating compositions. Several examples are set out showing effective heat sealing being carried out at temperatures of about 240° F.

Claims 7 and 18-21 on appeal are drawn to the process. The remaining claims are product claims. The broadest claim from each group is here reproduced as being illustrative:

1. A product comprising two oriented base film surfaces heat sealed together, said film selected from the group consisting of polyethylene having an average density above 0.925, irradiated polyethylene having an average density above 0.925, polypropylene, and copolymers of ethylene and propylene, both of said oriented base film surfaces having been modified by oxidation to improve adhesion of a coating and having only one such modified surface coated with a composition selected from the group consisting of (1) a copolymer of vinyl chloride and vinylidene chloride and (2) a composition comprising at least 80% of polyvinyl butyral, at least 19% polyvinyl alcohol and at least 0.3% polyvinyl acetate.

7. A process for heat sealing together areas of oriented films selected from the group consisting of polyethylene having an average density above 0.925, irradiated polyethylene having an average density above 0.925, polypropylene, and copolymers of ethylene and propylene, which comprises modifying the surface by oxidation of the said areas to promote adhesion of a coating thereto, coating only one of said modified surfaces which are to be heat sealed together with a coating composition selected from the group consisting of (1) a copolymer of vinyl chloride and vinylidene chloride and (2) a composition comprising at least 80% of polyvinyl butyral, at least 19% polyvinyl alcohol and at least 0.3% of polyvinyl acetate, and heat sealing said areas together.

THE PRIOR ART

Swerlick,³ the reference primarily relied on by the Examiner, is directed to a process for producing high density polyethylene film which does *not* need to be surface treated before it is coated. The patent discloses that, ordinarily, polyolefins do have to be so treated and that flame treating is a common method for doing so. There is specific mention of polyvinyl butyral as a suitable polymeric coating as well as several examples demonstrating the coating of *both* sides of the polyethylene film with polyvinyl butyral and the heat sealing of this coated film to another strip of the same film similarly coated. The heat sealing was accomplished at a temperature of 185° C. (365° F.).

Keller et al.⁴ discloses a process wherein polyethylene film is surface-oxidized and the treated surface is then coated with a vinylidene chloride polymer, which may be a vinylidene chloride-vinyl chloride copolymer. It is further pointed out that the oxidative treatment disclosed has been found to make polyethylene highly receptive and retentive of adhesives, including heat-sensitive polymeric adhesives. A process is disclosed which comprises coating certain areas of the treated film with a heat-sensitive adhesive so that opposed surfaces can be "readily heat-sealed" to form the gusseted bottom of a bag.

Traver⁵ is drawn to a technique for rendering the surface of high density polyethylene adherent to such things as ink and adhesive by exposing the surface to an electrostatic field. The patent states that this surface treatment differs from thermal (flame) treatment in that it "yields no evidence of oxidation." A process is disclosed wherein two

³ U.S. Patent 2,941,254, issued June 21, 1960.

⁴ U.S. Patent 2,968,576, issued January 17, 1961.

⁵ U.S. Patent 2,910,723, issued November 3, 1959.

laminae of polyethylene film are joined together by first modifying the surfaces to be joined together by the disclosed electrostatic technique, applying adhesive to "one or both of the treated surfaces which are to be joined," and then bringing the two films or laminae into contact with each other, with the adhesive or treated sides together.

Meier⁶ discloses that vinylidene chloride copolymers, including copolymers with vinyl chloride, are useful as heat-sealable coatings and may be applied to base materials such as polyethylene from either solvent solution or aqueous dispersion. The patent is concerned with overcoming the strong tendency of the coatings to adhere to one another when pressed together.

Grimminger et al.⁷ is directed to a process for improving the adhesiveness of polyolefins, "for example polyethylene, polypropylene and copolymers of ethylene and propylene," by treating the surfaces thereof with a mixture of sulfur dioxide and chlorine with simultaneous irradiation. The disclosed technique is said to be an improvement over earlier methods such as heating the surface of the polyolefin or bombarding it with electrons. Several examples show effective adherence of polymeric adhesives and lacquers to both oriented and non-oriented polyolefin films treated according to the disclosed technique.

A publication by the Bakelite Co.⁸ is also in the record showing the exact polyvinyl butyral composition claimed by appellants and stating: "The commercially important vinyl butyral resins are actually partial butyrals of polyvinyl alcohol, and retain some unreacted polyvinyl alcohol groups which contribute to the many desirable properties of these resins." The resins are characterized as having "excellent adhesion to a wide variety of non-porous surfaces."

THE REJECTIONS

The product claims were rejected by the Examiner under 35 U.S.C. 103 "as unpatentable over Swerlick in view of Traver and further considered with Grimminger et al." Where the claims were limited to the vinylidene chloride copolymer coating (claims 14, 16 and 17), the Grimminger et al. reference was said to be considered "in view of either Meier or Keller et al." Where polyvinyl butyral was the only coating recited (claim 15), Grimminger et al. was considered "in view of the Bakelite publication."

The Examiner maintained that Swerlick could be considered to disclose the claimed structure at least insofar as it discloses two polyolefin films which have been treated to facilitate and improve the adhesion of a heat sensitive adhesive and bonded together with a heat sensitive adhesive. From Traver, he thought it to be obvious that the method limitation of coating only one of the two opposing surfaces to be bonded is the equivalent of coating both the opposing surfaces, and from Grimminger et al., that oriented as well as non-oriented polyolefin films may be bonded. The Keller et al. and Meier patents were "relied on as disclosures of vinylidene chloride-vinyl chloride copolymers which may be applied to a polyolefin film and used as a heat sealable adhesive." The Bakelite publication was stated to make "it clear

⁶ U.S. Patent 2,748,027, issued May 29, 1956.

⁷ U.S. Patent 3,036,930, issued May 29, 1962, on an application filed December 22, 1958.

⁸ "Bakelite" Vinyl Butyral Resins, Technical Release No. 11, dated July 1954 and stated by the Examiner and Board to have been published in August 1955, Bakelite Co. is a division of Union Carbide Corp.

that the polyvinyl butyral adhesive of Swerlick may be considered to constitute appellants' specific adhesive composition." Finally, the Examiner stated: "the selection of one heat-sealing adhesive for another here is thought to be a matter of choice." The Board affirmed these rejections with the following comments:

* * * We agree with the Examiner that Swerlick's contribution of a critical temperature range for forming the polyethylene film is an improvement over gas-flame treatment of polyethylene, and that it is quite obvious that the gas-flame treatment is still useful. The claimed polyvinyl butyral adhesive appears to us to be the same as that mentioned in Swerlick, for the reasons stated by the Examiner in his description of the Bakelite Company publication. Traver shows that applying an adhesive coating to only one of a pair of surfaces to be bonded is old. Moreover, this expedient is purely a process limitation that cannot be detected by examination of the finished article, and hence is of little patentable significance in these claims.

The claims drawn to the process (7, and 18-21) were rejected "as unpatentable over Keller [et al.] considered with Grimminger et al. and further in view of Swerlick." Pointing out that Keller et al. discloses the flame treatment of polyethylene film which may be coated with a vinylidene chloride-vinyl chloride copolymer and further mentions that the treated webs may be heat sealed by using various heat sensitive adhesives, and maintaining that the film modification techniques of the two other references are equivalent to the oxidative preparatory treatment of Keller et al., the Examiner stated:

It is thought to be obvious that the process of Keller et al. may be utilized with the oriented high density polyolefin films of Grimminger et al. with any suitable heat sealing adhesive such as the polyvinyl butyral of Swerlick.

This rejection was sustained by the Board with the following addendum:

* * * However, it appears to us that the Examiner should have included Traver as a subsidiary reference, inasmuch as these claims recite the step of applying the adhesive to only one of the surfaces to be bonded.

Product claims 1, 2 and 14-16, each containing the recitation "and having only one such modified surface coated with a composition selected from * * *" were also rejected as "failing to properly define the invention." The Examiner felt that this limitation, which he termed a "process limitation" did not make it clear that the two treated film surfaces are bonded together by means of the single adhesive layer which must be coated prior to sealing to one treated film surface and subsequently adhered to the second treated film surface. The quoted limitation, he thought, "does not indicate the position of the first treated film surface with respect to the second treated film surface." The Board agreed, pointing out additionally that the presence of the word "comprising" in the claims does not require both surfaces to be bonded to the same adhesive layer.

OPINION

We have set out rather extensively the pertinent portions of the reference disclosures alleged to show the state of the prior art and have detailed the rationale of the Patent Office in applying these disclosures against the claims before us because the only issue really determinative of this appeal is the propriety of combining those references. Appellants have attacked the cited references one by one, pointing out the deficiencies of each and arguing in conclusion that none of the references suggests the invention as claimed. It is suggested, for

example, that Traver and Grimminger et al. are not pertinent since "neither * * * relates to heat sealing," and that Keller et al. and Meier possess "needle-in-the-haystack-type" disclosures with respect to vinyl chloride-vinylidene chloride copolymers.

We have considered these and appellants' other contentions thoroughly but are not convinced that the Patent Office committed error in holding the appealed claims unpatentable over the combined teachings of the prior art within the purview of 35 U.S.C. 103. We think that the references were "comprehensively and meticulously appraised by the Examiner and the Board." See *In re Walker*, 54 CCPA 1235, 374 F.2d 908, 153 USPQ 180 (1967). Each was used for what it fairly disclosed and taught to the art. As applied, taken collectively, the cited references do make out a case of obviousness with regard to each of the rejected claims.

The posture we have taken with regard to the rejections based on prior art makes it unnecessary to rule on the rejection predicated on claim language. [1] The decision of the Board is accordingly affirmed. **AFFIRMED.**

U.S. Court of Customs and Patent Appeals

PLAYBOY OF MIAMI, INC. v. JOHN B. STETSON CO.

No. 8240. Decided May 28, 1970

[57 CCPA —; 425 F.2d 394; 165 USPQ 686]

1. TRADEMARK—CONFUSING SIMILARITY—"PLAYBOY OF MIAMI" FOR ARTICLES OF MALE APPAREL AND "THE STETSON PLAYBOY" FOR HATS.

"In the present case, the marks considered in their entirety are not identical or even substantially identical. The Board's treatment of the word 'Playboy' as the dominant element of the marks was contrary to the facts established by the testimony and amounted to an improper dissection of the marks. The John B. Stetson Company has a long-standing and well-known name which is readily associated with hats and we have no doubt that the word 'Stetson' is the dominant portion of the mark 'Stetson Playboy' and that that mark would suggest only Stetson hats. The appellant, on the other hand, has established a widespread use of the mark 'Playboy of Miami,' in the clothing industry. There is no single, dominant feature of that mark. Comparing the marks as a whole and viewing them in this light, we fail to see sufficient evidence to support the conclusion that there would be a likelihood of confusion."

APPEAL from Patent Office. Opposition No. 43,895.

REVERSED.

John Cyril Malloy, for appellant.

Samuels and Clark, Thomas W. Y. Clark, J. Wesley Everett, Munson Lane, for appellee.

Before *RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges*, and *RAO, Chief Judge*, United States Customs Court, sitting by designation.

BALDWIN, J., delivered the opinion of the court.

This appeal is from the decision¹ of the Trademark Trial and Appeal Board, sustaining an opposition by the appellee, John B. Stetson Company, and denying appellant's application² for registration of its mark on the Principal Register.

¹ Reported at 154 USPQ 63 (TTAB 1967). Familiarity with the Board's opinion is presumed.

² Serial No. 154,152, filed September 28, 1962.

The appellant sought to register the mark "Playboy of Miami" for certain articles of men's and boys' clothing, such as suits, coats, trousers, slacks, shorts and shirts, alleging use since September 5, 1956, and disclaiming the words "of Miami" apart from its mark as shown below:



The Patent Office published the mark for opposition on March 10, 1964, and the John B. Stetson Company, of Philadelphia, Pennsylvania, filed this opposition to the registration of the mark. The opposition was based on Stetson's 1936 registration of "The Stetson Playboy" as illustrated below:



Both parties have taken testimony which establishes the following facts:

The principal business of the opposer, John B. Stetson Company, is the manufacture and sale of hats, both felt and straw, caps and cloth hats. It also operates a shoe company. The word "Playboy" has been used by opposer only in connection with hats, and then only in association with the word "Stetson," or some other trademark indicating "Stetson" hats. It has been used to designate or identify certain brands or style lines of opposer's hats.

Appellant, Playboy of Miami, Inc., commenced doing business under that style and trademark in 1956. Its annual sales grew from \$350,000 the first year of operation to \$1,100,000 in 1964 and 1965. It has advertised its products in nationwide magazines and sold to the same stores to which the opposer sold. There has been no report of any confusion by reason of the use of applicant's trademark. The John B. Stetson Company even sold the appellant's products in its own store. The products were purchased from Playboy of Miami, Inc. and delivered under the appellant's trademark "Playboy of Miami."

The issue is whether appellant's mark "Playboy of Miami" so resembles the mark "Stetson Playboy" when applied to the separate goods of the parties as to be likely to cause confusion, mistake or deception as to the source of such goods. 15 U.S.C. 1052(d).

The opinion of the Trademark Trial and Appeal Board contains citations to several cases which, we believe, are evidence of an improper analysis of the legal issue before us now. Representative of these cases are: *General Shoe Corp. v. Lerner Bros. Mfg. Co.*, 45 CCPA 872, 254 F.2d 154, 117 USPQ 281 (1958), which involved an effort to register "Holiday" for shirts as against the identical mark "Holiday" for shoes; and *Joseph & Feiss Company v. Joseph Kanner Hat Company, Inc.*, 136 USPQ 91 (TTAB 1962), which involved an attempt to register "Henley House" for men's clothing in view of "Henley Club" for men's hats, again substantially identical marks in that their dominant portions are the same.

We feel that the case at bar differs from this line of cases in a critical aspect [1] In the present case, the marks, considered in their entireties are not identical or even substantially identical. The Board's treatment of the word "Playboy" as the dominant element of the marks was contrary to the facts established by the testimony and amounted to an improper dissection of the marks. The John B. Stetson Company has a long-standing and well-known name which is readily associated with hats and we have no doubt that the word "Stetson" is the dominant portion of the mark "Stetson Playboy" and that that mark would suggest only Stetson hats. The appellant, on the other hand, has established a widespread use of the mark "Playboy of Miami," in the clothing industry. There is no single, dominant feature of that mark. Comparing the marks as a whole and viewing them in this light, we fail to see sufficient evidence to support the conclusion that there would be a likelihood of confusion. The decision of the Trademark Trial and Appeal Board must therefore be reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE THEODOR PETRZILKA, ALBERT HOFMANN, HANSRUEDI SCHENK, FRANZ TROXLER, ALBERT FREY AND HANS OTT

No. 8246. Decided April 23, 1970

[57 CCPA —; 424 F.2d 1102; 165 USPQ 327]

1. PATENTABILITY—COMPOUND—EVIDENCE.

In deciding that a claim to laevorotatory 10-methoxy-deserpidine (10-MD) was patentable over the corresponding 11-methoxy compound (reserpine), although the evidence showed some depressant activity for 10-MD, *Held* that "We reverse the decision of the Board because we are of the opinion that the totality of the evidence of record can reasonably lead only to the conclusion that 10-MD does possess properties which 'differ strikingly from reserpine,' " because "It is equally clear * * * that 10-MD possesses far less depressant activity than does reserpine, that it is, consequently, far superior to reserpine for the treatment of hypertension, and that there is nothing in the art of record to suggest that such would be the case."

2. SAME—PARTICULAR SUBJECT MATTER—"THERAPEUTICALLY ACTIVE 10-METHOXY-DESERPIDINE."

The refusal of a claim to laevorotatory 10-methoxy-deserpidine, as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 329,972.

REVERSED.

Irwin M. Aisenberg, for appellants.

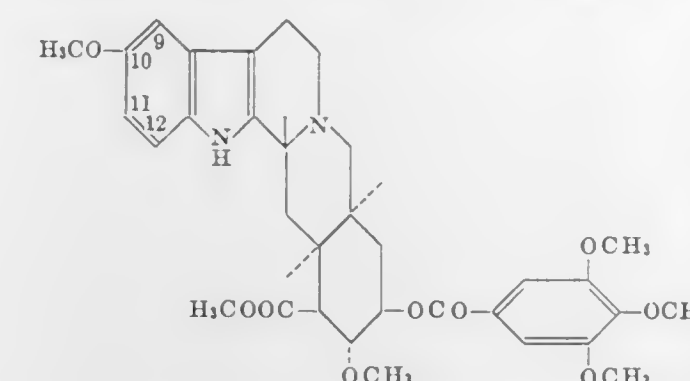
Joseph Schimmel (Leroy B. Randall, Raymond E. Martin, of counsel) for the Commissioner of Patents.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and McMANUS, Chief Judge, Northern District of Iowa, sitting by designation

RICH, Acting Chief Judge, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claim 5 of application Serial No. 329,972, filed December 12, 1963, entitled "Therapeutically Active 10-Methoxy-Deserpidine," a continuation-in-part of application Serial No. 728,112, filed April 14, 1958. We reverse.

Claim 5, the only claim remaining in the application, reads: "Laevorotatory^[1] 10-methoxy-deserpidine." This single chemical compound (hereinafter "10-MD"), has the following structural formula:



This compound is a blood-pressure-reducing agent or "hypotensive" agent.

The appealed claim is rejected under 35 U.S.C. 103 as unpatentable over either of the following United States patents:

Kuehne, 2,857,385, Oct. 21, 1958 (filed Apr. 17, 1956).

Woodward, 2,883,384, Apr. 21, 1959 (filed May 3, 1956).

These references are cited as disclosing "reserpine" ("11-methoxy-deserpidine") and related compounds, processes for preparing the same, and processes for resolving mixtures of the laevorotatory and dextrorotatory isomers thereof. The structure of laevorotatory reserpine differs from that of appellants' compound in only one seemingly minor respect: with reference to the structural formula of appellants' compound, supra, laevorotatory reserpine has a methoxy or "H₃CO—" group in the 11-position rather than the 10-position. The generic disclosures of Kuehne and Woodward are broad enough to encompass appellants' compound. The Patent Office however, does not contend that appellants' compound is disclosed in the sense of 35 U.S.C. 102.

Appellants' principal contentions are: (1) that the Patent Office has not made out even a prima facie case of obviousness; and (2) assuming that a prima facie case of obviousness has been made out, that appellants have shown that their compound possesses such unexpected properties in comparison to reserpine as to rebut obviousness under the statute. Inasmuch as we agree with appellants' second contention, we need not consider the first.

The record clearly establishes that reserpine, a well known, naturally occurring compound, possesses substantial hypotensive activity. It also appears, however, that reserpine has a very substantial degree of central depressant and convulsant activity, so much, in fact, that depression caused by the drug has led to suicide attempts and that administration is essentially limited to hospitalized patients. According to appellants, the claimed 10-MD, on the other hand, "possesses practically only the hypotensive properties" of reserpine. It is not disputed that neither of the cited references suggests how the reserpine structure might be modified to reduce or eliminate its depressant activity. What is in dispute is whether 10-MD possesses properties as different from those of reserpine as appellants contend.

In order to prove that their compound does have such unexpected properties, appellants have submitted eight affidavits and have made

¹ Also spelled "laevorotary," "levorotatory," and "levorotary," and defined by The American Heritage Dictionary of the English Language (1969) as follows:

1. *Optics*.—Turning or rotating the plane of polarization of light to the left or counter-clockwise.
2. *Chemistry*.—Of or pertaining to a solution that so rotates the plane of polarized light.

"Dextrorotatory" pertains to rotation of the plane of polarization of light to the right.

of record what the Board termed "scores of publication" reporting clinical evaluations of 10-MD.²

The Board summed up its evaluation of the publications as follows:

Insofar as the published material is concerned, it can only be described as "mixed." Much of it, particularly the promotional literature and some investigations apparently undertaken at the behest, under the auspices, or with the assistance of the manufacturer, is glowing in its praise of the product. Other reports are considerably more cautious, and a few frankly comment on adverse reactions. The difficulty in evaluating all this material resides in the nature of the symptoms, the patients, and the course of treatment. There is a subjective aspect to sedative and depressive effects, and the results may be colored by foreknowledge, derived from promotional literature or previous reports, that sedative and depressive effects are absent. The previous medical history of the patient is also an important factor, as is the dosage administered and the duration of the medication.

Appellants' summation was as follows:

Of almost 1500 patients involved in reported clinical investigations, side effects were noted in only about 10% * * * including depression in at most 2.68%. This is regarded as a virtual elimination of depression; other side effects, except for sedation,⁽³⁾ are not in issue.

The Board concluded by saying:

The overall picture, as we see it, is merely another hypotensive agent, closely related to reserpine (position isomer), with a spectrum of properties and activities which does not differ strikingly from reserpine. Thus, it is less potent, requiring a considerably higher dosage for hypotensive effect, and, at the best, it may have a somewhat reduced sedative and depressive effect. Considering all factors: the close structural similarity, the generally similar properties, the same use, and the inconclusive showing of markedly different activity, we have come to the conclusion that the rejection of the appealed claim on the cited art must be sustained.

[1] We reverse the decision of the Board because we are of the opinion that the totality of the *evidence of record* can reasonably lead only to the conclusion that 10-MD *does* possess properties which "differ strikingly from reserpine." It is true that a number of 10-MD related cases of depression and other side effects have been reported.⁴ For example, the promotional literature of a marketer of 10-MD includes the following:

PRECAUTION

Depression.—Of recent years some cases of depression have been reported with [10-MD]. In the majority a past history of personality disturbance was present [10-MD] therefore should not be administered to patients with endogenous depression or depressive personality tendencies. Patients should be reviewed periodically in order to detect early personality changes should these occur.

It is equally clear, however, that 10-MD possesses far less depressant activity than does reserpine, that it is, consequently, far superior to reserpine for the treatment of hypertension, and that there is nothing in the art of record to suggest that such would be the case.

To reach the Board's conclusion, i.e., that the properties of 10-MD do not differ strikingly from those of reserpine, would require, we think, that all evidence favorable to appellants' position be viewed with limitless skepticism and that all evidence unfavorable to appellants' position be accepted with limitless faith.

[2] Accordingly, the decision of the Board is reversed.
REVERSED.

² A number of these publications are merely excerpted. We have not attempted an accurate count of the publications referred to in the record; appellants' brief, however, summarizes thirty, including the eight which the Board considered adverse in some way to appellants' position.

³ These other side effects reported included nasal stuffiness, drowsiness, and fatigue.

⁴ Pertinent to this, is the following statement from appellants' brief: "Were penicillin subjected to any absolute test in the light of deaths resulting from its use, society may well have been precluded from having this wonder drug available."

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

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2,777,926, M. E. Bourns, VARIABLE RESISTOR, filed Aug. 11, 1970, D.C., E.D. Ill. (Chicago), Doc. 70c1992, *Bourns, Inc. and Marian E. Bourns v. Allen-Bradley Co. et al.*

2,813,725, Hoedlinghaus, Sanders and Ulmer, NESTING MARKET CART WITH CHILD'S SEAT, filed Mar. 6, 1969, D.C., ND. Ga. (Atlanta), Doc. 12512, *Technibilt Corporation v. Cloudt's Food Shop, Inc., doing business as Cloudt's Food Store & Village Kitchen*. Final judgment, patent valid and infringed; defendants enjoined, July 27, 1970.

2,817,737, W. W. Morris, ELECTRICAL RESISTANCE NETS, filed July 31, 1970, D.C.N.J. (Newark), Doc. 1030-70, *Neocold Corporation and The Connecticut Development Credit Corp. v. Cooper Electroheat Limited*.

2,836,344, H. F. Gatward, CARRIER BAGS, filed July 31, 1970, D.C., S.D.N.Y., Doc. 70-C-3291, *Bahamas Paper Co., Ltd. and Paper Products Ltd. v. Imperial Packaging Corp. et al.*

2,844,816, O'Brien and Hawker, RADIO NAVIGATION SYSTEMS, filed Aug. 26, 1970, Ct. of Cl., Washington, D.C., App. 299-70, *Decca Limited v. The United States of America*.

2,899,242, G. Bombardier, ENDLESS TREAD FOR MOTOR DRIVEN VEHICLES, filed Nov. 23, 1966, D.C., E.D. Mich. (Detroit), Doc. 29263, *Bombardier Snowmobile, Ltd. v. Lakeshore Amusement Company (Inc.)*. Final judgment by consent, plaintiff owner of patent and defendant infringed, particularly claims 1 through 5, Aug. 7, 1970.

2,956,073, Whatstone and Harman, INSECTICIDALLY ACTIVE ESTERS OF PHOSPHORUS ACIDS AND PREPARATION OF THE SAME, filed Dec. 12, 1968, D.C.N.J. (Newark), Doc. C1320-68, *Shell Oil Company v. Carlstadt Chemical Co., Inc., and Dynachem Industries, Inc.* Stipulation and order of dismissal as to Dynachem. Consent judgment as to Carlstadt Chemical Co. for permanent injunction, Aug. 10, 1970.

3,021,871, F. J. Rodgers, HOSE FOR PORTABLE PNEUMATIC EQUIPMENT, filed May 2, 1968, D.C.N.J. (Newark), Doc. 428-68, *Samuel Moore & Company v. Metropolitan Stapel Corp. et al.* Consent judgment for permanent injunction, patent valid and infringed, Aug. 11, 1970.

3,031,042, J. W. R. Brackett, CEILING CONSTRUCTION, filed Aug. 20, 1970, D.C., S.D. Fla. (Miami), Doc. 70-1226-C-CF, *Earl T. Benjamin v. Custom Ceilings & Railings, Inc. and Serencio, Inc.*

3,045,910, H. M. McLearn, AUTOMATIC COUNTING MACHINE, filed Aug. 3, 1970, D.C., M.D. Fla. (Orlando), Doc. 70-154-Orl.-C, *American Machinery Corporation v. Herman J. Heidrich & Sons*.

3,052,540, H. G. Greig, DYE SENSITIZATION OF ELECTROPHOTOGRAPHIC MATERIALS, filed Feb. 18 and 26, 1970, 1st Cir. of Mass. (Boston), Doc. 7540 and 7533, respectively, *Nashua Corporation (7533) v. RCA Corporation (7540)*. The judgment of the district court affirmed in 7533 and 7540, Aug. 24, 1970.

3,069,092, E. C. Norvell, Jr., LIQUID VAPORIZER, filed Aug. 2, 1965, D.C., E.D. Wis. (Milwaukee), Doc. 65-C-205, *Edmund C. Norvell, Jr. v. McGraw-Edison Company*. Judgment entered dismissing plaintiff's complaint and declaring patent invalid and not infringed, July 29, 1970.

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Peterson Filters and Engineering Company and Komline-Sanderson Engineering Corporation v. The Eimco Corporation.

3,118,151, H. Fredman, ONE-PIECE BELT-TYPE BEDDING CARRIER, filed Aug. 3, 1970, D.C., S.D. Ill. (Peoria), Doc. P-3170, *Hickory Springs Manufacturing Company v. Glideway Bed Carriage Manufacturing Company and Harry Fredman*.

3,119,590, G. J. Eriksson, ADJUSTABLE, COLLAPSIBLE AND ARTICULATED BRACKET FOR SUPPORTING A CONCRETE FORM FOR A BRIDGE FASCIA, filed Aug. 19, 1970, D.C., N.D. Ga. (Atlanta), Doc. C.A. 14072, *Superior Concrete Accessories, Inc. v. Shattuck Denn Mining Corporation*.

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3,161,223, W. G. Marsh, SHEET METAL BRAKE, filed Aug. 16, 1968, D.C., E.D. Mich. (Detroit), Doc. 31627, *Tapeo Products Company, Inc. v. Van Mark Products Corporation and Eugene Van Cleave*. Opinion and order declaring patent invalid and not infringed, July 28, 1970.

3,171,700, Parsell and Brickman, BAR CABINET, filed Dec. 29, 1967, D.C., S.D.N.Y., Doc. 67-C-5089, *Ever-Wear, Inc. v. Atlantic Luggage Mfg. Co., Inc.* Stipulation and order of dismissal with prejudice, July 22, 1970.

3,173,937, Moyerman and Ehman, MANUFACTURE OF ARSINIC ACIDS, filed Apr. 11, 1968, D.C.N.J. (Camden), Doc. 346-68, *The Ansul Company v. Vineland Chemical Co., Inc. and Arthur Schuerdic*. Consent order of dismissal without prejudice, Aug. 3, 1970.

3,176,968, A. I. Appleton, PORTABLE FOOD MIXER, filed Dec. 21, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c2188, *Arthur I. Appleton and Appleton Electric Company v. Ronson Service of Illinois, Inc.* Patent valid and not infringed, Aug. 25, 1970.

3,217,459, R. E. Meyer, TOWER STRUCTURE, filed Sept. 3, 1970, D.C., Ore. (Portland), Doc. C-70-604, *Meyer Manufacturing, Inc. and Roy E. Meyer v. Western Power Products, Inc. and Fentron Highway Products, Inc.*

3,222,073, B. Degaetano, PHONOGRAPH FOR TOYS, filed Aug. 4, 1970, D.C., S.D.N.Y., Doc. 70-3335, *Ben Degaetano v. Leisure Group Inc. et al.*

3,290,203, Antonson and Berger, TRANSPARENT AND REFLECTING ARTICLES, filed Aug. 25, 1970, D.C., S.D. Tex. (Houston), Doc. 70-H-914-C, *Minnesota Mining and Manufacturing Company v. Sun-X International, Inc. and Albert Clements*.

3,312,124, Meler, Klaus and Meler, STEERING-WHEEL ASSEMBLY FOR AUTOMOTIVE VEHICLES, filed Aug. 21, 1970, D.C., E.D. Pa. (Philadelphia), Doc. 70-2319, *Kamei-Autokomfort et al. v. Robert Nash Distributors Inc.*

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3,321,090, J. C. Greenstadt, SUPPORTING APPARATUS FOR MEDICAL BOTTLES AND THE LIKE, filed Aug. 10, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-1763-R, *Ob/Masco Drapery Hardware Co. v. John H. Higgins, doing business as H & H Specialties Co.*

3,321,656, E. E. Sheldon, TELEVISION CAMERA TUBE WITH LEAD OXIDE SCREEN, filed July 28, 1970, D.C., E.D.N.Y., Doc. 70C-930, *Edward Emanuel Sheldon v. Ampere Electronic Corporation*.

REISSUES

NOVEMBER 17, 1970

Matter enclosed in heavy brackets **[]** appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,978

ACCESSORY DRIVE MECHANISM

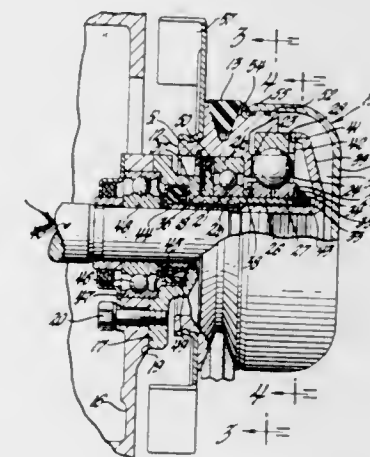
Lubomyr O. Hewko, Port Clinton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original No. 3,327,566, dated June 27, 1967, Ser. No. 414,064, Nov. 27, 1964. Application for reissue June 20, 1969, Ser. No. 835,915

Int. Cl. F16c 33/38; F16h 13/08, 13/14

U.S. Cl. 74—798

10 Claims



A power transmitting mechanism including a housing; a support sleeve secured therein; an engine-driven input member including an axially extending cylindrical carrier; bearing means rotatably supporting the input member on the support sleeve; spaced reaction suns mounted on the support sleeve, one of which is axially movable; either (1) a plurality of equally spaced oppositely disposed spherical bearing surfaces formed in the cylindrical carrier, or (2) a plurality of equally spaced axial slots formed in the cylindrical carrier with oppositely disposed bearing inserts inserted therein having oppositely disposed spherical surfaces formed thereon; ball planets mounted between the oppositely disposed spherical surfaces, the radius of the spherical surfaces may be the same or slightly greater than the radius of the ball planets; a rotatable ring in frictional contact with the ball planets; and an output member secured to the rotatable ring.

26,979

INTERMITTENT MECHANISM AND METHOD OF MAKING THE SAME

Robert J. Petroff, Lombard, Ill. (% Standard Automatic Inc., 867 Industrial Drive, Elmhurst, Ill. 60126)

Original No. 3,456,529, dated July 22, 1969, Ser. No. 645,403, June 12, 1967. Application for reissue Oct. 15, 1969, Ser. No. 877,914

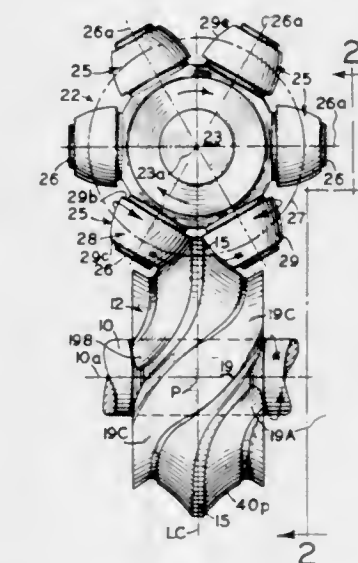
Int. Cl. B23f 9/00; B23q 17/00; F16h 1/16

U.S. Cl. 74—817

17 Claims

The intermittent mechanism herein is a modified roller gear type including a concave globoidal cam having a track cooperating with rollers extending radially from a turret. The roller surface and cooperating cam track sides have such relative curvatures that a theoretical point contact therebetween is provided. As is customary, the cam track generating cutter is larger transversely than a turret roller to provide sidewall clearance for a roller. However the cutter, during cam generation, is so controlled that at

positions corresponding to dwell, the center of the cutter is not coincident with a roller axis at dwell. Instead, the cutter center is laterally displaced so that at each dwell position, the cutter center is beyond the roller center away from the line extending between the turret and cam axes. This lateral displacement of the cutter center from roller center at dwell is equal to one-half the track-roller clearance and places the cutter profile generating the cam rib side of each track in exactly the position assumed by



the roller at dwell. This makes the arcuate spacing between cutter center positions at dwell greater than between roller centers at dwell along a pitch circle. Thus the cutter generating the track wall at dwell is exactly in the same wall contacting position as rollers at dwell. Thus the rolling point for track wall and roller cooperation at dwell is exactly the same point as created by the cutter contour for rolling action. The roller thus substitutes for the cutter at dwell and makes a tight fit at dwell without further adjustment.

26,980

VACUUM INFILTRATING OF TUNGSTEN POWDER BODIES WITH COPPER-TITANIUM ALLOYS

Edward J. Zdanuk, Lexington, and Richard H. Krock, Peabody, Mass., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Original No. 3,303,026, dated Feb. 7, 1967, Ser. No. 533,579, Mar. 11, 1966. Application for reissue Feb. 7, 1969, Ser. No. 802,291

Int. Cl. B22f 7/04

U.S. Cl. 75—208

6 Claims

A method of making a tungsten powder body infiltrated with an alloy of copper for use as an electrical contact material comprising the steps of providing a body of compacted tungsten particles; contacting said tungsten body with an alloy of copper and titanium, said titanium for promoting the wetting of said tungsten particles in a vacuum atmosphere; and heating said tungsten body and said contacting copper and titanium alloy so as to substantially completely vacuum infiltrate said tungsten body with an alloy of copper-titanium thereby forming a composite material for use as a contact material.

26,981 STENOGRAPHIC APPARATUS PROVIDING PUNCHED TAPE RECORD

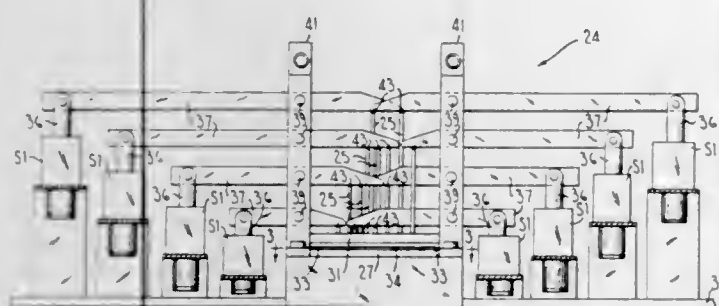
Frank L. Pellegrini, Crestwood, Mo., assignor to Stenographic Incorporated, St. Louis, Mo., a corporation of Missouri

Original No. 3,372,865, dated Mar. 12, 1968, Ser. No. 538,644, Mar. 30, 1966, Application for reissue June 25, 1969, Ser. No. 862,981

Int. Cl. G06k 1/22

U.S. Cl. 23—1

19 Claims



The stenographic apparatus disclosed herein employs a plurality of punches which are independently operable on respective drive means to punch distinctive patterns of holes in a paper tape. Each of the punches is controlled by a respective key of a stenographic machine. Thus, when a preselected combination of keys are operated, the corresponding punches are operated to punch their respective patterns in a predetermined section of the tape. The apparatus also includes means for advancing the tape to place

a new, unpunched section of tape in position to be operated on by the punches when previously operated keys are released. In this way, the apparatus provides a punched record which is readable for digital computing equipment for automatically preparing a printed transcription of the record.

26,982 HYDROCHLORINATION PROCESS FOR RECOVERY OF METAL VALUES

Ray S. Long, Concord, and Elmer C. Tveter, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No. Drawing. Original No. 3,432,255, dated Mar. 11, 1969, Ser. No. 524,823, Feb. 3, 1966, which is a continuation-in-part of application Ser. No. 237,739, Nov. 14, 1962. Application for reissue July 18, 1969, Ser. No. 846,990

Int. Cl. C01g 1/06, 29/00, 39/00

U.S. Cl. 23—16

5 Claims

The present invention relates to a novel hydrochlorination process for winning molybdenum, tin, antimony, bismuth and like metal values from their ores and minerals. In the present process, a metal value containing source material, containing one or more of molybdenum, tin, antimony, bismuth and the like metal values, the chloride compounds of which readily are volatilizable, is contacted with hydrogen chloride and an oxidizing gas at a temperature sufficiently high that the metal values are converted to volatile chloride compounds and removed from the reaction zone while simultaneously assuring that impurity metal values remain as a solid residue of oxides which are substantially non-volatile under the process temperatures.

PLANT PATENTS

GRANTED NOVEMBER 17, 1970

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

3,000 NECTARINE TREE

Frederic W. Anderson, Merced, Calif., assignor to Reedley Nursery, Inc., Reedley, Calif., a corporation of California

Filed Oct. 17, 1968, Ser. No. 768,561

Int. Cl. A01h 5/03

U.S. Cl. Plt.—41

1 Claim

A variety of nectarine tree which is of vigorous, open, and spreading growth, and a regular and productive bearer of uniform, large, globose to slightly oblong clingstone fruit having yellow flesh, and yellow skin substantially overspread with a bright red.

3,001 STRAWBERRY PLANT

Harold A. Johnson, Jr., and Harold E. Thomas, Watsonville, Calif., assignors to Driscoll Strawberry Associates, Inc., Watsonville, Calif.

Filed Oct. 15, 1968, Ser. No. 767,858

Int. Cl. A01h 5/03

U.S. Cl. Plt.—49

1 Claim

1. The new and distinct variety of strawberry plant herein described and illustrated, and identified by the characteristics enumerated above.

3,002 PEACH TREE

Grant Merrill, 416 N. Anderson Road, Exeter, Calif. 93221

Filed Feb. 4, 1969, Ser. No. 796,620

Int. Cl. A01h 5/03

U.S. Cl. Plt.—43

1 Claim

1. A new and distinct peach tree substantially as illustrated and described and being characterized by its very late season of ripening, its good skin color for that season, a flesh texture and color found good for commercial freezing, and its ability to hold the fruit on the tree as ripening approaches, and mostly nearly resembling Merrill Halloween No. 1 (U.S. Plant Pat. 1,473), but an improvement on that variety by its higher skin color, its better freezing qualities, and its increased ability to hold fruit on the tree when approaching ripeness.

3,003 BOUGAINVILLEA PLANT

Marietta H. Raymundo, Malabon, Rizal, Philippines, assignor of one-half to David Barry, Jr., trading as California Jungle Gardens, Los Angeles, Calif.

Filed Oct. 23, 1968, Ser. No. 770,132

Int. Cl. A01h 5/12

U.S. Cl. Plt.—54

1 Claim

1. A new and distinct variety of bougainvillea plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a habit of growth, bract structure and bract color substantially identical to the parent variety "Mahara," and distinctive, attractive and marginally variegated leaves, said leaves being pinkish in color along both sides of the leaf margins when young, with the color corresponding to Light Rosolane Purple (Ridgway), but fading to white with age, and creating an interesting and pleasing delineation of the plant leafage which is unique to the genus Bougainvillea, as illustrated in the accompanying drawing.

3,004 BOUGAINVILLEA PLANT

Juan V. Pancho, Laguna, Philippines, assignor of one-half to David Barry, Jr., trading as California Jungle Gardens, Los Angeles, Calif.

Filed Oct. 4, 1968, Ser. No. 765,272

Int. Cl. A01h 5/12

U.S. Cl. Plt.—54

1 Claim

1. A new and distinct variety of bougainvillea plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of multiple bracts borne in sets of three upon three upon three, ranging up to 36 bracts, with each set of bracts arising in lieu of flowers where a flower would normally be produced and diminishing in size throughout each tripling from about 1½ inches in diameter to about ⅛ inch in diameter, giving the bract cluster a tufted appearance and appearing from a distance like clustered roses, and a distinctive and attractive white bract color which is suffused with Mallow Purple (Ridgway) from the tip of each bract over about ⅓ of the bract length and along the margins thereof, as depicted in the accompanying drawing.

PATENTS

GRANTED NOVEMBER 17, 1970

GENERAL AND MECHANICAL

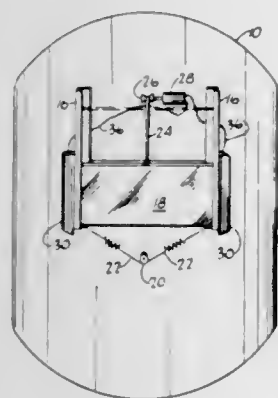
3,540,058

WELDER MASK

Roberto C. Lo Giudice, 452 SW. 1st St.,
Miami, Fla. 33132
Filed June 20, 1968, Ser. No. 738,441
Int. Cl. A61f 9/06

U.S. Cl. 2-8

2 Claims



A protective mask adapted to cover the face of a welder during welding operations. The mask has a viewing slot for the eyes with an arc welding glass plate normally covering the slot. Electrically powered means under the control of the welder raises or lowers the plate to cover or open the slot as required.

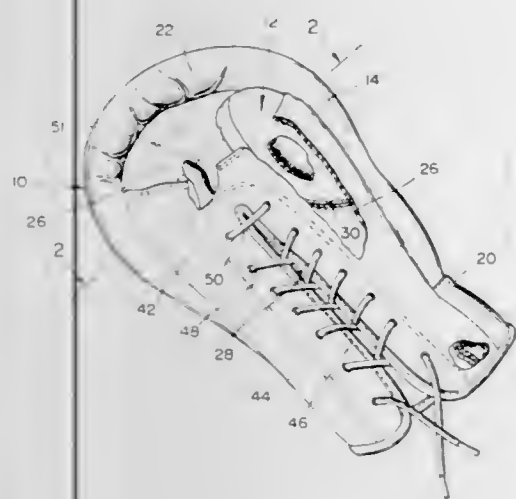
3,540,059

BOXING GLOVES

Bert Kennedy, P.O. Box 58, Caroga, N.Y. 12032
Filed Oct. 30, 1968, Ser. No. 771,767
Int. Cl. A41d 13/10

U.S. Cl. 2-18

6 Claims



In a boxing glove having a mit section and a thumb section extending through the palm side of the glove and lying in front thereof, means for restricting the movement of the thumb section away from the front of the glove palm; such means comprising a palm cover section which overlies the thumb receiving pocket of the glove.

756

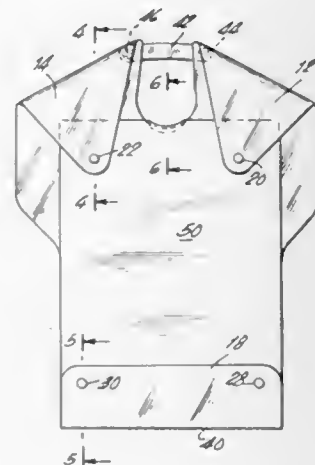
3,540,060

BABY'S BIB WITH DISPOSABLE FRONT

Grace Wallace Brown, 60 Mendota Ave.,
Rye, N.Y. 10580
Filed Feb. 18, 1969, Ser. No. 800,117
Int. Cl. A41d 13/04

U.S. Cl. 2-49

9 Claims



A baby's bib comprising a moisture impervious back and a disposable front. The back has spaced shoulder straps forming a neck recess at the upper end with snap fastener elements near the ends of the shoulder straps and on the body of the back sheet so that they can be folded over its front surface with the disposable front held by the snap fasteners. At the bottom the back sheet has a foldable flap with snap fasteners adjacent to the ends and the sides thereof and in the body so that the flap can form a pocket by fastening the snap fasteners. The disposable front can also be folded at the bottom and held in the pocket by the snap fasteners. The back sheet may be made of any suitable moisture impervious material and the front sheet of any suitable absorbable material, preferably a nonwoven material, and especially paper towels and nonwoven fabrics.

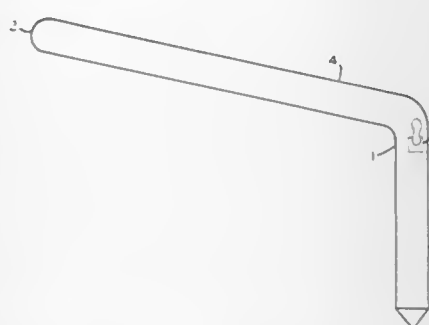
3,540,061

COLLAR-TIE

Floyd Barnes, Jr., 2652 W. Lafayette Ave.,
Baltimore, Md. 21216
Filed Jan. 24, 1969, Ser. No. 793,847
Int. Cl. A41b 3/00; A41d 25/14

U.S. Cl. 2-130

1 Claim



The disclosed article is formed to serve both as a collar and a tie. The article comprises a downwardly extending vertical portion, an upwardly extending diagonal portion and an alligator clip on the upper part of the vertical portion receiving the end of the diagonal portion.

NOVEMBER 17, 1970

GENERAL AND MECHANICAL

757

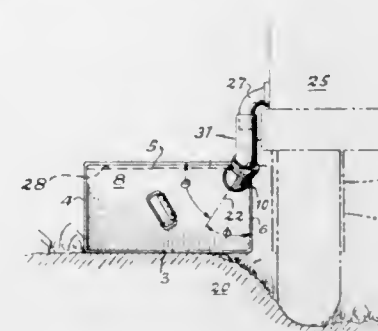
3,540,062

CAMPER LIQUID WASTE COLLECTOR

Anthony R. Leone, 57 Central Ave.,
Fredonia, N.Y. 14063
Filed Dec. 11, 1968, Ser. No. 783,006
Int. Cl. B65d 25/00; E03d 1/100

U.S. Cl. 4-10

13 Claims



A liquid waste collector for campers comprising a can of hexahedral configuration having first and second adjacently disposed side walls and a bottom wall adapted to be disposed in can supporting engagement with the ground, and a relatively rigid spout non-movably connected into the can through a nonsupporting top wall thereof and defining an inlet opening spaced above the top wall of the can and disposed outwardly of the remaining nonsupporting side walls thereof; the collector being constructed such that the inlet opening may be selectively disposed at three different elevations with respect to the ground depending upon whether the first supporting side wall, the second supporting side wall or the bottom wall of the collector is disposed in contact with the ground.

ERRATUM

For Class 4-172 see:
Patent No. 3,540,274

3,540,063

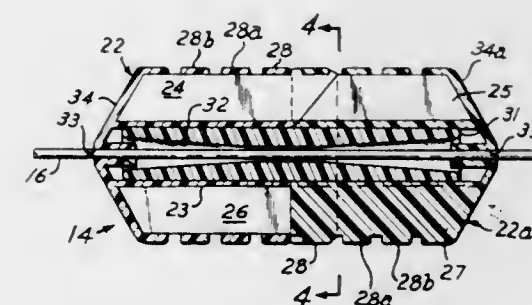
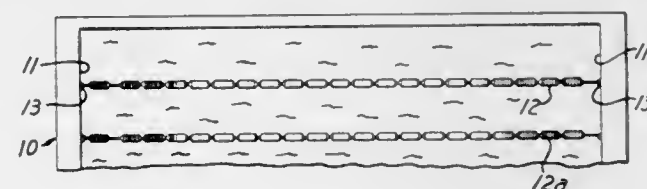
TURBULENCE DISPELLING FLOAT DEVICE AND STRING

David Arthur Stanwood, West Covina, Calif., assignor to Swimquip, Inc., El Monte, Calif., a corporation of California

Filed Feb. 4, 1969, Ser. No. 796,333
Int. Cl. E04h 3/16

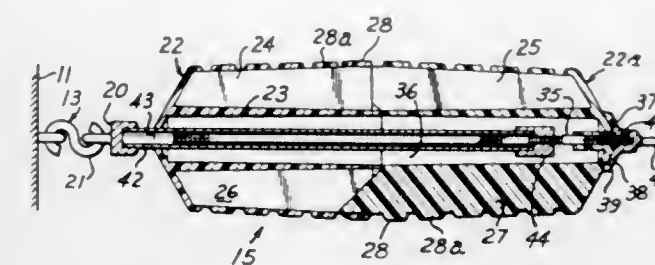
U.S. Cl. 4-172

13 Claims



A turbulence dispelling float device according to the present disclosure comprises a housing supporting a plurality of spaced ring-shaped members on impervious ribs. Buoyant means is provided, and the float device may be journaled to a cable for rotation about its axis. Accord-

ing to one feature of the present invention, a string of float devices may be used for marking racing lanes, which



string includes a winch for axially tightening or loosening the cable.

3,540,064

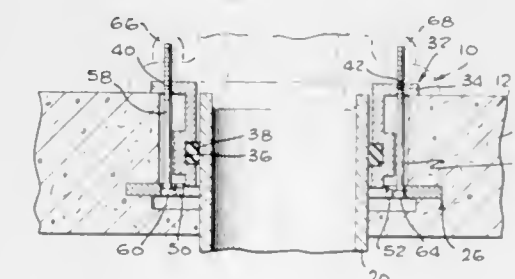
METHOD AND APPARATUS FOR THE

INSTALLATION OF WATER CLOSETS

Altee C. Studer, 2458 Deep Creek Drive,
Running Springs, Calif. 92382
Filed Dec. 16, 1968, Ser. No. 783,986
Int. Cl. E03d 11/00; F16l 55/00

U.S. Cl. 4-252

23 Claims



A method and apparatus for the installation of a water closet to a mounting base so that the water closet is structurally supported by the base, independent of all plumbing connections. The apparatus includes a lower flange which is mounted in or beneath the base so as to encompass a closet bend stub (the terminal portion of the drain system). An upper flange is mounted around a top portion of the closet bend stub and a resilient O-ring is disposed between the upper flange and the closet bend stub. A collar, formed on the upper flange, extends over the upper surface of the base, said collar having a pair of openings formed therein. A pair of fastening elements extending through the openings in the collar is attached to the lower flange. The fastening elements have an extended portion adapted for securing the water closet to the installation apparatus and, therefore, to the mounting base. The method includes the steps of mounting the lower flange around the bend stub by means of spacer rings, pouring the base, removing the spacer rings, and then installing the upper flange and the fastening elements.

3,540,065

ADJUSTABLE COUPLING WITH A SEAL

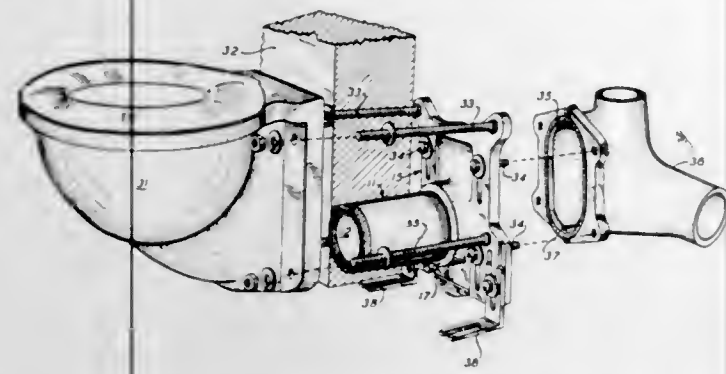
Robert R. Gidner, Fairview, and John H. Schmid, Erie, Pa., assignors to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 754,617,
Aug. 22, 1968. This application Oct. 29, 1969, Ser. No. 872,337

U.S. Cl. 4-252

6 Claims

An adjustable coupling for use in connecting plumbing fixtures with plumbing fittings which provides a coupling

with a thread having a cross-sectional sine wave configuration in which the peaks are narrower than the valleys, and



the coupled member has a channel to receive an O-ring in sealing engagement with the coupling threads.

3,540,066

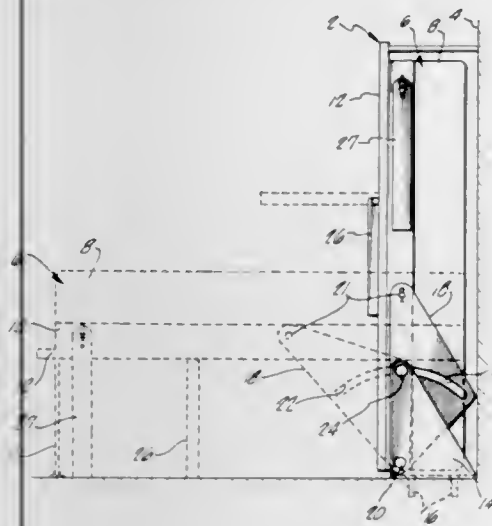
FOLDABLE BED FOR TRAILERS AND THE LIKE
Wallace T. Morrison, 9625 S. El Venado Drive,
Whittier, Calif. 90603

Filed June 27, 1968, Ser. No. 740,661

Int. Cl. A47c 17/38, 17/40

U.S. Cl. 5-141

7 Claims



Apparatus, for folding a bed from a vertical to a horizontal position and back to the vertical position, having a hinge member, in the shape of a triangular plate, pivotally attached at an upper corner to a side of the bed and pivotally attached at a lower corner to a floor or base surface. The hinge member has an arcuate slot running from between the two pivot points to its third corner. A stationary member is disposed adjacent the hinge member and carries a pivot pin which enters the arcuate slot and guides movement of the hinge member as it is pivoted about its base pivot point, the pivot pin contacting the end of the arcuate slot so as to terminate pivotal movement of the hinge member. The bed is initially moved from an upright position by pivoting of the hinge member until the pivot pin of the stationary member engages the end of the arcuate slot, the bed being pivoted about the upper pivot point of the hinge member to a horizontal position.

3,540,067

BUOYANT GARMENT
Colette Deruaz, 64 Rue de la Charite,
Lyon, Rhone, France

Filed Sept. 16, 1968, Ser. No. 760,039

Claims priority, application France, Sept. 14, 1967,
49,117

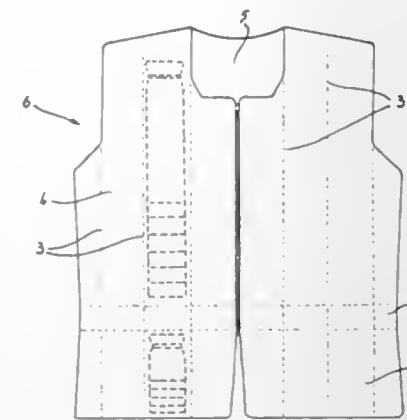
Int. Cl. B63c 9/10

U.S. Cl. 9-342

3 Claims

A buoyant garment such as a belt or vest for swimming or lifesaving has pockets in which are disposed a stack

of strips of foam rubber or flexible plastic foam, the strips being interconnected at one end but otherwise free to slide on each other to improve the flexibility of the



garment. The strips in the stack are cut off at progressively different lengths so as to taper the stack with the thickest part of the stack in the upper part of the garment.

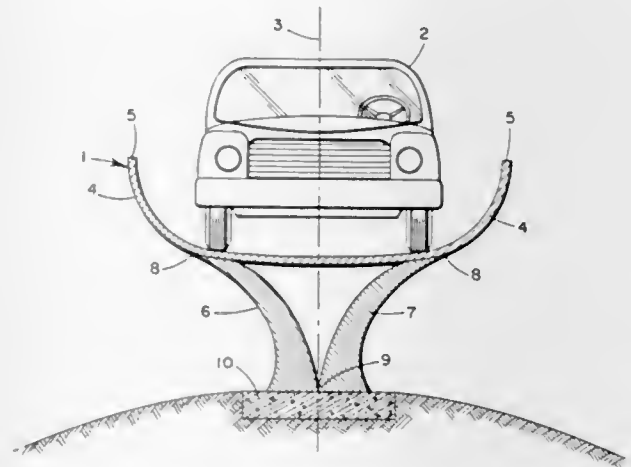
3,540,068

TRAFFIC SYSTEMS OF VEHICLES
Pierre Marcel Bouthors, 1 Square des Ormes,
Marly-le-Roy, Yvelines, France
Filed May 31, 1967, Ser. No. 642,506
Claims priority, application France, June 7, 1966,
64,389

Int. Cl. E01c 1/00; E01d 1/00

U.S. Cl. 14-1

1 Claim



Traffic lane system for automotive vehicles circulating in single file on a track of which the concave cross-sectional contour is adapted automatically to guide the vehicles, wherein said track and the cooperating longitudinal elements supporting same are assembled to constitute a beam of sufficient rigidity having but spaced bearing points for engaging the underlying ground, said track being adapted to constitute the base of a closed tubular structure.

3,540,069

AUTOMOBILE SIDE AND REAR WINDOW WASHER

Howard E. Grant, % Trans-World Car Wash Systems,
Inc., 65 Marine St., Farmingdale, N.Y. 11735
Filed Aug. 20, 1968, Ser. No. 753,956

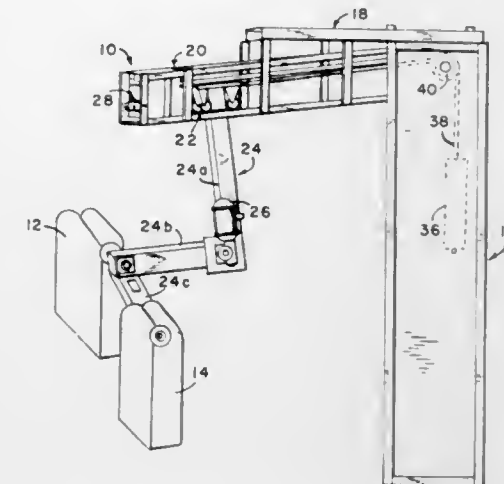
Int. Cl. B60s 3/06

U.S. Cl. 15-21

7 Claims

For use in a car or automobile washing unit in the operation of which an automobile is moved along a prescribed path in association with various apparatus for cleaning different parts of the automobile, a side and rear window washer including at least one brush movably mounted on an overhead support which extends into the

automobile path of movement so that the brush, during a cleaning interval, makes cleaning contact with the automobile and, more particularly, as the automobile



moves past the washer, the angular orientation of the brush is such that the brush has a wiping stroke transversely across the automobile rear window.

3,540,070

PIVOTABLE SECTION FOR BOTTOM OF HOPPER ON SWEEPING MACHINE

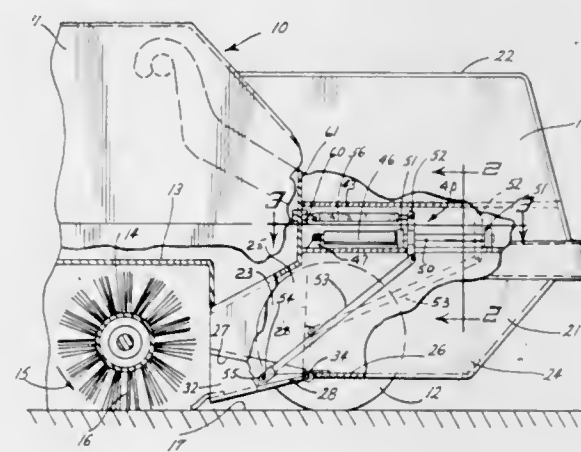
Neil F. Brown, Minneapolis, Minn., assignor to G. H. Tennant Company, Minneapolis, Minn., a corporation of Minnesota

Filed Apr. 11, 1968, Ser. No. 720,503

Int. Cl. E01h 1/04

U.S. Cl. 15-83

6 Claims



A pivotable bottom lip section adjacent to the opening of a dust and debris hopper of a mobile sweeping machine, which section can be manipulated about its pivot to pack debris or paper into the main dust storage compartment. The pivotable lip section can also be moved to position where it substantially closes off the opening of the hopper to prevent debris carried in the hopper from shaking out during transport, or to retain the debris until the hopper is moved to a dumping position at a desired location.

3,540,071

CLEANING TOOL

Irving W. Jorgensen, 800 River Bend Drive,
Owosso, Mich. 48867

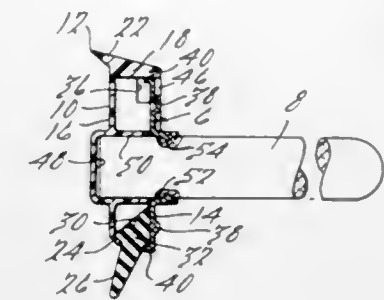
Continuation-in-part of application Ser. No. 686,857,
Nov. 30, 1967. This application Sept. 18, 1968,
Ser. No. 760,591

Int. Cl. A471 1/06; B60s 1/02

U.S. Cl. 15-105

11 Claims

A cleaning tool adapted to incorporate a scraping member and/or a squeegee member along at least one edge of frame to which a handle is secured wherein the



projection in the other frame member for receiving and securing the handle to the frame.

3,540,072

FLOOR CONDITIONER

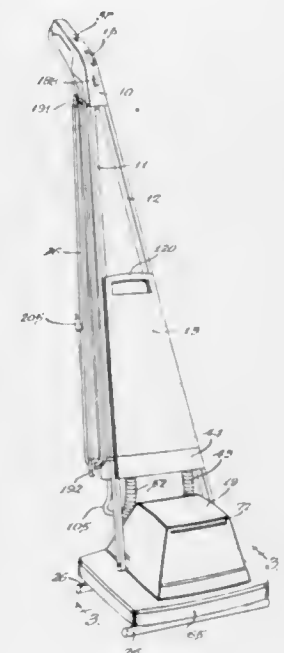
Gilbert R. Wolter, Elmhurst, Alfred F. Ernstberger,
Broadview, and Frederick J. Ritter, Chicago, Ill., as-
signors to Sunbeam Corporation, Chicago, Ill., a cor-
poration of Illinois

Filed Aug. 3, 1964, Ser. No. 386,845

Int. Cl. A471 11/30

U.S. Cl. 15-320

5 Claims



1. A floor conditioner, comprising, a frame, a rotary scrubbing brush mounted beneath said frame, a motor and suction fan mounted on said frame, means connecting said brush and fan in drive relationship with said motor, a handle on said frame, two containers mounted on said handle, a concentrated liquid cleaning solution in one of said containers, a partition in the other container dividing the same into two compartments, said partition being flexible whereby the volumes of said compartments are variable with respect to each other, fresh water in one of said compartments, valve means for dispensing either said fresh water alone or with said cleaning solution to dilute the latter, the other compartment comprising a waste liquid receptacle, a suction nozzle mounted on said frame, means in said other compartment for separating moisture from a wet air stream, conduit means connecting said nozzle, said other compartment, and said fan in a series air stream circuit, control means for said valve means, control means for engaging and disengaging said nozzle with a floor, control means for opening and

closing said air stream circuit, each of said control means being mounted on said handle, and a single manually operable operating member on said handle for operating all of said control means.

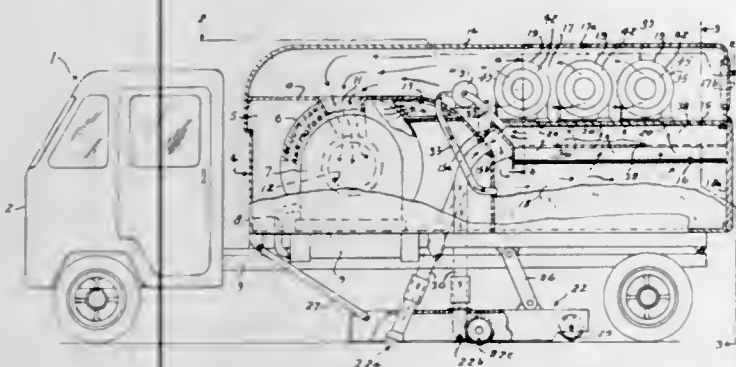
3,540,073

MOBILE DUST AND DEBRIS COLLECTION AND INERTIAL DUST SEPARATOR FOR AIRPORT RUNWAYS AND/OR STREET CLEANING

Edward S. Isenmann, Kettering, and Roger A. Miller, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 19, 1969, Ser. No. 800,646
Int. Cl. E01h 1/08

U.S. Cl. 15-340

7 Claims



A runway and street surface cleaner and inertial dust separator mounted on a mobile support has an upper closed low-pressure compartment with an engine driven exhaust device exhausting air from said compartment, and includes a closed lower debris and dust collection chamber below the low-pressure compartment with an inertial dust separator supporting partition or floor between the compartment and chamber. A debris and dust delivery conduit has an upper discharge end opening into the front end of the collection chamber immediately below the partition, with a dust and debris deflecting panel projecting downwardly from the front end of the partition in spaced relation to the delivery conduit discharge opening which deflects debris, dust and heavier particles downwardly into the chamber. A dust and debris pickup suction unit is carried by the mobile support to traverse the surface being cleaned and is connected to the lower end of the debris and dust delivery conduit. A plurality of side by side pairs of aligned cylindrical inertial dust separators are mounted on the platform in the low-pressure compartment, above the debris and dust collection chamber. Spaced dust and air mixture discharge conduits extend upwardly from the collection chamber through the partition and discharge tangentially into the opposite ends of each inertial dust separator and whirl introduced dust and smaller received particles centrifugally around the inside of the opposite ends of the separators and move the same axially toward each other to the centers thereof, throwing the dust and heavier particles outward while discharging a cleaner central column of air out through central openings in the opposite ends of each separator, induced by the relative low-pressure in the surrounding compartment. A semicircular heavier particle and dust collecting trough is fixed in periphery of each cylindrical separator substantially midway between its opposite ends and is formed with a wide semicircular dust and heavier particle discharge conduit or passage therefrom which opens downwardly through the lower half of the periphery of the separators and through the partition into the debris and dust collection chamber. An elongated closed dust and small particle collecting trough is fixed in the top of the chamber against said portion and extends under the

dust and heavier particle discharge conduits from the semicircular dust collecting troughs in the separators. The troughs are each closed at their front ends by the deflecting panel and at their opposite rear ends by a removable closure member at the rear end of the mobile support which also closes the rear end of the debris and dust collecting chamber. A rectangular frame screen extends completely across the collecting chamber immediately below the dust and small particle collecting troughs and between the deflecting panel at one end and the removable closure member at its opposite end. Suction pump means are fixed in the low-pressure compartment and suction conduits therefrom open into the front ends of each elongated dust and small particle collecting trough while a discharge conduit from each pump opens into the front end of the collecting chamber below the rectangular dust screen and recirculates dust withdrawn from the troughs back into said chamber, and through the rectangular frame dust screen back tangentially into the opposite ends of the inertial separators.

3,540,074

GIBLET INSERTER

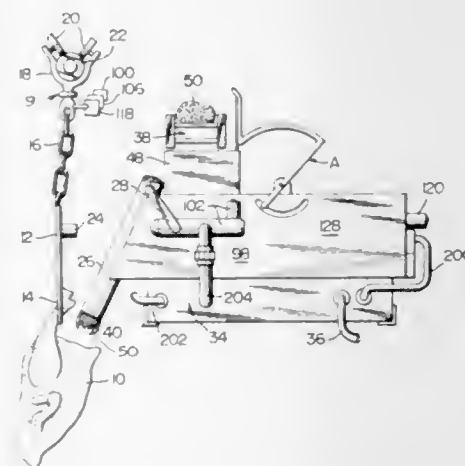
William J. Lawson, R.D. 1, Box 299E, Milton, Del. 19968

Filed Oct. 11, 1968, Ser. No. 766,822

Int. Cl. A22b 15/00

U.S. Cl. 17-11

10 Claims



A device for inserting giblets or packaged components into fowl, comprising a continuously operating conveyor for sequentially presenting fowl to an inserting device, means to feed giblet packages individually to the inserting device, means to load the giblet packages into the inserting device, means to eject individual giblet packages from the inserting device into a fowl cavity as it passes the inserting device, and means to synchronize movement of the components whereby automatic actuation of the inserting device is initiated by the presence of a fowl, whereby actuation of the inserting device occurs only when the loading device is empty, and whereby the loading device is empty, and whereby the feeding means is activated only when the loader is empty.

3,540,075

SAUSAGE LINKER

Oscar Paul Kempe, 204 S. Church St., and Raymond J. Menne, P.O. Box 712, both of East Troy, Wis. 53120

Filed Dec. 22, 1967, Ser. No. 692,875

Int. Cl. A22c 11/10

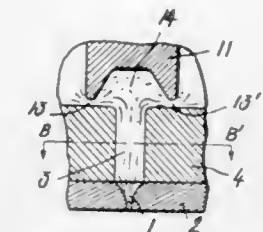
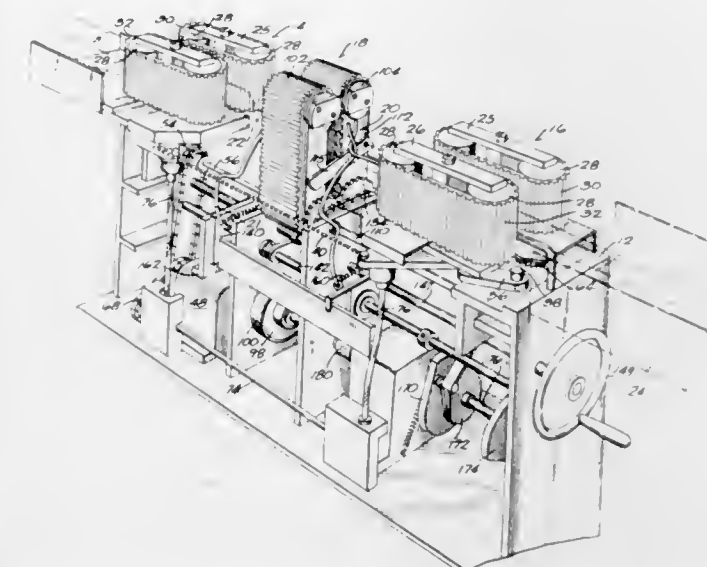
U.S. Cl. 17-34

9 Claims

Disclosed herein is a sausage twisting or linking machine having a pair of input feed belts and a pair of output feed belts operatively connected to be intermittently driven to feed a predetermined length of encased sausage

through a pair of twist belts and a pair of crimping elements. The twist belts and crimping elements are movable into engagement with the encased sausage when the feed belts stop to twist the length of sausage crimped be-

each other through narrow channels in a spinning apparatus which bring the materials together at an angle of 180° and cause the materials to collide with each other with an increased flow velocity to create a turbulent flow for intermingling the materials at the interface be-



tween them. The materials are then caused to flow in laminar flow through a common passage and then through a series of orifices at the end of the common passage. The intermingling of the two materials at the interfacial area prevents delamination of the fiber.

3,540,078

PRESSURE BALANCED ANNULAR EXTRUSION DIE

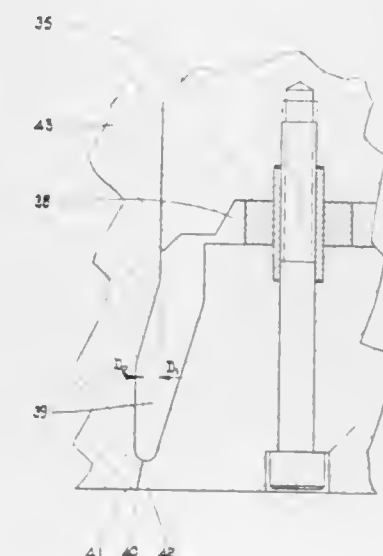
John F. Schultz, Whitby, Ontario, Canada, assignor, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 6, 1967, Ser. No. 680,689

Int. Cl. B29f 3/00

U.S. Cl. 18-12

7 Claims



tween the crimping elements. The length of the sausage link can be adjusted by changing the distance between the crimping elements and simultaneously adjusting the length of sausage fed to the machine by the feed belts.

3,540,076

PILOT DEVICE

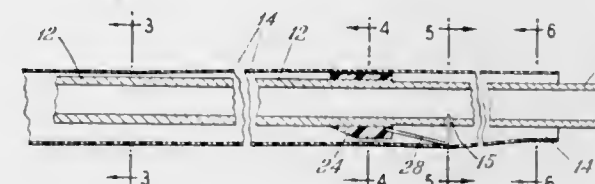
Algimantas P. Urbutis, Chicago, Ill., assignor to Union Carbide Corporation, a corporation of New York

Filed Oct. 29, 1968, Ser. No. 771,552

Int. Cl. A22c 13/00

U.S. Cl. 17-45

12 Claims



A pilot device is disposed on a shirring mandrel in close proximity to a shirring head for guiding an inflated sausage casing advancing on the mandrel into a zone of shirring. The pilot device has a guiding portion defined by a plurality of surfaces circumferentially spaced about the mandrel. These surfaces support the inside wall of the advancing casing, shape the casing and guide it to a predetermined position with respect to the mandrel immediately before the casing enters the shirring zone.

3,540,077

APPARATUS FOR SPINNING MULTI-COMPONENT FIBERS

Kazumi Nakagawa, Saidaiji, Nobuhiro Tsutsui, Okayama, and Keiichi Zoda, Saidaiji, Japan, assignors to Japan Exlan Company, Limited, Osaka, Japan
Continuation-in-part of application Ser. No. 467,510, June 28, 1965. This application Dec. 30, 1968, Ser. No. 814,862

Int. Cl. D01d 3/00, 5/00

U.S. Cl. 18-8

1 Claim

A method and apparatus for spinning multi-component fibers from at least two different fiber-forming materials. The fiber-forming materials are caused to flow toward

A circular rotating die, for extruding thermoplastic polymer, having a large feed passage within the inner lip section that distributes the polymer to the die lip extrusion area, whereby the forces within the structure are largely balanced.

3,540,079

APPARATUS FOR CORRUGATING SHEET MATERIAL

Louis Bush, Jamesport, N.Y., assignor to Flanders Filters Inc., Riverhead, N.Y., a corporation of New York

Filed Jan. 30, 1968, Ser. No. 701,661

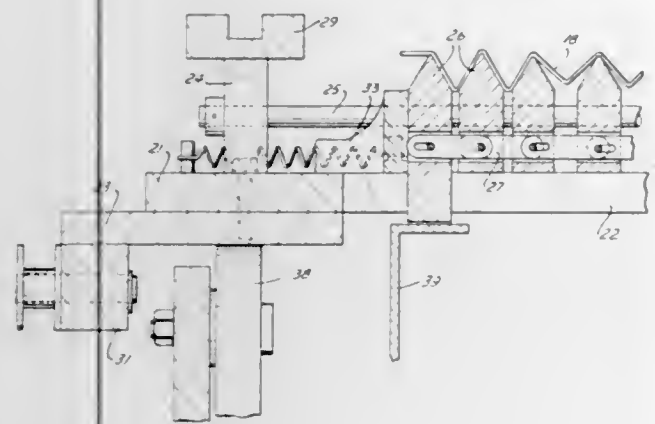
Int. Cl. B29c 17/04; B31f 1/24, 1/36; D29f 11/12

U.S. Cl. 18-19

10 Claims

A corrugating machine wherein a plurality of transversely spaced parallel ribs from a supporting surface for a sheet of material to be corrugated. A vacuum is generated at the underside of the sheet to draw the sheet

into firm engagement with the ribs. The transverse spacing of the ribs is variable, such that when the spac-



ing is reduced the sheet is drawn into the area between adjacent ribs to form corrugations therein.

3,540,080

DEVICE FOR THE SPINNING OF MULTICOMPONENT SYNTHETIC FIBERS

Gunter Goossens, Rial, Switzerland, assignor to Inventa A.G. für Forschung und Patentverwertung, Zurich, Switzerland

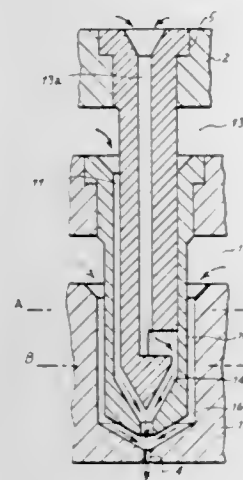
Filed Sept. 21, 1967, Ser. No. 669,663

Claims priority, application Switzerland, Sept. 21, 1966, 13,639/66

Int. Cl. D01d 3/00

U.S. Cl. 18—8

3 Claims

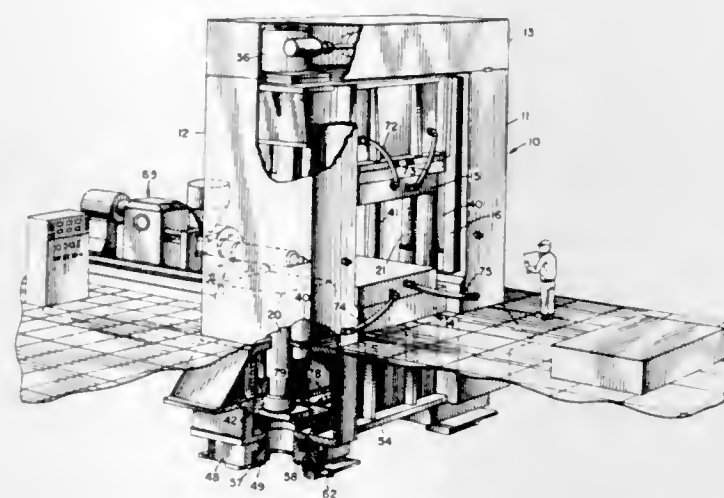


A composite fibril is formed from at least two dopes. The dopes are composed of different polymers. The device is comprised of at least one guide plate, a nozzle plate and a guide pin. The guide plate has a first bore therethrough. The nozzle plate has a second bore therethrough which opens into a nozzle aperture. The guide plate is disposed above the nozzle plate and forms therebetween at least one passage for at least one of the dopes. The first and second bores open into at least one of these passages. The guide pin is removably disposed within the first and second bores and has a longitudinal third bore which communicates with the second bore. The guide pin has an exterior diameter which is less than the diameter of the second bore, thus forming another passage for at least another one of the dopes or for a fluid. The aperture is positioned adjacent to a common opening of the passages.

3,540,081
VERTICAL INJECTION MOLDING MACHINE
Louis F. Carrieri, La Grange Park, and Norton D. Skinner, Palos Heights, Ill., assignors to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 21, 1967, Ser. No. 661,918
Int. Cl. B30b 1/00

U.S. Cl. 18—30

2 Claims

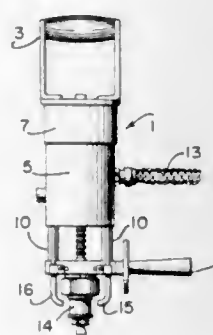


A vertical injection molding machine where the upper die member is held in the upper position by hydraulic pressure which allows the die member to move downwardly by gravity when the hydraulic pressure is relieved. Locking means prevents the upper die member from moving upwardly from its lowermost position when hydraulic pressure is exerted to clamp the two die members together during the injection process.

3,540,082
PORTABLE INJECTION MOLDING MACHINE
Herbert G. Vore and Donald E. Bardsley, Nashua, N.H., and Robert N. Owler, Westminster, Mass., assignors to Improved Machinery Inc., Nashua, N.H., a corporation of Delaware
Filed July 9, 1968, Ser. No. 743,547
Int. Cl. B29f 1/00

U.S. Cl. 18—30

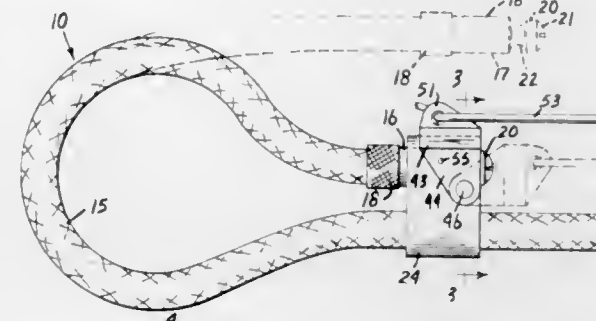
23 Claims



A portable and automatic injection molding machine with a spring-loaded friction clutch communicating a reversible drive with a movable piston carrier. The carrier automatically effects feed of plastic stock and moves a plasticizing piston and injection piston to plasticize and inject plastic material, and has a spring-loaded displaceable latch for freeing the former piston from the motive force of the carrier permitting continued, independent travel of the latter piston while the former is at halt. Control means through-connected with the drive automatically and repetitively cycles the machines through both injection and return strokes, and provides for a dwell of the injection piston between said strokes to assure full penetration of the plasticized material.

3,540,083
QUICK-RELEASE CABLE LOOP ASSEMBLY
Walter J. O'Connor, Grove City, Pa., assignor to Carl R. Litzberger, Endicott, Wash.
Filed Apr. 9, 1969, Ser. No. 814,652
Int. Cl. A44b 21/00; F16g 11/00
U.S. Cl. 24—123

9 Claims

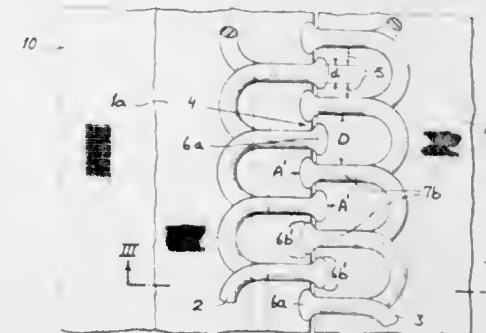


A quick-release cable loop assembly is described for mooring a boat to a dock. The assembly includes a throat block for releasably interconnecting a ferruled end of a cable with a segment of the cable to form a loop therebetween. The throat blocks have a C-shaped socket for receiving the ferruled end. The socket has flexible ends that may be flexed inward to form a cylindrical enclosure for the ferruled end.

3,540,084
SLIDE-FASTENER ASSEMBLY FOR BED LINEN AND THE LIKE
Alfons Fröhlich, Essen, Germany, assignor to Opti-Holding AG, Glarus, Switzerland, a corporation of Switzerland
Filed Jan. 22, 1968, Ser. No. 699,426
Claims priority, application Germany, Jan. 21, 1967, O 12,243
Int. Cl. A44b 19/10

U.S. Cl. 24—205.1

4 Claims



A slide-fastener stringer whose shrinkable fabric bands are attached to a fabric article (i.e. bed linen) the shrinkage force of the bands in the longitudinal direction being less than that of the fabric article; the bands are of increased density in the region of the coupling elements and weft threads limiting the curling of the bands and composed of thermoplastic monofilament or coated with an elastomeric material.

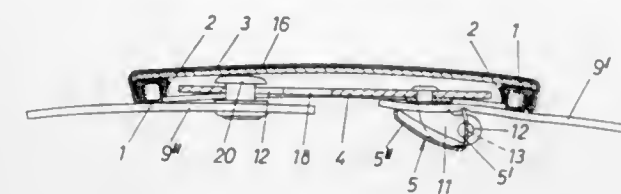
3,540,085
BELT WITH BELT BUCKLE
Rudolf Berning, Schwelm, Germany, assignor to Astor-Werke Otto Berning & Co., Schwelm, Germany, a corporation of Germany
Filed Feb. 3, 1969, Ser. No. 795,923
Claims priority, application Germany, Feb. 2, 1968, A 29,224; July 6, 1968, 1,760,829
Int. Cl. A44b 11/12

U.S. Cl. 24—77

11 Claims

A belt with a belt buckle, in which the buckle comprises a frame-like bottom part and a material-covered upper part which clampingly secures the edges of covering material, thereto. A holding device carried by the

parts is provided within an opening of the buckle for securing predetermined belt lengths. A plate is held by webs and extends below the material, the latter com-

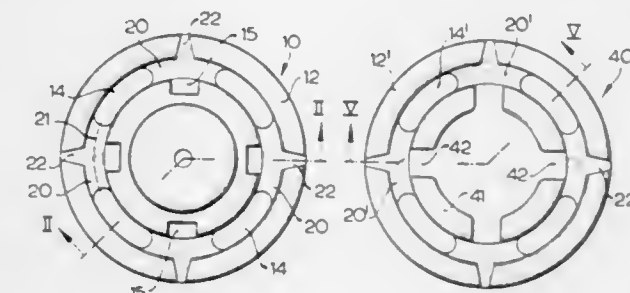


pletely covering the buckle opening. The plate supports at least one clamping closure, and the latter presses one end of the belt in an anchoring manner toward the plate.

3,540,086
SNAP FASTENERS
Bernhard Nysten, Aachen, Germany, assignor to William Prym-Werke KG, Stolberg, Rhineland, Germany, a firm
Filed Aug. 12, 1968, Ser. No. 751,809
Claims priority, application Germany, Aug. 11, 1967, 1,610,408
Int. Cl. A44b 17/00

U.S. Cl. 24—216

10 Claims

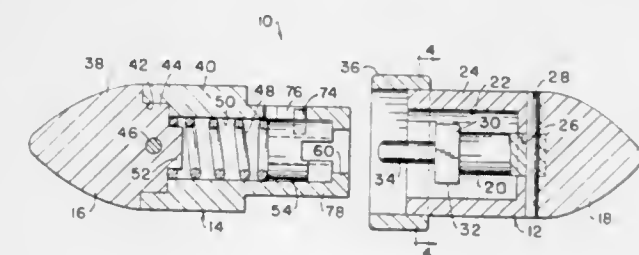


A snap fastener in which the base plates of the female and male members of the snap fasteners are each provided in addition to a plurality of openings therethrough which serve for attaching the respective members by sewing to a fabric or the like. The respective members are also provided with a plurality of penetrable zones so that bendable prongs of attaching means may be extended therethrough so that the respective snap fastener member may be attached to the fabric by sewing threads, by the prongs of attaching means or by a combination of both.

3,540,087
COUPLING
Andre Marosy, 24731 Kipling Ave., Oak Park, Mich. 48237
Filed Jan. 31, 1969, Ser. No. 795,501
Int. Cl. A44b 17/00

U.S. Cl. 24—211

8 Claims



A quick-connect, positive locking coupling member is provided. The coupling includes a male member and a female member. The male member has a rod with at

least one lateral extension on one end thereof. The female member includes a tubular housing with an end closure which has an opening to receive the rod and a notch operative to receive the lateral extension of the rod. A locking element is slidably mounted within the tubular housing. Spring means bias the locking element towards the end closure. The locking element is a cylindrical member with at least one marginal edge spiraled outwardly around the periphery towards the end closure. The guide means position the locking element with a portion of the marginal edge portion in alignment with the notch in the end closure. The extension is cammed along this edge portion upon insertion of the male member and is received in a notch provided in the locking element after it has passed over the marginal edge portion to be locked in place. Means are associated with the guide means to permit holding of the locking element in a position away from the end closure to permit removal of the lateral extension from the notch and relative rotation of the male member for disengagement of the two members.

3,540,088

CLAMPING DEVICE

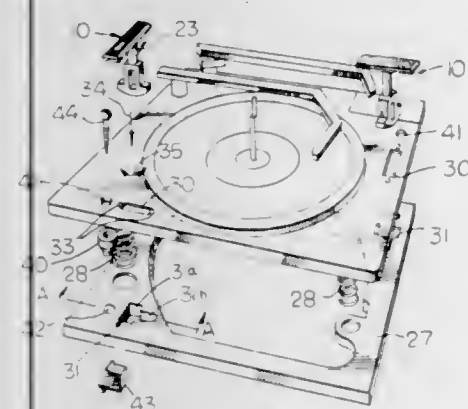
Richard W. Simpson, Fort Wayne, and Carl R. Hart, New Haven, Ind., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,683

Int. Cl. A44b 17/00; F16f 13/00

U.S. Cl. 24—221

18 Claims



A phonograph turntable plate is secured to a base plate in either a clamped position or in a free but retained position by a clamping device. The clamping device has a shank formed with an actuator, a clamping surface, and a retaining surface. The actuator rests against the turntable plate, and the clamping surface rests against the base plate to clamp the two plates, or the retaining surface is positioned adjacent the base plate to retain the two plates.

3,540,089

SELF-RELEASING ANIMAL TETHER

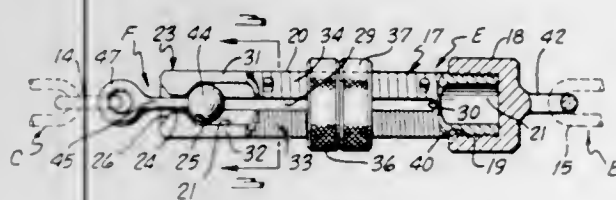
Clarence Willard Franklin, Cedar Tree Farm, Milford, Calif. 96121

Filed Mar. 27, 1968, Ser. No. 716,454

Int. Cl. A44b 17/00

U.S. Cl. 24—201

7 Claims



A self-releasing animal tether adapted to release upon tensile forces being exerted therethrough exceeding a

selected and predetermined limit. A tether member is inserted as a segment of a tether and comprises a ball member fitting interiorly of and grasped by a socket member. Either the ball or socket is slotted, resilient and equipped with apparatus which varies the resiliency necessary to separate the attached ball and socket, parting the tether.

3,540,090

SLIDE FASTENER CHAIN

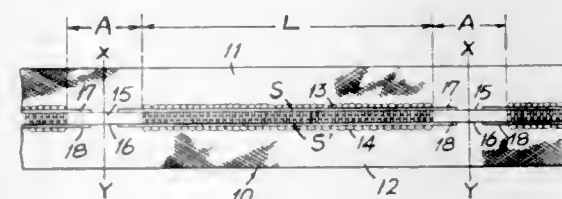
Ikuo Takamatsu, Flushing, N.Y., assignor to Yoshida Kogyo Kabushiki Kaisha, Tokyo, Japan

Filed July 23, 1968, Ser. No. 746,952

Int. Cl. A44f 19/02, 19/42

U.S. Cl. 24—205

1 Claim



A slide fastener chain consisting of a pair of carrier tapes carrying rows of intermeshed elements, each tape including a blank-space section at regularly spaced-apart intervals and devoid of fastener elements. Apparatus is disclosed to produce this fastener chain in a continuous cycle of operation.

3,540,091

COUPLING

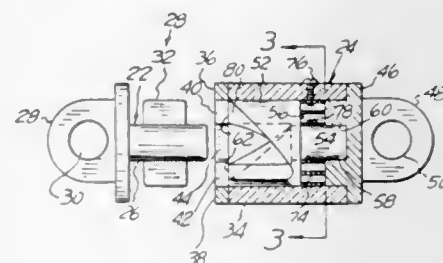
Andre Marosy, 14731 Kipling Ave., Oak Park, Mich. 48237

Filed Dec. 9, 1968, Ser. No. 782,176

Int. Cl. A44b 17/00

U.S. Cl. 24—221

12 Claims



A coupling including a male member with lateral extensions at one end adapted for insertion through a slotted cover plate in a female member. As the male member is inserted into the female member the forward edges of the lateral extensions engage a pair of cam surfaces formed on a locking element that is rotatably mounted within the female member. With further insertion of the male member the pair of cams on the locking element cause the element to be rotated against a biasing element. When the male member has been inserted a sufficient distance into the female element so that the lateral extensions have cleared the cover plate, the male member is rotated about its axis by the biasing element, firmly locking the male member within the female member.

3,540,092

HOSE CLAMP WITH TIGHTENING WORM

Wolfgang Henning, Duttlingstal, 3538 Niedermarsberg, Germany

Filed July 22, 1968, Ser. No. 746,679

Claims priority, application Germany, July 29, 1967, H 63,443; June 6, 1968, 1,750,796

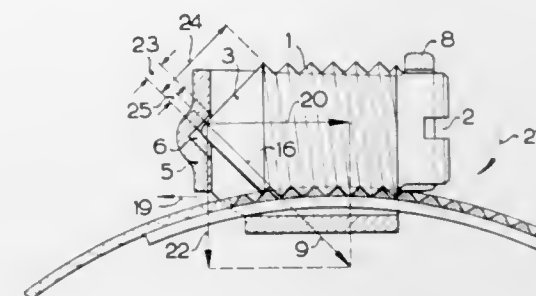
Int. Cl. B65d 63/02

U.S. Cl. 24—274

9 Claims

A Jubilee clip or hose clamp with a housing containing a worm with a conventional coarse thread and a

conical tip at the front, having limited freedom of movement in all directions within the housing. The housing has a cavity formed in the front end wall and the conical tip of the worm engages the cavity in the housing so that



when the worm tightens the clip, only tensile forces are produced in the longitudinal direction of the clip band and a compressive force directed towards the clip is exerted by the worm housing upon the worm.

3,540,093

APPARATUS FOR MANUFACTURE OF PRESSED CERAMIC ARTICLES

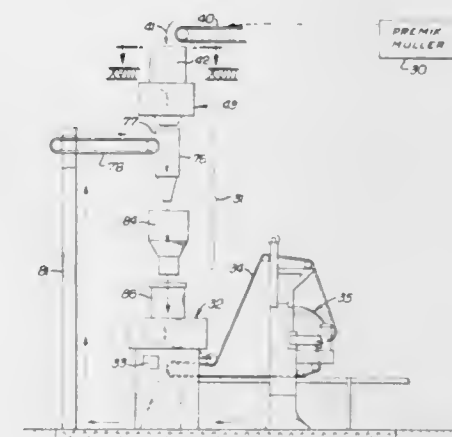
Dean D. Boatright, Jr., Inglewood, Lawrence M. Stevens, La Crescenta, and James A. York, Glendale, Calif., assignors to Interpace Corporation, Los Angeles, Calif., a corporation of Delaware

Filed Mar. 21, 1966, Ser. No. 536,100

Int. Cl. B28b 15/00

U.S. Cl. 25—2

18 Claims



A method and means for forming a continuous coherent strip of ceramic composition material of virtually uniform homogeneity, hardness, density and thickness, transporting the strip and blanks cut therefrom along vertical and horizontal paths and pressing articles or tile bodies from the blanks.

3,540,094

DEVICE FOR EXTRUDING ARTICLES

Reinhard Hendrik Antoon Janssen, St. Antoniuslaan 3a, Reuver, Netherlands

Filed Apr. 3, 1967, Ser. No. 627,777

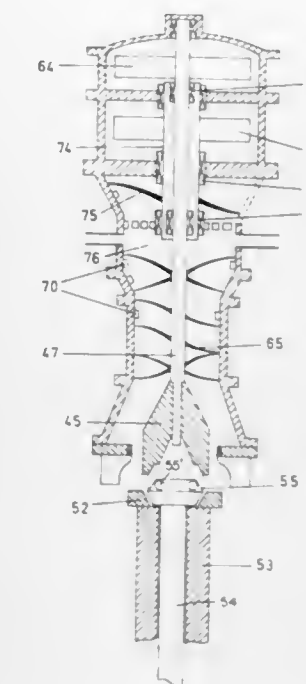
Claims priority, application Netherlands, Apr. 4, 1966, 6604466; May 6, 1966, 6606157

Int. Cl. B28b 3/22

U.S. Cl. 25—17

12 Claims

An extruding device for extruding an article from clay, a synthetic material or the like, having a tubular conveying container for a plastic mass, and an annular extrusion nozzle, having an adjustable outlet for shaping an article, being connected to the tubular container. Means are provided for feeding the plastic mass along the container



justable outlet contribute to the improved extruding device.

3,540,095

AUTOMATIC PLUG EXTRACTION DEVICE FOR CERAMIC MOLDS

Erwin Gram, Johann Weiss, and Josef Schretzmayer, Wilhelmsburg, Austria, assignors to Ospag Österreichische Sanitär-Keramik- und Porzellan-Industrie Aktiengesellschaft, Vienna, Austria

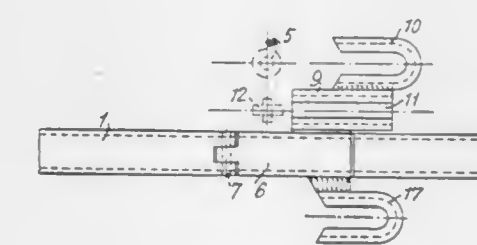
Filed Apr. 30, 1968, Ser. No. 725,437

Claims priority, application Austria, July 7, 1967, A 6,367/67

Int. Cl. B28b 5/02

U.S. Cl. 25—29

3 Claims



Automatic plug extraction device for removal of slip from ceramic molds in the automatic manufacture of ceramic articles, such as toilet bowls and the like.

3,540,096

NEEDED FABRIC SLEEVE AND APPARATUS FOR MAKING THE SAME

Jorge Porta, Los Angeles, Calif.

(1243 W. 134th St., Gardena, Calif. 90247)

Filed July 17, 1967, Ser. No. 653,753

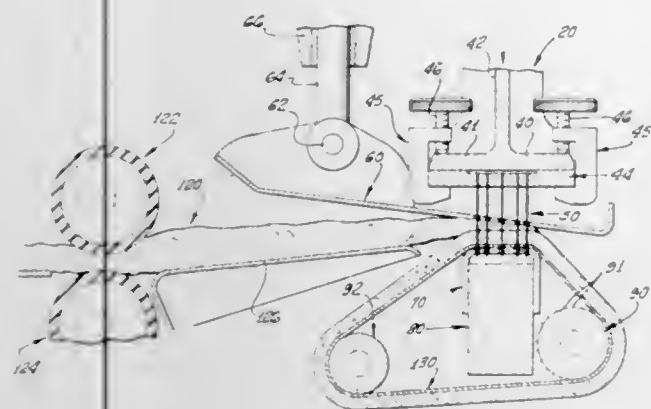
Int. Cl. D04h 18/00

U.S. Cl. 28—4

5 Claims

A needed fabric sleeve of desired length including a tubular base of woven nylon, with a multiplicity of filaments of synthetic fibrous material, preferably polypropylene, needled into the tubular base while the latter is maintained under substantial tension and incrementally advanced between successive needling steps. The apparatus comprises a machine including spaced parallel

horizontally disposed elongated rollers, a longitudinally extending apertured bedplate between the rollers, means including cantilevered support means for the bedplate and rollers for facilitating the mounting of the tubular base to extend around the rollers and across the bed-



plate, means for supporting the distal ends of the cantilevered members and for peripherally tensioning the tubular base, and means for needling fibrous material into the tubular base as the latter is incrementally advanced.

3,540,097

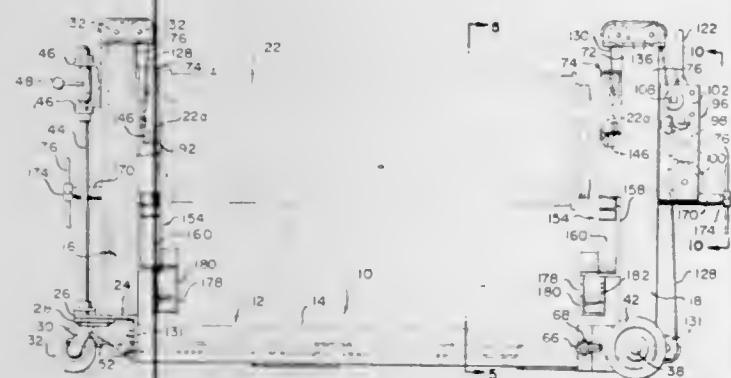
HOISTING AND TRANSPORTING APPARATUS, ESPECIALLY FOR LOOM WARP BEAMS

Donald D. Zebley, Greenville, S.C., and Ralph White, Aragon, Ga., assignors to United Merchants and Manufacturers, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 21, 1968, Ser. No. 769,299
Int. Cl. D03j 1/00

U.S. Cl. 28—41

22 Claims



A warp beam truck having an elongated wheel supported and steerable frame including longitudinally spaced cooperating vertical trackways between which a warp beam is suspended by winch cables removably affixed to the journal ends of the beam with the beam ends being releasably locked in the trackways by removable locking pins so that the beam is carried at the center of gravity of the truck and lateral transfer arms swingably and slideably carried by the frame and constituting lateral extensions of the lower ends of the trackways, the transfer arms normally being held by a locking means in retracted substantially vertical position and being laterally extendible from the frame and having means on their extended ends for locating and locking them in lateral projection from the frame to the warp beam supporting arms of a loom and winch means carried by the frame for operating the cables so as to lay the beam into the loom with the ends of the beam traveling in the trackways and transfer arms.

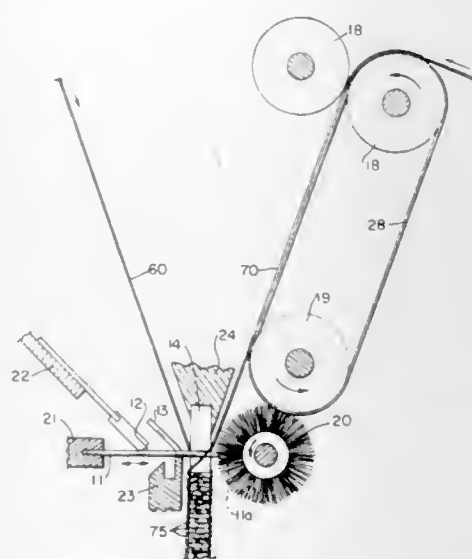
3,540,098 APPARATUS AND PROCESS FOR MANUFACTURING OF PILE FABRIC

Siegfried Ploch, Walter Scholtis, and Heinz Zschunke, Karl-Marx-Stadt, Germany, assignors to Forschungsinstitut für Textiltechnologie, Karl-Marx-Stadt, Germany

Original application Apr. 1, 1965, Ser. No. 444,640, now Patent No. 3,442,101, dated May 6, 1969. Divided and this application Apr. 26, 1967, Ser. No. 649,386
Int. Cl. D04b 23/10

U.S. Cl. 28—72

26 Claims



An apparatus and method is disclosed for use in manufacturing a textile web from a base and a fiber layer. The fiber layer is fed adjacent the base and reciprocating needles carried by a knitting machine form fiber loops from the fiber layer which loops are subsequently returned through the base to interconnect the base and fiber layer to form the textile web.

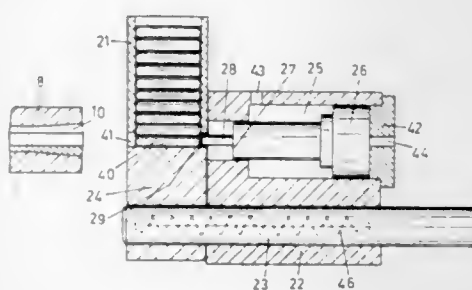
3,540,099 MACHINE FOR MAKING ELECTRIC CONDENSERS

Jacques Perrenoud, Fribourg, Switzerland, assignor to Condensateurs Fribourg S.A., Fribourg, Switzerland, a Swiss company

Filed Jan. 29, 1968, Ser. No. 701,231
Claims priority, application Switzerland, Jan. 27, 1967, 1,283/67
Int. Cl. H01g 13/00

U.S. Cl. 29—25.42

3 Claims



A machine is disclosed for winding electric condensers from conductive and nonconductive strips of material onto a permanent core member. A core gripping mechanism is selectively moved through different working positions to effect winding of the condenser, cutting of the strips, and gluing of a protective band around the wound condenser. A core supply chamber is disposed adjacent the core gripping mechanism and a fluid-operated motor individually feeds core members from the core supply chamber to the core gripping mechanism.

3,540,100 APPARATUS FOR FORMING TWO SPACED BOSSES ON METAL CABLE

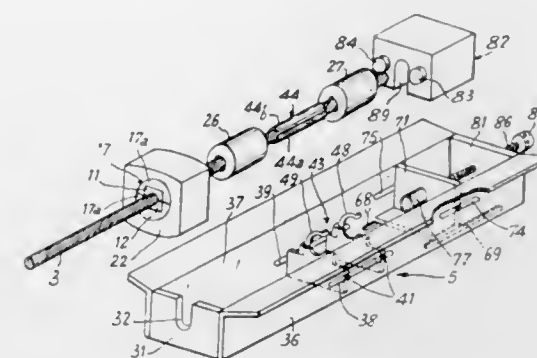
Robert Ernest Carriere, Chateaufort-sur-Loire, France, assignor to Baudin-Chateaufort, Loiret, France
Filed June 13, 1968, Ser. No. 736,858

Claims priority, application France, June 26, 1967, 111,849

Int. Cl. B23p 23/04

U.S. Cl. 29—33.5

5 Claims



The equipment includes a bench equipped with means for gripping a cable at a certain distance from one of its ends, and with means for the compression of part of the cable between its end and its gripped part and two shells the internal forms which match the forms of the two bosses to be formed on the cable, and by an intermediate sleeve dismantlable into several parts, the internal diameter of which is equal to the diameter of the cable and the length of which is substantially equal to the distance between the two bosses to be formed. By the setting in action of the compression means the gripped cable is compelled to distend into the two shells fitted thereon, while the portion thereof received in the intermediate sleeve placed between the two shells retains its original diameter.

3,540,101

BROACHING TOOL

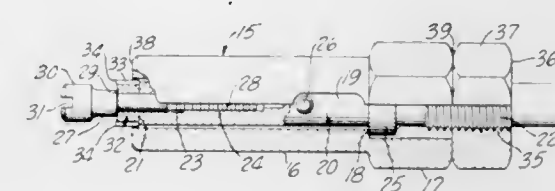
Jose Rosan, Sr., Rancho San Juan, San Juan Capistrano, Calif. 92675, and Marvin P. Reece, 33262 Bremerton Ave., Dana Point, Calif. 92629

Filed Mar. 21, 1969, Ser. No. 809,115

Int. Cl. B23p 15/42; B26d 1/04

U.S. Cl. 29—95.1

10 Claims



A semiautomatic broaching tool for broaching counter-bore serrations to a predetermined depth which is provided with a means for disengaging the broaching tool from the workpiece material after completion of the broaching action.

3,540,102

POSITIVE RAKE INSERT HOLDER

William Yogus, Birmingham, and Jack O. Sullivan, Farmington, Mich., assignors to The Valeron Corporation, a corporation of Michigan

Filed Jan. 15, 1968, Ser. No. 697,832

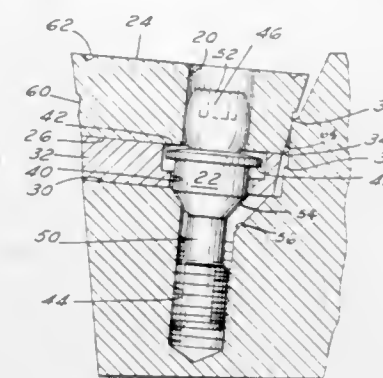
Int. Cl. B26d 1/00

U.S. Cl. 29—96

4 Claims

A positive rake cutting tool including a holder for a cutting insert having an inclined side wall form and wherein a side form locking arrangement is provided

within the side wall form of the insert for interengagement with the back wall of the insert seat on the holder to



enable the use of a straight walled center hole in the insert and center pin wedge-locking means therewithin.

3,540,103

MILLING CUTTER

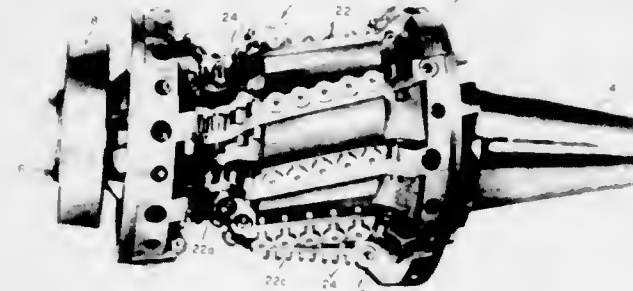
Oliver E. Saari, Niles, Ill., assignor to Stanray Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 30, 1969, Ser. No. 795,781

Int. Cl. B26d 1/12

U.S. Cl. 29—105

13 Claims



A milling cutter to be used, for example, in apparatus for truing wheels of a railway vehicle wheel and axle assembly. The cutter has a cylindrical body contoured to the shape of a vehicle wheel or other workpiece, with individual cutting buttons removably fixed to the cutter body in spaced diagonal ranks and with the buttons arranged in the respective ranks to produce a helical progression of individual cuts. The buttons in the wheel flange cutting portion of the cutter body are arranged with their axes substantially normal to a radius of the cutter body, while the buttons in the tread cutting portion are disposed with their longitudinal axes substantially coincident with a radius of the cutter body. The flange cutting buttons may be arranged in ranks which are offset from the rows containing the tread cutting buttons, and the next adjacent buttons in the helical progression may be spaced by staggering the ranks. The cutter body may be contoured to the shape of any workpiece to be milled.

3,540,104

WALL PAPER SEAM ROLLER

Edward W. Duffy, Chelsea, Mass., assignor of twenty-five percent to Jack Larsen, Chelsea, Mass.

Filed Dec. 30, 1968, Ser. No. 787,723

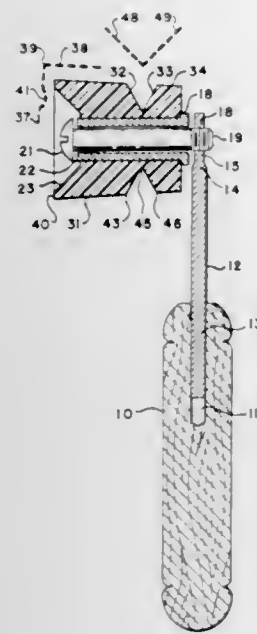
Int. Cl. B44c 7/02

U.S. Cl. 29—110.5

7 Claims

An improvement on the paper-hanger's seam roller of Brader Pat. 1,510,034 is disclosed. The improvements comprise offsetting the handle from the center of the roller, and modifying the rolling surfaces 31, 32, 33, and

34 to form a plurality of coating conical surfaces arranged so that the roller may press seams at both "inside" and "outside" corners as well as flat portions of a wall.



Inside corners are pressed by the surface 31 at the edge 40, while the groove comprising conical surfaces 32 and 33 presses outside corners.

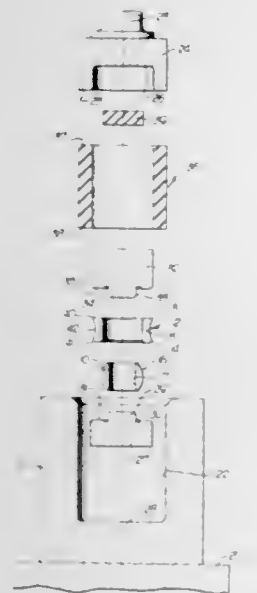
3,540,105

METHOD OF FORMING A SPHERICAL BEARING
Kenneth S. Clark, Sylmar, Calif., assignor to Kahr Bearing Corporation, Burbank, Calif., a corporation of California

Filed Sept. 9, 1968, Ser. No. 758,352
Int. Cl. B23p 11/00, 17/00

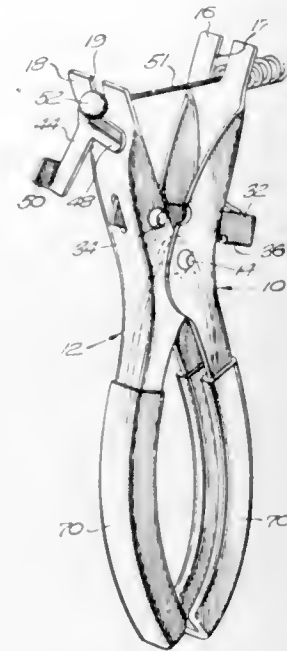
U.S. Cl. 29—149.5

9 Claims



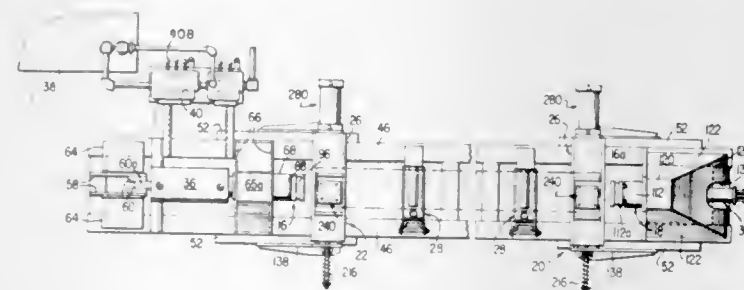
A two part spherical bearing, including an inner ball section bearing member and an outer race member, is formed or swaged into assembled relation through application of swaging or forming pressures to the race member about the inner ball section member through a rubber-like force transmitting sleeve positioned within a die cavity about the loosely assembled race and ball members upon first and second fixtures, the required forces being applied to the rubber-like force transmitting sleeve by ram means for compressing the sleeve within the die.

3,540,106
BRAKE CABLE RELEASE TOOL
Maurice J. Goldman, 382 Massapoag Ave., Sharon, Mass. 02067
Filed July 10, 1968, Ser. No. 743,659
Int. Cl. B23p 19/04; B25b 7/14
U.S. Cl. 29—268 6 Claims



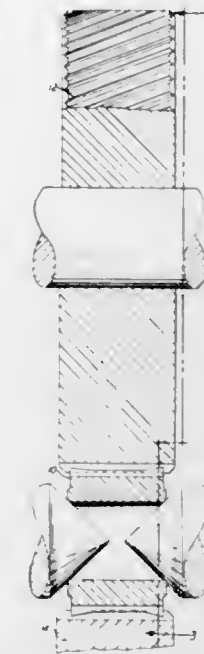
A hand tool for use in removing the brake cable assembly of an automotive vehicle. A pair of pivotally movable jaws are inserted between the brake cable spring and the cable mounting and the jaws are moved apart causing the brake cable spring to be forced away from the cable and member. The cable assembly can then be removed from its mounting plate, and a release mechanism associated with one of the jaws is provided to remove the cable assembly from the tool.

3,540,107
METHOD OF FORMING REINFORCED WOODEN MEMBERS
John C. Jureit and Benjamin H. Kushner, Miami, Fla., assignors to Automated Building Components, Inc., Miami, Fla., a corporation of Florida
Original application July 8, 1966, Ser. No. 563,908, now Patent No. 3,419,205, dated Dec. 31, 1968. Divided and this application Apr. 22, 1968, Ser. No. 753,319
Int. Cl. B23p 17/00, 11/00
U.S. Cl. 29—155 3 Claims



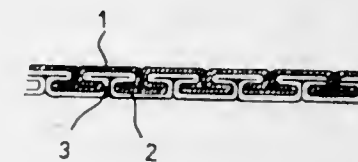
A method for reinforcing and preventing an repairing splitting in the ends of elongated lumber elements, such as railroad ties, involving clamping both sides of each end of the elongated lumber element and embedding toothed plates in opposite ends thereof by pressing the teeth of one plate into one end of the element whereby the element moves along its longitudinal axis so as to embed itself onto the teeth of a second toothed plate adjacent the opposite end.

3,540,108
METHOD FOR ROLLING GEARS
John J. Di Ponio, Union Lake, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 5, 1968, Ser. No. 695,941
Int. Cl. B21d 53/28; B23p 15/14; B21h 5/00; B29d 15/00; B21k 1/30
U.S. Cl. 29—159.2 7 Claims



This disclosure describes a method for rolling gears from solid blanks. The blanks to be rolled are mounted between two circular rolling dies, one of which can be advanced toward the other. Upon rotation of the dies, metal is displaced by the dies as the die teeth form the desired gear tooth geometry on the gear blank.

3,540,109
PROCESS FOR MANUFACTURING METALLIC BANDS FOR BRACELETS
Rene Marthaler, Chaux-de-Fonds, Switzerland, assignor to Moblot Manufacturing Rene Marthaler, Chaux-de-Fonds, Switzerland, a Swiss company
Filed Nov. 2, 1967, Ser. No. 680,112
Claims priority, application Switzerland, June 30, 1967, 9,343/67
Int. Cl. B23p 11/00
U.S. Cl. 29—160.6 1 Claim

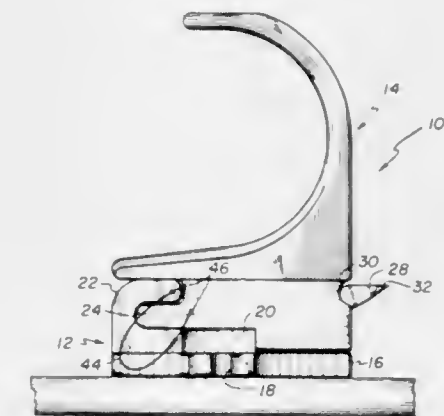


Process for manufacturing metallic bands for bracelets from at least two metallic strips, the laterally-viewed longitudinal cross-section of the strips being repeated accentuated loop shapes. The strips are laminated by crushing together so that the loops of the two strips interpenetrate one another and hold the strips together.

3,540,110
GUIDE DEVICE
Richard Stephen Schwartz, Union Township, Union County, N.J., assignor to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey
Filed Apr. 12, 1968, Ser. No. 721,009
Int. Cl. B23p 13/00, 19/00; H05k 13/00
U.S. Cl. 29—200 10 Claims

The invention is directed to a guide device composed of a base member and a plurality of guide members any of which may be selectively assembled to the base member to form the guide device. The base member is arranged, by means of mounting slots or by either use of

an adhesive, to be firmly affixed to a mounting surface such as a harness board, a bulkhead, or wall, or similar surface. The guide member may then be selectively engaged with the base member and when its function has been completed may be removed from the base member. In a first use of the device as a moveable corner post for a wire harnessing apparatus the base member will be affixed to a harnessing board in accordance with the desired routing of the conductors, which are to be made into the wire harness. The guide member is then selected in accordance with the guiding functions to be performed. For example, the guide member for a linear run of the wire harness may be a straight guide portion perpendicular to the surface of the harness board itself. But if it is desired to branch the harness to take individual conductors to different connectors, or locations, then the guide portion may be made in the shape of a C, or some other curved surface in order to provide a rounded corner about which the conductor may be directed. The base member is provided with a boss and a retainer and in addition with a locking means provided on a flexible arm. The guide

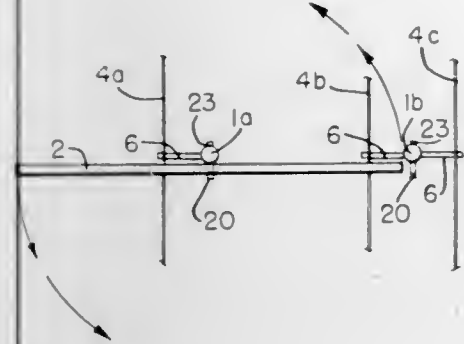


member is provided with a recess and shoulders to fit upon the boss of the base member and prevent lateral movement of the guide member with respect to the base member. Additionally, a hook is provided on the guide member to engage with the retainer of the base member and prevent movement of the guide member, with respect to the base member, in a first direction. The stop, on the flexible arm of the base member, will engage with a corresponding groove on the guide member so as to lock the guide member against movement in a second direction opposite the first. The stop member on the base member may be disengaged by depressing the stop member and thus moving it by means of the flexible arm out of engagement with the guide member so that the guide member may then be removed from the base member. Additionally, if it is desired, the guide member may be provided with mounting slots for the receipt of fastening devices so that the guide member may be directly mounted upon a mounting surface without the requirement for the use of a base member. The base and guide members may be tethered to prevent loss of the guide member when removed from the base member.

3,540,111
METHOD OF MOVING CROSSARMS
James C. Wainwright, 102 Fernwood Drive, West Monroe, La. 71291
Filed Dec. 27, 1967, Ser. No. 693,983
Int. Cl. B23d 19/10; B23p 7/00

U.S. Cl. 29—401 21 Claims
Removing a crossarm from a power line support structure having multiple support poles by moving the crossarm horizontally on rollers in a direction perpendicular to the power lines until its center of gravity is above one of the support poles, rotating the crossarm first 90 degrees

in a horizontal plane and then approximately 90 degrees in a vertical plane and lowering the crossarm to the ground; whereby the crossarm can be removed with a



minimum amount of interference with the power lines and other parts of the support structure. A crossarm is mounted by reversing the procedure.

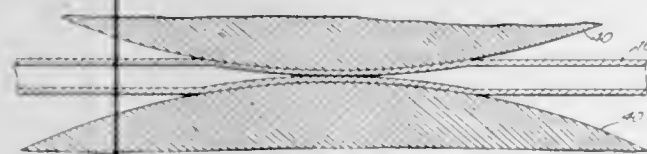
3,540,112 METHOD FOR MANUFACTURING A HYPODERMIC NEEDLE

James J. Knox, Avenel, N.J., assignor to Knox Laboratories, Inc., Rahway, N.J., a corporation of New Jersey

Filed Jan. 18, 1967, Ser. No. 610,152
Int. Cl. B23p 17/00

U.S. Cl. 29—414

20 Claims



Hypodermic needle points are manufactured from tubular members by deforming top and bottom wall portions from opposite sides of the tubular member by gradually and progressively pressing generally inwardly against the top and bottom wall portions with dies so as to cause the top and bottom wall portions to gradually slope together and meet in an area where they intimately contact each other, and removing some of the opposite side wall portions to create side surfaces which slope together from the unsloped portion of the tubular member to where they intersect in a cutting point or edge in the area where the top and bottom wall portions are in intimate contact.

3,540,113 METHOD OF MAKING PLASTIC BODY

Klaus E. B. Krutzykowsky, 4331 N. Lowell Ave., Chicago, Ill. 60641

Continuation of application Ser. No. 597,364, Nov. 28, 1966, which is a continuation-in-part of application Ser. No. 525,228, Feb. 4, 1966. This application June 2, 1969, Ser. No. 829,648

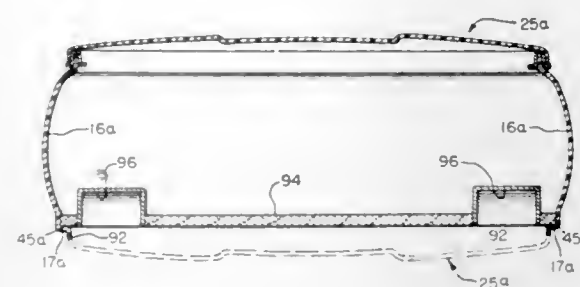
Int. Cl. B29c 17/04, 24/00, 27/00

U.S. Cl. 29—415

4 Claims

A method of forming a plastic body having integrally interconnected vertical sidewall elements, a peripheral base section, and a detachable cover or roof section. A generally flat sheet of thermoplastic material is thermoformed to cup-shaped configuration. The bottom of the cup-shaped piece is removed from the remainder of the piece and is used to cover the open top of the remainder of the piece. A separate piece is used to close the opening

in the remainder of the piece formed by the removal of the bottom. The bottom section of the cup-shaped piece can be formed with a larger periphery than the remainder



of the piece so that the removed bottom section can be telescoped over the remainder of the piece. A trailer body can be formed using the noted method.

3,540,114

METHOD OF FORMING FINE FILAMENTS

Peter R. Roberts and Albert D. Martin, Grotton, Mass., assignors to Brunswick Corporation, a corporation of Delaware

Filed Nov. 21, 1967, Ser. No. 684,675

Int. Cl. B23p 17/00

U.S. Cl. 29—419

29 Claims



A method of forming fine filaments formed of a material such as metal by multiple end drawing a plurality of elongated elements having thereon a thin film of lubricant material. The plurality of elements may be bundled in a tubular sheath formed of drawable material. The lubricant may be applied to the individual elements prior to the bundling thereof and may be provided by applying the lubricant to the elements while they are being individually drawn through a coating mechanism such as a drawing die. The lubricant comprises a material capable of forming a film having a high tenacity characteristic whereby the film is maintained under the extreme pressure conditions of the drawing process. Upon completion of the constricting operation, the tubular sheath is removed. If desired, the lubricant may also be removed from the resultant filaments.

3,540,115

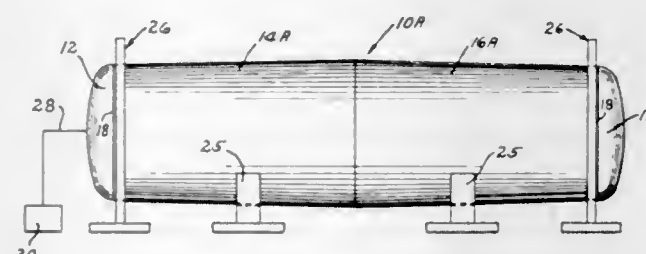
METHOD OF MAKING A TANK STRUCTURE
Wallace T. Geyer, Des Peres, and Robert W. Randolph, St. Charles, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Jan. 29, 1969, Ser. No. 794,920

Int. Cl. B23p 17/00

U.S. Cl. 29—421

4 Claims



An elongate tank structure having a sloping bottom to provide adequate drainage of liquids, and the method of making same. The tank structure comprises elliptical

end heads having their major axes extending in a horizontal direction and a circular center portion, with the tank shell changing its shape gradually from the elliptical heads to the circular center and the tank bottom sloping gradually downwardly from the end heads to the center. The tank structure is formed by welding end heads of an elliptical shape to an open ended cylindrical tank shell which has been deformed at its ends to match the elliptical end heads. The enclosed tank structure thus formed is pressurized to an internal pressure exceeding the yield of the material from which the tank shell is formed, while the end heads are held against any deformation. The tank shell is thereby deformed by the internal fluid pressure into a circular center portion with the tank portion between the elliptical end heads and the center having a bottom which slopes gradually downwardly.

3,540,116

METHOD OF MAKING A BUILDING PANEL

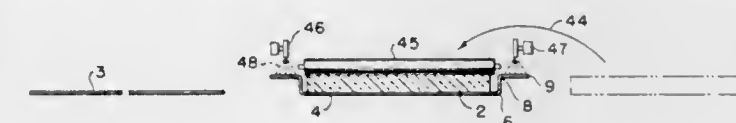
Edward F. Drahos, Philadelphia, Pa., and Marvin D. Merritt, Streetsboro, and John A. Bohnsack, Lakewood, Ohio, assignors to The E. F. Hauserman Company, Cleveland, Ohio, a corporation of Ohio

Filed July 7, 1967, Ser. No. 651,787

Int. Cl. B23p 19/00

U.S. Cl. 29—430

15 Claims



A bonded metallic face interior partition panel having channels at opposite edges formed by the face sheets being bonded and rolled together to form an open folded cam latch flange restricting the channel opening with the edge of one face being within the edge of the other forming such folded flange; and several methods of manufacturing such panel including selective roll and spray coating of the bonding adhesive.

3,540,117

METHOD OF PRODUCING TAPERED PLATES

George E. Kennedy, Churchill Borough, and John H. Richards, Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware

Filed Dec. 15, 1967, Ser. No. 690,752

Int. Cl. B23p 17/00

U.S. Cl. 29—527.7

3 Claims

A method of producing tapered metal plates is disclosed which involves first pressure casting tapered metal slabs. The slabs are arranged in packs with the thicker end of one adjacent the thinner end of another, and a separating compound is interposed between mating slab surfaces. After hot rolling to form tapered plates, the plates are separated.

3,540,118

METHOD OF FRAMING A MULTIPLE GLAZED UNIT

Thomas H. Hughes, Sarver, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 20, 1968, Ser. No. 706,896

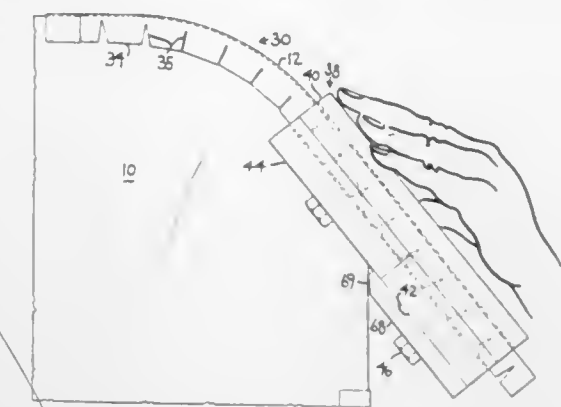
Int. Cl. B23p 11/02

U.S. Cl. 29—450

5 Claims

A method and apparatus for placing a channel member in clamping relation about curved, peripheral edge portions of a multiple glazed unit. A channel member having both flanges notched at essentially evenly spaced intervals is inserted into a flange spreading tool, a portion of the spreading tool and the channel is superimposed over a

curved peripheral edge portion of a multiple glazed unit and the channel member is released from the tool into



clamping engagement with the curved edge portion of the unit.

3,540,119

METHOD FOR FABRICATING MICROWAVE TUBES EMPLOYING HELICAL SLOW WAVE CIRCUITS

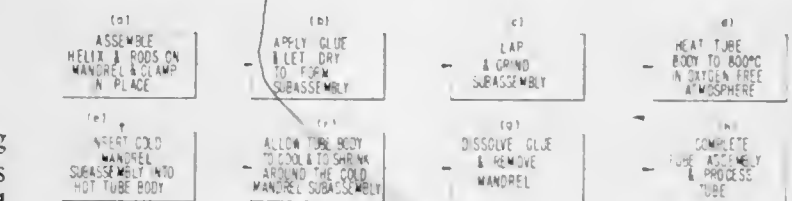
Arthur E. Manoly, Saratoga, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Feb. 19, 1968, Ser. No. 706,447

Int. Cl. H01p 11/00

U.S. Cl. 29—600

9 Claims



A method for shrink-fitting a slow wave circuit into a microwave tube body is disclosed. In the method, a slow wave circuit, such as a helix together with its support structure, such as three dielectric support rods, is glued onto a hollow mandrel to form an integral subassembly. A metallic microwave tube body having an elongated bore therein is heated to an elevated temperature as of 800° C. The glued subassembly is then axially inserted into the bore in the tube body while the tube body is maintained at an elevated temperature. A coolant is passed through the mandrel for cooling the subassembly to prevent melting of the glue and to facilitate insertion of the subassembly into the heated body portion. The body portion of the tube is then allowed to cool and to shrink around the subassembly to provide a tight shrink-fit therebetween for supporting the slow wave circuit. The tube body, containing the glued integral subassembly, is then washed in a solvent for the glue to remove the glue, thereby permitting the mandrel to be removed from the slow wave circuit to leave the slow wave circuit mounted within the bore in the body portion. Further assembly of the tube is then completed and the tube is processed.

3,540,120

METHOD OF CONSTRUCTING MAGNETIC CORE STRUCTURES

Angelo A. De Laurentis, Sharpsville, and John C. Gumpfer, Jamestown, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 12, 1968, Ser. No. 774,941

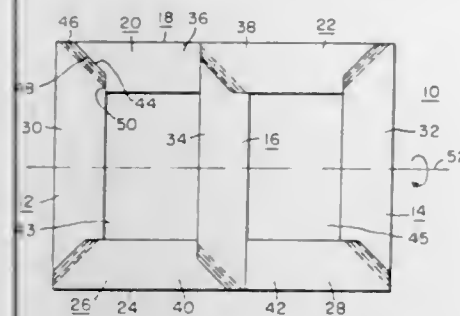
Int. Cl. H01f 7/06

U.S. Cl. 29—609

18 Claims

A magnetic core structure of the stacked type having a plurality of like dimensioned layers of laminations which are superposed with their edges in alignment, to

provide a magnetic core having square inner and outer corners with no voids or protrusions. The corner joints between the leg and yoke portions are of the stepped-lap type, having at least three successive steps in one direction before the direction is changed or the pattern repeated. A scrapless method for constructing this magnetic



core is also disclosed which includes the steps of providing a plurality of spaced dies, indexing a metallic strip in the dies, cutting the strip with the dies, and indexing certain of the dies transverse to the indexing direction of the metallic strip, each time the laminations for a complete layer of the magnetic core are obtained.

3,540,121

PROCESS OF ASSEMBLING COMPONENTS BY USING A REMOVABLE TEMPLATE

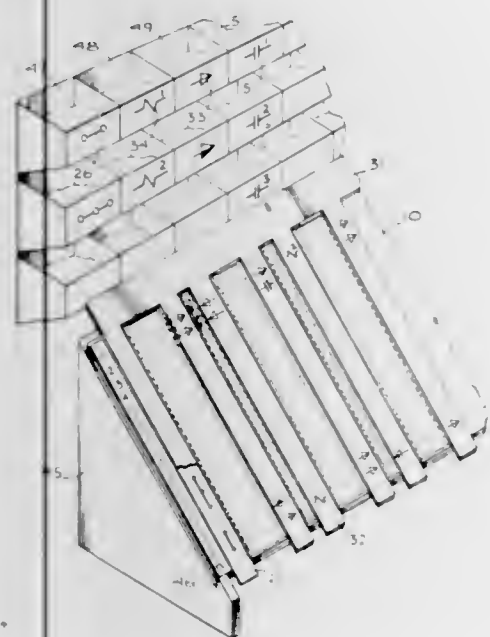
Walter F. Hutchinson, Thousand Oaks, Gerald G. Koss, Simi, and Leland E. Wickstrum, Santa Susana, Calif., assignors, by mesne assignments, to The Bunker-Ramo Corporation, Oak Brook, Ill., a corporation of Delaware

Original application Feb. 25, 1966, Ser. No. 530,177. Divided and this application Feb. 8, 1968, Ser. No. 724,623

Int. Cl. H05k 3/00; B13q 17/00

U.S. Cl. 29—626

7 Claims



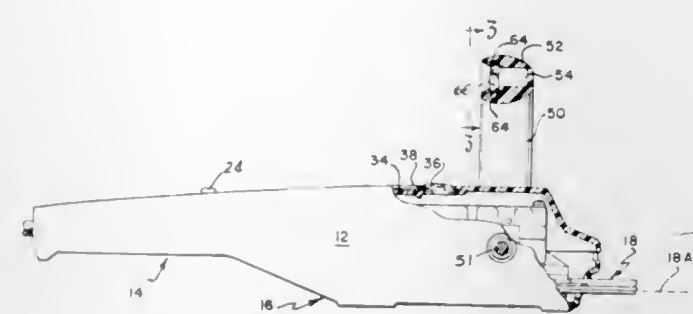
A method useful in the manufacture of electronic circuit boards for facilitating the placement of specified electronic parts on lugged terminals arranged in spaced apart rows on said board. The method includes the steps of: (1) providing a plurality of storage bins having symbols identifying parts held therein; (2) providing a tool displaying a plurality of symbols corresponding to the symbols on the bins; (3) inserting the tool on the circuit board so as to align symbols on the tool with terminals on the board; (4) comparing the symbols on the tool with the symbols on the bins; and (5) mounting parts held in the bins onto the terminals in the manner specified by the symbols on the tool.

3,540,122 HEDGE TRIMMER AND LEVELING SYSTEM FOR SAME

Alex S. Bogdan, Chicago, Ill., assignor to G. W. Murphy Industries, Inc., a corporation of Texas
Filed Oct. 30, 1967, Ser. No. 679,111
Int. Cl. B26g 15/00

U.S. Cl. 30—123

3 Claims



A hedge trimming device which has a blade driven through a cutting plane and including a level indicating system having two cylindrical spirit level capsules each replaceably mounted on the trimmer casing, one with its axis parallel to the cutting plane and the other with its axis perpendicular to the cutting plane. One capsule is held in a depression in the casing top wall by a releasable snap plate frame arrangement, and the other is held in a receiver indentation in a vertically disposed handle by a tapered receiver cover plate engaging the capsule sides.

3,540,123

MOWING MACHINE

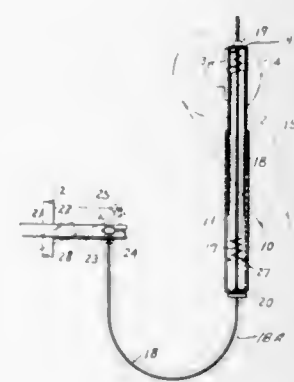
Kunimi Yamada, 1 Kuruma Aza Okunishiyama Sumaku, Kobe, Japan

Filed Dec. 5, 1967, Ser. No. 688,145

Int. Cl. B23d 45/00

U.S. Cl. 30—167

1 Claim



A machine of general utility particularly useful in agricultural work including a motor adapted to be carried on the back of the operator in a frame in which the motor is pivotally mounted on a vertical axis and the drive from such motor includes a belt tightener clutch mechanism which automatically releases upon overload and may be rendered inoperative by a lever carried by the frame and driven pulley of the motor drives a flexible shaft rotatably mounted in a flexible tubular casing having a rigid central section formed by a rigid pipe and the free end of the flexible cable drives a rotary disc cutter, the position of which is controlled by an outer pipe telescopically mounted on the central pipe section and connected by a link to the bearing support for the rotatable disc cutter, so that the user can position the disc cutter in any desired location to cut growing crops and trim bushes and trees and for many other purposes.

3,540,124

SAFETY RAZOR WITH RIBBON-TYPE BLADE

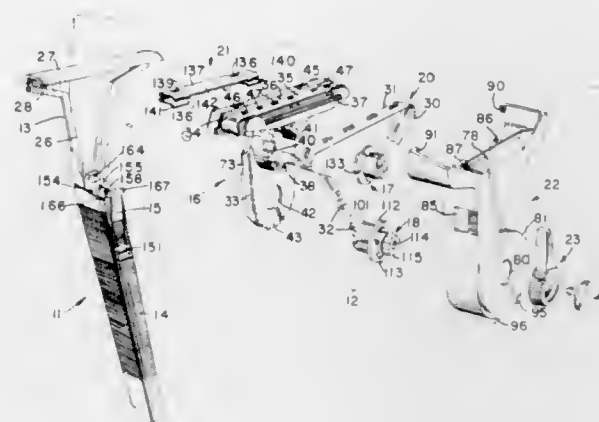
Jan Dawidowicz, Fairfield, Leopold K. Kuhl, Stratford, Thomas F. Bombero, Shelton, and Frank A. Ferraro, Monroe, Conn., assignors to Eversharp, Inc., Milford, Conn., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 501,477

Int. Cl. B26b 21/54, 21/26

U.S. Cl. 30—346.5

14 Claims



A safety razor of the type having a holder and magazine. The magazine includes a supply reel and take-up reel joined by a thin ribbon-type blade, which blade extends from one reel to the other across a shaving bridge. Asymmetrically arranged guide lugs on the bridge co-operate with uniformly spaced apertures in the blade for blade tracking and positioning. The bridge is shaped so as to assume a wedge or conical configuration with the apex thereof rearwardly of the frame and sharpened edge. A blade clamping spring co-operates with the lugs to improve guiding and clamp the blade in shaving position. A magazine holder engages the blade near the sharpened edge for good blade clamping and has locking means holding the magazine on the holder and against transverse movement.

3,540,125

DOUBLE EDGE RIBBON-RAZOR

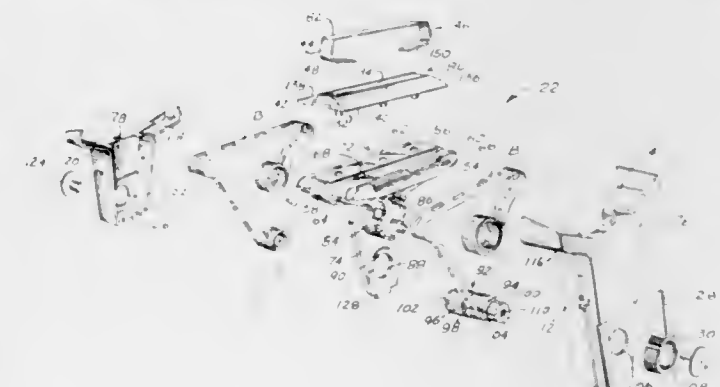
Leopold K. Kuhl, Stratford, Conn., assignor to Eversharp, Inc., Milford, Conn., a corporation of Delaware

Filed June 6, 1968, Ser. No. 735,029

Int. Cl. B26b 21/26

U.S. Cl. 30—346.5

9 Claims



A razor magazine for use, in combination with a handle to make a double edge razor blade unit, said magazine including a body portion with two ribbon-type blades disposed therein, shaving edge portions of the blades disposed on opposite sides of the center line of the magazine unit, and including spool means for advancing the blades to a plurality of successive positions. A single manipulating means is provided for moving the spool means on which and bands are located. A portion of each blade is disposed over a bridge in a blade track, the inner edge of which is formed by a divider separating the tracks and preventing inward blade movement. A cover unit holds the blades

in a closely overlying relation to the tracks, and each track has end portions with means thereon for tensioning the cutting edge of each blade in the blade track areas.

3,540,126

FLUOROALKOXYALKYL 2 - CYANOACRYLATE COMPOSITIONS USED IN TOOTH TREATMENT

Robert W. H. Chang, St. Paul, Elden H. Banitt, Woodbury, and Richard W. Joos, Minneapolis, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed July 16, 1968, Ser. No. 745,099

Int. Cl. A61k 5/02; C08f 3/62; C09k 3/00

U.S. Cl. 32—15

10 Claims

This invention relates to the process for using a fluoroalkoxyalkyl 2-cyanoacrylate in an adhesive, sealant, and/or coating composition for application to teeth, the resulting treated tooth, and compositions useful in said process.

3,540,127

NAVIGATIONAL PLOTTING DEVICE

George R. Kane, Burlingame, Calif.

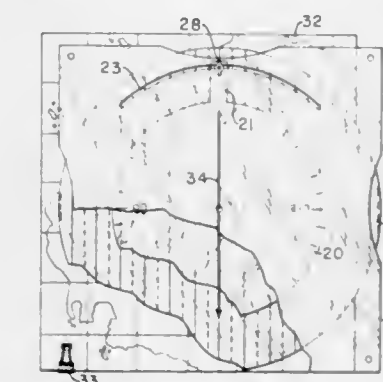
(122 N. El Camino Real, San Mateo, Calif. 94401)

Filed Dec. 26, 1967, Ser. No. 693,364

Int. Cl. G01c 21/20

U.S. Cl. 33—1

7 Claims



A navigational plotting device is disclosed wherein there is provided a flat backboard on which may be positioned a chart used for navigation and to either surface of which may be fixed a plotting surface, and wherein there is provided between the backboard and plotting surface a grid pivotally mounted to the plotting surface, and a separate compass rose also pivotally mounted to the plotting surface and including means to hold the compass rose in a stationary position relative to the plotting surface.

3,540,128

QUICK SET-UP PRODUCTION PLATE

Charles E. Giles, 3654 Overland,

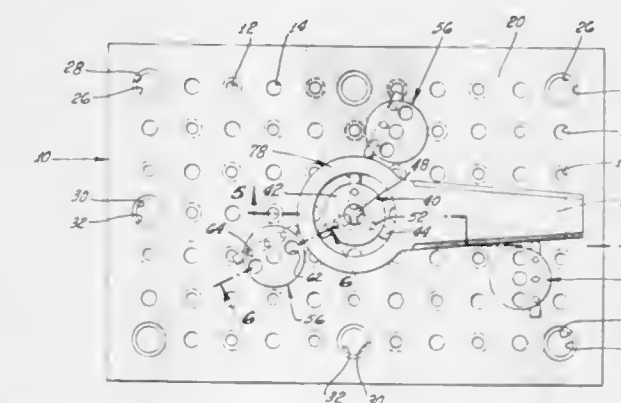
Los Angeles, Calif. 90034

Filed Mar. 31, 1967, Ser. No. 627,540

Int. Cl. B23q 3/00

U.S. Cl. 33—174

1 Claim



A ready built base plate is disclosed having a precision made pattern of holes in it that are equally spaced and

with a center slip hole or register. This pattern of holes provides quick and proper location and positioning of parts to be machined.

3,540,129

MEASURING INSTRUMENTS

Frederick Edwards Munroe, Chesterfield, and Albert Norman John Uren, Bromley, England, assignors to National Research Development Corporation, London, England

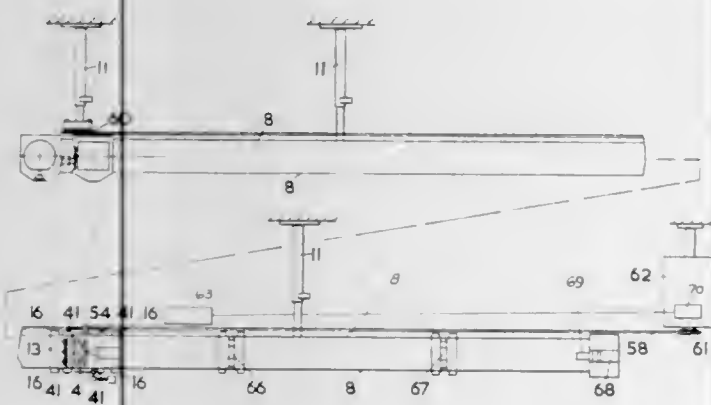
Filed Jan. 8, 1968, Ser. No. 696,395

Claims priority, application Great Britain, Jan. 9, 1967, 1,066/67

Int. Cl. G01b 5/00

U.S. Cl. 33—143

9 Claims



A measuring instrument has the stylus for contacting the article to be measured and mounted on a carriage so as to be capable of a limited amount of movement relatively to the carriage. The stylus is provided with substantially constant loading so that, after it has contacted the article, continued movement of the carriage, within the said predetermined limit of relative movement, will not materially alter the pressure of this contact. The instrument has nozzles through which, during the measuring operation, compressed air is passed to provide air bearings for the carriage.

3,540,130

ROUTING TEMPLATE JIG

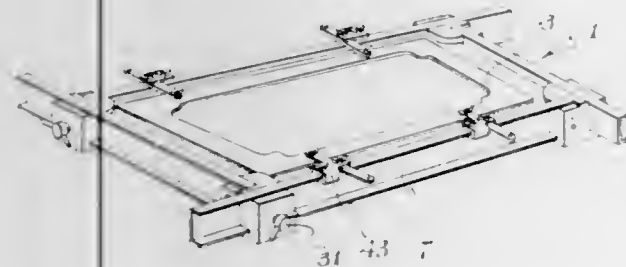
Herman B. French, 8348 E. 117th Ave. S., Bixby, Okla. 74008

Filed Oct. 25, 1968, Ser. No. 770,589

Int. Cl. G01b 3/14

U.S. Cl. 33—174

3 Claims



A routing template jig has side beams that slide and lock relative to each other to form any shape and a wide variety of sizes of rectangles for guiding a routing tool to form ornamental designs on panels such as doors. The beams slide in corner blocks, which also support the corners of the panel. Brackets are adjustably slidable along the beams for holding a template in any desired position.

3,540,131

INTEGRATED MOISTURE SENSING DRYER CONTROL WITH TIMED TERMINATION

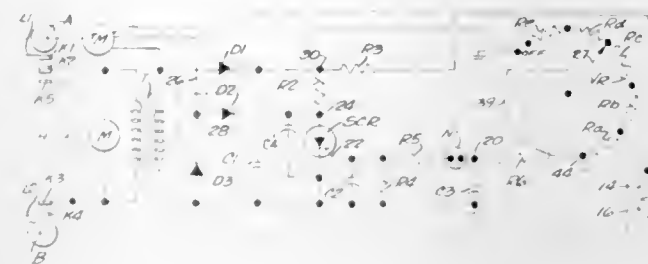
Abed G. Kahale, Roselle, Ill., assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Jan. 17, 1969, Ser. No. 791,958

Int. Cl. F26b 13/10

U.S. Cl. 34—45

7 Claims



Turning the control knob actuates the cams to a desired position while at the same time the proper circuit selection is made to set the electronic moisture sensing circuit to obtain the desired performance. When the desired degree of dryness is sensed the timer motor is energized to complete the cycle including additional heating in some cases but always including a cool-down period. Simultaneous actuation of the switches actuated by the cams is achieved by fixing the cams relative to each other but having lost motion relative to the shaft so actuation of one switch-cam will unbalance the cam assembly and actuate the other switch-cam. This achieves simultaneous switching without precise tolerances or adjustments. When set for "air fluff" operation the timing is both electronic and mechanical.

3,540,132

AUDIO VISUAL EDUCATIONAL TOY

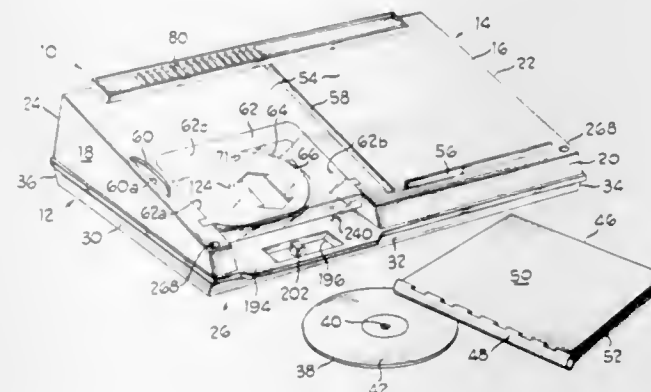
Marvin I. Glass, Chicago, Gunars Licitis, Lombard, and Gordon A. Barlow, Chicago, Ill., assignors to Marvin Glass & Associates, a partnership

Filed Oct. 25, 1968, Ser. No. 770,672

Int. Cl. G09b 1/06

U.S. Cl. 35—8

13 Claims



A children's audio visual entertainment device of the type including a book and a phonograph mechanism with phonograph records bearing message portions corresponding to the story or message of the book in sequential order to the pages of the book, characterized in that the phonograph includes a switch mechanism on the book supporting surface for actuating the record mechanism for a cycle of operation thereof, the cycle corresponding to a limited portion of the book. Subsequent actuation of the switch occurring as the pages of the book are advanced reinitiate actuation of the record mechanism to thereby play a subsequent portion of the record corresponding to a subsequent portion of the pages of the book.

3,540,133

AUDIO VISUAL TEACHING MACHINE

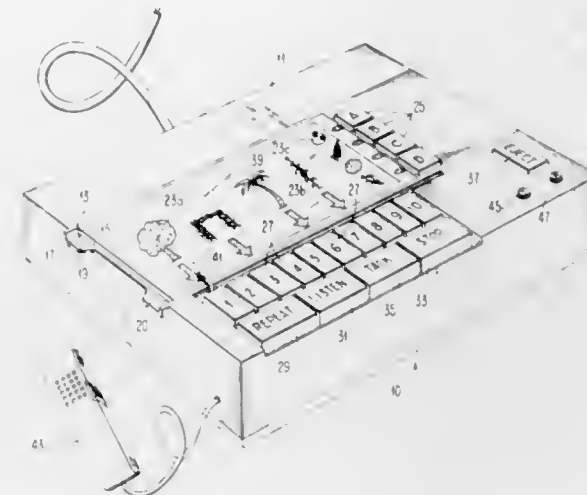
Ronald V. Davidge and Robert A. Kolpek, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 20, 1968, Ser. No. 761,225

Int. Cl. G09b 7/12

U.S. Cl. 35—9

10 Claims



A teaching machine utilizing a single medium containing audio and visual stimuli, programming information, and oral and/or digital response areas. Means, for example, keybuttons are provided for the student to enter answers, a representation of which may be recorded on the medium. Depression of a keybutton may effect a programmed index to portions of the medium containing an audio reinforcement for the selected student answer. An automatic programmed index to the next problem selected by the programmer in accordance with the previous answer may thereafter be effected. By depressing a repeat keybutton, the student may go back to the start position determined by the programmer. Fixed indexing keybuttons allows the student to go forward or backward within the program on his own volition. The student may also make oral responses. A unique cartridge feed device is also described which eliminates student handling of the medium.

3,540,134

TRAINING DEVICES

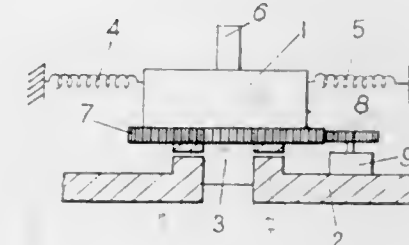
Rogor S. Waddington and Bruce Duval, Lausanne, Switzerland, assignors to T.P.I. Limited, Nassau, Bahamas, a Bahamian company

Filed Dec. 28, 1967, Ser. No. 694,314

Int. Cl. G09b 9/06

U.S. Cl. 35—11

6 Claims



With a sailing simulator for teaching a pupil to sail on dry land conditions in a fixed hull which is rotationally responsive to a tiller for turning movement and has a heeling motion which is dependent upon the instantaneous direction of the supposed wind, it is advantageous to provide a boom controlled by a mainsheet which gives the pupil a natural feel and which alters the heeling angle realistically. In accordance with this invention, an actuator for the boom has its body rotatable by the boom against resilient means. The rotation of the boom by the actuator

is dependent upon a signal representative of the supposed wind direction and a transmitter connected to the actuator body transmits a signal representative of the angular portion of the body. The signal may be applied to regulate the heeling angle of the hull.

3,540,135

EDUCATIONAL TRAINING AIDS

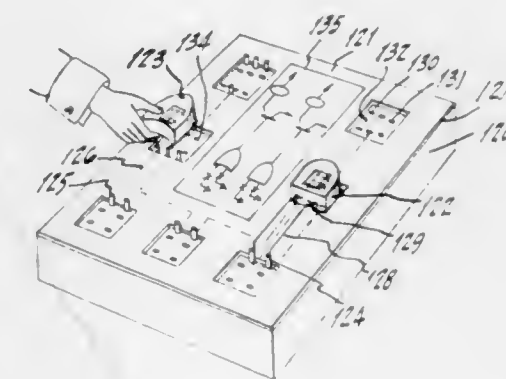
Edward Alcosser, 19 Brand Drive, Huntington, N.Y. 11743, and James P. Phillips, 7 Emily Court, Greenlawn, N.Y. 11740

Filed Oct. 11, 1968, Ser. No. 766,917

Int. Cl. G09b 23/18, 23/02

U.S. Cl. 35—19

10 Claims



There is disclosed a training aid for educational purposes to teach elementary or secondary school students the fundamentals of Boolean algebra. A circuit board has a plurality of terminal locations thereon, each location is prewired to receive different biasing voltages necessary to operate different Boolean logic modules as diode "AND" or "OR" gates. A Boolean relation is defined by a circuit sheet congruent with the circuit board. When the sheet is placed in congruency with the board, holes in the sheet surround certain ones of the terminal locations. The student then plugs in or inserts, clear encapsulated logic modules into the locations according to instructions with said circuit sheet. The student can then view the components associated with said modules while observing connections, and so on, pertinent to the experiment. The circuit sheet further indicates wiring instructions or contains certain prewired paths according to the experiment to be performed.

3,540,136

EXPLOSIVE SIGNAL AND TRAINING DEVICE

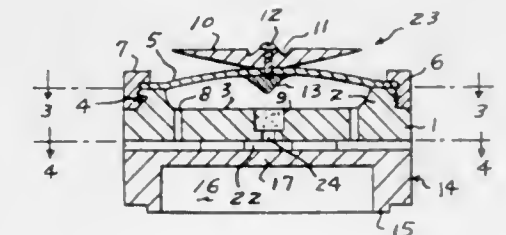
Robert J. Billingsley, Valparaiso, Fla., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 3, 1969, Ser. No. 803,899

Int. Cl. G09b 9/00; F42b 23/22

U.S. Cl. 35—25

7 Claims



A trainer mine formed of two circular plastic plates, one on top of the other and separated by a plastic membrane. The assembly is secured together by a suitable epoxy or phenolic resin. The upper plate is provided with

a series of apertures arranged in a circular path and there is a recess or cavity with vent hole in the top surface at the center of the plate. A pellet of explosive material is pressed into the recess. A snap action diaphragm is positioned over the recess and the apertures. The diaphragm carries at the center, a firing pin which is poised just above the explosive pellet. A pressure plate is secured to the outside surface of the diaphragm. The bottom plate provides a number of radially extending passageways which communicate with the apertures in the upper plate. When the pressure plate is snapped by the shoe of a soldier, the diaphragm causes the firing pin to detonate the explosive pellet and the explosion gases rush through the vent hole and the passageways to provide a tell-tale noise of loud character.

3,540,137

APPARATUS INTENDED FOR SIMULATING SPACE MEETINGS

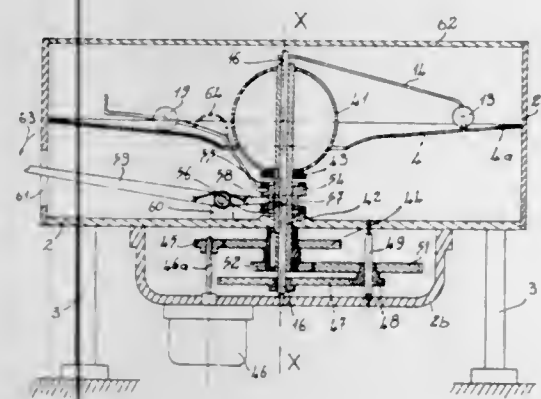
Paul Joseph Branchu, 119 Boulevard de Greuville, Paris, France

Filed Dec. 19, 1967, Ser. No. 691,757

Claims priority, application France, Dec. 21, 1966, 88,256; Nov. 29, 1967, 49,379

Int. Cl. G09b 27/00; B64g 7/00; K63h 33/26

U.S. Cl. 35-47 10 Claims



A space rendezvous simulator has a dish representing an orbit, a planet at the center of the dish, a satellite in regular orbit of the planet near the edge of the dish, a steered body (capsule) simulator rolling freely on the dish, a drive mechanism for the planet and satellite, and a starting and steering pulse device for the body.

The generating curve of the dish provides that gravity acting on the body and the reaction of the dish result in a centripetal force inversely proportional to the square of the distance between the body and the dish axis.

3,540,138

SYSTEM FOR EVALUATING STUDENTS' EXAMINATIONS

Frank Ingeneri, Santa Clara, Calif., assignor to Self Development Inc., San Jose, Calif., a corporation of California

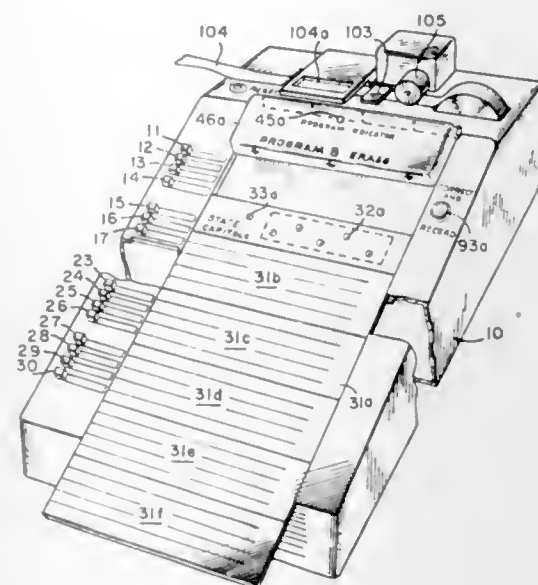
Filed Apr. 10, 1967, Ser. No. 629,604

Int. Cl. G09b 7/06

U.S. Cl. 35-48 4 Claims

Electronic apparatus for examining and evaluating students' progress employing multiple choice answers to questions associated with electric switches of a temporary memory which is previously programmed in correlation with the questions. An auxiliary memory is activated if the correct answer is given by the student. Questions on sheets follow predetermined sequence which is coded to operate a step type sequence switch. Recording apparatus is adapted to be connected to the auxiliary memory by a selector switch so that correct answers to questions of each set are recorded after the set is

answered and the student then proceeds to questions of the next set. Permanent record of the performance



of each student is obtained in such form that it may be compared with all students in a class.

3,540,139

FOUNDATION TRENCHING ATTACHMENT FOR A TRENCHING MACHINE

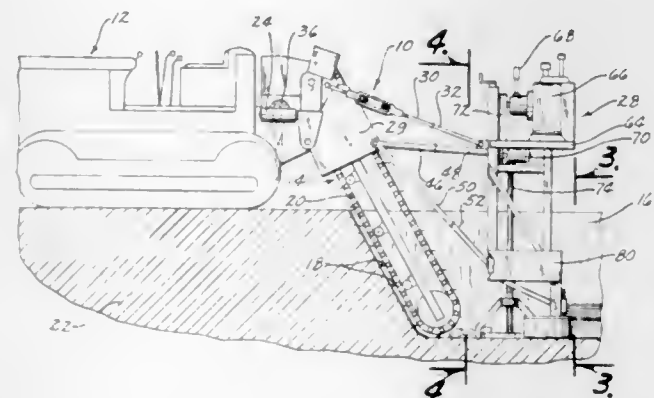
Kenneth W. Gethmann and Russell J. Dye, Gladbrook, Iowa, assignors to Gethmann Construction Company, Inc., Gladbrook, Iowa, a corporation of Iowa

Filed July 25, 1968, Ser. No. 747,514

Int. Cl. E02f 5/06

U.S. Cl. 37-87

5 Claims



A foundation trenching attachment for a trenching machine adapted to widen the bottom of a trench for foundation work. The attachment is mounted on the rearward end of a conventional trenching machine and follows the trenching machine excavator apparatus in the trench formed thereby. The attachment is vertically adjustably movable with respect to the trenching machine and includes a vertically disposed drive shaft having a cutting blade assembly mounted on the lower end thereof. The drive shaft is rotatably powered by an engine means thereby causing the cutting blade assembly to widen the bottom of the trench as the trenching machine moves along its predetermined route. A pivotal gate means is also secured to the attachment rearwardly of the cutting blade assembly and is designed to clear the loose dirt from the widened trench bottom. The cutting blade assembly and the pivotal gate means are movable in the trench from an operative position to an inoperative position so that the attachment may be raised from the trench with the trenching machine excavating apparatus.

3,540,140

FOLDABLE LABEL HOLDER

Raymond Tourre, Chemin de la Gaillarde, 84 Valreas, France

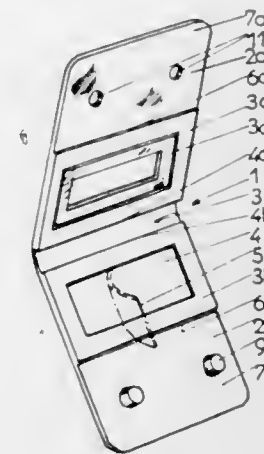
Filed Apr. 25, 1968, Ser. No. 723,997

Claims priority, application France, Apr. 27, 1967, 104,481

Int. Cl. G09f 3/16

U.S. Cl. 40-23

9 Claims



This disclosure concerns a label having two halves elastically foldable one on the other around a central fold zone on the edge of a slip of paper or the like, and having hooking or fastening means permitting to maintain it stationary in its folded state but removably on the slip of paper, the positioning of the label on the slip of paper being ensured by means of external shoulders forming stops, of two protruding bosses on the inner surfaces of the label, at least one of these bosses having an inner hollow closed by the other boss for receiving an identification tag, the central folding zone, comprised between the inner shoulders of the bosses having a sufficient width so that during folding of the two halves, the bosses fit on one another, plane upon plane.

ERRATUM

For Class 40-152.1 see:
Patent No. 3,540,146

3,540,141

REPEATING MECHANISM FOR IMPACT IGNITION PELLETS

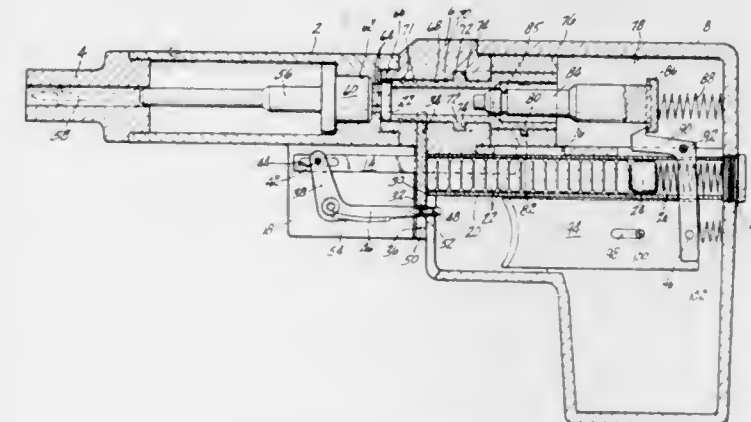
David F. Butler, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Oct. 25, 1968, Ser. No. 770,755

Int. Cl. F41c 13/00

U.S. Cl. 42-17

2 Claims



A power actuated device utilizing caseless ammunition and including an ammunition magazine, and an ammunition carrier for transferring individual rounds of the caseless ammunition from the magazine to a position wherein the round is picked up by a bolt and moved into

a firing chamber. The ammunition carrier is automatically operated when the bolt is reciprocated after a round is fired.

3,540,142

BOLT STOP MECHANISM

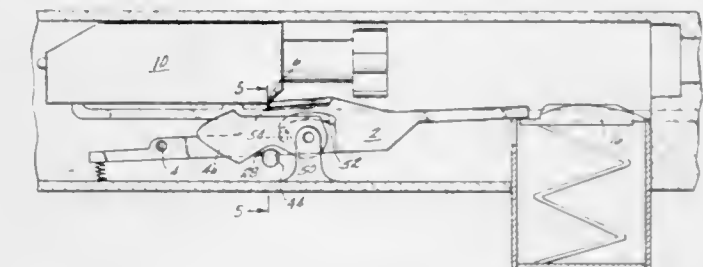
Edwin S. Vartanian, North Haven, Conn., and William J. Billett, Fairmont, Minn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Sept. 25, 1968, Ser. No. 762,594

Int. Cl. F41c 11/00, 11/06

U.S. Cl. 42-22

6 Claims



A stop mechanism for automatically retaining a fire-arm bolt in its retired position after the last round in a gun is fired, which bolt stop is also manually actuable at any time the bolt is moved to its retired position, and which bolt stop is manually releasable.

3,540,143

HOOK-EQUIPPED LEADER STORING DEVICE

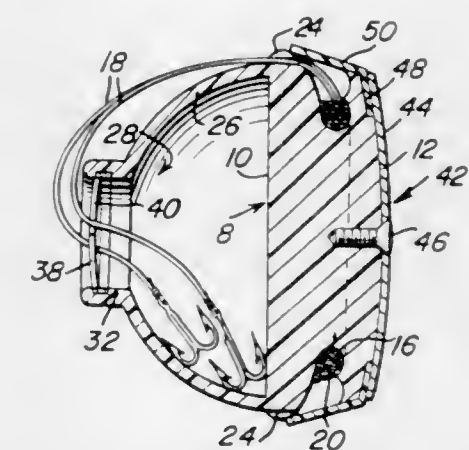
Michael Zemba, 9207 Lomita Drive, Alta Loma, Calif. 91701

Filed Feb. 26, 1969, Ser. No. 802,375

Int. Cl. A01k 97/06

U.S. Cl. 43-57.5

3 Claims



A hook-equipped leader storing and protecting device, comprising a spool having an encircling groove in which the leader is coiled and retained in place by a readily openable and closable elastic groove covering flange. The front side of the spool is provided with a bulbous-shaped clear plastic container whose hollow portion provides a receptacle in which the free hook-equipped end of each leader is protectively stored. The entrance opening of the container is provided with a unique neck.

3,540,144

ARTIFICIAL BAIT

Philip W. Gurka, 180 Bellevue Ave., Upper Montclair, N.J. 07043

Filed July 29, 1968, Ser. No. 748,281

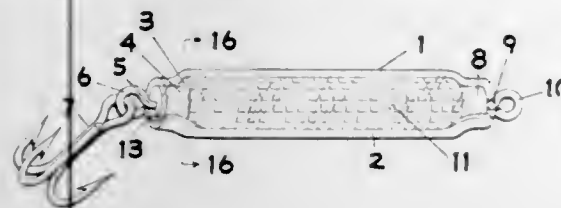
Int. Cl. A01k 85/00

U.S. Cl. 43-42.33

4 Claims

Artificial bait consisting of a major body portion of oval cross-section, a shaft emerging from each of opposite longitudinal ends of said body portion, a sleeve mounted on each shaft, thin material having a bright embossed surface providing light-reflecting facets and covering said

body portion, and a transparent cover portion for said body portion, sleeves and thin material, contractively en-

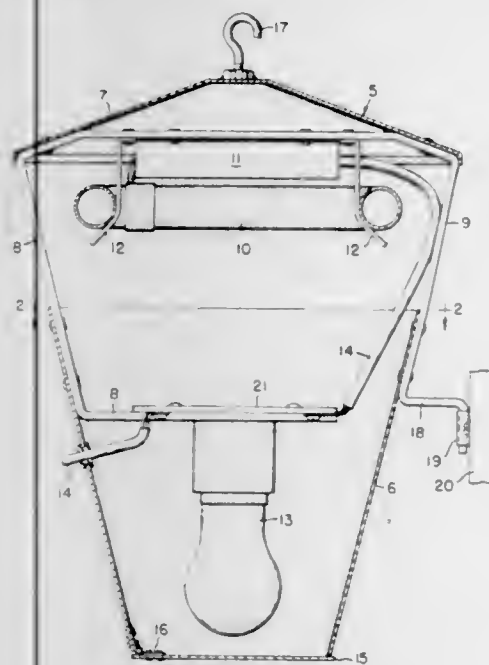


closing said assembled portions to provide a water-tight fit.

3,540,145
INSECT EXTERMINATOR
Norman S. McEwen, 437 NE. 8th Ave.,
Fort Lauderdale, Fla. 33301
Filed July 31, 1967, Ser. No. 657,317
Int. Cl. A01m 1/04

U.S. Cl. 43-113

5 Claims

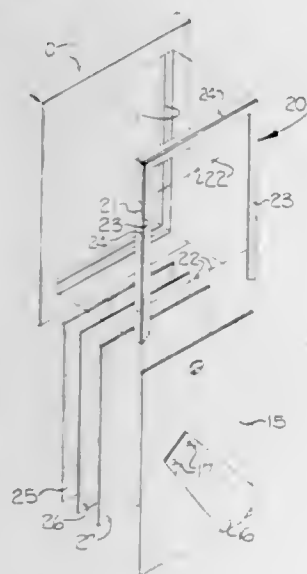


An insect exterminator having a light source for attracting insects and a heat source for dehydration of the attracted insects.

3,540,146
EASEL-BACK FRAME AND ADAPTOR THEREFOR
Robert M. Watkins, 810 E. Main St.,
Forest City, N.C. 28043
Filed June 11, 1968, Ser. No. 744,282
Int. Cl. G09f 1/12

U.S. Cl. 40-152.1

5 Claims



An easel-back adaptor and the combination thereof with a frame and an easel back, wherein a frame such

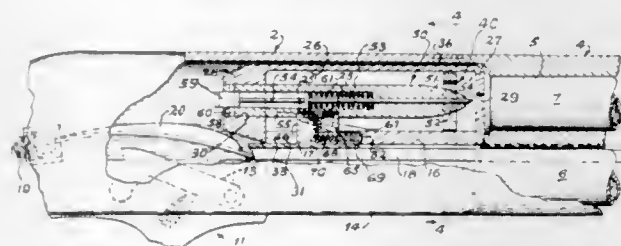
as a custom frame assembled from shaped molding is propped up in position for displaying an object through the use of an easel back secured in assembled relation with the frame by an angle member fitted into a rabbet in the reverse side of the frame.

3,540,147
BREECH BOLT LOCKING MEANS COMPRISING A RESILIENT SPLIT RING HAVING LOCKING LUGS THEREON

Douglas S. Cream and Joyce S. Cream, both of
107 Delsan Court, Buffalo, N.Y. 14216
Filed July 25, 1968, Ser. No. 747,538
Int. Cl. F41c 11/06, 11/00

U.S. Cl. 42-16

5 Claims



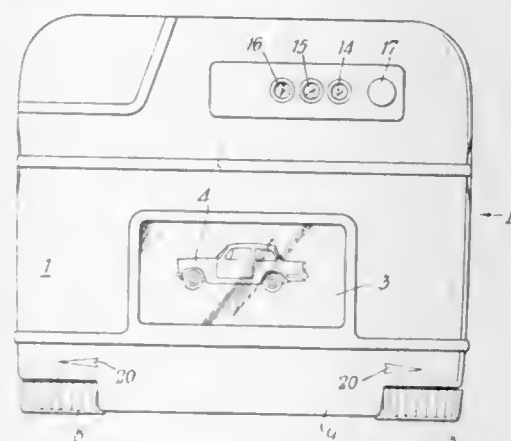
A breech block lock, including a plurality of locking lugs which are carried on the breech block and adapted to be simultaneously operated by a firing pin supporting assembly movably positioned within the breech block.

3,540,148
RECORDING DEVICE
Harry Reynolds, 15 Bronwen Court, Grove End Road,
London NW. 3, England
Filed Dec. 13, 1967, Ser. No. 690,238
Claims priority, application Great Britain, Dec. 21, 1966,
57,316/66

U.S. Cl. 46-1

Int. Cl. A63h 33/00

7 Claims



A recording device in the form of a toy having a casing, means to display alternative pictures in a window of the casing and a simple digital counter operable to record the number of objects seen that correspond to any displayed picture. The device includes a telescope and its casing simulates the appearance of a camera.

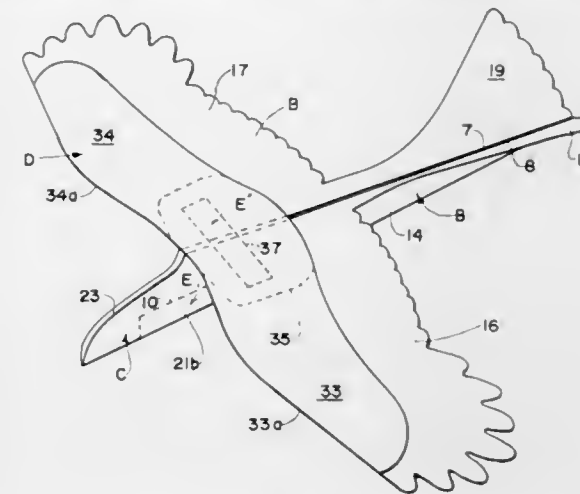
3,540,149
TOY AIRCRAFT HAVING WEIGHTED AND REINFORCED STRUCTURE
Lewis G. Lowe, San Francisco, Calif., assignor to Nut Tree, a partnership composed of Edwin I. Power, Helen H. Power, Edwin I. Power, Jr., Robert H. Power, and Mary Helen Fairchild
Filed July 8, 1968, Ser. No. 743,173
Int. Cl. A63h 27/00

U.S. Cl. 46-79

7 Claims

A toy aircraft made from three foldable blanks. One blank includes a pair of wings shaped like birds' wings

and a fuselage shaped like a bird's head, body and tail, and has an elongated opening for receiving a weighted strip along the fuselage. A second blank provides reinforcement for the fuselage, an additional connection between the wings and fuselage, and a covering for the weighted strip. The third blank extends across the tops

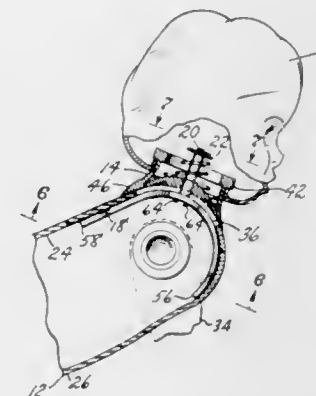


of the two wings and has a portion folded under it, with an elongated opening for receiving a second weighted bendable metal strip that extends transversely to the first strip and projects laterally beyond both sides of the fuselage and into the wings for holding them at the desired dihedral angle.

3,540,150
UNIVERSAL MOVEMENT HEAD DOLL
Witold W. Kosicki and Charles M. Hollingsworth, Columbia, S.C., assignors to Horsman Dolls Inc., a corporation of New Jersey
Filed June 18, 1968, Ser. No. 740,432
Int. Cl. A63h 3/36

U.S. Cl. 46-161

5 Claims



Doll construction having a hollow body about the shoulder portion of which a neck shifts to various positions and a head rotates about the neck. The body has an elongated slot obstructed interiorly of the body by a shield element which is maintained in position by a connector element interconnecting the neck element and shield element. A resilient pressure member engaged by the connector element urges the shield and neck elements toward each other with the body therebetween. Means are provided to prevent undesired deformation of the body element.

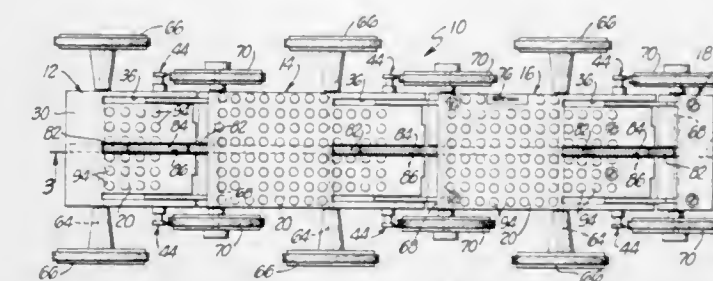
3,540,151
MOVING VEHICLE TYPE TOY
Minoru Ishida, Tokyo, Japan, assignor to Eldon Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Dec. 4, 1968, Ser. No. 781,204
Int. Cl. A63h 17/00

U.S. Cl. 46-202

11 Claims

A moving vehicle type toy is disclosed which has a plurality of vehicle units connected together so that these

units are capable of being moved with respect to one another. Means such as wheels or the equivalents are located on each of these units for supporting and propelling these units. The power transmission means within the individual units are connected to one another so that all of the units are caused to be moved in unison through the

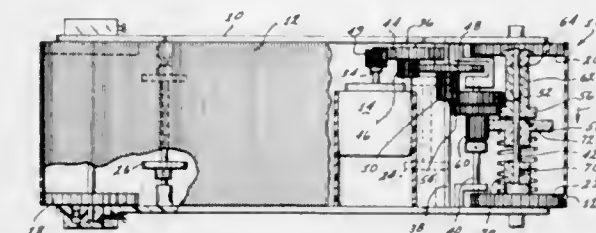


operation of a motor located on one of the units. The power transmission means used are of such a nature as to permit movement of one unit with respect to the next adjacent unit. The individual units are preferably formed so that elements of construction toys such as construction blocks can be mounted upon them for play purposes.

3,540,152
TOY WITH VARIABLE TORQUE-PRODUCING MEANS
Janos Beny, Manhattan Beach, and Donald Charles Hartling, Garden Grove, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of Delaware
Filed Aug. 22, 1968, Ser. No. 754,633
Int. Cl. A63h 17/00, 17/29

U.S. Cl. 46-206

10 Claims



A motion-producing toy such as a vehicle or crane which automatically shifts temporarily from high to low speed operation to obtain a corresponding increase in torque for overcoming obstacles or heavy loads. The toy includes an output gear with ratchets at its side which can shift axially for engagement with either a high speed gear at its periphery or a low speed gear at its side, and an inclined coupling member for axially shifting the output gear when a predetermined torque is reached.

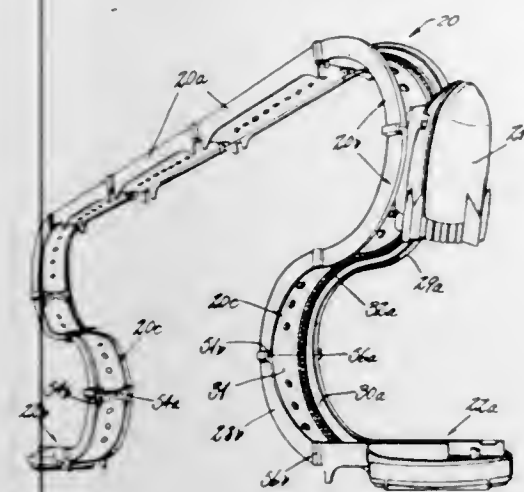
3,540,153
TOY VEHICLE AND TRACK ASSEMBLY
Masaru Aoki, 10, 9, 7-chome, Tateishi, Katsushika-ku, Tokyo, Japan
Filed Dec. 27, 1967, Ser. No. 693,883
Claims priority, application Japan, June 24, 1967,
42/54,102
Int. Cl. A63h 33/26

U.S. Cl. 46-243

11 Claims

A toy assembly comprises a vehicle having four toothed wheels and a guide wheel associated with each of the toothed wheels and a plurality of separate straight and curved track sections interconnected to form a bridge-like track structure over which the vehicle can travel in an upright or inverted position. Each track section has a pair of parallel toothed rails and connecting means at each end for interconnecting the track sections together. Further, the track sections have grooves formed in their sides which receive the guide wheels on the vehicle and

hold the vehicle on the track even though it is in an inverted position. A turntable arrangement is positioned at



each end of the track for reversing the vehicle so that it can run back and forth along the track.

3,540,154

JALOUSIE CONSTRUCTIONS

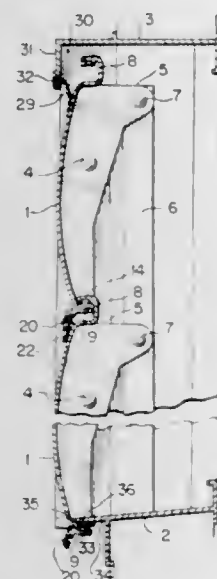
Santiago Claudio, San Juan, Puerto Rico, assignor of one-half to Tropicair Manufacturing Corporation, San Juan, Puerto Rico

Filed July 17, 1968, Ser. No. 753,323

Int. Cl. E06b 7/084

U.S. Cl. 49-91

3 Claims



Improvements are provided in jalousies or similar structures for window, door or other openings, whereby the passage of air or fluids is controlled, and whereby protection against stormy weather conditions can be assured. The edges of the vanes or slats in such structures are provided with improved means for interlocking them and for applying sealing strips or weatherstripping.

3,540,155

SHOT BLASTING DEVICE

Helen H. Walker, 607 Charlton St., Valdosta, Ga. 31601, and Raymond Lightsey and William T. Olin, Valdosta, Ga.; said Lightsey and Olin assignors to said Walker

Filed Mar. 15, 1967, Ser. No. 623,418

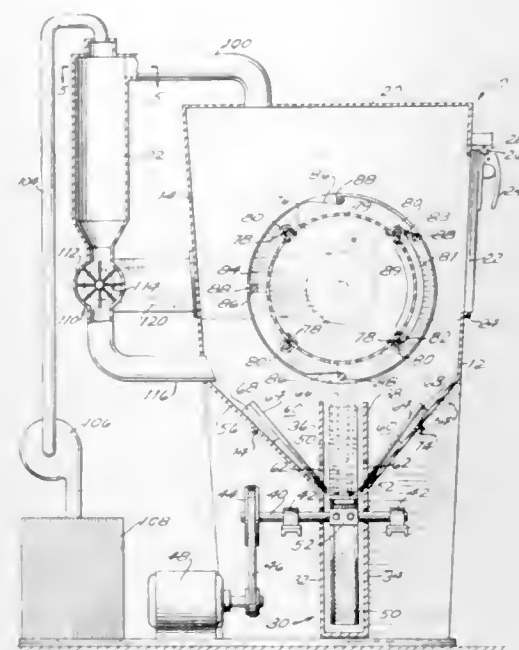
Int. Cl. B24c 3/00

U.S. Cl. 51-9

11 Claims

Paddle blade shot blasting machine having hoppers for catching spent shot and feed chutes adjustable both lon-

gitudinally and angularly for redirecting shot onto the blades; and a vacuum dust elimination system using dual



cyclone separators for reclaiming reusable shot and returning it to the machine.

3,540,156

MACHINE FOR CLEANING SAND CASTINGS AND RECOVERY OF COMPONENTS

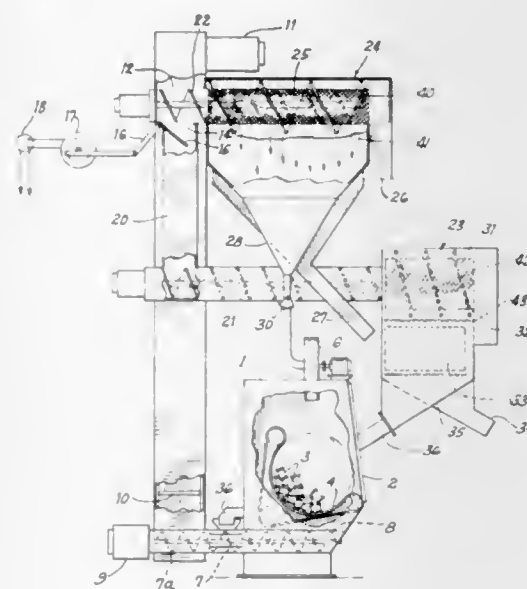
Hardy W. Stebbins and Richard C. Kanouse, Mishawaka, Ind., assignors to The Wheelabrator Corporation, Mishawaka, Ind., a corporation of Delaware

Filed Dec. 13, 1967, Ser. No. 690,247

Int. Cl. B24c 3/26

U.S. Cl. 51-13

5 Claims



Unitary apparatus for rough cleaning and finish cleaning work pieces such as foundry sandcastings receives sand casting molds in sequentially introduced loads direct from the molding floor. In a first rough cleaning operation during which the apparatus operates continuously to tumble the sequentially introduced loads of molds to remove sand and debris from the work pieces contained therein, the sand and debris is continuously conveyed to a separator system in which a first stage removes trash and unwanted debris and a second stage utilizes magnetic separation means to recover shot blasting media while discharging foundry sand externally of the separator. The

shot blasting media returns to the conveyor system. During a subsequent finish cleaning operation in which the accumulated loads of work pieces are subjected to a finish cleaning operation by centrifugal blast means, the residual sand and spent and reusable blast media are sent by the conveyor to another separator system, the first named system having then been rendered inoperative by operation of a gate which precludes flow of material therein. At the third separator, sand and spent blast media are discharged externally by the separator and reusable media flows to the blast machine.

3,540,157

MEANS FOR GENERATING INTERNAL AND EXTERNAL INVOLUTE AND NON-INVOLUTE GEARS

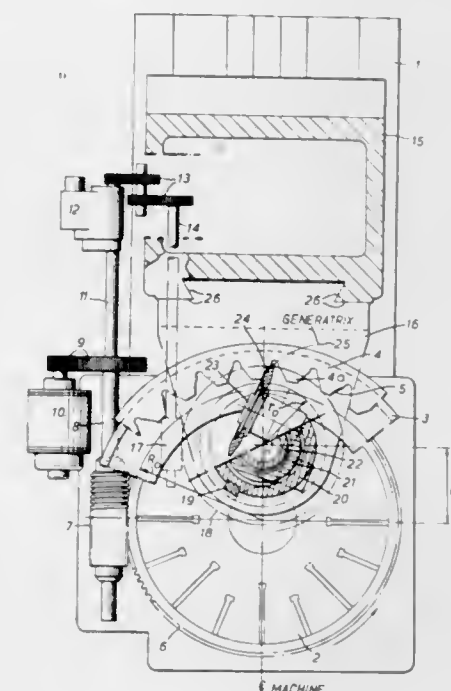
Peter Herbert Cleff, 5 Hartside Place, Melton Park, Gosforth, Newcastle-upon-Tyne, N3 5th, England

Filed Jan. 29, 1968, Ser. No. 701,178

Int. Cl. B24b 5/00, 7/00

U.S. Cl. 51-52

6 Claims



A machine tool for grinding precut gear teeth to involute or non-involute form comprises a machine bed with a rotating work table for the gear to be ground and a column slidable and adjustable on the bed and carrying a profiled grinding wheel with means for controlled rotation and reciprocation thereof against the gear teeth.

3,540,158

AUTOMATIC POLISHING MACHINE

Warren E. Reaser, Brooklyn, Mich., and Earle M. Powers, Jr., Toledo, Ohio, assignors to Sun Tool & Machine Company, Toledo, Ohio, a corporation of Delaware

Filed June 19, 1968, Ser. No. 738,267

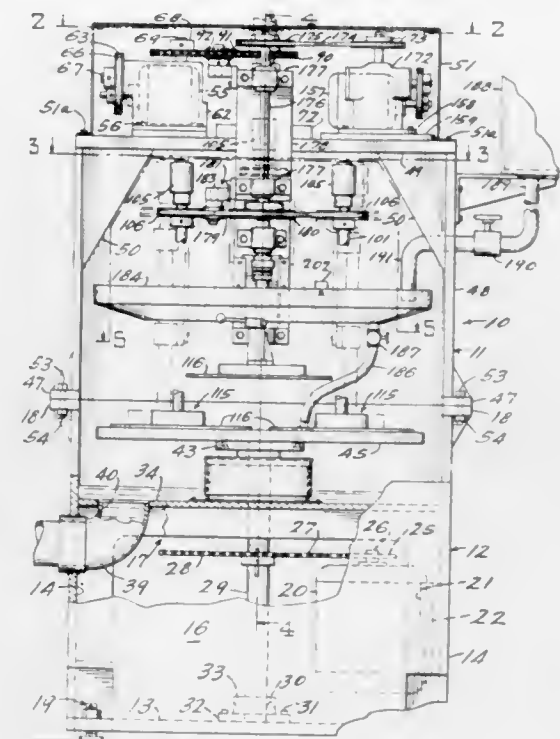
Int. Cl. B24b 5/00

U.S. Cl. 51-133

8 Claims

A machine for lapping and polishing the surfaces of small workpieces such as automobile rearview mirrors and the like. The machine includes a frame, a horizontal polishing table rotatably mounted on the frame on a vertical axis, an independently rotatable head mounted above the table coaxially with the table, and a plurality of individually rotatable fixtures that are carried by the head and rotatable on axes parallel to the axis of the head. The fixtures have means for holding a plurality of workpieces in contact with the surface of the rotatable table onto which a grinding compound is supplied. Each of the fixtures is movable axially relative to the head

in order to lift the workpieces out of contact with the surface of the rotatable table when the fixture rotates to a predetermined loading position to allow finished workpieces to be removed from the fixture and raw



workpieces to be inserted. The machine has drive mechanisms for rotating the table, the head and the fixtures, and control mechanism which stops the rotation of each fixture and causes it to be elevated at the loading position.

3,540,159

BELT GRINDER

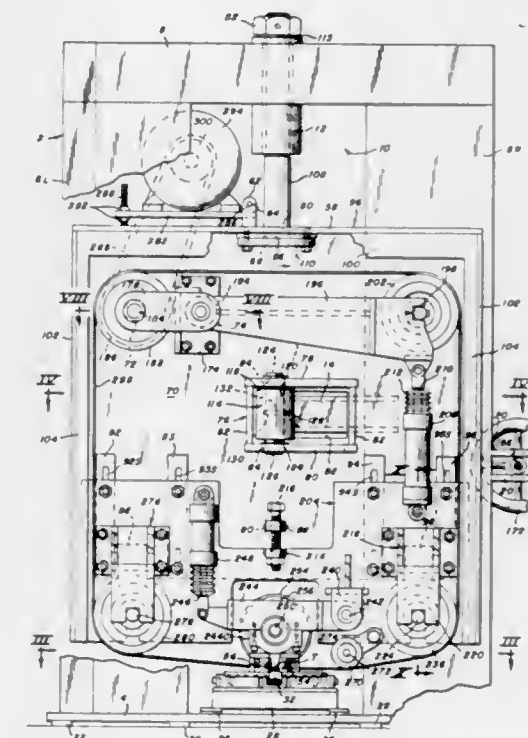
James J. Fatula, Perry Township, Lawrence County, Pa., assignor to Ryman Engineering Company, a corporation of Pennsylvania

Filed Sept. 3, 1968, Ser. No. 756,977

Int. Cl. B24b 21/12

U.S. Cl. 51-141

10 Claims



A belt grinder for removing oxides and surface irregularities from the weld area of a welded tube including an endless abrasive belt passing around a plurality of rolls one of which has a concave outer surface to trough the

belt, and means for moving the tube axially into contact with the troughed belt at an angle thereto so that the belt contacts the tube for a substantial distance on one side of the transverse center of the belt to a substantial distance on the other side of the transverse center.

3,540,160

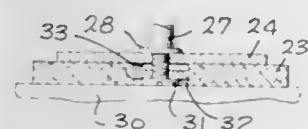
SURFACE FINISHING DEVICE

Antonio De Rose, 703 Glenoaks Blvd., and George De Rose, 2028 8th St., both of San Fernando, Calif. 91340

Filed Jan. 31, 1967, Ser. No. 612,968
Int. Cl. B24b 23/00; B24d 17/00, 15/04

U.S. Cl. 51—170

1 Claim



The device consists of a hand or power operated member to which is applied a leather finishing material in the form of a leather pad or brush and the material can be plain or have polishing compounds incorporated therein and the material can be used either before or after having been soaked in water.

3,540,161

VIBRATORY TOOL

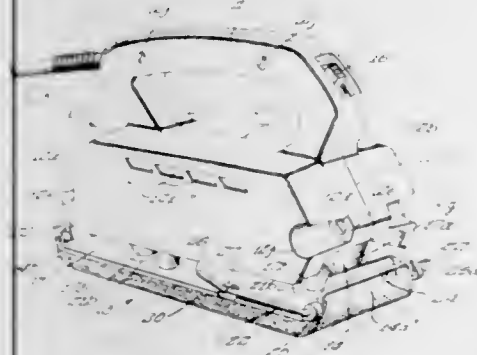
Nicholas T. Anton, Park Ridge, and Lew H. Daughette, Northbrook, Ill., assignors to Wen Products, Inc., Chicago, Ill., a corporation of Illinois

Original application May 25, 1966, Ser. No. 552,814, now Patent No. 3,434,247, dated Mar. 25, 1969. Divided and this application Nov. 4, 1968, Ser. No. 793,629

Int. Cl. B24b 23/00; B24d 17/00

U.S. Cl. 51—170

5 Claims



A clamping assembly for releasably affixing a sheet of working surface defining material to the base of a vibratory tool comprising an upstanding flange and pivotally mounted clamping member movable between open and closed positions relative to said flange, the clamping member constituting a lever made of resilient material and being resiliently deformed in the closed position to press the sheet against the flange.

3,540,162

DIAMOND ABRASIVE TOOL

Paul W. Blackmer and Gunnar E. Hollstrom, Worcester, Mass., assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed Feb. 23, 1967, Ser. No. 618,104

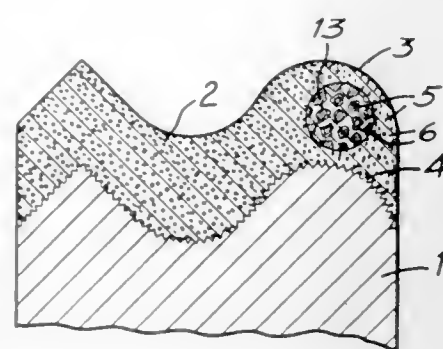
Int. Cl. B24d 5/00

U.S. Cl. 51—206

5 Claims

A bonded abrasive tool comprising:
(a) a plurality of diamond abrasive grains having a given grain size;
(b) an inert filler material separating the diamond

grains and having approximately the same given grain size; and



(c) a metal bond of diecast metal filling the voids between and bonding the diamond abrasive grains and the inert filler material.

3,540,163

ABRASIVE DISC AND METHOD OF MAKING IT

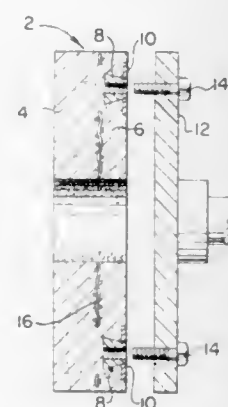
Frank O. Shoemaker, Palos Park, Ill., assignor to The Bendix Corporation, a corporation of Delaware

Filed Sept. 28, 1967, Ser. No. 671,310

Int. Cl. B24d 57/04, 11/00

U.S. Cl. 51—209

3 Claims



A reinforced abrasive disc and method for making it wherein the reinforcing member is placed at the junction between the usable and non-usable layers of abrasive material, the reinforcing member being independent and spaced apart from the anchor nuts embedded in the non-usable layer of abrasive material which are used to secure the disc to a rotatable support wheel.

3,540,164

HYDRAULIC RAM FOR WHEEL LIFT FOR WHEEL TRUING MACHINE

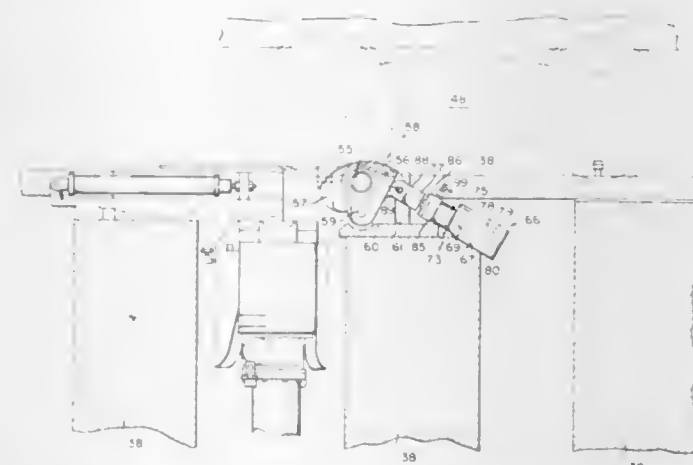
Ralph J. Deceuster, Highland, Ind., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware

Filed July 2, 1968, Ser. No. 741,920

Int. Cl. B25b 5/00

U.S. Cl. 51—236

3 Claims



A hydraulic lift for temporarily elevating a pair of worn wheels of a railway vehicle while cutting or milling

elements of an associated machine are brought into operating position under the elevated wheels, to restore said wheels to roundness in a relatively short time without removing the wheel and axle assembly from the vehicle.

cleaned as the accessory is moved in the direction of its length by the traction wheel. A buffer, secured along the upper edge of one of the walls is adapted for rubbing engagement with the hub portion of the rotary blade to clean the latter.

3,540,165

DEVICE FOR ROTATABLY HOLDING A BRAKING MEMBER HAVING OPPOSED BRAKING SURFACES FOR MACHINING SAID SURFACES

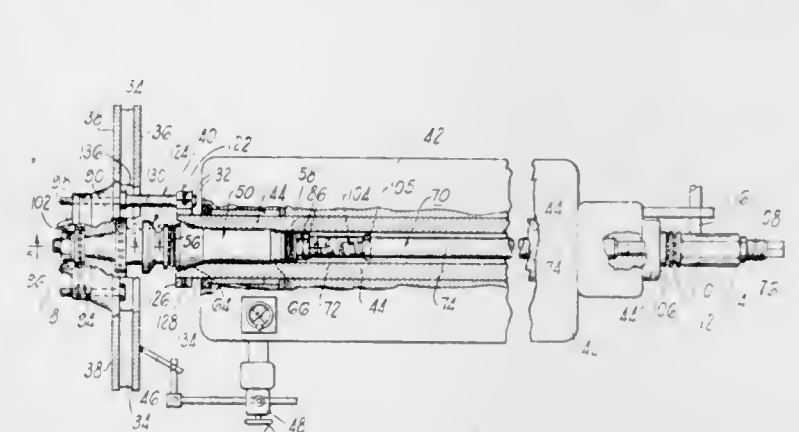
Gilbert Lanham, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed Aug. 5, 1968, Ser. No. 750,293

Int. Cl. B24b 5/00; B23b 3/22, 33/00

U.S. Cl. 51—237

15 Claims



A device having rotatably mounted thereon a braking member having opposed braking surfaces for machining said surfaces. The rotational mounting of the braking member substantially duplicates the normal operational mounting conditions experienced by said member to improve the quality of the machining of said surfaces.

3,540,166

CAN OPENER CLEANER-SHARPENER ACCESSORY

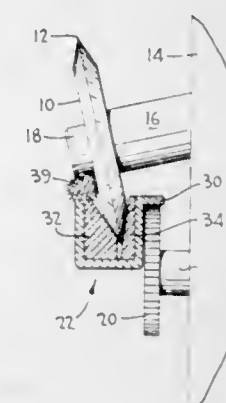
James B. Crumley, 1105 Hanover St., Chattanooga, Tenn. 37405

Filed Oct. 2, 1968, Ser. No. 764,434

Int. Cl. B24b 19/00

U.S. Cl. 51—247

11 Claims



A cleaning and sharpening attachment for a can opener, including a channelled backing member, one wall of which is adapted for reception between a cutting blade and the traction wheel of a can opener and has a laterally outwardly projecting flange to rest on and in driven engagement with the periphery of the can opener traction wheel. Within the channelled member are relatively opposed blade sharpening and/or cleaning elements, which engage the can opener blade so that it is sharpened and

3,540,167

GRINDING OF CUTTING TIPS

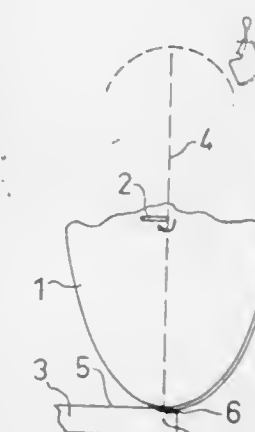
Einar J. H. Granath, Huddinge, Sweden, assignor to AB Broderne Granaths Mekaniska Verkstader, Huddinge, Sweden, a corporation of Sweden

Filed Dec. 8, 1966, Ser. No. 600,183

Int. Cl. B24b 1/00

U.S. Cl. 51—281

2 Claims



A method of providing in cutting tips and like tools a recess facilitating the cutting operation by guidance of the chips, is characterized by the steps of arranging a very thin rotary grinding wheel in such a way relative to the cutting tip that the wheel can be rotated about a diametral axis which extends perpendicularly to the chip breaking side of the cutting tip, and causing that portion of the grinding wheel, which works the chip breaking side of the cutting tip adjacent the edge thereof upon displacement of the grinding wheel in parallel with the edge of the cutting tip as a function of the angular position adjusted, to provide a channel-shaped recess in the chip breaking side of the cutting tip along the edge thereof, the cross section of the recess being dependent upon the angular position of the grinding wheel into which it is adjusted prior to displacement. The cross section of the recess can vary between a minimum value corresponding to the rounded edge profile of the grinding wheel and a maximum value corresponding to the total peripheral curvature of the grinding wheel.

3,540,168

MARGIN PREPARATION METHOD AND MACHINE

Walter Sawert, La Grange, Ill., assignor to Continental Can Company, New York, N.Y., a corporation of New York

Filed Feb. 26, 1968, Ser. No. 708,334

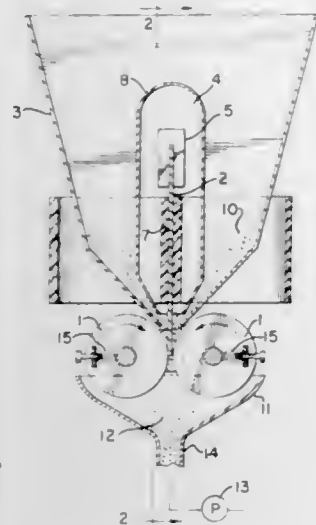
Int. Cl. B24b 1/00, 31/00; B24c 1/00

U.S. Cl. 51—317

3 Claims

This apparatus is a particle abrasion machine for can body blank margin preparation. Can body margins are abraded to fresh bare metal surface in preparation for welding by passing the can blank edges between elastic rolls which rotate as they pass both sides of the blank sheet. At the same time free flowing abrasive grit is fed into the space between the rotating roll and the sheet material and is thus carried by the rolls to the sheet margin. The grit acts as many cutting edges which cut dirt and other matter from the surface on each side of the sheet. The grit and waste material fall together from the

rolls into a collector through which a current of air passes. Suitable means return the grit to the hopper. The

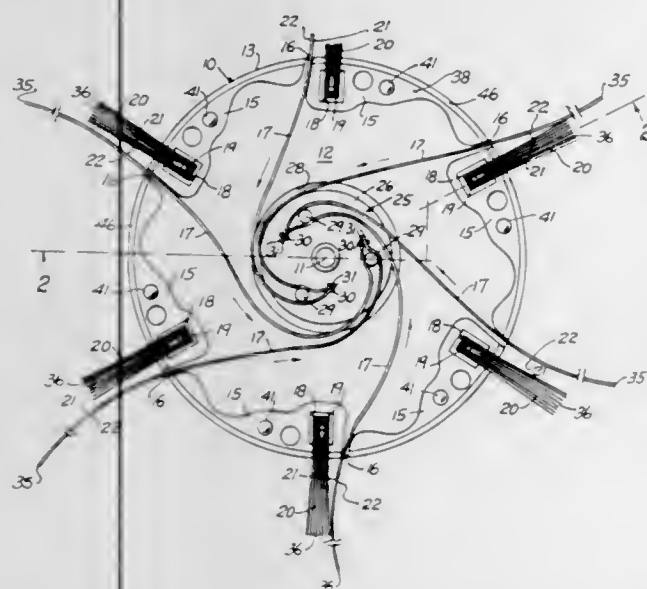


separation of grit from waste material is accomplished by a magnet, air blast, or other means.

3,540,169
EMERY RIBBON FEED AND REWINDER FOR SANDER
George R. Mahoney, 5749 Arapaho Drive,
San Jose, Calif. 95123
Filed June 28, 1965, Ser. No. 467,295
Int. Cl. B24d 13/06

U.S. Cl. 51-335

11 Claims



A rotary sander in which a plurality of emery strips extend radially from the slit peripheral wall of a drum housing and backed by brush bristles on such periphery. A mount for pairs of such emery strips looped about pins circumferentially arranged on a disc within the drum housing and extending into bores in a cover for driving relation therewith and relative thereto at the option of the user.

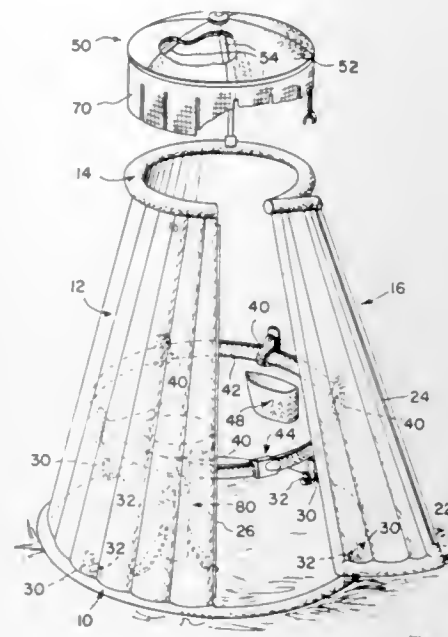
3,540,170
PORTABLE INFLATABLE BLIND
Curtis G. Flowers, Rte. 2, Box 5400 L2,
Anderson, Calif. 96007
Filed Sept. 6, 1968, Ser. No. 757,924
Int. Cl. E04g 11/04

U.S. Cl. 52-2

8 Claims

An inflatable body means defines a side wall and a door portion swingably connected therewith along with means for holding the door portion in closed position. A flexible belt engages loops within the body means for

carrying the blind, and hold-down straps interconnected with the body means are adapted to hold the body means in position relative to a supporting surface. A top canopy is detachably supported in spaced relationship to the top

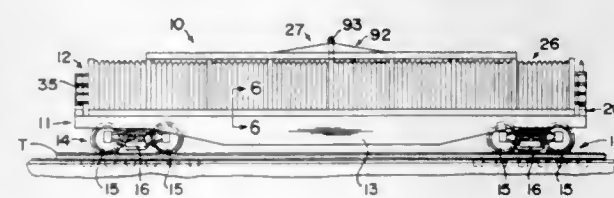


of the body means by a plurality of spaced support members. A curtain is suspended from the canopy for camouflaging an occupant, while allowing him to see through the curtain to view the surrounding area.

3,540,171
INSULATED COVER FOR STEEL STORAGE AND THERMAL CONTROL
Frederick W. Kumnick, Youngstown, and Charles T. Flynn, Boardman, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed June 18, 1968, Ser. No. 738,039
Int. Cl. B61d 17/18; E04b 1/74; C21d 9/70
U.S. Cl. 52-17

27 Claims



An insulated cover providing for controlled cooling of metal and adapted to be removably connected to a vehicle. The cover includes a base, a body attached to the base and extending over the vehicle, structure by which the cover is suspended, and locating structures on the cover which cooperate with structure on the vehicle to accurately position the cover.

The structure by which the cover is suspended includes a crane hook engaging member associated with guides so that a crane hook is guided to the member. The suspension structure additionally permits stacking of covers when not in use.

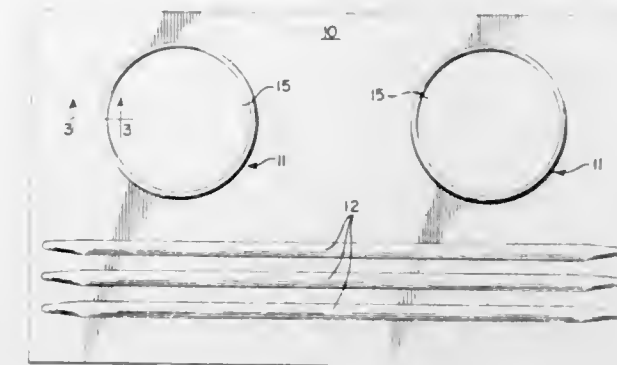
3,540,172
INTEGRAL CIRCULAR HATCH FRAME
Clarence E. Hubbell, Homewood, Ill., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware
Filed June 27, 1968, Ser. No. 740,579
Int. Cl. E04b 7/18; B61d 17/16

U.S. Cl. 52-19

6 Claims

A circular hatch frame construction for freight vehicles wherein the hatch frame is integral with a roof sheet

which may be a flat sheet or corrugated to impart rigidity thereto. The hatch frame is formed as a hollow cone having an upwardly curved sidewall integrally extending

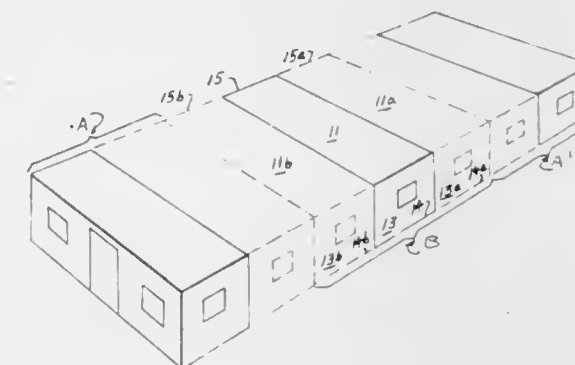


from the roof sheet. The conical sidewall terminates at the upper end thereof in a continuously annular outwardly curled lip defining a weather lip.

3,540,173
EXPANDABLE, TRANSPORTABLE, PREFABRICATED CONTAINERIZED BUILDINGS
Stephen Johnides, 20 W. 47th St.,
New York, N.Y. 10036

Continuation of application Ser. No. 634,422, Apr. 21, 1967. This application Feb. 28, 1969, Ser. No. 806,005
Int. Cl. E04b 1/343; E04h 1/12
U.S. Cl. 52-79

5 Claims



A container unit of standard shipping container size so as to be transportable on standard transport vehicles, and which includes at one face thereof a plurality of hingedly connected panels forming, in combination with one or more similar container units, in expanded condition of each, a building structure having a volume which exceeds the total volume of the initial containers themselves. The containers may be stacked laterally, longitudinally and/or vertically to provide single and/or multi-storied building structures of any desired size.

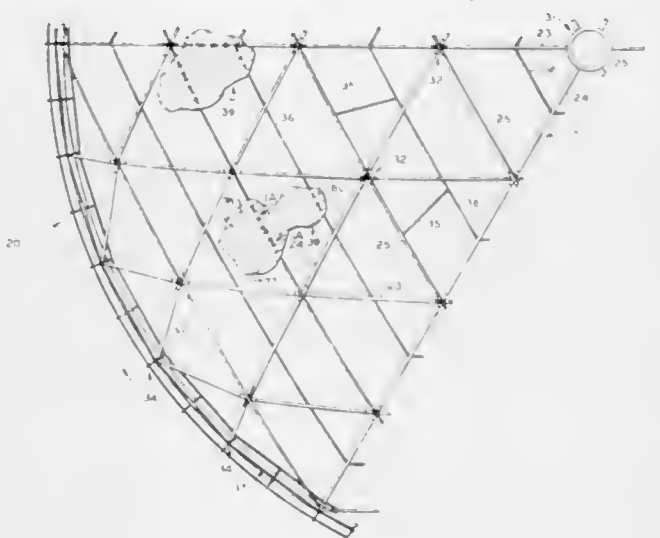
3,540,174
DOVE STRUCTURES
George R. Birkemeier and Hollis C. Scott, Portland, Oreg., assignors to Timber Structures, Inc., Portland, Oreg., a corporation of Oregon
Filed May 17, 1968, Ser. No. 729,952
Int. Cl. E04b 7/10; E04c 3/38

U.S. Cl. 52-80

9 Claims

A dome structure 20 (FIGS. 1 to 5) includes beams connected together in triangles by joints 31 and 32 and connected to a tension ring by joints 34. In each joint 31, bolts pass through straps connected to the beams and pass through clearance notches in stiffener plates welded to a tube and pass through and bear laterally against the inner

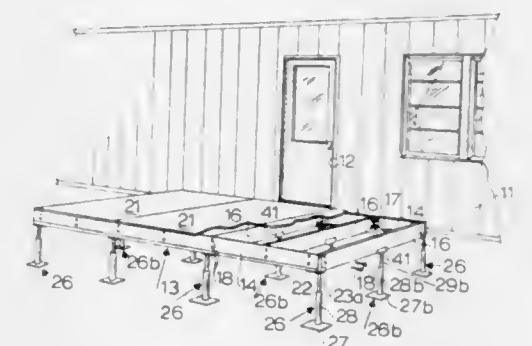
periphery of the tube. Each joint 34 is similarly connected to the beams, has a vertical plate 63 connected to a tension ring and a base plate splined for radial movement only relative to the supporting wall. Low friction facings on the base plate and a supporting plate on the wall permit easy radial sliding. A dome structure 120 (FIGS. 6 and 7) has a double tension ring assembly 131 and has joints 134 in which bolts connect the beam straps to stiffening



plates and pass through and bear against close-fitting holes in the stiffening plates, which holes are spaced inwardly from the inside faces of tubes of the joints. In a dome structure 220 (FIGS. 8 and 10), a laminated tension ring is provided. In a dome structure 320 (FIGS. 11 and 12) a series of straps welded together in the same plane connect at least three beams to a joint, and shear plates also connect the beams to the joint.

3,540,175
DECK FOR MOBILE HOMES
Ralph A. Hawn, 814 Nonie St.,
Santa Rosa, Calif. 95401
Filed Sept. 9, 1968, Ser. No. 758,249
Int. Cl. E04b 5/43, 1/343
U.S. Cl. 52-126

4 Claims

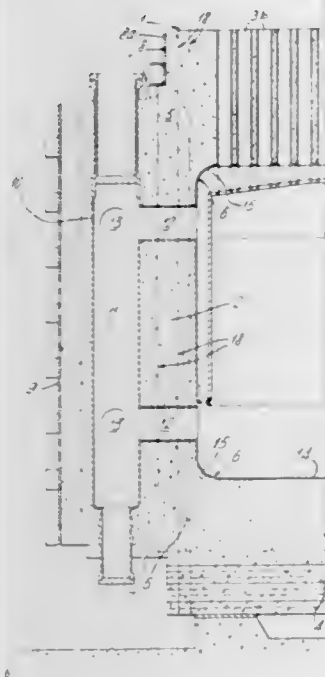


A deck for mobile homes is readily transported, erected and dismantled. A joist set on edge along each side is supported in a longitudinal channel, which is supported at intervals by telescopically adjustable legs, the channels being bolted to plates on the tops of the legs. Transverse short channel sections are fixed to the longitudinal channels at intervals and receive the ends of transverse joists. Intermediate adjustable legs have short channel-like pads to support the transverse joists intermediate their ends. The corners where the longitudinal and transverse joists intersect are reinforced by angle braces. Plywood flooring is nailed to the joists.

3,540,176

PRESTRESSED CONCRETE PRESSURE VESSELS
Samuel Brittan Hosegood, Arne, Wareham, and Alfred Norman Kinkad, Dorchester, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 1, 1966, Ser. No. 598,436
Claims priority, application Great Britain, Dec. 6, 1965, 51,721/65
Int. Cl. E04c 3/10; E04g 11/04
U.S. Cl. 52—224 1 Claim



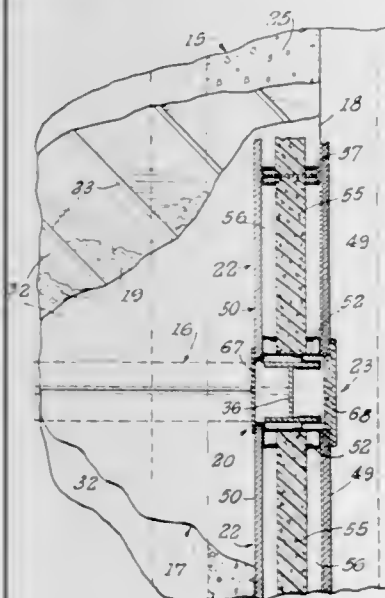
A prestressed concrete pressure vessel for a nuclear reactor has a right cylindrical side wall containing holes extending parallel with the longitudinal axis of the vessel, end walls for the vessel, a peripheral step in the rim formed at the junction between the side wall and one end wall, providing a radially outwardly directed face, and prestressing means applied peripherally around this face and further prestressing means applied to prestress the side walls.

3,540,177

HOUSE CONSTRUCTION

Robert L. Slining, Newport Beach, Calif., assignor to International Modular Components, San Marino, Calif., a corporation of California

Filed Nov. 20, 1967, Ser. No. 684,164
Int. Cl. E04b 1/18, 2/88
U.S. Cl. 52—261 1 Claim



A house construction having a structural skeletal form comprised of foundation-mounted floor beams and roof-

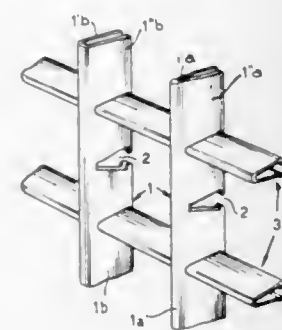
supporting columns rigidly affixed to said beams, the floor beams supporting a hollow insulation-filled floor panel, and curtain walls spanning between the columns.

3,540,178

OPEN WORK GRILLE STRUCTURE

Massimo Altissimo, Turin, Italy, assignor to ULMA S.p.A., Beinasco, Turin, Italy
Filed Mar. 25, 1968, Ser. No. 715,615
Claims priority, application Italy, Mar. 31, 1967, 51,149/67; Mar. 8, 1968, 50,843/68
Int. Cl. E04c 2/42 6 Claims

U.S. Cl. 52—669



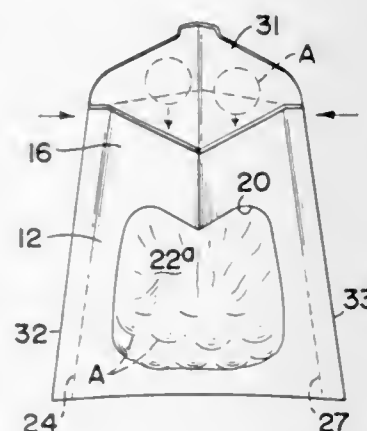
An open work grille structure is assembled from intersecting first and second sets of parallel structural members, the first members having spaced apart notches in which the second members, of channel section, snap-engage for ease of assembly.

3,540,179

PACKAGE MAKING METHOD

Ridley Watts, Jr., Cleveland, Ohio, assignor to The American Packaging Corporation
Filed Mar. 20, 1968, Ser. No. 714,670
Int. Cl. B65b 43/32 16 Claims

U.S. Cl. 53—30



A container and method of packaging articles wherein display card type container having a plastic window is subjected to heat to form the window material about a product being packaged without the use of dies or vacuum equipment. Product manufacturers can utilize "standard" sized containers for a variety of articles without the necessity of specialized packaging equipment. The window portions are of a plastic material which permits the windows to be preformed by the container manufacturer to desired dimensions. The window material will, where

required, simultaneously stretch and shrink during packaging of an article.

A flap-like closure is provided on the container to permit closing and subsequent opening and reclosing of the package.

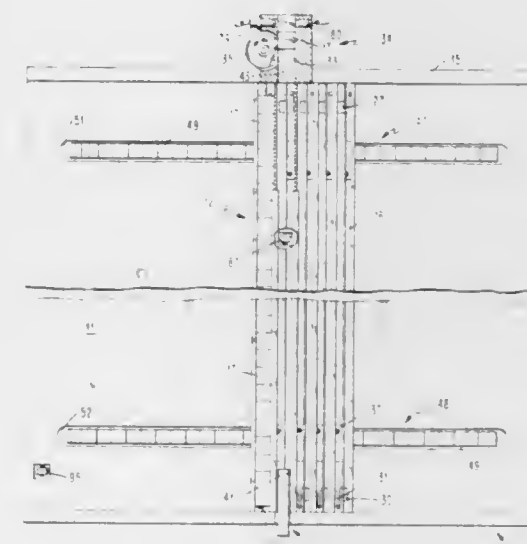
3,540,180

ARTICLE LOADING APPARATUS

Robert A. Deuell, Wappingers, Guenther W. May and Alfred E. Oldaker, Poughkeepsie, Thomas J. Rajac, Wappingers Falls, and Claude O. Sage, Canada Lake, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 19, 1968, Ser. No. 738,194

Int. Cl. B65b 57/10, 35/32 28 Claims
U.S. Cl. 53—59



A tray has a plurality of substantially parallel channels therein adapted to be filled in sequence with articles. As each channel is aligned with the source of the articles, the articles are continuously supplied to the channel until the channel is substantially filled. However, complete filling of the channel is prevented by means disposed in the end of the channel remote from the source of supply. After the remainder of the channel has been filled and a sufficient number of articles are disposed adjacent the other end of the channel to fill the portion of the channel that is still unfilled, the next of the articles is restrained against movement to prevent further flow of articles to the channel. Then, the preventing means at the other end of the channel is removed to allow the channel to be completely filled. Upon complete filling of the channel, the tray is moved to present the next channel for loading from the source.

3,540,181

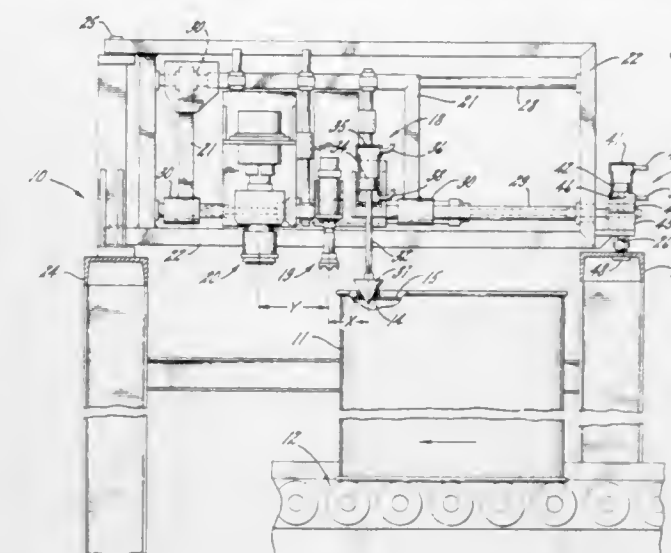
AUTOMATIC APPARATUS AND METHOD FOR APPLYING CLOSURES TO CONTAINERS

Neil Bowen, Delft, Netherlands, assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 30, 1968, Ser. No. 787,811
Int. Cl. B65b 7/28 9 Claims

U.S. Cl. 53—3

An apparatus and method for locating, closing and sealing the filling orifices of shipping containers on an automatic, high-speed production basis, and wherein an orifice locating device, a closure applying device, and a closure sealing device are carried in fixed spaced relation to one another while being free for controlled movement through fixed incremental distances so as to bring

each device, in seriatim order, into overlying operative relation with successive container filling orifices for the



purpose of automatically applying closures to such orifices and for sealing such closures.

3,540,182

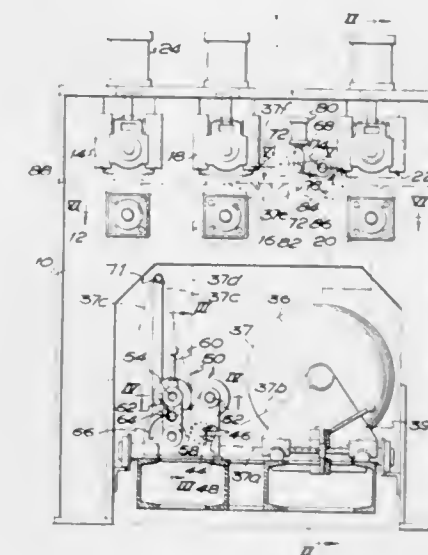
METHOD OF AND MACHINE FOR APPLYING WEB TO AN ARTICLE

Desmond George Price, Walsall, England, assignor to Brightside Engineering (Stamco) Limited, Walsall, Staffordshire, England, a company of Great Britain and Northern Ireland

Filed July 14, 1969, Ser. No. 841,468

Claims priority, application Great Britain, Aug. 13, 1968, 38,621/68
Int. Cl. B65b 49/16, 11/08 10 Claims

U.S. Cl. 53—3



A method of, and machine for, applying a flexible paper web to a steel sheet in which, the forward movement of the sheet causes forward movement of the web, and the web is then severed rearwardly of a trailing edge of the sheet thereby causing the next section of web to project forwardly to be applied to the next sheet.

3,540,183

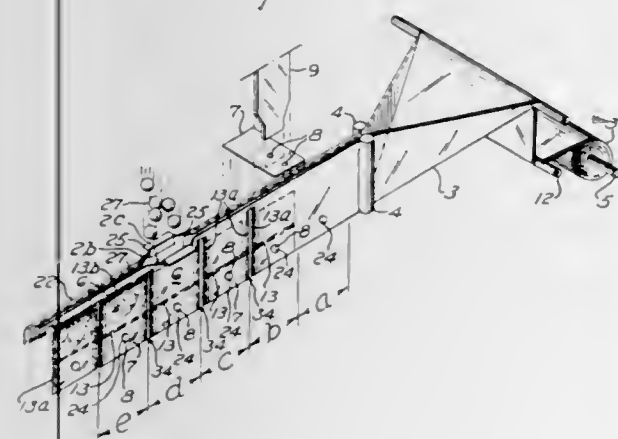
MACHINE FOR MAKING TWO COMPARTMENT UNITARY BAG

William A. Bodolay, 54 Shady Brook Lane, and Stephen M. Bodolay, 15 Daviston St., both of Springfield, Mass. 01108

Filed July 8, 1968, Ser. No. 743,140

Int. Cl. B65b 61/20 1 Claim
This invention provides a device that may be attached to a machine for making bags from a continuous web

as described in the United States Letter Patent No. 2,877,609, patented on Mar. 17, 1959. This invention is an improvement and modification for making bags in that the bag made by the device herein is a two compartment bag instead of the unitary type. The United States Letter Patent No. 3,319,538 provides a method of making a one compartment bag from a continuous web. In this invention the web material has been stored on the roll in a double fold. When it comes off the supply roll, it is folded by the within machine so that there are four layers of material. There are effectively two open pouches at the top of the web as it vertically passes down the machine from the supply roll. The bottom of the web has a complete fold. The novelty arises from the arrangement of



the header label and the placing of it into one of the pouches formed by the double layer. This header label is sealed in that pouch preferably with a fold. This pouch is then closed and the pouch that has been formed by the fold adjoining this pouch is opened and the material to be packaged is inserted therein. Subsequent to this operation, the upper portion of the pouch is sealed. The bag is formed similar to the operation of Pat. No. 3,319,538 and the filled bag with the header label and the filled material is cut from the web as a completed package. The header label is in a distinctive compartment away from the material that is packaged, and is locked therein because of the middle layers of material between it and the subject matter that has been filled in the adjoining pouch.

3,540,184 PACKAGING METHOD

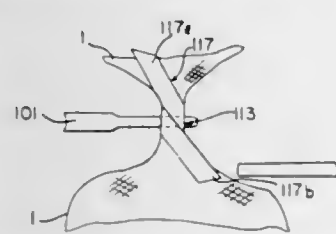
George H. Ashton, St. Louis, Mo., assignor to Bemis Company, Inc., Minneapolis, Minn., a corporation of Missouri

Original application Aug. 28, 1967, Ser. No. 663,574, now Patent No. 3,461,648. Divided and this application Apr. 28, 1969, Ser. No. 833,238

Int. Cl. B65d 33/28; B65c 7/00

U.S. Cl. 53—14

1 Claim



A method of packaging items in heat-sealable plastic tubular netting and providing tags on the packages by

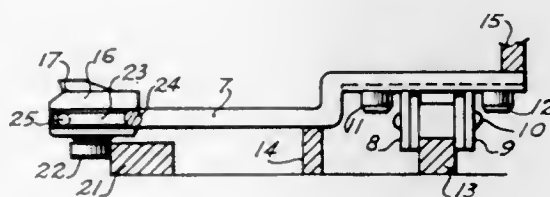
spirally wrapping a strip of heat-sealable tape around a bunched portion of the netting and heat-sealing and segmenting the tape along with the bunched netting to form a tag on each sealed and segmented portion of the netting, the tags providing a place for entering the weight and price of the packaged items.

3,540,185 PACKAGING MACHINE

Hermond G. Gentry, Atlanta, Ga., assignor to The Mead Corporation, a corporation of Ohio
Filed July 24, 1968, Ser. No. 747,358
Int. Cl. B65b 11/10

U.S. Cl. 53—48

9 Claims



A packaging machine wherein a wrapper type carton is moved along a predetermined path together with its contents is provided with an endless element whose working reach is movable in parallelism with the path of movement of the wrapper and its contents. A transverse tightener element is mounted at one end thereof on the endless element and a tightener lug engageable with a part of the blank is slidably mounted on the other end of the transverse tightener element. A fixed cam guide is disposed to engage a part of the tightener lug and is configured to impart sliding movement thereto along the transverse tightener element so as to engage and impart carton tightening movement to the carton wrapper. Disjointable holding means is arranged to prevent inadvertent dislodgment of the tightener lug from the transverse tightener element but is yieldable in response to the application of a predetermined force thereto so as to accommodate ready removal and mounting of the lug on the transverse tightener element. A support guide is disposed underneath the working reach of the endless element and is arranged to support at least a part of the weight of the transverse tightener element and a guide track is disposed above the end of the transverse tightener element remote from the lug and serves to determine the path of movement thereof, the support and guide tracks being disposed so as to accommodate upward movement of the end of the transverse tightener lug on which the slidable tightener lug is mounted and to accommodate slight twisting of the working reach of the endless element.

3,540,186 PACKAGING MACHINE

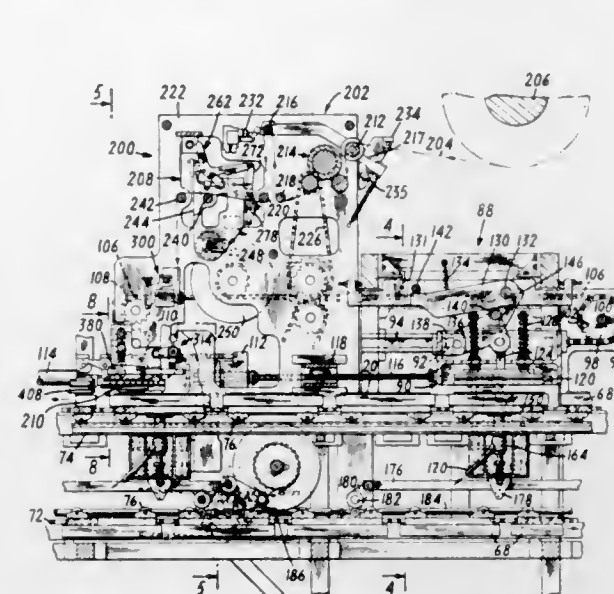
Allan I. Parvin, Milburn, and Douglas P. Roome, Cedar Grove, N.J., assignors to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia
Filed Mar. 11, 1968, Ser. No. 712,209
Int. Cl. B65b 31/04, 41/18, 57/02

U.S. Cl. 53—51

13 Claims

A packaging machine for applying cover sheets to substantially rigid, product-containing trays and evacuating and sealing the covered trays. The product-containing trays are moved in succession along a conveyor at a substantially uniform speed, and a cover web is tack-sealed to the leading edge of each tray. As each tray moves along a conveyor, it draws the cover web over it, the web is severed at the trailing edge, and an initial seal is then

formed between the cover sheet and tray. Next, the tray next and adjusts flow streams in the cooling and heat-is evacuated through openings left in the initial seal ing circuits to coincide with the saturation time of the

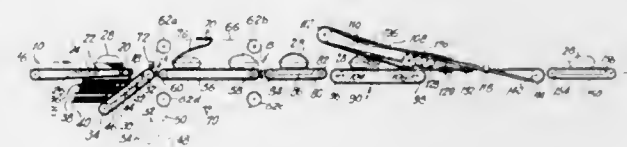


3,540,187 APPARATUS FOR PACKAGING PRODUCTS

Alfred C. Monaghan, Warren Township, Plainfield County, N.J., assignor to Weldotron Corporation, Newark, N.J., a corporation of New Jersey
Filed Apr. 10, 1968, Ser. No. 720,233
Int. Cl. B65b 11/12, 57/12, 41/02

U.S. Cl. 53—74

11 Claims



A product wrapping system includes means for detecting the length of the product, for providing a sheet of film of appropriate length and for feeding the sheet so that the leading end portion of the sheet underlies the trailing end of the product, for wrapping the trailing end of the sheet over, around and under the leading end of the product so that the trailing end of the sheet underlies the leading end of the product and the leading end of the sheet, to provide a sleeve wrap around the product. The system also includes means for folding down the open ends of the sleeve and for laying these folded down ends under the product in overlapped relationship, to provide a product which is overwrapped on all four sides.

3,540,188 METHOD AND APPARATUS FOR CONTROLLING CYCLIC SORPTIVE PROCESSES

Clem A. Barrere, Jr., Ponca City, Okla., and John Lohrenz, Calgary, Alberta, Canada, assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

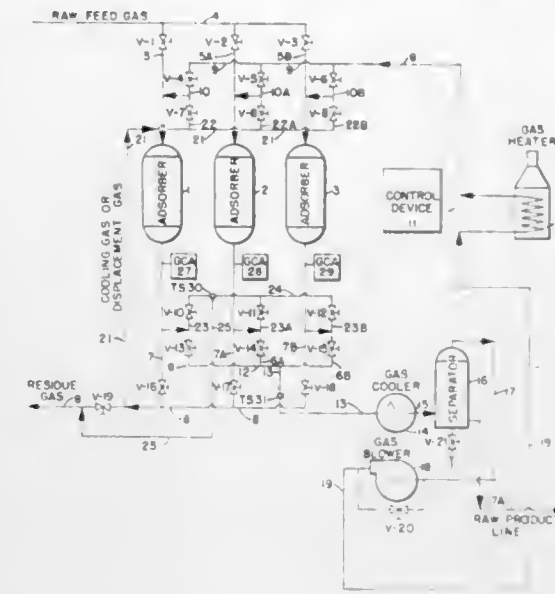
Filed June 26, 1968, Ser. No. 740,109

Int. Cl. B01d 53/30

U.S. Cl. 55—20

6 Claims

Method and apparatus are disclosed for synchronizing the heating, cooling and saturation periods for sorbent beds in a cyclic gas process for extracting condensables from a gas stream subject to variation in flow volume and condensable content. A control device containing a memory section switches the sorbent beds from one cycle to the



3,540,189 PROCESS FOR DESTROYING AMMONIA CONTAINED IN WATERS RESULTING FROM THE OPERATION OF COKE OVENS

Hermann Siewers, Schulstrasse 28, Schaffhausen (Saar), Germany; Karlheinz Flasche, Werbelnerstrasse 2, Dillerten (Saar), Germany; and Alfred Stetter, Freiligrathstrasse 17, and Siegfried Pfeiff, Parkhausweg 35, both of Volklingen (Saar), Germany

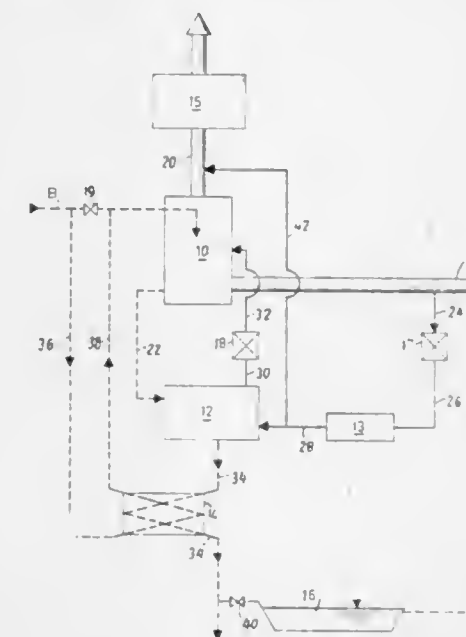
Filed Apr. 26, 1968, Ser. No. 724,502

Claims priority, application Germany, Apr. 27, 1967, R 45,889

Int. Cl. B01d 19/00

U.S. Cl. 55—46

6 Claims



Process for destroying ammonia contained in waters resulting from the operation of coke ovens based on the principle of expelling the gas from the water, which comprises heating the water to be treated, with lean gas at an elevated temperature of such a degree that the temperature of the water after treatment thereof is at least 60° C., conveying the lean gas charged with ammonia to regenerators of industrial furnaces, and heating the same therein to such a temperature that the ammonia will become dissociated to nitrogen and hydrogen.

By this treatment, ammonia and other harmful gases will be completely eliminated from the waters which are then safe for discharge into the sewers.

3,540,190

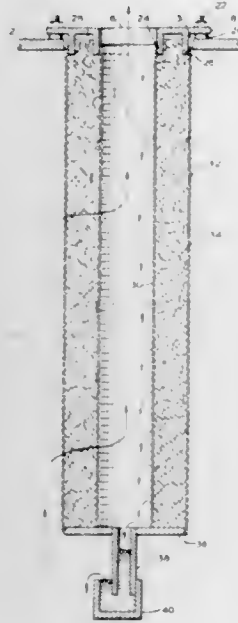
LIQUID MIST COLLECTION

Joseph A. Brink, Jr., St. Louis, Mo., assignor, by mesne assignments, to Monsanto Enviro-Chem Systems, Inc., Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 779,535, Dec. 11, 1958. This application May 16, 1963, Ser. No. 280,847

Int. Cl. B01d 46/10

U.S. Cl. 55—97

5 Claims



A process for separating and collecting mist from a gas. The gas is passed through bed of unbonded glass fibers having diameters of about 5-30 microns and compressed to a density of about 5-20 pounds per cubic foot. The mist is separated by the bed and flows by gravity to a collecting space.

3,540,191

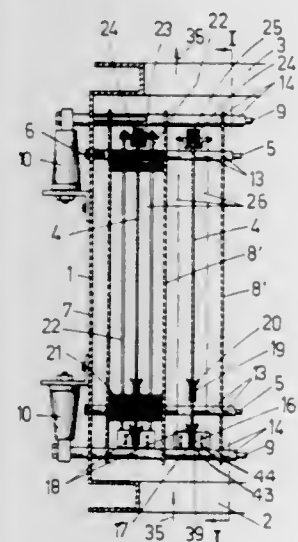
ELECTROSTATIC SEPARATOR

Marc Victor Edgard Herman, 192 Rue Rogier, Brussels, Belgium
Filed Jan. 29, 1968, Ser. No. 701,318
Claims priority, application Belgium, Jan. 31, 1967, 693,403

Int. Cl. B03c 3/74

U.S. Cl. 55—121

9 Claims



An electrostatic separator comprising a pre-ionization zone and an attracting zone, each provided with two sets of electrodes, of which one set, in the pre-ionization zone, forms the emitting electrodes, each one thereof comprising a thin metal strip laid out in a transverse plane with reference to the direction of flow of the gas to be separated.

3,540,192

APPARATUS FOR THE DE-AERATION OF SOLUTIONS, PREFERENTIALLY SOLUTIONS OF VISCOSE

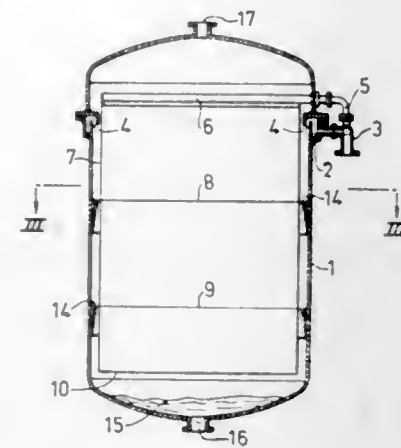
Olof Birger Nyström, Sundsbruk, Sundsvall, and Bengt Henrik Strid, Valberg, Sweden, assignors to Sunds Aktiebolag, Sundsbruk, Sundsvall, Sweden
Filed Aug. 5, 1968, Ser. No. 750,156

Claims priority, application Sweden, Aug. 15, 1967, 11,467/67

Int. Cl. B01d 19/00

U.S. Cl. 55—192

3 Claims



The capacity of a tank for de-aerating viscous solutions, such as viscose, is increased by providing substantially vertical plates in the tank, the solution to be de-aerated being fed to the top of the plates to flow downwardly thereover. The plates may be provided with stepped platforms to retard flow of the solution.

3,540,193

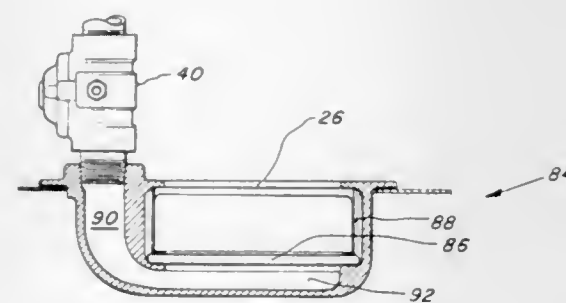
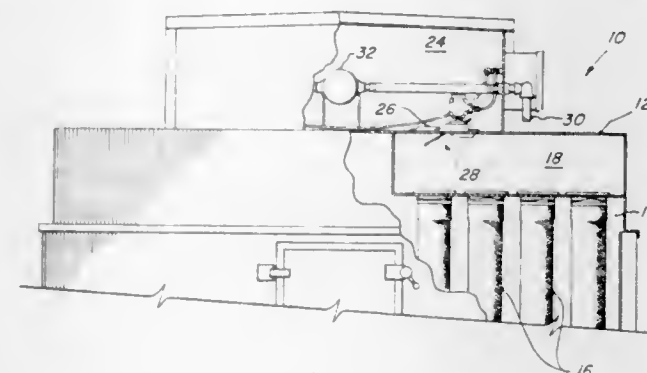
CLEANING OF DUST SEPARATING APPARATUS

Josef Pausch, Hopkins, Minn., assignor to Aerodyne Machinery Corporation, Hopkins, Minn.
Filed July 12, 1968, Ser. No. 744,558

Int. Cl. B01d 46/46

U.S. Cl. 55—273

1 Claim



A system for dislodging dust from a porous filtering surface, embodying the use of a high pressure gas emitted from a reservoir into a chamber on the clean gas side of the porous filtering surface in such a manner that the gas provides the force and energy to close a valve to seal the chamber and also rapidly raise the pressure in the sealed chamber so as to cause a shock which dislodges the accumulated dust on the opposite side of the filter.

3,540,194

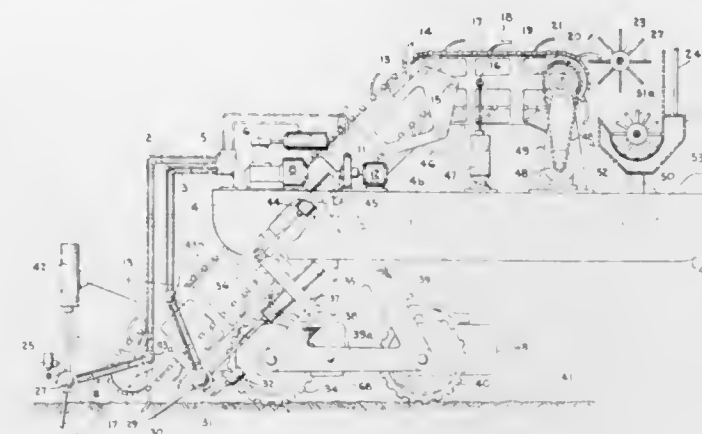
METHOD OF REMOVING MARINE GROWTHS AND ROOTS

Merle P. Chaplin, 609 Driver Ave., Winter Park, Fla. 32789
Filed Oct. 2, 1968, Ser. No. 764,586

Int. Cl. A01d 45/08

U.S. Cl. 56—1

5 Claims



A method of removing weeds and plants from the bottoms of lakes and waterways, involving injecting water and subsequently compressed air directly below the root systems of such plants, thus forcing them away from the bottom of the lake or waterway. A preferred embodiment of my invention involves a conveyor utilized in concert with this fluid pressure injection method, which enables the removed plants to be carried to the surface of the water and disposed of, instead of leaving portions of the uprooted plants in the water to decay.

3,540,195

MOWING MACHINES

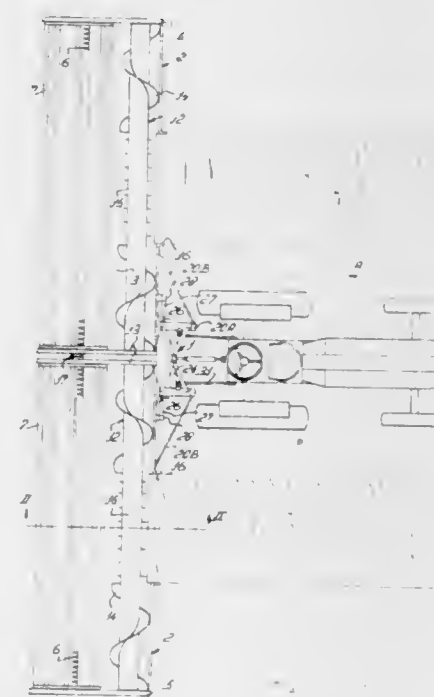
Cornelis van der Lely, 7 Bruschenrain, Zug, Switzerland
Filed Jan. 22, 1968, Ser. No. 699,514

Claims priority, application Netherlands, Jan. 24, 1967, 6701059

Int. Cl. A01d 35/02

U.S. Cl. 56—23

10 Claims



This invention relates to mowing machines of the kind having a mobile supporting frame carrying two similar cutting mechanisms in side-by-side relationship. Each cutting mechanism includes a conveyor having portions arranged to displace cut crop transversely of the

direction of travel of the machine towards central regions of said mechanisms. During operation of the machine, swaths of cut crop are formed at opposite sides of said supporting frame.

3,540,196

COTTON SPINDLE

Ray W. Mabry, Box 295, Tutwiler, Miss. 38963, and Arthur David Grimes, P.O. Box 5193, Tupelo, Miss. 38801

Filed Sept. 19, 1968, Ser. No. 760,766

Int. Cl. A01d 45/18

U.S. Cl. 56—50

7 Claims



A cotton spindle rod has at least one row of teeth extending longitudinally at one end of the rod. The row of teeth is bordered on at least one side by a longitudinal notch which coextends with the row. The teeth each have a front face, a rounded part and a flat surface. The sides of the rows of teeth form part of the walls of the notches.

3,540,197

CUTTER BAR GAG LIMITING DEVICE

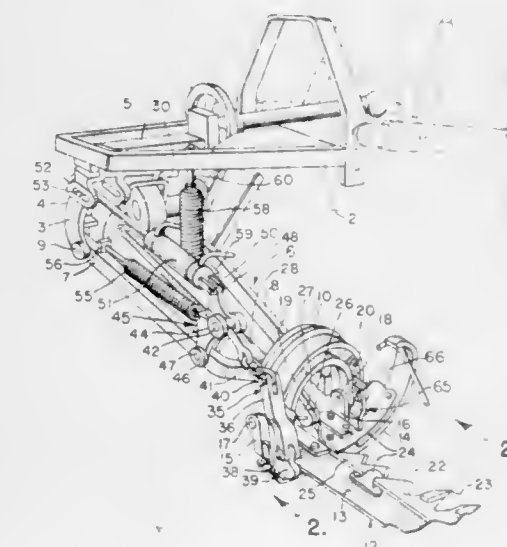
Thomas J. Scarnato, Park Ridge, Paul C. Gordon, Hinsdale, and Robert H. Brunner, Oak Lawn, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed July 27, 1967, Ser. No. 656,527

Int. Cl. A01d 55/02

U.S. Cl. 56—286

10 Claims



A gag lift limiting device for a pitman mower comprising a pivoted latch having an upswung position disengaged from cutter bar pivoted on mower frame to permit mower to be pivoted to transport position, the

latch having its center of gravity slightly beyond its pivot point so that latch automatically drops into working position upon operation of mower.

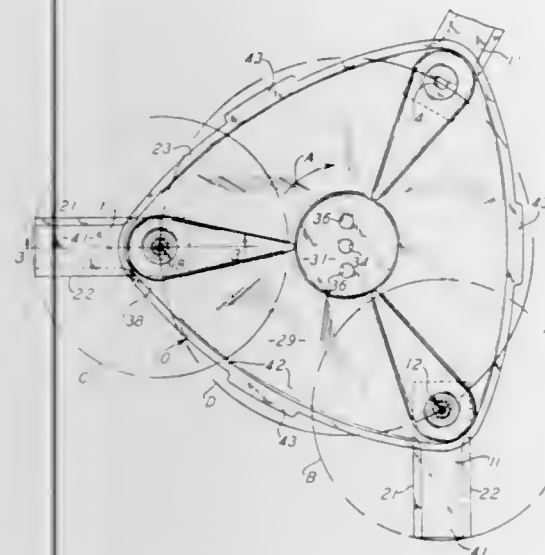
3,540,198
SWING KNIFE ASSEMBLY FOR A ROTARY MOWER

Sherman C. Heth, Vernon R. Kaufman, and Donald G. Erickson, Racine, Wis., assignors to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin

Filed Sept. 14, 1967, Ser. No. 667,820
Int. Cl. A01d 55/18

U.S. Cl. 56—295

3 Claims



A swing knife assembly for a rotary mower, with the assembly including a disc and several cutting blades rotatably mounted on the disc. The disc and blade assembly is mountable in a rotary mower (not shown) and is driven by a prime mover, such as a gasoline engine.

3,540,199
FIELD CART WITH CHAFFCUTTER

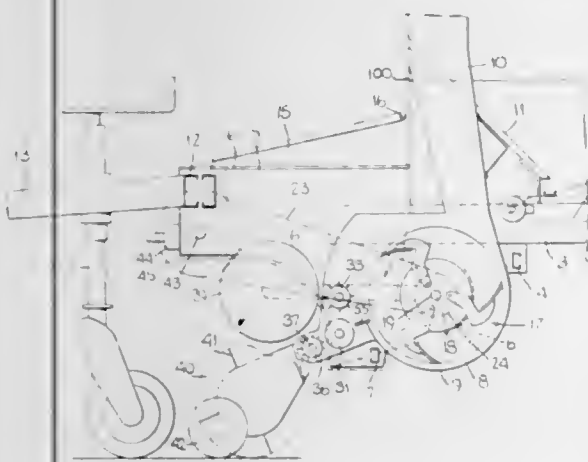
Franz Xaver Lenzer, Kleinkötz, near Gunzburg, and Wilhelm Konrad Lippl, Oxenbronn, near Gunzburg, Germany, assignors to Menzle & Soehne, Gunzburg (Danube), Germany, a firm of Germany

Filed Apr. 27, 1966, Ser. No. 545,721
Claims priority, application Germany, May 7, 1965, M 65,151; Feb. 19, 1966, M 68,459

Int. Cl. A01d 89/00, 55/00

U.S. Cl. 56—364

20 Claims



The chaffcutter is arranged underneath the loading space of a field cart with the ejecting duct rising within the loading space within the field cart. The chaffcutter is of the drum type and includes a cutter drum which is

either rigidly mounted with respect to the cart or is mounted in a casing which pivots about the cutter axis with respect to the field cart.

3,540,200
AUTOMATIC YARN PIECING APPARATUS FOR RING SPINNING FRAME OR THE LIKE

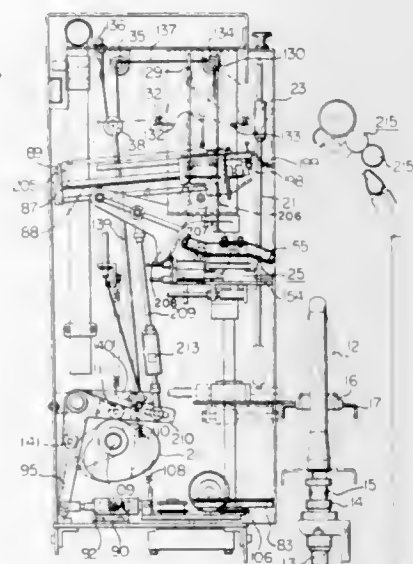
Zenzabura Tsukumo, Nishinomiya-shi, Takeki Sato, Takarazuki-shi, Kanehiro Ito, Amagun, Aichi-ken, and Noboru Ohashi, Akashi-shi, Japan, assignors to Toyo Boseki Kabushiki Kaisha, Osaka, Japan, and Howa Kogyo Kabushiki Kaisha, Aichi-ken, Japan, both companies of Japan

Filed Feb. 29, 1968, Ser. No. 706,876
Claims priority, application Japan, Aug. 1, 1967, 42/53,061

Int. Cl. D01h 15/00

U.S. Cl. 57—34

12 Claims



An automatic yarn piecing apparatus is provided with a detector for sensing a yarn breakage during winding of a supply yarn around a winding bobbin and a yarn piecing mechanism. The yarn piecing mechanism carries a supplementary yarn supply cop and when a yarn breakage is detected, one end of the supplementary yarn is wound around the winding bobbin at which the breakage occurred. The yarn piecing mechanism includes means for then parting the supplementary yarn into two sections, each having a jagged end, and means for pressing together one of the jagged ends with a portion of the original supply yarn which was broken to effectively join the supplementary yarn with the supply yarn.

3,540,201
METHOD AND APPARATUS FOR MANUFACTURING YARN FROM TEXTILE FIBERS

Kozo Susami, Masaaki Tabata, and Hiroshi Edagawa, Otsu-shi, and Kunio Shinkai, Handa-shi, Japan, assignors to Toray Industries, Inc., Tokyo, Japan, and Howa Machinery, Ltd., Nagoya-shi, Japan, both companies of Japan

Filed Nov. 1, 1967, Ser. No. 679,749
Claims priority, application Japan, Nov. 4, 1966, 41/101,499; Apr. 27, 1967, 42/26,577; May 8, 1967, 42/28,687

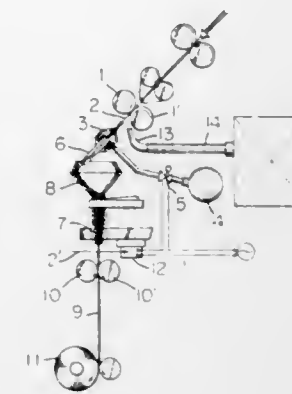
Int. Cl. D01h 1/12, 13/16

U.S. Cl. 57—80

17 Claims

An improved method and apparatus for manufacturing yarn from textile fibers by a spinning system utilizing pneumatic and centrifugal forces. The supply of the material fibers into the system and the delivery of produced yarn out of the system is automatically controlled by starting and/or stopping at least one of the pneumatic sucking actions of the twisting equipment of the spinning system and/or of the suction means for conducting the

supplied material fibers from the system. This eliminates such troubles as yarn breakage which were often observed when starting the spinning machine in the conventional spinning system.



when starting the spinning machine in the conventional spinning system.

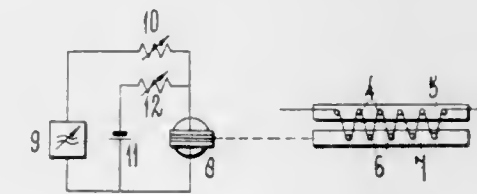
3,540,202
YARN BRAKE FOR TWINED YARNS
Geert Jan Vermeulen, Deurne, Netherlands, assignor to N.V. Machinefabriek L. te Strake, Deurne, Netherlands, a corporation of the Netherlands

Filed Aug. 26, 1968, Ser. No. 755,337
Claims priority, application Netherlands, Sept. 12, 1967, 6712483

Int. Cl. B65h 59/10; D01h 13/08, 13/10

U.S. Cl. 57—106

4 Claims



A yarn brake for twined yarns comprising a pair of relatively movable yarn guides each having yarn guide formations such as pins or eyelets. One yarn guide is fixed and the other guide biased such that it tends to move away from the fixed guide. The movable guide is mechanically coupled to a coil in a magnetic field which is energized from an alternating current source with adjustable frequency and amplitude. The coil imparts to the movable yarn guide an adjustable vibration relative to the other yarn guide which periodically allows the twist of the yarn to pass through the yarn brake thereby opposing any back-up of twist.

3,540,203
SELF-SUPPORTING CABLES WITH FINE GRAINED POWDER BETWEEN SUPPORT STRANDS AND EXTRUDED JACKET AND METHOD OF MANUFACTURE

Fredrik Thoresen, Snaroya, and Helge Notevarp, Oslo, Norway, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 543,607, Apr. 19, 1966. This application Mar. 7, 1969, Ser. No. 811,274

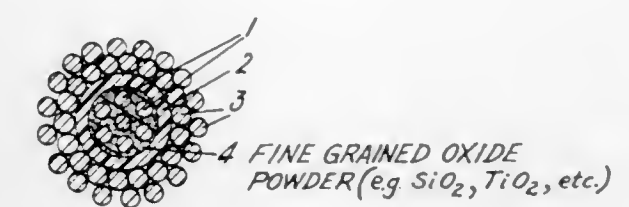
Claims priority, application Norway, Apr. 27, 1965, 157,843

Int. Cl. D02g 3/36; H01b 7/00, 13/14

U.S. Cl. 57—149

7 Claims

A self-supporting cable has a fine grained powder disposed about the supporting strands within an extruded



added adhesive agents. The powder provides increased friction between the strands and jacket.

3,540,204
METHOD FOR MANUFACTURING AN IMPROVED ELASTIC YARN COVERED WITH MULTIFILAMENT

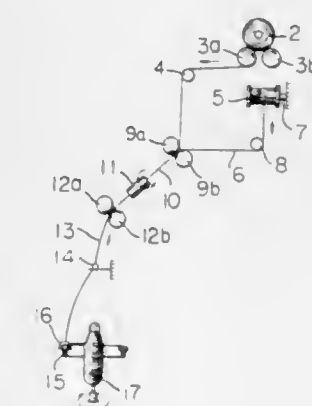
Tomio Tanaka, Otsu-shi, Minoru Yamada, Shiga-ken, and Toshimoto Matsubara, Otsu-shi, Japan, assignors to Toray Industries, Inc., Tokyo, Japan, a company of Japan

Filed Apr. 16, 1968, Ser. No. 721,682
Claims priority, application Japan, Apr. 18, 1967, 42/24,264; Apr. 24, 1967, 42/25,817; June 2, 1967, 42/34,982

Int. Cl. B65h 81/06; D02g 3/36

U.S. Cl. 57—163

13 Claims



A method is disclosed for manufacturing an improved elastic yarn having an elastic core component and a multifilamentary component surrounding the elastic component characterized by the step of placing the yarn in a relaxed condition while passing the yarn through a false-twisting operation. A heat setting operation may advantageously be applied to the processing yarn during the false-twisting operation along with the relaxation.

3,540,205
PAWL-RATCHET WHEEL ASSEMBLY IN A TIMEPIECE

Max Hetzel, Biel, Switzerland, assignor to Centre Electronique Horloger S.A., Neuchatel, Switzerland, a company of Switzerland

Filed July 30, 1968, Ser. No. 748,666
Claims priority, application Switzerland, Aug. 22, 1967, 11,799/69

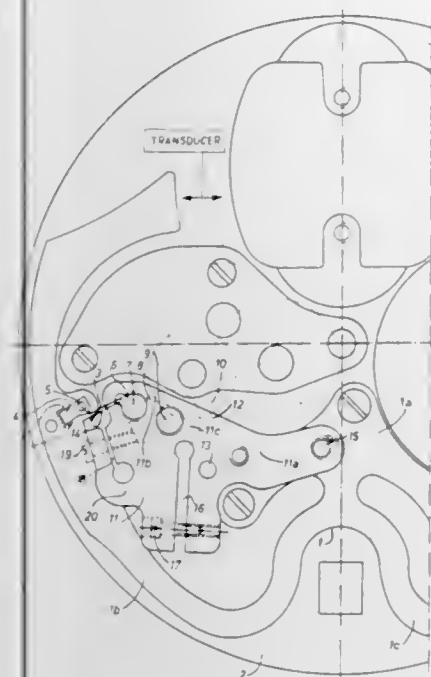
Int. Cl. G04c 3/00

U.S. Cl. 58—23

5 Claims

A pawl and ratchet assembly for an electromechanical timepiece is provided with a variably settable mounting means mounting the ratchet wheel and return pawl for movement together relative to the drive pawl to variably set the phase relationship between the drive and return

pawls. The drive pawl is mounted on an electrically maintained mechanical resonator and the ratchet wheel and



return pawl are mounted for movement together on a movable plate member.

3,540,206

MOTION TRANSFORMING DEVICE FOR ELECTRONIC TIMEPIECES AND THE LIKE

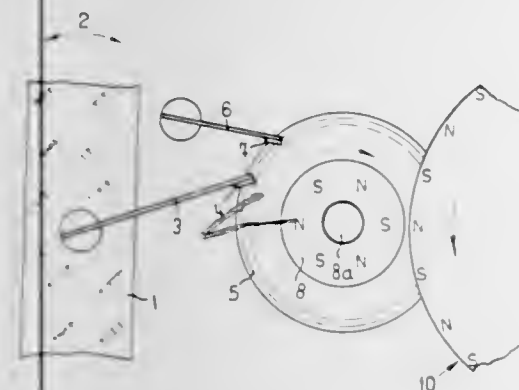
Max Hetzel, 2 Rue Breguet, Neuchatel, Switzerland
Continuation-in-part of application Ser. No. 539,852,
Apr. 4, 1966. This application Mar. 25, 1969, Ser.
No. 810,324

Claims priority, application Switzerland, Apr. 4, 1966,
10,667/65

Int. Cl. G04c 3/00

U.S. Cl. 58—23

13 Claims



In a time measuring device wherein an acoustical resonator constitutes the time keeping standard and wherein a motion transformer having a pawl fixedly attached to the resonator engages the teeth of a ratchet wheel to transmit rotary impulses thereto and drives a gear train of the type indicated, there is provided a magnetic coupling arranged between the ratchet wheel and the gear train to smooth out intermittent rotation and transform it into an at least approximately continuous motion, the coupling being described as including a driving wheel having a circumferential region of magnetizable poles mounted so as to surround coaxially the axis of the ratchet wheel, the number of teeth on the ratchet wheel being greater than the number of poles of this region; a driven wheel with magnetizable poles disposed around its periphery and adjacent the driving wheel so as to bring together the ef-

fective range of some poles of one wheel within the effective range of some poles on the other wheel and means for magnetizing said driving and driven wheels.

3,540,207

ELECTRONIC WATCH COUNTING CIRCUIT

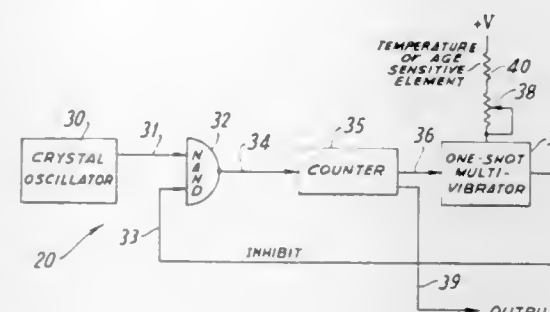
Eugene R. Keeler, Suffern, N.Y., assignor to Timex Corporation, Waterbury, Conn., a corporation of Connecticut

Filed Sept. 20, 1968, Ser. No. 761,230

Int. Cl. G04b 3/00

U.S. Cl. 58—23

7 Claims



An electronic horological instrument includes a piezoelectric crystal oscillator and a counter such as a series of count-down circuits in tandem. The effective frequency of the oscillator is adjusted (trimmed) by adjusting the period of a one-shot multivibrator which inhibits the oscillator pulses.

3,540,208

HYDRAULIC WATCH

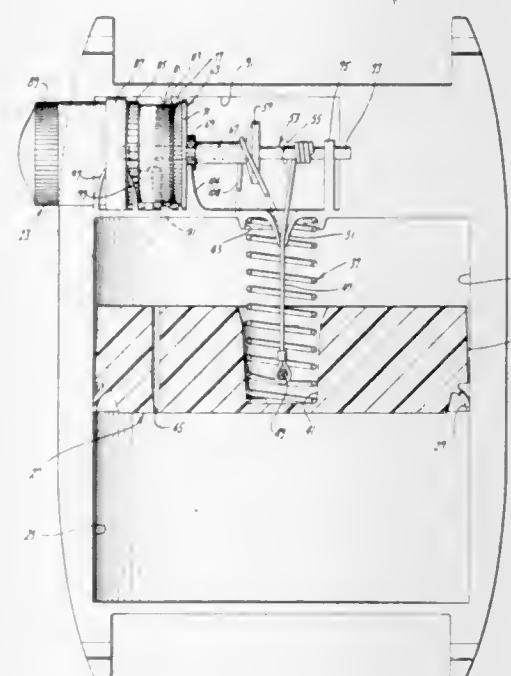
Bruce A. Kock, 6017 Ocean View Drive, Oakland, Calif. 94618

Filed May 22, 1968, Ser. No. 731,076

Int. Cl. G04b 1/26

U.S. Cl. 58—42

5 Claims



A watch wherein timing is accomplished by the movement of a piston through a fluid under the influence of a spring. Movement of the piston is sensed by a wire wound about a shaft which is in turn connected to the hands of the watch by means of a continuous belt. A jump hour hand is incorporated whereby the hour hand moves from one hour indicia to the next during the last five minutes of movement by the minute hand. A clicking sound is generated by passing a circular comb over the teeth of a gear.

3,540,209

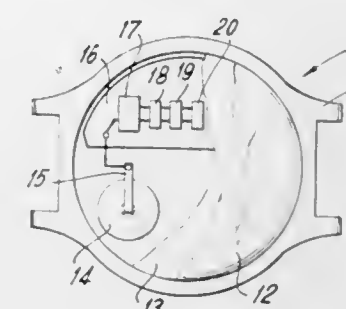
HOROLOGICAL TIME DISPLAY

Norman C. Zatsky, Briarcliff Manor, and Eugene R. Keeler, Suffern, N.Y., assignors to Timex Corporation, Waterbury, Conn., a corporation of Connecticut
Continuation-in-part of application Ser. No. 749,007,
July 31, 1968. This application June 12, 1969,
Ser. No. 834,237

Int. Cl. G04b 11/00

U.S. Cl. 58—50

15 Claims



An electronic watch includes, within a case, a battery, a time base such as a crystal oscillator, a series of count-down circuits, and a time display. The time display includes a transparent watch crystal, a dial plate, and a liquid electro-optical material between the crystal and the dial plate. The crystal or the dial plate, or both, have a plurality of conductive transparent lines. The lines are electrically triggered in sequence to provide a moving indication of the time which appears similar to moving hands. The time display may provide a number of the AND circuits used in decoding, in addition to displaying the time. Alternatively, the time display may utilize a ferroelectric ceramic material.

3,540,210

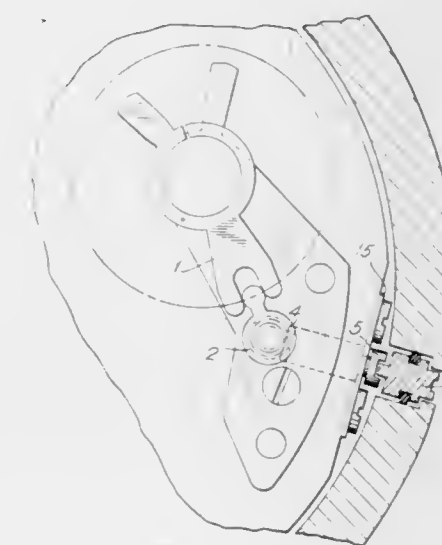
REGULATOR ADJUSTING DEVICE FOR WATCH

Toshiaki Saito and Yoshinori Futami, Suwa-shi, Japan, assignors to Kabushiki Kaisha Suwa Seikosha, Tokyo, Japan
Filed July 11, 1968, Ser. No. 744,113
Claims priority, application Japan, July 18, 1967,
42/45,800; July 28, 1967, 42/64,631; Feb. 28,
1968, 43/14,748

Int. Cl. G04b 17/14

U.S. Cl. 58—109

14 Claims



An adjusting device for the regulator of a watch including a regulator shaft rotatably mounted within the watch and formed at one end with a driving means such as a face gear, worm or screw thread. Coupling means are provided between said driving means and said regulator

for translating the rotation of said regulator shaft into rotation of said regulator. The watch also includes means for providing access to said regulator shaft for the selective rotation thereof.

3,540,211

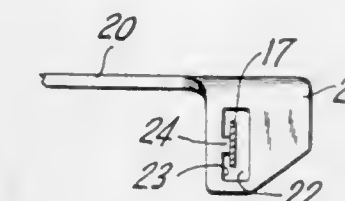
HOROLOGICAL REGULATOR

Harwell B. Thompson, Cheshire, and Edward Kaunas, New Milford, Conn., assignors to Timex Corporation, Waterbury, Conn., a corporation of Connecticut
Filed May 28, 1969, Ser. No. 828,530

Int. Cl. G04b 17/14

U.S. Cl. 58—109

4 Claims



A horological instrument includes an oscillator assembly and a hairspring. The hairspring, at one end, is fastened to the oscillator assembly and at its opposite end it is anchored to the frame or bridge. A regulator touches the hairspring and is movable at least partly along its length. The part of the regulator touching the hairspring is less wide than the width of the hairspring or, alternatively, has a resilient material.

3,540,212

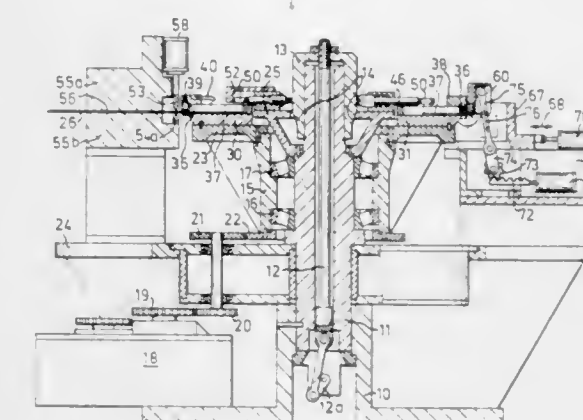
STAPLE BAR PRODUCING MACHINES

Sten Gustav Birger Olfalk, Malmo, Sweden, assignor to Carl Erik Josef Nyberg, Skovde, Sweden
Filed Nov. 27, 1968, Ser. No. 779,559
Claims priority, application Sweden, Nov. 27, 1967,
16,217/67

Int. Cl. B21d 53/46

U.S. Cl. 59—75

8 Claims



As shown in FIGS. 1 and 2 in the enclosed drawings, a predetermined length of a strip of bonded metal wires corresponding to three U-shaped staple bars is cut from a continuous strip 26 and clamped to an indexing table 23 at station 1. Equally spaced along the circumference of the table are six stationary stations I—VI. The stations II, IV and VI have bending members 60 for bending the radial outer end portion of the respective strip piece to a staple bar, and the stations III and V have cutting members 53, 54 for cutting the respective bar when formed. Upon each cycle of operations at the respective station three staple bars are produced.

3,540,213

HYDRAULIC ACTUATOR AND METHOD

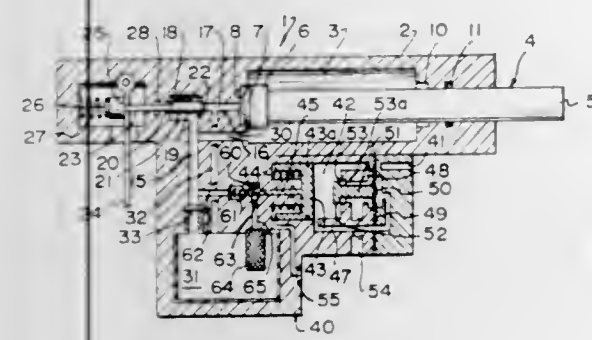
Joseph L. Johnston, deceased, late of Chenequa, Wis., by Annabelle Johnston, executrix, Chenequa, Wis., and Wayne E. Hunnicutt, Big Bend, Wis.; said Hunnicutt assignor to Applied Power Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed Sept. 19, 1968, Ser. No. 764,020

Int. Cl. F15b 15/17

U.S. Cl. 60—1

14 Claims



A hydraulic actuator and method for producing the propulsion of a prime mover which embody the development of potentially explosive fluid forces in a confined area and the release of such forces to react upon and propel the prime mover with substantial velocity. Both the actuator apparatus and method are designed to utilize fluid at high pressure compressed and confined in a chamber containing a portion of the prime mover in a static condition. The fluid compression in the chamber is released by a triggering device in a manner producing a high speed reaction of the prime mover. In a specific embodiment of the actuator and method, such as a stud driver, a light-weight, quick cycling device can be produced which utilizes a relatively low pressure fluid motor to pump and compress fluid in a chamber containing a stud driving piston. A fluid pressure triggering device, designed to overcome the problems of high pressure reaction forces is utilized to allow the fluid in the chamber to expand rapidly and propel the piston and a stud carried thereby at a relatively high velocity. Predetermined piston over-travel can be produced as well as the hydraulic cushioning of the piston near the end of its stroke.

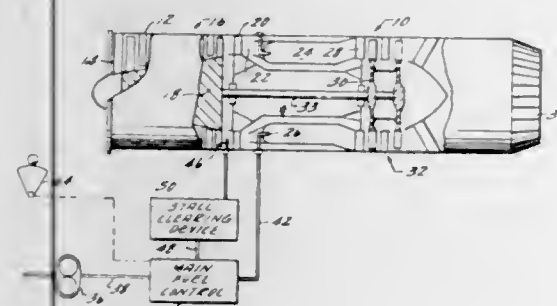
3,540,214

FUEL SYSTEMS FOR GAS TURBINE ENGINES
Ted F. Stigwolt, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 627,918, Apr. 3, 1967. This application Jan. 15, 1969, Ser. No. 791,297

Int. Cl. F02c 9/08, 3/02

U.S. Cl. 60—39.28

5 Claims



The disclosure shows a number of devices 50 for eliminating compressor stall in a gas turbine engine 10.

The devices 50 modify a control input to a fuel scheduling unit 40 for the engine 10 so that fuel flow is rapidly reduced to a low level for a very short period of time. When the compressor 16 of the engine 10 is in a stalled condition, the relatively short reduction in fuel flow clears the stall without substantially affecting the thrust output of the engine.

3,540,215

ROTARY COMBUSTION TURBINE ENGINE

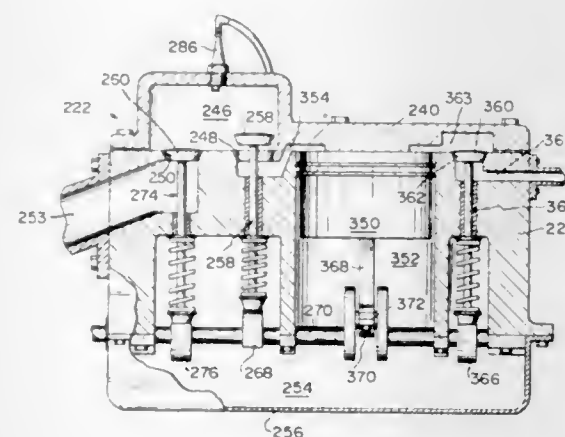
Luke J. O'Connell, Chicago, Ill., assignor of one-half to Thomas W. Havey, Chicago, Ill.

Filed May 13, 1968, Ser. No. 728,457

Int. Cl. F02c 7/00

U.S. Cl. 60—39.41

1 Claim



A rotary combustion turbine engine wherein, in one embodiment thereof, a combustible mixture is forcibly injected into a combustion chamber through a valve-equipped inlet port and is then ignited in the chamber, and the products of combustion are conducted from the chamber through a valve-equipped exhaust port and directed tangentially against a large diameter rotor in the peripheral region thereof. Annularly arranged shallow pockets in the periphery of the rotor and with closed sides confine the applied torque to the periphery so that a high mechanical advantage on the wheel and axle principle is attained for rotor driving purposes. In another embodiment, similar conditions of high mechanical advantage remain prevalent but the combustible mixture, instead of being forcibly injected into the combustion chamber, is drawn into a cylinder by way of the action of a piston, and during the return stroke of the piston, such gases are compressed and forcibly introduced through an open intake valve into the combustion chamber for subsequent ignition.

3,540,216

TWO-FLOW GAS TURBINE JET ENGINE

Hervé Alain Quillevere, Issy-les-Moulineaux, Armand Jean-Baptiste Lacroix, Itteville, and Ratko Stakic, Sucy-en-Brie, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France

Filed Jan. 22, 1968, Ser. No. 699,409

Claims priority, application France, Jan. 23, 1967, 92,174

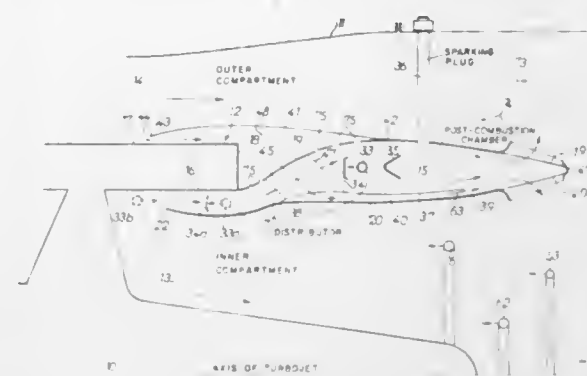
Int. Cl. F02k 3/10

U.S. Cl. 60—39.72

11 Claims

The turbo-jet is provided with annular means extending axially of the inner chamber of the turbo-jet and separating an inner compartment through which oxygen-containing gases flow from an outer compartment through which air flows and the downstream section of said separating means forms the post-combustion chamber open at its upstream and downstream ends to operate thus under optimum conditions. Said chamber is advan-

tageously fed with a fraction of the hot gases passing out of the inner compartment and the partition bounding said



chamber inwardly is cooled by the air from the outer compartment.

3,540,217

COMBUSTION ENGINE FUEL CONTROL

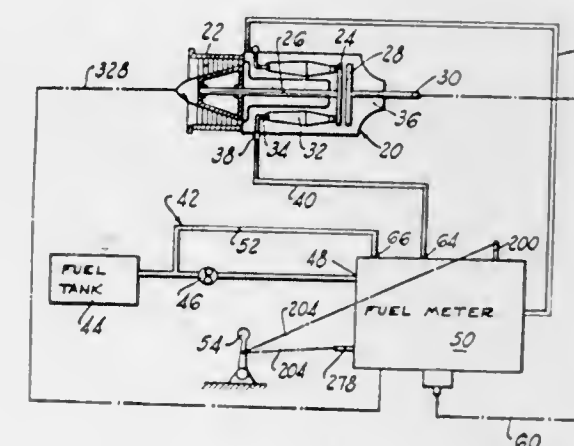
Joseph L. Peczkowski, Kenneth R. Dettweiler, and Francis R. Rogers, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware

Filed June 27, 1968, Ser. No. 740,551

Int. Cl. F02c 9/08

U.S. Cl. 60—39.28

11 Claims



Fuel control apparatus for a gas turbine engine wherein output fuel flow during an engine transient from one speed to another is controlled by a variable area fuel metering valve as a function of throttle lever position, ambient air pressure and compressor pressure rise. A fuel by-pass valve maintains a predetermined constant fuel pressure differential across the metering valve. Engine governing operation at a selected speed is accomplished by governor valve means responsive to engine speed and throttle lever position and connected to modify the response of the fuel by-pass valve to generate a variable fuel pressure differential across the metering valve. The governor valve response to engine speed is modified by a lagged regenerative feedback signal derived from a fuel pressure controlled by the governor valve and applied against the governor valve to augment the engine speed input.

3,540,218

HYDRAULIC SUPPLY SYSTEM WITH TWO PUMPING UNITS

Joseph F. Finn, Jr., Woodland Hills, Calif., assignor to General Signal Corporation, a corporation of New York

Filed May 12, 1969, Ser. No. 823,549

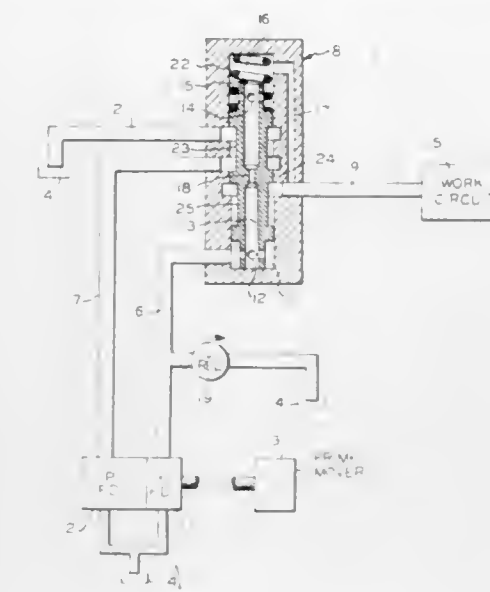
Int. Cl. F15b 13/09

U.S. Cl. 60—52

1 Claim

A hydraulic system for supplying fluid to a work circuit at one of two flow rates depending upon the flow demand of the circuit and the speed of the prime mover

which drives the supply pump. The system utilizes a supply pump comprising two fixed displacement pumping units of unequal capacities, and includes a differential pressure-producing flow meter which senses the discharge



rate of the smaller unit, an unloading valve for the larger unit which is operated by the output pressures of the flow meter, and a relief valve which limits the pressure at the pumping unit side of the flow meter to a value less than the maximum operating pressure of the work circuit.

3,540,219

PNEUMATIC BOOSTER ASSEMBLY FOR BRAKE SYSTEM, ESPECIALLY ADAPTED FOR AUTOMOTIVE USE

Yooichi Huruta and Yoshiharu Adachi, Kariya-shi, Japan, assignors to Aisin Seiki Company Limited, Aichi-ken, Japan, a corporation of Japan

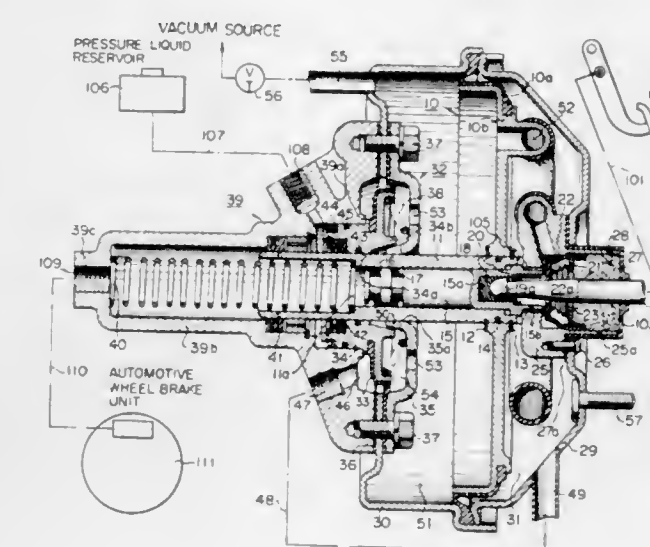
Filed May 28, 1968, Ser. No. 732,640

Claims priority, application Japan, May 30, 1967, 42/34,710

Int. Cl. F15b 7/00, 7/08

U.S. Cl. 60—54.5

10 Claims



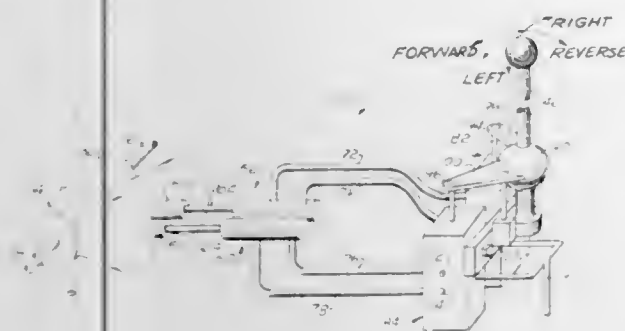
The invention provides a pneumatic servo or booster assembly adapted for cooperation with a hydraulic automotive wheel brake system comprising a first hydraulic piston and a second hydraulic piston arranged to cooperate with a common hydraulic cylinder which is hydraulically connected with wheel brake cylinders, wherein locking means are provided within the master cylinder for the prevention of lost motion of the brake pedal, said lock means being effective only when the foot effect exceeds a predetermined servo-range of said assembly.

3,540,220 HYDROSTATIC TRANSMISSION CONTROL SYSTEM

Robert B. Lauck, Southfield, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed Mar. 26, 1968, Ser. No. 716,204
Int. Cl. F02b 41/00; F15b 11/16; B62d 11/00

U.S. Cl. 60—19 39 Claims



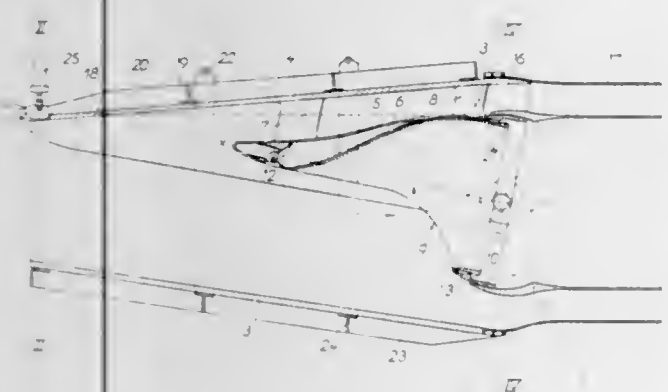
Disclosed herein is a hydraulic control system for controlling the operation of a pair of hydrostatic transmissions. The hydraulic control system includes two control cylinder assemblies and two valve assemblies, one of each being associated with one of the hydrostatic transmissions. In one embodiment, a single manually operable actuator member is provided for operating the valve assemblies which in turn control the cylinder assemblies to regulate the direction of operation and the input to output speed ratio or drive ratio of the hydrostatic transmissions. An antistall means is associated with each of the hydrostatic transmissions for reducing the output speed of the associated hydrostatic transmission when a sensor assembly detects an impending stalling of an engine or source of power connected to the hydrostatic transmission.

3,540,221 AIR-SUPPLY CONTROL ARRANGEMENT FOR JET TURBINE ENGINES

Jean Georges Bouiller, Brunoy, Raymond Jean Maurice Joubert, Savigny-sur-Orge, Louis Jules Bauger, Vanves, and Armand Jean-Baptiste Lacroix, Itteville, France, assignors to Societe National d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France

Filed Nov. 18, 1968, Ser. No. 776,605
Claims priority, application France, Nov. 17, 1967, 128,760

Int. Cl. F02k 3/02, 11/00
U.S. Cl. 60—244 9 Claims



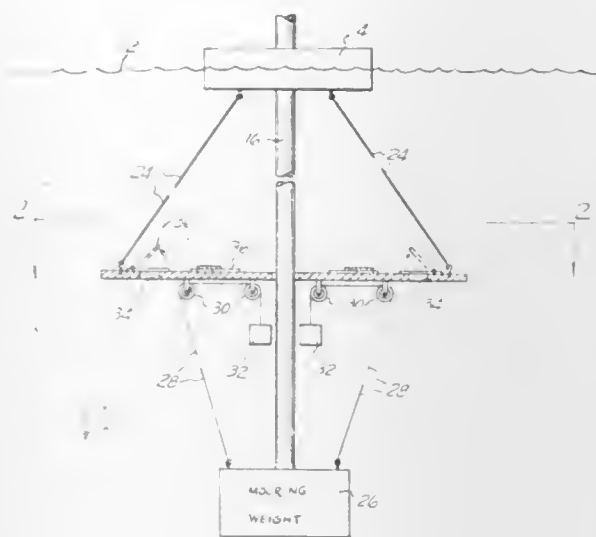
An arrangement for controlling the supply of air to a jet turbine via a central duct and to a ramjet via an annular duct surrounding the central duct, said arrangement including at the inlet to the central duct a stream-lined structure in two parts movable relatively to each other, thereby enabling the supply of air to the jet turbine engine to be completely blocked off when necessary.

3,540,222 METHOD OF AERATING STILL BODIES OF WATER

Morris Mendelson, 16156 Oxley, Southfield, Mich. 48075

Filed Nov. 18, 1968, Ser. No. 776,431
Int. Cl. E02b 3/00

U.S. Cl. 61—1 4 Claims



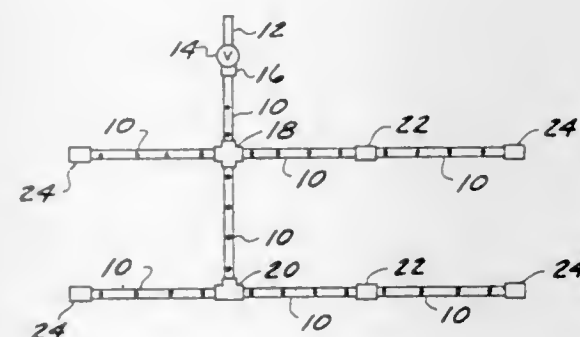
A method of aerating still bodies of water is disclosed herein which comprises the use of a buoy moored in the water for floatation on the surface thereon and which is attached to a mechanical stirring device, such as a valved plate or a propeller suspended from the buoy due to wave action the mechanical stirring device will be set in motion to pump water from near the bottom of the body of water upwardly to the surface but reducing or eliminating any vertical flow of water on the downward movement of the buoy.

3,540,223 IRRIGATION SYSTEMS AND CONNECTORS THEREFOR

Gordon L. Ebbe, 326 N. Ivy, Monrovia, Calif. 91016

Filed Jan. 10, 1968, Ser. No. 696,763
Int. Cl. E02b 13/00; F16l 39/00

U.S. Cl. 61—12 10 Claims



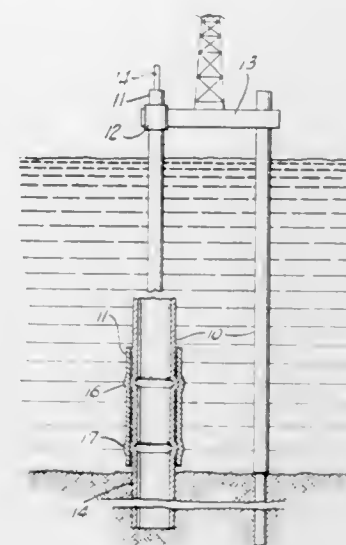
An irrigation system according to the present disclosure includes a pair of substantially concentric conduits forming a cavity therebetween. The inner conduit is connected to a supply of water under pressure. A plurality of metered apertures is provided through each conduit in such a manner as to reduce the pressure of water flowing through the apertures in the outer conduit.

A coupler according to the present disclosure is adapted to be connected to a pair of substantially concentric conduits and provides fluid communication to only the inner conduit.

3,540,224 RIGIDIZED SUPPORT ELEMENT

Ivo C. Pogonowski, Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 29, 1968, Ser. No. 722,138
Int. Cl. E02b 17/00; F16l 13/14, 39/00

U.S. Cl. 61—46 13 Claims



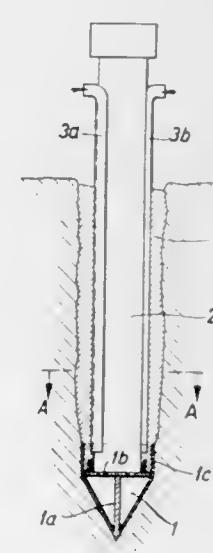
This invention relates to a foundation member for a structure normally elevated above a working surface such as the ocean floor. The foundation member, or members if more than one is used, is normally in a state of compression and comprises at least two concentrically arranged cylindrical elements, one within the other. The outer of said elements is operably carried on the elevated structure, and the remaining element comprises a pile adapted to penetrate the ocean floor. The respective cylindrical element walls are contiguous, and rigidized at one or more longitudinally spaced joints formed by the peripheral deformation of one element wall into the adjacent wall of the other to define one or more annular rings.

3,540,225 CONSTRUCTION PILE AND A METHOD OF PRODUCING SAME IN SITU

Ludwig Muller, 44-46 Heinrich-Heine-Strasse, 355 Marburg an der Lahn, Germany

Original application Nov. 9, 1966, Ser. No. 593,139. Divided and this application Jan. 19, 1968, Ser. No. 721,901

Int. Cl. E02d 5/30, 5/60, 5/77
U.S. Cl. 61—53.52 5 Claims



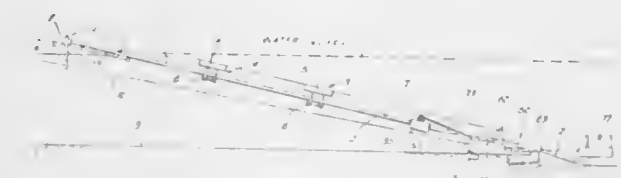
A device for forming a construction pile in situ comprises an open-ended tubular shaft adapted for driving into the ground. The shaft has a hollow foot from the

base of which a peripheral flange protrudes upwardly to define an annular space between the flange and the shaft. Hardening material is fed into the space defined by the foot when the shaft is driven by means of a pipe extending parallel to the shaft into the space defined by the flange.

3,540,226 METHOD OF TOWING A VESSEL ON A BODY OF WATER

Buddy L. Sherrod, P.O. Box 1075, Conroe, Tex. 77301
Application Apr. 15, 1966, Ser. No. 542,832, now Patent No. 3,347,054, dated Oct. 17, 1967, which is a continuation-in-part of application Ser. No. 83,290, Jan. 17, 1961. Divided and this application Sept. 25, 1967, Ser. No. 670,370

Int. Cl. B63b 35/04; E02f 5/02; F16l 1/00
U.S. Cl. 76—107 2 Claims

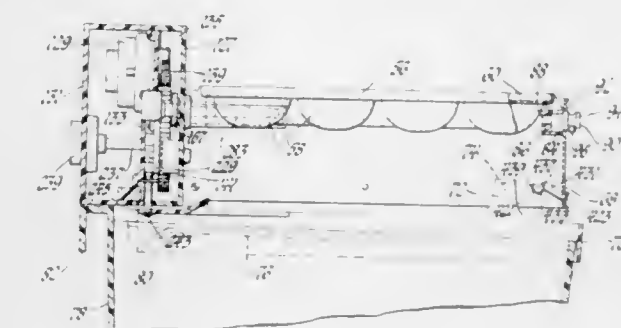


The present invention relates to a method and means for pulling a barge or like vessel on a body of water. The present invention utilizes pulling vessels at opposite ends of a cable which is passed about a sleeve drum, which vessels move and act as an anchor in alternating fashion, whereby the movement of the barge is continuous.

3,540,227 AUTOMATIC FREEZER

Charles W. Eyman, Jr., and Floyd O. Moody, Dayton, and Harold M. Snyder, Springfield, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 12, 1968, Ser. No. 774,786
Int. Cl. F25c 5/18 6 Claims



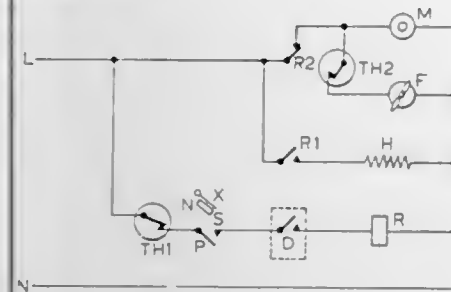
In the preferred form an electric motor drives a large gear which operates a Scotch yoke type cam having an interrupted rack connected to it for turning an interrupted pinion which is operably connected to one end of a flexible mold for inverting and twisting the mold about the axis of a double throw hydraulic thermostat switch. A commutator is provided on the large gear. Cooperating with this commutator and thermostat are spring contacts controlling the filling, freezing and ejection periods. One of these commutator contacts is pivoted into and out of contact with a wedge shaped contact by the movable bin carrier under the control of a weak and stronger spring arrangement to stop the operation whenever the bin is removed or when it is filled to a measured amount. A manual adjustment moves this wedge shaped contact relative to this pivoted contact to vary the mass of frozen pellets or ice cubes which may be deposited in the bin before the operation is stopped.

3,540,228 CONTROL MEANS FOR DEFROSTING A FORCED AIR UNIT

Andrew George Heron, Stocksfield, Northumberland, England, assignor to Heron Electrical Devices Limited
Filed Aug. 20, 1968, Ser. No. 753,977
Int. Cl. F25b 15/00

U.S. Cl. 62-140

5 Claims



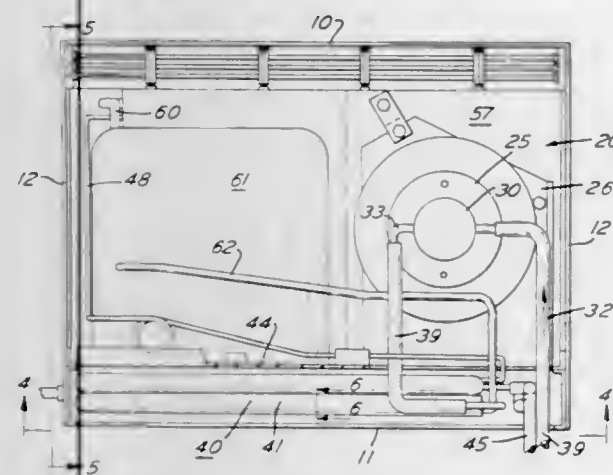
A circuit for controlling the defrosting of a refrigerator unit incorporating a radiator with cooling fins, a refrigerator motor and a fan to blow air to be cooled through the radiator, comprising a first thermostat contact located near the radiator which contact is actuated by a rise in temperature to above freezing and restored by a drop in temperature to below freezing, a first reed contact, a flap moved by the draught from the fan, a magnet carried by said flap and actuating the reed contact, a first electromagnetic relay operated when both the thermostat and reed contacts are closed, and a break contact of said relay in series with the current supply to said refrigerator motor and fan.

3,540,229 AIR COOLING APPARATUS

Paul H. Buntin, Rydal, Pa. (% Repco Products Corp., 7400 State Road, Philadelphia, Pa. 19136)
Filed Jan. 24, 1969, Ser. No. 793,799
Int. Cl. B63b 25/26

U.S. Cl. 62-240

7 Claims



Air cooling apparatus for use in boats which is resistant to corrosion, and comprises a unit having a compressor, condenser and evaporator and a cool air circulating fan and cooling water pump driven by the same motor. The unit is mounted entirely within the boat, and uses the external water for cooling the condenser.

3,540,230 SURGE TANKS FOR REFRIGERATION SYSTEMS

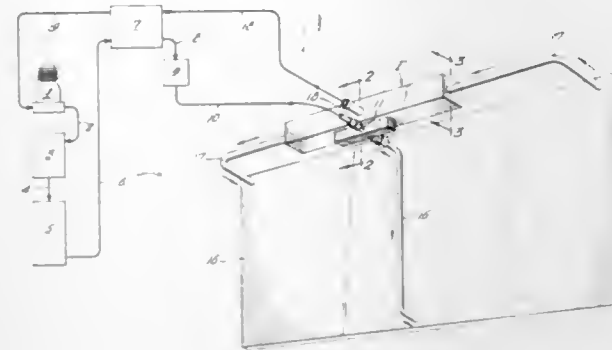
Darl L. Evans, Bloomsburg, Pa., assignor to Girton Manufacturing Company, Inc., Millville, Pa., a corporation of Pennsylvania
Filed May 27, 1969, Ser. No. 828,212
Int. Cl. F25b 43/02

U.S. Cl. 62-471

8 Claims

A surge tank for refrigeration systems comprising an upper surge chamber and an underlying smaller recirculating chamber in fluid communication with the surge

chamber. Liquid refrigerant discharged from the evaporator to the surge tank is accumulated in the recirculating chamber and the lower portion of the surge chamber and is recirculated to the evaporator together with high pressure refrigerant discharged from an injector pump mounted in the recirculating chamber. Baffles are provided in



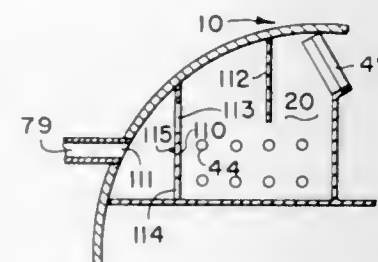
the surge chamber of the tank and arranged with respect to the gaseous refrigerant outlet therefrom so that lubricating oil entrained in the refrigerant discharged from the evaporator to the surge tank and collecting on the surface of the liquid refrigerant in the surge tank is caused to be drawn off with the gaseous refrigerant and recirculated to the refrigerant compressor.

3,540,231 TWO STAGE ABSORPTION REFRIGERATION MACHINE WITH FLASH GAS AND CARRY- OVER CONTROL IN SECOND STAGE GENERATOR

James M. Porter, La Crosse, and Carl V. Loweth, Onalaska, Wis., assignors to The Trane Company, a corporation of Wisconsin
Filed Dec. 20, 1968, Ser. No. 785,511
Int. Cl. F25b 15/06

U.S. Cl. 62-495

7 Claims



The structural relationship of a two stage generator absorption refrigeration machine is disclosed. A primary shell contains a low pressure generator, a condenser, an evaporator, and an absorber. A separate shell contains a high pressure generator. The low pressure generator includes flash gas and carryover control baffles.

3,540,232 JOINT ARRANGEMENT FOR ANGULAR AND AXIAL MOVEMENT

Karl Breuer, Mulheim, Ruhr-Speldorf, Germany, assignor to DEMAG Aktiengesellschaft, Duisburg, Germany
Filed Apr. 5, 1968, Ser. No. 719,116
Claims priority, application Germany, Apr. 15, 1967, D 52,822
Int. Cl. F16d 3/06, 3/30

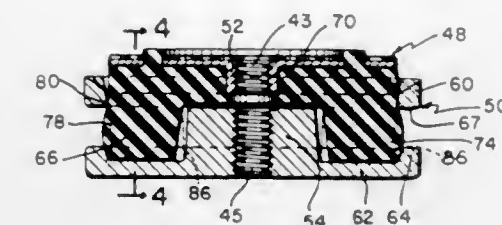
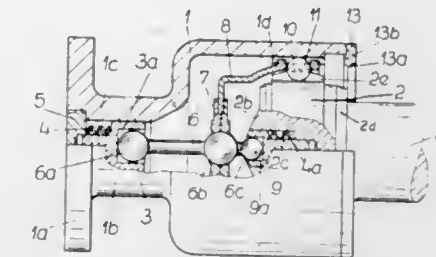
U.S. Cl. 64-8

15 Claims

A joint arrangement to have a high degree of angular and axial movement is comprised of an outer housing member having a longitudinally extending axis and forming a chamber within which at least one end of a longitudinal extending inner member is disposed. In a zero

position of the joint, the axes of the housing member and the inner member are in alignment and a control member, interconnecting the housing member and the inner member, is also disposed on the longitudinal axes. Connected to the control member for displacement with it is a ball cage containing a multiplicity of balls which are arranged between the spaced opposing surfaces of the inner member and the outer housing member. As the inner member is moved in either axial or angular dis-

space axially therebelow extending in a radial direction and the other member has axially extending resilient teeth freely received between the spokes with the free ends of



the teeth centrifugating into said space in interlocking relationship with the ring when the coupling is running at working speeds.

3,540,235 WIDE ANGLE CONSTANT VELOCITY UNIVERSAL JOINT

David L. Eck and Philip T. Gibson, Columbus, Ohio, assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Delaware
Filed Jan. 28, 1969, Ser. No. 794,609
Int. Cl. F16d 3/30

U.S. Cl. 64-21

10 Claims

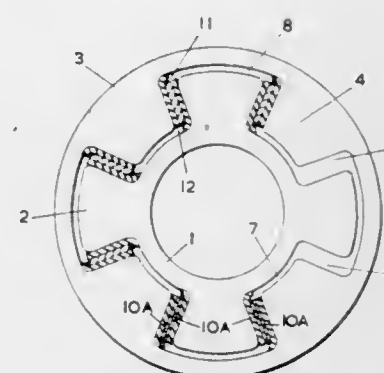
3,540,233 FLEXIBLE COUPLINGS

Edward Pearson, Bradford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Nov. 12, 1968, Ser. No. 774,872
Claims priority, application Great Britain, Nov. 10, 1967, 51,311/67

Int. Cl. F16d 3/06, 3/14, 3/16

U.S. Cl. 64-14

4 Claims



The invention provides a flexible coupling in which the coupling members 1 and 3 are capable of relative axial movement. This is achieved by providing resilient means in cells 6 defined between the coupling members, said resilient means being in the form of a sandwich comprising two outer layers of resilient material and an inner layer 10 of anti-friction material.

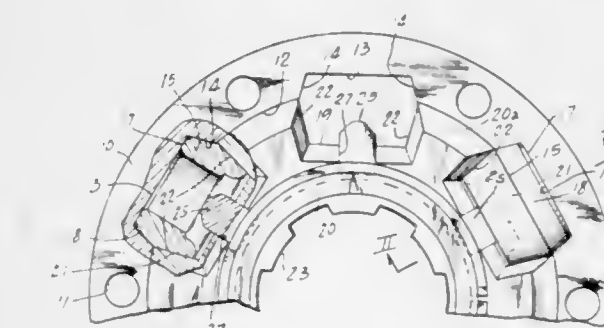
3,540,234 LIQUIDIZER DISENGAGEABLE DRIVE COUPLING

Gordon H. Raymond, Southington, Conn., assignor to Dynamics Corporation of America, Waring Products Division, New Hartford, Conn., a corporation of New York
Filed Nov. 29, 1968, Ser. No. 780,131
Int. Cl. F16d 3/14, 3/64

U.S. Cl. 64-14

12 Claims

Releasable coupling means in which one member has radiating spokes peripherally joined by a ring having



3,540,236 DESIGN WHEEL ASSEMBLY FOR CIRCULAR KNITTING MACHINE

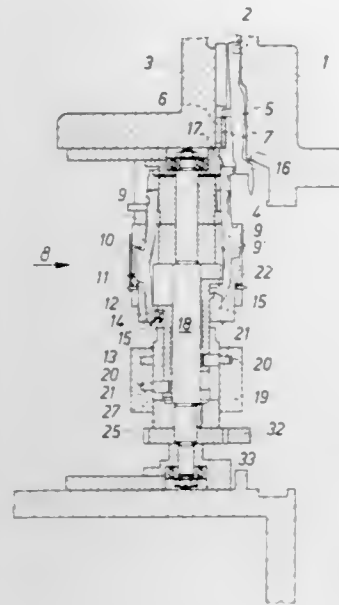
Pierre Joseph, Chambrelieu, Switzerland, assignor to Ed Dubied & Cie S.A., Neuchatel, Switzerland, a company
Filed Apr. 16, 1968, Ser. No. 721,842
Claims priority, application Switzerland, Apr. 20, 1967, 5,669/67

U.S. Cl. 66-50

7 Claims

The invention is concerned with a design wheel assembly for a circular knitting machine. The assembly cooperates with a common endless sorting tape for sorting according to a design, and the assembly has selectors housed in the wheel, which, after sorting, are automatically moved from their inoperative position to their work position for actuating knitting tools (needle and key combinations) to be selected, and which are then either locked in this position for repeating at any frequency the stored design, or again moved to their starting position by driving means. The driving means are movable along a central axis, and each carries a finger which is

used to move its corresponding driving means. The driving means are guided against radial movement, and slide between the central axis and the hollow part of a bell,



which is fixed on the design wheel; and they are guided against circumferential movement by slides parallel to the axis.

3,540,237

KNITTING MACHINE APPARATUS EMPLOYING SELF-GUIDING SINKERS

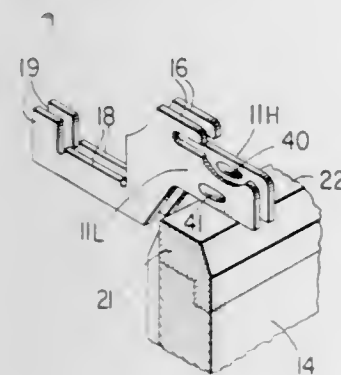
Harry Agulnek, Brooklyn, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed June 3, 1968, Ser. No. 733,894

Int. Cl. D04b 15/06

U.S. Cl. 66—107

2 Claims



A circular sinker top knitting machine is disclosed wherein the sinkers thereof are adapted to guide each other by means of differently disposed bosses on such sinkers, such bosses being arranged in an alternating sequence about the circumference of the machine. Such a practice avoids the prior art need for a slotted sinker ring in such knitting machine, and therefore permits of finer gauge knitting apparatus than has heretofore been possible.

3,540,238

WARP KNIT FABRIC AND METHOD AND APPARATUS FOR MAKING THE SAME

Ned K. Sharpe, Burlington, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

Filed Dec. 13, 1967, Ser. No. 690,347

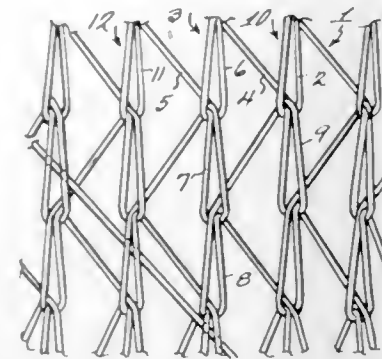
Int. Cl. D04b 23/10

U.S. Cl. 66—192

3 Claims

A warp knit fabric comprising a backing or filling layer of material and a plurality of substantially parallel chains

of loops, formed from a sewing thread, extending along one side of the filling. The sewing threads connecting between loops extend through the filling material and along its other side. A warp yarn is laid against said other



side and held against it by the sewing threads connecting between loops. The warp yarns extend at an angle with respect to the chains of loops and across at least two of these chains to increase dimensional stability along a bias.

3,540,239

AUTOMATIC WASHER HAVING MEANS TO LAUNDER DELICATE FABRICS

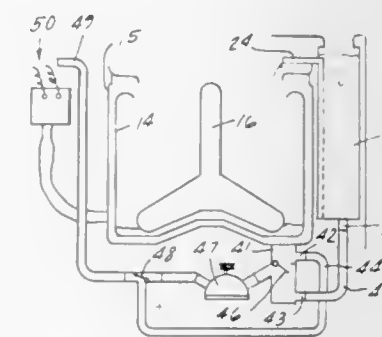
Robert A. Brenner, St. Joseph, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware

Filed June 4, 1968, Ser. No. 734,336

Int. Cl. D06f 33/00, 31/00

U.S. Cl. 68—12

10 Claims



Automatic washing machine including separate treatment zones for laundering regular and delicate fabrics separately or simultaneously. The laundry liquid used in the regular fabric treatment zone may be utilized to establish delicate agitation in the delicate fabric treatment zone by establishing a predetermined flow pattern of laundry liquid passing through the separate zone.

3,540,240

YARN DYEING APPARATUS

Harumi Higashino, 61-2, 3-chome, Komatsunakadori, Higashi Yodogawa-ku, Osaka-shi, Japan

Filed Dec. 17, 1968, Ser. No. 784,364

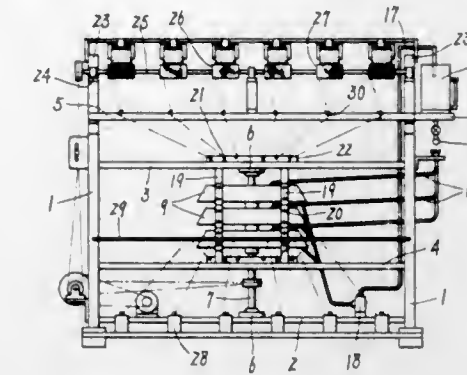
Int. Cl. B05b 13/02

U.S. Cl. 68—5

1 Claim

An apparatus for dyeing yarn with a plurality of dyes. A series of rotatable dye containers mounted one above the other on a driven shaft, and dye feed means are provided for feeding different colored dyes into the respective containers. Yarn feeding means are provided spaced around the periphery of the axis of the rotatable shaft, and yarns are fed along a series of paths around the periphery of the dye containers through chambers sur-

rounding the dye containers. Rotation of the containers disperses the dye into the spaces therearound and the



yarns passing therethrough are dyed with the respective colors.

3,540,241

MEANS FOR AUTOMATICALLY PREHEATING A CLOTHES DRYER

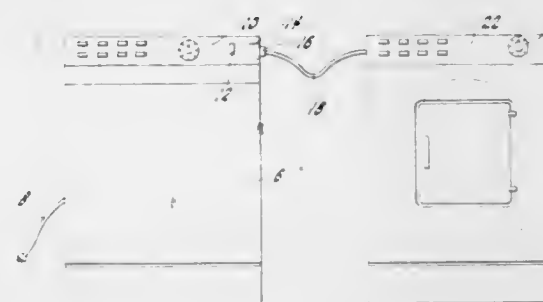
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 6, 1969, Ser. No. 797,213

Int. Cl. D06f 25/00

U.S. Cl. 68—12

4 Claims



A washer dryer combination wherein an automatic washer is modified to connect with a 240 volt source and be selectively connected with a separate clothes dryer so that both the washer and dryer timing mechanisms receive 120 volts while 240 volts are supplied to the dryer heating element. The washer is also provided with circuitry including a manually operable preheat switch which, when closed, bypasses the dryer timer mechanism and energizes the dryer motor and its heating element at a predetermined time in the washing cycle. The time of energizing the heating element is selected to provide a sufficiently preheated dryer at completion of the washing cycle so that the clothes inserted into the dryer are dried in minimum time.

3,540,242

APPARATUS FOR WASHING A RUNNING TEXTILE WEB

John M. Stearns, Bedford, Mass., assignor to Riggs & Lombard, Inc., Lowell, Mass., a corporation of Massachusetts

Filed July 10, 1968, Ser. No. 743,780

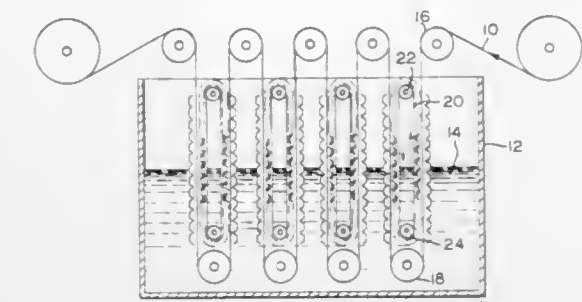
Int. Cl. D06f 17/00

U.S. Cl. 68—175

9 Claims

A high speed, compact and efficient apparatus is provided for use in textile mills and the like for washing a running fabric web in open width form. The web is carried through a tank of water in which is a running continuous belt, at least one reach of which extends in closely spaced parallel relation to the path of travel of the web. The belt carries an array of spaced parallel scoops or baffles extending transversely of the belt and adapted to direct a flow of water against and through the web, the belt being run preferably in a direction opposite to that of the web. A fixed baffle may be mounted in

spaced opposition to the belt on the opposite side of the web for re-directing the water flow back through the web. Alternatively, another running belt may be disposed in



opposition to the first-mentioned belt and synchronized with the first belt to maintain an oscillating washing action of the water from one side to the other of the web.

3,540,243

APPARATUS FOR SKIVING LEATHER AND THE LIKE

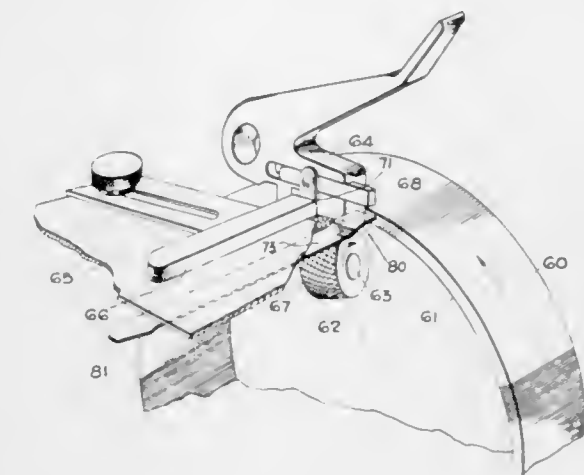
Edwin H. Beck, Lemay, Mo., assignor to Manufacturers Supplies Company, St. Louis, Mo., a corporation of Missouri

Continuation-in-part of application Ser. No. 412,754, Nov. 20, 1964. This application July 10, 1968, Ser. No. 743,813

Int. Cl. C14b 1/22

U.S. Cl. 69—9.5

14 Claims



Apparatus for skiving leather-like materials to produce a scarf having the contour of a "line of beauty" (elongated S) which includes a bevel joined with an escarpment at one or both ends of the bevel to improve both the imperceptibility and strength of a joint made with mately scarfed workpieces. The apparatus involves a bell-knife skiver in which the workpiece is fed to the knife with the to-be-beveled zone of the workpiece clamped by a presser device against the peripheral surface of the feed roll, while the adjacent to-be-escarped zone or zones of the workpiece are biased, respectively, inward over a shoulder on the feed roll, and outward about a sharp-cornered tricorn toe on the presser device.

3,540,244

SKIVING MACHINE

Kurt Hacker, Stuttgart-Zuffenhausen, Jürgen Haag, Stuttgart, and Günter Lerch, Stuttgart-Rot, Germany, assignors to Fortuna-Werke Maschinenfabrik AG., Stuttgart-Bad Cannstatt, Germany

Filed Mar. 4, 1969, Ser. No. 804,120

Claims priority, application Germany, Mar. 5, 1968, F 54,986

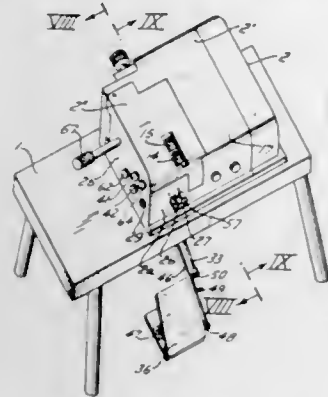
Int. Cl. C14b 1/22

U.S. Cl. 69—9.5

28 Claims

A first presser foot and a second presser foot cooperate with first and second feeding portions of a feed roller which feeds a leather sheet to the circular cutting edge

of a rotary tubular cutter. Operator controlled means set at least the first presser foot means to one of two operative positions relative to the cutting edge and feed roller so that two different scarfs can be cut in the edge of a fed leather sheet fed by the first feeding portion. A third different scarf can be cut in the edge of a leather sheet fed by the second feeding portion of the feed roller. The



first presser foot means has different angular positions and different distances from the cutting edge in the two operative positions, and the second presser foot means preferably has a profiled guide edge for producing a folding scarf. The second presser foot means may also be provided with operator controlled means by which it can be set to two different operative positions.

3,540,245

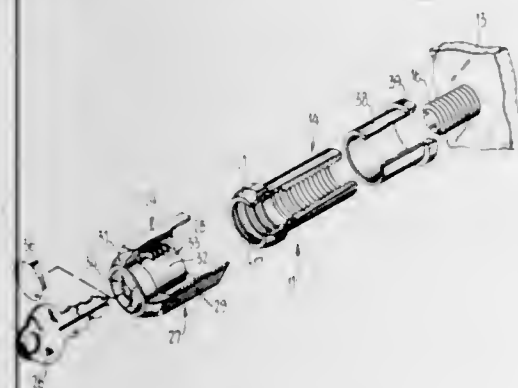
TAMPER-PROOF LOCK NUT

Gary L. Pope, 711 Cedar St., Lafayette, Calif. 94549
Filed May 24, 1968, Ser. No. 731,974

Int. Cl. F16b 41/00

U.S. Cl. 70—231

8 Claims



A nut assembly of the type including a lock nut member removable by means of a key to afford access to the nut proper for removal from the bolt. The lock nut may be employed in any application that is desired to prevent surreptitious removal of a nut from a bolt, and is particularly useful as a lug nut of a motor vehicle wheel assembly. The lock nut is so arranged that tampering with the lock member will not result in removal of the nut without use of the key.

3,540,246

RAM RETURN FOR MECHANICAL PRESS BRAKES

Clarence O. Jones, Jr., Eggertsville, N.Y., assignor to Niagara Machine & Tool Works, Buffalo, N.Y.
Filed Dec. 16, 1968, Ser. No. 784,118

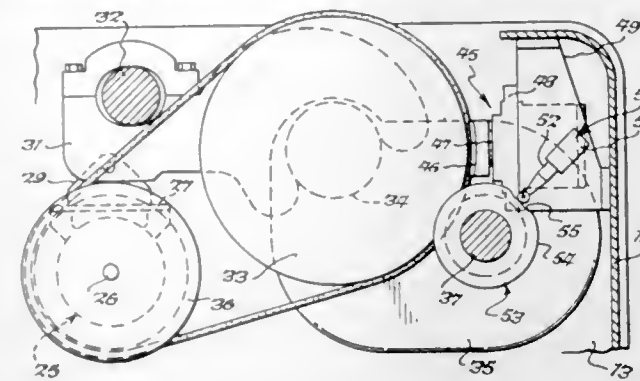
Int. Cl. B21d 55/00

U.S. Cl. 72—2

9 Claims

A control for mechanical press brakes which enables the operator to command the automatic return of the press brake ram to a top stop position without completing an entire cycle. A manually actuatable relay circuit de-energizes the press brake main motor and actuates a braking means such as a motor-mounted or flywheel

brake and after a delay determined by a timing relay simultaneously re-energizes the motor for rotation in the reverse direction and releases the brake. A limit switch in response to the return of the ram to the top stop posi-



tion actuates a relay circuit which de-energizes the motor and activates the brake and then after a delay again determined by the timing relay simultaneously re-energizes the motor for rotation again in a forward direction and releases the brake.

3,540,247

METHOD AND DEVICE FOR CONTROLLING OR MEASURING THE THICKNESS OF A BAND BEING REELED UP ON A DRUM IN A CONTINUOUS MOVEMENT

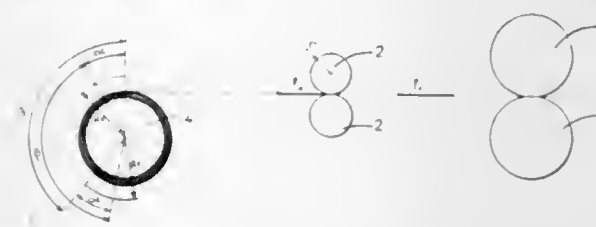
Lucien Diolot, Neuilly, France, assignor to Societe Nouvelle Spidem, Paris, France, a French corporation
Filed Jan. 3, 1968, Ser. No. 695,482

Claims priority, application France, Jan. 6, 1967, 90,322

Int. Cl. B21b 37/02

U.S. Cl. 72—8

10 Claims



Process and apparatus for measuring and controlling the thickness of a moving strip as it is being coiled on a take-up drum by comparison—at any moment—between the linear distance covered by the strip at a point spaced from the drum and the angular reel-up distance on the drum.

3,540,248

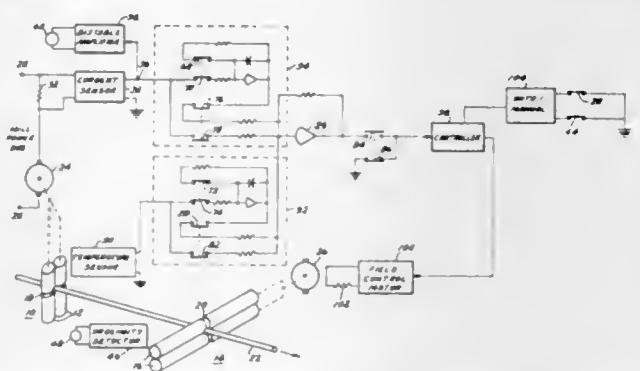
SPEED CONTROL SYSTEM FOR A ROLLING MILL
Richard S. Hostetter, William Jenuick, Harold A. List, and Wolfgang M. Sawitz, Bethlehem, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware

Filed July 18, 1968, Ser. No. 745,834

Int. Cl. B21b 37/10, 37/00

U.S. Cl. 72—8

3 Claims



A rolling mill reduces the cross section of a rod in two stands simultaneously. The speed of the rolls in the second stand is coordinated with the speed of the rolls in

the first stand by a control system utilizing a first signal indicative of the armature current of the motor driving the rolls of the first stand and a second signal indicative of the temperature of the rod as it passes through said first stand.

3,540,249

APPARATUS FOR SHAPING PLIABLE WORKPIECES

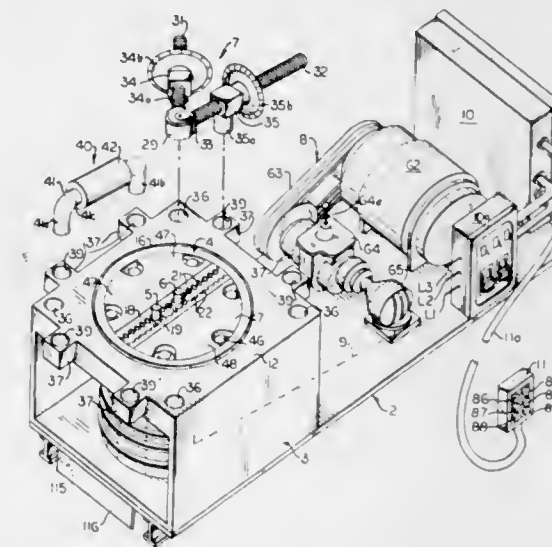
James L. Sawyer, 5209 S. Manitou, Littleton, Colo. 80121, and James W. Harbert, 1783 S. Uinta Way, Denver, Colo. 80023

Filed Dec. 13, 1967, Ser. No. 690,204

Int. Cl. B21j 7/26

U.S. Cl. 72—22

17 Claims



Apparatus for shaping various sizes of elongated pliable workpieces such as metal bars, rods and the like wherein the workpiece is moved while disposed between upstanding members by a rotary member and its direction of movement is altered so as to provide bending forces in shaping. Points of contact for movement and alteration of the direction of movement of the workpiece are adjustable to different locations on the work supporting surface and demountable therefrom to accommodate various sizes of workpieces and perform various shaping functions. Manual or automatic control may be selected for driving the rotary member and in the automatic cycle may be programmed to perform preselected movements in a repetitive sequence to effect a desired similar shaping of a plurality of similar workpieces.

3,540,250

METHOD AND APPARATUS FOR PRECISION SIZING AND JOINING OF LARGE DIAMETER TUBES

Robert J. Schwinghamer and J D Bennight, Huntsville, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Original application May 8, 1967, Ser. No. 637,882.

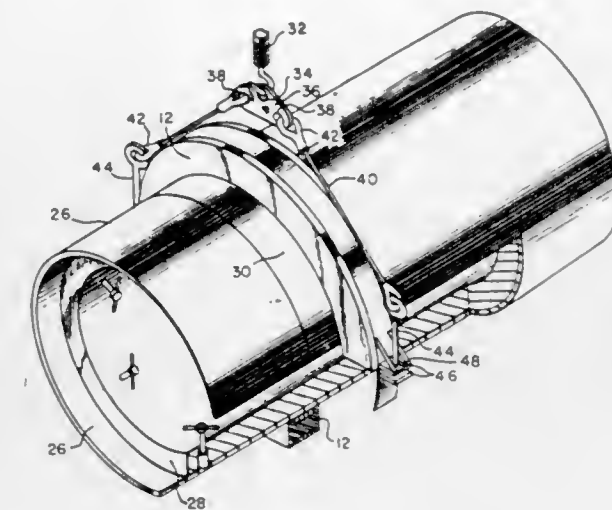
Divided and this application June 27, 1969, Ser. No. 837,378

Int. Cl. B21d 26/14

U.S. Cl. 72—56

7 Claims

A method and apparatus for portable high precision magnetomotive bulging, constricting, and joining of large diameter tubes. The method allows decremental, very accurate changing of the diameter of very large tubes, as well as high quality joints obtained by either bulging or constricting overlapping ends of two tubes. The apparatus consists of a magnetomotive coil positioned either inside or outside of the tube and a non-conducting mandrel (or forming die) on the other side. The magnetomotive



The tube (workpiece) is insulated from the coil by a thin plastic sleeve. The power supply is an electrically floating system.

3,540,251

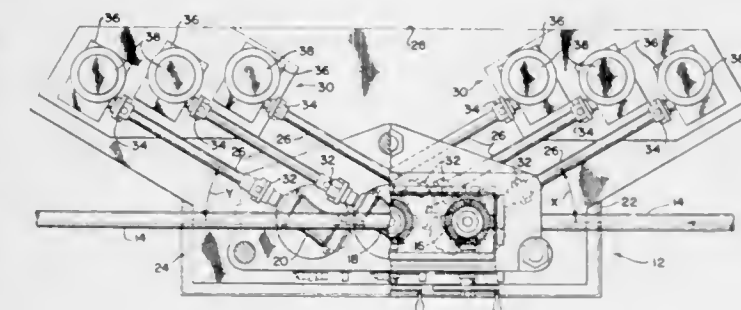
CROSS-ROLL STRAIGHTENER DRIVE ASSEMBLY

Calvin B. Page, Irwin, Pa., assignor, by mesne assignments, to Gulf + Western Industrial Products Company, Grand Rapids, Mich., a corporation of Delaware
Filed June 14, 1968, Ser. No. 737,010

Int. Cl. B21d 3/04

U.S. Cl. 72—99

4 Claims



A cross-roll straightener drive assembly comprising a plurality of pairs of cross-rolls arranged longitudinally along an axis of the assembly, each of the pairs of rolls comprising an upper roll and a lower roll. The upper and lower rolls are spaced from each other and are differently angled with respect to the assembly axis. Individual spindles for the rolls extend towards one side of the assembly, each spindle being connected to a speed reducer. Individual drive motors are connected to the speed reducers, mounted on the reducers and positioned so that one motor does not interfere with another motor.

3,540,252

METHOD OF FORMING CYLINDRICAL BODIES HAVING LOW STRESS EXTERIOR SURFACES

Gunther E. Pfanner, Huntington, N.Y., assignor to Fairchild Hiller Corporation, Farmingdale, N.Y., a corporation of Maryland

Filed Aug. 12, 1968, Ser. No. 751,880

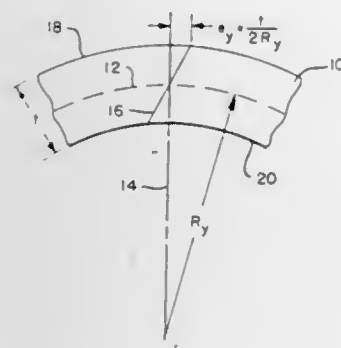
Int. Cl. B21d 5/14

U.S. Cl. 72—166

4 Claims

A cylindrical body is formed by plastically deforming a sheet of metal to a radius of curvature less than the

radius of curvature at which the yield strength of the material is exceeded. The plastically contoured sheet is permitted to elastically return to a cylindrical shape in which the radius of curvature is greater than the desired



radius of curvature with the stresses in the exterior surface of the sheet being such that when the sheet is elastically draped to the desired contour, the stresses in the surfaces of the sheet are minimized.

3,540,253 ROLL CHANGERS

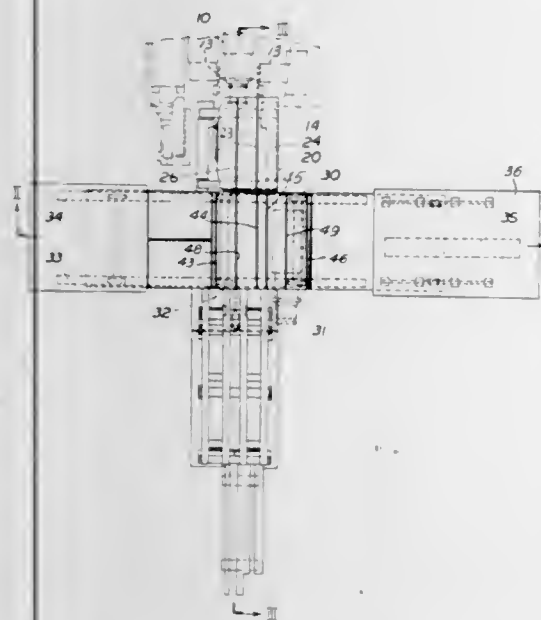
Werner E. Kollek and William J. Korey, Pittsburgh, Pa., assignors to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

Filed Oct. 30, 1967, Ser. No. 679,105

Int. Cl. B21b 31/10

U.S. Cl. 72—239

18 Claims



This invention relates to roll changers for mills having superimposed work rolls in a mill housing. The invention comprises a removable roll transfer bridge adjacent the mill housing having rails onto which the work rolls may be withdrawn from the mill housing by means of a pull-back rod and latch member moving in guides on the transfer bridge. The latch member is provided with an articulate end portion which is raised and lowered by articulate segments of the guides on the transfer bridge into and out of engagement with the work rolls by means of hydraulic cylinders.

In a preferred form of the invention, a side shift car is provided adjacent the transfer bridge having two or more sets of rails adapted to be selectively aligned with the rails on the transfer bridge to receive and discharge work rolls onto and off of rails on the transfer bridge and having guide means between each set of rails to carry the pullback rod and latch member.

3,540,254 APPARATUS FOR REMOVING AND REPLACING ROLLING MILL DRIVE SPINDLES

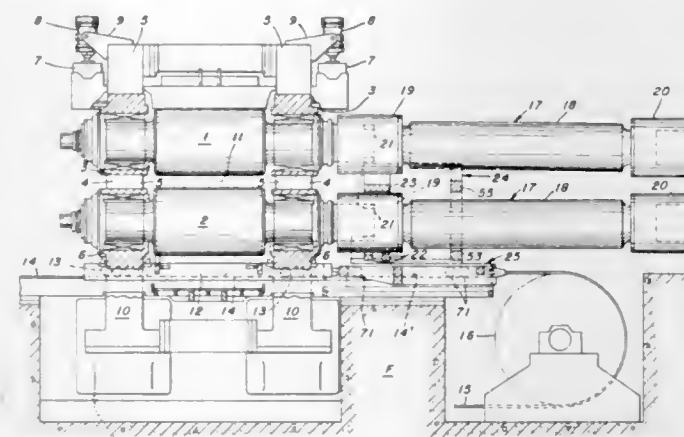
Charles H. Bode, Jr., Upper St. Clair Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Mar. 20, 1968, Ser. No. 714,636

Int. Cl. B21b 31/10

U.S. Cl. 72—239

9 Claims



Spindle handling apparatus comprising a spindle support that is normally anchored against movement, a roll changing sled having an assembly of work rolls and bearing chocks thereon, and an auxiliary sled to which said spindle support is transferred for movement with said roll changing sled. When mounted on said auxiliary sled, the spindles travel in an axial direction with the roll changing sled through bearing chock windows in the work roll housings, and are removed and replaced in the mill without disturbing their driving connections with the work rolls. During removal and replacement, the spindles are supported on the auxiliary sled as a cantilever and are counterbalanced by the work rolls against movement out of their horizontal positions.

3,540,255 METHOD AND APPARATUS FOR MAKING HOLLOW METAL ARTICLES

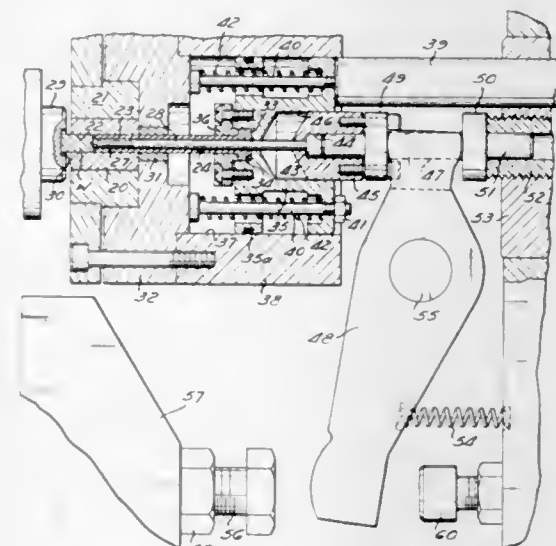
Edward C. Hanna, Strongsville, Ohio, assignor to The Lamson & Sessions Co., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 13, 1967, Ser. No. 690,138

Int. Cl. B21c 23/00

U.S. Cl. 72—256

20 Claims



In the present method and apparatus, a solid cylindrical metal blank is deformed diametrically outward to tightly fit a die cavity by a tool moving against the die while the

inner end of the die cavity is closed by a fixedly held extrusion punch and a sleeve surrounding the punch. Following this, while the tool is held against the die and the sleeve is released, the extrusion punch is driven forward into the blank and the backward extrusion of the blank material along the punch pushes the sleeve rearward. After the tool is retracted away from the die, the sleeve is then driven forward to strip the extruded blank off the punch and out of the die cavity. Preferably, the tool which moves against the die coats with it to form a laterally projecting flange on the outer end of the blank.

3,540,256 METHOD FOR FORMING RETICLE FOR OPTICAL SIGHTING INSTRUMENTS

John F. Thompson, El Paso, Tex., assignor to W. R. Weaver Company, El Paso, Tex., a corporation of Texas

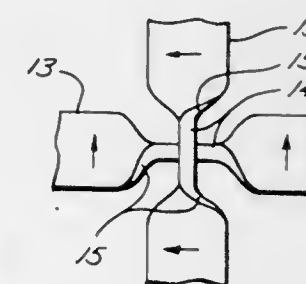
Original application July 12, 1967, Ser. No. 652,835.

Divided and this application Oct. 18, 1968, Ser. No. 768,770

Int. Cl. B21d 11/14

U.S. Cl. 72—299

1 Claim



A method for forming a reticle used in sighting instruments employing ribbon-like filaments having a body substantially greater in width than in thickness, including clamping the filament at spaced apart locations and at their substantially full length and effectively rotating the spaced apart clamped locations until a permanent set is accomplished thereat, thereby effectively producing a reduced intermediate portion between two wide portions in the reticle filament.

3,540,257 CLAMPING DEVICE FOR METAL STRETCHING AND STRAIGHTENING MACHINE

Albert Herth, Duisburg, Germany, assignor to Hydraulik GmbH, Duisburg, Germany

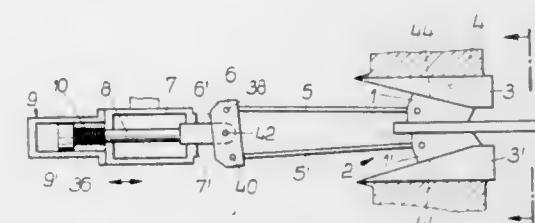
Filed Aug. 20, 1968, Ser. No. 753,965

Claims priority, application Germany, Sept. 8, 1967, H 63,829

Int. Cl. B21d 11/02

U.S. Cl. 72—302

6 Claims



An apparatus for chucking uneven plates or sheets and for subsequently stretching and straightening these sheets includes a drawing head which is movable toward and away from a stretching direction. The drawing head

is connected for movement along with a traverse which carries a plurality of individual clamping jaw assemblies which are to be chucked or engaged with the sheet to be stretched. The clamping jaw assemblies include a cross piece which is centrally pivotally supported by a push rod member which, in turn, is actuated by a fluid motor for movement toward and away from the plate to be chucked. In the initial position of operation the cross piece bears with its flat end against the end of the traverse so that it cannot pivot about its connection with the push rod of the fluid motor so that it must move in a parallel direction when the traverse is moved. The traverse is movable toward or away from the drawing head portion which carries space wedge members which are arranged on opposite sides of the sheet to be clamped. In addition, the traverse may move along with the drawing head for combined movement of all of the clamping jaws with the drawing head.

The construction permits initial engagement of an uneven sheet when the traverse is moved toward the drawing head to cause the clamping jaws carried at the end of push rods which are pivotally connected to the cross piece to move downwardly on wedge members and engage the sheet from respective opposite sides at aligned locations. After this initial engagement in accordance with the method of the invention the fluid drive motor for the cross piece is actuated which causes an initial backward movement of the transverse relative to the drawing head so that the cross piece may tilt relative to the traverse and thus permit those jaws which have not fully engaged the sheet to move by a necessary amount in order to effect proper engagement.

3,540,258 BURNER CONSTRUCTION AND METHOD AND APPARATUS FOR MAKING THE SAME AND THE LIKE

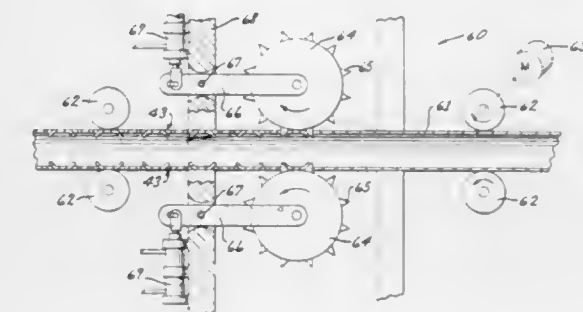
Charles David Branson, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Original application Aug. 9, 1966, Ser. No. 571,316, now Patent No. 3,386,431. Divided and this application Feb. 5, 1968, Ser. No. 718,285

Int. Cl. B21d 28/28, 43/28

U.S. Cl. 72—324

24 Claims



This disclosure relates to a method and apparatus for making a burner construction wherein the burner has an interior chamber defined by wall means so that such chamber can receive a flow of fuel and pass out of port means formed in the wall means to be burned for a heating purpose or the like, at least one pair of the port means each having a tab means provided with a free end projecting into the chamber from the interior surface of the wall means and being provided with another end attached to the wall means on the side of its respective port that is disposed adjacent to a like side of the other port that forms the respective pair of ports so that the fuel is adapted to flow from the chamber in two streams respectively out of the pair of ports and impinge against each other to form a substantially common stream that is angularly disposed relative to the wall means.

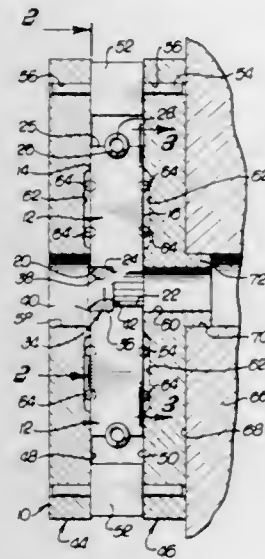
3,540,259 SEGMENTED DIE HOLDER FOR DRAWING APPARATUS

John W. Hinshaw, Garden Grove, Calif., assignor to Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

Filed Aug. 20, 1968, Ser. No. 753,988
Int. Cl. B21c 3/12

U.S. Cl. 72—465

18 Claims



A segmented die holder comprising a symmetrical annular array of three or more holder segments which support a drawing die ring of solid material coaxially therein. The segments are supported and guided for either collective or selective radial expansion and contraction between a pair of parallel plate surfaces arranged normal to the drawing axis, and serve to provide control of the effective working strength of the die ring relative to the workpiece, to reduce the amount of die ring material required, to reduce friction between die ring and seat, and to maintain proper die ring alignment.

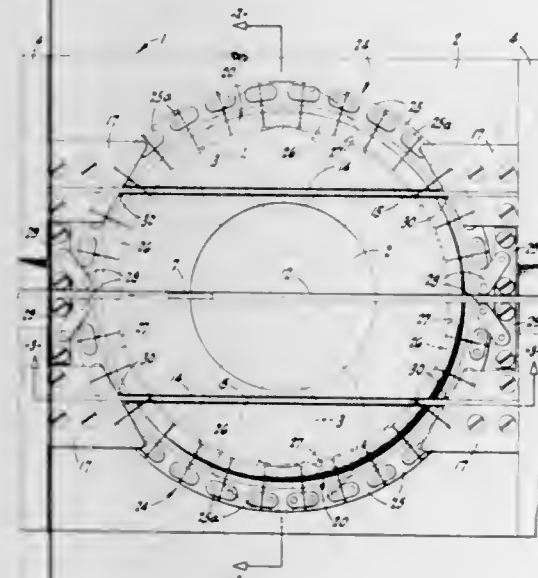
3,540,260 SPLIT FLANGING DIE UNIT

Thomas A. McCoy, Stockton, Calif., assignor to Carando Machine Works, Stockton, Calif., a partnership

Filed Jan. 24, 1969, Ser. No. 793,827
Int. Cl. B21d 19/12

U.S. Cl. 72—465

7 Claims



An improved vertical axis, flanging die unit—adapted to be forcefully engaged in one end of an upstanding, initially open-ended, cylindrical sheet metal body for a drum or pail—operative to form a continuous out-turned flange on such end of the body: the die unit, while essentially circular, being split diametrically to form a slot for the free passage through the die unit, from side to side thereof, of a horizontally power-advanced upstanding

pusher finger employed to move the cylindrical sheet metal body to and from the position in which said body is disposed for the flanging operation.

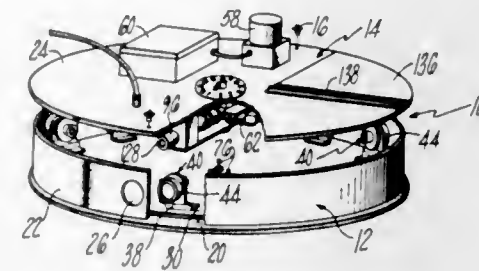
3,540,261 ATMOSPHERE SAMPLING DEVICE

Max F. Scoggins, Glastonbury, Conn., assignor, by mesne assignments, to The Center for the Environment and Man, Inc., Hartford, Conn., a corporation of Connecticut

Filed May 10, 1968, Ser. No. 728,151
Int. Cl. G01n 1/24

U.S. Cl. 73—28

10 Claims



An atmosphere sampling device having a single atmosphere monitoring station communicating with the interior of a shallow, drum-like housing for a plurality of uniformly spaced, individually removable samplers provides for the programmed advancement of a sampler-mounting magazine. The samplers are indexed into registry with the monitoring station and are sequentially connected with a source of vacuum for drawing the ambient atmosphere toward and through the sampler. The device is provided with a single, time controlled drive system which both makes and breaks the vacuum seal with the sampler and advances the succeeding samplers into and out of an exposed atmosphere monitoring station.

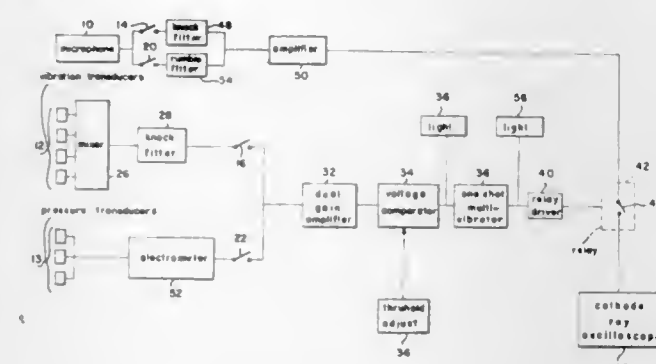
3,540,262 KNOCK AND RUMBLE DETECTOR FOR INTERNAL COMBUSTION ENGINES

Wolfgang J. Wostl, South Holland, and Joseph A. Heintz, Calumet City, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed July 10, 1967, Ser. No. 652,070
Int. Cl. G01M 23/22

U.S. Cl. 73—35

5 Claims



A knock and rumble detector is disclosed whereby electric signals are generated external of an engine corresponding to a knock or rumble occurring within the engine. These signals are amplified and fed to a voltage comparator to which a threshold or reference voltage is also fed. The signal voltage and threshold voltage are compared, and when the signal voltage exceeds the threshold voltage, a pulse is emitted which ultimately activates a cathode ray oscilloscope. While the oscilloscope is activated, sounds originating from the knock or rumble detected are picked up by a microphone, filtered and fed to the oscilloscope so that a signal is displayed on the oscilloscope corresponding to the knock or rumble detected. In this manner, all knocks or rumbles above a given intensity are displayed on the oscilloscope. Knocks

are detected using vibration transducers which are mounted at various points about the engine, and their outputs are mixed and filtered. Rumble is detected by pressure transducers mounted in each combustion chamber.

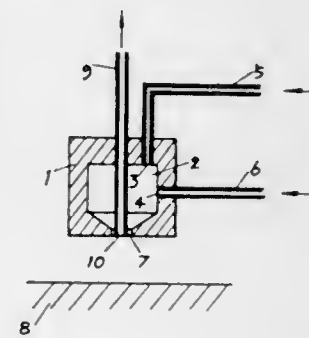
3,540,263 RELATIVE POSITION DETECTING APPARATUS BETWEEN GAS WORKING TOOL AND WORKPIECE

Roku Suzuki, Tokyo, Eizi Aizawa, Funabashishi, Hidetaka Shigeizumi, Tokyo, and Hajime Kasahara, Omiyashi, Japan, assignors to Koike Sanso Kogyo Co. Ltd., Tokyo, Japan, a corporation of Japan

Filed Mar. 27, 1969, Ser. No. 810,969
Int. Cl. G01b 13/12

U.S. Cl. 73—37.5

5 Claims



This invention comprises two elements of a back pressure detecting device and a transmuting device, the former having a chamber provided with a jet from which a pressurized fluid is ejected toward a workpiece to generate a back pressure and plural inlets arranged so as for the fluid to be ejected thereinto from different directions for generating a turbulence therein and a detecting port for detecting the back pressure, while the latter transmutes the back pressure detected by the detecting device into electric signals to activate suitable control mechanisms.

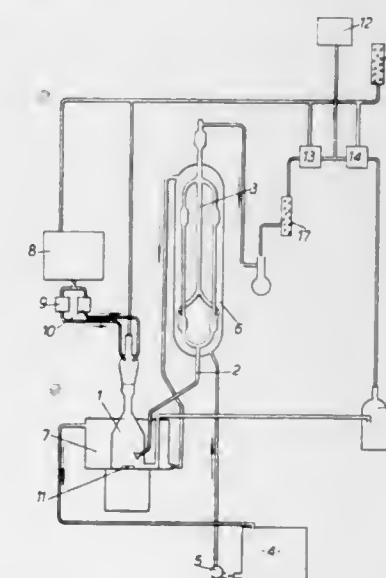
3,540,264 AUTOMATIC VISCOMETER

Claude Cerutti and Philippe de la Gueronniere, Rhone, France, assignors to Societe Rhodiaceta, Paris, France, a French body corporate

Filed Apr. 22, 1968, Ser. No. 723,006
Claims priority, application France, Apr. 24, 1967, 103,923, Patent 1,528,728

U.S. Cl. 73—55

5 Claims



An apparatus for automatically measuring the viscosity of a polymer solution. The polymer is first dissolved in a temperature controlled chamber having an agitator and a liquid level controller. The test liquid is then drawn into a capillary viscometer by the action of a

vacuum source and the time for a given amount of test fluid to pass through the capillary viscometer is measured and recorded. A punched card programmer automatically controls the entire testing cycle.

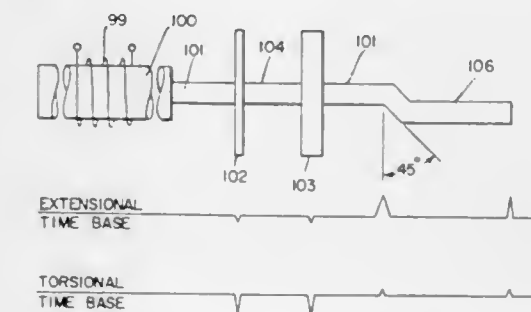
3,540,265 DUAL ULTRASONIC SENSORS EMPLOYING DIFFERING MODES OF ULTRASONIC TRANSMISSION

Lawrence C. Lynnworth, Waltham, Mass., assignor to Panametrics, Inc., Waltham, Mass., a corporation of Massachusetts

Filed May 21, 1968, Ser. No. 730,872
Int. Cl. G01n 9/24

U.S. Cl. 73—67.7

14 Claims



An ultrasonic measuring system for determining ambient conditions on two sensing elements. The elements may be positioned either to respond to a distribution in space of one ambient condition or to respond to two different ambient conditions in the same area. An ultrasonic transducer produces waves in both the extensional and torsional modes which are coupled to two sensors by means of a single lead-in element. The composition and dimensions of the sensors and lead-in element are arranged so that reflection pulses at the ends of one sensor are selectively torsional mode and at the other are selectively extensional mode. By arranging the transducers and circuitry to compare the extensional mode pulses with one another, either on a time or amplitude basis and to compare the torsional mode pulses with one another, the ultrasonic transmission characteristics for each of the two sensors may be separately determined, thereby obtaining independent measurements of the ambient conditions at each of the sensors.

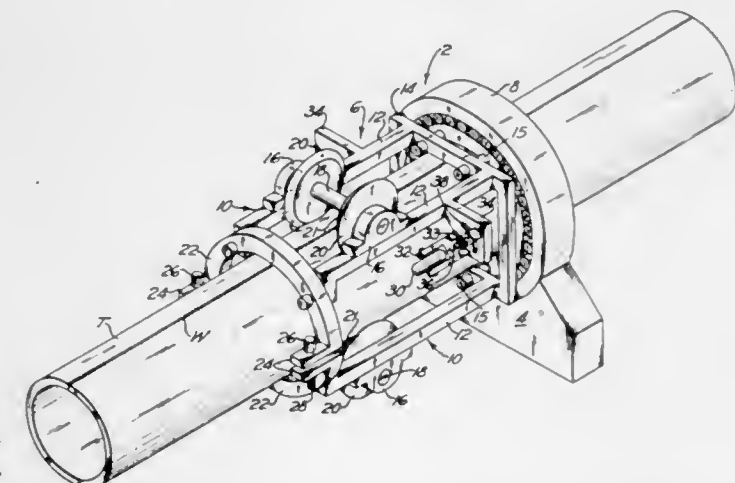
3,540,266 POSITIVE MECHANICAL WELD TRACKER

Ernest V. Lofgren, Satellite Beach, Fla., assignor to United States Steel Corporation, a corporation of Delaware

Filed Oct. 3, 1967, Ser. No. 672,617
Int. Cl. G01n 29/04

U.S. Cl. 73—67.8

4 Claims



An apparatus for tracking a weld which extends longitudinally along a moving elongated cylindrical workpiece.

The apparatus tracks by a purely mechanical means, while supporting a transducer or other weld inspection means over the weld. The path of the weld may be either straight or helical.

3,540,267

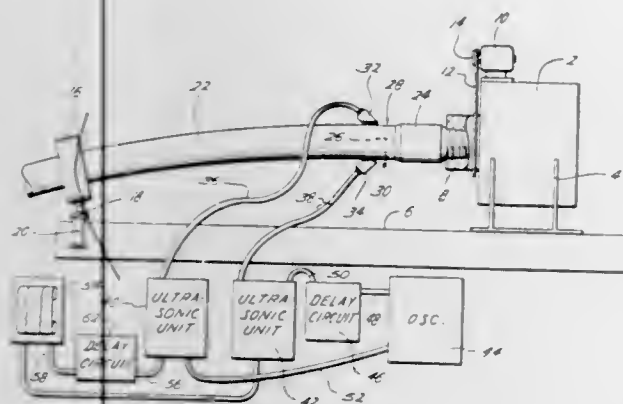
ULTRASONIC TESTING OF DRILL PIPE AND THE LIKE

Fenton M. Wood, Sugarland, Tex., assignor to American Machine & Foundry, New York, N.Y., a corporation of New Jersey

Filed Oct. 18, 1967, Ser. No. 676,146
Int. Cl. G01n 29/04

U.S. Cl. 73—67.8

8 Claims



A bending moment is applied to a rotating length of drill pipe at the portion under investigation for cracks and the like, whereby the abutting faces of the crack are alternately spread apart and urged tightly together. Ultrasonic transducers are located at the two points of maximum tension and compression to provide a comparison measurement to distinguish actual flaws from non-injurious anomalies.

3,540,268

OPEN-LOOP FLUIDIC ANALOG ACCELEROMETER

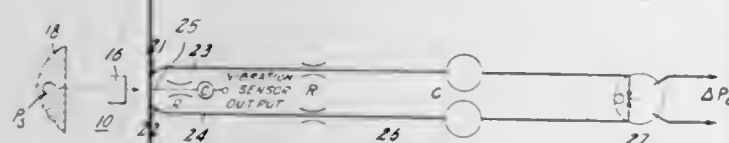
Robert A. Kantola and Willis A. Boothe, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

Filed May 29, 1967, Ser. No. 642,116

Int. Cl. G01p 15/02; G01h 1/04

U.S. Cl. 73—71

4 Claims



Apparatus for sensing acceleration or vibration and generating an analog-type pressurized fluid signal proportional to the magnitude of the associated event. Linear acceleration or vibration is sensed by a flexure-mounted inertial mass including a hollow, elongated spring member of the cantilever beam type having a first end rigidly fixed in position and a second unsupported end upon which the acceleration-sensitive inertial mass is mounted. The hollow portion of the spring member issues a fluid jet from the second unsupported end directed at fluid receivers, the flexure of the spring member causing distribution of the jet between the receivers in proportion to the magnitude of the acceleration. Angular motion acceleration is sensed by utilizing a cylindrical inertial mass connected along its longitudinal axis to two torsional spring members rigidly fixed in position at their far ends such that the cylindrical mass is subject to rotation in the presence of an angular motion acceleration.

3,540,269

GRINDING WHEEL TESTER

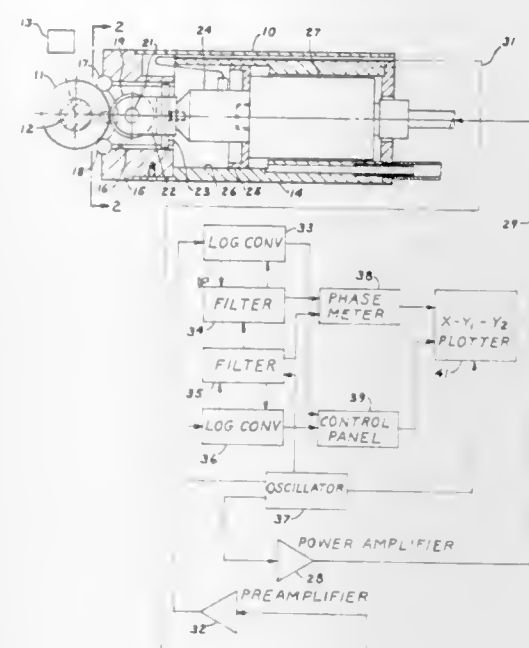
Robert S. Hahn, Northboro, and Robert L. Price, Paxton, Mass., assignors to The Heald Machine Company, Worcester, Mass., a corporation of Delaware

Filed Apr. 1, 1968, Ser. No. 717,852

Int. Cl. G01n 3/00

U.S. Cl. 73—78

5 Claims



This invention relates to a grinding wheel tester and, more particularly, to apparatus for determining the relative hardness of abrasive wheels from wheel to wheel as well as the local variations from point to point in a particular wheel.

3,540,270

REEL HARDNESS TESTER

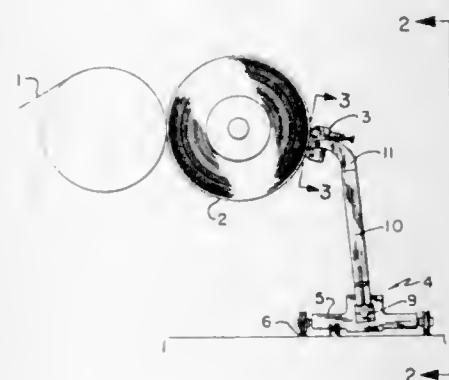
Ernst P. Wolfer, Schönenwerd, Switzerland, assignor to Westvaco Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 16, 1969, Ser. No. 791,690

Int. Cl. G01n 3/52

U.S. Cl. 73—78

10 Claims



Hardness of a reel of paper is tested as it is being built by holding a rotatable wheel having a protuberance on its surface against the surface of the reel, so that, that the wheel is driven by frictional contact with the reel, and measuring the force with which the wheel is rebounded from the reel each time the protuberance contacts the reel. A recorder may be used to give a continuous graphic readout of the amplitude of the rebounds and a traversing mechanism is provided to move the wheel axially of the reel and thus provide a hardness profile longitudinally thereof.

3,540,271

LOAD MEASURING METHOD AND APPARATUS

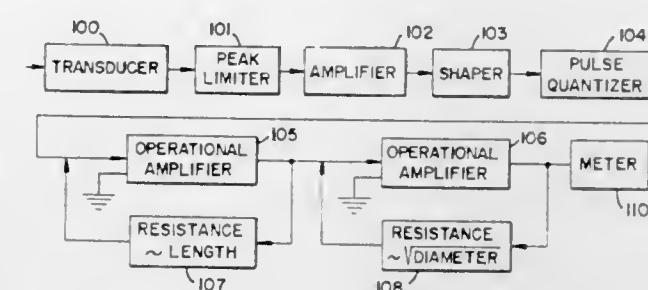
Don G. Hoff, 634 Bamboo Terrace,
San Rafael, Calif. 94903

Continuation-in-part of application Ser. No. 541,770,
Apr. 11, 1966. This application Nov. 8, 1968,
Ser. No. 777,989

Int. Cl. G01l 5/10

U.S. Cl. 73—143

7 Claims



A method for determining the stress on a freely suspended cable segment by measuring the frequency of natural vibration of the segment, converting the measurement to stress for a cable segment of pre-determined length and diameter, and adjusting the converted measurement to actual length and diameter, and apparatus for accomplishing the method.

3,540,272

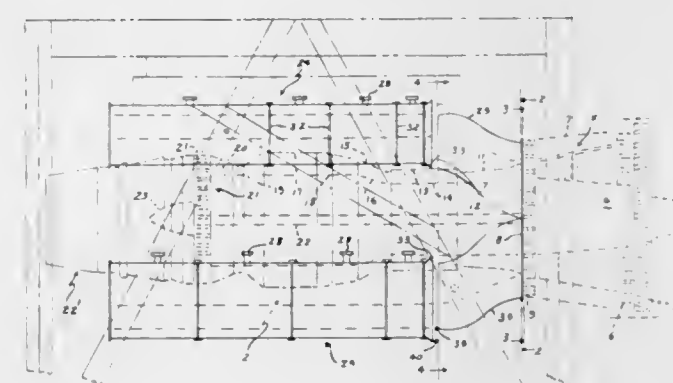
DEVICE FOR GROUND TESTING FORWARD FAN JET ENGINES

C. S. Edmiston, Weatherford, Tex., assignor to the United States of America as represented by the Secretary of the Air Force

Filed July 16, 1968, Ser. No. 745,283

Int. Cl. F02k 3/02, 3/04; F04d 19/02; G01m 15/00
U.S. Cl. 73—116

7 Claims



An improved duct structure is disclosed for use in a jet engine that is being run on a test stand. The engine usually has a forward fan which is mounted on the compressor shaft or may take the place of the first stage of the compressor. It is usually larger than the compressor and therefore produces a certain amount of air which bypasses the compressor. This air would normally cause a blast over the engine during test and may cause injury to the test facility personnel as well as damage to the externally mounted engine accessories. The invention, instead of employing long slave ducts, each in one piece and attached to the discharge plate of the fan to conduct the bypassed air to a less harmful region, divides each slave duct into two separate portions, arranged end-to-end to provide an air jet pumping action at the intermediate space and equips one of the portions with a bell-mouth entrance to enhance this aspirating effect. The presence of this air provides the beneficial effect of reducing the pressure within each aligned but separated duct pair to one not greatly in

excess of the atmosphere. Thus, the same pressure differential is provided in each duct pair and the blades of the fan are caused to encounter the same resistance of flow as they move across each duct opening in the discharge plate, and the fan blade load variation is eliminated. This reduces the possibility of fan failure through metal fatigue.

3,540,273

STRAIN GAGE BALANCE

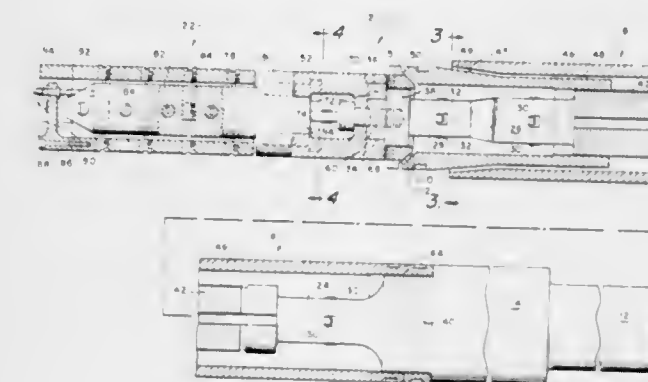
Norman G. Ziegler, 11518 Gainesborough Road, Rockville, Md. 20854, and Clair J. Martin, 3740 Holmes Lane, Alexandria, Va. 22302

Continuation-in-part of application Ser. No. 596,013,
Nov. 21, 1966. This application Sept. 23, 1968,
Ser. No. 761,452

Int. Cl. G01m 9/00

U.S. Cl. 73—147

9 Claims



A strain gage balance for supporting an aerodynamic model in a wind tunnel in which the gaged beam portions of the balance are protected from excessive loading by enclosing the beams in an open ended cylinder in which the beam may freely deflect within the clearance provided between the outside surface of the beam and the internal surface of the cylinder. The gap between the beam and the cylinder is adjustable according to the design limits of the beam. The invention also provides an axial force measuring unit in which the model is attached to an outer cylinder which is connected to an inner concentric cylinder by a plurality of spoke-like members arranged to provide the axial force measuring unit with high sensitivity to axial forces and a high resistance to all other forces and moments acting on the model.

3,540,274

POOL LINER

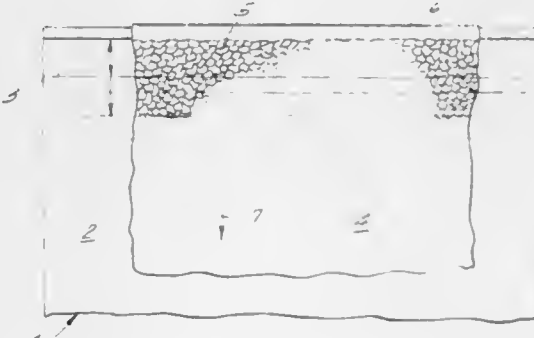
Allan E. Shore, Scarsdale, N.Y., assignor to Medallion Pool Corporation, a corporation of New York

Filed Feb. 26, 1968, Ser. No. 708,105

Int. Cl. E04h 3/16

U.S. Cl. 4—172

5 Claims



A means whereby the natural stretching of a vinyl pool liner is made substantially unnoticeable by the printing of an appropriate pattern on the material.

3,540,275

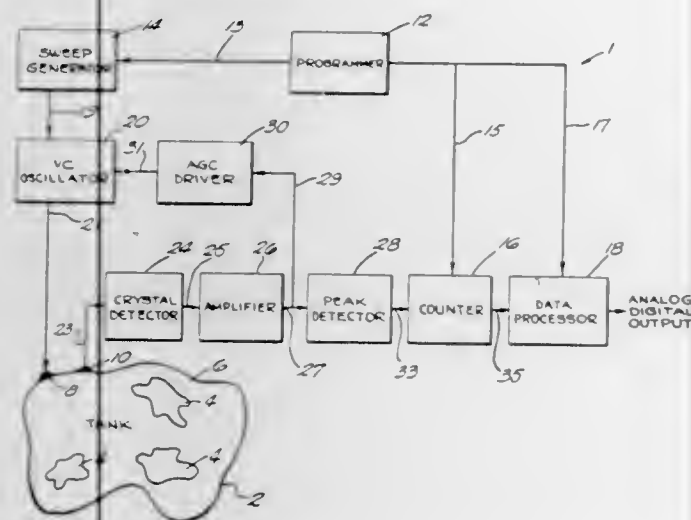
METHOD AND APPARATUS FOR MEASURING LIQUID VOLUME IN A TANK

Robert E. Post and Robert G. Brown, Ames, Iowa, assignors to The Bendix Corporation, a corporation of Delaware

Filed Feb. 28, 1968, Ser. No. 708,908
Int. Cl. G01f 23/28

U.S. Cl. 73—290

9 Claims



A method and apparatus for measuring, under space vehicle conditions, the mass of a preselected liquid in a partially filled rigid tank also containing a preselected gas wherein a predetermined frequency band of electrical signals is introduced into the tank containing the liquid and gas and a number representative of the number of modes of resonant oscillation which are produced in the tank by the electrical signals is determined.

3,540,276

LIQUID LEVEL GAUGE

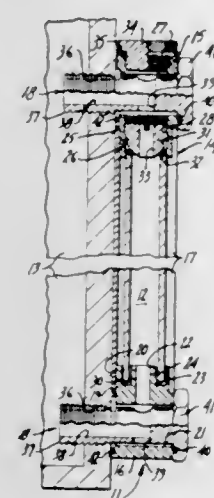
Frank J. Lyden, Manitowoc, Wis., assignor to Oil-Rite Corporation, Manitowoc, Wis., a corporation of Wisconsin

Filed Sept. 27, 1968, Ser. No. 763,162

Int. Cl. G01f 23/02

U.S. Cl. 73—328

6 Claims



The liquid level gauge includes a guard or shield enclosure for the sight glass comprising a pair of aligned hollow end members vertically spaced from each other. A channel-shaped member extends between the end members and the respective end members have a portion thereof disposed in the corresponding end portion of the channel recess and are secured therein. Fastening means

are provided for mounting the gauge onto a container and placing the container contents in communication with at least one of the end members and consequently with the sight glass.

3,540,277

EVAPORIMETER UTILIZING VARIATION IN CAPACITANCE TO INDICATE LIQUID LEVEL

Hermann Roth and Heinz Walz, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

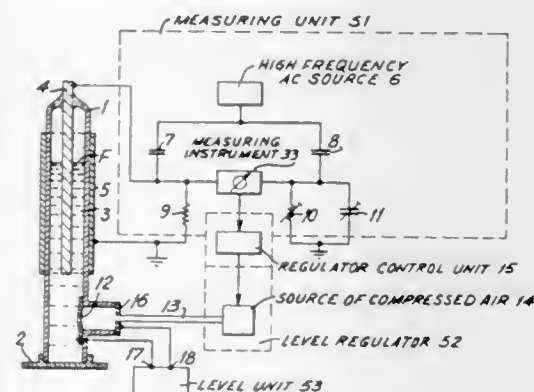
Filed Dec. 24, 1968, Ser. No. 786,584

Claims priority, application Germany, Dec. 29, 1967, 1,648,305

Int. Cl. G01f 23/26

U.S. Cl. 73—335

10 Claims



A level regulator cooperates with a tube having liquid therein and an area through which the liquid evaporates to raise the level of liquid between and functioning as a dielectric for a pair of spaced plate members to compensate for a decrease in level due to evaporation. The capacitance of the plate members varies as the evaporation of the liquid and is measured by a measuring unit. A control unit electrically connected between the measuring unit and the level regulator controls the level regulator to compensate for variation of level as indicated by variation of the capacitance of the plate members.

3,540,278

MOISTURE SENSOR

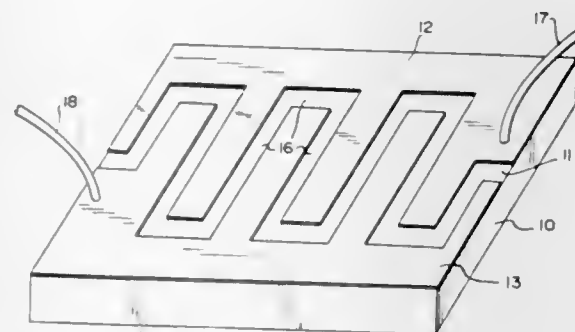
Howard Diamond, Robert T. Eggleston, and Roger H. Badertscher, Ann Arbor, and David W. Fletcher, Chelsea, Mich., assignors to Whirlpool Corporation, a corporation of Delaware

Filed Sept. 4, 1968, Ser. No. 780,922

Int. Cl. G01n 27/30

U.S. Cl. 73—336.5

3 Claims



A moisture sensor generating an electric current when exposed and subjected to moisture comprising an electrically insulating substrate having a surface that is exposed to moisture when in use and a pair of spaced electrically conducting metal electrodes mounted on this ex-

3,540,279

ACOUSTIC SENSING SYSTEM

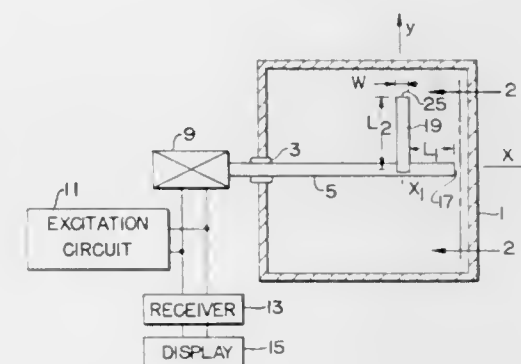
Sherif S. Fam, Lexington, Mass., assignor to Panametrics, Inc., Waltham, Mass., a corporation of Delaware

Filed Mar. 12, 1969, Ser. No. 806,609

Int. Cl. G01k 11/24

U.S. Cl. 73—339

7 Claims



An acoustic sensing system comprising a lead-in element extending along a first axis, an ultrasonic transducer connected to the lead-in element at one end to excite the lead-in element and to respond to reflections generated in the lead-in element, and one or more sensor elements each having one end connected to the lead-in element and extending from the lead-in element at an angle. Each sensor element is so chosen and constructed that the mode M of wave motion in the lead-in element is converted to a mode N in the sensor element, where mode M is different from mode N.

3,540,280

TEMPERATURE MONITORING APPARATUS

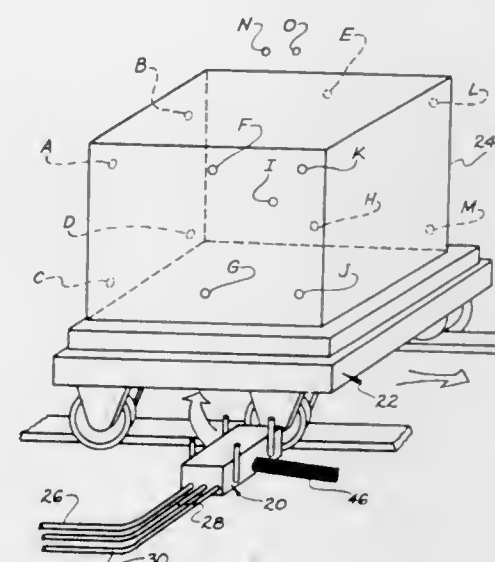
Robert A. Schoenlaub, Columbus, Ohio, assignor to The Edward Orton, Jr., Ceramic Foundation, Columbus, Ohio, a trusteeship under the will of Edward Orton, Jr.

Filed Apr. 11, 1968, Ser. No. 720,616

Int. Cl. G01k 11/14, 13/06, 13/10

U.S. Cl. 73—341

7 Claims



A temperature monitoring system and associated apparatus which includes a housing preferably adapted for removable attachment to a kiln car which is to pass

through a tunnel kiln. A plurality of thermocouples are disposed in the housing and include a master thermocouple. A recording means and a timing means are also disposed in the housing and are operatively connected to the thermocouples to record temperature differentials between the location of the master thermocouple and the location of each of the remaining thermocouples. A plurality of conduits communicate with the housing and with externally located sources of power and cooling.

3,540,281

METHOD FOR MEASURING SURFACE TEMPERATURES OF SYNTHETIC YARN-HEATING ROLLERS

Sanro Inaba and Wataru Nakata, Matsuyama-shi, Japan, assignors to Teijin Limited, Umeda, Kita-ku, Osaka, Japan

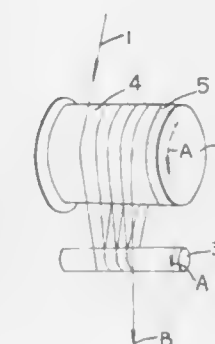
Filed Apr. 1, 1969, Ser. No. 812,075

Claims priority, application Japan, Apr. 4, 1968, 43/22,308

Int. Cl. G01k 11/06, 13/08

U.S. Cl. 73—351

2 Claims



Method of measuring surface temperatures of rollers for heating synthetic filamentary yarn, comprising coarsening a part or the entire portion of the roller surface on which the yarn does not pass, and applying a temperature-measuring crayon to the coarsened surface.

3,540,282

DEVICE FOR ALERTING A MOTORIST TO THE DANGER OF ICED ROADS

Wolfgang Köhler, Alzenau, and Reinhard Fischer, Mosbach Kreis Dieburg, Germany, assignors to Wolfgang Dabisch, Eltville (Rhine), Germany

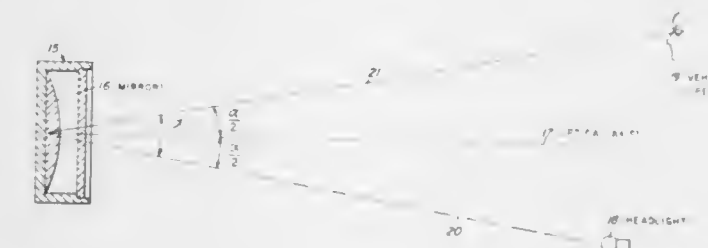
Filed May 15, 1967, Ser. No. 638,259

Claims priority, application Germany, May 17, 1966, B 87,158

Int. Cl. G01k 11/12

U.S. Cl. 73—356

9 Claims



A road sign to warn motorists against freezing conditions carries a temperature sensitive optical filter with reflector. At freezing temperature, the light of the headlights passing through the filter is reflected by the reflector towards the motorist in a different color.

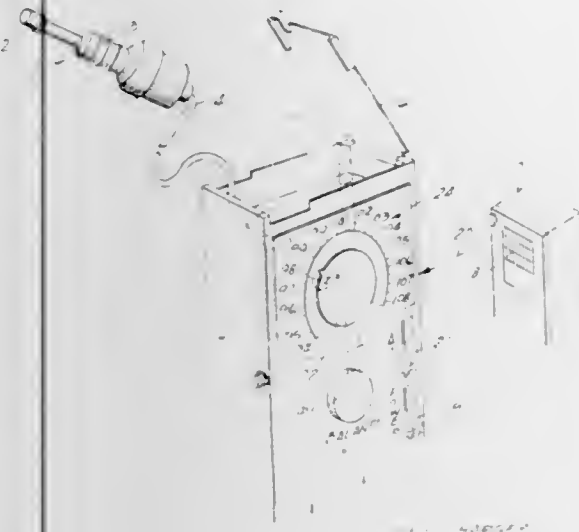
3,540,283

TEMPERATURE SENSOR

James M. Dean, Des Plaines, Ill., assignor to Charles P. De Vito, Harwood Heights, and Albert P. De Vito, Niles, Ill., and Ralph R. Erlich, Los Angeles, and Michael M. Fine, Beverly Hills, Calif., as trustees
Filed Dec. 23, 1968, Ser. No. 786,331
Int. Cl. G01k 7/00; H01l 15/00

U.S. Cl. 73—362

10 Claims



A temperature sensor which may be powered by batteries but is not subject to inaccuracy in reading caused by the batteries becoming partially discharged. An input field effect transistor regulates the battery supply so as to control the accuracy of the sensor. The sensor is also automatically maintained at a temperature which is near the temperature to be sensed so that a rapid response may be obtained.

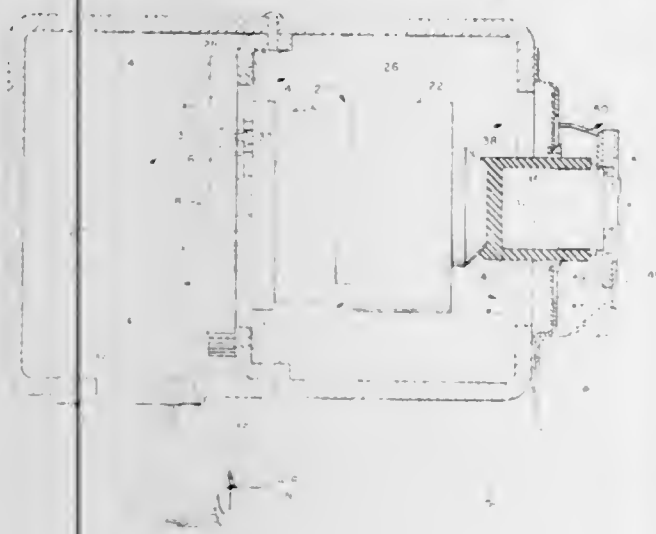
3,540,284

ELECTRICALLY INSULATED THERMO-SENSING UNIT

Paul H. Sellers, Norfolk, and Louis T. Croneberger, Virginia Beach, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 30, 1968, Ser. No. 771,802
Int. Cl. G01k 1/16

U.S. Cl. 73—362, 4

8 Claims



A unit for measuring temperature of a tube within a RF shield, the tube being subject to high DC voltages and high RF fields. Beryllium oxide is placed in contact with the tube at a point where temperature is to be measured. The beryllium oxide is extended to the outside of the shield. A sensing device is placed in contact with the beryllium oxide outside of the shield and the sensing device is thereby thermally coupled to the tube inside the shield because the beryllium oxide, while being an electrical insulator, is also a good conductor of heat.

3,540,285

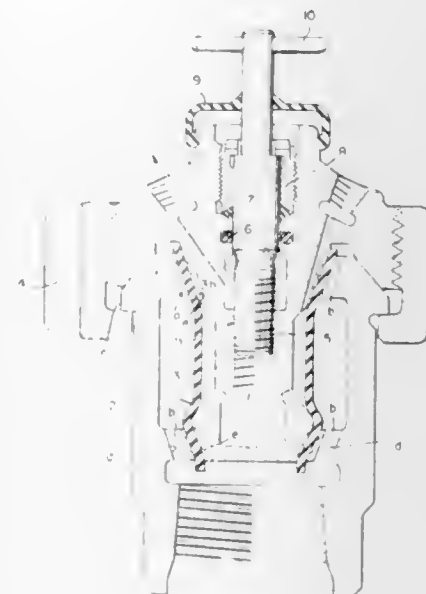
APPARATUS FOR DAMPING PULSATING PRESSURES IN PRESSURE GAUGES

Ioan Nicolau, Cimpina, and Valentin Eugen Hanculescu, Bucharest, Rumania, assignors to Institutul de Cercetari si Proiectari Pentru Industria Extractiva de Titei si Gaze, Campina, Rumania, a corporation of Rumania
Filed Apr. 30, 1968, Ser. No. 725,359
Claims priority, application Rumania, May 3, 1967, 53,670

U.S. Cl. 73—392

Int. Cl. G01i 19/00

3 Claims



Damping of pulsating pressures to protect pressure gauges used for drilling fluids and cement slurries is achieved by streamlined flow created along a capillary channel of adjustable length, the flow cross-section thereof being variable from inlet to outlet so that the inlet cross-section of said capillary channel remains constant at all times, while the outlet cross-section of said capillary channel decreases continuously and proportionally to the engaged length of the capillary channel. This results in a helical capillary channel along the profile crest of a cylindrical thread, progressively truncated by externally machining a cylindrical thread pin, screwed into a regular cylinder thread member, the thread crests thereof being not truncated. The capillary channel is of variable length, proportional to the number of pin threads being engaged, at the same time the cross-section of the capillary channel has a triangular shape and is variable from inlet to outlet. This damping device is operatively connected with a separator comprising a cylindrical diaphragm, the damping device being concentric with the separator cylinder diaphragm. By mounting the damping device together with the separator and pressure gauge in a common housing there is provided a single unit for measuring drilling fluid and cement slurry pressures.

3,540,286

FLOW PRESSURE MEASUREMENTS

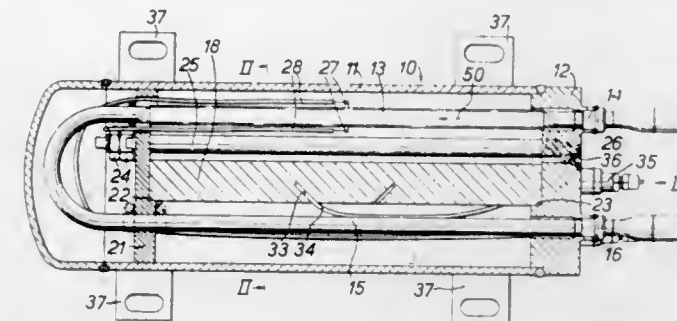
Daniel Fraser Davidson, Eastham, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Oct. 25, 1968, Ser. No. 770,716
Claims priority, application Great Britain, Nov. 2, 1967, 49,813/67

U.S. Cl. 73—398
Int. Cl. G01i 9/00

6 Claims

Apparatus for measuring the pressure in a flowing liquid metal such as sodium comprising: a duct for the passage of the liquid metal; permanent magnet means for setting up a magnetic field transversely of the duct; a

pair of spaced electrodes mounted in the duct perpendicular to the length of the duct and perpendicular to the direction of the magnetic field traversing the duct. A connector which may be a section of the wall of the duct is provided linking the electrodes, the connector



having an electrical resistance comparable with that between the electrodes in the duct across liquid metal flowing therethrough, and an electric current meter being provided for measuring the current flowing in the conductor.

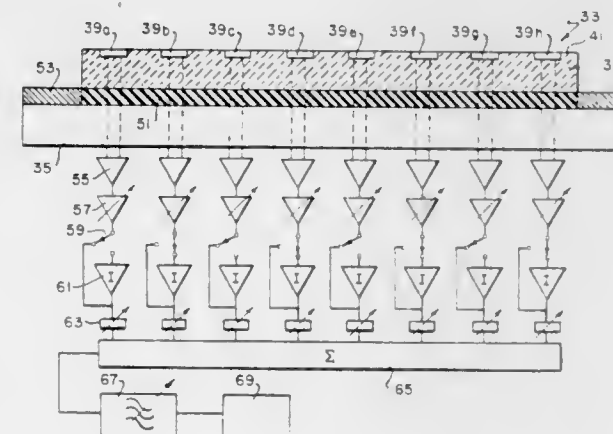
3,540,287

BOUNDARY WAVE VECTOR FILTER

Gideon Maidanik, Chevy Chase, Md., and Donald W. Jorgensen, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 27, 1968, Ser. No. 764,045
Int. Cl. G01i 9/08

U.S. Cl. 73—398

9 Claims



An array of transducers flush mounted in a boundary for measuring the pressure field on the boundary. This pressure field may arise, for example, due to turbulence in the boundary layer. The transducers of the array are of specific sizes, arranged in a specific geometrical form and are electrically connected for individual shading and phasing. The array acts as a spatial filter having a well defined spectral acceptance region producing outputs indicative of the wave vector spectral nature of the pressure field on the boundary. The incorporation of a frequency filter provides also for temporal filtering.

3,540,288

PNEUMATIC DISTANCE METER AND VELOCIMETER

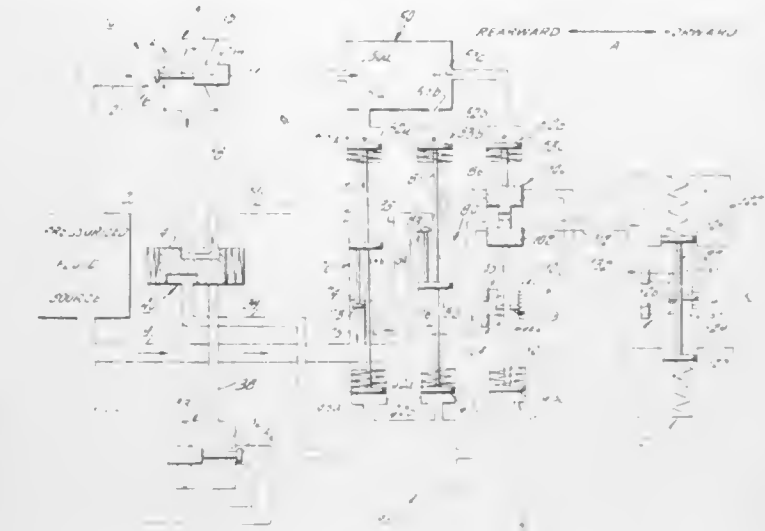
Alvin L. Zechnowitz, Howard Beach, and Nai-Chong Chang, Scarsdale, N.Y., assignors to Sperry Rand Corporation, Long Island City, N.Y., a corporation of Delaware
Filed May 1, 1967, Ser. No. 634,950
Int. Cl. G01p 3/52, 3/64

U.S. Cl. 73—490

4 Claims

An all pneumatic distance and velocity measuring apparatus is constructed utilizing valves with fixed sized orifices by varying regulated pressure levels as a function of

acceleration and velocity. Such apparatus includes individual manifolds wherein fluid pressure buildup is controlled by individual inertia operated pressure regulator valves with the pressure difference between the manifolds



being related to velocity. In addition, individual reservoirs are connected to the source of pressurized fluid in accordance with direction being travelled with an output means being connected to these reservoirs to produce an output related to distance travelled.

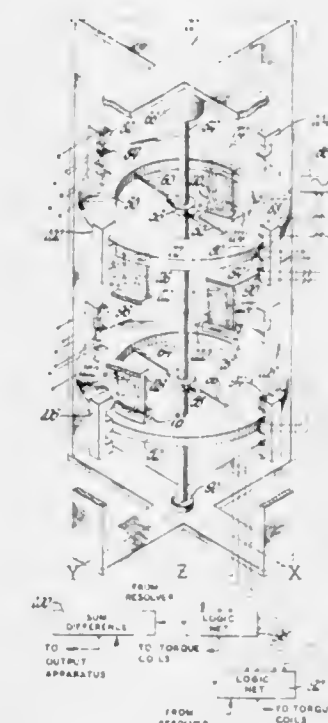
3,540,289

TUNED ROTOR GYRO-ACCELEROMETER

Richard J. Ivers, Arlington, Mass., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 8, 1966, Ser. No. 600,076
Int. Cl. G01p 15/02, 15/08

U.S. Cl. 73—505

8 Claims



A gyro-accelerometer is disclosed which includes at least one rotor which is pivotally supported on a shaft by means of positive spring pivots and rotated about its spin axis at a predetermined rate to sensitize the rotor to inertial inputs. Pickoff means and torquer means are provided for sensing deflections of the spin axis of the rotor and for limiting the maximum allowable deflection. The torquer means include permanent magnets located on one side of the rotor to render the rotor pendulous and therefore sensitive to accelerations.

3,540,290
CLOSED-LOOP FLUIDIC ANALOG
ACCELEROMETER

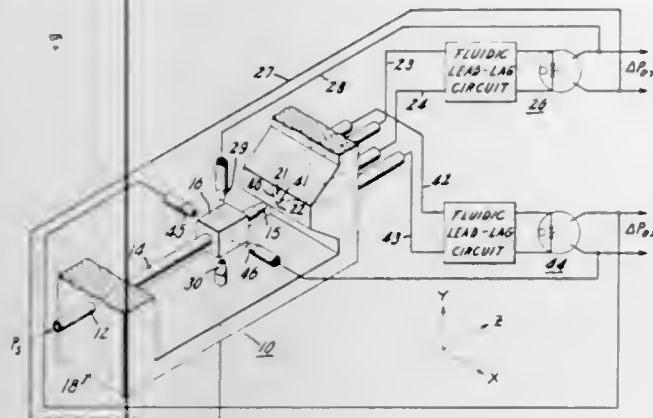
Jeffrey N. Shinn and Carl G. Ringwall, Scotia, N.Y., assignors to General Electric Company, a corporation of New York

Filed May 29, 1967, Ser. No. 642,115

Int. Cl. G01p 15/02

U.S. Cl. 73-515

5 Claims



Apparatus for sensing acceleration and generating an analog-type pressurized fluid signal proportional to the magnitude of the associated event. Linear acceleration as sensed by a flexure-mounted inertial mass including a hollow, elongated spring member of the cantilever beam type having a first end rigidly fixed in position and a second unsupported end upon which the acceleration-sensitive inertial mass is mounted. The hollow portion of the spring member issues a fluid jet from the second unsupported end directed at fluid receivers, the flexure of the spring member causing distribution of the jet between the receivers in proportion to the magnitude of the acceleration. Fluid amplifier circuitry provides high gain and stabilization in the loop comprising the spring-mass device, receivers, fluid amplifier circuitry and a negative feedback circuit to obtain closed-loop null-type operation producing insensitiveness to changes in pressure of the fluid supplied to the hollow spring member. Angular motion acceleration is sensed by utilizing a cylindrical inertial mass connected along its longitudinal axis to two torsional spring members rigidly fixed in position at their far ends such that the cylindrical mass is subject to rotation in the presence of an angular motion acceleration.

3,540,291

SPRING SUSPENSION ACCELEROMETER

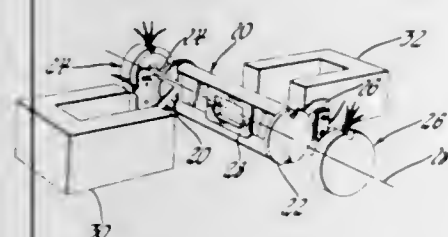
Richard J. Ivers, Arlington, Mass., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 23, 1966, Ser. No. 604,238

Int. Cl. G01p 15/02, 15/08

U.S. Cl. 73-517

3 Claims



An acceleration sensing device is disclosed comprising a test mass which is displaced relative to a housing in response to acceleration forces along a sensitive axis. Mass is supported relative to housing by mechanical spring means producing a force resisting displacement. This force is at least partially compensated by a second force of opposite sense produced by magnetic spring means such as electromagnetic pickoff assemblies which also function to

indicate relative displacement between mass and housing. Mass is restored to reference position by suitable forcer such as a mass-carried coil placed in a magnetic field and energizable to produce directionally selective force.

3,540,292

APPARATUS AND METHOD FOR CONTROLLING PRESSURE IN A CONSTANT VOLUME ENVIRONMENT

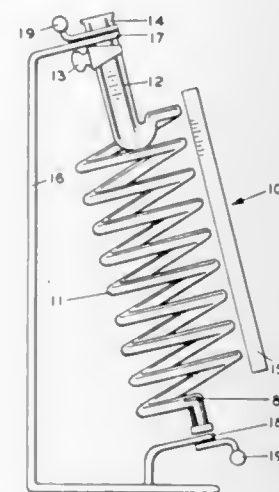
Rolf E. Darbo, P.O. Box 2158, Madison, Wis. 53701

Filed Oct. 14, 1968, Ser. No. 777,954

Int. Cl. G01n 7/00

U.S. Cl. 73-64.2

7 Claims



Apparatus and method for effecting continuous and precisely variable pressure control in a rigidly enclosed and isolated fluid environment for determining reversible effects of pressure on physical, chemical or biological phenomena wherein a sealable constant volume chamber is provided with a liquid phase and a gaseous phase disposed therein with a discrete portion of the gaseous phase being subject to controlled variation in elevation with respect to the liquid phase as a result of chamber configuration and manipulability.

3,540,293

COMBINATION GYROSCOPE AND ACCELEROMETER

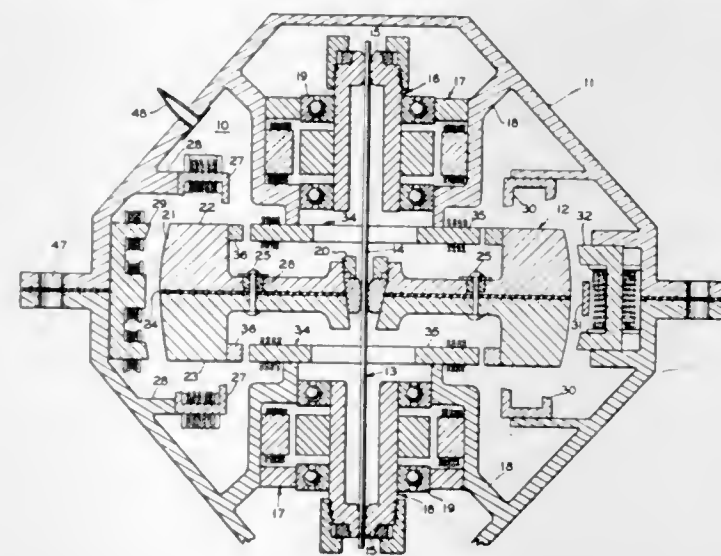
Ira Cochran, Maywood, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Jan. 4, 1968, Ser. No. 695,699

Int. Cl. G01c 19/28

U.S. Cl. 74-5

12 Claims



A two axis gyroscope used for information and control in which the spinning wheel is suspended between two synchronized motors and is also utilized simultaneously as a stabilizing gyro and the proof mass in a two axis accelerometer.

3,540,294
MEANS FOR MINIMIZING GYROSCOPE TRENDING

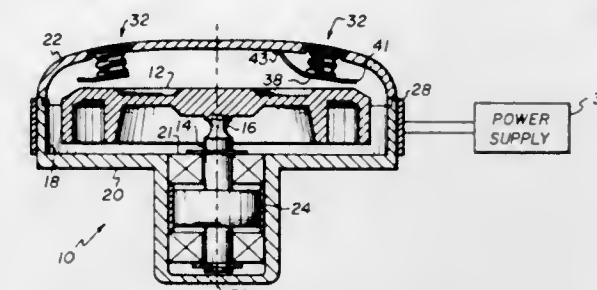
George S. Macon, Bloomfield, and Michael A. Napolitano, Mendham, N.J., assignors to Singer-General Precision, Inc., Little Falls, N.J., a corporation of Delaware

Filed June 11, 1968, Ser. No. 736,094

Int. Cl. G01c 19/28

U.S. Cl. 74-5.5

6 Claims



A plurality of adjustable baffle plates are disposed within the gyro casing in a generally overlying coextensive manner with respect to the gyro's rotor or flywheel. Each baffle plate comprises a generally L-shaped planar member fixedly supported at one end in cantilever fashion and variably supported at its free end by an adjustment mechanism. The latter includes a bellows member for hermetically sealing the interior of the gyro casing and for providing an upward biasing force to the free end of the cantilevered baffle member. Coaxially disposed within the bellows member in abutting relation with the free end of the baffle is a set screw for precisely indexing the static position of the baffle relative to the gyro's rotor. The set screw is adapted to be rotated from a position external to the gyro housing.

3,540,295

ROTATING CASE GYROSCOPE

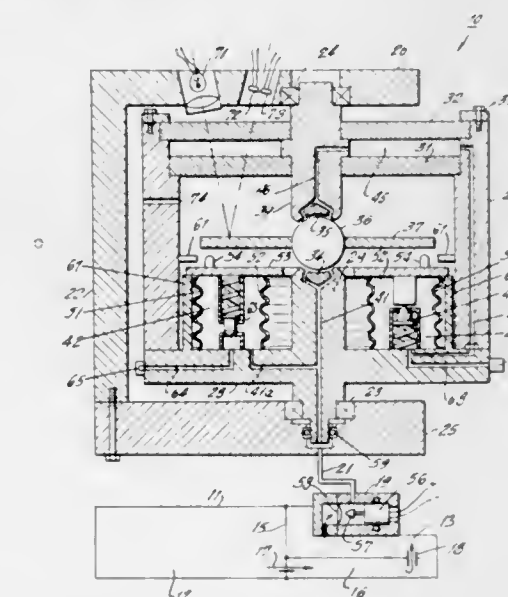
Nai-Chong Chang, Scarsdale, James A. Xenakis, Woodside, and Melvin Levine, New York, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Division, Long Island City, N.Y., a corporation of Delaware

Filed May 29, 1968, Ser. No. 733,112

Int. Cl. G01c 19/26

U.S. Cl. 74-5.12

10 Claims



A spherical gas bearing means for a gyro wheel is mounted to a case which in turn is rotatably mounted on a frame by fixed mechanical bearings. A caging means mechanically connects the gyro wheel to the case during a spin-up interval when pressurized fluid directed through nozzles on the case bring the case and gyro wheel as a unit up to operating speed. Valve means operated in conjunction with the caging means controls fluid flow to spin-up nozzles and rotation sustaining nozzles, and also

controls gas flow to one of the spherical bearing pads so that pressure at the latter will not interfere with the caging means when it is activated to connect the gyro wheel to the case. Fluid is connected to this spherical bearing pad through a passage between two transparent discs through which the light beam of an optical pick off device passes in impinging upon and being reflected from the gyro wheel in order to obtain guidance information.

3,540,296
VARIABLE SPEED AND LOAD CONTROL
HYDRAULIC SYSTEM

John D. Hostutler, P.O. Box 816,

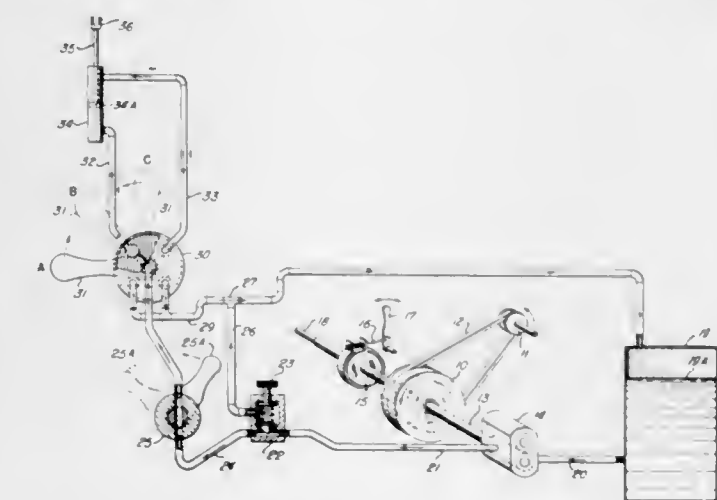
Fort Stockton, Tex. 79735

Filed Mar. 17, 1969, Ser. No. 807,837

Int. Cl. F16h 3/44, 37/02

U.S. Cl. 74-15.4

4 Claims



A hydraulic system operated by power produced by the transportation equipment used to transport the system, operable at varying speeds, operable to perform a number of tasks necessary to drill holes in the ground, and capable of automatically becoming inoperable in the event of overloading.

3,540,297

POWER TAKE-OFF

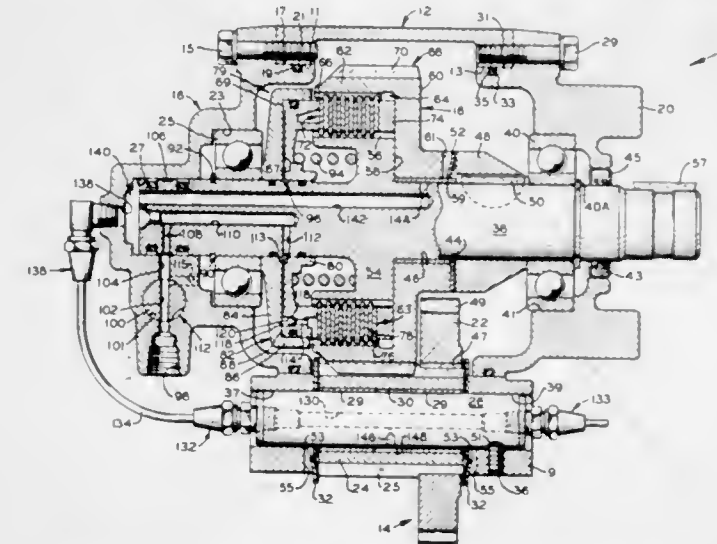
Robert W. Wagner, Ann Arbor, and Darald A. Fischer, Chelsea, Mich., assignors to Dana Corporation, Toledo, Ohio, a corporation of Virginia

Filed Sept. 12, 1968, Ser. No. 759,283

Int. Cl. F16h 37/00

U.S. Cl. 74-15.86

5 Claims



A power take-off assembly for connection to a live gear in a main transmission, the power take-off having a hydraulic connect-disconnect clutch for operating the power take-off and to facilitate ratio changes in the main transmission while the power take-off is being utilized.

3,540,298

BINARY ADJUSTING MECHANISM

Serge Ramseier, Carouge-Geneve, Switzerland, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed May 7, 1969, Ser. No. 822,544

Claims priority, application Netherlands, May 8, 1968, 6806451

Int. Cl. F16h 21/40; M04l 15/24

U.S. Cl. 74—89.17

11 Claims



A binary adjusting mechanism for moving machine components to each of two positions. A reciprocating catch is positioned adjacent two cams and between two electromagnets such that upon activation of either of the electromagnets the catch will be attracted thereto and displaced from its original location to engage and move one of the two cams. This cam movement is transmitted to the machine element.

3,540,299

ROTARY MOUNT

Wilhelm Schlüter, Dortmund-Gartenstadt, Germany, assignor to Eisenwerk Rothe Erde GmbH, Dortmund, Germany

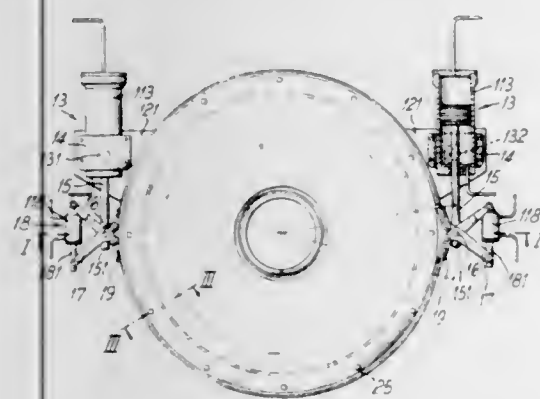
Filed Oct. 9, 1968, Ser. No. 766,179

Claims priority, application Germany, June 25, 1968, 1,756,669

Int. Cl. F16h 27/04

U.S. Cl. 74—129

3 Claims



The outer race of an antifriction bearing in a crane or excavator is rotated with reference to the inner race by a pair of brake bands which are applied around the outer race and have their ends connected to pairs of levers which are pivotable with reference to each other by double-acting cylinder and piston assemblies to thereby tighten or loosen the respective bands. Two double-acting cylinder and piston units are pivotable about axes

which are parallel to the axis of the outer race and have piston rods which are coupled to the pivots for the levers so that when a piston rod performs a stroke while the corresponding band is tightened around the outer race, the latter is rotated in a clockwise or in a counterclockwise direction.

3,540,300

VARIABLE SPEED GEAR

George Lee, Ferndown, Dorset, and Frank Holt, Rochdale, England, assignors to H.L.F. Engineering Developments Ltd., a corporation of Great Britain

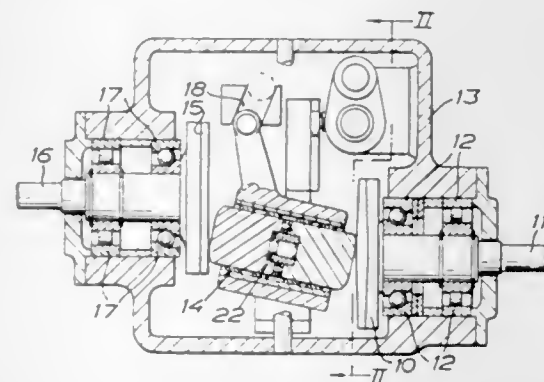
Filed June 21, 1968, Ser. No. 739,098

Claims priority, application Great Britain, June 22, 1967, 28,773/67

Int. Cl. F16h 15/12, 13/14

U.S. Cl. 74—200

5 Claims



A friction drive gear comprising a central gear member mounted between input and output gear members and arranged to be in frictional driving contact therewith, the central gear member comprising separate axially aligned portions between which is mounted resilient means and thrust means for causing said portions to remain in driving contact with the input and output gear members.

3,540,301

TIMING BELT

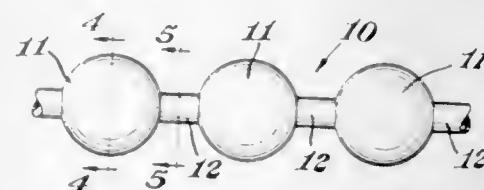
Arnold M. Bartz, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,526

Int. Cl. F16g 1/16, 1/28

U.S. Cl. 74—231

7 Claims



A preformed precision timing belt of flexible polymeric material for driving a spectrophotometer chopper and the like is provided with integrally formed, evenly spaced, generally oblate, sprocket-engaging enlargements and is reinforced with a core of a plurality of coextensive strands of yarn, e.g., rayon or cotton yarn.

3,540,302

SEGMENTAL ROLLER CHAIN

Wilfrid H. Bendall, 19 N. Broad St., Pawcatuck, Conn. 02891

Filed Oct. 23, 1969, Ser. No. 868,828

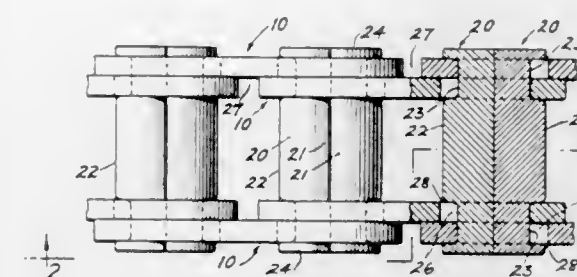
Int. Cl. F16g 13/07

U.S. Cl. 74—253

10 Claims

A power transmission link chain utilizing segmental roller members having integral roller bearing, sprocket

teeth engagement and assembly retention portions, interconnecting the link members and reducing the required



number of interchangeable parts to two per pitch length of the chain. The segmental roller members further retain the assembled chain in a manually separable form.

3,540,303

GEAR SHIFT MECHANISM

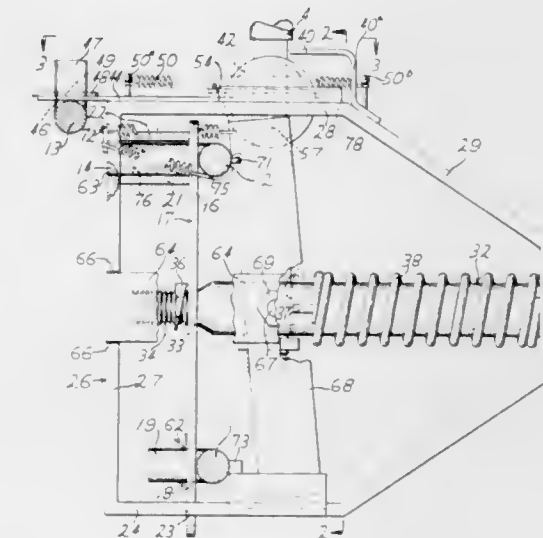
Dalton A. Thomas, Rte. 1, Box 97, Alpine, Ala. 35014

Filed Jan. 24, 1969, Ser. No. 793,693

Int. Cl. G05g 9/02

U.S. Cl. 74—477

5 Claims



Shifting apparatus for transmission actuating members pivoted to the ends of a bar with a shift member connected to and extending laterally from an intermediate portion of bar for moving the bar in a direction perpendicular to its length to a first position and a second position. Lateral projection on one actuating member is engaged by a first holding element upon movement of bar to said first position. A second holding element operates in response to movement of said bar to said first position to release other actuating member and in response to movement of said bar to said second position to hold said other actuating member against longitudinal movement.

3,540,304

SAFETY STEERING FOR MOTOR VEHICLES

Wolfgang Weiss, Offingen, Württemberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Dec. 29, 1967, Ser. No. 694,628

Claims priority, application Germany, Dec. 31, 1966, D 51,927

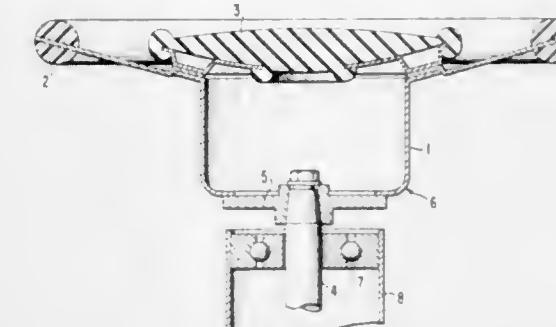
Int. Cl. B62d 1/18

U.S. Cl. 74—492

13 Claims

A safety steering installation for motor vehicles with a deformation member consisting, for example of sheet metal, that is arranged behind the steering wheel as

viewed from the position of the driver, whereby the deformation member has a diameter that is larger than the diameter of the tubular casing surrounding the steering spindle, is constructed substantially smooth-walled and



is so arranged between the steering wheel and the tubular casing that it is folded over the tubular casing in case of a strong, essentially axial load applied against the steering wheel.

3,540,305

MASTER ADJUSTER FOR SENSING RANGE

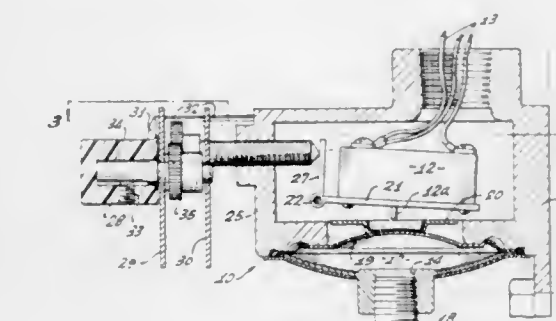
John G. Sprung, Playa del Ray, Calif., assignor to Western Gear Corporation, Lynwood, Calif., a corporation of Washington

Filed Apr. 21, 1969, Ser. No. 818,021

Int. Cl. G05g 1/04; H01h 3/00, 35/40

U.S. Cl. 74—526

4 Claims



A device for sensing and signaling pressure variations above and below a selected, adjustable range, and including a diaphragm engaging the actuators of two switches, each of which is supported for swinging toward and away from the diaphragm in response to rotation of an associated adjusting screw. A master adjusting mechanism is provided for varying the pressure range, and includes a driving gear meshing with two driven gears on the adjusting screws to turn the screws simultaneously, thereby to adjust the actuating points of the switches upwardly and downwardly in unison and by equal amounts, the gears being sandwiched between two plates with clearance for limited axial movement of the driven gears with the adjusting screws.

3,540,306

MEANS FOR REDUCING THE SOUND OF A RATCHET AND PAWL MECHANISM

Karl Nurmse, Svängsta, Sweden, assignor to Abu Aktiebolag, Svängsta, Sweden, a corporation of Sweden

Filed Oct. 14, 1968, Ser. No. 767,433

Claims priority, application Sweden, Oct. 17, 1967, 14,205/67

Int. Cl. F16d 41/12

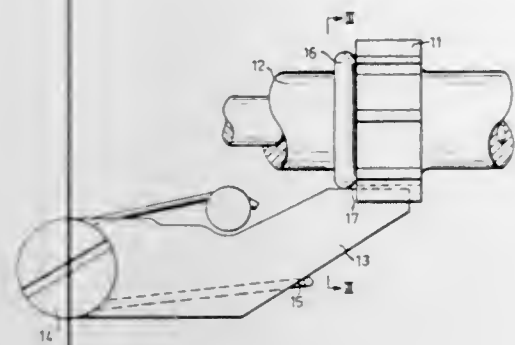
U.S. Cl. 74—576

1 Claim

A device for reducing the sound produced in a ratchet and pawl mechanism by the repeated impact of the pawl against the ratchet teeth, especially in fishing reels, which

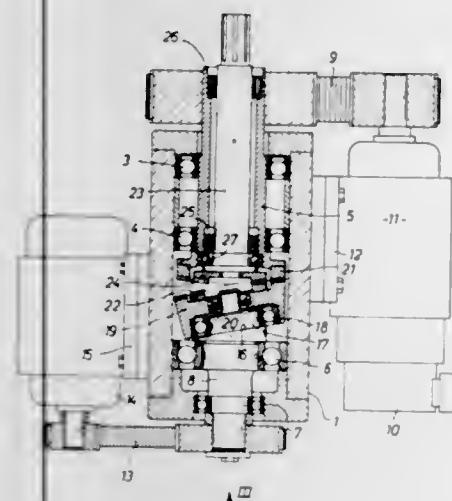
device consists of a resilient and damping abutment for the pawl stopping its inward motion shortly before it hits

driven input shaft. Power is transmitted from the input to the output shaft through a spinning rotor, the axis of which is forced to undergo a cyclic precessional motion. During



the bottom of the space or recess between two consequent ratchet teeth.

3,540,307
TUMBLING GEAR PLANETARY TRANSMISSION
Friedrich Schell, 23 Metterstrasse, 714 Ludwigsburg-Pflugfelden, Germany
Filed July 11, 1968, Ser. No. 743,994
Claims priority, application Germany, July 11, 1967, Sch 40,992
Int. Cl. F16h 37/06, 33/00
U.S. Cl. 74-675



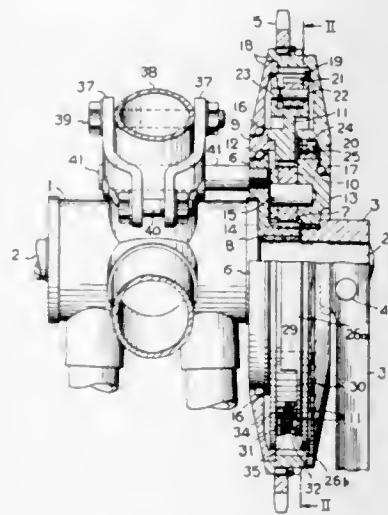
The transmission has two rotatable coaxial input shafts driven by respective motors and an output shaft, wherein one input shaft is provided with a coaxial ring gear and the other input shaft is provided with a meshing ring gear freely rotatable about on an inclined axis; a driving universal type connection is provided between the output shaft and the inclined ring gear, and the meshing gears have a different number of teeth. One of the driving motors is provided with a brake, which acts as an overload friction clutch upon the output shaft being driven from the outside above a predetermined torque.

3,540,308
MECHANICAL TORQUE CONVERTER
Martin Preston, 300 N. State St., Apt. 5701, Chicago, Ill. 60610
Filed Apr. 21, 1969, Ser. No. 817,918
Int. Cl. F16h 3/74
U.S. Cl. 74-751

A stepless, variable-speed power transmitting device in which the ratio of the input shaft speed to that of the output shaft depends (a) on the external torque load applied to the output shaft and (b) on the speed of the power

subsequent alternate phases of this cyclic motion power is transmitted from the input shaft to the rotor and then from the rotor to the output shaft.

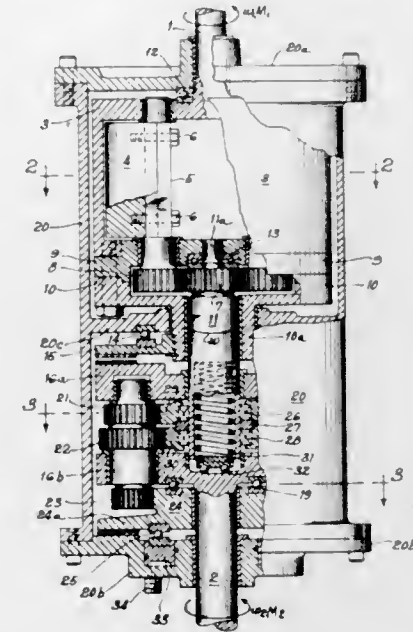
3,540,309
FRONT CHAIN SPROCKET HAVING A BUILT-IN AUTOMATIC SPEED CHANGE MECHANISM
Keizo Shimano, Masashi Nagano, and Kimihiro Furukawa, Sakai, Osaka, Japan, assignors to Shimano Kogyo Kabushiki Kaisha, Osaka, Japan
Filed Nov. 20, 1968, Ser. No. 777,268
Claims priority, application Japan, Dec. 2, 1967, 42/77,312
Int. Cl. F16h 5/42; B62m 11/14
U.S. Cl. 74-752



A front chain sprocket having a built-in automatic speed change mechanism for a bicycle is equipped with two kinds of speed-ratio transmission ratchet gearings, one of which is arranged to directly transmit rotation of pedal cranks to a chain sprocket carrier and hence to said front chain sprocket therethrough, the other of which is driven through a planetary gear mechanism. Either of the two is associated with centrifugal governor weights for bringing into or out of operative engagement of the high speed-ratio transmission ratchet gearing. The novel feature resides in providing the speed change mechanism of the abovementioned type to the front chain sprocket for the bicycle.

3,540,310
MECHANICAL TORQUE CONVERTER
Martin Preston, 300 N. State St., Apt. 5701, Chicago, Ill. 60610
Filed June 20, 1969, Ser. No. 835,270
Int. Cl. F16h 3/74
U.S. Cl. 74-752

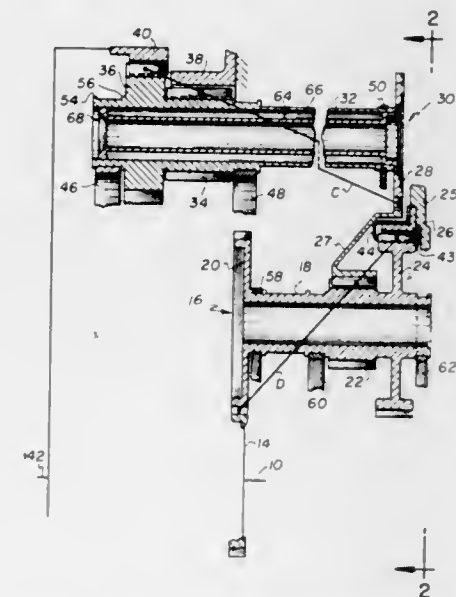
2 Claims



A stepless, variable-speed power transmitting device in which the ratio of the speed of the input shaft to that of the output shaft depends (a) on the external torque load applied to the output shaft and (b) on the speed of the input shaft. Power is transmitted in the device from the input to the output shaft through a spinning rotor in which a plurality of eccentric weights are journaled in such a manner that the distance of their individual centers of gravity from the rotor axis undergoes cyclical changes when the rotor is turned. Hence the kinetic energy of these rotating weights also changes periodically. Depending on the ratio of the speed of the input shaft to that of the output shaft, a varying portion of the periodic energy increment gained by the eccentric weights is transmitted to the output shaft while the remainder of this energy increment is recirculated to the input shaft.

3,540,311
FREE-FLOATING PLANETARY TRANSMISSION
Charles W. Chillson, Wayne, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Feb. 17, 1969, Ser. No. 799,868
Int. Cl. F16h 1/28, 57/100
U.S. Cl. 74-797

25 Claims

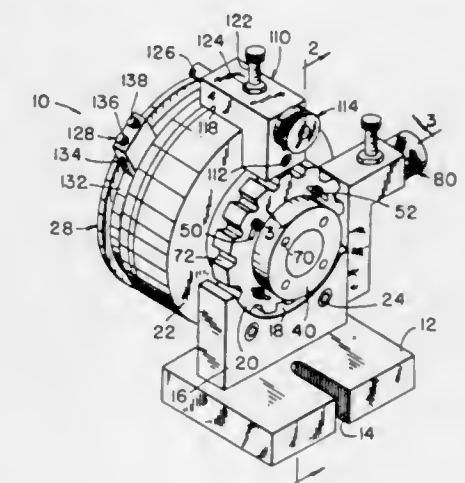


A light-weight, high speed-ratio reduction transmission having a set of free-floating planetary elements with the

transmission load forces on each planetary element being so spaced apart axially that the net moment tending to tilt each planetary element out of its radial plane is substantially zero. A plurality of rings have rolling contact with the planetary elements to constrain said elements against the radial forces acting on said elements.

3,540,312
INDEXING FIXTURE AND METHOD OF INDEXING
Edwin Russ, 27736 Palmer Lane, Madison Heights, Mich. 48071
Filed Mar. 14, 1969, Ser. No. 807,393
Int. Cl. B23q 17/18
U.S. Cl. 74-813

11 Claims

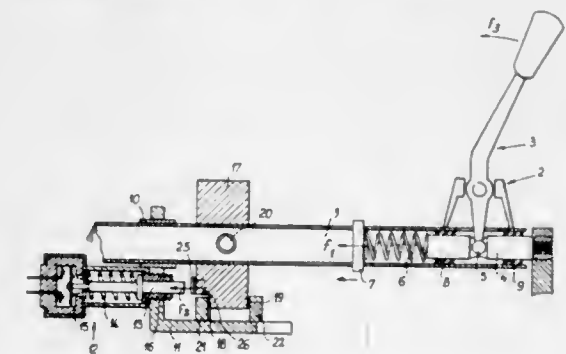


A holder with an index structure is journaled for rotation in a support member. An index pin is slidably and rotatably mounted on the support member. The index pin extends out of a bore. A cam surface is provided on the index pin to frictionally engage the end of a screw which projects into the bore. The index structure includes a series of peripherally spaced indexing structures, preferably notches, for engagement with the forward portion of the pin for indexing the holder to different positions.

In the method of indexing, the index pin has a curved nose which engages notches in the index structure. The notches have V-shaped sidewalls which make contact with the curved nose of the pin. As the pin is turned to engage the camming structure, the nose wipes the notch surfaces clean to thereby accurately index the holder.

3,540,313
COMBINED GEAR-CHANGE AND STARTER SWITCH CONTROL DEVICES
Jean Maurice and Martial Lavarec, Billancourt, France, assignors to Regie Nationale des Usines Renault, Billancourt, France, and Automobiles Peugeot, Paris, France
Filed Feb. 5, 1969, Ser. No. 796,825
Claims priority, application France, Feb. 9, 1968, 139,318
Int. Cl. B60k 27/08; F02n 15/10
U.S. Cl. 74-850

8 Claims



Combined gear-change and starter switch control for automotive vehicles comprising a sliding and rotary control rod actuated by means of the gear lever and rigid

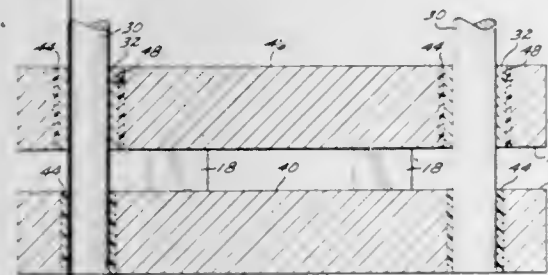
with a selector grid having the shape of a cylindrical sector which has formed in each face axial peripheral recesses corresponding to the different positions of the gear lever and constituting two profiles movable between a pair of fixed guide studs; a deeper recess engaged at its inlet end by one of said studs in the neutral lever position permits exerting a transitory action on a starter switch through the medium of a push member rigid with said control rod.

3,540,314 METHOD OF LOCATING AND MOUNTING DIE SET COMPONENTS

Reginald C. Howard, 11924 Montana Ave., Apt. 5, Los Angeles, Calif. 90049
Filed Aug. 23, 1968, Ser. No. 754,899
Int. Cl. B21k 5/20

U.S. Cl. 76—107

10 Claims



A method of locating and mounting die set guide pin or bushing components in a die set plate, and which includes the steps of utilizing an already fabricated die set or master plate to temporarily position the die set components within oversize openings in the die set plate; and then pouring a hardenable casting material in such openings around the temporarily positioned die set components to permanently mount them to the die set plate.

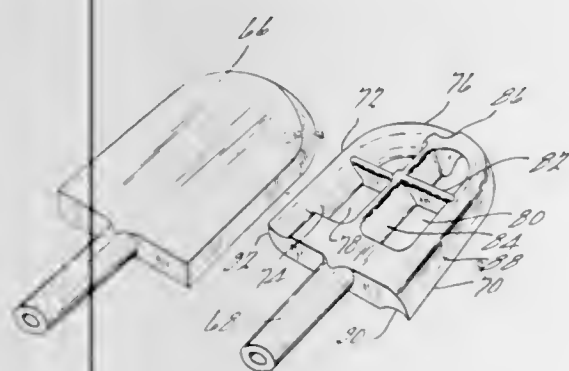
3,540,315 HIGH-SPEED CUTTER FOR MACHINING SOFT PLASTIC MATERIAL

Otto W. Freitag, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Nov. 21, 1968, Ser. No. 777,559
Int. Cl. B21k 5/70

U.S. Cl. 76—107

2 Claims



A high-speed rotary cutting tool for machining styrofoam patterns and a method for manufacturing the cutter, said cutter comprising a balanced, curvilinear cutting edge symmetrically disposed about its axis of rotation with cutting edges formed on a semi-circular part of the cutter for face machining and with rough cutting edges formed on generally tangential portions of the cutter, the central region of the cutter having openings through which chips are discharged as they are removed from the styrofoam workpiece.

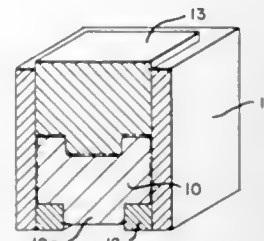
3,540,316 HOT FORGED DIE BLANKS AND METHODS OF MAKING THE SAME

Willis S. Peterson, Pittsburgh, Pa., assignor to Heppenstall Company, a corporation of Pennsylvania

Continuation of application Ser. No. 619,315, Feb. 28, 1967. This application Oct. 14, 1969, Ser. No. 868,975
Int. Cl. B21k 5/20

U.S. Cl. 76—107

3 Claims



A method and apparatus for hot forging die blanks in which a die block is formed having a volume equal to the final volume of the finished forged die block and dimension such that during pressing all work in the direction of pressing is completed before completion of movement of the block transverse to the direction of pressing, heating the block to forging temperature and pressing the block in a closed die to form a desired configuration thereon, thereafter further pressing the block to cause it to move in a direction transverse to the movement of the press to engage the side wall of the die and removing the completed forged die block.

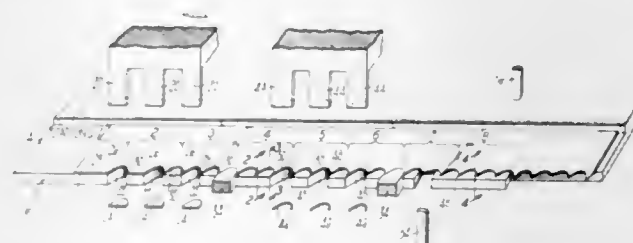
3,540,317 METHOD OF MAKING SAW BLADES

Harry L. Stanley, Newington, Conn., assignor to The Capewell Manufacturing Company, Hartford, Conn., a corporation of Connecticut

Filed Dec. 12, 1967, Ser. No. 689,851
Int. Cl. B23d 63/00

U.S. Cl. 76—112

11 Claims



The method of making saw blades from strip stock in a single pass through a punch press by punching the gullets between the teeth and then shaving a thin continuous sliver from the full periphery of each gullet in a subsequent punching operation to produce full sharp teeth free of surface imperfections with both the punching and the shaving of adjacent gullets being performed sequentially. A progressive die having punches of identical configuration with those used for shaving being of slightly larger dimension and positioned to make overlapping cuts in both forming and shaving the gullets is also disclosed.

3,540,318 TRANSFER PALLET SYSTEM

Myron L. Greenberg, Union Lake, Mich., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

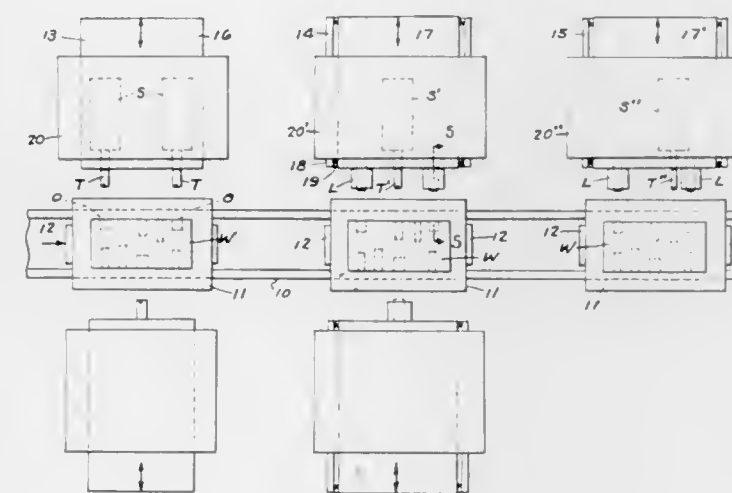
Filed Nov. 22, 1968, Ser. No. 778,051
Int. Cl. B23b 39/00

U.S. Cl. 77—1

22 Claims

The transfer pallet system described herein comprises a plurality of pallet or work support members that are movable through a series of work stations. At one of the

stations, at least two accurately formed openings are provided in the workpiece. At succeeding stations, locating pins are introduced into the openings in the workpiece. Either the support for the locating pins and associated cutting tools or the workpiece support member is perpendicular to the slide travel direction at the succeeding stations so that when the locating pins are projected into the workpiece, the workpiece becomes aligned in pre-



determined relation to other tools at said succeeding stations. Each of the locating pins is provided with a plurality of circumferentially spaced pressure pads and a restrictor is associated with each pressure pad. When fluid under pressure is provided to each pressure pad and the pins are introduced into the opening of the workpiece, the workpiece is accurately located longitudinally and transversely without metal-to-metal contact between the pin and the workpiece.

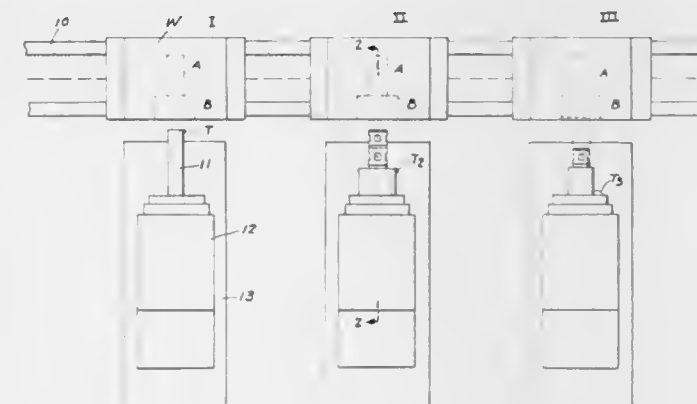
3,540,319 BORING METHOD AND APPARATUS

Myron L. Greenberg, Union Lake, Mich., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 9, 1969, Ser. No. 791,210
Int. Cl. B23b 39/00

U.S. Cl. 77—1

21 Claims



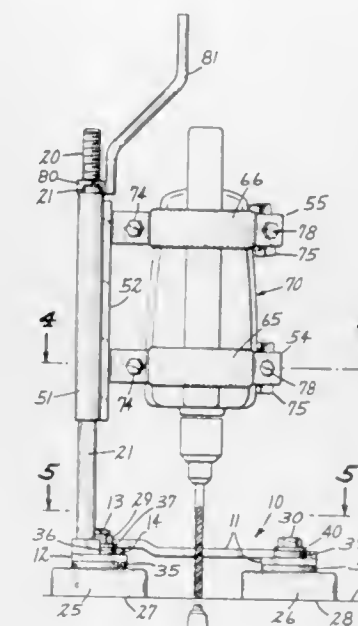
A boring method and apparatus wherein a workpiece having roughly formed concentric bores is moved to successive stations. At a first station, one of the bores is finished. At a second station, a combined tool support and locator is moved into position to finish the second bore. The locator has circumferentially spaced pressure pads and associated restrictors thereon and fluid is supplied to each restrictor so that fluid flows between the locator and the first bore to accurately locate the tool support with respect to the workpiece.

3,540,320 PORTABLE DRILL PRESS APPARATUS

Werner W. Martinmaas, 835 10th Ave. NW., Watertown, S. Dak. 57201
Filed June 13, 1968, Ser. No. 736,621
Int. Cl. B23b 45/14

U.S. Cl. 77—13

4 Claims



A plurality of magnetic feet, having flat surfaces adapted to contact a piece of work, attached to a base so that the surfaces normally lie in a plane but are slightly movable from the plane to compensate for irregularities in a working surface, an elongated standard attached to the base with its longitudinal axis approximately perpendicular to the plane, and a handle threadedly engaged on the standard for longitudinal movements therealong to apply pressure to the clamping means whereby the clamping means and a hand drill mounted therein are urged toward the plane.

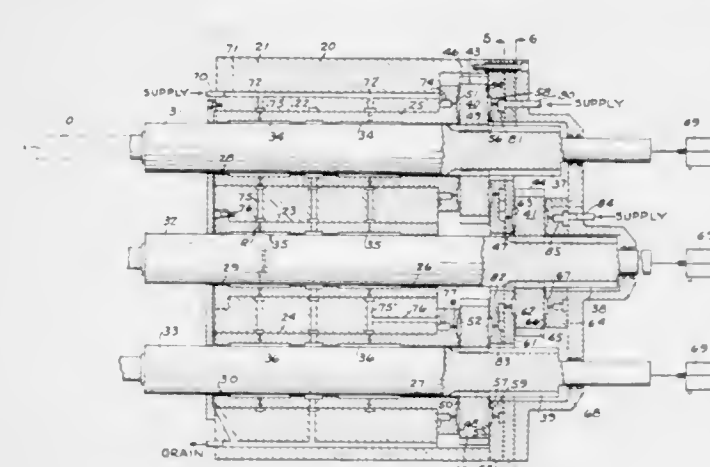
3,540,321 MACHINE TOOL HEAD

Daniel J. Kolesar, Warren, and Gordon H. Porath, Brighton, Mich., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 16, 1968, Ser. No. 784,107
Int. Cl. B23b 39/16

U.S. Cl. 77—22

9 Claims



A machine tool head comprising a body having spaced bores therein and a spindle associated with each said bore. Each spindle has a collar thereon and the collar and body have complementary spaced radially extending surfaces. The surfaces of the bore of the body and the radially extending surfaces of the body are provided with spaced pressure pads and associated restrictors and fluid is applied under pressure to each restrictor and its respective pad. Means are provided for rotating each spindle.

3,540,322 DRILL FIXTURES

Carl E. Swanson, 707 E. South St., Corry, Pa. 16407
Filed Aug. 9, 1968, Ser. No. 751,488
Int. Cl. B23b 47/28

U.S. Cl. 77-55 4 Claims



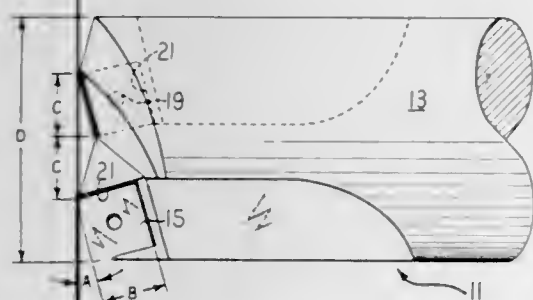
A drill fixture having a body with its upper end slidably and rotatably journaled on the shank of a drill, its lower end provided with a drill guide bushing receivable in a guide hole in a template and its intermediate section provided with a window opposite a portion of the shank of the drill for chip removal. In use, the template is placed over this work piece and the drill guide bushing is inserted in the template where it remains stationary while the drill is fed through the bushing to drill the work piece.

3,540,323

DRILL HAVING INDEXABLE CARBIDE INSERTS
Everett D. Rishel, Sugar Grove, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed June 17, 1968, Ser. No. 737,510
Int. Cl. B23b 51/00

U.S. Cl. 77-67 6 Claims



A plurality of replaceable carbide inserts mounted on a high speed cutting tool.

3,540,324

ROTARY CUTTING TOOL

Ture Axel Johansson, Inagogatan 12, Goteborg H. Sweden

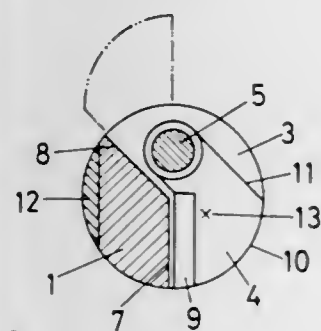
Continuation-in-part of application Ser. No. 502,089, Oct. 22, 1965. This application June 16, 1967, Ser. No. 646,634

Claims priority, application Sweden, May 12, 1965, 3,225/65; Oct. 15, 1965, 13,362/65

The portion of the term of the patent subsequent to Mar. 12, 1985, has been disclaimed

Int. Cl. B23b 51/10

U.S. Cl. 77-73.5 7 Claims



A rotary cutting tool in which a spindle adapted to be connected to a chuck or tool holder of a machine is so designed that its direction of rotation may be reversed.

The spindle has associated therewith at least one cutter having a radial cutting edge and which is swingable about an axial pivot located in a recess in the spindle whereby the cutter may be completely retracted within the outer surface of the spindle. The center of gravity of the cutter will, in the retracted position, be located in a position eccentric in relation to the axis of rotation so that the cutter will be automatically swung outwardly upon spindle rotation. The spindle at its upper and lower radial edges is additionally provided with contact surfaces for co-operation with the work piece so that the cutter is forced into the recess when the cutter rotates in a backward direction.

3,540,325

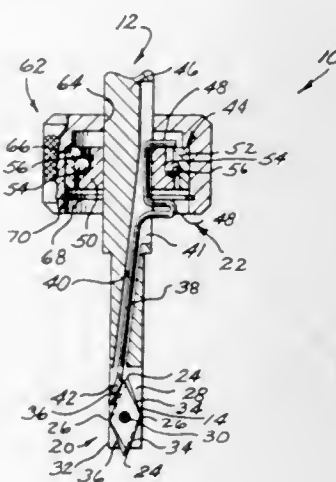
SELF-CENTERING DEBURRING TOOL

Gerard P. Artaud, Torrance, Calif., assignor of one-half to R. W. Hodgson, Hollywood, Calif.

Filed Feb. 8, 1968, Ser. No. 704,111

Int. Cl. B23b 51/16

U.S. Cl. 77-73.5 9 Claims



A deburring or chamfering tool of a self-centering type comprising a longitudinal shaft member having a freely transversely pivotally mounted double-ended, multiple-bladed cutting element of an extremely hard cutting material for deburring either end of a workpiece hole and which is provided with controllably operable inactivation means for causing the retraction and inactivation of the cutting element when the cutting element is to be passed through a hole in a workpiece to the opposite side thereof for subsequent reactivation for the purpose of deburring the opposite end of the hole.

3,540,326

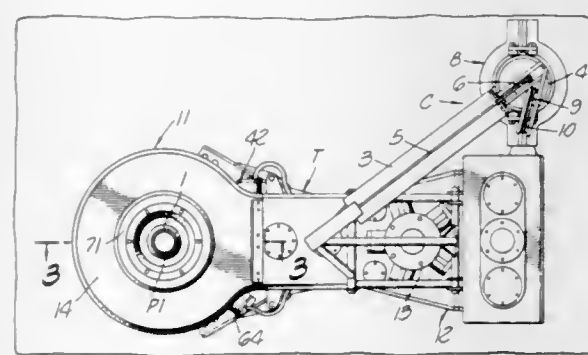
PIPE TONG HEAD

John L. Dickmann, Whittier, and John E. Ham, Long Beach, Calif., assignors to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed Dec. 4, 1967, Ser. No. 687,830

Int. Cl. B25b 17/00

U.S. Cl. 81-57.18 21 Claims



A pipe gripping and rotating head in a power well pipe tong assembly, the gripping jaws of which are moved

toward and away from a pipe by eccentrics, operable in opposite directions to make up and break out pipe joints, the reverse stop for the inner ring being remotely operable, and the brake means for the inner ring also being remotely adjustable.

3,540,327

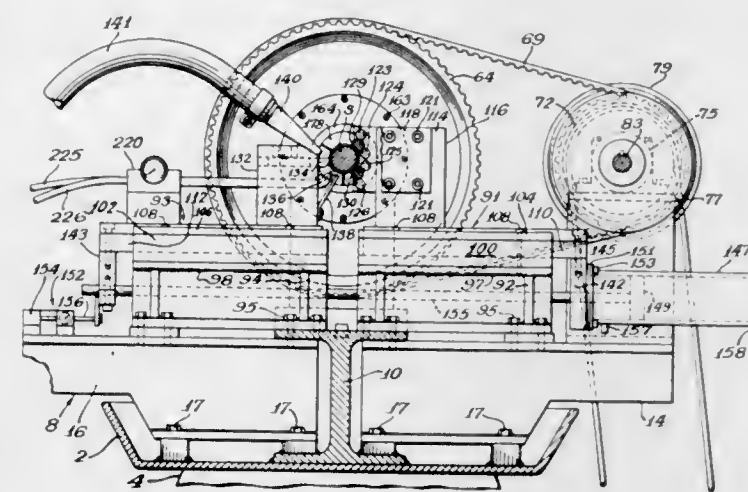
SPINDLE-LESS LATHE

Frederick E. Mehr, 317 E. 145th St., Harvey, Ill. 60426

Filed Nov. 1, 1967, Ser. No. 679,839

Int. Cl. B23b 3/06

U.S. Cl. 82-2 11 Claims



A method and apparatus for machining rotating stock. The spindle-less lathe includes a pair of slide units mounted on a slide bed. One of the slide units carries a tool holder for holding a plurality of tools for machining the stock and the other slide unit supports a reinforcing head having back-up rollers which frictionally engage the rotating stock and rotate with the stock to prevent deformation of the stock during machining and pairs of transfer rollers which engage each back-up roller to dissipate the forces acting thereon. The stock is mounted adjacent its ends in a pair of rotatable collet assemblies and is secured in machining position by a set of collet jaws attached to an end of a movable tube in each collet assembly. The collet jaws frictionally secure the stock in the collet assembly when the tube is moved in a longitudinal direction by a fluid operated piston causing the jaws to ride on an inclined seat in the chuck.

Boring apparatus is arranged to longitudinal bore both ends of the stock while it is secured in its machining position. The slide units are moved toward and away from each other by a single fluid powered actuator means to bring the machining tools and back-up rollers into contact with the stock. Nozzle means are provided to direct coolant mist toward the tools and stock. Suction means are provided to remove chips from the stock as they are formed.

3,540,328

APPARATUS FOR TAPERING ENDS OF LAMINATED PLASTIC PIPE

Rudolph George Foss, Tulsa, Okla., assignor to Ciba Corporation, a corporation of Delaware

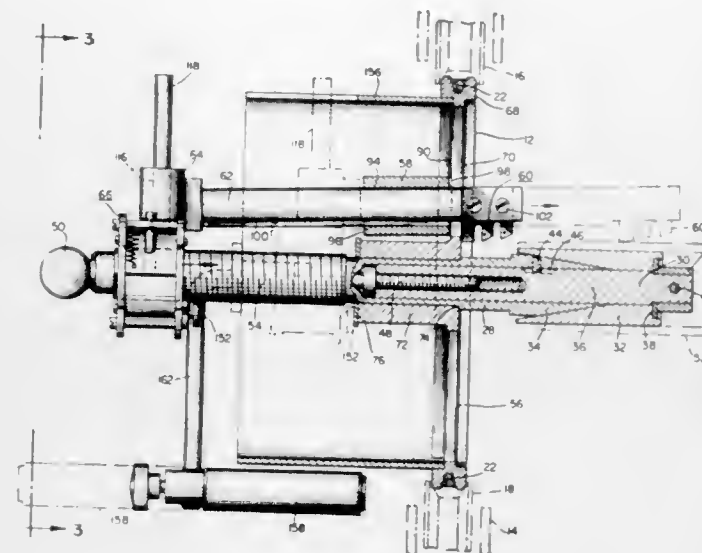
Filed Sept. 3, 1968, Ser. No. 756,784

Int. Cl. B23b 5/16

U.S. Cl. 82-4 9 Claims

An apparatus is provided for tapering the ends of laminated plastic pipe which has a stationary central shaft with means to hold the pipe to be tapered in a fixed position, and a cutter which is mounted to rotate and advance

about the pipe at a predetermined angle to cut a predetermined taper on the end of the pipe. The apparatus



of this invention may be either manually operated or power operated.

3,540,329

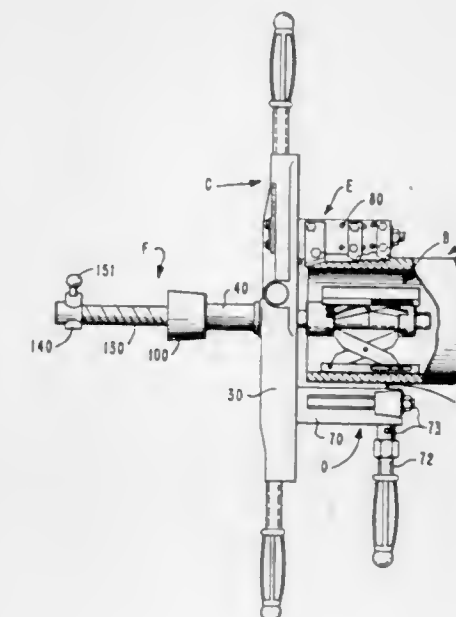
PIPE MACHINING TOOL

John B. Gill, Redondo Beach, Calif., assignor to Sanford E. Coblitz, Ashtabula, Ohio

Filed Feb. 11, 1969, Ser. No. 798,361

Int. Cl. B23b 5/16

U.S. Cl. 82-4 11 Claims



A pipe machining tool including an arbor assembly that is inserted into the end of a pipe and then expanded in order to support an arbor shaft which projects outwardly from the pipe end; a turning frame assembly rotatably supported from the projecting portion of the arbor shaft adjacent the pipe end; a trimmer tool assembly supported from the turning frame assembly for cutting, trimming, and/or squaring the end of the pipe; a machining tool assembly supported from the turning frame assembly for machining a bevel and tenons on the outer surface of the pipe end; and a screw feed assembly attached to the outer end of the arbor shaft and cooperating with the turning frame assembly so that the tools may be progressively driven toward the pipe in response to rotation of the turning frame assembly.

3,540,330

HYDRAULIC DUPLICATOR WITH FEELER

Henri René Bruet, Paris, France, assignor of one-half to Etablissements A. Cazeneuve, la Plaine-Saint-Denis, Seine-Saint-Denis, France, a French company

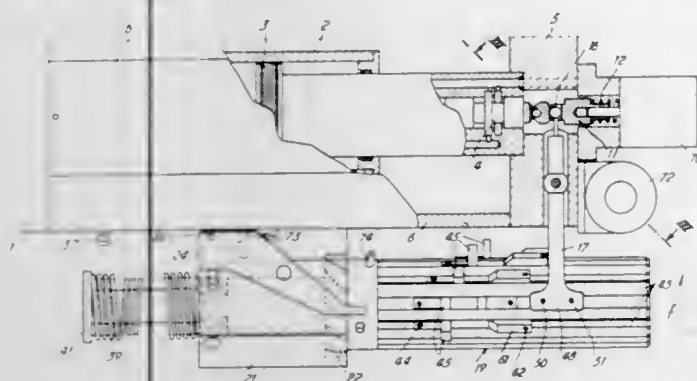
Filed Sept. 10, 1968, Ser. No. 758,774

Claims priority, application France, Sept. 15, 1967, 121,149

Int. Cl. B23b 3/28

U.S. Cl. 82—14

18 Claims



Hydraulic duplicating mechanism for use in machine-tools and in particular in slide lathes for the purpose of displacing the tool transversely to the direction of its displacement along the workpiece as a result of the action produced on the hydraulic distributor of the duplicating mechanism by a feeler which forms part of the said duplicating mechanism and which is adapted to cooperate with a template or part to be duplicated, the duplicating mechanism comprising for determining the position of equilibrium of the distributor under the action of the feeler a retaining device which is independent of the template or of the part to be duplicated and which is placed so as to serve as a stop for the feeler, said retaining device being secured to the fixed unit of the duplicator and stationarily mounted in relation thereto while comprising a retaining member which is positionally variable with respect to the said fixed unit and which can thus be brought on the path of the feeler under the action of a mechanism for changing the position of the said retaining member and into successive positions located in spaced relation along the path of a member which is positionally related to the feeler, the successive positions aforesaid being preferably variable along said path.

3,540,331

TOOL POSITIONING DEVICE FOR LATHES OR THE LIKE

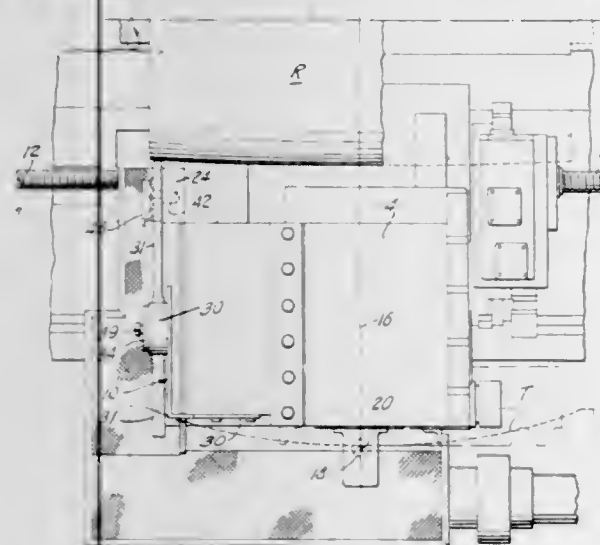
Frank Kvasnicka, Mount Lebanon, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

Filed Nov. 29, 1968, Ser. No. 780,019

Int. Cl. B23b 5/36

U.S. Cl. 82—17

8 Claims



A device for positioning the tool holder of a lathe in response to movement of the lathe cross slide toward or

away from the work. A movement transmitting mechanism is connected between the cross slide and the tool holder to cause a very small movement of the tool holder toward or away from the work as compared with the movement of the cross slide whereby a crown cutting operation of a rolling mill roll may be accomplished by means of a roll lathe.

3,540,332

LATHE TOOLHOLDERS

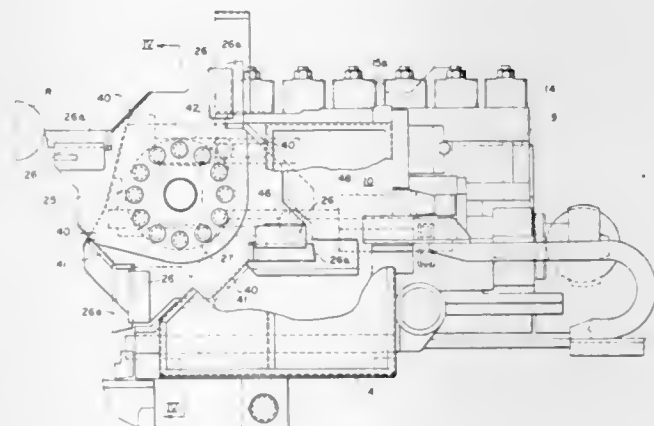
Frank Kvasnicka, Mount Lebanon, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

Filed Apr. 29, 1968, Ser. No. 724,872

Int. Cl. B23b 29/30

U.S. Cl. 82—36

12 Claims



A lathe toolholder is provided with a turret rotatable in a vertical plane about a horizontal axis to a plurality of work positions and supported at each work position by removable holding means.

3,540,333

ORBITAL TUBE CUTTING MACHINE

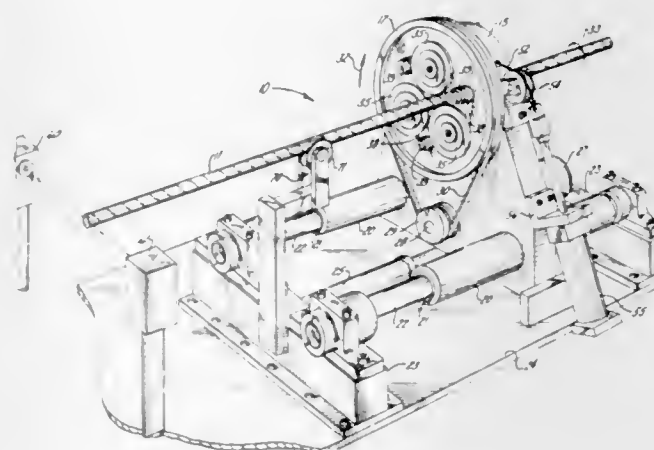
Carl W. Johnson, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Jan. 21, 1969, Ser. No. 792,411

Int. Cl. B23b 37/00, 3/04, 5/14

U.S. Cl. 82—53.1

10 Claims



An orbital cutter for cutting thin-walled paper tubing is disclosed. The cutter includes a plurality of cutter wheels which are carried on lever arms pivotally mounted on the face of a rotating carrier wheel. A cinch cable encircling pulleys on the arms draws the cutter wheels into engagement with the tubing as the cutter is simultaneously advanced with the tubing.

3,540,334

VIBRATION DAMPER FOR SAWS

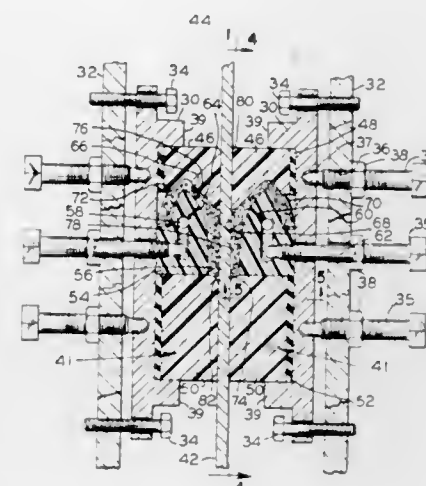
Thomas A. McLauchlan, Apt. 706, 2323 W. 2nd, Vancouver, British Columbia, Canada

Filed Dec. 4, 1968, Ser. No. 781,124

Int. Cl. B26d 1/54

U.S. Cl. 83—13

19 Claims



A vibration damping apparatus for thin power saw blades has a pair of guides disposed on either side of a saw blade and a porous material permeable by a liquid lubricant is disposed within each of the guides. A portion of the porous material in each guide is adjacent the saw blade, and a portion of the guide is disposed downstream of the porous material. Water or other liquid lubricant is delivered under pressure through the guide to the porous material and the portion of the porous material adjacent the saw blade applies a thin continuous, relatively uniform thickness film of the liquid to the surface of the saw blade to enable the downstream portion of the guide to ride friction-free on the film. The guides are thus able to stabilize and eliminate vibration from the saw blade and maintain the blade in the desired plane for cutting.

3,540,335

ULTRAMICROTOME WITH MEANS FOR ADJUSTING THE LEVEL OF THE LIQUID IN THE COLLECTING VESSEL OF THE MICROTOME

Hellmuth Sitte, Homburg/Saar, Germany, assignor to C. Reichert Optische Werke Aktiengesellschaft, Vienna, Austria

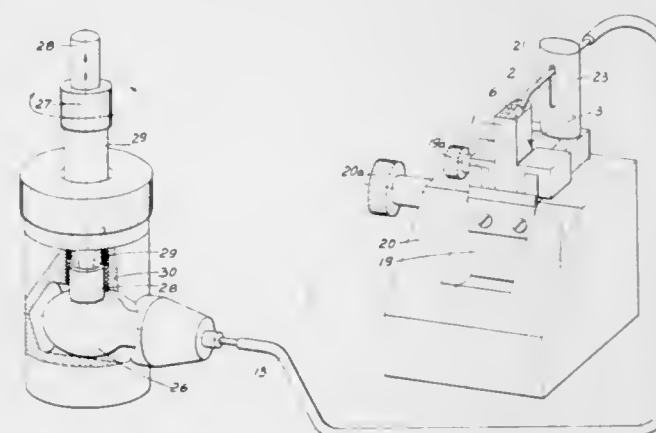
Filed July 25, 1968, Ser. No. 747,504

Claims priority, application Austria, July 27, 1967, A6995/67

Int. Cl. G01n 1/06

U.S. Cl. 83—167

13 Claims



In an ultramicrotome providing with a collecting vessel fixed to one side of the cutting knife of the ultramicrotome for collecting thin tissue sections cut by the knife, and including means for adjusting the level of the liquid in the collecting vessel.

3,540,336

PATTERN MAKING MACHINE

Christopher G. Kelsey, Glenalta, Australia, assignor to Data Resolved Tools Pty. Ltd., Plympton, South Australia, Australia

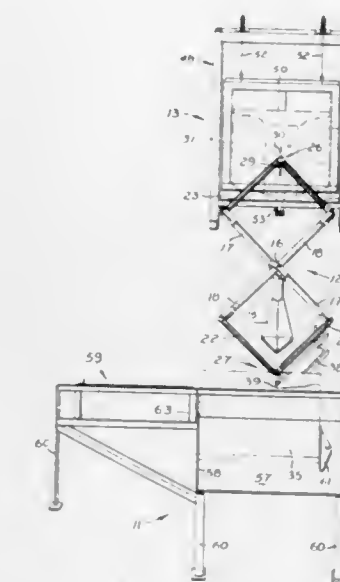
Filed Sept. 19, 1966, Ser. No. 580,276

Claims priority, application Australia, Nov. 19, 1965, 66,815

Int. Cl. B26d 7/10

U.S. Cl. 83—171

11 Claims



A pattern making machine for making patterns from plastic material. A distance multiplier is journaled on a post with a follower head on one end of the multiplier and a cutter head on the other end. The cutter head has arms defining a bowl-like member and a heating wire extending between the arms.

3,540,337

DISPENSER FOR DISPOSABLE FIBROUS SHEETING

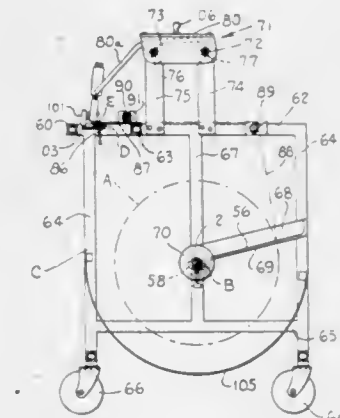
Lewis H. Gardner, Camden, South Carolina, assignor to Timely Enterprises, Inc., Camden, South Carolina a corporation of South Carolina

Continuation-in-part of application Ser. No. 610,312, Feb. 19, 1967, now abandoned. This application Nov. 20, 1967, Ser. No. 689,225

Int. Cl. B26d 7/02, 1/18

U.S. Cl. 83—451

3 Claims



A roll of continuous disposable fibrous sheet material for use as a protective cover over an article of furniture and the like is carried by a wheeled vehicle. A longitudinal blade is carried in fixed relation to the wheeled vehicle on one side of the path of the sheet material when it is fed from the roll. A rotary blade is carried for longitudinal movement in overlapping relation to the fixed blade for cutting the material feeding same from the roll by a shearing action exerted between the rotary blade and the fixed blade.

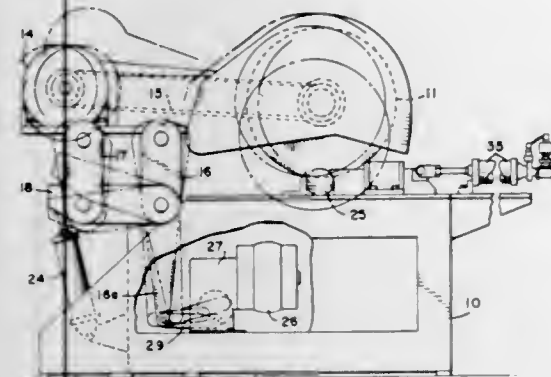
3,540,338 CUTOFF MACHINE

James McEwan, Saratoga and Basil R. Bushman, San Jose, California, assignors to James McEwan, Inc., San Jose, California a corporation of California

Filed Nov. 21, 1968, Ser. No. 777,651
Int. Cl. B26d 1/18; B27b 5/18

U.S. Cl. 83-490

6 Claims



A cutoff machine in which the linkage means oscillating the cutoff saw blade backward and forward through the stock being cut is isolated from the means supplying pressure to the cutoff blade. In this machine the cutoff blade arbor and the motor for driving the blade are both mounted on a rocking head which is mounted by a pivoting linkage on the frame. Certain members of this linkage are connected to an air cylinder which is adapted to tilt the rocking head about the fixed pivoting axis of the linkage whereby pressure is applied urging the saw blade into the stock or work. An oscillator disc driven by a motor at slow speed is connected to a member of the linkage for oscillating the rocking head with respect to said fixed pivoting axis whereby the saw blade is oscillating back and forth with reference to the work and the saw blade is prevented from plunging into the work either in its forward or reverse stroke, thus allowing even pressure to be applied urging the saw blade into the work.

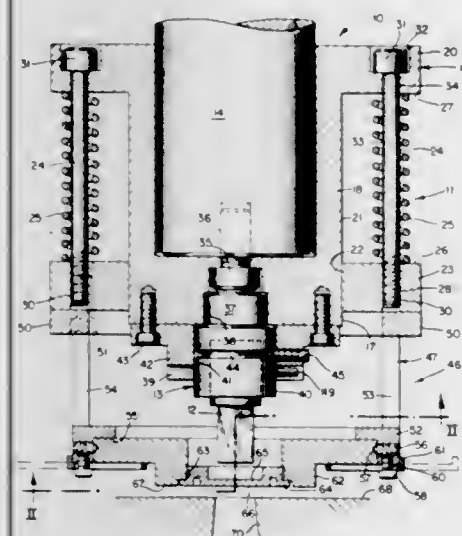
3,540,339 STRIPPER-HOLDDOWN ASSEMBLY FOR PUNCH PRESSES

John S. Killaly, 170 Lakeside Road, Ardmore, Pennsylvania

Filed Jan. 19, 1968, Ser. No. 699,225
Int. Cl. B26d 7/02; B26f 1/02

U.S. Cl. 83-140

18 Claims



A combination stripper and holddown is provided, carried by a punch press machine, either of the single station or turret types, as opposed to being carried by a punching tool or a tool adaptor. Such a mounting for the stripper and holddown combination permits ease of access to the tool holder and adaptor, for removal or replacement thereof, as for example during a change in tool size. In the single station type of punch press, the stripper and holddown assembly is mounted

on a spacer carried by the ram adaptor and a dishlike plate, the plate having a lower planar surface which engages a workpiece for clamping the same, with the stripper cap being threadably connected into the dishlike plate. The turret type of punch press utilizes a platelike plate. The turret type of punch press utilizes a platelike stripper and holddown assembly, carried by and axially movable relative to the rotary turret plate, and vertically driven by a C-shaped yoke or spacer which is springcarried by the ram adaptor.

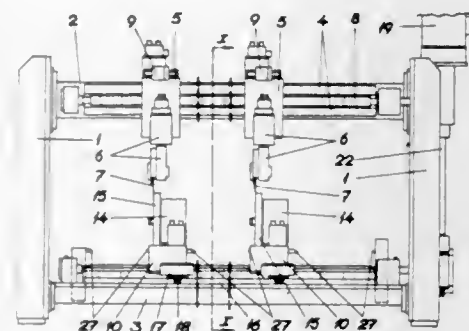
3,540,340 LONGITUDINAL SHEET CUTTER

Veli Sauli Koskela, Jyväskylä, Finland, assignor to Valmet Oy Punanotkonkatu, Helsinki, Finland a corporation of Finland

Filed March 13, 1968, Ser. No. 712,681
Int. Cl. B26d 1/24; B23d 19/06

U.S. Cl. 83-499

1 Claim



The upper and lower blade slides of a longitudinal sheet cutter are mechanically coupled with each other, so that the displacement mechanism for adjusting the blades to the desired cutting width operates only upon one of the slides, while the other slide follows automatically.

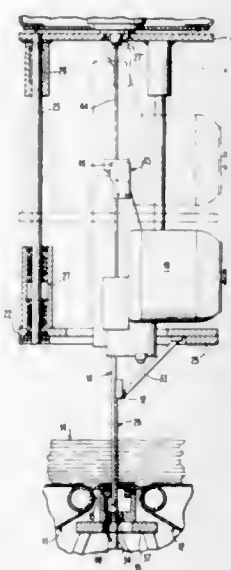
3,540,341 MATERIAL CUTTING MACHINE HAVING RECIPROCATING CUTTING BLADE WITH A NONRECIPROCATING GUIDE

George W. Sederberg, Highland Heights, Kentucky, assignor to Cincinnati Milacron Inc., Cincinnati, Ohio a corporation of Ohio

Filed May 6, 1968, Ser. No. 726,659
Int. Cl. B26d 1/00

U.S. Cl. 83-563

8 Claims



A material cutting machine has a substantially vertical cutting blade adapted to cut material disposed in a substantially horizontal plane. A nonreciprocating guide continuously guides and supports the cutting blade and is lifted with the cutting blade when the cutting blade is lifted from engagement with the material for rotation of both the cutting blade and the guide to change the heading of the cutting blade.

3,540,342 SELF-ALIGNING HIGH TORQUE SCREW SLOT

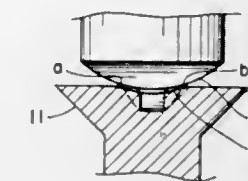
Rudolph Marion Vaughn, 2172 Salt Air Drive, Santa Ana, California 92705

Filed April 23, 1969, Ser. No. 818,546

Int. Cl. F16b 23/00

U.S. Cl. 85-45

2 Claims



A high-torque screw head having a transverse slot with an arcuate bottom for use with a high-torque driving screw driver similarly being provided with an arcuate blade is modified to aid in guiding the driver blade into proper position for reception in the slot. This modification takes the form of a circular recess of diameter greater than the width of the slot formed on the top surface of the screw head in a position coaxial with the longitudinal axis of the screw. The radius of curvature of the recess is less than the radius of curvature of the arcuate end of the driver blade so that only two point contact results when the blade engages the recess, rotation of the blade being guided by the recess to maintain proper positioning of the driver turning axis with respect to the longitudinal axis of the screw so that the driver blade will drop into the screw head slot when it is aligned with the slot.

3,540,343 SOUND-CONTROLLED LIGHTING SYSTEM

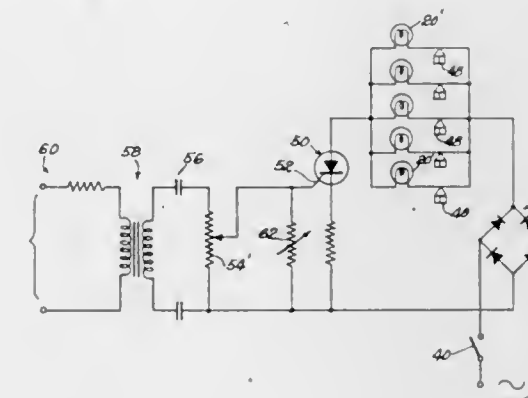
Marvin Rifkin, Chicago, Illinois, assignor to Curtis-Electro Lighting, Inc., Chicago, Illinois a corporation of Illinois

Continuation-in-part of application Ser. No. 776,071, Nov. 15, 1968. This application June 11, 1969, Ser. No. 834,227

Int. Cl. A63j 17/00

U.S. Cl. 84-464

14 Claims



A light display for connection with the speaker of a radio, phonograph or other sound-producing system. The light display comprises a housing and a plurality of lamps mounted within the housing. A control circuit is provided for delivering power to the lamps, the circuit including leads for connection with the audio output of the speaker. A control element such as a silicon-controlled rectifier is connected in the line between a power source and the lamps whereby the power input to the lamps is varied in response to the audio output since the audio output will control the conductivity of the control element.

3,540,344 MINIATURIZED METRONOME WITH EARPHONE AND VOICE AMPLIFIER

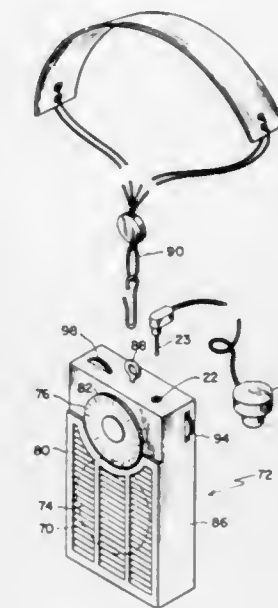
Robert D. Veech, 11 Yates Ave., Commack, Suffolk County, New York 11725

Continuation-in-part of application Ser. No. 549,967, May 13, 1966, now abandoned. This application Nov. 29, 1968, Ser. No. 784,529

Int. Cl. G04b 21/00

U.S. Cl. 84-484

12 Claims



This invention relates to timing devices, and more particularly to an electronically actuated metronome made of components small enough to be housed in a pocket-sized casing including a loudspeaker and adapted to be used with an earphone through a jack with loudspeaker cutoff so that the device may be personalized to the user without creating a disturbance to others. There may also be further switching means to include the loudspeaker within the circuit even when the earphone is plugged in; a plug-in timer; and a plug-in amplifier connected through earphone plug jack means so that the instructor or other person may use the loudspeaker of the device as a microphone to give instructions or the like to a large orchestra or to a class and thereby amplify his voice by means of the device.

ERRATUM

For Class 85-45 see:
Patent No. 3,540,342

3,540,345 AMMUNITION FEED FOR A MACHINE GUN

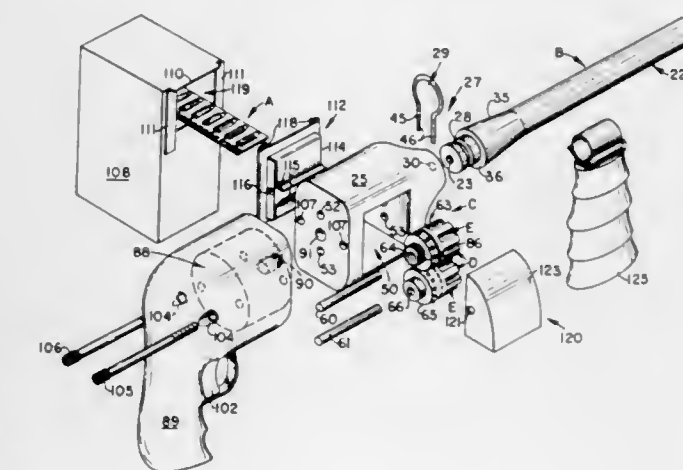
Baron C. Wolfe, P.O. Box X, Eureka, California 95501

Filed June 5, 1968, Ser. No. 734,773

Int. Cl. F41d 7/04

U.S. Cl. 89-13

2 Claims



A rapid fire machine gun for firing rounds of ammunition having no casing enclosing the propellant charge. The weapon has a chamber apparatus including first and second

rotating cylinders, each including complementary chamber defining segments or recesses for defining in rapid sequence successive firing chambers for belted ammunition. These cylinders are intercoupled and rotated with their respective peripheries immediately adjoining and form chambers in registry behind the weapon bore at their respective chamber-defining segments in the periphery of each cylinder. A belt or membrane having a series of ammunition rounds spaced in preselected side-by-side relation is fed and compressively gripped between the two rotating cylinders, each round sequentially gripped between the paired segments. When the cylinders are rotatably positioned with a pair of chamber segments in registry behind the bore, the propellant charge contained in the space between such segments is fired. The rate of firing is established by the rate of rotation of the cylinders; a motor is provided for driving the cylinders at any desired rate.

3,540,346

MACHINE TOOL HAVING LONGITUDINALLY ADJUSTABLE MACHINING SPINDLE HYDRAULICALLY CLAMPED FOR OPERATION

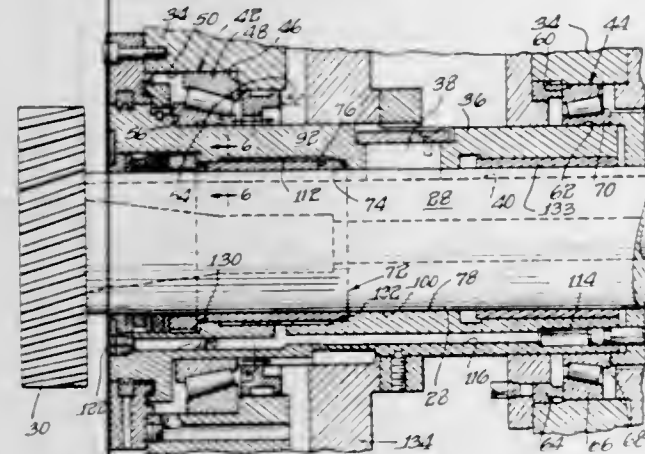
Gordon H. Jones, Van Dyne, Wisconsin, assignor to Giddings & Lewis, Inc., Fond du Lac, Wisconsin a corporation of Wisconsin

Filed July 12, 1968, Ser. No. 744,458

Int. Cl. B23c 1/12

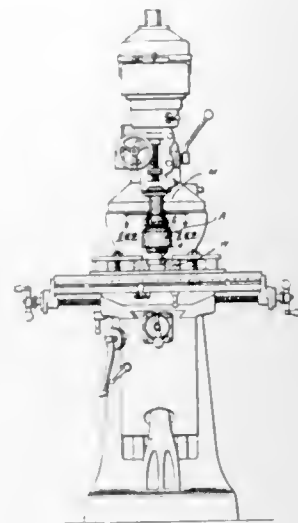
U.S. Cl. 90-11

8 Claims



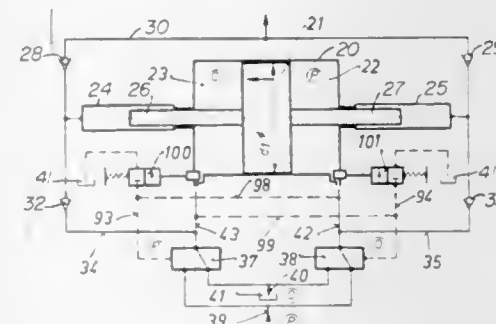
A machine tool having a longitudinally adjustable machining spindle carried by a rotary spindle sleeve and securely clamped releasably within the sleeve by a clamping bushing encircling the spindle with very little maximum clearance therebetween and having an interference fit with encircling structure on the sleeve so that the clamping bushing has a high residual stress in compression even when released from the spindle for longitudinal adjustment of the latter with the consequence that high hydraulic pressure applied to predetermined areas of the external surface of the clamping bushing effects hard compressive contact with the spindle of bushing structure opposed by the hydraulic pressure and adjacent structure of the bushing unopposed by the hydraulic pressure is continuously forced into hard compressive contact with the encircling structure on the sleeve to the end that the spindle when clamped in a longitudinally adjusted working position is securely supported radially in a position precisely coaxial with the spindle sleeve. The clamping bushing is assembled with the encircling structure on the spindle sleeve with which it has a marked interference fit by forcing the bushing longitudinally into the encircling structure thus producing a high compressive stress in the bushing, which is subsequently ground internally with great precision to fit closely around the spindle with minimal clearance for longitudinal adjustment of the spindle.

3,540,347
METHOD AND APPARATUS FOR MACHINING WORKPIECES
Joseph Gerard Randall, Boston, Massachusetts (28 Wrentham St., Dorchester, Mass. 02122)
Filed Aug. 15, 1968, Ser. No. 752,956
Int. Cl. B23c 1/06; B23b 47/00
U.S. Cl. 90-15
8 Claims



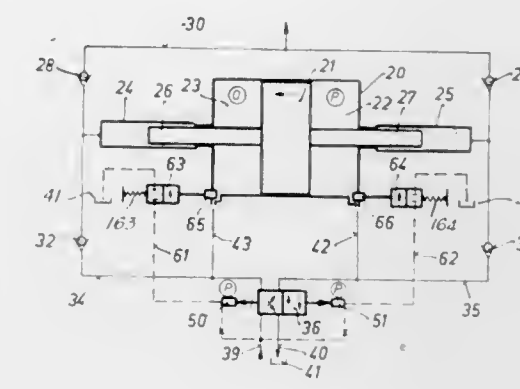
A boring attachment for use with a milling machine, includes an input shaft, an output shaft, gear mechanism for driving the output shaft, and a special slide device for adjustably positioning the output shaft. The arrangement of gearing and slide mechanism is such that a hole may be bored at one rotative speed of a cutting tool secured to the output shaft and simultaneously the output shaft and cutting tool may be moved in a circular path of travel at another rate of speed.

3,540,348
FLUID OPERATED CONTINUOUSLY ACTUATED RECIPROCATING PISTON DRIVE
Hermann Joseph Pennter, 10 Zeppelinstr., 1 Saarbrücken, Germany
Continuation of application Ser. No. 558,176, May 17, 1966, now abandoned. This application Dec. 9, 1968, Ser. No. 785,023
Claims priority application, Germany, May 20, 1965, St. 23,856
Int. Cl. F01H 25/06
U.S. Cl. 91-306
8 Claims



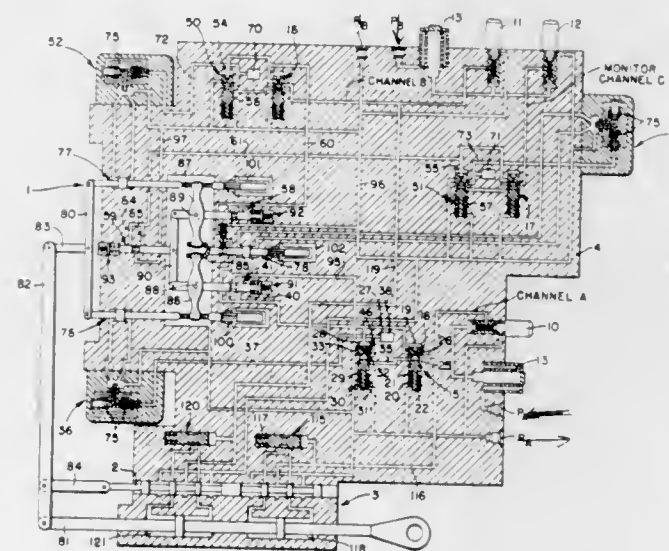
A double acting pressure booster having at least one reversing valve for reversing the pressure medium towards one or the other side of the low pressure piston wherein the reversing valve is reversed by a pressure difference created by the movements of the low pressure piston. The slide member of the reversing valve has at least one two-step control surface, one surface of which is without effect in one end position of the slide member due to being sealed off and the other surface is constantly subjected to the pressure medium while the slide member is maintained in the end position by a greater counterforce. During the reversing action the sealed-off control surface is connected up suddenly after an initially delayed movement of the slide member so that the valve is reversed positively also during the creeping movement of the low pressure piston.

3,540,349
FLUID-OPERATED CONTINUOUSLY ACTUATED RECIPROCATING PISTON DRIVE
Hermann Joseph Pennter, 10 Zeppelinstr., 1 Saarbrücken, Germany
Original application May 17, 1966, Ser. No. 558,176, now abandoned. Divided and this application Dec. 9, 1968, Ser. No. 810,417
Claims priority, application Germany, May 20, 1965, St. 23,856
Int. Cl. F01H 25/06
U.S. Cl. 91-306
8 Claims



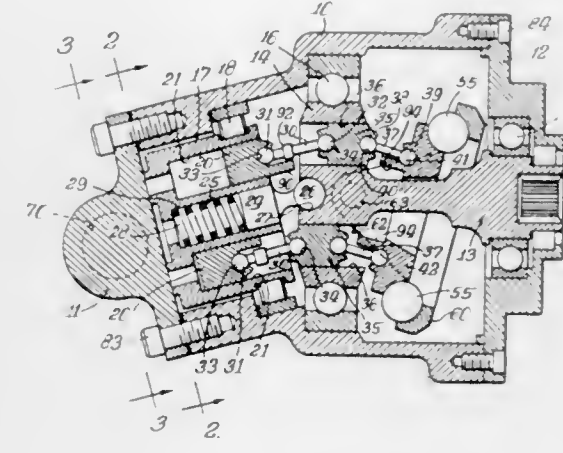
A double-acting pressure booster having at least one reversing valve for reversing the pressure medium towards one or the other side of the low pressure piston wherein the reversing valve is reversed by a pressure difference created by the movements of the low pressure piston. The slide member of the reversing valve has at least one two-step control surface, one surface of which is without effect in one end position of the slide member due to being sealed off and the other surface is constantly subjected to the pressure medium while the slide member is maintained in the end position by a greater counterforce. During the reversing action the sealed-off control surface is connected up suddenly after an initially delayed movement of the slide member so that the valve is reversed positively also during the creeping movement of the low pressure piston.

3,540,350
HYDROSTATIC CONTROL FAILURE DETECTION DEVICE
Victor H. C. Heine, Kalamazoo, Michigan, assignor to Pneumo Dynamics Corporation, Cleveland, Ohio a corporation of Delaware
Filed Aug. 29, 1968, Ser. No. 756,165
Int. Cl. F15b 20/00, 13/08, 9/10
U.S. Cl. 91-360
16 Claims



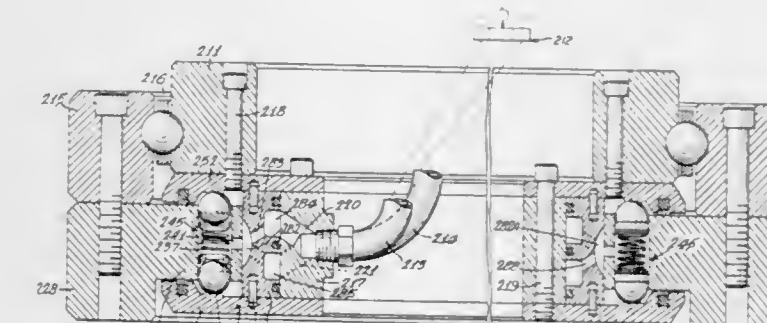
Hydrostatic control failure detection device includes plural channels each including a servoram driven by a torque motor, the output motion of all of the servorams being compared and monitored by comparator links which detect any failures in the channels and deactivate the servoram associated therewith to permit the other servorams to control unit output.

3,540,351
HYDRAULIC PUMP OR MOTOR
George A. Schauer, Rockford, Illinois, assignor to Sundstrand Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 114,366, June 2, 1961, now abandoned. This application July 2, 1963, Ser. No. 292,267
Int. Cl. F04b 41/00, 1/02; F16h 33/06
U.S. Cl. 91-506
15 Claims



An axial piston hydraulic unit of the swashplate type comprising a rotary barrel having pistons reciprocally mounted therein, a stroke regulator, a crosshead between the barrel and the stroke regulator and links between both the crosshead and the barrel and between the crosshead and the stroke regulator.

3,540,352
HYDRAULIC MOTOR UNIT
John T. Parrett, Benton Harbor, Michigan, assignor to Koehring Company, a corporation of Wisconsin
Continuation-in-part of application Ser. No. 598,340, Dec. 1, 1966, now Patent No. 3,435,774. This application Feb. 7, 1969, Ser. No. 797,635
Int. Cl. F01b 31/04; F01H 33/02
U.S. Cl. 91-501
10 Claims



A hydraulically driven turntable with a base defining a stationary annular cylinder block with axial cylinders therein, the cylinder block being flanked by opposed cam plates fixed with respect to the turntable and reciprocating opposed pistons in the cylinders, there being also provided an annular valving member within the cylinder block having spaced annular manifold passages therein.

3,540,353

BELLOWS BONDED AT INNER PERIPHERAL EDGES

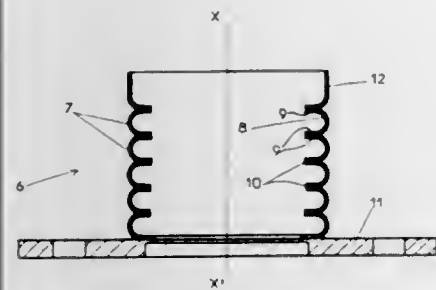
Jean Langlet, Neuilly Sur-Seine and Joseph Gustave Etienne Andre, Toulouse, France, assignors to Callisto, La Garenne, France and Sud-Aviation, Paris, France, French Companies Original application Apr. 4, 1966, Ser. No. 539,780 now U.S. Pat. No. 3,442,005. Divided and this application Feb. 20, 1969, Ser. No. 801,135.

Claims priority, application France, Apr. 3, 1965, 11,854. Int. Cl. F16j 3/00

U.S. Cl. 92-34

4 Claims

A bellows in which a plurality of thin-walled annular members of substantially U-shaped cross section are arranged axi-



ally aligned with each other in abutting relationship and bonded to each other at the inner peripheral edges thereof.

3,540,354

APPARATUS FOR APPLYING A FILLING AGENT TO A CORRUGATED BOARD

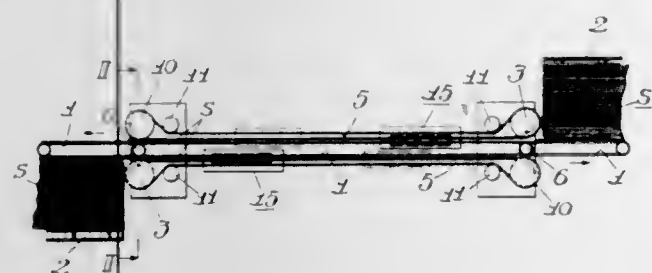
Sachihiko Tachibana, Kita Adachi-gun, and Shoichi Kawase, Tokyo, Japan, assignors to Honshu Seishi Kabushiki Kaisha, Tokyo, Japan

Filed May 20, 1968, Ser. No. 730,325

Int. Cl. B05c 1/08

U.S. Cl. 93-1

4 Claims



An apparatus for applying a filling agent or filler to the edge portions of a corrugated board having a corrugated medium forming a number of flutes, more particularly to the edge portions which extend transversely in relation to said flutes comprising a transfer means for holding a corrugated board upright so that one of said edge portions is positioned lowermost and for transferring the corrugated board in a horizontal direction; at least a pair of rolls provided in facing relation to the path of travel of the corrugated board transferred by said transfer means. At least one side surface of said lower edge portion of the corrugated board is compressed between said rolls. A plurality of rolls each contacting at one portion thereof with a filling agent stored in a reservoir and provided at a position next to said pair of rolls and beneath the path of travel of the corrugated board and extend crosswise of the direction of travel of the corrugated board. The corrugated board is compressed and crushed at the lower edge portion thereof by said pair of rolls, and the filling agent is applied to the compressed edge portion by reverse coating rolls in contact with the filling agent stored in the reservoir to give high water or moisture resistance to the edge portion of the corrugated board. The amount of the filling agent applied is kept uniform and adequate by other coating rolls, excluding the stationary roll located at the most forward position in the direction of travel of the corrugated board, since these rolls rotate in a reverse direction in relation to the direction of travel of the corrugated board and are arranged in spaced relation to each other, and each of openings between adjacent rolls has a different width which decrease in the direction of travel of the corrugated board.

3,540,355

BAG MAKING APPARATUS

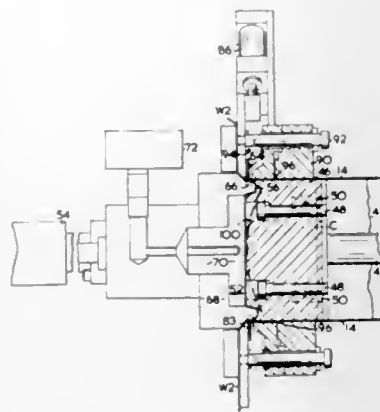
John Gunyou and Charles E. Wright, Toronto, Ontario, Canada, assignors to E. S. & A. Robinson (Canada) Limited, Toronto, Ontario, Canada

Filed Jan. 16, 1969, Ser. No. 791,590

Int. Cl. B31b 1/08, 1/16, 43/00

U.S. Cl. 93-20

13 Claims



An apparatus for continuous manufacture of thermoplastic bags having limp sidewalls and a semirigid base which will have free-standing properties both when full or empty, from flat webs of thermoplastic materials with different thickness or density wherein means for forming in situ the heavier material into a semirigid base, means for forming the lighter material into an elongated tube, means for bringing the tube into contact with the formed base, means to heat seal the tube to the base and means to sever the formed bag from the web of heavier material and from the tube are provided.

3,540,356

METHOD OF MANUFACTURING PAPER BAGS PROVIDED WITH AN INNER LINING MEMBER OF PLASTIC MATERIAL

Daniel Lecomte, Saint Etienne du Rouvray, France, assignor to Societe Anonyme dite: CRAFTSAC, Petit-Quevilly, France

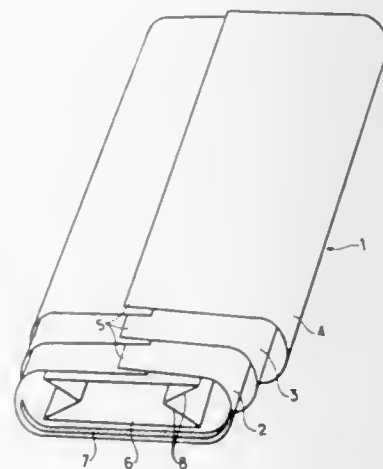
Filed March 13, 1969, Ser. No. 806,835

Claims priority, application France, March 15, 1968, 144,075; certificate of addition Feb. 4, 1969, 6,902,484

Int. Cl. B31b 49/04

U.S. Cl. 93-35

4 Claims



A continuous tube intended to be cut up in tube lengths is formed including an inner lining member of plastic material and one or more paper plies folded around said lining member and adhesively bonded longitudinally together, a transverse stripe of releasing, i.e. antiadhesive material, is applied upon the inner surface of the inner paper ply on a width corresponding to one side of the flattened tube, in the regions intended to form at least one of the two ends of each length of tube after the continuous tube has been cut up, at least one end of the inner lining member of a tube length is welded by heating across the paper enveloping the lining member at the level of the releasing stripe, and the bottom or bottoms of the tube length are formed in the usual manner.

3,540,357

OVERLENGTH EXTENDED SLOTTED MECHANISM

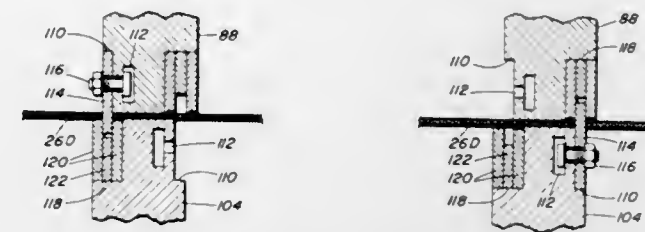
Henry D. Ward, Jr., Phoenix, Maryland, assignor to The Ward-Turner Machinery Company, Baltimore, Maryland a corporation of Maryland

Filed May 9, 1968, Ser. No. 727,975

Int. Cl. B31b 1/08, 1/22, 19/14

U.S. Cl. 93-58.4

10 Claims



In a carton manufacturing machine, the opposing members of a pair of slotting wheels are made with their circumferences related in the ratio of one to one and one half. They rotate at a common rate of peripheral speed which corresponds to the normal travel or cycle rate of a carton blank through the machine. These wheels mount interchangeably the male cutting members for the slotting function. With the male knives on the smaller diameter wheel, normal rate of operation of the machine obtains.

When extended length cartons are to be slotted, a feed mechanism operates to supply a blank every third cycle and the male knives are mounted on the larger diameter wheel taking advantage of its greater peripheral length and slower cyclic rate. Resumption of normal operation from extended operation involves only the exchange of knives and no shifting of gears. Annular female die rings are on both wheels and require no changing or indexing.

3,540,358

MARKER BUTTON SETTER

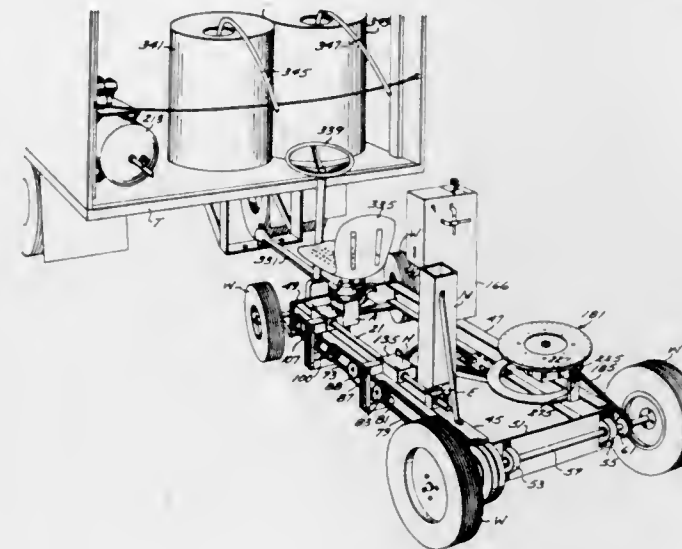
John P. Oakley, Pasadena, California, assignor to Park International Corporation, Long Beach, California a corporation of California

Filed Aug. 21, 1968, Ser. No. 754,276

Int. Cl. E01c 19/00

U.S. Cl. 94-39

8 Claims



A marker button setter including a frame carried on supporting wheels and mounting an adhesive applicator, a marker button magazine, feed means for dispensing buttons from said magazine and a plunger for engaging a button held by the feed means to press buttons onto a charge of adhesive applied to the pavement by the applicator. The magazine includes a dispensing opening and the feed means includes an ejector which ejects buttons from such opening and also includes a carrier which holds the ejected button under the plunger for engagement thereby to set said button on such charge of adhesive. The applicator and plunger may be reciprocated forwardly and rearwardly on the frame to maintain them stationary with respect to the ground while they are active in applying the adhesive and button, respectively. Timing means is coupled with one of the wheels and actuates the applicator to apply a charge of adhesive to the pavement, then actuates the feed means to eject a button from the

magazine and hold it for setting and thereafter actuates the plunger to set such button.

3,540,359

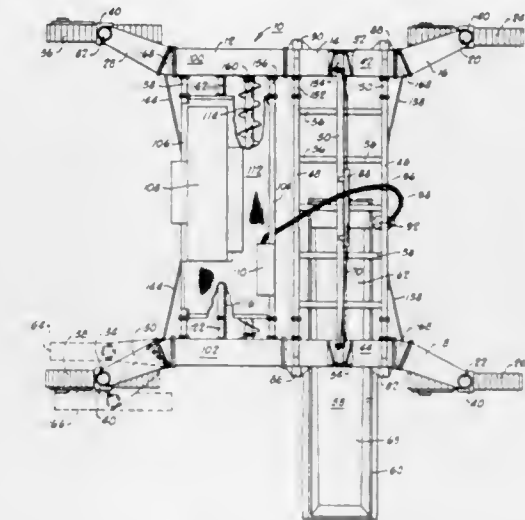
PAVING MATERIAL DISTRIBUTION APPARATUS
George W. Swisher, Jr.; Gordon L. Spivey, Oklahoma City and Don W. Smith, Edmond, Oklahoma, assignors to CMI Corporation, Oklahoma City, Oklahoma a corporation of Oklahoma

Filed Aug. 2, 1968, Ser. No. 749,731

Int. Cl. E01c 19/44

U.S. Cl. 94-46

20 Claims



Apparatus for evenly distributing paving material along a prepared roadbed, the apparatus consisting of a main frame and laterally disposed support element which carries a transversely movable conveyor assembly, a paving material spreading mechanism, and a paving material strike-off mechanism as a rearmost operating element. The conveyor assembly is constructed so that it can be controlled to extend a hopper portion of the conveyor assembly outboard from the roadway to receive paving material from standard dump-type trucks and, thereafter, the conveyor is controllably moved transverse to the roadway and relative to the main frame to dump paving material at selected points across the roadway in front of the spreader and mold-board mechanisms.

3,540,360

CONTROL SYSTEMS FOR ROAD CONSTRUCTION MACHINERY

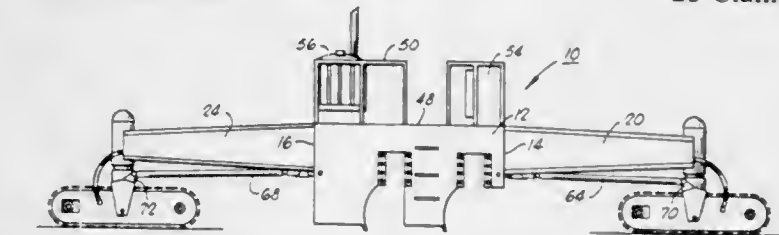
Ralph K. Snow, Jr.; Gordon L. Spivey; Thomas L. Steele and George W. Swisher, Jr., Oklahoma City, Oklahoma, assignors to CMI Corporation, Oklahoma City, Oklahoma, a corporation of Oklahoma

Filed Aug. 2, 1968, Ser. No. 749,823

Int. Cl. E01c 19/48

U.S. Cl. 94-46

25 Claims



Method and apparatus for controlling road construction machinery such that operating elements are accurately controlled to condition a roadway surface to a predetermined level along a preset path, such apparatus utilizing control sensing mechanism which serves to adjust the height and/or crown profile of a surface relative to a reference level in coaction with leveling and steering adjustment as continually fed into the mobile supporting elements of the machinery. The continual adjustment control may be effected with respect to any of several selected reference levels to control the relative height of various operating elements such as strike-off, auger assemblies, screeds and various other of the surface-forming instrumentalities.

3,540,361

OPTICAL FIELD CORRECTION DEVICES FOR AN ELECTRONIC PHOTOCOMPOSITION SYSTEM

John C. Schira, Princeton, New Jersey, assignor to RCA Corporation, a corporation of Delaware

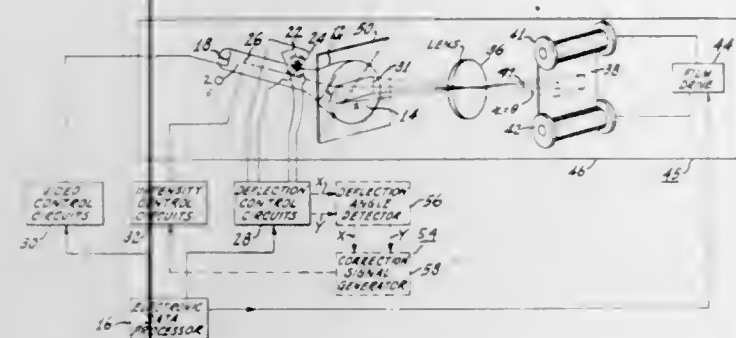
Filed May 22, 1967, Ser. No. 640,005

Claims priority, application Great Britain, Aug. 16, 1966, 36,622/66

Int. Cl. B41b 19/06

U.S. Cl. 95—45

2 Claims



An optical field correction device is incorporated into an electronic photocomposition system to correct for unequal transmission of light through a focusing lens. Different attenuations of light occur in a focusing lens depending upon the different angles the light rays make with the optical axis of the focusing lens. Such a lens is utilized in the photocomposition system to focus onto photographic film, patterns that are initially formed on an electronic display device, such as a cathode ray tube. The optical field correction device is made to exhibit a light transmission characteristic complementary to that of the focusing lens and is positioned in the photocomposition system so that, in combination with the lens, uniform transmission of light to the photographic film occurs.

3,540,362

CAMERA MASKING DEVICE PARTICULARLY USEFUL IN IDENTIFICATION CARD CAMERAS

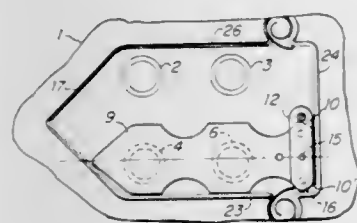
Frederick W. Macone, Carlisle, Massachusetts, assignor to Avant Incorporated, Lincoln, Massachusetts a corporation of Massachusetts

Filed March 21, 1968, Ser. No. 714,940

Int. Cl. G03b 19/02

U.S. Cl. 95—36

12 Claims



A camera masking device which includes a movable masking member which is translated in space in a positive and reliable manner to selectively cover one or the other of two pair of light transmission openings or to assume a position intermediate the two light transmission openings. The movable masking member is in the form of a flat plate having a rectangular portion and a triangular portion. The masking member is driven through various positions and is guided by a cavity which also has a rectangular portion and a triangular portion. This configuration results in a compact masking device which produces strictly translational displacement of the masking member in response to rotary input motion.

3,540,363

EXPOSURE METER ARRANGEMENT FOR A SINGLE LENS REFLEX CAMERA HAVING INTERCHANGEABLE LENSES

Shigeo Ono, Yokohama-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan a corporation of Japan

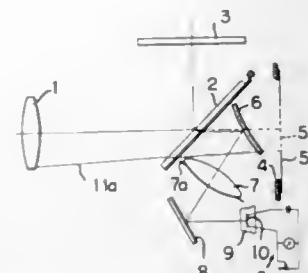
Filed Jan. 23, 1968, Ser. No. 699,820

Claims priority, application Japan, Jan. 27, 1967, 42/7,071

Int. Cl. G03b 19/12

U.S. Cl. 95—42

2 Claims



A relay optical system for an exposure meter built into a single lens reflex camera having interchangeable objective lenses. The relay optical system forms a conjugate image of the photosensitive surface of the exposure meter intermediate the exit pupil of any one of the interchangeable objective lenses thereby eliminating all interference by exit pupil size or position when lenses are interchanged. A stop is provided at the image plane within the relay optical system for restricting that portion of the object to be measured.

3,540,364

LIGHT SHIELDING DEVICE FOR A SINGLE LENS REFLEX CAMERA

Shigeo Ono, Yokohama-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan a corporation of Japan

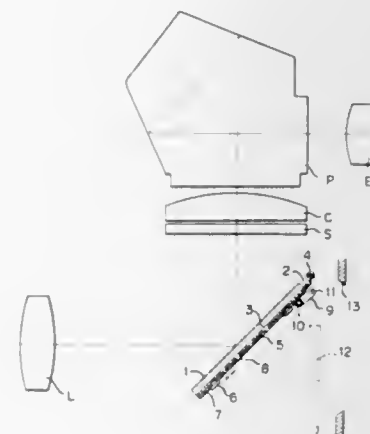
Filed Jan. 25, 1968, Ser. No. 700,574

Claims priority, application Japan, Feb. 2, 1967, 42/8728; 42/8729

Int. Cl. G03b 19/12

U.S. Cl. 95—42

8 Claims



A light shielding member for the viewing mirror of a single lens reflex camera is provided for blocking extraneous light rays entering the view finder during exposure of the film. A semi or partial transparent viewing mirror is provided with a supporting plate having openings through which the light rays may pass to impinge upon a photocell for an exposure measurement when the viewing mirror is in its viewing or lowered position. A light-shielding plate provided with similar openings is slidably mounted on the mirror-supporting plate, the arrangement being such that when the mirror is in its viewing position, the openings in both plates coincide to permit photometric measurements. When the mirror is raised for making an exposure, the supporting plate and shielding plate are relatively moved to cover the openings in the plates to block out the extraneous light.

3,540,365

DEVICE FOR ELEVATING AND LOWERING A REFLECTING MIRROR IN A SINGLE LENS REFLEX CAMERA

Sunao Ishizaka, Tokyo and Shigeo Ono, Yokohama-shi, Japan, assignors, to Nippon Kogaku K. K., Tokyo, Japan a corporation of Japan

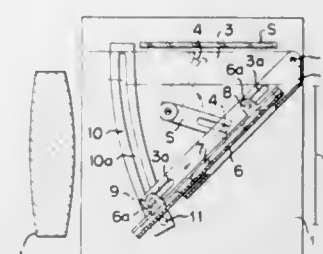
Filed March 6, 1968, Ser. No. 710,920

Claims priority, application Japan, March 9, 1967, 42/19938; 42/19939

Int. Cl. G03b 19/12

U.S. Cl. 95—42

8 Claims



A mirror mechanism is disclosed for raising and lowering the viewing mirror of a single lens reflex camera wherein photometric measurements are made through the camera lens. A plate is pivoted on a shaft within the camera body and the viewing mirror is slidably mounted on this support plate. Through guide cam means, the mirror is translated relative to the support plate to retract the forward or lower edge of the mirror as the support plate is pivoted between the viewing and raised positions of the mirror thus avoiding any interference with lens mounting. Both the plate and the mirror are formed with openings which are aligned when the mirror is in its lowered or viewing position to permit photometric measurements to be made. The openings are closed due to the relative translation of the mirror when the mirror is in its raised position to block out any extraneous light entering the eyepiece of the viewfinder.

3,540,366

AUTOMATIC PARALLAX INDICATING MEANS FOR TWIN LENS REFLEX CAMERAS WITH INTERCHANGEABLE OBJECTIVES

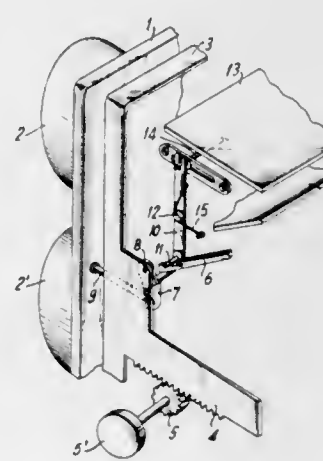
Michihiro Noguchi, Tokyo, Japan, assignor to Konica Camera Corporation, Woodside, New York

Continuation-in-part of application Ser. No. 705,978, Feb. 16, 1968. This application April 22, 1968, Ser. No. 723,126

Int. Cl. G07b 13/12

U.S. Cl. 95—44

10 Claims



A twin lens reflex camera with interchangeable objectives include a photographic objective, a finder objective, and an indicator which indicates the parallax between the finder objective and the photographic objective. A rod is movable parallel to the optical axis in accordance with adjustment of the photographic objective along the optical axis and operates a cam controlling the position of a parallax indicator. Each interchangeable objective has a pin or the like thereon correlated with its focal length, and the forward end of the rod engages this pin.

SSO O.G.—31

3,540,367

PHOTOGRAPHIC SHUTTER WITH ELECTRONIC TIMING DEVICE

Franz W. R. Starp, Calmbach, Black Forest, Germany, assignor to Pronter-Werk Alfred Gauthier G.m.b.H., Calmbach, Black Forest, Germany a corporation of Germany

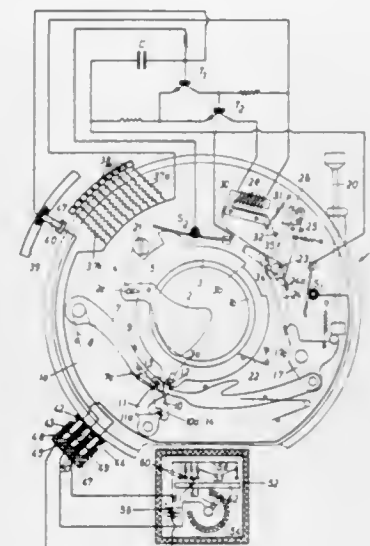
Filed Nov. 10, 1966, Ser. No. 593,565

Claims priority, application Germany, Nov. 27, 1965, P38220

Int. Cl. G03b 9/22, 9/62, 15/00

U.S. Cl. 95—53

9 Claims



A photographic camera provided with an electronic timing device having the time-determining components thereof contained within the shutter housing. The time-determining components of a resistance and capacitance wherein the resistance component is manually adjustable. A second set of resistances is provided in a separate housing and can be substituted in the circuit for those in the shutter housing so that the shutter speed is remotely adjustable.

3,540,368

PHOTOCOPY SEPARATING MEANS

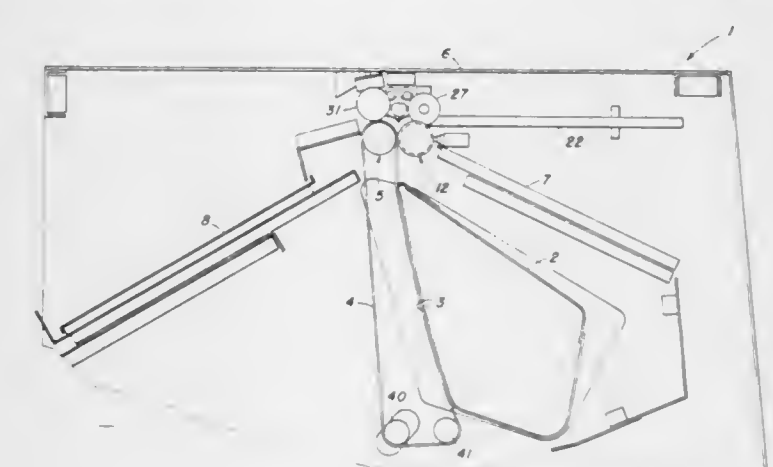
Paul Pekera, Binghamton, New York, assignor to GAF Corporation, New York, New York a corporation of Delaware

Filed June 30, 1967, Ser. No. 650,455

Int. Cl. G03d 3/12

U.S. Cl. 95—94

6 Claims



A unique snubbing roller assembly coacts with a sealing sleeve drive roller, whereby sensitized copy paper conveyed along the sealing sleeve is in a positive manner disengaged from the surface thereof. To this effect, the sealing sleeve is constructed of an endless belt which is entrained about a plurality of idler rollers and a sealing sleeve drive roller, and is driven by the latter. The drive roller, which is an elongated shaft member extending across the width of the developer apparatus, has reduced diameter portions along its length, the sealing sleeve belt being entrained about the larger diameter portions of the shaft. The snubbing roller, which is biased toward the drive roller, consists of a shaft extending parallel to the latter and has mounted thereon a series of spaced rollers or discs adapted to rotatably engage the sealing sleeve belt at the smaller diameter portions of the drive roller. This, in effect, places the discs of the snubbing roller

into interference with the surface of the developed copy paper as the paper is conveyed by the sealing sleeve, such that the copy paper is subjected to a corrugating action in its direction of travel. This corrugating action causes the copy paper to separate from the sealing sleeve by reducing or eliminating the tendency of the copy paper to adhere to the sealing belt surface thereby facilitating conveyance of the copy paper into a sheet material receiving tray. A unique and significant deflector and guide member selectively directs and guides developed copy paper conveyed by the sealing sleeve and snubbing roller, into a selected one of a pair of copy paper receiving trays. The deflector consists of a substantially V-shaped wedge member having its apex extending into the bight between the sealing sleeve drive roller and snubbing roller so as to form two diverging passageways for the copy paper conveyed thereto. Manual manipulation permits selective movement thereof, and thus guides the copy paper into the appropriate passageway for conveyance toward the selected sheet material receiving tray.

3,540,369

COOKING SUPPORT FOR SHRIMP

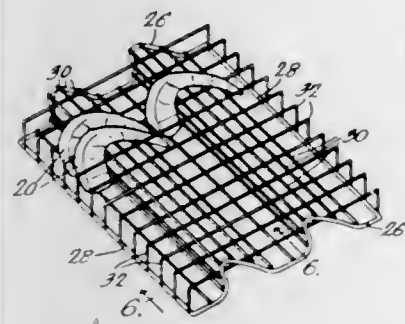
By mesne assignments to Holly M. Brooks, Guttenberg, N.J., now change of name by marriage Holly Brooks Hice, assignor to Vari-Phase, Inc., Lauderdale-by-the-Sea, Florida a corporation of Florida

Filed Nov. 16, 1966, Ser. No. 594,780

Int. Cl. A47j 43/18

U.S. Cl. 99—426

2 Claims



A food support for use in the cooking of shrimp to preclude the curling thereof. A tray formed of wire rods is provided with a plurality of upwardly extending guides running along the tray. The guides are formed of parallel rods fastened to a set of parallel rods having identical undulating configurations. An additional set of rods is utilized to support shrimp in an upright condition with their ventral surface in contact with the upper surface of the guides.

3,540,370

PRINTING APPARATUS AND IMAGE TRANSFER MEANS

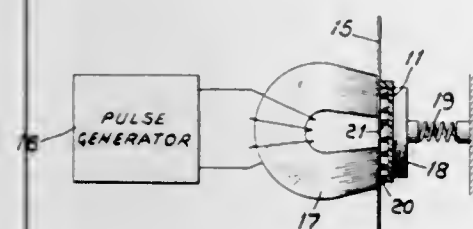
David B. Spaulding, Carlisle, Massachusetts, assignor, by mesne assignments, to International Telephone and Telegraph Corporation, Nutley, New Jersey a corporation of Delaware

Filed April 25, 1968, Ser. No. 724,085

Int. Cl. B41f 17/00

U.S. Cl. 101—1

5 Claims



A printing apparatus is provided having means for transferring an image on a transfer band to a record sheet, wherein means are included for accelerating said band towards said record sheet and means on said band cooperate to cause rapid deceleration of said band and transfer of said image onto said sheet.

3,540,371
APPARATUS FOR TRIMMING AND DECORATING PLASTIC WORKPIECES

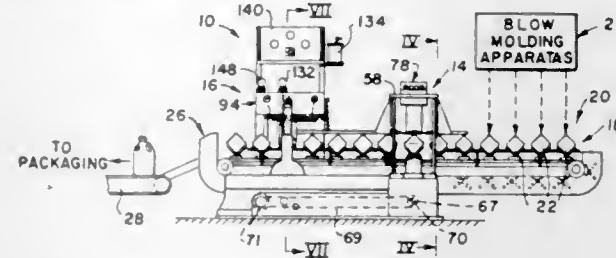
Rome R. Rudolph, Gibsonia; Carl Strutz, Jr., and Frank C. Strutz, Mars, Pa., assignors to Carl Strutz & Co., Inc., Valencia, Pennsylvania, a corporation of Pennsylvania

Continuation of application Ser. No. 647,802, June 21, 1967, now abandoned. This application July 14, 1969, Ser. No. 846,629

Int. Cl. B41f 17/18

U.S. Cl. 101—38

2 Claims



Unitary apparatus for trimming excess material from blow molded plastic workpieces and for applying decorative imprints to a selected area of said workpieces. The apparatus includes a base supporting endless conveyor means, trimming means and decorator means. The plastic workpieces are loaded onto one end of the conveyor means, are conveyed thereby sequentially past the trimming means and the decorator means, and are unloaded from the opposite end of the conveyor means. Surface treatment and imprint drying operations heretofore required are not required in the present unitary apparatus.

3,540,372

DEVICES FOR AUTOMATICALLY SETTING A PRINTING CYLINDER OF A ROTARY PRESS

Louis Jean Chambon, Paris, France, assignor to Societe D'Etudes De Machines Speciales Societe Anonyme, Paris, France

Filed March 17, 1967, Ser. No. 623,889

Claims priority, application France, March 25, 1966, 55,009

Int. Cl. B41j 1/22, 29/20

U.S. Cl. 101—92

15 Claims



An apparatus for continuously printing information on a traveling web is provided with means for selectively changing the context of the printed information without stopping the printing operation. Pairs of printing rollers having variably settable type wheels are disposed adjacent a traveling web and the printing rollers are mounted for synchronous movement such that one of the rollers is always in contact with the web to effect a printing operation while the other roller is out of contact with the web. Punched cards supply the information which is to be printed on the web to a control circuit which generates appropriate information signals. Shifting registers respond to the information signals and variably set the type wheel of the particular printing roller which is not in contact with the traveling web in accordance with the information contained on the punched cards. When the particular printing roller in contact with the traveling web completes its printing operation, it is moved out of contact with the web while the other printing roller whose type wheels were previously set is moved into contact with the web.

3,540,373

RECIPROCATABLE PLATEN IN SELECTIVE PRINT WHEEL PRINTING MACHINE

Paul Dubs, Zurich, Switzerland; Robert Hoffman, Park Ridge and Fritz Keiser, Des Plaines, Illinois, assignors to SCM Corporation, New York, New York a corporation of New York

Filed July 21, 1967, Ser. No. 655,115

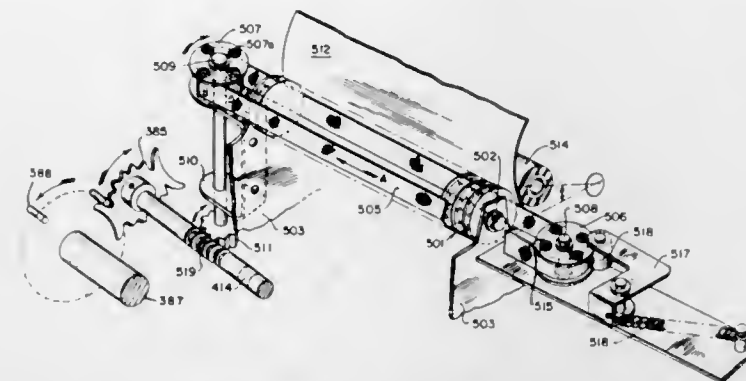
Int. Cl. B41j 35/00; B41i 47/46

U.S. Cl. 101—96

4 Claims

A printing mechanism suitable for use in combination with a business machine, or the like, utilizes a pivotally reciprocating print roller for printing. The print roller is rotatable about an axis parallel to a first shaft on which is rotatably mounted a set of print wheels having print facets thereon. The roller is pivotally mounted on a second shaft which is also positioned parallel to and spaced apart from the first shaft at a distance sufficient for the print roller to exert a rolling pressure on a record material disposed between the print wheels and the

ing print roller for printing. The print roller is rotatable about an axis parallel to a first shaft on which is rotatably mounted a set of print wheels having print facets thereon. The roller is pivotally mounted on a second shaft which is also positioned parallel to and spaced apart from the first shaft at a distance sufficient for the print roller to exert a rolling pressure on a record material disposed between the print wheels and the



reciprocating print roller. A cyclically rotating cam drive is used for pivotally reciprocating the print roller during each printing operation to move it from a first position above those print facets which are in a printing position, to a second position which is defined by a plane that includes the axis of the print roller and the axis of rotation of the first shaft and intercepts the lower surface of the print facets in the printing position, and to return it to the first position.

3,540,374

PRINTING APPARATUS EMPLOYING ROLLER PLATEN AND TRAVELING CARRIAGE

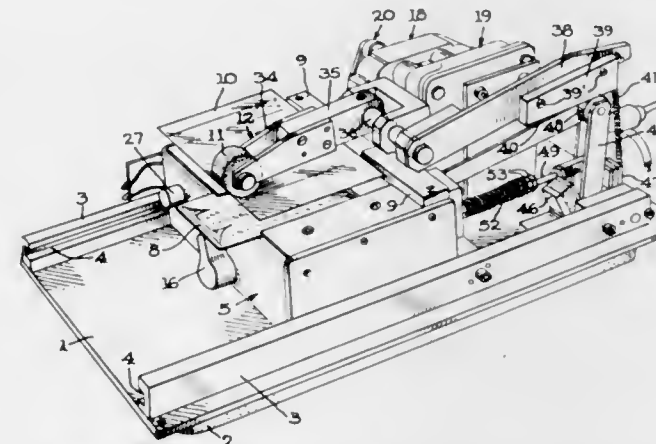
Harold L. Hudson, Syracuse, New York, assignor to Gaylord Bros., Inc., Syracuse, New York a corporation of New York

Filed Oct. 7, 1968, Ser. No. 765,461

Int. Cl. B41f 3/00, 3/04

U.S. Cl. 101—269

8 Claims



A portable printing machine of the type which is particularly suitable for library use in recording book loans and for other analogous uses, wherein a forwardly and rearwardly movable carriage is provided to support an embossed printing die member and a data-recording card or slip in superimposed printing relation so that as the carriage travels beneath a printing roller which is movable downwardly and upwardly into and out of rolling contact with the data-recording card or slip responsive to the traveling movements of the carriage, the data on the printing die member will be uniformly, distinctly and quickly printed on the recording card or slip. Traveling movement is positively imparted to the carriage by power means of the electromechanically operated crank and pitman type which is operable in timed relation to camming means acting upon the printing roller to move the latter into and out of printing position at predetermined times during travel of the carriage, and the power means is activated by a simple fingertip operated control member which serves to initiate a single printing cycle at a time, with the carriage being restored to a predetermined starting point, without overrun, as automatically controlled by brake means acting instantaneously on the power means when the carriage returns to the starting point of the printing cycle, attended by automatic

3,540,375

RECIPROCATING BED AND PLATEN PRINTING MACHINE WITH WEB FEEDING MEANS

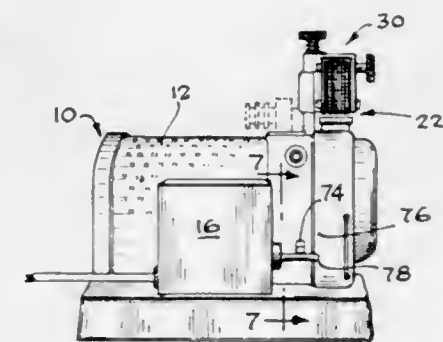
James A. Alton, P. O. Box 26, Peoria, Illinois 61614

Filed Oct. 29, 1968, Ser. No. 771,547

Int. Cl. B41f 1/08

U.S. Cl. 101—292

4 Claims



An electrically powered printing machine for printing price data, for example, on a rolled strip of adjoining stickers or labels by operators, usually store clerks, typically untrained in the operation of machinery and usually lacking in mechanical aptitude. A printing head comprising a plurality of juxtaposed, adjustable printing bands corresponding to successive digits of price data is reciprocated into and out of compressive engagement with a strip of labels supported by a platen and intermittently advanced into and out of printing position in synchronism with printing cycles of the printing head by feeding means and winding means driven in synchronism with the printing head by a common drive powered by an electric motor through a common clutch. Damage to the machine caused by adjustment of the printing bands attempted while the machine is stopped, but with the printing head advanced against the platen, is effectively precluded by integrated clutch and electric motor control means that responds to a simple stopping movement of a single manual control element to condition the common clutch to stop the printing head when it is retracted from the platen to a home position where the printing bands are free to rotate and to effect continued operation of the electric drive motor for a limited time sufficient to electrically power movement of the printing head back to its home position, the electric drive motor being automatically deenergized after driving the printing head back to its home position, all in response to the same stopping movement of the single manual control. A simple starting movement of the manual control reenergizes the electric motor and reengages the common clutch to drive the printing head, feeding means and winding means all in synchronism.

3,540,376

DEVICE FOR MOUNTING A NEGATIVE PLATE ON A PRINTING CYLINDER

Louis G. Corse, Paris, France, assignor to Societe D'Etudes De Machines Speciales, Societe Anonyme, Paris, France

Filed Feb. 10, 1969, Ser. No. 797,881

Claims priority, application France, Feb. 14, 1968, 139824

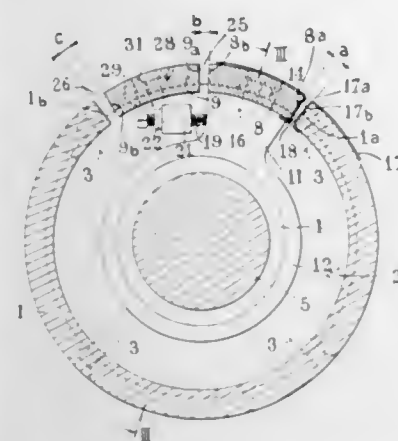
Int. Cl. B41f 27/06, 27/12

U.S. Cl. 101—415.1

3 Claims

A device for mounting a negative plate or sheet on a printing cylinder, of which the outer peripheral wall is discontinued in order to provide a longitudinal aperture extending throughout the length of the cylinder, comprising a cylindrical tensioning sector fitting in said aperture and forming with its peripheral surface the partial continuation of the cylinder peripheral surface, characterized in that it comprises in said longitudinal aperture of the cylinder at least one cylindrical bearing sector adjacent to said tensioning cylindrical sector,

the outer surface of said cylindrical bearing sector completing the outer peripheral surface of said cylinder and tension-



ing sector, and being mounted for transverse adjustment on the pair of lateral flanges of said cylinder.

3,540,377

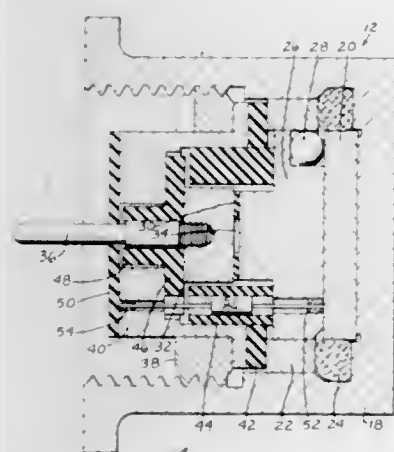
POWER SUPPLY FOR ELECTRICALLY ACTUATED FUSE

Joseph O. Juliano, Cedar Grove, New Jersey and Donald A. Bednar, Champaign, Illinois, said Bednar assigns to The Magnavox Company, Fort Wayne, Indiana a corporation of Delaware.

Filed Oct. 9, 1968, Ser. No. 766,091
Int. Cl. F42c 11/02, 11/06, 15/40

U.S. Cl. 101-70.2

8 Claims



Power supply for an electrically actuated fuse for an explosive charge in which piezoelectric crystal means are subjected to pressure to develop a voltage and a circuit including a spark gap connects the power supply with the fuse.

3,540,378

FLUIDIC TRACK FOR GROUND-EFFECT TRANSPORTATION

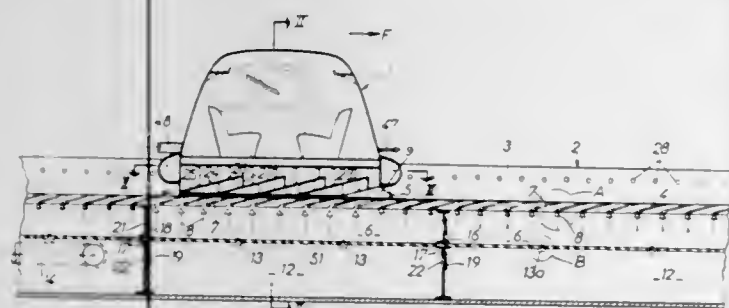
Francois Louis Giraud, Plaisir, France, assignor to Societe De L'Aerotrains, Paris, France a company of France

Filed Jan. 31, 1969, Ser. No. 795,495

Claims priority, application France, March 19, 1968, 144,391
Int. Cl. B60v 1/06, 1/12

U.S. Cl. 104-23

16 Claims



A fluidic track for ground-effect transportation has a multiplicity of valve-controlled discharge nozzles fed with pressure fluid tapped from a supply main through a succession of subplenums communicating with said supply main through

throttled passages designed for hindering recharge of said plenums with pressure fluid from said supply main.

3,540,379

FASTENER FOR AERIAL CABLES

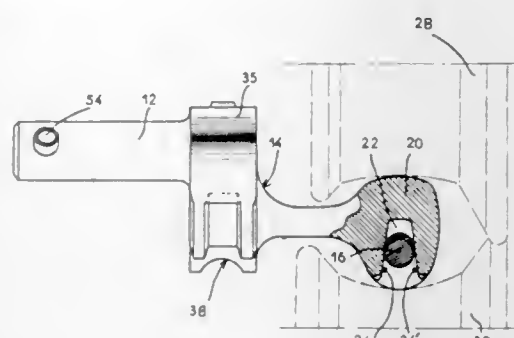
Jean Pomagalski, 114 Avenue de l'Eygala, 38-La Tronche, France

Filed March 13, 1968, Ser. No. 712,779

Claims priority, application France, March 15, 1967, 98,980
Int. Cl. B61b 7/20

U.S. Cl. 104-202

9 Claims



This disclosure concerns a disconnectible fastener for coupling a charge to a moving cable of a transport or towing installation using an aerial cable, which fastener includes a lever pivoted on a gripping member offering to the cable two shoulder surfaces shifted in the longitudinal direction of the cable and surrounding it from above and below, characterized by the fact that the surface of the upper shoulder has a jaw offering to the cable two substantially plane lateral contact surfaces relatively inclined with respect to their vertical bisector, the surface of the lower shoulder espousing the lower part of the cable to force it into the jaw, the pivoting point of the lever on the gripping member being located above the cable behind the gripping piece relative to the forward movement of the cable.

3,540,380

ARTICULATED RAILWAY TRANSPORTATION SYSTEM

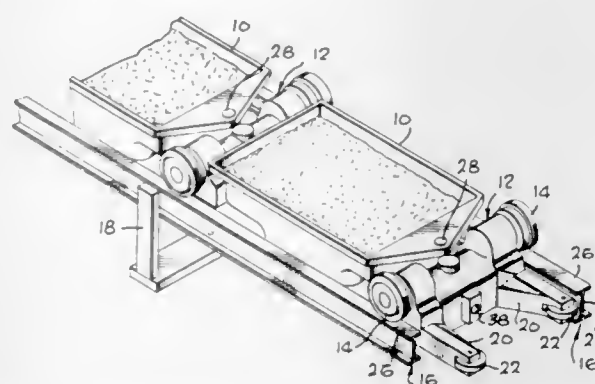
John S. Tumpak, Tarzana and Stanley A. Dashew, Beverly Hills, California, assignors to The Dashaveyor Company, Venice, California a corporation of California

Filed Dec. 18, 1967, Ser. No. 691,383

Int. Cl. B61b 5/00, 13/02; B61f 9/00

U.S. Cl. 104-246

19 Claims



A train system including drive units for supporting and propelling material-holding modules. The drive units run on I-beam tracks and include drive wheels which roll on the top flanges of the I-beam tracks and two pairs of guide wheels bearing against the webs of the I-beams to align the drive wheels with the tracks. Each drive unit has a vertical kingpin coupling to the module behind it and a universal ball joint coupling to the module in front. The motor and brakes of each drive unit are cooled by a blower which draws air from the motor and blows it onto a ventilated brake disc. Each drive unit includes a gear drive which engages a rack along the rail at steep grades, the gear unit containing an over-running clutch to enable engagement with the rack without accelerating the motor.

3,540,381

LOCOMOTIVE WITH ELEVATABLE CHASSIS AND COUPLER

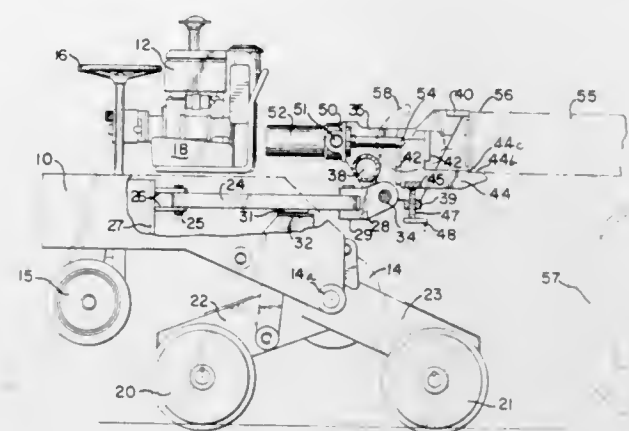
Eugene B. White, Jr., Park Forest, Illinois, assignor to Whiteing Corporation, a corporation of Illinois

Filed Feb. 29, 1968, Ser. No. 709,462

Int. Cl. B61c 11/00, 15/04; B11f 5/40

U.S. Cl. 105-75

9 Claims



The coupler includes a fluid pressure operated cylinder having the piston rod thereof supporting a draft ring, such ring being adapted for draft engagement with the draft hook of a European-type railway car. The coupler also includes abutment surfaces adapted for abutting engagement with the end sill adjacent the draft hook at locations above and below the same. Appropriate actuation of the above cylinder draws the coupler to the car as a rigid extension of the latter. The coupler is mounted on a railway traction vehicle or locomotive and means are provided for applying a lifting force to the coupler for transferring a portion of the weight of the car to the vehicle. The point of weight transfer between the car and the vehicle is spaced outwardly of the end sill thereby facilitating design and construction of a traction vehicle with respect to preventing tipping of the latter.

3,540,382

MOTOR ACTUATED HOPPER CAR DOORS

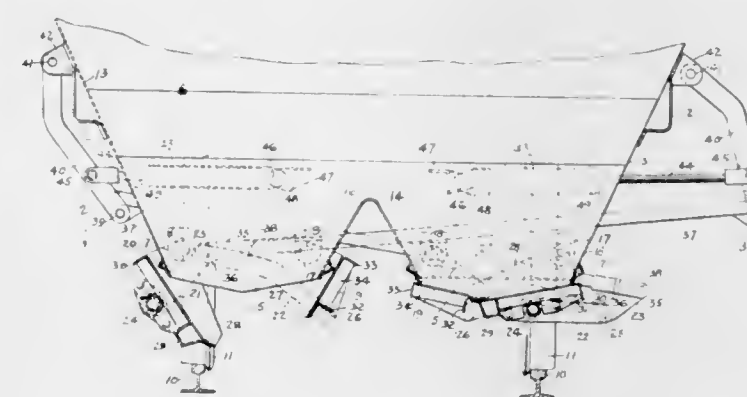
George B. Dorey, Westmount, Quebec, Canada, assignor to Continental Transport Appliances Limited, Montreal, Quebec, Canada a corporation of Canada

Filed Jan. 16, 1968, Ser. No. 698,347

Int. Cl. B61d 7/18, 7/06; B11d 7/28

U.S. Cl. 105-240

2 Claims



The invention relates to a drop bottom discharge hopper car having longitudinally extending oppositely swinging doors adapted to be sequentially moved to closed position by axially movable connections. The improvement relates to mechanism for sequentially and conjointly operating oppositely swinging discharge doors which are interconnected by toggle mechanism involving linkage and radial arm means, said improvement including extending the radial arm means beyond its pivotal connection with the linkage means with provision for acting on said extension by axially movable power transmitting connecting means.

3,540,383

ADJUSTABLE BULKHEAD

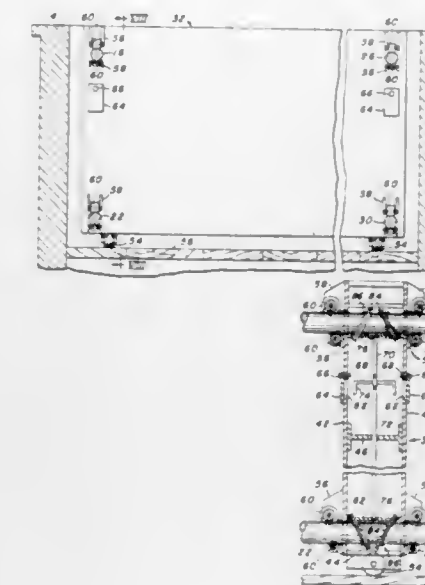
Anthony J. Carino, Box 277N, Rd. 1, Leechburg, Pennsylvania 15656

Filed Jan. 8, 1968, Ser. No. 696,218

Int. Cl. B61d 45/00

U.S. Cl. 105-376

4 Claims



This patent discloses an adjustable bulkhead for use in gondola-type railway cars and similar cargo-carrying spaces. According to the invention, there is provided a bulkhead that is readily adjustable to any desired location, so as to minimize the distance between it and the cargo held by it, and is at the same time not only readily disengageable but also, when held, positioned very securely so as to be able to withstand a stop of great abruptness. This is done by providing sturdy pipes running longitudinally of the cargo space, and means in the nature of a toggle-actuated pipe lock associated with the bulkhead for securing the bulkhead with respect thereto.

3,540,384

SIDE SILL STRUCTURE FOR RAILWAY FLAT CAR

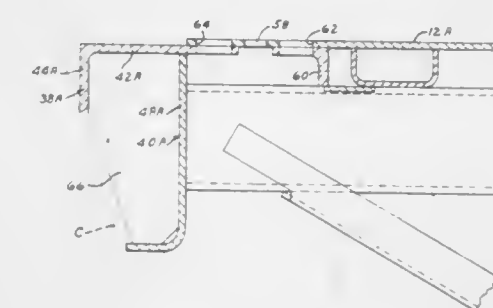
Asa Franklin Charles, St. Charles, Missouri, assignor to ACF Industries, Incorporated, New York, New York a corporation of New Jersey

Filed April 15, 1968, Ser. No. 721,458

Int. Cl. B61d 17/00; B61f 1/08

U.S. Cl. 105-418

6 Claims



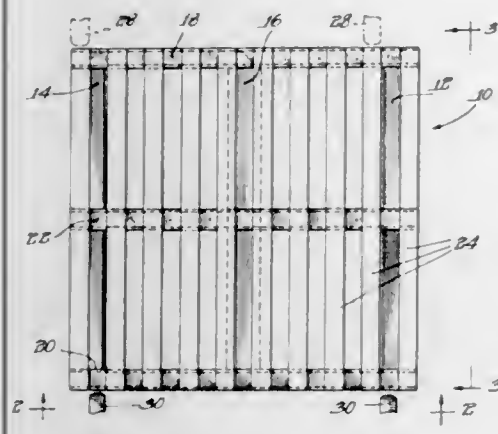
A side sill structure for a railway flat car having a generally flush or even deck surface with the side sill structure forming a generally smooth continuation of the deck surface to provide a flush deck of a maximum width for carrying containers and the like. The side sill structure includes an outer angle-shaped member and an inner angle-shaped member joined to form the side sill structure. The upper horizontal leg of the outer member forms a continuation of the deck surface and has openings therein to receive side stakes, and the lower horizontal flange of the inner member extends outwardly beneath the openings to form supports for the lower ends of the side stakes.

3,540,385

MATERIALS HANDLING PALLET

Edward D. Hobart, Westchester, Illinois, assignor to Mojonner Bros. Co., Chicago, Illinois a corporation of Illinois
Filed July 18, 1968, Ser. No. 745,810
Int. Cl. B65d 19/38

U.S. Cl. 108—51



A materials handling pallet comprises plate members, rectangularly tubular beam members and rectangularly tubular purlin members. The plate members are disposed in parallel widely spaced relationship, and the beam members are disposed in similar relationship over the plate members transversely thereof. The purlin members are disposed in parallel, relatively closely spaced relationship over the beam members transversely thereof to form a load supporting grid.

3,540,386

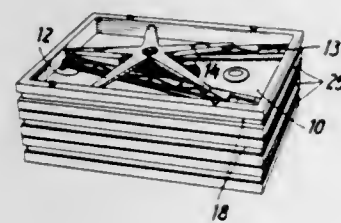
COLLAPSIBLE TABLE

Sven Ivar Natanael Hall, Spanhultevagen 6, Norrahammer, Sweden

Filed Feb. 24, 1969, Ser. No. 801,459

Claims priority, application Sweden, Feb. 21, 1968, Oct. 10, 1968, 2,229/68; 13,652/68
Int. Cl. A47b 13/00

U.S. Cl. 108—150



A table with a composite leg which comprises several elongated sections whose upper ends are separably connected to a coupling portion detachably mounted at the underside of the board and whose lower ends are separably connected to a foot. The panel of the board has a downwardly extending ledge defining therewith a compartment which can accommodate the foot and the sections of the leg in dismantled condition of the table. The ledge has a circumferentially extending groove for reception of one or more connecting members which can couple the board to the board or boards of one or more additional tables or to one or more auxiliary boards. The foot is threadably connected to the leg, and the upper ends of the sections can be uncoupled from the board in response to movement of their lower ends away from each other.

3,540,387

PROCESS AND APPARATUS FOR THE COMBUSTION OF CARBONACEOUS MATERIAL

James McLaren and Derek F. Williams, Cheltenham, England, assignors to Coal Industry (Patents) Limited, London, England a company of Great Britain

Filed Oct. 2, 1968, Ser. No. 764,648

4 Claims Claims priority, application Great Britain, Oct. 10, 1967, June 7, 1968, 46,234/67; 27,239/68
Int. Cl. F23b 7/00

U.S. Cl. 110—1

3 Claims

A process for the combustion of carbonaceous material such as coal to reduce the sulphur content of the off-gases involves burning the material in a fluidised bed. The fluidised bed comprises ash having less than 0.5 percent carbon and is held at a temperature of between 700 and 900°C. Carbonate such as calcium carbonate is added in proportion of 2—14 percent by weight to the material so that the sulphur is retained in the bed.

3,540,388

GASIFICATION MATERIAL COMBUSTION METHOD AND APPARATUS

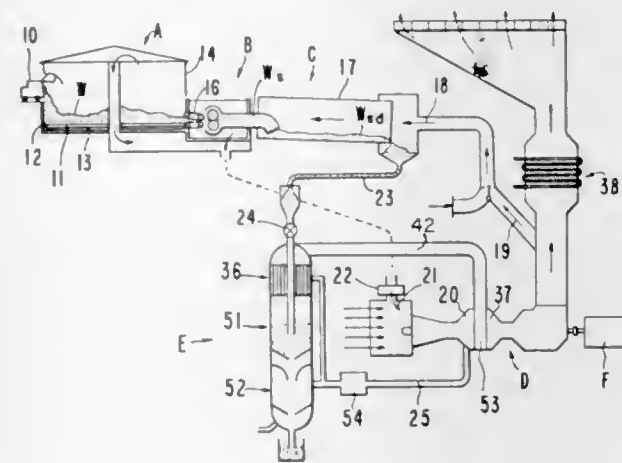
Richard D. Smith, Palo Alto, Calif., Dale A. Furlong, Sunnyvale, Calif., and Ronald D. Kinsey, Cupertino, Calif., assignors, by mesne assignments, to Combustion Power Company, Inc., Palo Alto, Calif., a corporation of the District of Columbia

Filed Aug. 30, 1968, Ser. No. 756,594

Int. Cl. F23g 7/00

U.S. Cl. 110—8

13 Claims



A material combustion method and apparatus is disclosed wherein pyrolysis or volatilization, oxidation of solid carbonaceous char remaining after volatilization and oxidation of the gaseous products from volatilization are accomplished in separate locations. A combustion assembly is disclosed including a fluid bed pyrolyzer located over a vortex char combustion chamber. The gas phase oxidation can be in the combustors of a gas turbine.

3,540,389

CAM INDEXING MECHANISM IN AN ORNAMENTAL STITCH SEWING MACHINE

Thomas G. Graham, Jersey City, New Jersey, assignor to The Singer Company, New York, New York a corporation of New Jersey

Filed March 8, 1968, Ser. No. 711,585

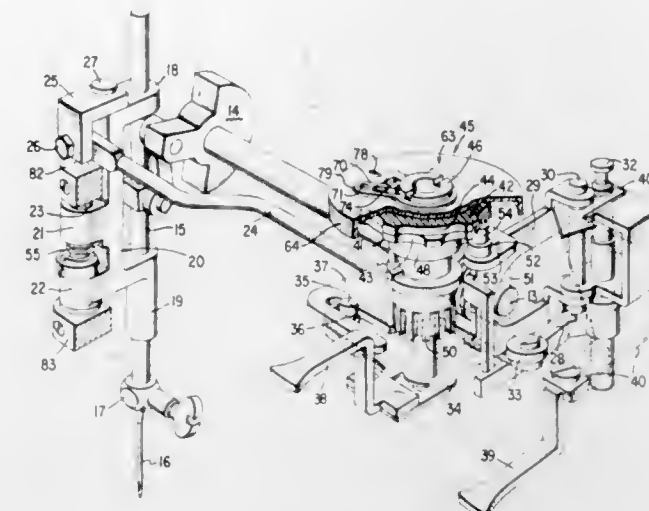
Int. Cl. D05b 3/02

U.S. Cl. 112—158

9 Claims

A mechanism for a sewing machine comprising a conventional zigzag cam having superimposed upon it in coaxial face-to-face relation a substantially similar zigzag cam modified so that a predetermined number of spaced cam lobes are removed from the latter cam. The modified cam is constructed and arranged so that it can be manually shifted angularly about the axis of the shaft to change its phase relation with respect to the standard zigzag cam. Adjustment of one cam relative to the other is effected by having a portion of the periphery of a disc to which the modified upper cam is attached project through an opening in the bracket arm

cover in position to be shifted by the finger of the operator. Detent means operatively associated with the disc is provided



for locking the superimposed cams in their selected relative position.

3,540,390

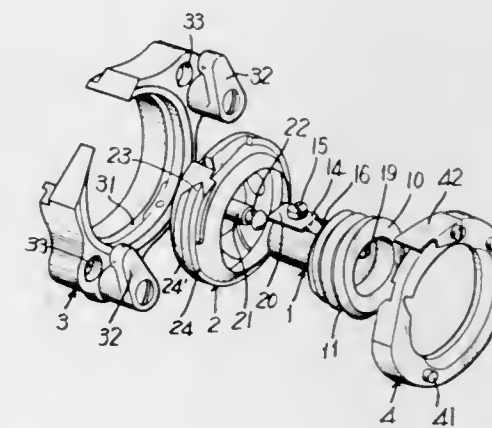
LOOP STITCH SHUTTLE ARRANGEMENT

Yasukata Eguchi, Tokyo, Japan, assignor to Janome Sewing Machine Co., Ltd., Tokyo, Japan

Continuation-in-part of application Ser. No. 644,696, June 8, 1967. This application March 27, 1969, Ser. No. 811,074
Claims priority, application Japan, June 9, 1966, 41/36,801; July 11, 1966, 41/44,791

U.S. Cl. 112—168

10 Claims



A loop stitch shuttle is secured to a rotary hook member for rotation with the same, and has a peripheral cylindrical surface formed with a spiral shaped groove terminating at the free end of the shuttle. A loop formed by the rotary hook is engaged by the spiral shaped groove of the shuttle before released by the rotary hook, and is held in spread condition so that the needle can enter into the spread loop while the same is transported toward the free end of the shuttle. After the rotary hook member again catches the needle thread to form a new loop, the loop held by the shuttle passes over the free end of the same and is released.

3,540,391

WORK FEEDING MECHANISM

Robert A. Hayes, Franklin Park, Illinois, assignor to Union Special Machine Company, Chicago, Illinois a corporation of Illinois

Filed April 1, 1969, Ser. No. 812,105

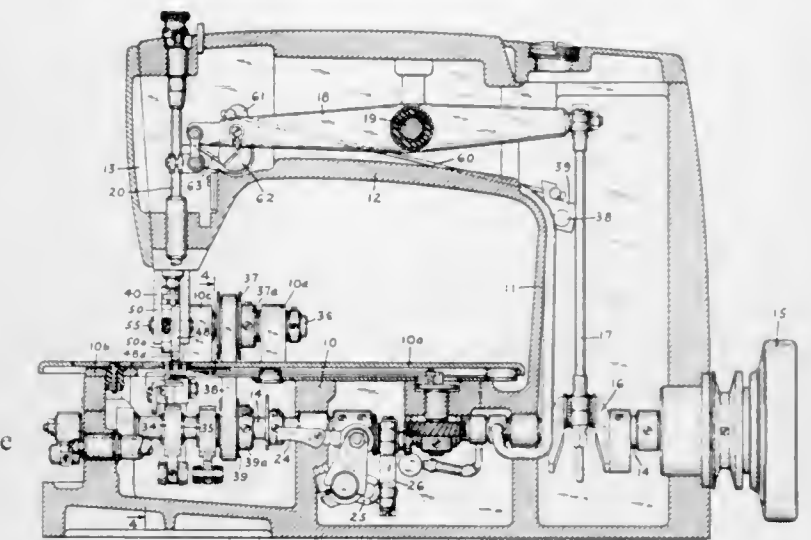
Int. Cl. D05b 27/04

U.S. Cl. 112—212

13 Claims

A sewing machine having work feeding mechanism adapted to engage the work on its upper and under surfaces to insure advancing the work to the desired extent in the course of a stitching operation. It is particularly concerned

with sewing machines normally having only one rotary drive shaft which is disposed in the base portion of the machine, beneath the surface along which the work being stitched is advanced. The invention involves the provision of a second rotary shaft at only a slight distance above the work supporting surface. The usual connections are provided from the drive shaft to a feed dog below the work supporting surface and special connections are also provided to a feed dog



above the work supporting surface from said second rotary shaft. The mechanism for accomplishing this is of minimum weight and both feed dogs are lifted and lowered and also reciprocated in the direction of feed and then returned in the opposite direction by relatively short and direct connections from the rotary shafts mentioned. This enables operation of both the top and bottom feed dogs at exceptionally high speeds, with a minimum of vibration being created.

3,540,392

VACUUM NEEDLE THREADER AND THREAD WIPER MECHANISM

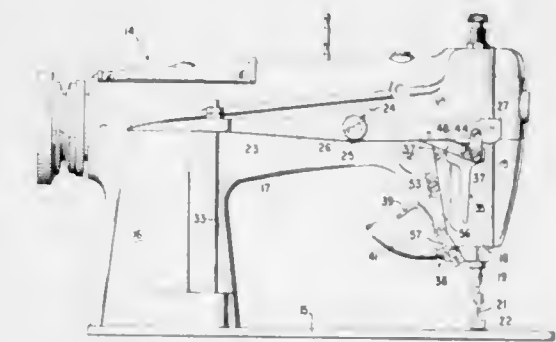
Ronald M. Kaplan, Cedar Grove, New Jersey, assignor to The Singer Company, New York, New York a corporation of New Jersey

Filed April 1, 1969, Ser. No. 812,187

Int. Cl. D05b 55/02

U.S. Cl. 112—225

14 Claims



A combination needle threader and thread wiper mechanism for a sewing machine including a thread-end receiving tubular lever pivotally mounted to swing in a vertical plane on the presser bar bushing. The tubular lever is connected pneumatically to a vacuum pump through a series of intermediate conduits and is connected mechanically to the knee-shift presser lifter. When the presser bar is raised by activation of the knee-shift presser lifter or otherwise, with the machine stopped and the needle in its up position, the tubular lever automatically is pivoted so that its free end is aligned with the eye of the needle. The needle then can be threaded by bringing the end of the needle thread near to the eye of the needle, whereupon the end of the thread will be drawn through the eye by vacuum pressure. The mechanism also functions as a thread wiper by holding the end of the needle thread, thereby preventing the thread from remaining under the presser foot, when it is lowered, until the first stitch is formed in a sewing operation.

3,540,393

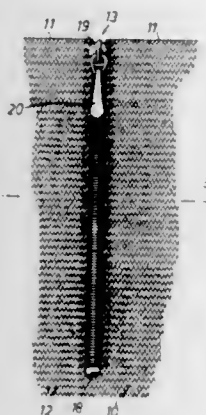
ATTACHMENT OF SLIDING CLASP FASTENER TO KNITTED WEAR

Friedrich Hindmeyer, Stolberg, Germany, assignor to William Prym-Werke KG, Stolberg Rhineland, Germany
Filed Dec. 26, 1967, Ser. No. 693,638
Claims priority, application Germany, Dec. 23, 1966, W43050

Int. Cl. D05b 3/12, 97/10, 97/12

U.S. Cl. 112-265

2 Claims



A method of attaching a slide fastener to a knitted fabric in which a slot of a length substantially equal to that of the slide fastener to be attached is cut transversely to a finished edge of the knitted fabric into the latter, in which the transverse edges forming the slot are then aligned and the loops of the knitted fabric adjacent these edges located on needles, whereafter one edge portion of a closed slide fastener is superimposed on the needles locating the loops of one transverse edge and linked thereto by sewing. The thus linked together edge portions are then removed from the needles and turned to superimpose the other edge portion of the fastener on the needles locating the other transverse edge of the fabric, whereafter the other edge portions are also sewn together.

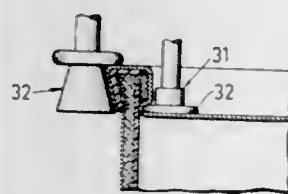
3,540,394

METHOD OF HERMETICALLY CLOSING A CONTAINER BY MEANS OF A LID CAPABLE OF BEING SEAMED

Rolf Lennart Ignell, Lund, Sweden, assignor to Sobrefina SA, Fribourg, Switzerland a company of Switzerland
Filed May 6, 1968, Ser. No. 726,724

Claims priority, application Sweden, June 16, 1967, 8495/67
U.S. Cl. 113-80

2 Claims



A hermetically sealed container is obtained by placing a lid having an upwardly extending peripheral side wall into the mouth of a container and having a sealing compound applied to the outside of said wall and forming a folded seam of a peripheral flangelike member around the upper edge of said side wall of the lid by applying pressure while compressing and spreading the sealing compound between the vertical side wall of the lid and the mouth of the container.

3,540,395

METHOD OF SLITTING A CONTINUOUS STRIP OF METAL AND ARTICLE FORMED THEREFROM

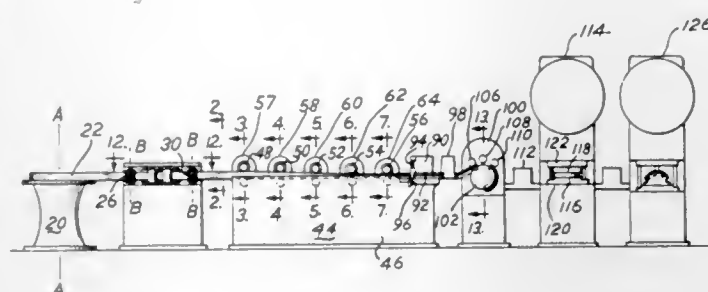
Robert L. Skinner, South Bend, Indiana, assignor to The Bendix Corporation, a corporation of Delaware
Filed Feb. 18, 1969, Ser. No. 800,235
Int. Cl. B21d 47/00

U.S. Cl. 113-116

10 Claims

Method of slitting a continuous strip of steel of rectangular

cross section and forming same to define a brakeshoe having



an integral T-shaped cross section.

3,540,396

OFFSHORE WELL APPARATUS AND SYSTEM

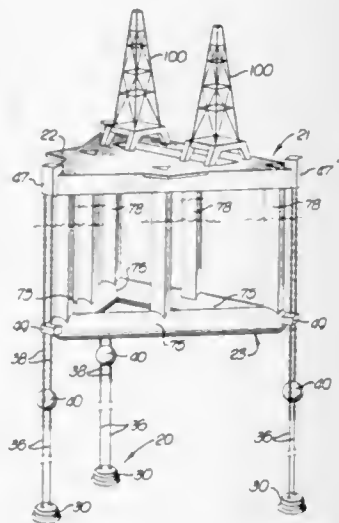
Edward E. Horton, Portuguese Bend, California, assignor to Deep Oil Technology, Inc., Long Beach, California a corporation of California

Filed June 7, 1968, Ser. No. 735,320

Int. Cl. B63b 35/44, 21/24, 21/00

U.S. Cl. 114-0.5

13 Claims



An offshore deepwater well apparatus and system for exploration, drilling, working, maintaining and production operations at and over an ocean floor well site and comprising an anchor and mooring system for connection with a composite floatable platform means including a lower submersible support section and an upper working platform section, both sections being buoyant and the support section carrying support columns slidably associated with said platform section and lockable therewith for supporting the platform in selected spaced relation above the water surface, together with tensioning means for the mooring and anchor system to maintain a uniform balanced tension force on the platform means for maintaining stability of the platform means under varying load conditions and adverse wind, wave and weather conditions.

3,540,397

COLLAPSIBLE CONTAINER

Robert B. Burns, Huntington, New York, assignor to Texaco Development Corporation, New York, New York a corporation of Delaware

Filed Jan. 3, 1969, Ser. No. 788,855

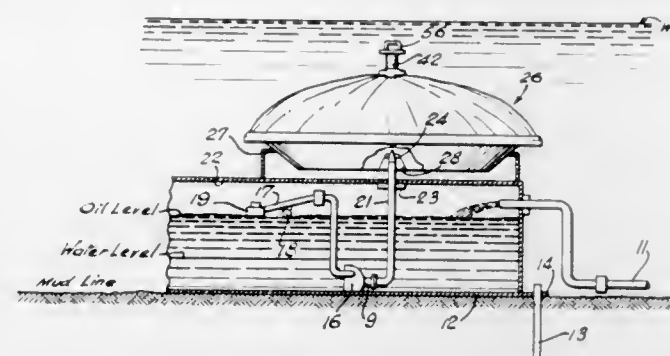
Int. Cl. B63b 35/00

U.S. Cl. 114-0.5

14 Claims

The invention relates to a lightweight liquid holding tank adapted to convey a liquid from a subsea storage facility to the water's surface. The tank includes a controllably buoyant hull from which an upright canopy support depends. A collapsible canopy is peripherally fastened to the hull and to the support respectively. A collar, operably carried on the support, engages the canopy whereby to permit displacement of

the latter between advanced and retarded positions along the support. The canopy when expanded defines a liquid holding



compartment, and when contracted, is collapsed by external pressure into contact with the hull.

3,540,398

BUOYANCY CONTROL SYSTEM WITH CHOKE

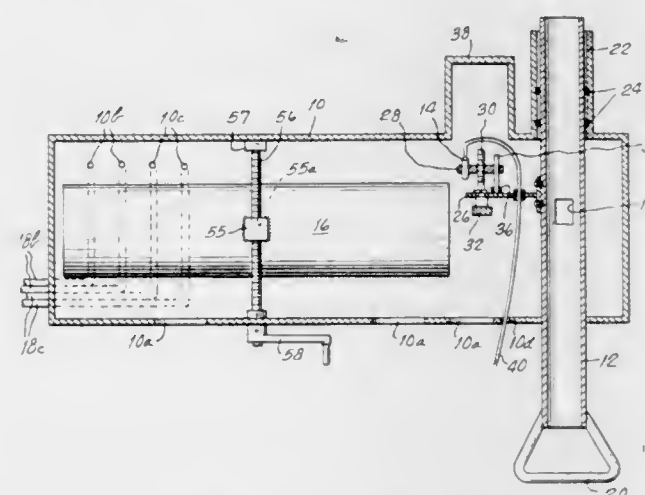
Peter R. Gimbel, New York, New York, assignor to Blue Meridian Company, Inc., New York County, New York a corporation of New York

Filed Jan. 23, 1969, Ser. No. 794,482

Int. Cl. B63g 8/22

U.S. Cl. 114-16

6 Claims



In a buoyancy control system including a buoyancy control chamber adapted to allow fluid communication with the surrounding water environment and to receive air introduced to form an air bubble within the chamber, a vertically movable fluid conduit for providing such fluid communication, a water level sensing device associated with the fluid conduit, and means for causing quantities of air and water to be supplied to the control chamber, there is provided a rigid cylindrical choke disposed within the control chamber to improve the sensitivity of the control system. The system is particularly adaptable for use with a protective cage, such as an anti-shark cage.

3,540,399

TIMBER CARRYING VESSEL

Karl Olof Gunnar Gabrielsson, Domsjovagen 76, Domsjoviken, Sweden

Filed Feb. 6, 1969, Ser. No. 796,953

Claims priority, application Sweden, Feb. 7, 1968, 1,579/68

Int. Cl. B63b 35/30, 25/07

U.S. Cl. 114-27

11 Claims



A timber carrying vessel has buoyancy tanks at the forward and aft ends thereof so that the top end of the hold can either be disposed above or below the surface of the water. Arms are pivotally mounted on the sides of the hold and keep the cargo in place within the hold.

3,540,400

SHIP HULL HAVING ADJUSTABLE BOW BULB

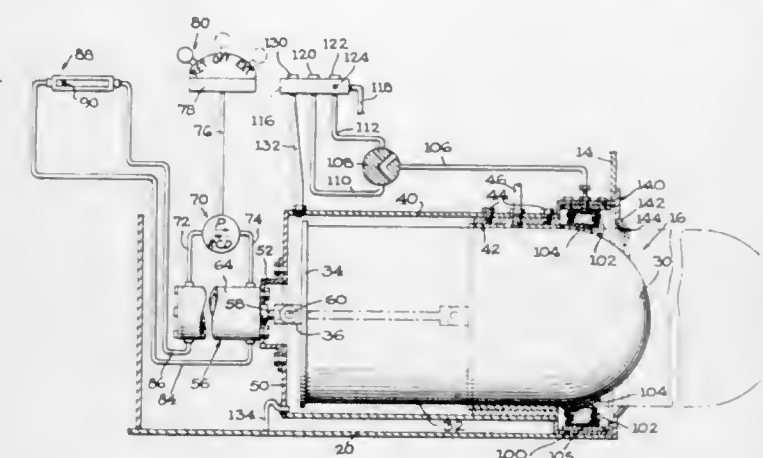
Robert S. Boston, 22 Shasta Court, San Francisco 94080, and David J. Seymour, 680 Beach St., San Francisco, Calif. 94109

Filed Aug. 19, 1968, Ser. No. 753,507

Int. Cl. B63b 1/06

U.S. Cl. 114-56

15 Claims



A ship hull has an adjustable bulb carried at the bow thereof, the bulb being selectively movable in a fore and aft direction relative to the hull. The bulb can be moved from a retracted position to an extended position or to various intermediate positions between a retracted and extended position dependent upon the operating conditions of the associated ship.

3,540,401

SAILBOAT MAST COUPLING

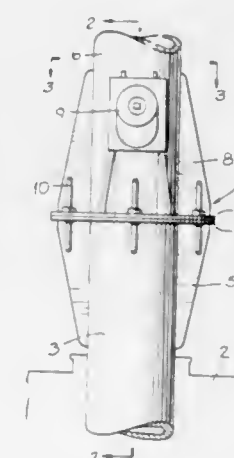
Emil R. Capita, 7020 Kennedy Blvd., North Bergen, New Jersey 07047

Filed Dec. 30, 1968, Ser. No. 787,673

Int. Cl. B63b 15/00

U.S. Cl. 114-90

5 Claims



A bolted coupling for a sailboat mast positioned in the lower portion of the mast and usually immediately above the boat deck. The coupling includes several connecting bolts which attached the mast sections together at connecting flanges formed on the adjacent portions of upper and lower mast sections and which also provide belaying pins. This easily removed mast coupling permits the mast to be disassembled for storage and equally importantly permits rapid removal of the upper mast portion in the event of mast failure at sea.

3,540,402

LIQUID DISPENSING DEVICE

Maurice L. Kocher, Granite Falls, Minnesota, assignor to Parker-Hannifin Corporation, Cleveland, Ohio a corporation of Ohio

Filed Oct. 29, 1968, Ser. No. 771,398

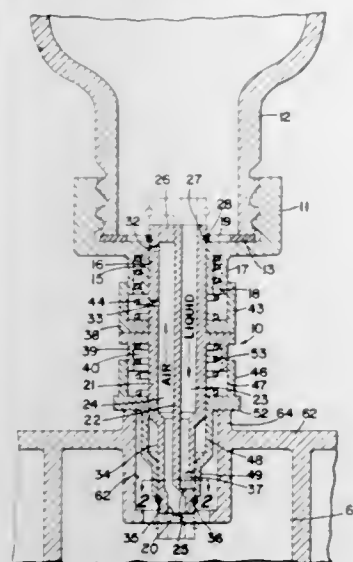
Int. Cl. B65b 1/30; B67d 5/37

U.S. Cl. 141-198

16 Claims

A liquid dispensing device for filling receivers, such as electric storage battery cells, with a liquid, the device having a valved passage for liquid that shuts off at the external end

thereof to prevent dripping when closed and having a valved vent passage that shuts off at the internal end thereof to prevent entrance of liquid therein, and there is a separate



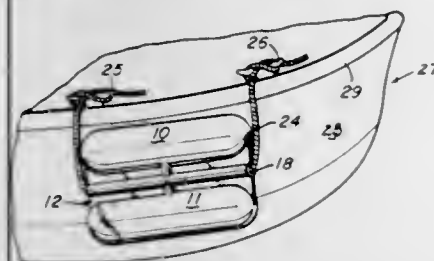
spring for each valve to effect shutoff thereof. Liquid flow is automatically shut off while the valves are open when liquid in the receiver reaches the vent passage.

3,540,403 MARINE BUMPER

Linus E. Russell, Springfield, Ohio, assignor to Peters and Russell, Inc., Springfield, Ohio a corporation of Ohio
Filed Dec. 9, 1968, Ser. No. 783,460
Int. Cl. B63b 59/02

U.S. Cl. 114-219

9 Claims



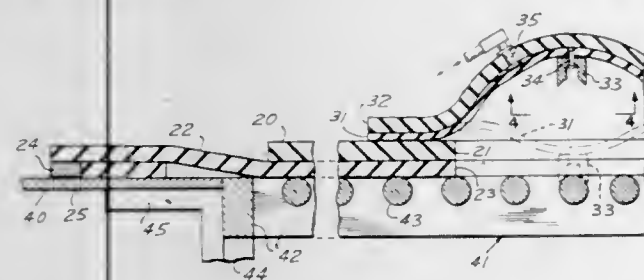
A marine bumper of integral form having plural hollowed body portions which are resiliently deformable and spaced by an interconnecting web structure. The web has a line passing opening enabling a selective suspended or contoured installation of the bumper.

3,540,404 SEA VALVE GRID COVER

Henry J. Modrey, 158 Eagle Drive, Stamford, Connecticut 06903
Filed Jan. 21, 1969, Ser. No. 792,278
Int. Cl. B63b 43/16

U.S. Cl. 114-229

6 Claims



Sea valves of a ship are located in a chamber having an underwater opening guarded by a bar grid. This disclosure teaches a cover to serve as a temporary closure of the underwater opening for allowing the chamber to be pumped dry. The cover is a rubber (or the like) pad with at least one pocket having at least one positioning magnet attached to its inside wall. The positioning magnet is biasable between a recessed position in the pocket and a popped position for magnetically engaging at least one bar of the grid to position the pad. Attaching magnets connect the pad about its margin to the ship's hull.

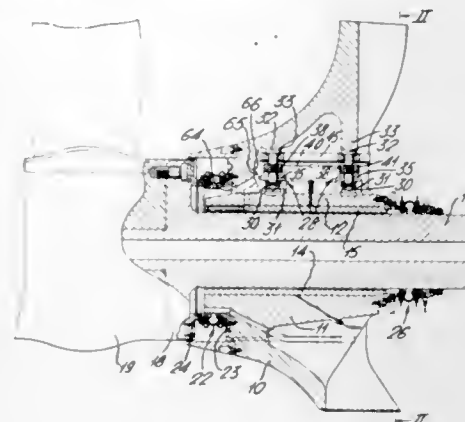
3,540,405 PROPELLER TAIL-SHAFTS OF SHIPS

John A. Clay, Sale, England, assignor to Turnbull Marine Design Company Limited
Filed April 19, 1968, Ser. No. 722,591
Claims priority, application Great Britain, April 25, 1967, 19057/67

Int. Cl. B63h 5/06, 23/32

U.S. Cl. 115-34

8 Claims



A stern bearing for the tail-shaft of a ship is split to enable part of the bearing to be removed while the ship is afloat to enable inspection of the tail shaft, and hydraulic jack means are provided for urging the removable bearing part into a shaft encasement position and for removing the removable bearing part from the shaft. The bearing extends as far as a propeller flange on the tail-shaft, and a water-tight seal encircles the bearing.

3,540,406 VEHICLE LOCATION MARKER

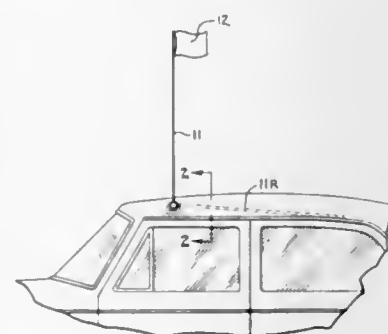
Carl J. Dexter, 140 Hideaway Lane, West Lafayette, Indiana 47906

Continuation-in-part of application Ser. No. 703,698, Feb. 7, 1968, now abandoned. This application April 30, 1969, Ser. No. 826,768

Int. Cl. B60q

U.S. Cl. 116-281

4 Claims



A marker device including a base yoke adhesively attached to a vehicle roof, with an intermediate member pivotally mounted thereto on a first axis, and a second intermediate member pivotally mounted thereto on a second axis lying in a plane perpendicular to the first axis, the marker rod being affixed to the second intermediate member and having a flag or other identifying device thereon. The marker rod is universally pivotable from a retracted position flush with the roof top, to an elevated position projecting well above the roof-top. A second embodiment employs a ball and socket joint assembly.

3,540,407 MONITORING POSITIVE CRANKCASE VENTILATING SYSTEMS IN INTERNAL COMBUSTION ENGINES

Francis L. McGonagle, Swansea, Massachusetts and Earle H. Fulford, Barrington, Rhode Island, assignors to Fram Corporation, East Providence, Rhode Island a corporation of Delaware

Filed Jan. 9, 1969, Ser. No. 790,136

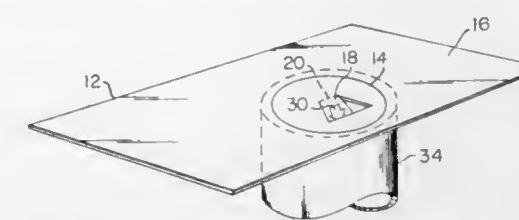
Int. Cl. G01l 19/12

U.S. Cl. 116-70

7 Claims

A device for monitoring a positive crankcase ventilating system associated with an internal combustion engine having

an oil intake pipe connected to a crankcase, has a sheetlike member with an opening therethrough and a flap, with its



longest dimension smaller than the smallest dimension of the mouth of the pipe, hinged to the member and normally covering substantially all of the opening.

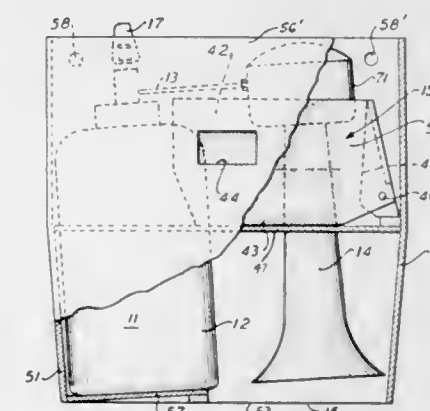
3,540,408 INDICATOR ALARM DEVICE

Willard C. Messick, P.O. Box 1273, Cortland, New York
Filed Sept. 27, 1968, Ser. No. 763,170

Int. Cl. G01d 21/00

U.S. Cl. 116-114

7 Claims



In a heat sensitive gravity alarm device, a support member and horn member having structural features such as to enable visual detection and observation on escape of generally nonsolid substances from the device.

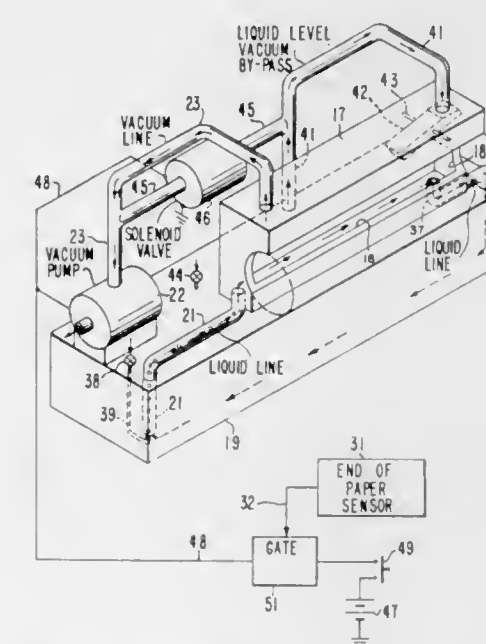
3,540,409 ELECTROGRAPHIC LIQUID INKER EMPLOYING A VACUUM HEAD AND MEANS FOR RAPIDLY VALVING OFF THE HEAD

William A. Lloyd, San Jose, California, assignor to Varian Associates, Palo Alto, California a corporation of California
Filed Aug. 21, 1967, Ser. No. 661,870

Int. Cl. G01d 15/06; G03g 9/04; G05b 5/02

U.S. Cl. 118-6

10 Claims



An electrographic liquid inker of the type employing a vacuum head is disclosed. The liquid inker includes a hollow inking channel having an inking slot along one side thereof disposed adjacent the charge image bearing surface of an electrographic recording web to be inked. The inking chan-

nel is disposed above an ink reservoir and the inking channel is connected in fluid communication with the reservoir. A vacuum pump is connected with its suction side to the top of the inking channel for drawing a vacuum head on the channel to cause liquid ink to be drawn from the reservoir up into the channel and to cause the electrographic recording web to be inked to be drawn up against the marginal edges of the inking slot, thereby sealing same and permitting liquid ink to come into contact with the charge images to be developed for developing same. The web with the charge images to be developed is drawn across the inking slot, whereby strip recordings are inked.

3,540,410 COATING MACHINE HAVING SPIRAL SURFACE AGITATOR ROLL

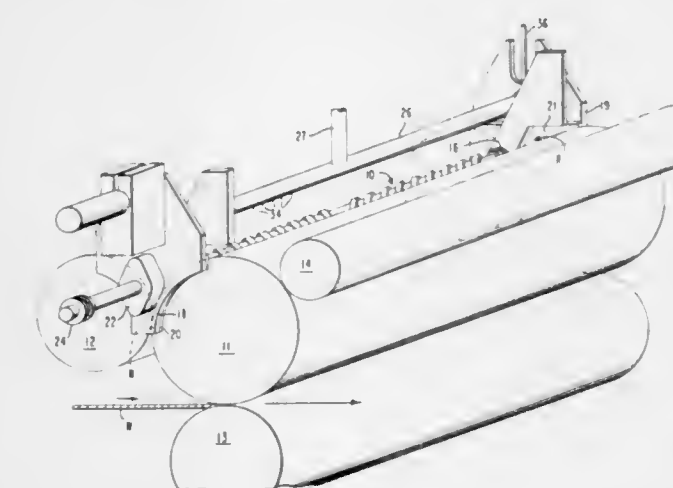
William Galloway Osborne, Jr., and Howard Ivan Wilson, Towanda, Pennsylvania, assignors to E. I. du Pont de Nemours and Company, Wilmington, Delaware, a corporation of Delaware

Filed Aug. 20, 1968, Ser. No. 754,014

Int. Cl. B05c 1/08

U.S. Cl. 118-249

5 Claims



A top feed roll coating machine having an agitating roll with a spirally grooved surface of opposite direction from the center to the ends mounted between the coating roll and metering roll. Said agitating roll is driven and is capable of facilitating streak-free plate, sheet or web coatings.

3,540,411 APPARATUS FOR THE FABRICATION OF DECORATIVE PROTECTIVE COVERINGS

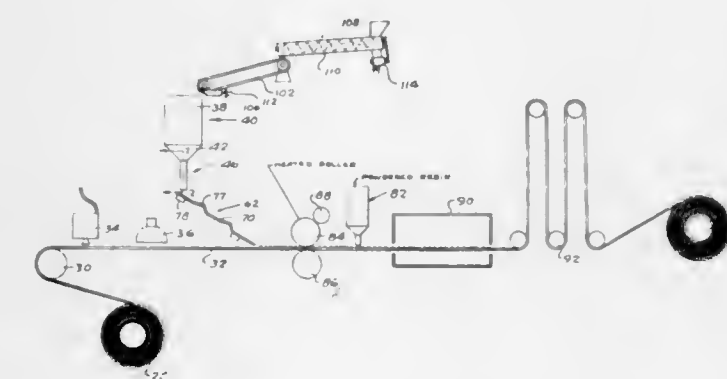
Harold Taylor, Westfield and Ernest Gamble, Ridgewood, New Jersey, assignors to Kentile Floors Inc., Brooklyn, New York a corporation of New York

Filed Dec. 27, 1967, Ser. No. 694,004

Int. Cl. B05c 5/00

U.S. Cl. 118-311

4 Claims

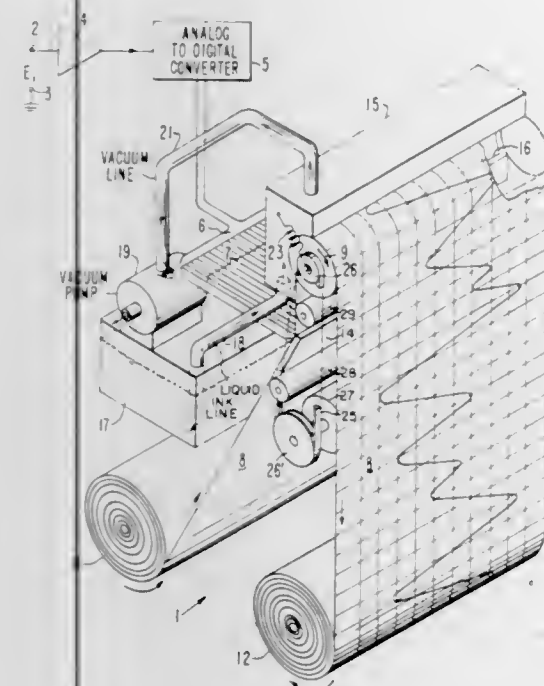


Apparatus for the fabrication of embedded chip protective covering, the apparatus having a feed hopper for supplying the chips and having a distribution mechanism for preorienting the chips in a pattern prior to deposit on a movable forming web.

3,540,412

ELECTROGRAPHIC APPARATUS HAVING AN INKING SLOT BEARING AGAINST A WEB PULLING ROLLER

William A. Lloyd, San Jose, California, assignor to Varian Associates, Palo Alto, California a corporation of California
 Filed Aug. 21, 1967, Ser. No. 661,871
 Int. Cl. G01d 15/06; G03g 9/04; B05b 5/02
 U.S. Cl. 118-410 6 Claims



An electrographic recorder is disclosed employing an inking channel having an inking slot bearing against a web pulling roller. The recorder includes an input channel to which input signals to be recorded are applied. The recorder channel measures the input signal and produces a signal trace comprising a latent charge image on an electrographic recording web representative of the input signal to be recorded. The charge image bearing web is pulled by means of a friction drive roller past an electrographic liquid inking slot formed in the side of a hollow inking channel through which liquid electrographic toner is passed. The side of the inking channel containing the inking slot is curved to conform to the curved surface of the drive roller to facilitate forming a liquid seal between the inking slot and the recording web as pulled over the drive roller. Charged toner particles within the inking channel are attracted to the charge image thereby developing same.

In a preferred embodiment a spring bias force is applied to pull the drive roller into engagement with the inking channel to facilitate formation of a seal between the web and the inking slot. In addition, the drive roller is preferably provided with a drive surface formed of a material having a relatively high coefficient of friction and made of a compressible, resilient material to allow foreign particles to pass with the recording web across the slot without destroying the seal or tearing the web.

3,540,413

APPARATUS FOR STUDYING THE BEHAVIOUR OF LABORATORY ANIMALS

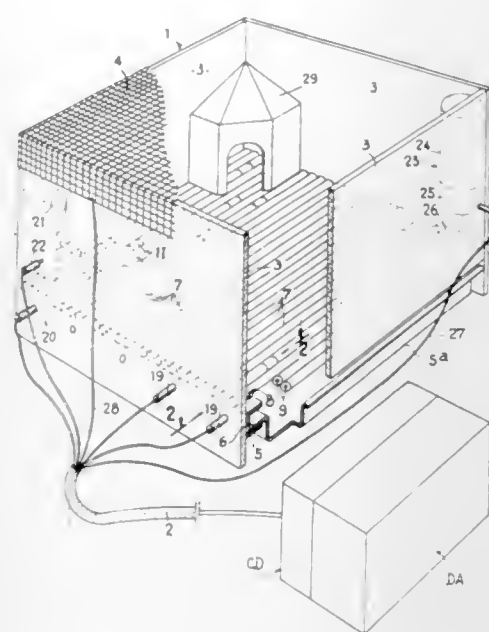
Albert Rene Joseph Castaigne, Toulouse, France, assignor to Centre D'Etudes Pour L'Industrie Pharmaceutique, Toulouse, France a French body corporate
 Filed March 10, 1969, Ser. No. 805,494
 Claims priority, application France, Aug. 2, 1968, 161750
 Int. Cl. A01k 29/00

U.S. Cl. 119-1

14 Claims

An apparatus for studying the behaviour of laboratory animals. The apparatus comprises an enclosure of electrically insulating material constituting a cage and located in a low-intensity alternating current electric field and at least one pair of electrically conductive devices insulated from each other and located in the enclosure to be touched by the animal. An electronic detection circuit is connected to the

conductive devices and to an indicator device so that each time the animal comes in contact with either of the conduc-



tive devices a signal is applied to the electronic detection circuit and energizes the indicator device.

3,540,414

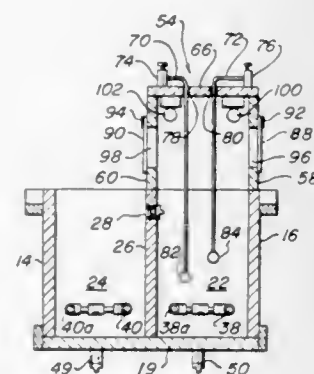
METHOD AND APPARATUS FOR REARING CRUSTACEANS

Raymond Maloney, Jr., 32 Bamboo Terrace, Key West, Fla. 33040

Filed Dec. 30, 1968, Ser. No. 787,689
 Int. Cl. A01k 61/00

U.S. Cl. 119-2

23 Claims



Phototropic Decapoda crustacea are reared through all larval stages by a method whereby larvae are induced to migrate from one rearing chamber to an adjoining rearing chamber by steps of initial movement away from communicating passageways so they can be opened, and then moving through such passageways. The larvae are urged towards alignment with the passageways by using isolated rays of light. A tank has adjoining rearing chambers separated by a partition wall containing a plurality of communicating passageways. A mountable hood, having spaced light sources, can close the open top of a chamber. A transfer cover has a plurality of openable ports along one edge for alignment with the communicating passageways.

3,540,415

SYNTHETIC REEF ECOLOGICAL SYSTEM FOR LARGE BODIES OF WATER

James E. Bromley, 6121 Jasmine Road, Pensacola, Florida 32503

Filed April 18, 1969, Ser. No. 817,470
 Int. Cl. A01k 61/00

U.S. Cl. 119-3

8 Claims

A synthetic reef for installation on the floor of large natural or manmade bodies of water is provided to facilitate the colonizing of harvestable fish therefrom. The reef is made of a flexible perforated base material weighted sufficiently so

that the reef is submergible to the floor. A plurality of spaced-apart thin elongated ribbonlike members are attached



at one of their ends to said base material and have a density sufficiently low so that when the reef is submerged the other ends of the members will tend to float upward. A method of installing such a reef is also disclosed.

3,540,416

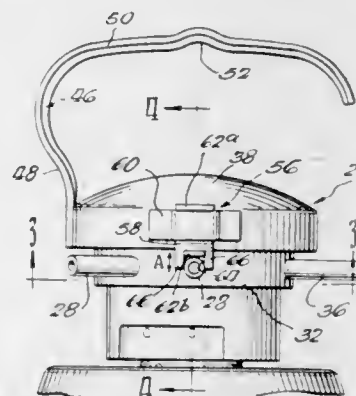
MILKING APPARATUS

Robert J. Shulick, St. Charles and Harold V. Swanson, Downers Grove, Illinois, assignors to Babson Bros. Co., a corporation of Illinois

Filed Jan. 6, 1969, Ser. No. 789,140
 Int. Cl. A01j 07/00

U.S. Cl. 119-14.37

3 Claims



The combination of a milking apparatus having a pulsator valve assembly which includes a housing having a plurality of nipples fixed to and extending outwardly therefrom for connection to appropriate vacuum hoses. A lid is removably and rotatably mounted on a portion of the housing adjacent at least one of the nipples and a handle is fixed to the lid for suspending the milking apparatus beneath a cow from an appropriate support. A latch member is slidably mounted on the lid for selective engagement with the one nipple whereby the nipple provides an abutment for the latch member to prevent rotation of the lid relative to the pulsator housing.

3,540,417

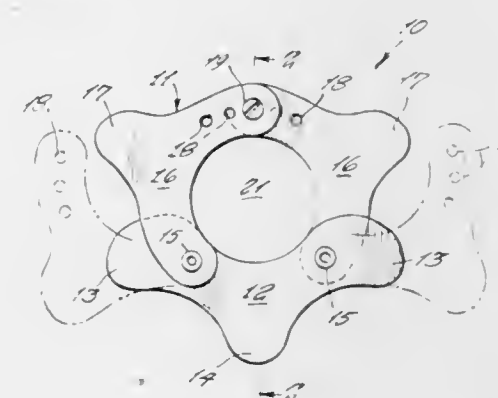
CHINCHILLA COLLAR

Mark Reed, P.O. Box 1872, 1035 19th Place, Vero Beach, Florida

Filed Nov. 18, 1968, Ser. No. 776,532
 Int. Cl. A01k 27/00

U.S. Cl. 119-106

1 Claim



A yoke around the neck of a female chinchilla so to prevent her from having access to move outward from an en-

trance of her cage, the device comprising a plurality of flat links which are enjoined at their ends so to form a collar around her neck.

3,540,418

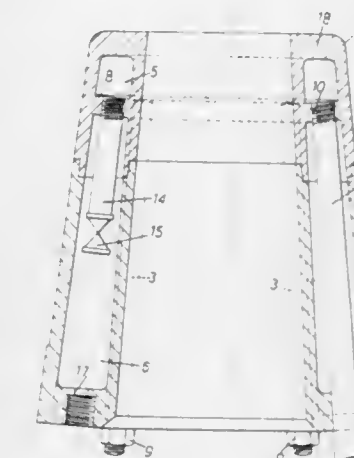
TUYERES

Eric Peel, 5 Rockcliffe Terrace, Carlin How, Yorkshire, England

Filed July 11, 1968, Ser. No. 744,137
 Claims priority, application Great Britain, July 13, 1967, 32315/67
 Int. Cl. F22b 37/00

U.S. Cl. 122-6.6

8 Claims



A tuyere comprises an annular hollow body whose interior is divided by a transverse partition into nose and rear portions, and means for circulating coolant through said portions simultaneously, the circulating means allowing coolant to be circulated through the rear portion over substantially the whole area of the partition when circulation through the nose portion is interrupted, e.g. because of damage to the nose of the tuyere.

3,540,419

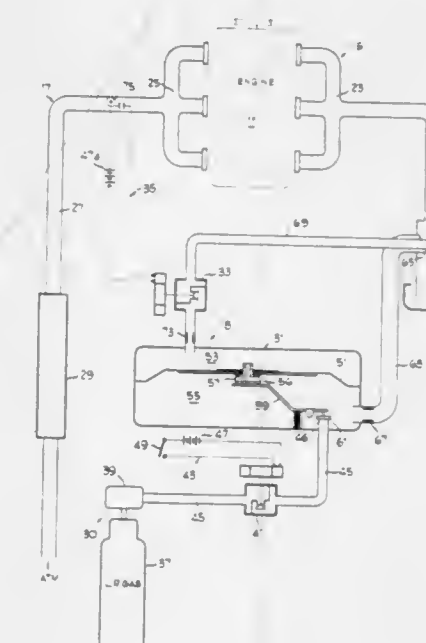
SUPPLEMENTAL FUEL SYSTEM

Clarence D. Fox, Decatur, Illinois, assignor to Borg-Warner Corporation, Chicago, Illinois a corporation of Delaware

Filed Oct. 1, 1968, Ser. No. 764,240
 Int. Cl. F02b 7/06

U.S. Cl. 123-27

3 Claims



A supplemental fuel system for a diesel engine which delivers supplemental gaseous fuel to the engine intake system at high engine loads. The system senses inlet airflow to the engine and controls supplemental fuel system fuel delivery rate in response to inlet airflow.

3,540,420

MODULE-TYPE ENGINE STRUCTURE

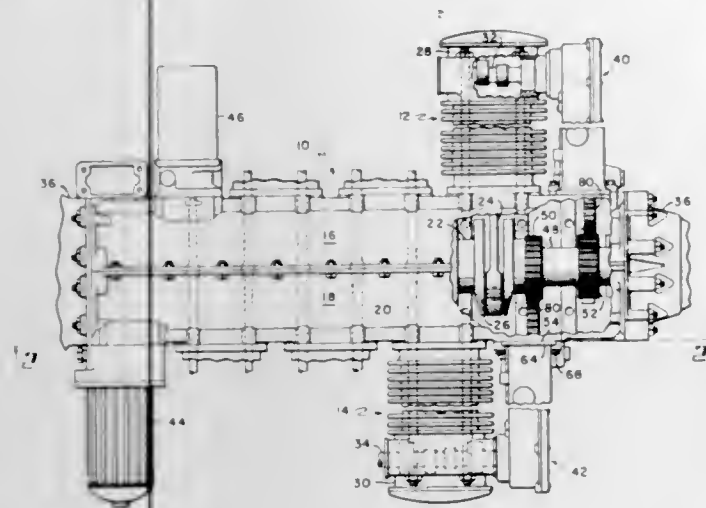
Richard H. Syson, Cogan Station, Pennsylvania, assignor to Avco Corporation, Williamsport, Pennsylvania a corporation of Delaware

Filed Dec. 27, 1968, Ser. No. 787,366

Int. Cl. F02b 75/24; F01 1/00

U.S. Cl. 123—56

7 Claims



The disclosure illustrates an opposed multicylinder aircraft engine having a construction which permits the use of module-type auxiliary units such as camshaft drive mechanism, oil cooler, and oil pressure regulating and filter assemblies. Additionally, the engine is constructed so that the camshaft drive assemblies are interchangeable.

3,540,421

APPARATUS FOR INCREASING BLOWER AIR PRESSURE IN SCAVENGING DIESEL ENGINES

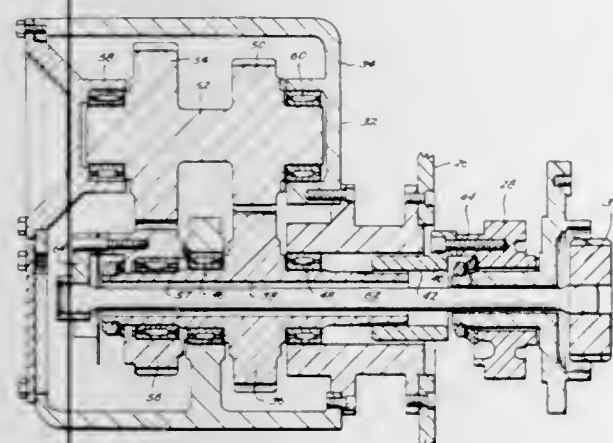
Thomas H. Boyce, Jr., and Robert W. Mitchell, Houston, Tex., assignors to Stewart & Stevenson Services, Inc., Houston, Texas, a corporation of Texas

Filed Jan. 10, 1969, Ser. No. 790,330

Int. Cl. F02b 75/22, 75/02

U.S. Cl. 123—65

3 Claims



An apparatus for allowing operation at low speeds of a two-cycle uniflow scavenged type compression ignition diesel engine by providing a speed step up for increasing the blower speed. A shaft extension connected to the blower rotor gear connected to speed increasing means for increasing the blower speed. A first hollow shaft gear having a hollow shaft coupling connected to the blower drive gear and meshing with a second smaller gear to provide a first stage step up speed with a third gear larger than the second gear connected to the shaft of the second gear and a fourth gear smaller and meshing with the third gear to provide the second stage speed up with a blower drive shaft connected to the fourth gear and through the hollow first gear shaft and coupling to the blower rotor gear.

3,540,422

MULTITEMPERATURE VACUUM CONTROL VALVE

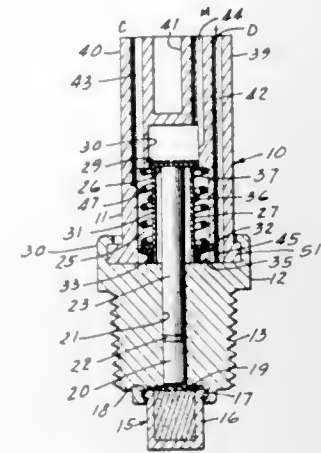
Douglas E. Kelly, Farmington, Michigan, assignor to Eaton Yale & Towne Inc., Morton Grove, Illinois a corporation of Ohio

Filed Sept. 11, 1968, Ser. No. 758,991

Int. Cl. F02b 5/14

U.S. Cl. 123—117

7 Claims



Temperature operated multitemperature vacuum control valve isolating the distributor advance until the coolant reaches a predetermined operating temperature, then effecting successive control of the spark advancer at preselected higher temperatures. The valve includes a valve housing having a stepped valve chamber the large diameter end of which opens to the bottom of the valve housing. The valve chamber is closed by a separate base for the housing, positioning a thermally responsive element in the water jacket of an internal combustion engine, in flow of coolant along the water jacket. The thermally responsive element has an extensible piston extending along the base into the valve chamber and carrying a generally cylindrical valve having a closed top mounted on the top of the piston. At least three vacuum passageways lead axially along the valve housing and have communication with the valve chamber at different levels. The valve has three axially spaced valve elements cooperating with the passageways to connect the automatic spark advancer to carburetor vacuum at one engine temperature, to manifold and carburetor vacuum at a higher engine temperature and to manifold vacuum alone at a still higher engine temperature.

3,540,423

EVAPORATIVE EMISSION CONTROL SYSTEM

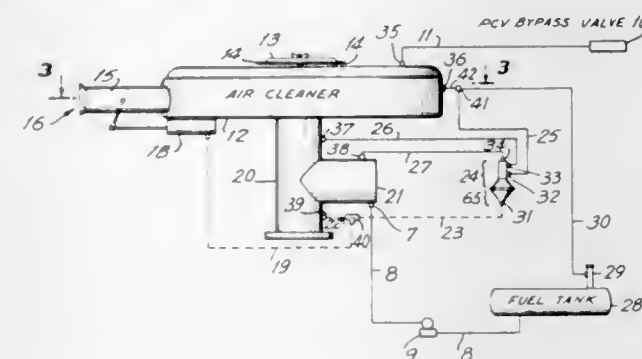
Edward D. Tolles, III, Charleston, South Carolina, assignor to Westvaco Corporation, New York, New York a corporation of Delaware

Filed Jan. 17, 1969, Ser. No. 791,939

Int. Cl. F02d 19/00

U.S. Cl. 123—136

15 Claims



Disclosed is a system for controlling the emission to the atmosphere of fuel vapors from an internal combustion engine fuel system wherein the emission arises from the evaporation of the fuel. The system is comprised of a dual combustion air inlet to the carburetor, viz. a primary and secondary combustion air inlet. A fuel vapor adsorbent or absorbent material is located in the primary air inlet. When the engine is not operating or is idling, means are provided for venting

evaporative fuel vapors to the adsorbing or absorbing bed during which time the primary combustion air inlet is closed. When the engine is operating at relatively high air consumption, evaporative fuel vapors from the carburetor fuel bowl may be vented internally. When the primary air inlet is opened, the combustion air flowing therethrough thereby regenerates the adsorption or absorption bed.

3,540,424

DECOMPRESSION DEVICE FOR VALVE-CONTROLLED COMBUSTION ENGINE

Manfred Dietel, Schweinfurt, Germany and Karlheinz Spiess, Niederwerrn, Germany, assignors to Motorenfabrik Hatz GmbH, Ruhstorf, Germany, a corporation of Germany

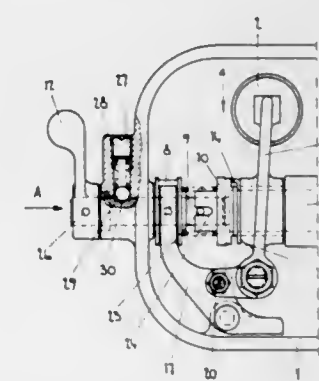
Filed April 12, 1968, Ser. No. 720,870

Claims priority, application Germany, April 15, 1967, F 31,998

Int. Cl. F01 13/08

U.S. Cl. 123—182

6 Claims



A decompression device for valve-controlled internal combustion engines. A decompression control cam is non-rotatably mounted on a spindle coaxial with the valve rocker arm spindle and is operatively connected to the rocker arm so that rotation of the cam from a reference position prevents closing of the valve. The cam may be operated to maintain decompression indefinitely, or it may be set to act, through means operatively connecting the two spindles to terminate decompression after a predetermined number of rotations of the engine crankshaft.

3,540,425

INTERNAL COMBUSTION ENGINE WITH SOUNDPROOFING COWLING

Andreas Scheiterlein and Othmar Skatsche, Graz, Austria, assignors to Hans List, Graz, Austria

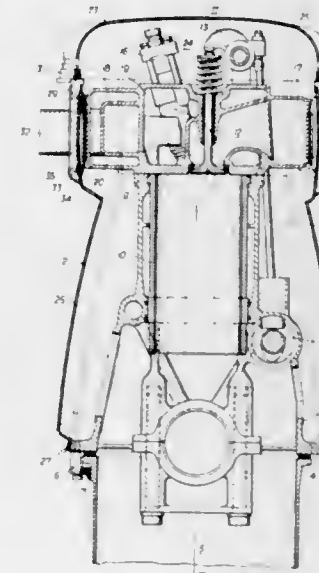
Filed Aug. 8, 1968, Ser. No. 751,248

Claims priority, application Austria, Aug. 21, 1967, A7677/67

Int. Cl. F02f 7/00; F16f 7/00; F02b 77/00

U.S. Cl. 123—195

3 Claims



An internal combustion engine with soundproofing cowling having at least two covers secured to the sides of the crank-

case and extending to the cylinder head and also surrounding the exhaust and intake manifolds of the engine. A coating of soundproofing material is applied to the covers and the upper cowling lid.

3,540,426

AIR GUN

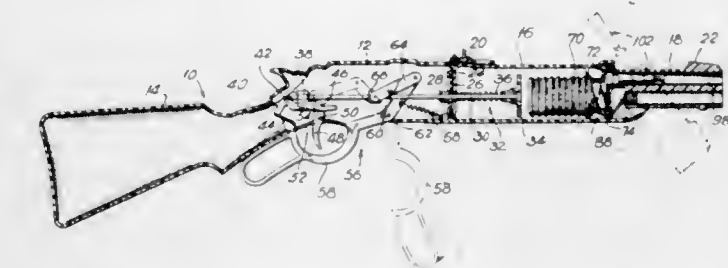
Raymond J. Lohr, Erie; Robert F. Hauck, McKean and Mahlon E. Hirsch, Fairview, Pennsylvania, assignors to Louis Marx & Co., Inc., New York, New York a corporation of New York

Filed March 28, 1967, Ser. No. 626,606

Int. Cl. F41b 11/02

U.S. Cl. 124—15

2 Claims



An air gun having a barrel provided with an inner smooth surface of a low coefficient of friction. For example, the barrel can be provided with an inner liner of polyethylene having a highly polished inner surface. The projectile is of an elongated configuration and has a rear end which slidably engages the smooth inner surface of the barrel. The air supply being provided by a spring-expanded bellows which is compressed by a spring-loaded piston. This projectile is made of a plastic such as a suitable vinyl and it tapers from its rear toward its front end which carries a suction cup, and it has a hollow interior communicating through a rear opening with the interior of the barrel.

3,540,427

ELECTRO-OPTIC ARRAY AND METHOD OF MAKING SAME

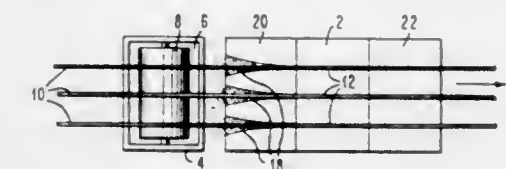
John P. Anderson, Yorktown Heights, New York, assignor to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed June 14, 1968, Ser. No. 737,132

Int. Cl. B28d 1/08

U.S. Cl. 125—21

4 Claims



A technique for fabricating an array of very high speed light deflecting units is described. During the fabrication of the array, one uses a cutting string wet by a constant slurry source to make single cut or plural kerfs in a desired crystal. A buffer crystal is located adjacent the desired crystal during the cutting operation so that parallel instead of V-shaped cuts are made in the desired crystal. The slots produced by the cutting strings are filled with metal to provide an array of electro-optical elements.

3,540,428

SYSTEM AND CONTROL MECHANISM FOR CONVEYANCES OF COMBUSTIBLE GAS

Antonio Del Arco Alvarez, Joaquin Garcia Morato 106, Madrid, Spain

Filed April 29, 1968, Ser. No. 732,793

Claims priority, application Spain, May 24, 1967, 340,929

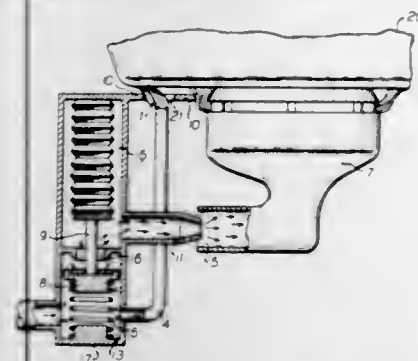
Int. Cl. F24c 3/12

U.S. Cl. 126—39

7 Claims

A system and control mechanism for conveyance of com-

bustible gas to a burner comprising, a pilot light, a thermosensitive element operatively adjacent thereto, a valve



mechanism for the combustible gas feeding the burner and controlled by said thermosensitive element.

3,540,429

HEAT RADIATOR

Klas Joel Wilhelm Svensson, Varberg and Karl Eric Oskar Tapper, Ed. Sweden, assignors to Priemus-Sievert AB, Sundbyberg, Sweden a corporation of Sweden

Filed Oct. 7, 1968, Ser. No. 765,491

Claims priority, application Sweden, Oct. 19, 1967, 14321/67 Int. Cl. F23d 13/12

U.S. Cl. 126-92

3 Claims



A heat radiator is disclosed. The radiator includes a container, a burner member with reflector mounted on the container, and a casing for the container. The container is rotatably mounted in the casing to adjust the direction in which heat is to be radiated from the reflector.

3,540,430

SNOW DISPOSAL APPARATUS

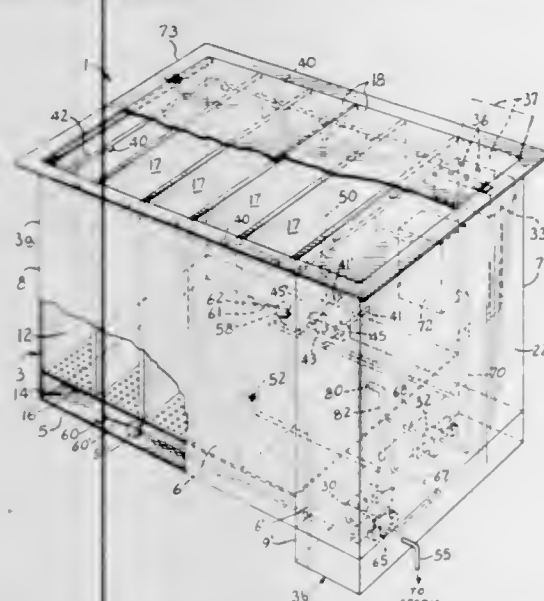
Donald P. Rudnik, 311 S. Riverside Drive, Villa Park, Illinois 60181

Filed March 4, 1968, Ser. No. 710,248

Int. Cl. B08b 3/10

U.S. Cl. 126-343.5

6 Claims



Snow disposal apparatus is provided which preferably com-

prises a container for receiving snow to be melted, water spray means in the upper portion of the container for spraying hot water upon the top of a load of snow delivered to the container, and vertical partition-forming walls in the container for providing downwardly moving streams of water to aid in the collapsing and melting of the snow.

3,540,431

COLLAPSIBLE FILTER FOR FLUID FLOWING IN CLOSED PASSAGEWAY

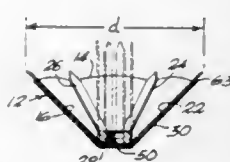
Kazi Mobin-Uddin, Miami, Florida (2613 Inagua Ave. Coconut Grove, Fla. 33133)

Filed April 4, 1968, Ser. No. 718,743

Int. Cl. A61b 19/00

U.S. Cl. 128-1

7 Claims



A filter of umbrella type configuration including a skeletal framework and a hood of filtering media for lodgment in spanning relation of a vein or passageway of the human body to filter fluid flowing in a closed passageway.

3,540,432

CYTOLOGICAL INSTRUMENT

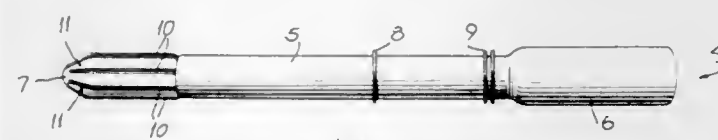
James E. Ayre, 26 Fox Hollow Lane, Old Westbury, New York 11568

Filed Dec. 28, 1967, Ser. No. 694,214

Int. Cl. A61b 10/00

U.S. Cl. 128-2

12 Claims



The head of the instrument is provided with scraping ribs for scraping cells from the cervix upon rotation as well as aspiration holes for suction of the desquamated cells into the head. A glycerine charge is placed on and within the head to attract and encase the cells in order to preserve the cells until ready for cytological study. The instrument is capable of self-use and of being mailed.

3,540,433

FECES STRAINER FOR PASSING LIQUID CONSTITUENTS AND RETAINING SOLID CONSTITUENTS COMPRISING PHYSIOLOGICAL SPECIMENS

Leonard Brockman, West Covina, California (c/o P.O. Box 18948, Los Angeles, Calif. 90018)

Filed June 17, 1969, Ser. No. 833,978

Int. Cl. A61b 5/10; A61f 5/44; E03d 13/00

U.S. Cl. 128-2

12 Claims

The present invention discloses a feces strainer for use in easily and simply collecting a stool specimen, and is characterized by its ability to pass liquid constituents while retaining semisolid and solid constituents in a substantially nonadhesive manner so as to facilitate the removal of solid feces specimen constituents from the strainer. In a preferred form, the feces strainer comprises a shallow receiving bag having a strainer means at the bottom taking the form of netting material made of a substantially liquid-imperious plastic fiber material, thus facilitating the washing, sterilization, and quick drying thereof, and also the previously mentioned, nonadhesive functional characteristics thereof with respect to solid and semisolid feces specimen constituents. In a preferred form the netting material may be made of a double layer configuration having slightly offset and thus effectively size-reduced, complete through-apertures through the double layers thereof, thus producing the effect of a filtering material having very small apertures while being made of a relatively inexpensive, easily obtained double layer form of netting material with each layer having substantially larger apertures.

The strainer is provided with means for mounting it easily and simply on any of several different forms of conventional

minated with pulse-modulated UHF energy. A coaxial connector having a probe-receiving cavity filled with solder surrounds a sleeve which supports an electrode probe extending from one end of said connector to a distal point beyond the opposite end of said connector. The probe is coated with an electrical insulating material.

3,540,435

PHYSICAL THERAPY APPARATUS FOR PERSONS AT BEDREST

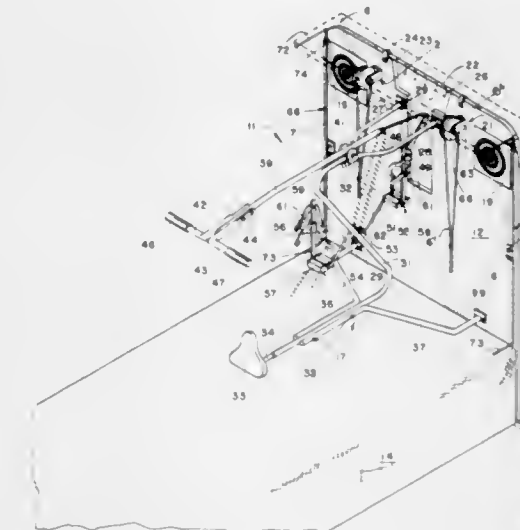
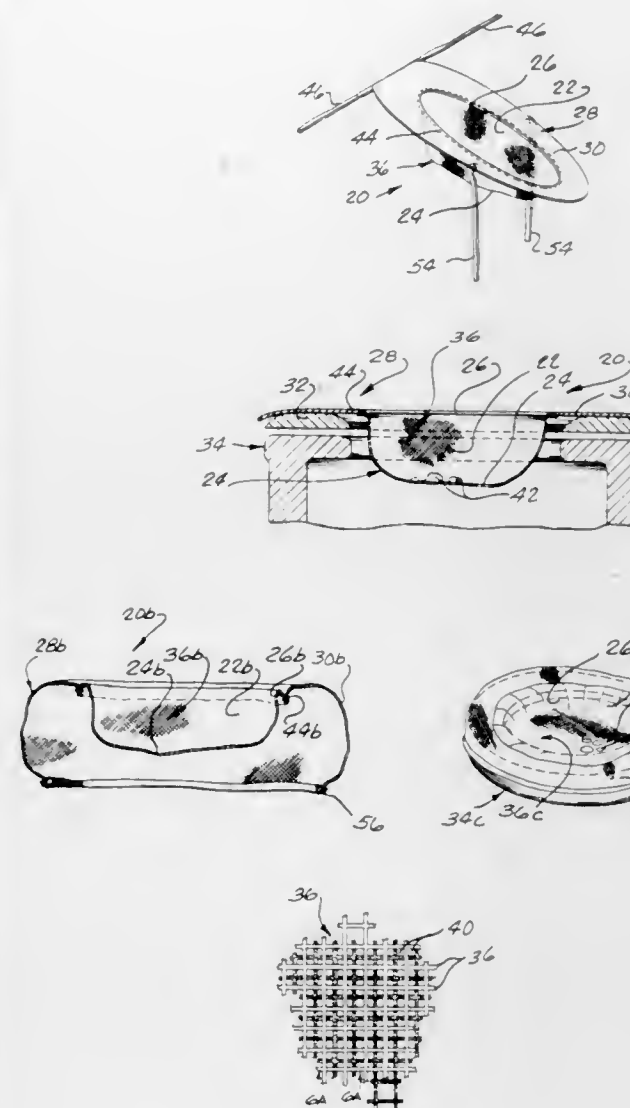
Mary G. Smith, 905 W. 13th, Wichita, Kansas

Filed Jan. 22, 1968, Ser. No. 699,470

Int. Cl. A61h 1/00

U.S. Cl. 128-25

10 Claims



A physical therapy apparatus for persons at bedrest is provided which is adapted to be secured to the bedpost of a bed so that a person in bed can utilize the apparatus without the necessity of the person being moved from the bed to another location. The apparatus is provided with a bicycle-type exerciser, both power and manually operated, and coordination restoring attachments thus enabling a person to undergo physical therapy in their own bed.

feces-receiving chambers to facilitate the stool collecting use thereof.

3,540,434

COAXIAL ELECTRODE RECORDING SYSTEM

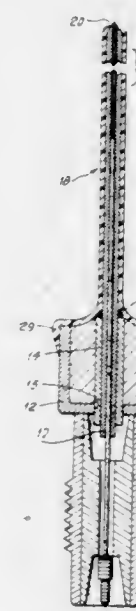
Allan H. Frey, Glenside, Pennsylvania, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 5, 1968, Ser. No. 781,490

Int. Cl. A61b 5/04

U.S. Cl. 128-2.1

4 Claims



A coaxial pathway for transmitting and recording potentials evoked in an animal's brain while the animal is illu-

3,540,436

WALKING EXERCISE MACHINE

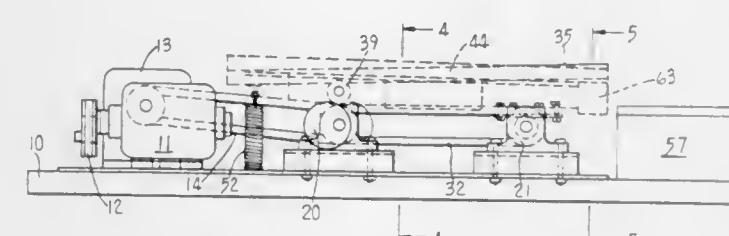
Fred Hueftle, Jr., P.O. Box 185, Linden, New Jersey 07036

Filed Dec. 27, 1968, Ser. No. 787,508

Int. Cl. A61h 1/02

U.S. Cl. 128-25

3 Claims



A machine for exercising legs by simulating a walking motion comprises a base carrying a rearwardly-positioned rotatable shaft riding in bearings, and a forwardly-positioned shaft and bearings. The rearward shaft carries a pair of cams having edge surfaces. A pair of flat foot boards have their forward ends attached to the forwardly-positioned bearings. Under the rear portions of each of the footboards is attached

a rotatable cam follower designed to ride on the cam surface. The cams are positioned so that one footboard is raised thereby while the other is lowered, thus simulating walking. The forward ends of the footboards are attached to bearing sleeves riding on the forward shaft and in line with the cams. A spring is attached to the back of each footboard and the base to insure contact of the cam follower with the cam surface.

3,540,437

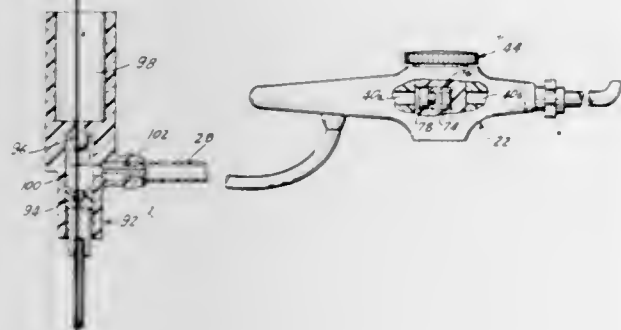
HAND PIECE CONTROL FOR ORAL LAVAGE

Seymour Troy, 15 Southfield Road, Mount Vernon, New York 10522

Filed Aug. 13, 1968, Ser. No. 752,263
Int. Cl. A61h 9/00

U.S. Cl. 128-66

17 Claims



A hand piece for use with an appliance of the type that produces a pulsating stream of liquid is provided with means for controlling the stream passing therethrough. The hand piece includes a pressure-absorbing valve which when in the closed position is adapted to act in unison with the appliance piston and absorb the liquid passed from the appliance to the hand piece and to periodically return the liquid to the appliance.

3,540,438

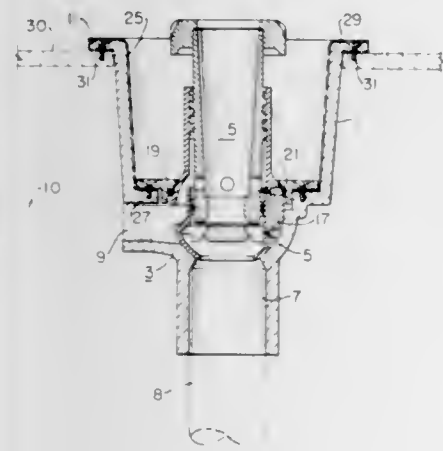
HYDRO-AIR JET HEAD ASSEMBLY

Roy A. Jacuzzi, Oakland, California, assignor to Jacuzzi Research Inc., a corporation of California

Filed Dec. 23, 1968, Ser. No. 786,252
Int. Cl. A61h 9/00

U.S. Cl. 128-66

7 Claims



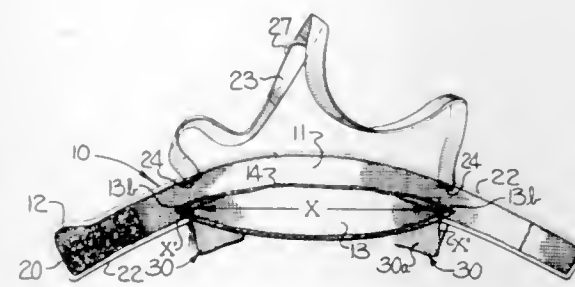
A hydroair jet head assembly for installation in a tank wall for hydromassage purposes, involves a recessed housing, the exposed inner wall surface of which is covered by a replaceable lining which is installable through the open end of the recessed housing, to economically enable replacement of a decorative surface, if and when such surface is adversely affected by chemicals in the water with which it comes in contact or by frequent cleaning and polishing.

3,540,439
CERVICAL TRACTION DEVICE
John F. Gaylord, Jr., Matthews, North Carolina, assignor to Medical Specialties, Inc., Charlotte, North Carolina a corporation of North Carolina

Filed May 6, 1968, Ser. No. 726,675
Int. Cl. A61h 1/02

U.S. Cl. 128-75

8 Claims



A cervical traction device comprising a head strap adapted to fit around a patient's head across the ears and forehead and provided with a rear concavo-convex pocket which will engage the patient's head both above and below the external occipital protuberance so that traction force can be applied with minimum discomfort and without immobilizing the lower jaw. Also, a pull strap means is attached to and extends upwardly from opposite sides of the head strap adjacent the helices of the patient's ears such that the upward pull is centered directly over the spinal column so the patient's head is not forced to extend angularly with respect to the mean longitudinal plane of the spinal column.

3,540,440

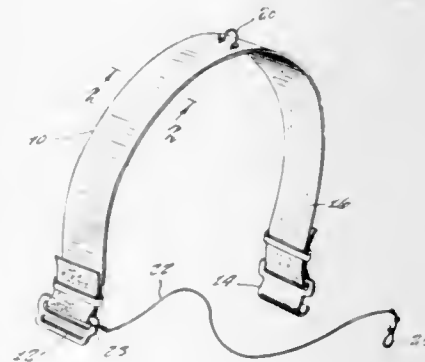
INSTANT ELASTIC FACELIFT DEVICE

Astrid Andreas, New York, N.Y. 10032 (c/o Parmask, 156-08 Riverside Drive W., Apt. 44)

Filed Aug. 26, 1968, Ser. No. 755,160
Int. Cl. A61f 5/08

U.S. Cl. 128-76

5 Claims



A face lifting device for removing temporarily and more or less permanently the sagging muscles and/or skin of the face consisting of an elastic band having an adjustable buckle and clasp, one at each end of the band, for securing the ends of the band together. The band is located to engage the sides of the face above and adjacent to the ears and extends across the head under the hair and around the back of the neck. Preferably, the buckle and clasp are joined at the top of the head. The surface of the band adjacent the skin of the face is covered with an adhesive similar to that employed in adhesive bandages, such an adhesive being noninjurious to the skin. In attaching the band to the head an upward tension is applied to the skin by the band on each side of the face by means of an elastic cord extending from the band at the nape of the neck up under the hair of the head to the buckle and clasp connection, this obviating the need for having the band tightly attached to the head. The band may either be worn exposed in the privacy of the wearer or in public by being made decorative and if desired, appropriately covered by a suitable hairdo, wig, hairpiece or hat.

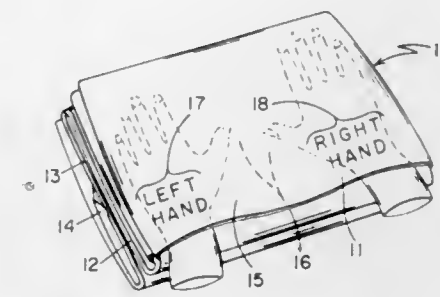
3,540,441

SURGICAL DRAPE WITH HAND RECEIVING CUFF
Robert F. Collins, Barrington, Illinois, assignor to The Kendall Company, Boston, Massachusetts a corporation of Massachusetts

Filed March 5, 1969, Ser. No. 804,405
Int. Cl. A61f 13/00

U.S. Cl. 128-132

5 Claims



A surgical legging drape having a generally trapezoidal configuration, and provided with an enlarged cuff surrounding the open end thereof, to function as a receiving pocket for the nurse's hands for sterile application to a patient. The drape is folded in a unique manner such that a portion of the cuff covers a substantial area of the top panel.

3,540,442

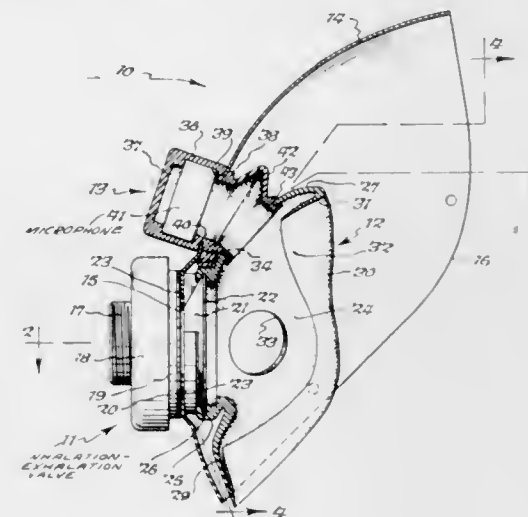
FACE MASK MICROPHONE MOUNTING

Robert L. Holloway, Snyder, New York, assignor, by mesne assignments, to "Automatic" Sprinkler Corporation of America, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 10, 1967, Ser. No. 659,767
Int. Cl. A62b 7/14

U.S. Cl. 128-141

8 Claims



A flexible, cup-shaped, oro-nasal face mask enclosing the nose and mouth of a wearer has a generally central opening spaced from a wearer's mouth in registry with the wearer's breathing path. An outer face mask having a transparent facepiece substantially encloses the oro-nasal mask. An inhalation-exhalation valve is secured in an opening through the facepiece and communicates with the oro-nasal mask through a flexible, bellowslike tube opening into the oro-nasal mask above the central opening and out of the direct breathing path of a user.

3,540,443

ACCUMULATOR-REBREATHER AND STOWAGE BAG COMBINATION

Robert A. Huddy, Arcadia, California, assignor to Sierra Engineering Co., Sierra Madre, California a corporation of California

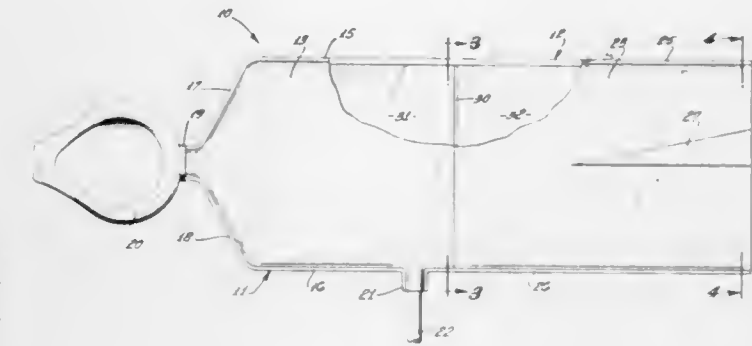
Filed Oct. 6, 1967, Ser. No. 673,486
Int. Cl. A62b 7/02

U.S. Cl. 128-146

1 Claim

The invention resides in a combination oxygen gas accumulation-rebreather bag and stowage bag of relatively light

sheet plastic material arranged so that the stowage bag contains the accumulator-rebreather bag together with a mask and a supply line hose in an arrangement such that the stowage bag can be cut loose when opened making it easy to withdraw the equipment contained in it, after which the stowage bag can be disposed of. The combination initially consists of a single elongated bag sealed transversely between opposite ends, dividing the bag into two separate sections. One section has a breathing mask attached to it at one side and a supply line attached to it at another side. The other



section is made so that it can expand to a slightly larger capacity and can be pulled inside out over the accumulator-rebreather section, the mask and the supply line and there closed at its normally open end so as to hermetically seal the contents within it. When the contents are to be removed, the two sections can be cut, by use of scissors for example, along the sealing line which normally separates one section from the other, thereby opening the stowage section so that it can be removed and thrown away when the accumulator-rebreather section is removed and placed in use.

3,540,444

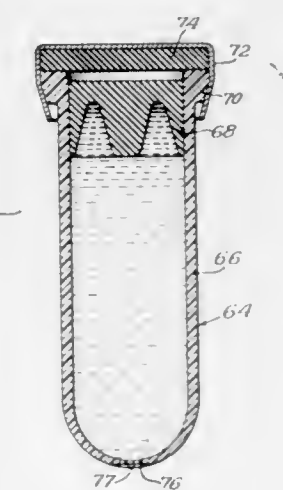
PLASTIC AMPOULE FOR USE WITH HYPODERMIC INJECTOR

Stephen T. Moreland, Grosse Pointe Woods, Michigan, assignor to R. P. Scherer Corporation, a corporation of Michigan

Filed Jan. 15, 1968, Ser. No. 697,891
Int. Cl. A61m 5/28

U.S. Cl. 128-173

6 Claims



An ampoule for a hypodermic jet injector. The end of the ampoule, through which medicament passes, is constructed of a resilient material. Crosscuts are scribed in the resilient end so that a plunger driving a plug into the opposite end of the ampoule forces medicament through the crosscut end by bursting it along lines coincident with the cuts.

3,540,445

SURFACE VAPORIZER WITH WATER REPELLING VAPORIZATION SURFACE

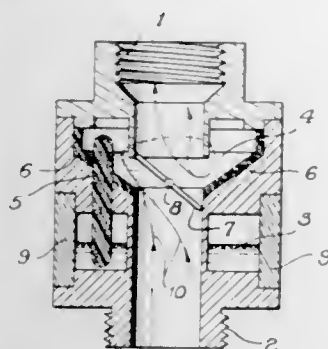
Peter Moyat, Bergen-Enkheim, Germany, assignor to Otto Heinrich Dräger, Lubeck, Germany

Filed May 23, 1968, Ser. No. 731,655

Int. Cl. A61m 17/00

U.S. Cl. 128-188

2 Claims



Vaporization surfaces or elements of inhalation narcotic vaporizers are made of halogenated synthetic resins which are water repellent so that the surfaces do not become deactivated by films of water.

3,540,446

OXYGEN TENT

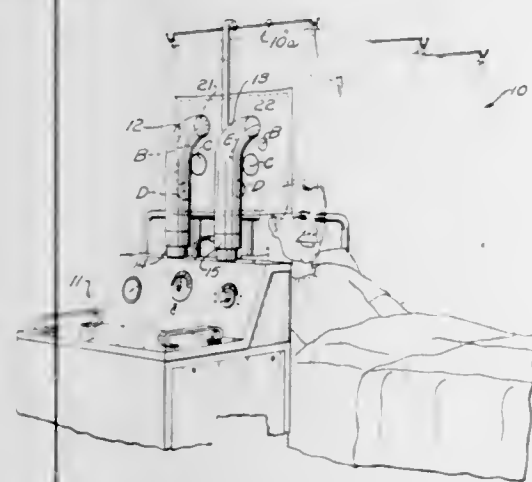
Ted A. Dixon, 60 Collier Road, Rocky River, Ohio 44116

Filed July 2, 1968, Ser. No. 742,006

Int. Cl. A61m 16/02

U.S. Cl. 128-191

2 Claims



A tent for use in the treatment of a patient is capable of use with any one of a plurality of machine units which have conduits extending to a predetermined location therefrom and through which conduits a controlled atmosphere is directed into the tent. The tent comprises a canopy for receiving at least the head of a patient being medically treated. The canopy has a plurality of areas corresponding to the locations to which the conduits from the plurality of machine units extend. The areas are selectively removable from the canopy to enable the canopy to be used with any one of the plurality of machine units.

3,540,447

SPINAL NEEDLE

Westley J. Howe, Franklin Lakes, New Jersey, assignor to Becton Dickinson and Company, East Rutherford, New Jersey a corporation of New Jersey

Filed Sept. 29, 1967, Ser. No. 671,635

Int. Cl. A61m 5/32; A61b 17/34

U.S. Cl. 128-221

1 Claim



A spinal needle having two portions of different diameter, and which is accurately dimensioned to facilitate entry and positioning in the spinal cord. The needle is hollow and has a

sharpened point section of reduced diameter connected by a tapering intermediate portion to an enlarged portion which extends to a hub member. A stylet is also provided which has an external configuration identical to internal configuration of the hollow needle.

3,540,448

RECHARGEABLE APPLICATOR FOR DISPENSING SUBSTANCES IN A FOAM CONDITION

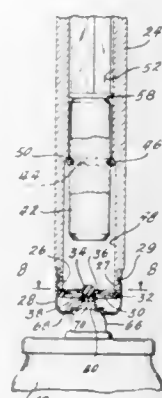
Joseph Sunnen, 400 S. Warson Road, Ladue, Missouri 63124

Filed Jan. 17, 1968, Ser. No. 698,465

Int. Cl. A61m 37/00

U.S. Cl. 128-261

9 Claims



A rechargeable applicator for dispensing substances in a foam or foamlike condition including dispensing them into a body cavity or elsewhere including a tubular holder member open at one end and partially closed at the opposite end, and a tubular applicator including a tubular housing adapted to slide into the tubular holder, said housing having valve means normally resiliently biased closed at one end and constructed to cooperate with means on the partially closed end of the tubular holder and with valve means on an aerosol container when pressed thereagainst to open and in the case of the holder to dispense the contents thereof and in the case of the aerosol container to establish communication between the inside of the aerosol container and the inside of the applicator housing, piston means slidably and sealably positioned in the applicator housing and movable therein in a direction to permit the flow of material from the aerosol container into the applicator during a filling operation, and other means for moving the piston means in the applicator toward the valve means during a dispensing operation when the applicator is positioned in the tubular member.

3,540,449

FLUID CONTAINERS AND RESEALABLE SEPTUM THEREFOR

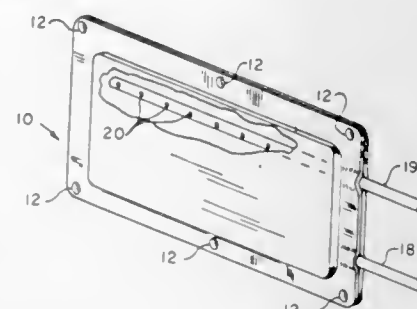
T. O. Paine, Deputy Administrator of the National Aeronautics and Space Administration with respect to an invention of and Samuel B. Wheeler, Monrovia, California

Filed May 23, 1968, Ser. No. 731,388

Int. Cl. A61j 1/00

U.S. Cl. 128-272

12 Claims



Fluid containers and a resealable septum therefor are provided by fabricating the containers from preformed sheets made of polyester fiber material coated with a composition containing organosilicon polymers. The sheets are fused, or cemented together along their margins, with plastic inlet and outlet tubes in between. An outlet tube extends into each container a substantial distance and is provided with a plurality of perforations. A resealable septum is connected to

the tubes of the containers for insertion or withdrawal of fluids with hypodermic syringes.

3,540,450

INFANT GARMENT

Richard R. Quinlan, Beaverton, Oregon (1000 NW. 123rd., Apt. 10, Portland, Oreg. 97229)

Filed Jan. 16, 1967, Ser. No. 609,465

Int. Cl. A61f 13/16

U.S. Cl. 128-287

3 Claims



A first garment including a liquid impervious layer fitted about a male infant's lower abdomen and groin, with an oval hole through it receiving the infant's penis and scrotum, and a second garment enclosing the first garment adapted to absorb urine discharged.

3,540,451

DRAINAGE CANNULA WITH TISSUE CONNECTING ASSEMBLIES ON BOTH ENDS

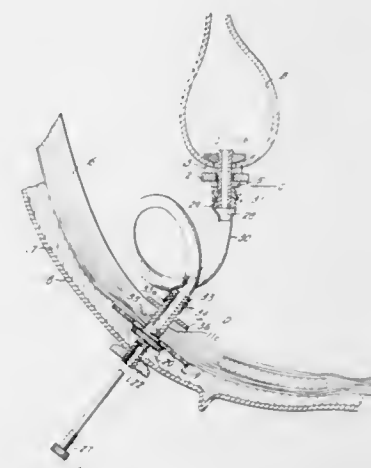
William V. Zeman, 905 Broad St., Apt H9, Bloomfield, New Jersey 07003

Substitute for abandoned application Ser. No. 307,735, Sept. 9, 1963. This application Feb. 28, 1967, Ser. No. 619,389

Int. Cl. A61b 17/11; A61m 25/00

U.S. Cl. 128-334

1 Claim



A cannula for drainage of the abdominal cavity and of hollow internal organs is described which includes a tubular member more or less permanently implanted in the abdominal wall for drainage of the abdominal cavity, and connected by a tube to a similar tubular member implanted in the wall of the hollow internal organ where such organ is to be drained. Means are provided for anchoring the parts in the tissue of the walls without pressure, so that blood circulation is not interfered with. The cannula extends to or slightly beyond the surface of the skin and is sealed by a pin or the like, and repeated cannulation requires only the removal of the pin.

3,540,452

SUTURE

Francis C. Usher, Houston and Ralph R. Langner, Lake Jackson, Texas, assignors to The Dow Chemical Company, Midland, Michigan a corporation of Delaware

Filed Feb. 28, 1968, Ser. No. 709,006

Int. Cl. A61l 17/00

U.S. Cl. 128-335.5

17 Claims

A suture having a strongly adherent plastic coating of a copolymer of an olefin and an α,β -monoethylenically unsaturated carboxylic acid or anhydride is prepared by depositing a coating of the copolymer on a suitable substrate. In an alternate embodiment, an overcoating of a suitable organic

plastic material is deposited on the copolymer coating such that the copolymer serves as an adhesive interlayer between the substrate and the organic plastic overcoat. The plastic



coatings can be applied by any suitable technique such as dip coating in a fluidized bed, solution deposition, extrusion coating, and the like.

3,540,453

APPARATUS FOR TREATING COLOR ABNORMALITIES, INCLUDING A SQUARE WAVE GENERATOR OPERATING ALTERNATIVELY AT FIRST AND SECOND FREQUENCIES

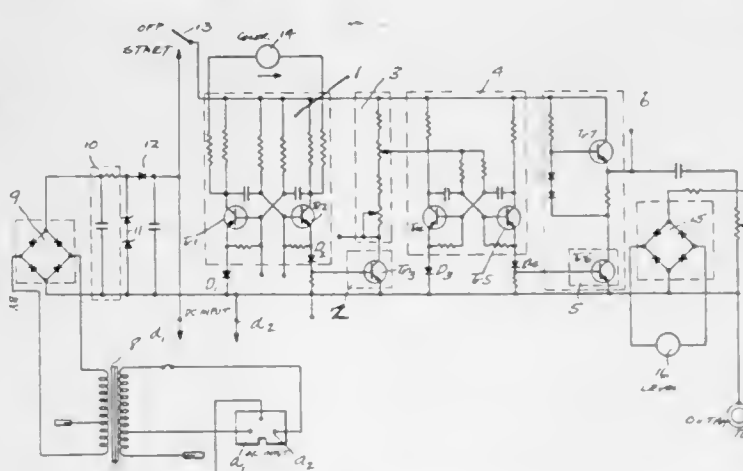
Hideo Sugimori, Abeno Osaka, Japan, assignor to Sharp Corporation, Abeno-Ku, Osaka, Japan a corporation of Japan

Filed June 2, 1967, Ser. No. 643,155

Int. Cl. A61n 1/32

U.S. Cl. 128-422

3 Claims



The disclosure sets forth an apparatus for treating color abnormalities by stimulation with alternating current of 77 cycles per second for red and 42.5 cycles per second for green, in which multivibrators are utilized having time constants selected to generate square waves of alternating current, corresponding to alternating periods consisting of a pulse width of 3 seconds and an interval of 3 seconds between pulses, which are applied to the skin near the eyes of the patient to correct for color blindness in either red or green.

3,540,454

SYSTEM FOR DETERMINING COMBINE EFFICIENCY

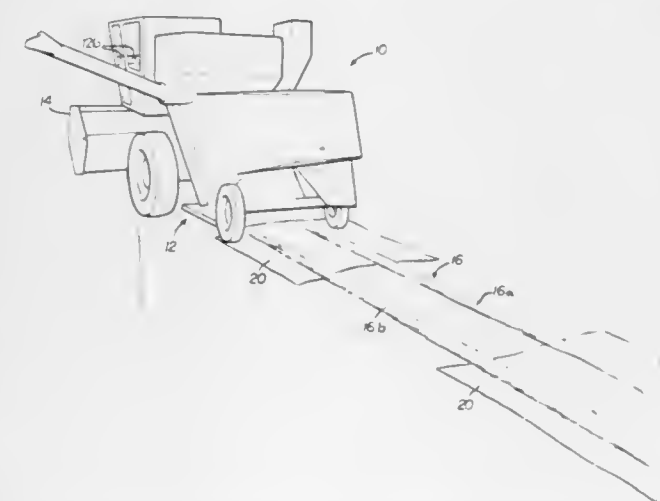
Harry L. Giebelstein, De Witt and Demeter Gawreluk, Davenport, Iowa, assignors to J. I. Case Company, Racine, Wisconsin a corporation of Wisconsin

Filed Feb. 24, 1969, Ser. No. 801,501

Int. Cl. A01f 12/00

U.S. Cl. 130-27

10 Claims



An ejector mechanism for selectively dropping canvases

along the path of a harvesting machine for receiving the effluent of the machine to be utilized in determining the efficiency of the harvesting operation.

3,540,455

RECONSTITUTED TOBACCO SHEET AND METHOD OF MAKING SAME

Joseph Vincent Fiore, Fairfield and Harry Jacin, Norwalk, Connecticut, assignors to American Machine & Foundry Company, a corporation

Filed May 17, 1967, Ser. No. 639,066

Int. Cl. A24b 03/14, 15/00

U.S. Cl. 131-17

2 Claims

Herein is disclosed a process for the treatment of tobacco in the manufacture of reconstituted tobacco products. In the method described a water-tobacco slurry is produced and thereafter at least a portion of the polyphenol constituent of the extract is precipitated or neutralized by treatment with sodium sulphate to the extent of one to five parts per hundred parts of tobacco, by weight.

3,540,456

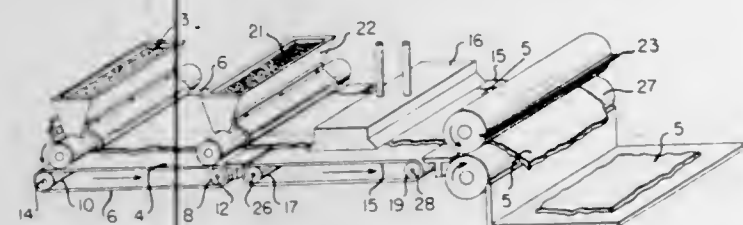
PROCESSES FOR INCORPORATING ENCAPSULATED FLAVORS AND THE LIKE IN RECONSTITUTED TOBACCO SHEET

James H. McClumphy, Chatham, New Jersey; James Orville Pfaff, New York, New York; Alton De Witt Quinn, Cranford, New Jersey and Georges Wellner, New York, New York, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Original application Aug. 15, 1967, Ser. No. 660,775. Divided and this application May 29, 1969, Ser. No. 844,233

Int. Cl. A24h 03/14; A24d 01/06

U.S. Cl. 131-144



The formation of reconstituted tobacco sheet material from tobacco stems, said sheet having a subsident layer of microencapsulated flavoring material embedded in the reconstituted tobacco sheet and the incorporation thereof into smoking articles such as cigarettes, cigars, etc. The microcapsules are of an average diameter smaller than the sheet thickness and in such quantity as to be confined within the sheet, being protectively nested in the spaces between the tobacco fibers. They are incorporated within an aqueous tobacco slurry before sheeting or applied to a wet web of fibrous tobacco on a support in a suspension which contains a film forming polymeric material.

3,540,457

HAIR CURLER

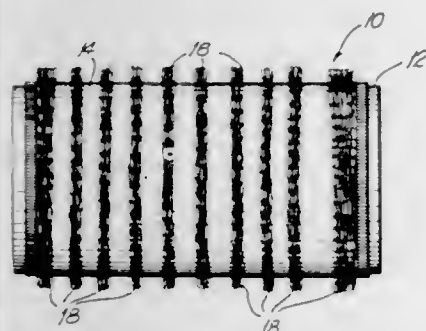
Nathan J. Solomon, P.O. Box 550, Englewood, New Jersey

Filed Oct. 28, 1966, Ser. No. 590,298

Int. Cl. A45d 2/24

U.S. Cl. 132-33

8 Claims



A nonelectric heated curler having an open-ended tubular body made of good heat-conductive material of sufficient

length so as to retain heat for predetermined period, and supporting a nonheat-conductive outer sleeve having hair gripping bristles radially extending therefrom.

3,540,458

TENT

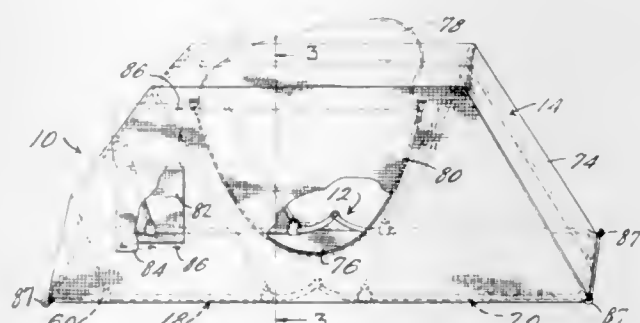
Elmer C. Osterhoudt, 2603 N. Winstel Blvd., Tucson 85716 and Merritt O. Featheringill, P.O. Box 94, Oracle, Arizona 85623

Filed Feb. 3, 1969, Ser. No. 796,019

Int. Cl. A45f 1/16

U.S. Cl. 135-4

4 Claims



A foldable, portable, one-man tent comfortably accommodates an adult and yet can be quickly and easily folded and carried on one's back. The tent has a lightweight, easily-folded frame, which also enables the tent to be erected quickly, even under adverse conditions. The tent has a covering which preferably extends around the entire frame, including the bottom, and has an upper, zippered flap for easy access to the interior.

3,540,459

HOT BOX SENSOR

Arthur W. Grant, Saint Boniface, Manitoba; Casmier J. Welligan and John J. Raby, Winnipeg, Manitoba, Canada, assignors to Canadian Pacific Railway Company, Montreal, Quebec, Canada

Filed April 24, 1968, Ser. No. 723,714

Claims priority, application Canada, Mar. 27, 1968, 016,021

Int. Cl. F16k 17/40

U.S. Cl. 137-74

2 Claims



The application discloses a device for detecting dangerous overheating of journals in rolling stock and for causing the brakes of the vehicle to be applied in the event of such over-

heating. The device comprises a plug for the train line of the vehicle which has a disc in one end of the plug the disc being sealed in the plug by solder and being located adjacent to the journal so that when dangerous overheating occurs the solder melts and the disc is blown from the plug to cause the train line to be connected to atmosphere and the brakes of the vehicle applied. The plug comprises a pair of tubular body sections interconnected by a heat insulating element which prevents dissipation of heat into the journal box brass, which might delay melting of the solder.

3,540,460

SAFETY CONTROL

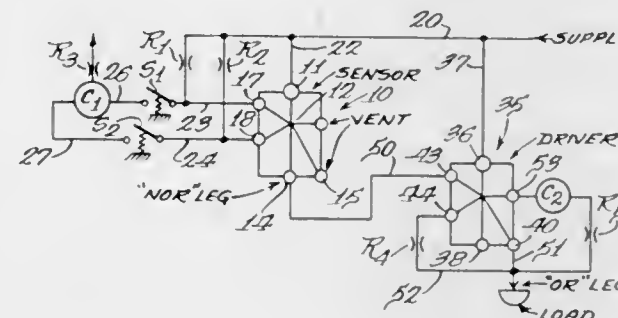
Edward J. Purcell, Evanston, Illinois, assignor to I-T-E Imperial Corporation, a corporation of Delaware

Filed July 24, 1967, Ser. No. 655,429

Int. Cl. F15c 1/12

U.S. Cl. 137-81.5

14 Claims



A fluidic control circuit for initiating each cycle of a machine only when two switches are manually closed by the operator within a predetermined time period including a fluidic OR/NOR gate used as a sensor for providing a NOR output to a machine cycle starter when no fluid input signals are applied with each of the switches arranged to decrease one of the fluid input signals and with a capacitive circuit for thereafter increasing the input signals to OR output level after the predetermined time has lapsed.

3,540,461

PNEUMATIC CONTROL SYSTEM AND CONTROL DEVICE THEREFOR OR THE LIKE

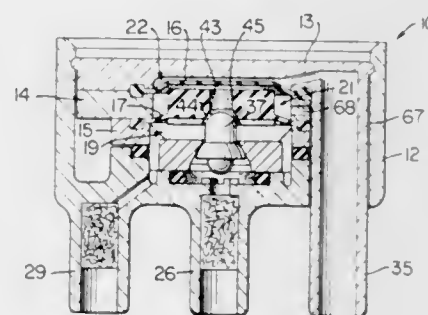
Larry S. Smith, Goshen, Indiana, assignor to Robertshaw Controls Company, Richmond, Virginia a corporation of Delaware

Filed Feb. 17, 1969, Ser. No. 799,613

Int. Cl. F15b 5/00; G05d 16/00

U.S. Cl. 137-85

20 Claims



This disclosure relates to a control device comprising a housing carrying two separate one-piece flexible diaphragms in stacked relation and cooperating therewith to define a pilot chamber, an exhaust chamber and a branch pressure chamber in stacked relation, one of the diaphragms having an opening passing therethrough and defining opposed resilient valve seats respectively leading to said exhaust chamber and said branch chamber. The housing has a stationary valve seat separating a main pressure chamber from said branch chamber and is adapted to be opened and closed by a valve member disposed in the main chamber and projecting through the stationary valve seat into the branch chamber to control and be engageable by one of the resilient

valve seats of the one diaphragm, the other resilient valve seat of the one diaphragm being controlled and engageable by the other of the diaphragms. The housing provides a leakage passage means around a conduit thereof to provide fluid communication between the exhaust chamber and the atmosphere.

3,540,462

MINIATURIZED FLOW CONTROL VALVE

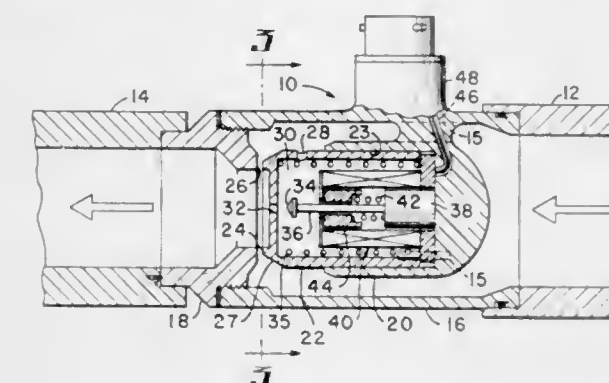
Nicholas A. Renzi, Trumbull, Connecticut, assignor to Avco Corporation, Stratford, Connecticut a corporation of Delaware

Filed Aug. 2, 1968, Ser. No. 749,837

Int. Cl. F16k 1/12

U.S. Cl. 137-219

6 Claims



The disclosure illustrates a miniaturized solenoid-actuated fluid flow control valve. A miniaturized solenoid is mounted in a housing surrounded by the fluid stream and is adapted to directly actuate a normally retracted piston, telescoped into the housing, to a closed position for low flow rates. The solenoid actuates a pressure control means at high flow rates to establish pressure differentials across the piston for urging it to a closed position.

3,540,463

FLUIDIC DEVICES WITH IMPROVED TEMPERATURE CHARACTERISTICS

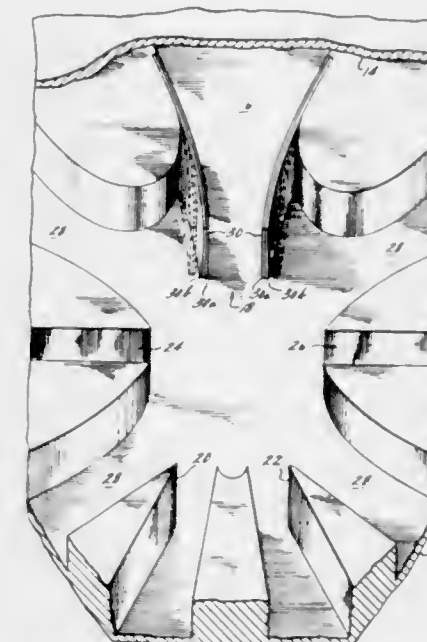
Arthur S. Meyer, West Chester, Ohio, assignor to General Electric Company, a corporation of New York

Filed Sept. 16, 1968, Ser. No. 762,208

Int. Cl. F15c 3/10; F16k 17/38

U.S. Cl. 137-81.5

8 Claims



The disclosure illustrates three forms of fluidic devices wherein the discharge areas or entrance areas for fluid passageways are varied by bimetallic strips to render the functioning of the devices essentially, if not entirely, insensi-

tive to changes in temperature of the motive fluids employed in the devices. An alternate embodiment of the invention illustrates a fluidic device wherein the discharge end of a power stream nozzle is formed by bimetallic strips which flex to produce a pressure output signal, at receiver means downstream thereof, indicative of the temperature of the fluid stream discharged from the nozzle.

3,540,464

FLOW CONTROL VALVES

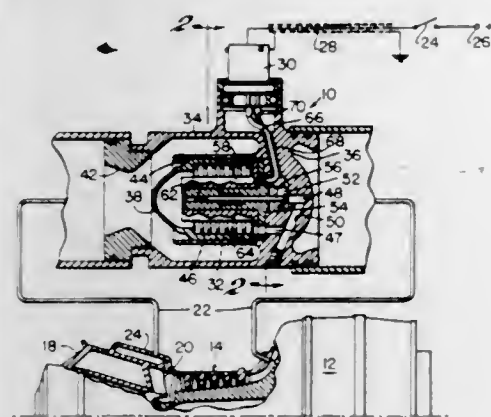
Nicholas Albert Renzi, Trumbull, Conn., assignor to Avco Corporation, Stratford, Connecticut, a corporation of Delaware

Filed March 4, 1968, Ser. No. 710,307

Int. Cl. F16k 1/12, 31/06

U.S. Cl. 137—221

3 Claims



The disclosure illustrates a miniaturized operator-controlled valve for use in controlling the flow of pressurized heated compressor discharge air from a gas turbine engine to the engine inlet for deicing purposes. The valve comprises an inner and outer housing and a displaceable piston telescoped into the inner housing so that the outer face of the piston is exposed to the air stream. A solenoid is positioned in the inner housing to actuate a valve assembly which pressurizes or depressurizes the interior side of the piston, thereby causing the piston to extend to a closed position or to retract to an open position. The solenoid valve is arranged so that when the solenoid is deenergized the miniaturized valve permits flow of deicing air.

3,540,465

APPARATUS FOR MAINTAINING FLUID LEVEL CONTROL

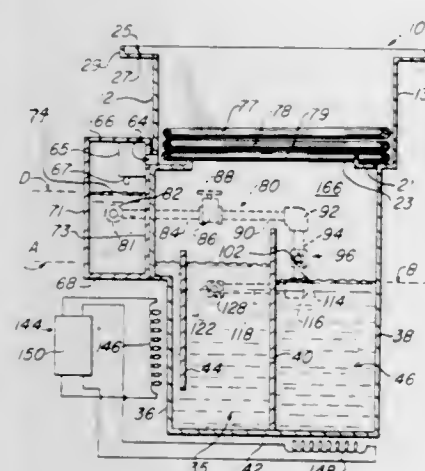
William R. Hamilton, Western Springs, Illinois, assignor to Baron Blakeslee, Inc., Chicago, Illinois a corporation of Illinois

Filed June 14, 1968, Ser. No. 737,029

Int. Cl. G05d 7/06; F16k 21/18; E03b 1/00

U.S. Cl. 137—263

6 Claims



An apparatus for maintaining a first fluid and a second fluid at predetermined levels includes a first reservoir adapted to hold the first fluid at a predetermined first level, and a second reservoir adapted to hold the second fluid at a second level lower than the first level. Fluid is periodically in-

troduced to the first or second reservoir from a source through a conduit having a first pathway leading into the first reservoir and a second pathway leading into the second reservoir. The first pathway has an upper edge portion located at a position below the first level, and the second pathway has a lower edge portion located at the first level. When the fluid flows from the source through the conduit, it bypasses the second pathway and flows through the first pathway until the first reservoir and the conduit are each filled to the first level. Thereafter, fluid flowing through the conduit passes through the second pathway into the second reservoir, thereby maintaining the first fluid in the first reservoir at the first level.

3,540,466

SAFETY COUPLING FOR CONNECTING A CONTAINER TO A LIQUID DISPENSING APPARATUS

Iwan Ilieff, Raimundstrasse 70, Frankfurt am Main, Germany

Filed Feb. 25, 1969, Ser. No. 802,158

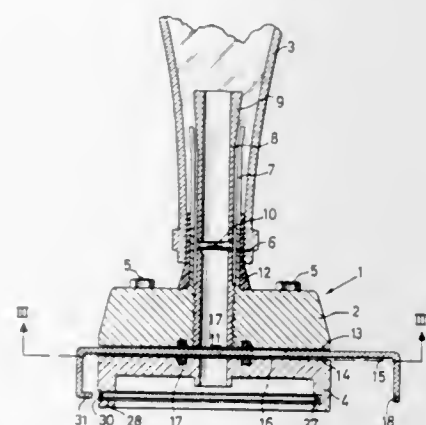
Claims priority, application Germany, Feb. 29, 1968,

1,657,146

Int. Cl. F16k 51/00

U.S. Cl. 137—327

10 Claims



A bottle is coupled to a liquid dispensing apparatus by a tubular, valved connector whose valve is locked in the closed position unless the connector is attached to the dispensing apparatus or a special key is used. The coupling holding the connector to the bottle can be disengaged only by means of a key inserted through the open valve in the connector, whereby unauthorized withdrawal of liquid from the bottle is made difficult or impossible.

3,540,467

GAS-COOLED STOPPER ROD ASSEMBLY

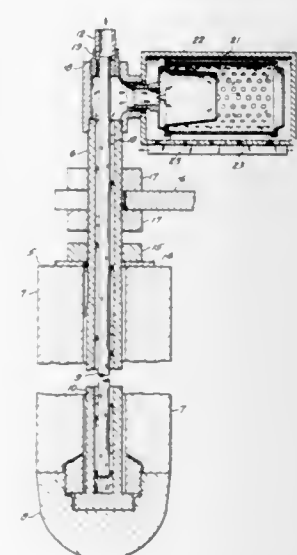
Philip D. Stelts, Center Valley, Pennsylvania, assignor to Bethlehem Steel Corporation, a corporation of Delaware

Filed June 17, 1968, Ser. No. 737,784

Int. Cl. F16k 49/00

U.S. Cl. 137—340

3 Claims



A gas-cooled stopper rod assembly for bottom pour molten metal ladles. The stopper rod is provided with a sound muff.

fling device designed to prevent objectionable noise levels caused by the high velocity coolant gas circulated within the stopper rod.

3,540,468

REMOVABLE SECTION OF SPLIT HOUSING BARES BOTH ENDS OF PLUG COCK SPINDLE

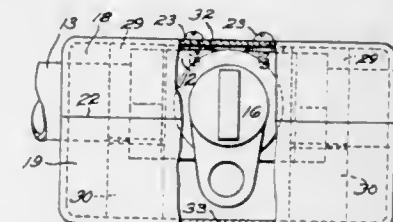
Frederick P. Finck, Jr., Fairfield, Connecticut, assignor to The Ruleta Company, Inc., Bridgeport, Connecticut a corporation of New York

Filed Dec. 16, 1968, Ser. No. 784,088

Int. Cl. F16k 35/10; G05g 5/00; F16k 19/00

U.S. Cl. 137—383

4 Claims



A plug cock connected in a straight line of pipe has a port control plug spindle both of whose ends protrude from the body of the cock. The spindle is rotatable about an axis perpendicular to the line of the pipe. The cock is incased in a split housing comprising separable shell and cover sections at least one of which sections circumscribes an area as large as the profile of the cock that outlines the body of the cock and both of its protruding spindle ends. The housing sections are cuplike and meet rim to rim in a plane paralleling the axis of the plug spindle so that removal of only one of the housing sections exposes and makes accessible for operation or adjustment both protruding ends of the plug spindle. The housing sections are held releasably together by two plunger-type lockable draw fasteners each of which can slide telescopically into axially aligned bores in posts that are internal of the housing sections. The bore in one of the posts is shouldered to present a strike that interlocks with the fastener. The head of the fastener is nested protectively in the other post in a manner to expose only its end surface which has a keyhole admittance to a key for unlocking the fastener.

3,540,469

EXCESS FLOW CHECK VALVE

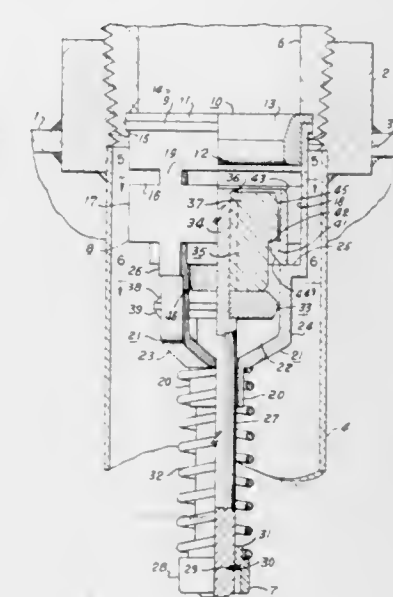
David P. Ward, P.O. Box 5323, Dallas, Texas 75222

Filed Feb. 26, 1969, Ser. No. 802,474

Int. Cl. F16k 17/30

U.S. Cl. 137—512.1

15 Claims



Excess flow check valve for liquefied gaseous fluid, such as liquefied petroleum gas and anhydrous ammonia, handling equipment and particularly for safeguarding the withdrawal of such fluid from storage tanks. The valve has a two-stage

closure to permit the use of a weaker actuating spring, which is more sensitive and resilient, and a plurality of lateral ports, of relatively large area and minimum quantity, in its housing to separate the flow into smaller streams of sufficient area to minimize turbulence and provide substantially uniform closing of said valve irrespective of the flow area therearound. Preferably, the ports are of maximum dimensions to permit maximum controlled flow.

3,540,470

DIAPHRAGM VALVE FOR COMPRESSORS

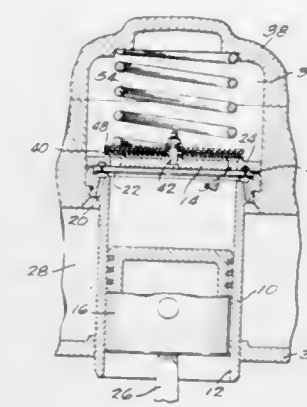
Charles Schmid, Milwaukee, Wisconsin and Whitney I. Grant, Muskego, Wisconsin, assignors to Vilter Manufacturing Corporation, Milwaukee, Wisconsin a corporation of Wisconsin

Filed June 17, 1968, Ser. No. 737,704

Int. Cl. F16k 15/14

U.S. Cl. 137—516.17

4 Claims



A diaphragm type discharge valve for a reciprocating gas compressor which is prestressed to a dish shape or concave formation by a stamp and die operation and which is specially treated as by a shot-peening operation to relieve internal stresses.

3,540,471

SPEED CONTROL VALVE

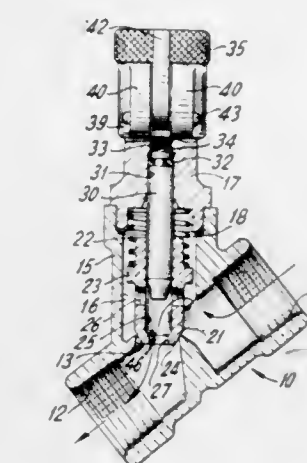
Alan W. Churchill, Morristown, New Jersey, assignor to Automatic Switch Co., a corporation of New York

Filed Dec. 3, 1968, Ser. No. 780,760

Int. Cl. F16k 15/18

U.S. Cl. 137—513.3

2 Claims



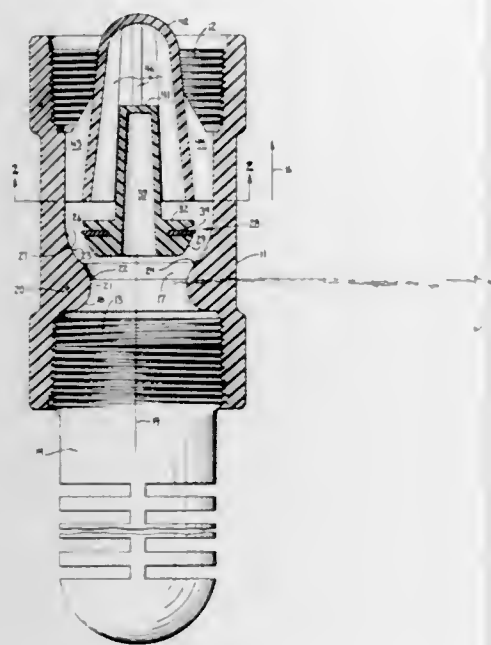
3,540,472 CHECK VALVE

Richard F. Brady and Jean C. Johnson, Muncie, Indiana, assignors, by mesne assignments, to Francis E. Brady, Jr., Muncie, Indiana

Filed July 13, 1967, Ser. No. 653,068
Int. Cl. F16k 15/06

U.S. Cl. 137—516.29

16 Claims



A check valve including a generally cylindrical housing of low-friction plastic molded with a conical seat and stream-lined entry and departure regions adjacent thereto in a passageway from entrance to exit ends of the housing. A low-friction molded plastic ogive-shaped diffuser body downstream of the seat, with internal longitudinally extending tapered guide flutes receiving a tapered stem of a molded low-friction plastic valve including a circular flange, flexible seal, and conical seating face upstream of the flange and seal. The taper and clearance of the guide flutes and valve stem accommodate self-centering of the valve on the seat, but aligning the flange and diffuser end for flush-fitting in the valve-open state for minimal flow restriction.

3,540,473

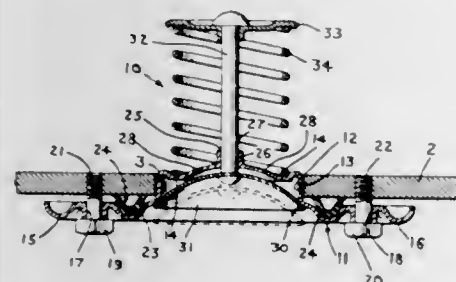
SPRAY VALVE FOR WATER TREATING AND OTHER FLUID FLOW SYSTEMS

Henry W. Peterson, Millington and Savino A. Bucci, Rahway, New Jersey, assignors to Worthington Corporation, Harrison, New Jersey a corporation of Delaware

Filed Oct. 26, 1967, Ser. No. 678,374
Int. Cl. F16k 15/00

U.S. Cl. 137—543.15

11 Claims



This invention relates to spray valves applicable for use in water treating systems but generally applicable for use in any fluid flow system in which the valve is normally maintained closed by a resilient or equivalent force and is actuated to open position when the pressure in the fluid system reaches a point sufficient to overcome the force maintaining the valve in its normally closed position. Such valves are broadly classified as check valves. In the valve of the present invention, the main elements thereof including the valve body and the coating valve head are made from stampings of metal or

other materials adapted for the purposes of this valve and the valve body includes, or has formed thereon a valve seal, a valve stem guide, attachment flanges, and means for positively locking or maintaining the valve in assembled position so that an absolutely vibrationless, nonloosening valve assembly is provided in such assembled position.

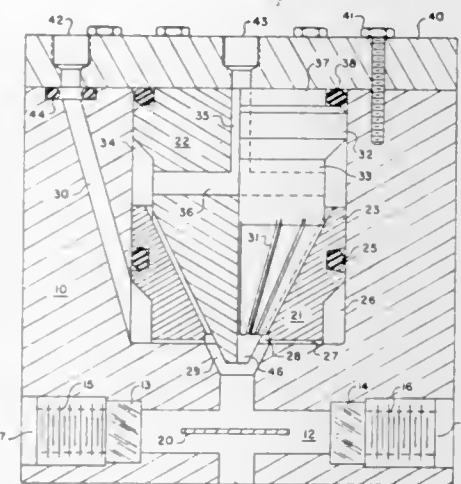
3,540,474 RAPID MIXER

Thomas D. Sharples, Atherton, California, assignor to Beckman Instruments, Inc., a corporation of California

Filed April 1, 1968, Ser. No. 717,705
Int. Cl. B01f 5/18

U.S. Cl. 137—559

9 Claims



A mixer of the type comprising two sets of jets discharging into a small mixing chamber, one set being disposed to discharge at points adjacent discharge points of the other set, the one set being formed by radial grooves on the end of a cylindrical body placed inside a smooth counterbore in a main body concentric with a bore which leads to a cuvette formed as an integral part thereof. The second set is formed by grooves on a frustum of a cone inserted into a smooth conical counterbore in the cylindrical body concentric with a bore therein which forms the mixing chamber.

3,540,475

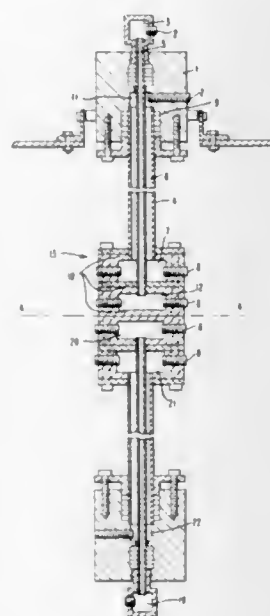
ROTARY MANIFOLD

Thomas R. Clark, Hendersonville, Tennessee, assignor to E. I. du Pont de Nemours and Company, Wilmington, Delaware a corporation of Delaware

Filed Dec. 20, 1967, Ser. No. 692,119
Int. Cl. F16l 39/04

U.S. Cl. 137—594

2 Claims



A manifold for rotary spray apparatus which distributes coating fluids and air to several spray guns. The manifold

separates the air and all coating fluids from each other and enables the simultaneous application of two or more coating fluids.

3,540,476

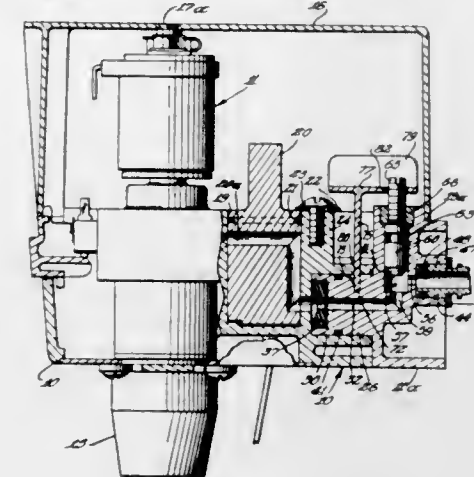
MOUNTING MANIFOLD FOR DISPENSER VALVES
William R. Fuerst, Park Ridge, Illinois, assignor to Eaton Yale & Towne Inc., a corporation of Ohio

Filed Sept. 13, 1967, Ser. No. 667,538

Int. Cl. F16k 19/00

U.S. Cl. 137—606

7 Claims



Mounting manifold forming a mounting for the electrically energizable dispenser valves of a drink dispenser and accommodating quick detachment of the valves from the manifold without shutting off the fluid inlet lines or pressures in the dispenser cabinet. The manifold has two inlets leading into one end thereof, one for syrup and the other for water, although it also may have an inlet for carbonated water. Two outlet fittings lead from the opposite end of the manifold forming a support for the dispenser valve block. A shutoff valve is in association with each associated inlet and outlet and is operated by an individual valve stem, to shut off the flow and pressure through the manifold. A locking plate has clamping engagement with the manifold inlets to bring the valve block into tight engagement with the manifold and to retain the dispenser valves to the manifold. The locking plate has a ledge extending over the valve stems of the shutoff valves in the manifold. This ledge is apertured to accommodate the valve stems to extend therethrough and retain the locking plate in a locking position when the manifold valves are open. The valve stems are shown as being threaded in the manifold. As these stems are threaded inwardly along the manifold to close the shutoff valves the locking plate is released to accommodate removal of the dispenser valve block from the manifold without shutting off the pressure lines in the dispenser cabinet.

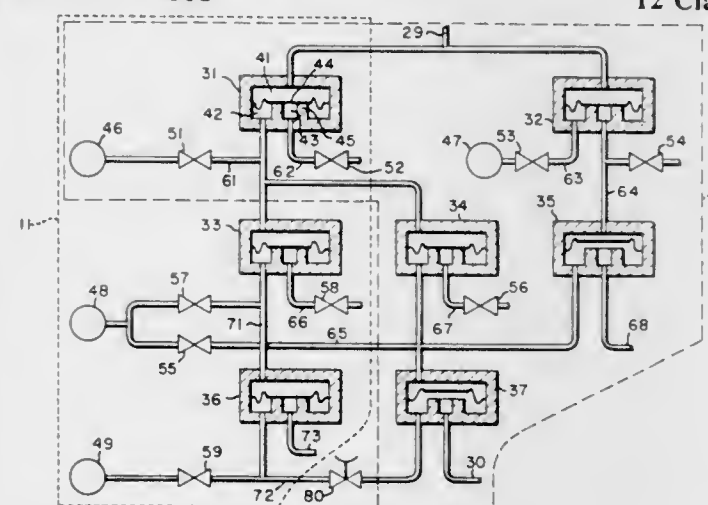
3,540,477

PNEUMATIC SUPPLY-EXHAUST CIRCUIT
Joseph E. Hogel, River Grove, Illinois, assignor to Honeywell Inc., Minneapolis, Minnesota a corporation of Delaware

Filed March 18, 1969, Ser. No. 808,268
Int. Cl. F15c 3/04

U.S. Cl. 137—608

12 Claims



A pneumatic logic circuit is disclosed that performs a supply-exhaust function in response to a variable input pres-

sure. The circuit consists of a plurality of miniaturized valves each of which uses a diaphragm as the only moving part. Functionally, the circuit can be broken down into two groups of valves, the first of which responds to the variable input pressure by either supplying pressure to or exhausting pressure from a pressure line. The second group controls the communication of pressure in the line to a pressure outlet as a function of variable input pressure.

3,540,478

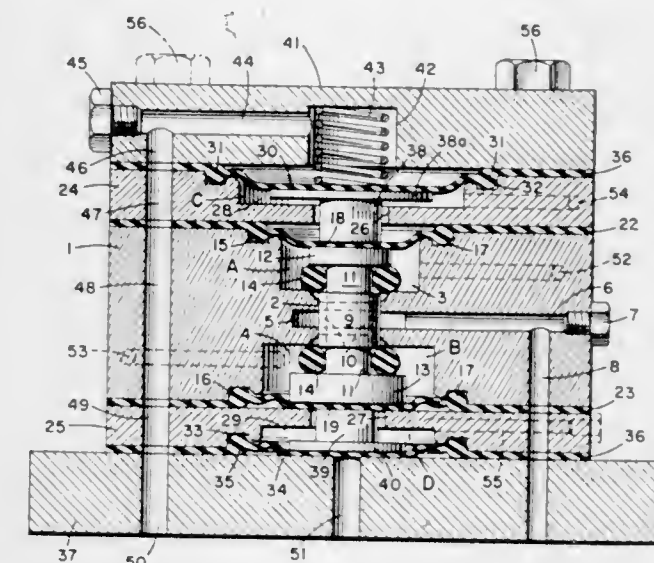
DIAPHRAGM TYPE PNEUMATIC LOGIC ELEMENT
Jinichi Ito, Tokyo, Japan, assignor to Yamada Yuki Seizo Co. Ltd., Tokyo, Japan

Filed Oct. 31, 1967, Ser. No. 679,386

Claims priority, application Japan, Nov. 2, 1966, 41/72,519
Int. Cl. F16k 11/04

U.S. Cl. 137—625.5

2 Claims



A diaphragm-type pneumatic logic element comprising a pneumatic logic operator, valve portions having pressure receiving faces different from each other in diameter and provided on opposite ends of said operator, diaphragms facing said pressure receiving faces provided for operating the operator, air chambers formed at the outer and inner sides of said diaphragms for receiving input signals of high-pressure air, and an air duct for taking out an output signal of high-pressure air.

3,540,479

HEAT MOTOR AND VALVE

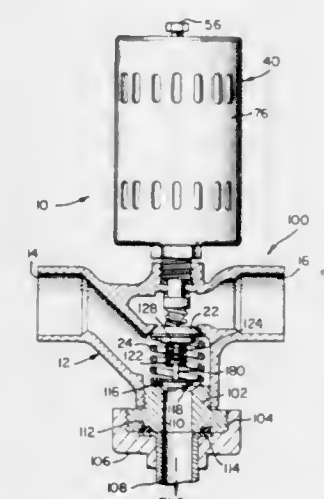
Frank R. Thompson, 68 Fordson Ave., Cranston, Rhode Island

Filed March 6, 1968, Ser. No. 711,011

Int. Cl. F16k 31/04

U.S. Cl. 137—625.5

46 Claims



A heat motor comprising an elongated metallic tube having a solid polytetrafluoroethylene rod therein as the heat expandable element and an electric heating coil wound about the rod.

the tube in a nonlinear fashion to provide the heat for expanding the polytetrafluoroethylene rod. The heat motor is removably mounted on a valve body in position to unseat an internal valve element in response to expansion of the polytetrafluoroethylene.

3,540,480

MANUAL CONTROL FOR SOLENOID VALVE

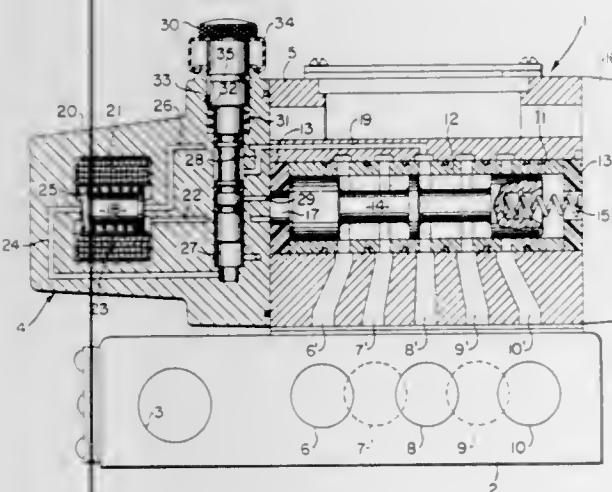
Kurt W. Leibfritz, Norridge and Lester W. Malinowski, Des Plaines, Illinois, assignors to Parker-Hannifin Corporation, Cleveland, Ohio a corporation of Ohio

Filed June 7, 1968, Ser. No. 735,305

Int. Cl. F16k 11/07, 31/04

U.S. Cl. 137—625.6

6 Claims



A manual control arrangement for a solenoid pilot operated main valve that enables fluid pressure actuation of the main valve without operation of the solenoid pilot valve by bypassing pilot pressure fluid around the solenoid pilot valve for actuating the main valve.

3,540,481

AUTOMATIC LOCKING VALVE

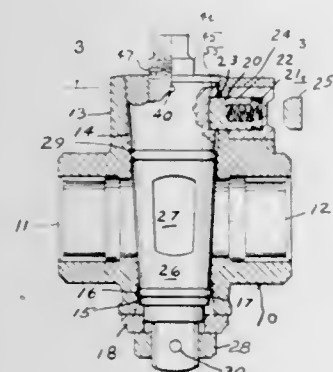
Burton Peters, Jr., Erie, Pennsylvania, assignor to Hays Manufacturing Company, Erie, Pennsylvania a corporation of Pennsylvania

Filed Jan. 29, 1968, Ser. No. 701,160

Int. Cl. F16k 35/16

U.S. Cl. 137—797

9 Claims

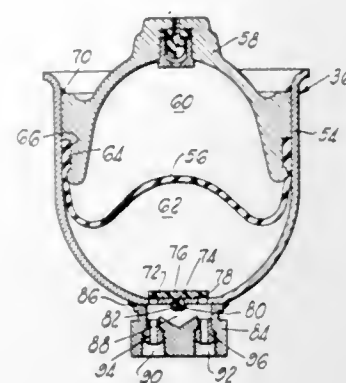


The valve disclosed herein is similar to the ground key plug valves ordinarily used to connect gas service to a residence or the like. A spring loaded locking pin is supported in the body of the valve and this pin snaps into a depression or notch in the valve plug when the valve is rotated beyond its normal closed position.

3,540,482
ACCUMULATOR INLET FITTING
Keith H. Fulmer, South Bend, Indiana, assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,191
Int. Cl. F16l 55/04

U.S. Cl. 138—30

5 Claims



A control for reducing noise and fluid pulsations through an accumulator in a hydraulic system. The shell of the accumulator is divided into gaseous and hydraulic chambers by a bladder member secured to the end closure member of the shell. A housing having a fixed volume chamber interconnecting separate inlet and outlet ports in communication with the hydraulic fluid in the system is connected to the accumulator shell adjacent the hydraulic chamber. The hydraulic chamber is connected to the fixed volume chamber by a plurality of passages surrounding a central opening. An antiextrusion plate overlying the plurality of passages is secured to the central opening by a spreadable fastener. Hydraulic fluid from the inlet port is received in the fixed volume chamber where the direction of the flowing fluid is interrupted due to the size of the chamber and the separate outlet port. From the fixed volume chamber the hydraulic fluid flows through the plurality of passages where radial notches in the antiextrusion plate directs the flow toward the bladder member which dampens the pulsations and absorbs the noise carried by the fluid in the system.

3,540,483

IRRIGATION VALVE FOR DRIP SYSTEM

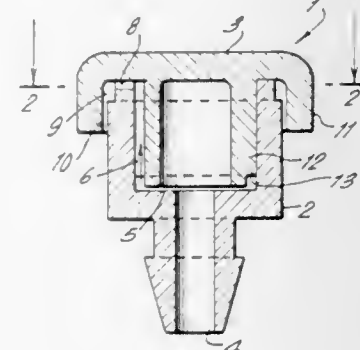
Isaac R. Rinkewich, New York, New York, assignor to Rinko Irrigation Systems, New York, New York a corporation of Delaware

Filed June 7, 1968, Ser. No. 735,468

Int. Cl. B05b 1/00

U.S. Cl. 138—42

3 Claims



An irrigation valve comprising a base and cap of generally cylindrical form and having a bore along the axis of the cylinder, one end of said bore constituting an inlet and the other end constituting an outlet, the cap on said outlet end, and provided with a depending outer flange at its periphery, a depending inner flange fitting within said bore, at least one passage for flow of liquid between said inner flange and the wall of said bore, a channel from the upper end of each said

passage to an exit, said exit being between said outer flange and said cylinder, an opening between said passage and said inlet having a smaller cross section than the exit.

3,540,484

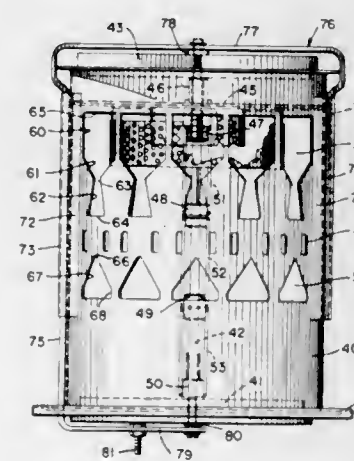
CONSTANT VOLUME REGULATORS AND AIR DISTRIBUTION APPARATUS EMBODYING SAME
Edward J. Brown and Marvin Leon Kloostera, Cedar Falls, Iowa, assignors to Titus Manufacturing Corporation, Waterloo, Iowa a corporation of Iowa

Filed Jan. 5, 1968, Ser. No. 695,968

Int. Cl. F15d 1/00

U.S. Cl. 138—43

12 Claims



Air distribution apparatus for heating, ventilating and air conditioning systems embodying constant volume regulators and bypass valves having hollow cylinder with air passages of predetermined shaped and spring-loaded piston movable axially in cylinder by pressure differential to maintain substantially constant volume under varying supply pressures.

3,540,485

PELLET FOR EVOLVING GAS AT A UNIFORM RATE AND AN APPARATUS FOR ITS USE

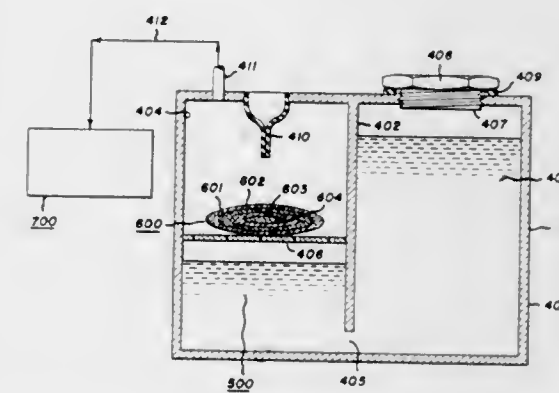
Joel S. Kummins, Midland, Michigan, assignor to General Electric Company, a corporation of New York

Filed Sept. 20, 1967, Ser. No. 669,232

Int. Cl. H01m 27/14

U.S. Cl. 136—86

3 Claims



The invention is directed to a pellet having an enveloping zone which is capable of evolving gas when contacted with a liquid reactant at a rate approximating the rate at which a central zone evolves gas when contacted with the same liquid reactant. In one form the outermost zone may have reactivity per unit volume no lower than that of the next inner zone so that delay in reaching the maximum gas evolution rate is minimized or avoided. The pellet may be incorporated in a gas generator and the generator connected to a cell adapted to consume gas in operation.

3,540,486

HIGH PRESSURE HOSE

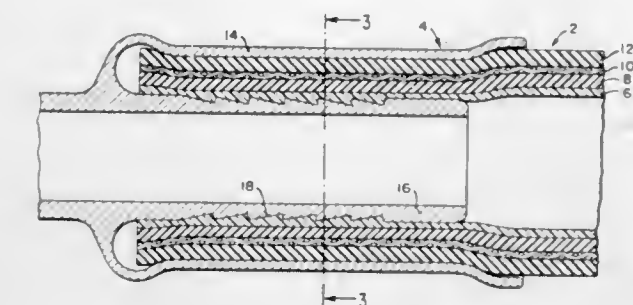
James M. Flounders, Hingham, Massachusetts, assignor to American Bilrite Rubber Co., Inc., Chelsea, Massachusetts a corporation of Delaware

Filed Sept. 6, 1968, Ser. No. 757,998

Int. Cl. F16l 11/08, 13/14

U.S. Cl. 138—109

10 Claims



The invention is a composite hose combined with a coupling, the characteristics of the hose and the coupling being such as together to minimize leaking between the hose and coupling, rupture of the hose and resulting break away from the coupling, and leakage from the hose itself. The hose is plural-layered, for example, as follows: An innermost layer of a plastic material such as nylon, next a layer of rubber, then a layer of a wire mesh reinforcement, and possibly a final outer layer of nylon or rubber. The coupling is compound, and comprises an inner shank fitting inside the end of the hose and an outer sleeve axial with the inner shank and overlying the end of the hose, the outer sleeve being compressed so as to squeeze the wall of the hose end and thus solidly anchor the end of the hose within the coupling.

3,540,487

SPACER FOR PREINSULATED PIPE

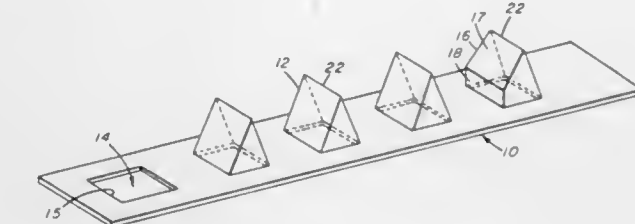
Frank S. LoRusso, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed Dec. 20, 1968, Ser. No. 785,658

Int. Cl. F16l 9/18

U.S. Cl. 138—112

2 Claims



A spacer for concentrically supporting a shell around a pipe wherein the spacer is a flat flexible web having a plurality of spaced hollow projections extending from one surface thereof and having a locking orifice formed adjacent one end. The spacer is formed into a circular band around the outer periphery of a pipe and the orifice is locked over the projection positioned adjacent the opposite end. The shell is placed over the projections and is supported around the pipe by the spacer projections. The torus space is then filled with a solidifiable foam.

3,540,488

FLEXIBLE CORRUGATED TUBING

Robert F. Voorhees, Wilmington, Delaware, assignor to E.I. du Pont de Nemours and Company, Wilmington, Delaware a corporation of Delaware

Filed Feb. 27, 1968, Ser. No. 708,533

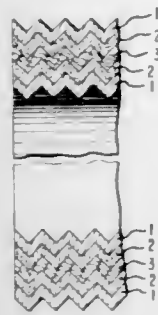
Int. Cl. F16l 9/14

U.S. Cl. 138—121

2 Claims

Flexible corrugated tubing of concentric layers of (1) a fibrous aromatic polyamide thermally stable at 180°C. and

(2) metal foil, adhered to each other by a polyamide acid and/or polyimide of an aromatic diamine and a



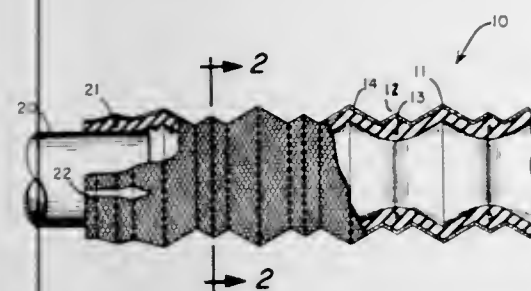
benzophenone tetracarboxylic acid dianhydride, useful for hot gas conduction.

3,540,489 HOSES

LaVerne C. Hanson, P.O. Box 161, Duluth, Minnesota
Filed June 24, 1968, Ser. No. 739,467
Int. Cl. F16I 11/08

U.S. Cl. 138—121

8 Claims



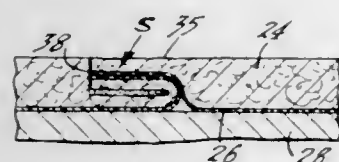
A universal radiator hose sectionally separable and radially expandable to fit various diameter hose connections.

3,540,490 CONTAINER BODY AND METHOD OF MAKING THE SAME

Stephen F. Jensen, Bronx County and Willard A. Meyer, South Salem, New York, assignors to American Can Company, New York, New York a corporation of New Jersey
Filed Oct. 1, 1968, Ser. No. 764,273
Int. Cl. F16I 9/16

U.S. Cl. 138—150

8 Claims



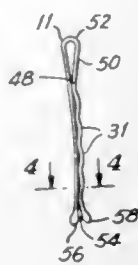
A tubular, spirally wound multiply container body includes a body ply of fibre stock which has a liquidproof barrier layer prelaminated or otherwise preaffixed to one surface thereof. Material on the reverse side of both marginal edge portions of the resultant laminated ply is removed by a skiving operation, thereby reducing the thickness of the marginal edge portions. One of the thinned, skived, marginal edge portions is folded back on itself, and this folded edge portion is then helically wound in lapping relationship to the unfolded edge portion and bonded to it to form a sealed helical lap seam having a thickness substantially equal to that of the unskived portions of the ply.

3,540,491 METHOD FOR MAKING A PLASTIC-JACKETED HAIR CLIP

Nathan L. Solomon, P.O. Box 550, Englewood, New Jersey 07631
Filed March 2, 1966, Ser. No. 531,264
Int. Cl. B21g 7/04

U.S. Cl. 140—87

7 Claims



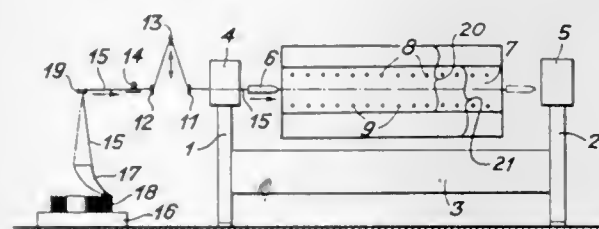
A flexible hair clip made of metal with a thin, continuous, uniform jacket of tough, rigid plastic bonded to the metal. The plastic jacket is extruded about the metal prior to the forming and cutting operations. The formed, jacketed hair clip is heated to temper the metal without harming the plastic jacket.

3,540,492 METHOD AND APPARATUS FOR WEAVING

Jan Houwing, Amelo, Netherlands, assignor to Sulzer Brothers Limited, Winterthur, Switzerland a Swiss Company
Filed March 10, 1967, Ser. No. 622,291
Claims priority, application Switzerland, March 15, 1966, 3733/66
Int. Cl. D03d 47/00

U.S. Cl. 139—116

5 Claims



There is disclosed a method of weaving in which the weft yarn storage is maintained outside the shed, the weft yarn being pulled through the shed in the picking operation, as by means of gripper-type shuttles, and in which more particularly the weft yarn is pulled from a knitted fabric stored outside the shed, the fabric unraveling in response to pull of the weft yarn therefrom in order to supply the length of weft yarn necessary for the pick. There is additionally disclosed a weft yarn supply in the form of a knitted fabric having the shape of a strip, and preferably of a tube, folded or wound into a package. There is also disclosed a loom suitable to practice of this method, including means for storage of the weft yarn supply outside the shed, and preferably including a weight such as a ball, placed inside the tubular fabric, to control disposition of the fabric as it unravels for supply of the weft yarn.

3,540,493 HYDROPHONE SUSPENSION CABLE

Charles V. Tallman, Rye Beach, New Hampshire
Filed March 3, 1969, Ser. No. 803,763
Int. Cl. D03d 15/08

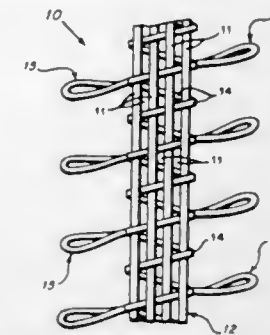
U.S. Cl. 139—423

16 Claims

Compliant, nonstrumming, interwoven composite cables for suspending hydrophones and other apparatus. Each cable includes a plurality of longitudinally extending, elastic warp

elements bound together into a bundle by a single, multifilament, weft element interwoven to form noise suppressing

number of receptacles arranged in a circle upon a platform which rotates stepwise, preferably automatically. A device



fringes of weft element loops projecting transversely of the cable.

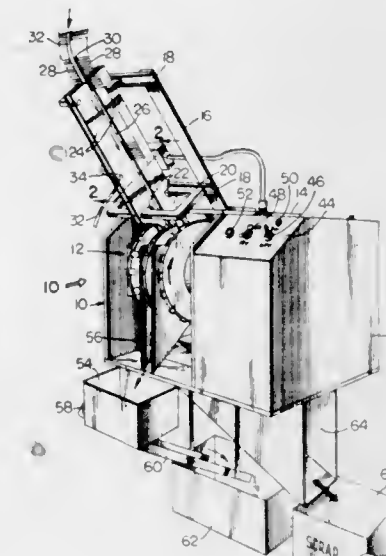
3,540,494 MACHINE FOR TREATING ELECTRICAL COMPONENTS

George C. Susong, Morristown, Tennessee, assignor to The Magnavox Company, Fort Wayne, Indiana a corporation of Delaware
Filed May 31, 1968, Ser. No. 733,568
Int. Cl. B21f 45/00

U.S. Cl. 140—1

16 Claims

compressing the garbage in a receptacle is located above the receptacles and is actuated by a sensing member.



A machine for treating electrical components, such as resistors, which have leads extending from the opposite ends thereof. The machine includes a feed device for feeding the components into the machine in a direction at right angles to the length of the components. The feeding means delivers the components, one at a time, to the periphery of a wheel assembly which supports the components with the ends of the leads projecting therefrom. The wheel conveys the components through a treatment station where at least the ends of the leads are clipped off. The treatment station may also include devices for forming one, or both, of the leads to a desired configuration. The treated components are ejected from the wheel assembly after treatment and are discharged to a receiving station.

ERRATUM

For Class 140—87 see:
Patent No. 3,540,491

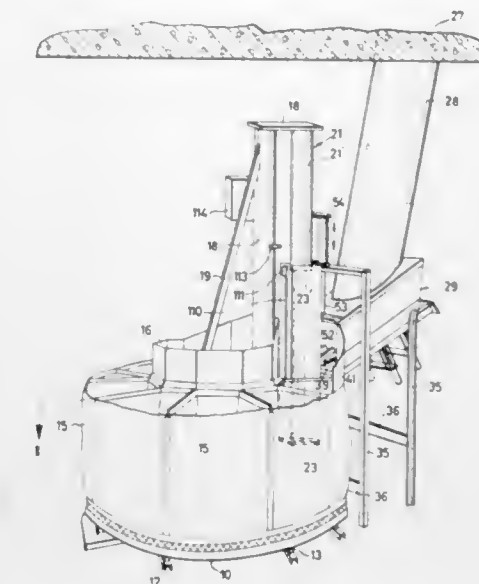
3,540,495 PLANT FOR COLLECTING RUBBISH FROM RUBBISH CHUTES INTO OPEN CONTAINERS

Gunnar Arne Leonard Lundgren, Solna, Sweden, assignor to Komprimator Aktiebolag, Ekebydal Vallentuna, Sweden a corporation of Sweden
Filed Dec. 15, 1967, Ser. No. 690,835
Int. Cl. B65b 1/24, 3/10

U.S. Cl. 141—80

5 Claims

An apparatus collects garbage and other refuse from a chute through a tube which drops the garbage into one of a



ERRATUM

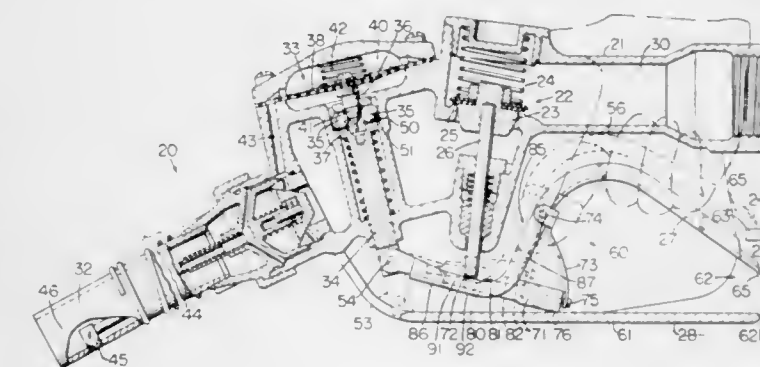
For Class 141—198 see:
Patent No. 3,540,402

3,540,496 FLUID DISPENSING NOZZLE

Malcolm C. Myers, Cincinnati, Ohio, assignor to Dover Corporation, Cincinnati, Ohio a corporation of Delaware
Filed March 11, 1968, Ser. No. 712,024
Int. Cl. B67d 5/372

U.S. Cl. 141—225

10 Claims



A fluid dispensing nozzle of the type for dispensing gasoline, wherein the actuating lever for the nozzle valve is provided with a slidable, stepped cam which cam engages the valve stem for the nozzle valve. The lever is further provided with means to effect movement of the cam to thus adjust the amount the cam will displace the stem, thereby controlling valve opening.

3,540,497 BAG HOLDING MECHANISM FOR BAGGING MACHINE

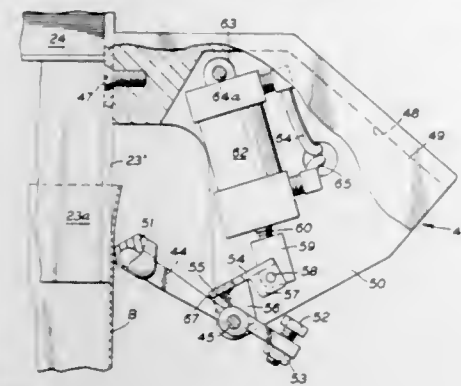
Abner J. Troyer, Smithville, Ohio, assignor to Troyer Manufacturing Company, Smithville, Ohio a corporation of Ohio
Filed Feb. 15, 1968, Ser. No. 705,804
Int. Cl. B65b 1/00

U.S. Cl. 141—314

10 Claims

A releasable mechanism for holding bags in open position on a machine which dispenses weighed amounts of articles of produce such as potatoes into the bags, including a pair of lever arms normally held by gravity in abutment with op-

posite sides of a bag holding frame and selectively urged into tight gripping abutment with a bag on said frame by fluid



power means selectively releasable by the operator to drop the loaded bag.

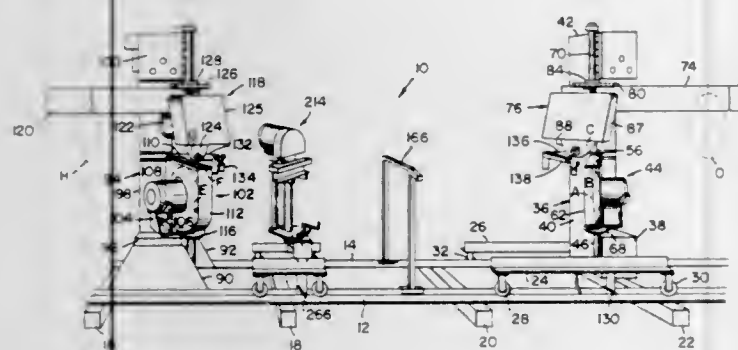
3,540,498

MULTIPLE-CUT SAWING DEVICE

Eugene L. Woloveke, Pleasant Hill and Marvin M. Thompson, San Pablo, California, assignors to Idaco Engineering and Equipment Co., a division of Idaco Company, Oakland, California a corporation of California
Filed Feb. 14, 1968, Ser. No. 705,547
Int. Cl. B27b 5/00

U.S. Cl. 143—6

1 Claim



Apparatus for making cuts on a workpiece which includes a pair of saws pivotal about a common axis and movable into and from the workpiece to make cuts therein, and another pair of saws disposed further along the workpiece and pivotal about another common axis and movable into and from the workpiece to make cuts therein.

3,540,499

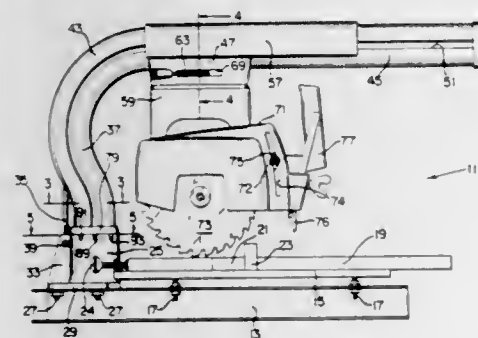
RADIAL ARM SAW CONSTRUCTION

Martin I. Sheps, Baltimore and Francis J. Rosenthal, Jr., Fork, Maryland, assignors to The Black and Decker Manufacturing Company, Towson, Maryland a corporation of Maryland

Filed July 9, 1968, Ser. No. 743,457
Int. Cl. B27 5/20

U.S. Cl. 143—6

10 Claims



The device disclosed herein is a radial arm saw which includes a base frame having an upstanding column pivoted thereon about a vertical axis. A radial arm is integral with the column and has a saw carriage supported thereon for movement longitudinally thereof. A motor-driven saw is suspended

from the carriage and is adapted to cut workpieces situated on a table supported upon the base frame.

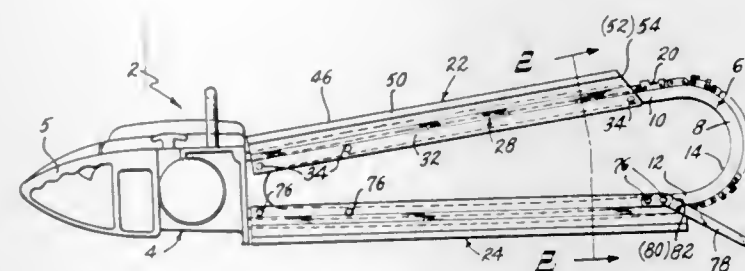
3,540,500

GUARD ASSEMBLY FOR CHAIN SAWS

Gordon C. Greene, 1550 S. 15th Place, Redmond, Oregon
Filed Oct. 14, 1968, Ser. No. 767,423
Int. Cl. B27b 17/02

U.S. Cl. 143—32

8 Claims



A guard assembly for mounting on the lateral edge of the bar of a chain saw, comprising a pair of uniquely shaped elongated sheet metal members that are bolted to the bar and which define an outwardly opening channel within which the cutting chain of the saw is received. The guard assembly is designed to be nonclogging, and can be removed when necessary to utilize the full length of the saw bar.

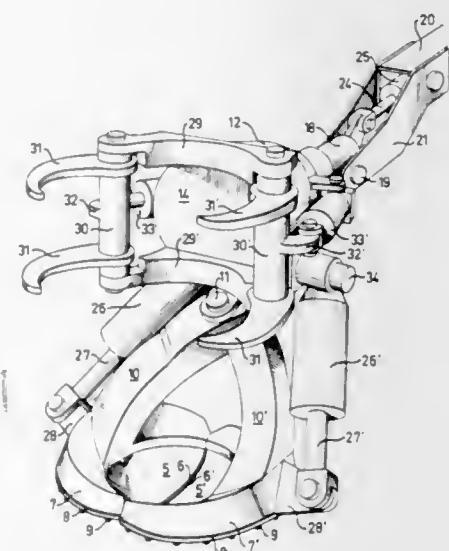
3,540,501

MEANS FOR CUTTING TREES

Karl-Erik Arnold Jonsson, Gavle, Sweden, assignor to Brundell Och Jonsson AB, Gavle, Sweden a corporation of Sweden
Continuation-in-part of application Ser. No. 703,372, Feb. 6, 1968, now abandoned. This application June 23, 1969, Ser. No. 852,521
Int. Cl. A01g 23/02

U.S. Cl. 144—34

11 Claims



A tree-cutting machine having at least one knife blade movable to and from the operative cutting position against the tree. The principal direction of the cutting edge line of said knife blade forms an angle of at most 70° to the axis of a shaft about which the knife blade may be pivotally mounted to be movable to and from said operative position. In a cross section perpendicular to its cutting edge, said knife blade is curved into an arc having a radius equal to the distance from said shaft. The device may utilize at least two knife blades movable to and from each other about the pivot shaft, or may utilize only one knife blade with a countersupport.

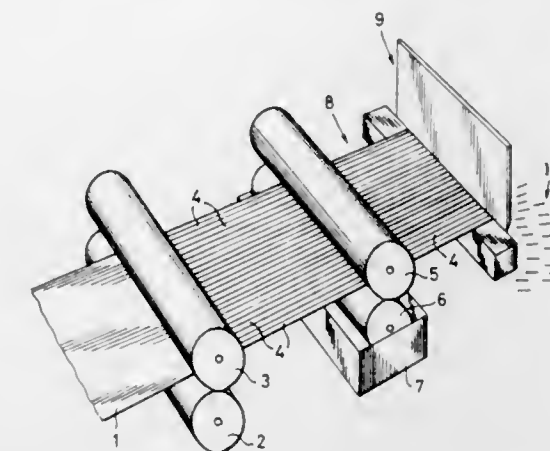
3,540,502

METHOD IN THE MANUFACTURE OF MATCHES

Arne Wallberg, Jonkoping, Sweden, assignor to Industrielaboratoriet Aktiebolag, Jonkoping, Sweden
Filed Jan. 24, 1968, Ser. No. 700,094
Claims priority, application Sweden, Feb. 2, 1967, 1470/67
Int. Cl. B27b 5/06

U.S. Cl. 144—50

22 Claims



In the manufacture of matches each comprising a core of solid material, and a surface layer of a combustible material which liquifies and/or gasifies under the influence of the heat developed at the combustion of the match, said matches are subjected to a treatment through which the melting or gasifying surface layer material of the burning match is maintained in the combustion zone. This may be brought about by increasing, through said treatment, the surface of the match and/or the viscosity of the melting material. The core material may be a web of veneer or hard cardboard which is first divided into strips or filaments which are subsequently subdivided into splints or bookmatch combs.

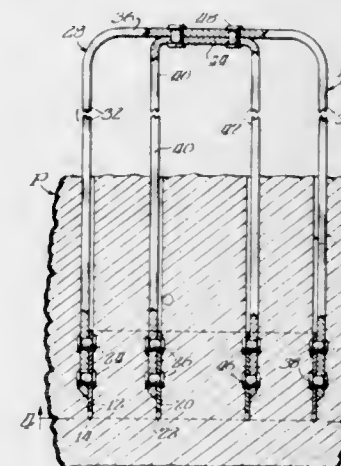
3,540,503

FOOD PROCESSING TOOL

Eric P. McNair, 350 N. Milwaukee Ave., Libertyville, Illinois
Filed July 22, 1968, Ser. No. 746,626
Int. Cl. A47j 43/26; B26b 3/00

U.S. Cl. 146—6

6 Claims



A food-processing tool particularly for coring and peeling a pineapple. A first upright substantially circular cutting blade and a second upright substantially circular cutting blade are spaced apart and are concentric with each other. A first support member is secured to the first cutting blade and a second support member is secured to the second blade. The support members are joined rigidly together at their upper ends so as to define a handle for a person's hand.

3,540,504

DECORTICATING APPARATUS

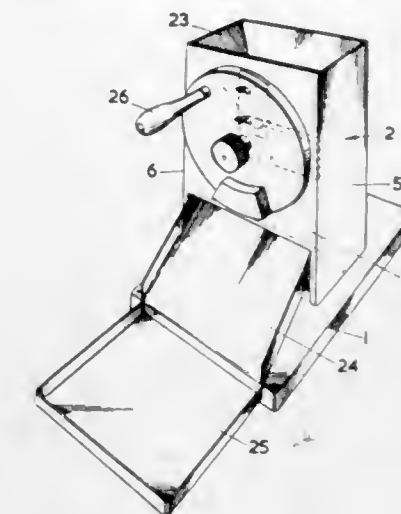
David Wylie Hall, Burnham and Robert Sydney Spratley, Slough, England, assignors to National Research Development Corporation, London, England
Filed June 13, 1967, Ser. No. 645,679
Claims priority, application Great Britain, June 13, 1966, 26293/66
Int. Cl. A23n 5/00

U.S. Cl. 146—13

6 Claims

An apparatus for decorticating nuts or the like in which nuts are induced to pass through a localized restriction con-

tained between two parallel faces having relative motion where a combined rolling and crushing force breaks open the



nuts and releases the kernels contained therein allowing the kernels to pass freely from the restriction without further damage.

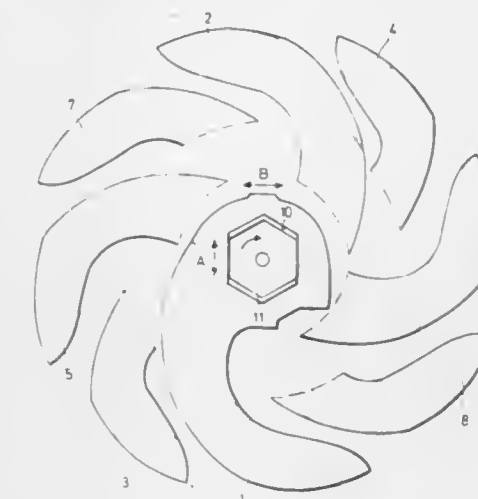
3,540,505

COMMINUTING DEVICE

Immanuel Buck, Fellbach, Germany, assignor to Ruth Buck, Fellbach, Germany
Filed Nov. 29, 1968, Ser. No. 779,948
Claims priority, application Germany, Dec. 1, 1967, 1,632,095
Int. Cl. B02c 18/14

U.S. Cl. 146—67

16 Claims



In a comminuting device a combination is provided which includes a rotary shaft member whose outer circumferential surface is composed of a plurality of facets which are mutually inclined in circumferential direction of the shaft member. At least one set of cutter blades is mounted on the shaft member against rotation relative thereto and extends transversely thereof. The set includes a plurality of cutter blades exceeding in number the plurality of facets and each provided with a cutting edge. All cutting edges are angularly offset relative to one another in circumferential direction and none of the cutting edges overlap one another in axial direction of the shaft member.

3,540,506

BALE-SHREDDING MACHINE

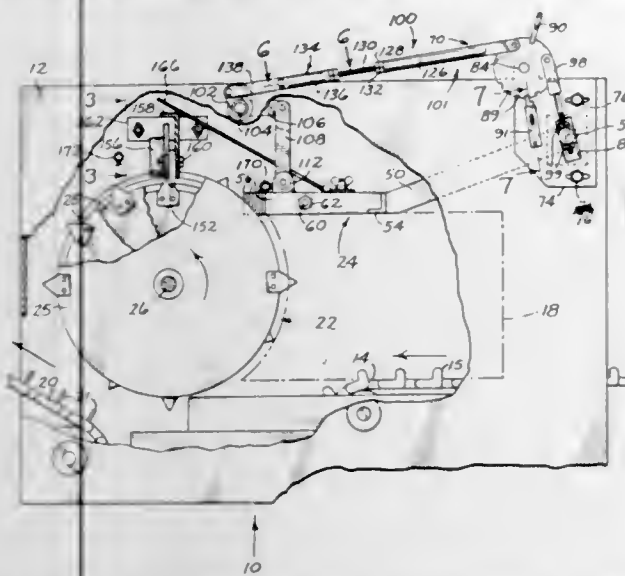
Marinus Newhouse, Jr., 1048 N. 6th St., Redmond, Oregon
Filed Jan. 15, 1969, Ser. No. 791,471
Int. Cl. A10f 31/00

U.S. Cl. 146—70.1

12 Claims

A machine for shredding baled material including a chamber into which a bale may be fed and a cutter organization in the chamber for shredding the bale. The cutter organization includes a series of cutter teeth rotatable about an axis extending across the chamber, an elongated retainer assembly for yieldably pressing against the top of the bale to hold it during shredding, and adjustment means for varying the vertical position of the retainer assembly with the

retainer assembly being moved translationally vertically in the chamber. A plurality of spaced-apart fingers project outwardly from the retainer assembly to provide a first cutting grate through which the cutter teeth may pass, and a series of



spaced-apart bars secured within the chamber provide a second cutting grate through which the cutter teeth may pass after passing the first grate. Multiple cutter teeth are mounted at varying axial distances from the sides of rotatable supporting disks.

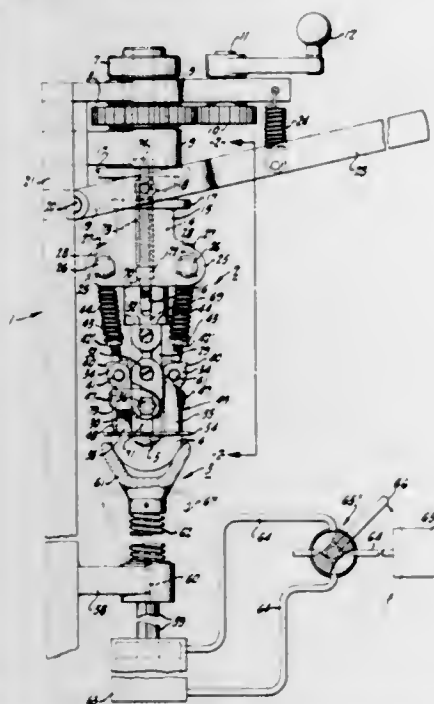
3,540,507

DRUPE PITTING

Etheridge R. McClelland, Hayward and Henry L. Spence, Dublin, California, assignors to Filper Corporation, San Ramon, California a corporation of California
Filed March 18, 1968, Ser. No. 713,823
Int. Cl. A23n 3/00

U.S. Cl. 146—237

19 Claims



A drupe pitter for pitting drupe halves having half or whole pits therein, including a face plate against which the cut face of the half is positioned and held, and pit engaging means adapted to enter the body of the drupe half through said cut face outwardly of the pit, and to tightly engage the side of the pit within the drupe half in a direction generally toward the plane of said cut face, and thereafter to rotate about the pit within the drupe half to remove the pit and any fragments thereof and to clean the pit cavity.

3,540,508

PROTECTIVE COVER FOR FIREARMS

Ira Berton Couch, 1308 Lakeview Drive, Johnson city, Tennessee

Filed Oct. 14, 1968, Ser. No. 767,427

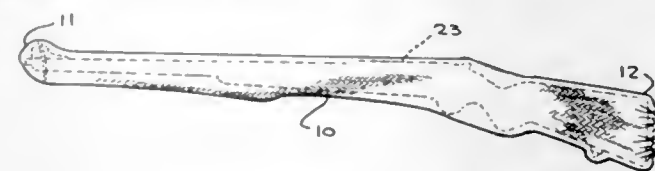
Int. Cl. F41c 27/00

U.S. Cl. 150—52

10 Claims

A protective cover for a firearm having a stock and elongated barrel generally including an elongated tubular

member consisting of a woven stretchable material for receiving the firearm therein, the tubular member having a



closed end and an open end into which the firearm is inserted.

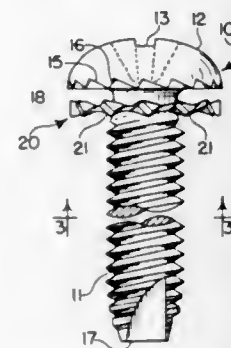
3,540,509

FASTENER DEVICE

Charles E. Gutshall, Roselle, Illinois, assignor to Illinois Tool Works Inc., Chicago, Illinois a corporation of Delaware
Filed Dec. 13, 1968, Ser. No. 783,481
Int. Cl. F16b 39/32

U.S. Cl. 151—37

6 Claims



A fastener comprising a novel clamping arrangement between a rotary threaded fastener member and a lockwasher whereby an even ratchet type action is attained thereby providing a smooth, progressive tightening by torque operated drivers and also providing a markedly improved resistance for such type fasteners to unauthorized loosening.

3,540,510

FLEXIBLE CASING PNEUMATIC TIRE

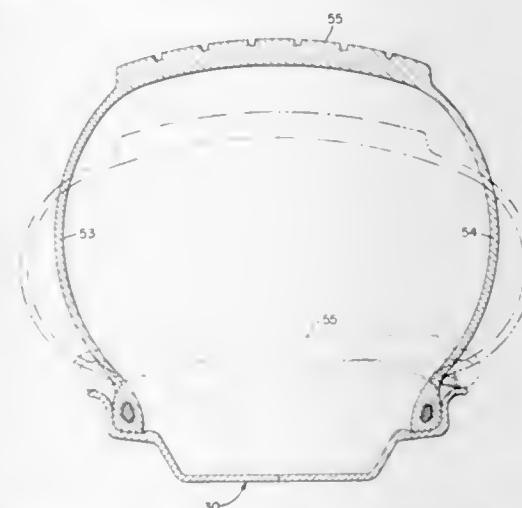
John C. Smithkey, Jr., Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio a corporation of Ohio

Filed Oct. 16, 1967, Ser. No. 675,489

Int. Cl. B60c 5/00, 5/12, 13/00

U.S. Cl. 152—352

12 Claims



A pneumatic tire which when inflated has dimensions generally associated with a conventional pneumatic tire but when deflated has an outer diameter and a section width substantially the same, and in any event not substantially greater, than the maximum width and diameter of the rim on which the tire is mounted. The tire is built by the flat band method of construction and is molded at least substantially in the cylindrical shape in which it was built. The sidewalls are sufficiently flexible that they may be folded into an S-shape and underneath the tread when the tire is deflated.

The foregoing abstract is not to be taken as limiting the invention of this application, and in order to understand the full nature and extent of the technical disclosure of this application, reference must be made to the accompanying drawings and the following detailed description.

3,540,511

PNEUMATIC TIRES

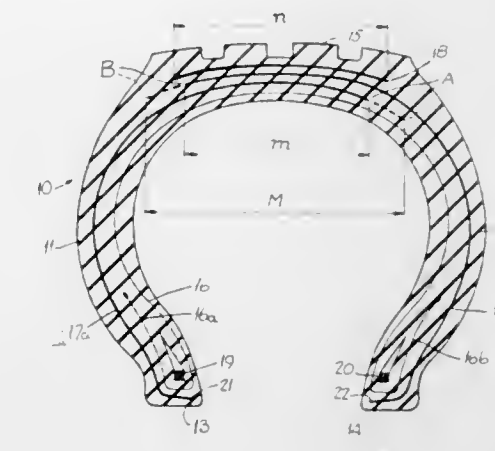
Henri Mirtain, Compiègne, France, assignor to Uniroyal Englebert France S.A., Paris, France a corporation of France
Filed April 10, 1968, Ser. No. 720,063

Claims priority, application France, April 27, 1967, 104,501

Int. Cl. B60c 9/08, 9/20, 15/04

U.S. Cl. 152—354

5 Claims



A radial ply tire construction wherein the carcass comprises a continuous radial inner ply structure and a two-section outer ply structure which is discontinuous and overlapped in the crown region of the tire and the cords or cables of which have a lower coefficient of elongation than the cords of the inner ply structure. Each section of the outer ply structure extends from a respective one of the beads of the tire across the crown region of the carcass under the breaker structure and terminates in the vicinity of the remote lateral edge region of the breaker structure, so as to establish an overlap of the two sections ranging in width from about 50 percent up to not more than about 120 percent of the width of the breaker structure. The overlapped parts of the sections of the outer ply structure of the carcass thus serve as reinforcements for the latter in the region of the breaker.

3,540,512

PNEUMATIC TIRE

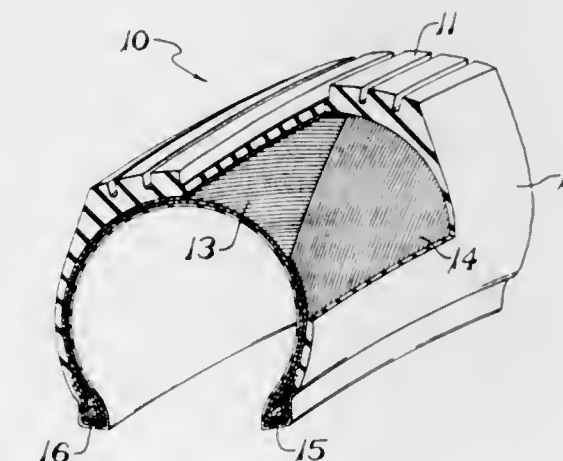
John F. Heimovics, Jr., Stow and James Sidles, West Richfield, Ohio, assignors to The B. J. Goodrich Company, New York, New York a corporation of New York

Filed Dec. 26, 1967, Ser. No. 693,510

Int. Cl. B60c 9/06; B29h 17/14

U.S. Cl. 152—359

4 Claims



A pneumatic tire with reinforcing cords of stretchable material embedded therein, the cords having initially a low tensile modulus and upon elongation a predetermined and limited amount abruptly changing to a substantially higher tensile modulus with each cord extending continuously from one bead of the tire to the opposite bead and intersecting the plane of symmetry of the tire at an acute angle.

3,540,513

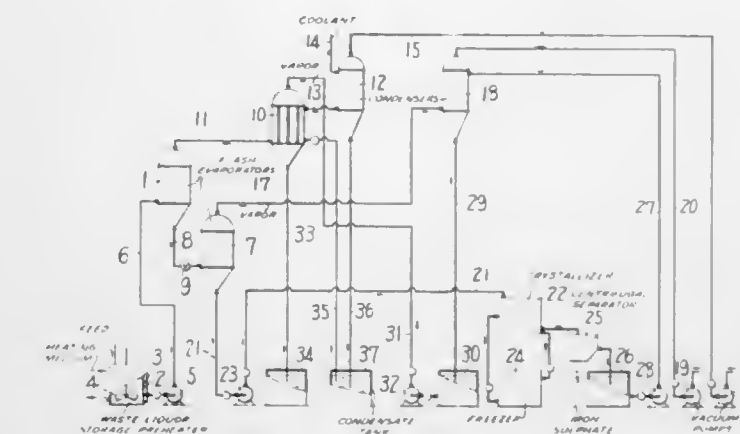
APPARATUS FOR TREATING A PICKLING WASTE
Shinzo Sumiya and Yasuo Morimoto, Osaka-fu, Japan, assignors to Daido Chemical Engineering Corporation, Osaka-shi, Japan

Filed Oct. 14, 1968, Ser. No. 767,124

Int. Cl. B01d 1/00

U.S. Cl. 159—2

2 Claims



In treating a pickling waste by self-evaporation in primary and secondary evaporators, the apparatus is characterized by the presence of means for cooling the concentrated liquid from the secondary evaporator, means for introducing the cooled liquid from said cooling means to a secondary condenser connected to said secondary evaporator and means for introducing the liquid from the secondary condenser to a heat exchanger connected to the primary evaporator.

3,540,514

PRODUCTION OF METAL INGOTS, SLABS AND BILLETS

Roderic Hugh Hammerton, Birmingham, England, assignor to Fosco International Limited, Birmingham, England a British company

No Drawing. Filed April 27, 1967, Ser. No. 634,120

Claims priority, application Great Britain, May 9, 1966, 20443;20444

Int. Cl. B22d 23/00

U.S. Cl. 164—46

13 Claims

Methods of treating metal casting moulds in order to give improved surface to ingots and the like cast in such moulds are described which deposit on the inner walls of the mould an even layer of vaporisable material. Compositions for effecting such a coating are also described.

3,540,515

CASTING METHOD WITH MOLTEN METAL DEGASSING DURING TEEMING

Richard E. Lyman, Homewood Village, Illinois, assignor to United States Steel Corporation, a corporation of Delaware
Continuation of application Ser. No. 511,513, Dec. 3, 1965, now abandoned. This application Aug. 5, 1968, Ser. No. 750,168

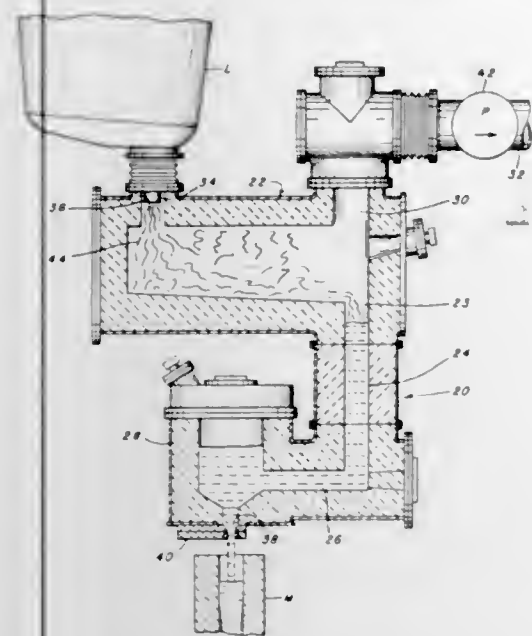
Int. Cl. C21c 7/10; B22d 27/16

U.S. Cl. 164—61

1 Claim

A method of degassing molten metal during teeming thereof is described in which molten metal is discharged from a ladle into an evacuated degassing chamber so that it impinges effervescently on the interior of the degassing chamber and passes therethrough, without accumulating therein, to an evacuated vertical duct. A vacuum is continuously maintained in the degassing chamber as the molten metal is passed therethrough to the vertical duct. The molten metal flows from the vertical duct into an evacuated tundish. After a sufficient amount of molten metal has accumulated in the

tundish to establish a barometric column of molten metal in the vertical duct having a ferrostatic pressure exceeding one



atmosphere, the tundish is opened to atmospheric pressure and the molten metal is discharged therefrom into a mold.

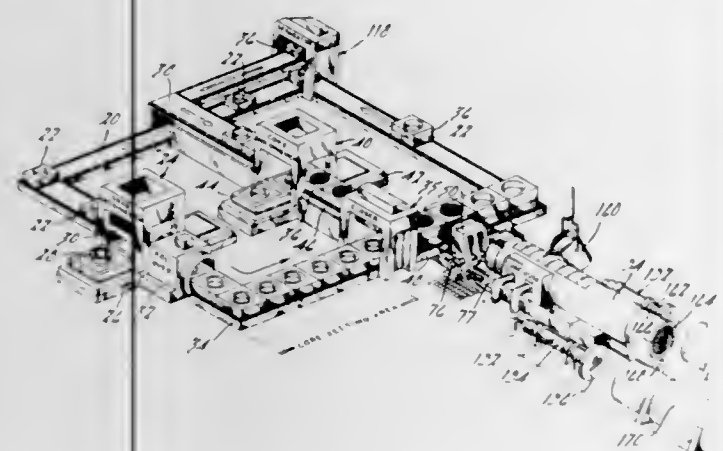
3,540,516

METHOD FOR MAKING CASTINGS

Russell W. Taccone, Erie, Pennsylvania, assignor to Kelsey-Hayes Company, a corporation of Delaware
Original application Sept. 18, 1967, Ser. No. 674,044, now Patent No. 3,517,728. Divided and this application Sept. 4, 1969, Ser. No. 871,042
Int. Cl. B22d 27/16

U.S. Cl. 164—61

4 Claims



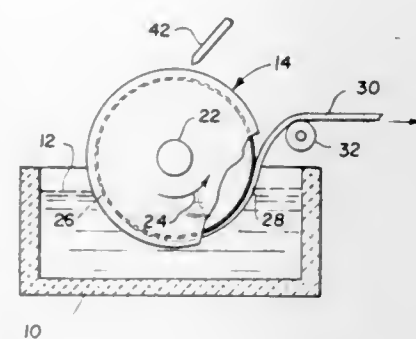
An apparatus and method for making castings which consist of successively forming a drag of a compacted green sand mixture having a cavity therein of a preselected pattern and disposed in an open ended flask, successively transferring the flasks by a transfer device into alignment with the inlet end of a casting tube adapted to guidably support a plurality of the molds disposed in face-to-face abutting relationship and pressing the mold from the flask in a manner to effect a trimming of the periphery of the mold to correspond with and to provide a sliding sealing fit with the inner surface of the casting tube, pouring molten metal into the cavities of the molds while disposed in stacked face-to-face abutting relationship within the casting tube and thereafter successively ejecting and transferring the filled molds to an elongated cooling tube provided with cooling means for accelerating the removal of heat from the molds. In some aspects of the apparatus and method comprising the present invention, a subatmospheric pressure is applied to the periphery of the molds while in the casting tube for removing gaseous products formed during the casting operation. An improved mold is also described which consists of a mass of compacted green sand having a core of a thin walled shell of bonded sand disposed in overlying relationship on one face thereof providing porosity and precision in castings heretofore unobtainable.

3,540,517
METHOD OF DIRECT STRIP CASTING ON A COATED DRUM

Witold M. Wojcik, Fredonia, New York and Eugene A. Mizikar, Pittsburgh, Pennsylvania, assignors to Jones & Laughlin Steel Corporation, Pittsburgh, Pennsylvania a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 470,532, July 8, 1965, now abandoned. This application May 27, 1968, Ser. No. 736,525
Int. Cl. B22d 11/06

U.S. Cl. 164—72

5 Claims



In the casting of metal strip against a generally drum-shaped metal chill, the problem of the formation of unwanted hills and hollows in the surface of the metal strip opposite to the surface thereof that is in contact with the chill itself is avoided by applying to the chill, prior to its immersion in the bath of molten metal, a particulate refractory material in the form of a thin coating.

3,540,518

METHOD FOR CONTINUOUSLY CASTING ALUMINUM-KILLED STEELS

Carl E. Osterholtz, Bethlehem, Pennsylvania, assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Aug. 29, 1967, Ser. No. 663,993
Int. Cl. B22d 11/10

U.S. Cl. 164—82

2 Claims

A nozzle for continuously casting aluminum-killed steels, said nozzle being fabricated from a calcined dolomite mix, and a method of continuously casting aluminum-killed steels through such a nozzle. The nozzle may be standard size and shape and may have a tapered orifice. The orifice in the nozzle remains substantially free of accretions of alumina.

3,540,519

PROCESS FOR PRODUCING SELF-DESTROYING SILICA MOLDS

Paul Clifford Yates, Wilmington, Delaware, assignor to E. I. du Pont de Nemours and Company, Wilmington, Delaware a corporation of Delaware
Filed May 29, 1968, Ser. No. 732,842
Int. Cl. B22d 29/00; B22c 1/02

U.S. Cl. 164—128

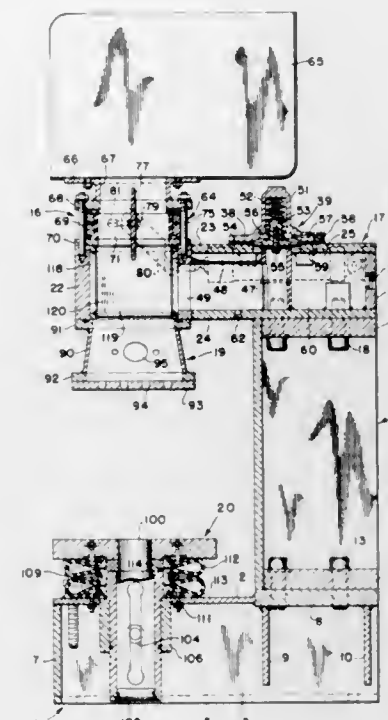
8 Claims

Self-destroying silica molds for casting molten metals are prepared by incorporating into amorphous silica-containing molds from 0.3 to 10 percent by weight based on the amorphous silica of a beta cristobalite-promoting catalyst selected from the group consisting of silicates, borates, phosphates, tungstates and molybdates of alkali and alkaline earth metals, zinc and lead and heating the resulting mold to at least 900°C. for a time sufficient to effect conversion of a major portion of said amorphous silica to beta cristobalite. After a molten metal is cast in the mold and solidified, the mold is cooled rapidly through the temperature range of from 300° to 200°C. to disrupt and fragment the mold.

3,540,520
FOUNDRY MOLDING MACHINE WITH SAND VALVE SEAL AND DIAPHRAGM BLOW VALVE MEANS
Edward D. Abraham, Cleveland and Robert W. Ellms, North Olmsted, Ohio, assignors, by mesne assignments, to The Sherwin-Williams Company, a corporation of Ohio
Filed Sept. 1, 1967, Ser. No. 665,130
Int. Cl. B22c 15/24

U.S. Cl. 164—201

30 Claims



A foundry mold or core blowing machine utilizing a bellows type clamp, a blow reservoir which may include an improved agitator or a screen having vertically elongated slits with a tangential introduction of air behind the screen, a butterfly valve having an improved seal for closing the reservoir, and a simplified pneumatic control system using fluid diversion from the blow valve for control interlocks and sequencing.

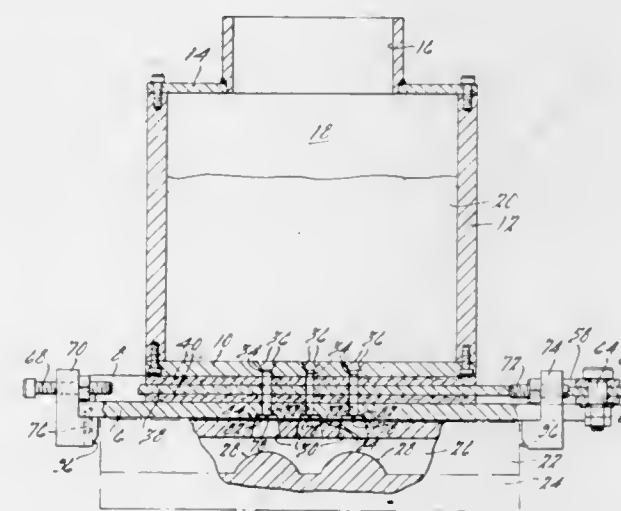
3,540,521

SAND BLOWING NOZZLE

Ronald H. Buck, Jr., Farmington and Reginald J. McLaren, Milford, Michigan, assignors to Eaton Yale & Towne Inc., Cleveland, Ohio a corporation of Ohio
Filed June 3, 1968, Ser. No. 734,127
Int. Cl. B22c 15/24

U.S. Cl. 164—202

8 Claims



A blowing head assembly for making shell-type molds including a nozzle through which a substantially free-flowing particulated molding material is discharged and directed against a pattern, and wherein a diffuser wire is disposed in

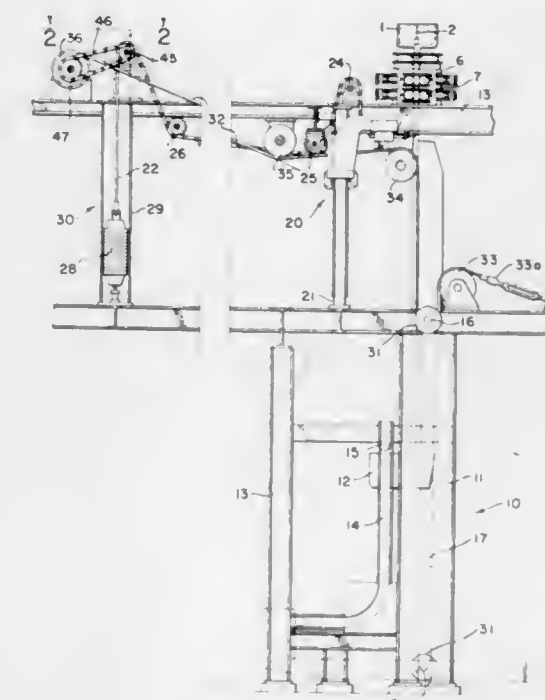
said nozzle and is adapted to vibrate, effecting lateral deflection of some of the particles, whereby improved distribution of the molding material is achieved with corresponding improvements in the accuracy and uniformity of the shell-type molds produced.

3,540,522
SLAB CUT-OFF MECHANISM SUPPORTED FOR COOPERATING MOVEMENT WITH LOWERING TROUGH

John Joseph McDermott, Springfield and David Jon Matteson, Drexel Hill, Pennsylvania, assignors, by mesne assignments, to Gulf & Western Industrial Products Company, Grand Rapids, Michigan, a corporation of Delaware
Filed June 21, 1968, Ser. No. 739,058
Int. Cl. B22d 11/12

U.S. Cl. 164—263

10 Claims



A slab cutoff torch assembly is supported for synchronous movement with a lowering trough assembly during the cutting operation and is wholly unconnected to the casting being cut.

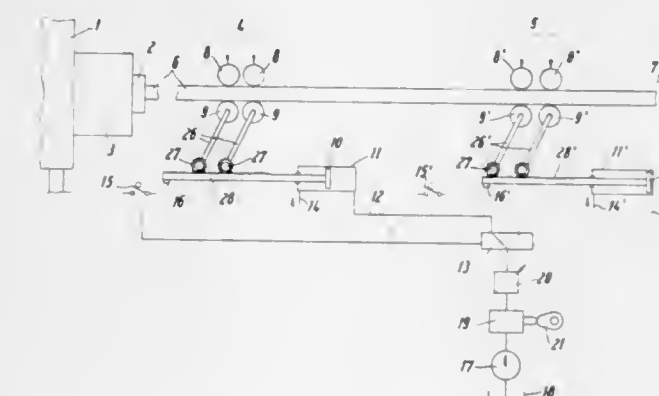
3,540,523

APPARATUS FOR THE CONTINUOUS CASTING OF METALS

Alfred J. Wertli, Poststrasse 15, 8406 Winterthur, Switzerland
Filed Aug. 14, 1967, Ser. No. 660,280
Claims priority, application Switzerland, Aug. 12, 1966, 11714/66
Int. Cl. B22d 11/12

U.S. Cl. 164—282

6 Claims



The cast strand is advanced away from the furnace mold by pairs of gripping rollers which alternately grip and feed the cast strand. At least one roller of each pair of gripping

rollers is driven by a hydraulic system in an intermittent manner to advance the strand in a series of small increments at a high rate to obtain a homogeneous structure.

3,540,524 MOULD CLOSURE DEVICE FOR A PRESSURE MOULDING MACHINE

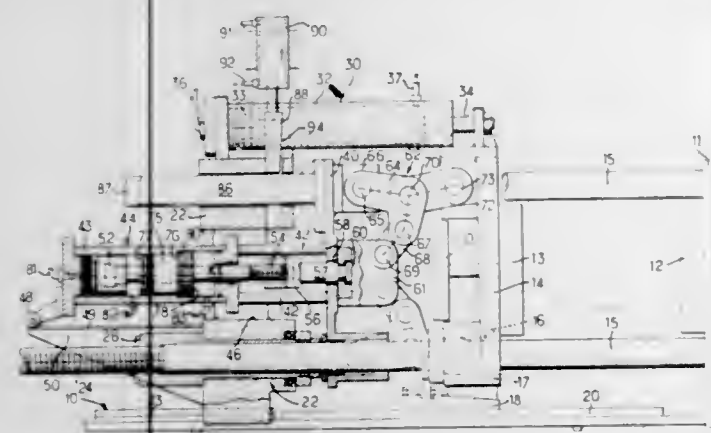
Rene Goerget Bachelier, Paris, France, assignor to Ateliers de Constructions Mecaniques et de Chaudronnerie Corpet-Louvet & Cie, La Courneuve, France a corporation of France

Filed Jan. 19, 1968, Ser. No. 699,227

Claims priority, application France, Jan. 24, 1967, 92,216
Int. Cl. B22d 17/26

U.S. Cl. 164—303

7 Claims



A device for bringing together and locking the two parts of a two-part mould in a pressure moulding machine in which the mould parts are carried respectively by fixed and movable plates and in which relative approach of said plates is effected by at least one jack disposed between the machine frame and movable plate and locking of said parts in their closed position is effected by a jack controlled toggle mechanism.

3,540,525 PNEUMATIC CONTROL APPARATUS

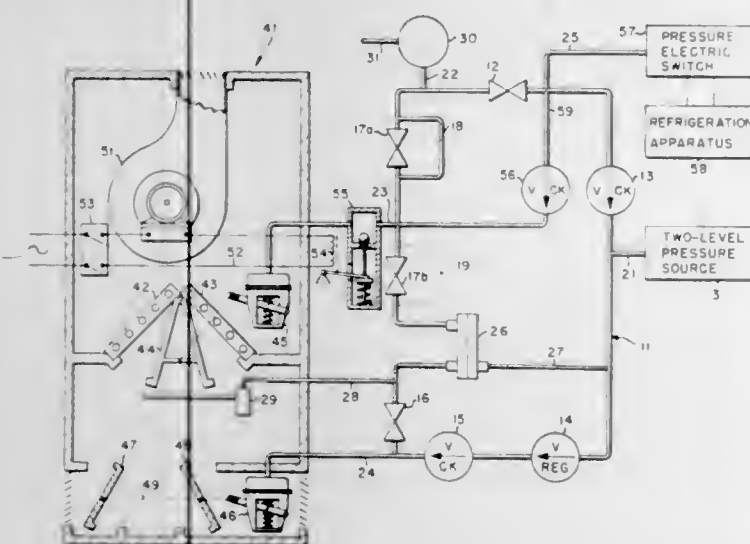
Arthur M. Bradshaw, Madison, Wisconsin and Richard C. Hennessey, Chicago, Illinois, assignors to Honeywell Inc., Minneapolis, Minnesota a corporation of Delaware

Filed Dec. 23, 1968, Ser. No. 786,076

Int. Cl. F25b 29/00

U.S. Cl. 165—16

13 Claims



A pneumatic system for controlling a unit ventilator that employs a heating coil, a refrigeration coil and a ventilating damper. The control system takes the form of a closed loop that includes a unique arrangement of restrictions and check valves. The loop receives a temperature sensitive variable input pressure and a two-level air pressure supply, and provides output pressures for controlling a heating medium passing through the heating coil, starting and stopping the refrigeration unit, and positioning the ventilating damper.

The control loop further includes bypassable restrictions disposed to enable performance of a selected one of the basic ASHRAE unit ventilator control cycles.

3,540,526 ROOFTOP MULTIZONE AIR CONDITIONING UNITS

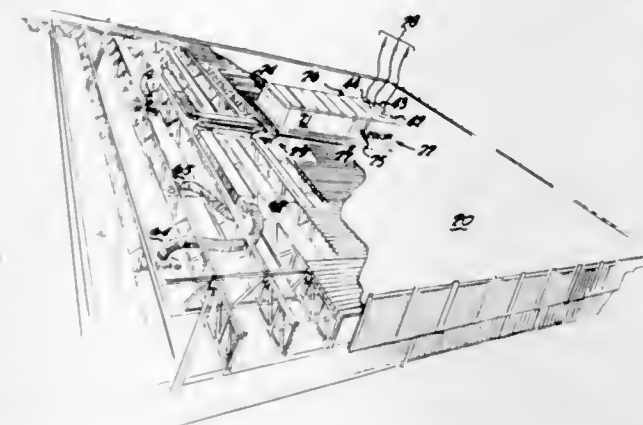
James B. Hoaglund, Jenkintown; Franz A. Kautz, Philadelphia, Pennsylvania and George A. Story, Cherry Hill, New Jersey, assignors to International Telephone and Telegraph Corporation, New York, New York a corporation of Delaware

Filed Aug. 2, 1968, Ser. No. 749,775

Int. Cl. F24f 3/00

U.S. Cl. 165—22

9 Claims



A housing unit has an air intake at one end and hot and cold decks at the opposite or output end. To cool and dehumidify all incoming air, an evaporator coil is placed in the housing assembly near its inlet end. A reheat coil is located downstream in the hot deck section of the housing, and arranged to be in series with and normally act as a part of condenser coil. The reheat coil is thus supplied with a flow of refrigerant emanating from the condenser coil. The exchange of heat, in the reheat coil, heats the air passing through the hot deck and subcools the refrigerant before it enters the evaporator coil. When higher levels of heating are required during periods when the furnace operation is not desired, a bypass valve places the condenser and reheat coils at least partially in parallel, and the compressor supplies some superheated refrigerant gas which is injected directly into the liquid refrigerant flowing into the reheat coil. A thermostat within the hot deck modifies zone thermostat command signals as a function of prevailing temperatures within the hot deck.

3,540,527 COOLING OF ROLLS AND THE LIKE

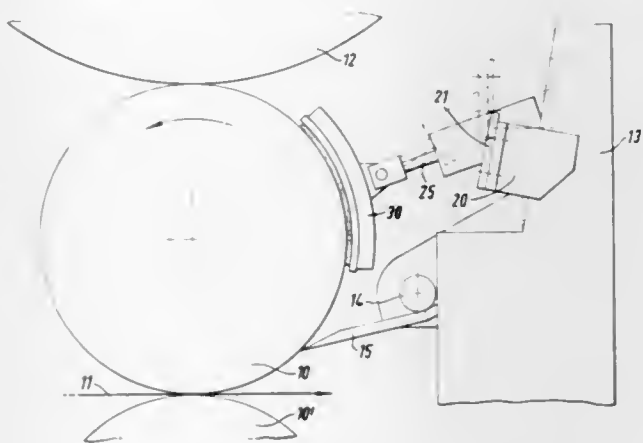
Hugh Willmott Grenfell and Jack Michael Moore, Port Talbot, Glamorgan, South Wales, Great Britain, assignors to The Steel Company of Wales Limited, Port Talbot, Glamorgan, South Wales, Great Britain

Filed Feb. 23, 1968, Ser. No. 707,716

Claims priority, application Great Britain, Feb. 28, 1967, 45833/66
Int. Cl. F28f 5/02

U.S. Cl. 165—86

6 Claims



Cooling apparatus for a rolling mill roll comprises a cooling member adapted to extend across at least part of the

width of the roll, said member having a face-carrying pad means and a plurality of grooves or passageways in said pad means. The arrangement being such that with the member biased so that the pad means contact the roll, cooling liquid flowing within the grooves and passageways is in contact with the roll surface. The member is preferably arcuate and the pad means preferably comprises a plastics material such as nylon 66.

3,540,528 COOLANT FILTER FOR INTERNAL COMBUSTION ENGINE

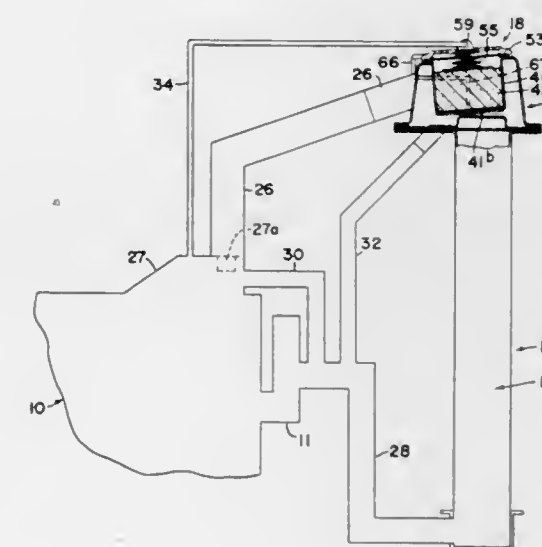
Charles L. Moon, Brecksville, Ohio, assignor to White Motor Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 14, 1967, Ser. No. 682,785

Int. Cl. F28b 19/00

U.S. Cl. 165—119

12 Claims



A cooling system for an internal combustion engine includes a radiator, coolant pump, and conduit system interconnecting the radiator, engine, pump, and a removable coolant filter. The filter utilizes a cartridge and a removable cartridge carrier which are vertically removable as a unit.

3,540,529 WELDED ASSEMBLY OF A TUBE AND A TUBE SHEET

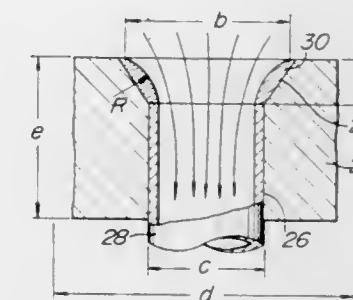
Tomotaka Umino, Hisanao Kita, Masahiro Kobayashi, and Toshiaki Horiuchi, Hitachi-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Feb. 14, 1968, Ser. No. 705,410

Claims priority, application Japan, Feb. 17, 1967, 42/9,817
Int. Cl. F28f 19/00, 9/18

U.S. Cl. 165—134

4 Claims



Welded assembly which comprises a tube sheet provided with at least a hole having a flared opening at one end, a tube being tightly inserted partially into the hole from the other end thereof with the top of the tube being in contact with the bottom of the flared opening, and a deposit metal to secure

the top end of the tube to the tube sheet in the flared opening of the hole in which a diameter of the flared opening at the tube sheet surface being at least 1.1 times of an outer diameter of the tube, the top end of the tube being positioned at a distance from the top edge of the hole of at least one-fifth of the outer diameter of the tube, and a surface of the deposit metal being formed in bellmouthed structure.

3,540,530 GRADATED HEAT EXCHANGE FINNS

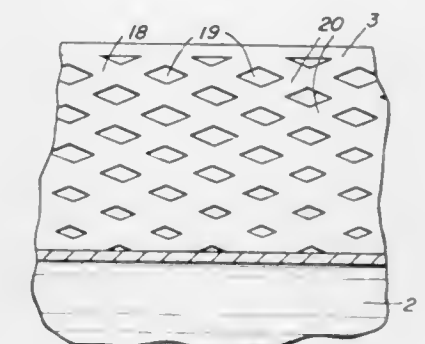
Richard W. Kritzer, Chicago, Illinois, assignor to Peerless of America Incorporated, Chicago, Illinois a corporation of Illinois

Filed June 12, 1968, Ser. No. 736,362

Int. Cl. F28f 13/00, 1/14

U.S. Cl. 165—146

5 Claims



A heat exchanger embodying integral fin and body portions with the fins being of expanded metal.

3,540,531 PLATE HEAT EXCHANGER

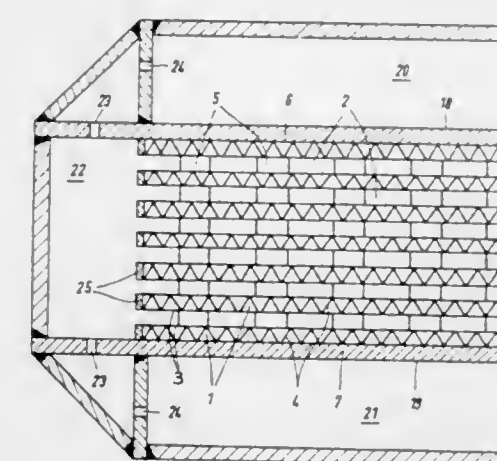
Rudolf Becker, Munich, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany a corporation of Germany

Filed Aug. 20, 1968, Ser. No. 754,087

Claims priority, application Germany, Aug. 22, 1967, 1,601,212
Int. Cl. F28f 3/00

U.S. Cl. 165—166

6 Claims



A plate-type heat exchanger having a stack of mutually spaced parallel plates defining at least two sets of passages in heat-transferring relationship and spacers between the plates for maintaining same in spaced relationship. At least one wall in said housing laterally flanks the stack and is in contact therewith along an inner surface of the wall while the wall defines a pressurized chamber along its outer surface. The spacers are corrugated members between each pair of said plates.

3,540,532

HYDROPHOBICITY OF SURFACTANT INFLUENCING THE THERMOSTABILITY OF MICELLAR DISPERSIONS USED IN OIL RECOVERY

John A. Davis, Jr. and William J. Kunzman, Littleton, Colorado, assignors to Marathon Oil Company, Findlay, Ohio a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 754,524, July 22, 1968. This application Sept. 30, 1969, Ser. No. 862,447

Int. Cl. E21b 43/22; B01j 13/00

U.S. Cl. 166—252

20 Claims

Thermostability range of micellar dispersions useful to recover crude oil in a secondary or a tertiary oil recovery process can be shifted to higher temperatures by increasing the hydrophobicity of the surfactant used to obtain the micellar dispersion. These dispersions are especially useful in flooding subterranean formations wherein the temperature is above 80°F.

3,540,533

REMOTE PACKOFF METHOD AND APPARATUS

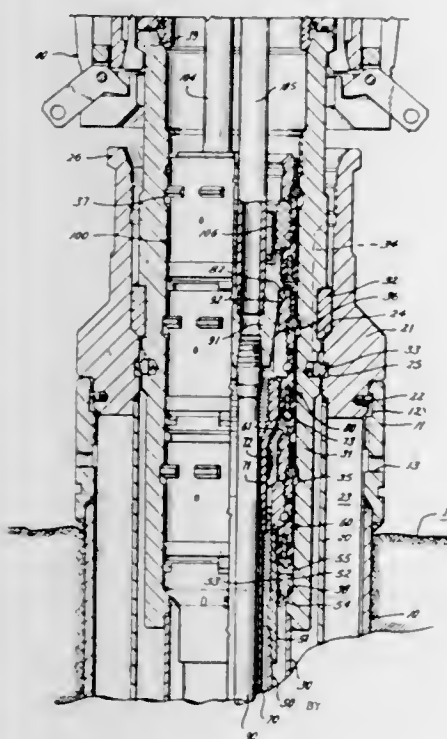
Charles D. Morrill, Bellaire, Texas, assignor to Rockwell Manufacturing Company, Houston, Texas a corporation of Pennsylvania

Filed Dec. 16, 1968, Ser. No. 783,943

Int. Cl. F21b 43/00, 33/035

U.S. Cl. 166—315

29 Claims



A packoff assembly for an underwater wellhead and a method of remotely completing a well with the packoff assembly. The packoff assembly comprises a latch retainer ring, latches, locking sleeve, compression sleeve, energizer ring, inner and outer seal rings and a limit ring. The locking sleeve is telescopically engageable with the latch retainer ring for movement behind the latches for latching the entire assembly to a wellhead. The compression sleeve is connected by threads to the latch retainer ring and the energizer ring is rotatably connected by ball bearings to the lower end of the compression sleeve. The inner and outer seal rings are mounted on either side of a limit ring and in engagement with the lower end of the energizer sleeve. To install the packoff in a wellhead it is lowered on a tool into an annular space between the wellhead and a casing and hanger assembly supported thereby. The tool and locking sleeve are then rotated to the right where they drop downward causing the latches to lockingly engage the wellhead. Further rotation to the right causes the seal rings to compress and sealingly engage the surrounding wellhead and the casing and hanger assembly. The tool may be removed simply by pulling upwardly thereon.

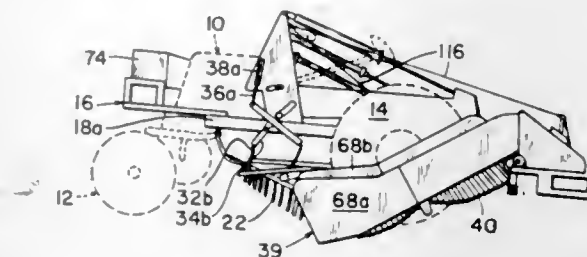
3,540,534

STONE GATHERING MACHINE

Basil C. Rhoads, R.D. 2, Beaver Dams, New York
Filed April 1, 1969, Ser. No. 812,159
Int. Cl. A01b 43/00

U.S. Cl. 171—63

10 Claims



A stone and rock gathering machine which can be mounted on a self-powered wheeled vehicle, such as a farm tractor or a road grader. A rake is attached to the frame of the machine beneath the vehicle and between its front and rear wheels. The rake is set at an angle to the path of travel of the vehicle so as to have a leading end and a trailing end, and includes adjustable, spaced-apart teeth. A first conveyor is mounted at one side of the vehicle, generally parallel to its path of travel but inclined with respect to the ground surface. The inclined conveyor includes a continuous belt of linked, spaced-apart cross rods and may derive its power from the vehicle. The lower end of the inclined conveyor is pivotally attached to one end of the rake, and the upper end of the conveyor is pivotally attached to the frame of the machine. A second conveyor is pivotally attached to the frame of the machine and is transversely mounted in a generally horizontal position at the rear of the vehicle adjacent the upper or discharge end of the inclined conveyor. The horizontal conveyor includes a continuous hydraulically driven belt. A tiltable receptacle or bucket is centrally positioned at the rear of the vehicle normally beneath and adjacent the discharge end of the horizontal conveyor. A pair of hydraulically operated arms are positioned on either side of the vehicle and generally parallel with the center line thereof. The inner ends of the arms are pivotally attached to the frame of the machine and the outer ends of the arms are pivotally attached to the bucket. When filled with stones, the bucket is hydraulically lifted at the ends of the arms and hydraulically tilted to deposit the stones into a waiting, auxiliary vehicle, such as a dump truck.

3,540,535

CROSSCUT MECHANISM FOR SOD CUTTING MACHINE

Gerardus Johannes Brouwer, R.R. 1, Keswick, Ontario, and John Van Dyken and Klass Oussoren, Newmarket, Ontario, Canada

Original application June 27, 1966, Ser. No. 560,770.

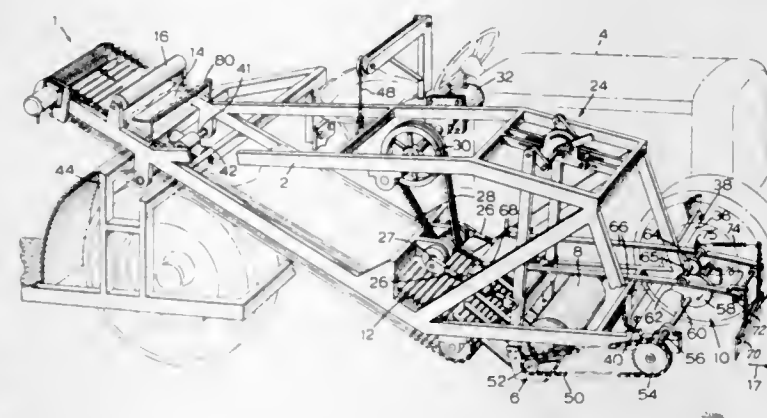
Divided and this application Sept. 29, 1969, Ser. No.

861,634

Int. Cl. A01b 45/04

U.S. Cl. 172—20

4 Claims



A sod cutter having a vibrating sod undercutting blade. Several thin, flat guide strips, connected to the rear of the blade, extend rearwardly to the front end of a conveyor

3,540,538

FEEDING ASSEMBLY FOR WEIGHING MACHINES

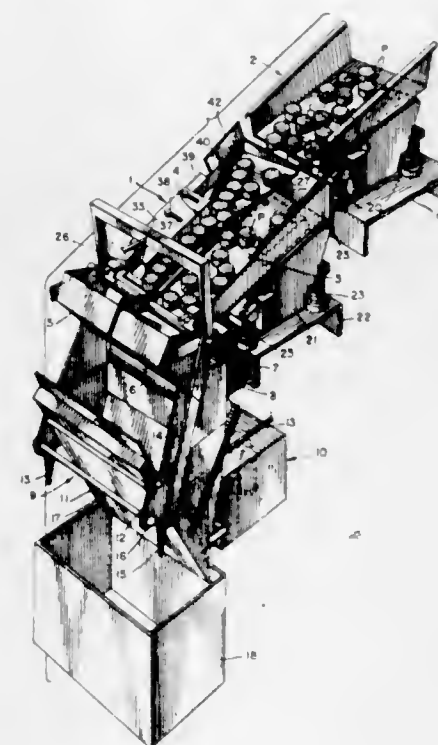
Robert H. Connors, Chicago and King L. Klopfenstein, Prospect Heights, Illinois, assignors to Triangle Package Machinery Company, Chicago, Illinois a corporation of Illinois

Filed Dec. 12, 1968, Ser. No. 783,330

Int. Cl. G01g 13/08

U.S. Cl. 177—122

9 Claims



A tray or conveyor assembly for the bulk and dribble feeding of a product to be weighed to an automatic weighing machine. The dribble feed portion of the tray has a part thereof overlying a portion of the bulk feed tray and is so designed that an excess of the product to be weighed is placed initially on the dribble side and some of the pieces will drip therefrom onto the bulk side of the tray before the discharge end is reached, thus obtaining a more uniform rate of dribble feed. This construction combined with a bulk accumulator enables continued vibration of the bulk tray during dribble feed.

3,540,536

HOLE DRILLING IN MOUNTAIN RANGES COVERED BY EARTH OR LOOSE ROCKS

Josef Huszar, Styria, Austria, assignor to Gehr. Boehler & Co. Aktiengesellschaft, Vienna, Austria

Filed March 18, 1968, Ser. No. 713,780

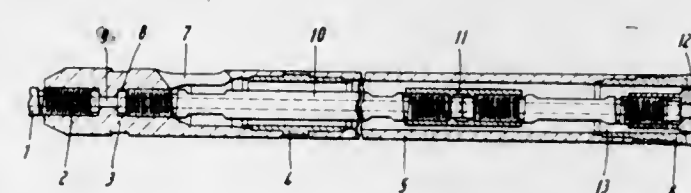
Claims priority, application Austria, March 17, 1967,

A2578/67

Int. Cl. E21b 21/00

U.S. Cl. 175—65

9 Claims



When drilling holes in the earth and loose rock covering mountain ranges, serious problems exist in the bringing of the drill cuttings to the surface. To better remove cuttings an annular rock cutting bit attached to casing pipe has within it a percussive rock bit attached to an angler stem, which bit and stem have a central flushing channel. As drilling proceeds by either bit alone or simultaneously, the cuttings are flushed up within the casing pipe by a flushing agent exited from the percussive rock bit. This way there can be no external stoppage of the removal route of the cuttings.

3,540,537

SLOTTED CORE LIFTER APPARATUS

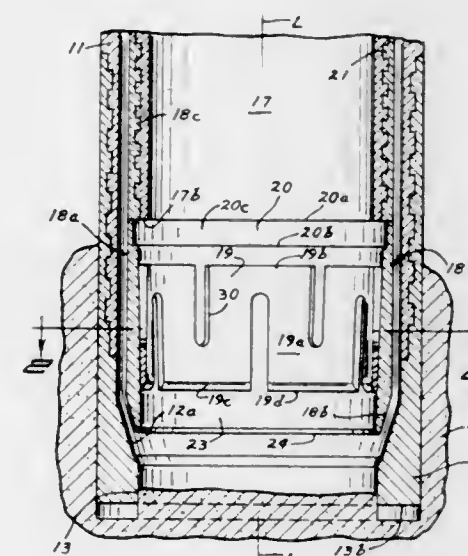
Harry W. Brown, North Bay, Ontario, Canada, assignor to E. J. Longyear Company, Minneapolis, Minnesota a corporation of Delaware

Filed June 2, 1969, Ser. No. 829,279

Int. Cl. E21b 25/00

U.S. Cl. 175—251

12 Claims



Core barrel apparatus for drilling core from an earth formation, for receiving core as it is drilled, breaking the drilled core from the earth formation, and retaining the core as the core is retracted through the drill hole, said apparatus including a core lifter having a plurality of axially elongated circumferentially spaced slots, some of the slots opening to the top edge and others the bottom edge of the core lifter.

3,540,539

BAG FILLING MACHINE HAVING IMPROVED SCALE MECHANISM

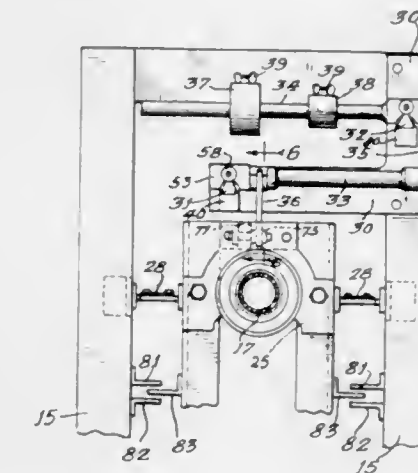
Erwin M. Lau, Dolton, Illinois, assignor to Black Products Co., Chicago, Illinois a corporation of Illinois

Filed Feb. 14, 1969, Ser. No. 799,356

Int. Cl. G01g 21/08

U.S. Cl. 177—256

10 Claims



The scale mechanism includes links having arcuate knife edges and lathe-turned beams having annular V-notch saddles

dies providing a self aligning connection between the two beams, and between the lower beam and a spout supporting frame which is confined to vertical movement by leaf springs. The links are removable from the beams and the frame, the beams from the fulcrums, and the fulcrums from the mounting plate. Stops limit the vertical movement of the frame when disconnected from the scale mechanism.

3,540,540

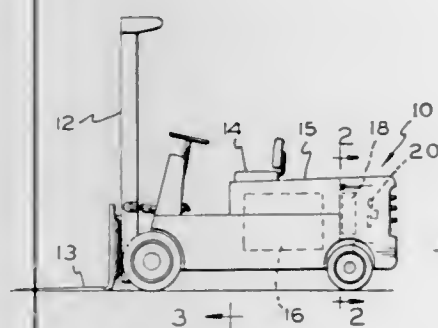
COOLING SYSTEM FOR LIFT TRUCKS

Delmar G. Schwab, Portland, Oregon, assignor to Hyster Company, Portland, Oregon a corporation of Nevada
Filed May 8, 1968, Ser. No. 727,442

Int. Cl. B60k 11/04

U.S. Cl. 180-68

17 Claims



A cooling system for a lift truck which includes a hydrostatic cooling fan mounted within a duct portion of the counterweight rearwardly of the engine and radiator to draw engine heat through the radiator and dissipate it from the rear of the truck. In one embodiment the fan motor is driven by a fixed-displacement pump and is connected in series with other hydraulic accessories. A thermo modulated pressure-relief valve connected in parallel with the fan motor varies the differential pressure across the fan motor and thus fan speed in response to changes in temperature of transmission oil and largely independently of system pressures and engine speed. In a second embodiment a hydraulic fan motor is driven by a variable pressure-compensated, variable-displacement pump. The motor is connected in series with a thermo modulated pressure-reducing valve and in parallel with other hydraulic accessories of the lift truck to vary fan speed with variations in engine temperature and independently of variations in system pressures and engine speed.

3,540,541

AUTOMATIC CONTROL SYSTEMS FOR VEHICLES

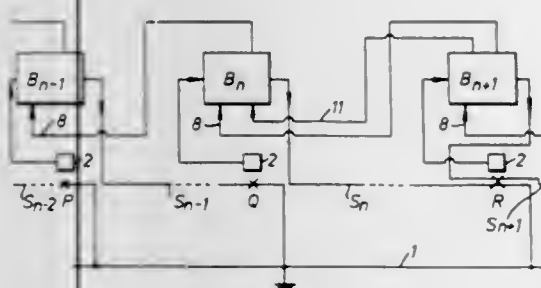
Frederick Walter Hartley, Hayes and James Frederick Moore, Bedford, England, assignors to Electric & Musical Industries Limited, Hayes, England a British company
Filed Nov. 15, 1968, Ser. No. 776,058

Claims priority, application Great Britain, Nov. 16, 1967, 52,137/67

Int. Cl. B62d 5/04

U.S. Cl. 180-98

7 Claims



An automatic control system is provided for driverless vehicles in which conductors are arranged in sections along a path. The conductive sections can be selectively energized by a steering signal for steering and a run signal to control movement along the path. Control means are provided for at least some of the sections to apply the steering signal to a section whilst inhibiting the run signal to that section in the presence of a steering signal in another section.

3,540,542 MEANS FOR BOUNDING A SPACE FOR RECEIVING PRESSURISED GAS

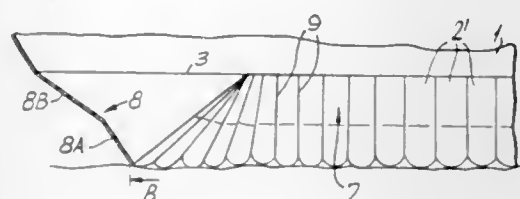
Leslie Arthur Hopkins, Dibden Purlieu, Southampton, England, assignor to Hovercraft Development Limited, London, England a British company

Filed May 29, 1968, Ser. No. 733,005
Claims priority, application Great Britain, June 2, 1967, 25689/67

Int. Cl. B60v 1/16

U.S. Cl. 180-127

9 Claims



A flexible wall for containing a gas cushion of a gas cushion vehicle comprises a succession of independently deflectable wall members. Each member is substantially U-shaped in horizontal section, the concavity being arranged to face the gas cushion with the two sides connected to the vehicle to constrain outward deflection of the member. The concavity of each member is arranged to present a generally convex vertical profile to the gas cushion, the profile preferably being upwardly divergent by, for example, the concavity being discontinuously inclined upwardly and outwardly from its lower end.

3,540,543

MARINE ACOUSTIC ENERGY SOURCE

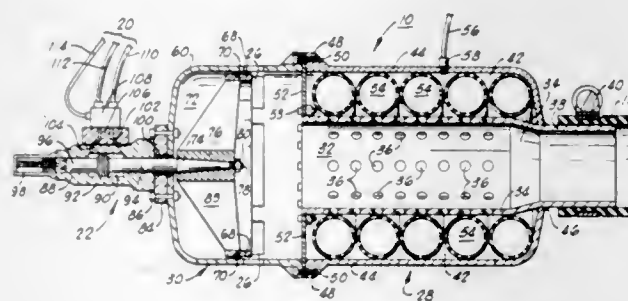
Marvin G. Bays, Jackson, Mississippi, assignor to Continental Oil Company, Ponca City, Oklahoma a corporation of Delaware

Filed Jan. 6, 1969, Ser. No. 789,273

Int. Cl. G01v 1/38

U.S. Cl. 181-5

7 Claims



Apparatus for generating compressional seismic wave energy in a water medium, the apparatus consisting of a high volume, low pressure fluid source connected to a chamber having controllable outlet port openings in communication with its surrounds, and having pressure accumulator means disposed therein. A suitable form of linear actuator is mounted axially on the chamber to control a porting sleeve which is reciprocally movable to periodically open the outlet port openings at a controlled rate; and the rapid volume differentiation results in generation of a compressional wave within the water medium.

3,540,544

ACOUSTIC TRANSDUCERS

John E. Karlson, Box 117 W, Hempstead, Nassau County, New York

Continuation-in-part of application Ser. No. 486,392, Sept. 10, 1965, now abandoned. This application Feb. 5, 1968, Ser. No. 703,079

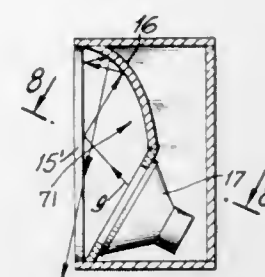
Int. Cl. G10k 13/00

U.S. Cl. 181-31

10 Claims

This invention is an improvement in acoustic transducers.

The improvement is comprised of locating curved surfaces contour, or a wall mount for supporting and shielding the hand set from ambient sound.



opposite a tapered aperture through which sound waves emanating from a sound source pass.

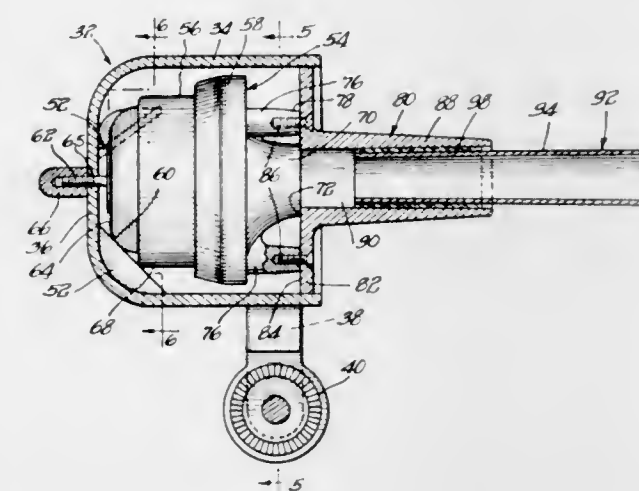
3,540,545 HORN SPEAKER

William N. Herleman, Sycamore, Illinois and Richard G. Myrland, Elkhart, Indiana, assignors to The Wurlitzer Company, Chicago, Illinois a corporation of Ohio
Filed Feb. 6, 1967, Ser. No. 614,209

Int. Cl. G10h 1/00, 3/00, 1/02

U.S. Cl. 181-31

4 Claims



An electric organ or other musically amplified sound source is provided with the usual wide range loudspeaker. In addition, there is provided a superefficient horn speaker which emphasizes certain musical voices and a particular range of tones, corresponding particularly to those of a trumpet or other brass instrument.

3,540,546

TELEPHONE SILENCER

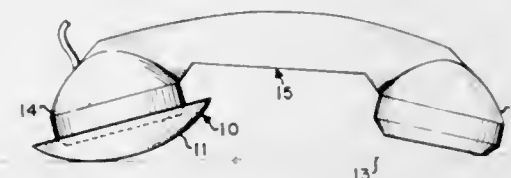
Thomas C. Dark, Omaha, Nebraska (1724 Four Mile Drive Apt. 1-C Williamsport, Pa. 17701)

Filed Dec. 8, 1969, Ser. No. 882,825

Int. Cl. F01n 7/00; H04m 1/19

U.S. Cl. 181-33

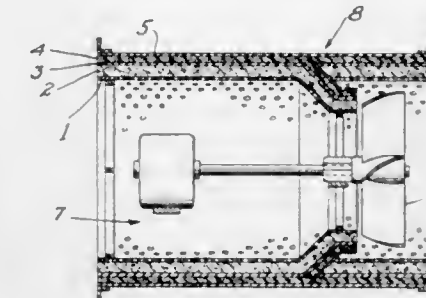
8 Claims



A silencer holder for a telephone hand set having a recess which receives, encases and shields the transmitter mouthpiece from ambient sound. The components of the recess contacting surface closely conforms to the contour of the transmitter and may include a soft resilient contact surface. The base of the device may be of a spherical rocking

3,540,547
ACOUSTICAL SYSTEMS FOR AIR MOVING DEVICES
Charles Waddell Coward, Jr., Mount Laurel Township, New Jersey (R. D. 01 Box 64 Moorestown, NJ 08057)
Filed Dec. 31, 1968, Ser. No. 788,225
Int. Cl. F01n 1/10; F04b 39/12
U.S. Cl. 181-50

4 Claims



This disclosure shows an apparatus for acoustically treating air moving devices to reduce the inherent noise level of the device. The acoustical treatment consists of a multilayer system of various densities of materials. An air moving device so treated is useful in locations where quietness is a major factor.

3,540,548

JACK WITH LEVELING MEANS

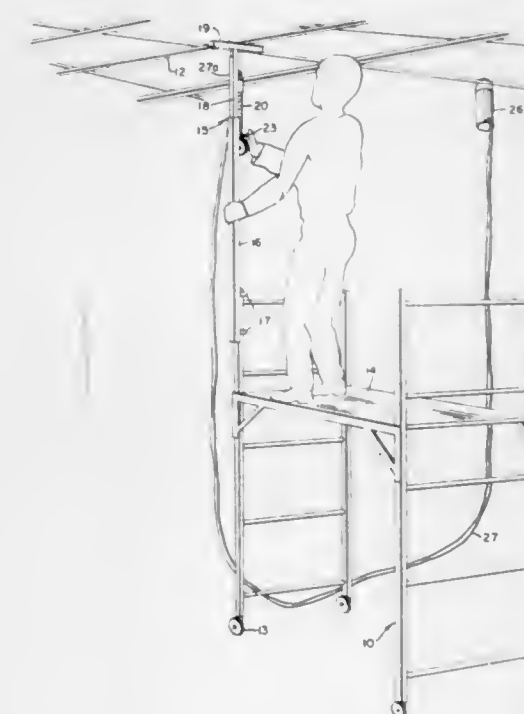
Paul F. Halsey and Daniel C. Tevis, Wichita, Kansas, assignors to Adapa, Incorporated

Filed Dec. 10, 1968, Ser. No. 782,603

Int. Cl. E04g 1/00

U.S. Cl. 182-129

3 Claims



A mobile scaffold carrying a jack which includes a base member and a relatively slidable load support member extending upwardly from the base member, the support member being screw-actuated. A fluid level has a flexible tube connected to a fluid reservoir remote from the jack, a portion of the tube being transparent and secured to the jack base member so that it extends alongside the slidable load support member. The fluid level in the transparent tube portion may be observed with respect to graduations marked on the support member.

3,540,549 FOLDABLE LADDER

George Harvey Emmons, 11 S. 12th St., Marshalltown, Iowa 50158

Int. Cl. E06c 1/20

U.S. Cl. 182-169

11 Claims



A ladder having a foldable tripod supporting frame structure. The ladder component utilizes substantially parallel side pieces with connecting rungs with one of the legs of the tripod support serving as one of the ladder side pieces. The other side piece is not a ground engaging element but is operatively associated with the tripod structure so that weight forces on the ladder are appropriately distributed to the supporting legs.

3,540,550 OIL SAFETY RESERVE TANK

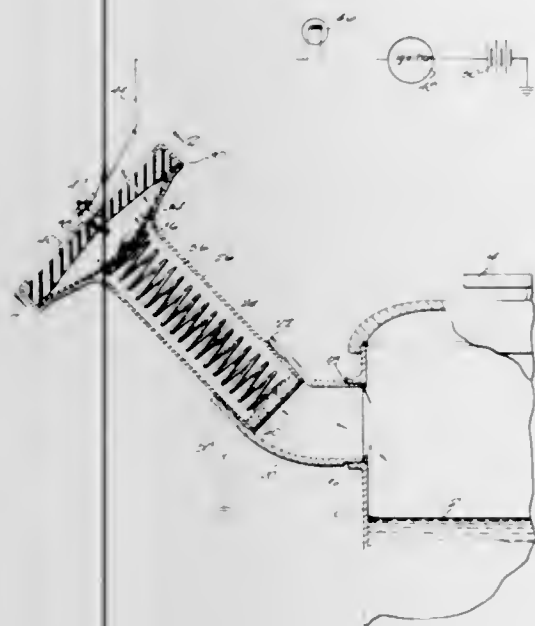
Guy A. Bailey, R.R. 2 Box 136A, Sheridan, Indiana

Filed July 6, 1967, Ser. No. 651,429

Int. Cl. F01m 1/20; F16n 29/02

U.S. Cl. 184-6

2 Claims



The oil safety reserve tank is placed beneath the hood of an automobile on a frame or bracket, having a conduit and valve arrangement connected to the oil pan of the internal combustion engine thereof. When the oil in the oil pan has dropped below a given oil level, the reserve tank provides dripping of oil slowly into the oil pan to maintain said desired oil level. The safety reserve tank has a sensing electrode connected to an indicator light of the dash panel and which is energized from the ignition key switch to indicate that the safety reserve tank needs replenishing.

3,540,551 OIL SUPPLYING APPARATUS WITH AN AUTOMATIC VARIABLE THROTTLE

Bunji Ohshida, Kasukabe-shi, Japan, assignor to Shoketsu Kinzoku Kogyo Kabushiki Kaisha, Tokyo, Japan

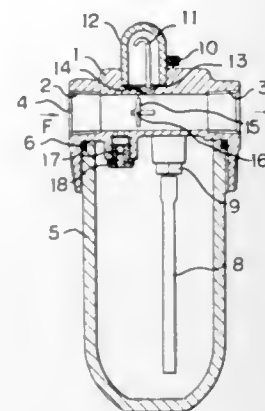
Filed March 19, 1968, Ser. No. 714,233

Claims priority, application Japan, March 29, 1967, 42/25491

Int. Cl. F16n 7/34

U.S. Cl. 184-56

1 Claim



An oil supplying apparatus with an automatic variable throttle disposed within an air pipe passage, the throttle is made of elastic material such as synthetic rubber, etc. and is similar in shape to the section of the passage and utilizes the restoration character of its elastic material. By means of the throttle the opening in the air pipe passage is automatically changed corresponding to the quantity of air flow and thereby lubricant is dropped or supplied into the air flow from the time a comparatively small amount of air is flowing. Moreover, the concentration of lubricant in the flowing out air is made constant.

3,540,552 DEVICE FOR CLAMPING TOGETHER TWO MACHINE PARTS, DISPLACEABLE RELATIVE TO EACH OTHER, PARTICULARLY OF WORK TOOL MACHINES

Edmund Eich, Coburg, Bavaria, Germany, assignor to Werkzeugmaschinenfabrik Adolf Waldrich Coburg, Coburg/Bavaria, Germany

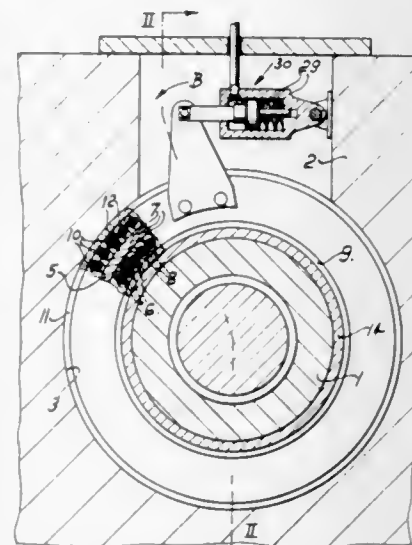
Filed Sept. 11, 1968, Ser. No. 759,175

Claims priority, application Germany, Sept. 15, 1967, 1,627,043

Int. Cl. F16d 51/04

U.S. Cl. 188-77

10 Claims



A device for clamping together two machine parts including a displaceable control member and a clamping plate. A series of spring-loaded, rotatable inclined clamping pieces engage the control member at one end thereof and the clamping plate at the other end thereof. Displacement of the control member causes the obliquity of the clamping pieces relative to the control member and the clamping plate to be reduced and a clamping pressure is exerted by forcing the control member and clamping plate apart.

3,540,553 BRAKE ASSEMBLY

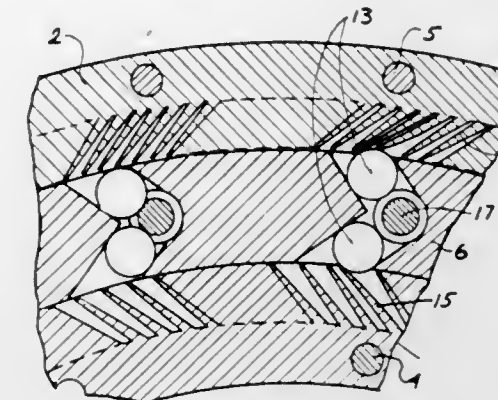
Ludwik S. Bialkowski, 1517 Sussex Road, Troy, Ohio 45373

Filed Dec. 28, 1967, Ser. No. 694,133

Int. Cl. F16d 63/00, 51/14

U.S. Cl. 188-78

15 Claims



A brake assembly utilizing an improved principle of spring deflection to apply a retarding torque. One of two relatively movable parts of the assembly has a plurality of outwardly extending cantilever spring beams and the other part has an element for engaging the ends of the spring beams causing deflection of the beams whereby a positive and retarding force is exerted to impede the relative movement of these two brake parts.

3,540,554 HEAT SHIELD FOR BRAKE ADJUSTER

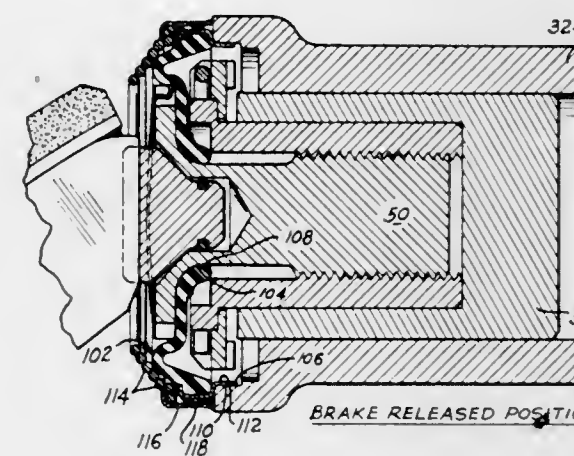
Richard T. Burnett and Maurice P. Pauwels, South Bend, Indiana, assignors to The Bendix Corporation, a corporation of Delaware

Filed Sept. 29, 1968, Ser. No. 756,135

Int. Cl. F16d 51/52

U.S. Cl. 188-79.5

11 Claims



This invention relates to an automatic adjuster for a brake comprising a housing, a rotatable adjuster nut arranged for axial movement in said housing and having teeth thereon, a nonrotatable adjuster screw fixed to a brake shoe and threadably connected to the adjuster nut, pawl means engaging the teeth to rotate the adjuster nut relative to the adjuster screw during return of the adjuster screw and the adjuster nut, as a unit, to the brake released position for effecting an extension of the adjuster screw, a flexible boot engaging said non-rotatable adjuster screw and said housing to exclude

contaminants, and an expandable metallic member suitably covering said flexible boot to preclude heat and heated particles from damaging said flexible boot.

3,540,555 AUTOMATIC BRAKE ADJUSTER MECHANISM

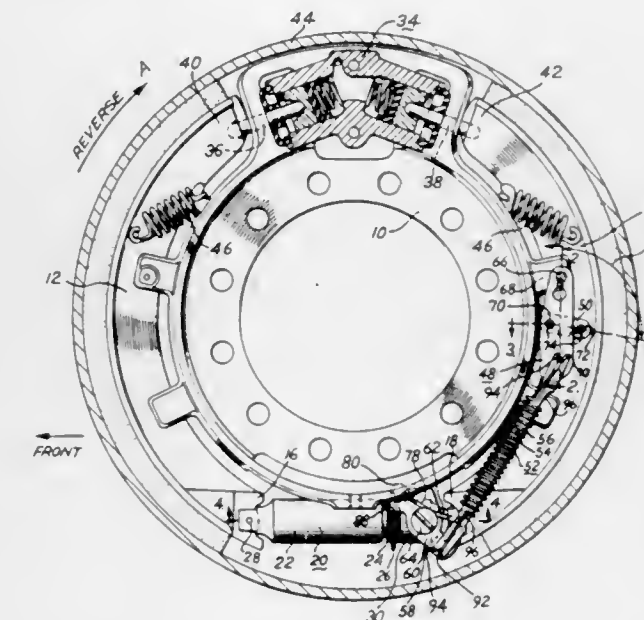
Daniel L. Bolenbaugh, South Bend, Indiana, assignor to The Bendix Corporation, a corporation of Delaware

Filed Jan. 23, 1969, Ser. No. 793,385

Int. Cl. F16d 51/70, 65/56

U.S. Cl. 188-79.5

14 Claims



This invention relates to an automatic adjuster mechanism for a drum brake and is comprised of a force transmitting member which is pivotally attached to the brake backing plate and responsive to brake shoe lining wear to actuate a pawl member through an overtravel means which adjusts an automatic adjuster to compensate for lining wear.

3,540,556 TRANSMISSION WITH REVERSAL INHIBITOR AND AUTOMATIC VEHICLE SPEED RESPONSIVE BRAKE

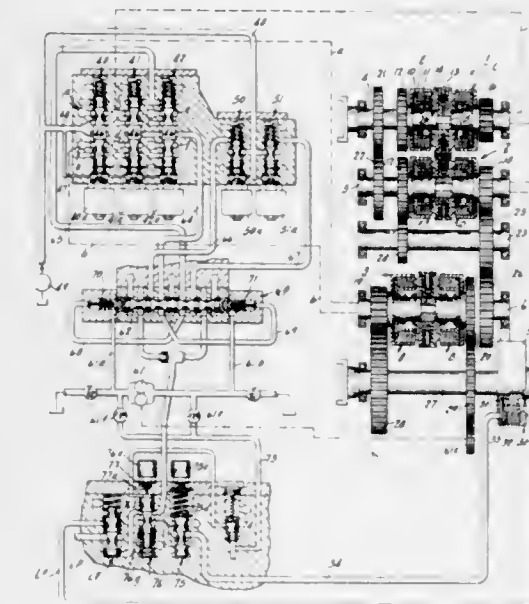
Joseph B. Snoy; Michael E. Gill and Basil White, Rockford, Illinois, assignors to Twin Disc, Incorporated, Racine, Wisconsin a corporation of Wisconsin

Filed Dec. 5, 1968, Ser. No. 781,385

Int. Cl. F16h 57/10

U.S. Cl. 192-4

3 Claims



A change speed gear mechanism for a vehicle whose direction must be periodically reversed and including a fluid operated brake at the output of the transmission for facilitat-

rectangular and cylindrical products are delivered by mechanically similar means and delivery is completed through a common opening. Unauthorized repetition of delivery of products is virtually impossible due to the two step operation of the vending machine.

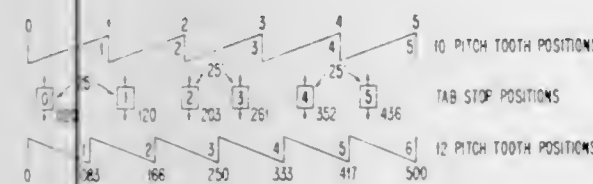
3,540,565

UNIVERSAL TAB MEMBER

Roy F. Hanft and Selahattin A. Okcuoglu, Lexington, Kentucky, assignors to International Business Machines Corporation, Armonk, New York a corporation of New York
Filed Jan. 9, 1968, Ser. No. 696,584
Int. Cl. B41j 25/18

U.S. Cl. 197—176

1 Claim



A tab member is provided having tab stops located at nonuniformly spaced tab stop positions thereon, said tab stop positions located in accordance with a given equation utilizing machine tolerances in such a manner that when the tab member is utilized with, for example, a dual-pitch typewriter having an escapement member having substitutable sets of 10 and 12 pitch escapement teeth, the universal tab member disclosed may be utilized with either set of teeth to produce accurate indexed margins.

3,540,566

CONNECTOR SYSTEM

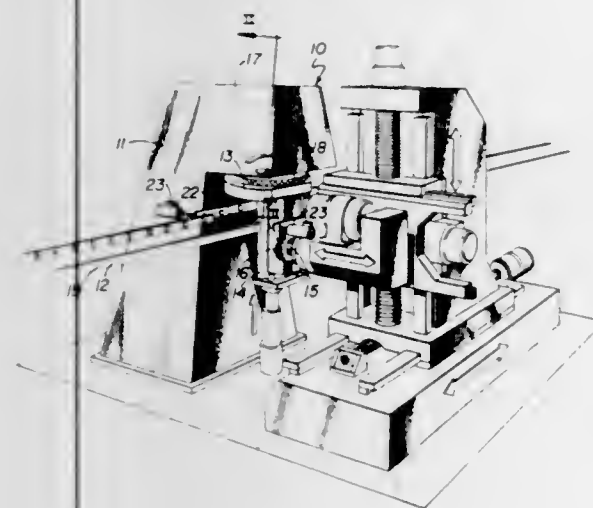
Charles B. Perry and Kendall F. Bone, Cincinnati, Ohio, assignors to Cincinnati Milacron Inc., Cincinnati, Ohio a corporation of Ohio

Filed Dec. 15, 1967, Ser. No. 690,941

Int. Cl. B23q 5/22; B65g 47/24

U.S. Cl. 198—19

9 Claims

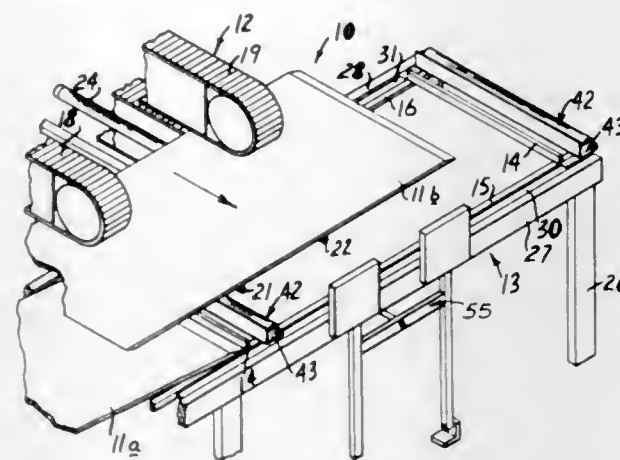


This invention has to do with a connector system and, more particularly, to means for accurately locating a body in all physical dimensions in selective angular spaced relation to another with an initial application in manufacturing field of endeavor including but not limited to the location of work stations of multiple workpieces relative to machine frames or multiple tools and machine attachments relative to the work station spindle or support.

3,540,567
BIASING AND INDEXING APPARATUS FOR SHEET CONVEYOR ASSEMBLY
Harold A. Keller, Lewiston, Idaho, assignor to Potlatch Forests, Inc., Lewiston, Idaho a corporation of Delaware
Filed Sept. 25, 1968, Ser. No. 762,511
Int. Cl. B65g 47/22, 47/52

U.S. Cl. 198—29

7 Claims

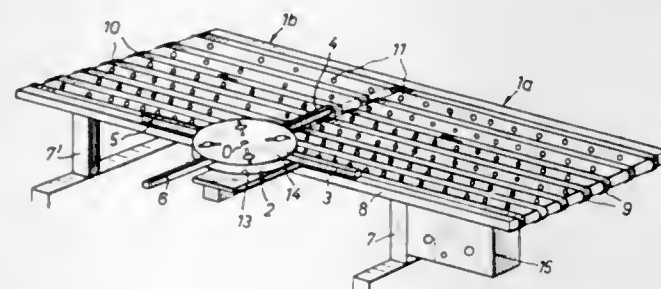


An indexing and conveying apparatus is described for successively moving a plurality of plywood sheets over a moving conveyor and sequentially dropping the sheets onto the conveyor in front of evenly spaced pusher elements. Pressing rollers are mounted on the conveyor ahead of the pusher elements for engaging the underside of the sheets. The rollers are rotated by a drive means in a direction to bias the sheets firmly against the pusher elements to prevent longitudinal misalignment of the sheets.

3,540,568
APPARATUS FOR TURNING AND ALIGNING OF WORKPIECES
Oskar Wellauer, Wiesenstrasse 27, Kusnacht, Zurich, Switzerland
Filed June 18, 1968, Ser. No. 738,047
Claims priority, application Austria, June 22, 1967, A5804/67
Int. Cl. B65g 47/24

U.S. Cl. 198—33

3 Claims



Apparatus for turning and aligning of workpieces, particularly for incorporation into a production line including wood working machines for working wooden panels along the side edges thereof comprises a conveyor track formed by two successively arranged belt conveyer sections, a turning device arranged at one side of the conveyor track and provided with stop members and with clamping means for the workpieces fed by one of the conveyor sections to the turning devices to be rotated through 90° and then moved along in aligned position by the other conveyor section.

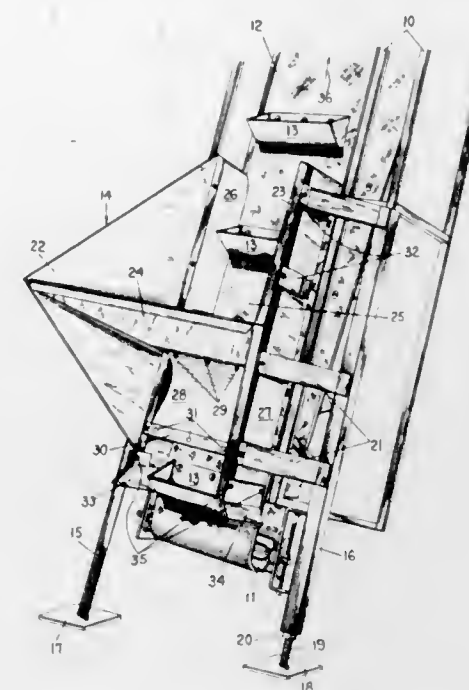
3,540,569
BUCKET ELEVATOR HOPPER
Guthrie B. Stone, Honeoye, Roger A. Herington, Dansville and Ronald K. Allen, Springwater, New York, assignors, by mesne assignments to, Thrifty-Lifty Inc., a corporation of New York
Filed Dec. 5, 1968, Ser. No. 782,794
Int. Cl. B65g 47/18

U.S. Cl. 198—55

8 Claims

A loading hopper attachment for a conveyor of the bucket elevator type adapted to accommodate either fine or coarse

bulk abrasive materials having a material restraining means within the container portion thereof and which includes

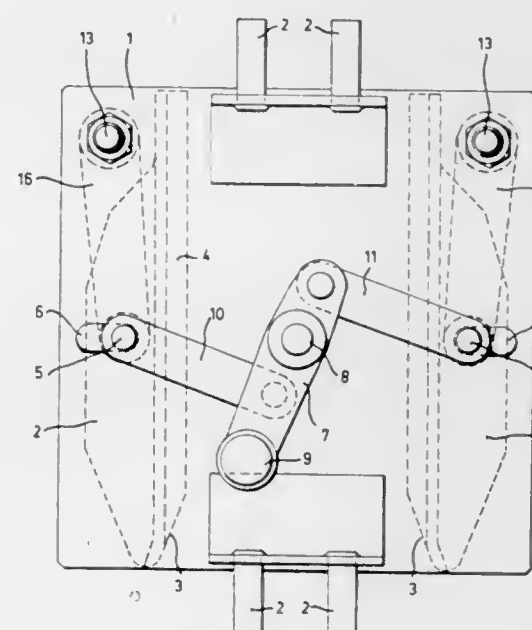


cooperating elements for guiding the buckets and for preventing wedging or jamming of the coarser materials.

3,540,570
SPRING-ACTUATED RECEPTACLE IN A PACKETING MACHINE
Ragnar Osterdahl, Stockholm and Eric Kullberg, Vallingby, Sweden, assignors to Arencor Aktiebolag, Stockholm-Vallingby, Sweden
Filed Nov. 3, 1967, Ser. No. 680,578
Claims priority, application Sweden, Nov. 10, 1966, 15368/1966
Int. Cl. B65g 15/00

U.S. Cl. 198—131

8 Claims

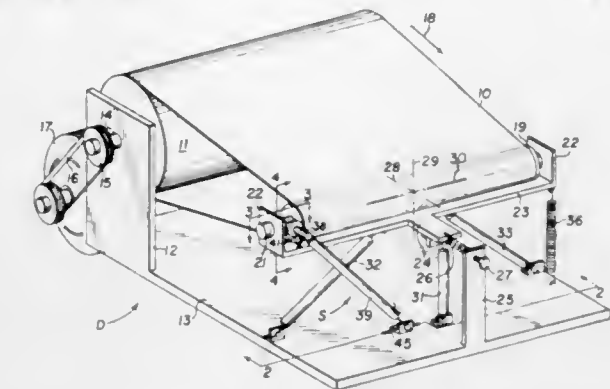


An arrangement in a cigarette-packing machine comprising a store and containers passing the store, said containers receiving cigarettes from the store during said passing, said container including two parallel plates, a bottom and a cover plate, and walls between said plates in the longitudinal direction of the cigarettes, said walls being in form of jaws presenting abutment surfaces and being movably arranged on shafts mounted in grooves disposed in said plates, in said bottom plate a lever being mounted which being connected to said shafts by links, and which being adapted to move said shafts in the transverse direction of the cigarettes.

3,540,571
BELT-TRACKING SERVO
John E. Morse and Richard A. Marsh, Rochester, New York, assignors to Eastman Kodak Company, Rochester, New York a corporation of New Jersey
Filed Aug. 27, 1968, Ser. No. 755,628
Int. Cl. B65g 15/62

U.S. Cl. 198—202

10 Claims

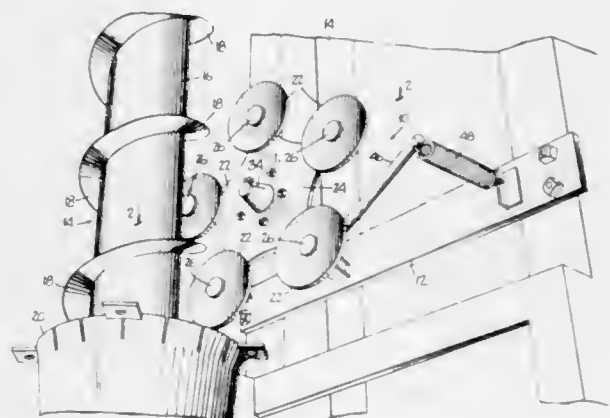


A belt-tracking servo is provided wherein a belt passes over a roller which has three degrees of freedom, being pivotal about a steering axis and a swing axis and translatable along the steering axis. A mechanical servomechanism senses movement of the edge of the belt causing the roller to be pivoted about the steering axis so that the belt tracks properly.

3,540,572
CLEANING HELICAL FLIGHTS
Harold M. McCall, Fairlawn, New Jersey, assignor to Raymond International, Inc., New York, New York a corporation of New Jersey
Filed Dec. 7, 1967, Ser. No. 688,951
Int. Cl. B65g 45/00

U.S. Cl. 198—229

10 Claims

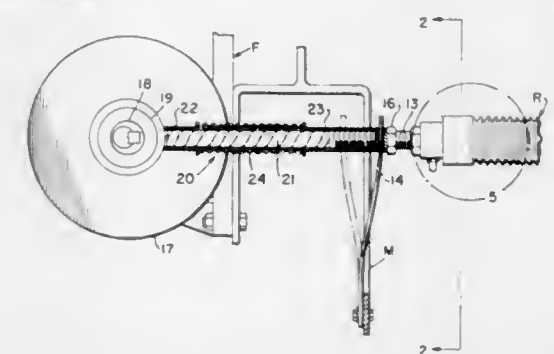


Cleaning of helical flights such as those on earth boring augers by mounting scraper elements on a freely rotatable wheel axis is transverse to the auger axis so that the longitudinal movement of the flights will produce corresponding movement of the scraper elements against and away from the flights.

3,540,573
BELT CLEANER
John K. Keim, 1251 St. Michael St. Apt. 04, Allentown, Pennsylvania
Filed May 15, 1968, Ser. No. 729,159
Int. Cl. B65g 45/00

U.S. Cl. 198—230

7 Claims



A belt cleaner with a ridged scraper which is reciprocated

in light engagement with the belt surface and parallel to the surface. The direction of reciprocation is transverse to the direction of belt travel. The preferred form includes a circumferentially grooved roller.

3,540,574

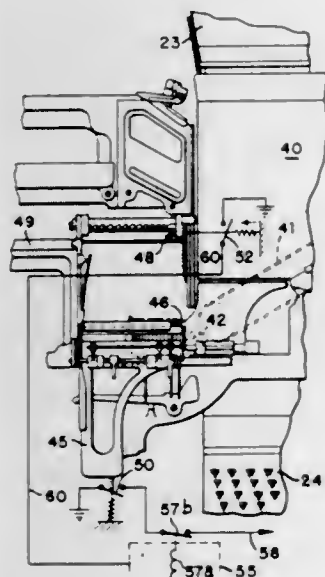
ASSEMBLER CONTROL FOR TYPESETTING MACHINE
Neil Schleifman and Seth Graubert, Long Island City, New York, assignors to Harris-Intertype Corporation, Cleveland, Ohio a corporation of Delaware

Filed Aug. 28, 1968, Ser. No. 755,989

Int. Cl. B41b 9/06, 9/04

U.S. Cl. 199—18

4 Claims



A typesetting machine embodying recirculating matrices having a transferring mechanism, such as an assembly elevator and delivery slide, for moving matrices, assembled to make up a line of composition, away from the assembly station. A control system permits selection and operation of the assembler to begin before completion of the return movement of the transferring mechanism, and inhibits continued operation of the assembler if the assembly elevator does not return to home position within a predetermined time.

3,540,575

RAZOR BLADE DISPENSER

Barth A. Holohan, Mountainside, New Jersey, assignor to Eversharp Inc., Milford, Connecticut a corporation of Delaware

Continuation-in-part of application Ser. No. 640,579, May 23, 1967. This application May 13, 1968, Ser. No. 728,515

Int. Cl. B65d 83/10

U.S. Cl. 206—16

16 Claims



A razor blade dispenser comprises two telescopically associated sections, one section being a casing which is generally tubular and rectangular in cross section and the other section being an insert received in the casing and having yieldable ramp means coacting with the casing for controlling the sliding of blades singly through an exit slot, the two sections preferably being molded of synthetic plastic material and providing between them a compartment for used blades as well as new blades.

3,540,576

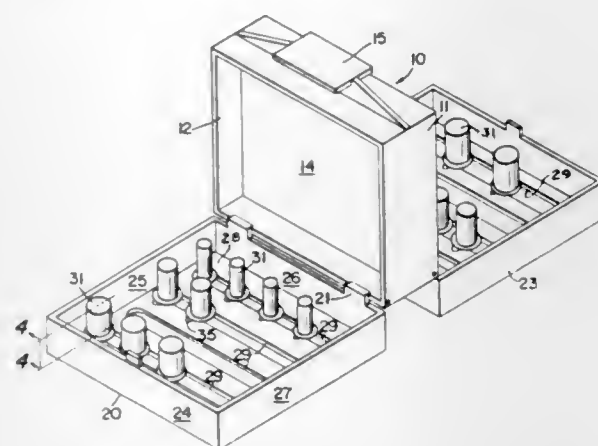
STORAGE AND DISPLAY DEVICE FOR PACKING RINGS
Richard K. Pierce, Los Angeles, California and Benjamin R. Looney, Richardson, Texas, assignors to Parker-Hannifin Corporation, Cleveland, Ohio a corporation of Ohio

Filed Dec. 26, 1968, Ser. No. 787,137

Int. Cl. A47f 7/00; B65d 5/50

U.S. Cl. 206—16

11 Claims



A device for storing and displaying packing rings comprising a slotted support plate that supports pegs upon which the packing rings are mounted. Each peg is removably attached to the support plate by an axial projection that extends through a slot and by a tongue that extends underneath the support plate in one rotative position of the peg and that will pass through the slot in another rotative position of the peg. The support plate may be in a box that comprises a base panel hinged to an enclosure panel such that the two panels will have coplanar portions when the box is open.

3,540,577

INTERPOLYMERS OF METHACRYLONITRILE AND LOWER ALPHA-OLEFINS AND PACKAGING MATERIALS PREPARED THEREFROM

Quirino A. Tremontozzi and Yoon Chai Lee, Springfield, Massachusetts, assignors to Monsanto Company, St. Louis, Missouri a corporation of Delaware

No Drawing. Filed June 23, 1967, Ser. No. 648,223

Int. Cl. B65b 79/00; C08f 39/00

U.S. Cl. 206—46

7 Claims

Disclosed herein are interpolymers of methacrylonitrile and lower alphaolefins of 2—8 carbon atoms, graft copolymers onto a rubber thereof, and blends of these materials. The compositions are useful as packaging materials which have excellent clarity, are easily processable and have oxygen permeability of less than 6.5 c.c./100 sq.in. 24 hr. atmos. mil at 73°F. and water vapor transmission of less than 8.5 gms./24 hr. 100 sq.in. mil at 100°F. and 95 percent R.H.

3,540,578

CONTAINER WITH A PUSHBUTTON LATCH

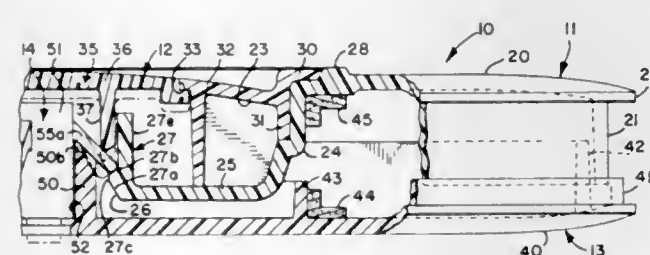
Robert S. Jones, Sunnyvale, California, assignor to Data Technology Corporation, Palo Alto, California a corporation of California, by mesne assignments

Filed Feb. 17, 1969, Ser. No. 799,744

Int. Cl. B65d 45/00, 85/67

U.S. Cl. 206—52

14 Claims



A container with a pushbutton latch device to ensure positive latching between separable upper and lower sections.

The upper section includes an upstanding wall, which surrounds a central opening in the upper section. The upstanding wall guides a pushbutton received therein and also forms a bevelled annular guiding surface at the lowermost position thereof with an inwardly directed locking surface thereabove. The lower section includes a hollow, upstanding column which receives a post with downwardly projecting yieldable latching arms spaced therearound. The latching arms at the distal ends thereof when in extended condition extend a distance slightly greater than the width of the opening in the upper section and are arranged along with the post to enter the opening of the upper section.

As the upper and lower sections are brought into mating relation, the latching arms are flexed by the guiding surface of the upstanding wall of the upper section to reduce the distance between the distal ends thereof, thus enabling the latching arms to advance into the opening formed in the upper section. After the arms have advanced into the opening and continue to advance beyond the guiding surface, the downwardly extending arms immediately tend to assume their normal or expanded condition to engage the locking surface, thereby locking the upper and lower sections together. To separate the container sections, the pushbutton is depressed to flex the latching arms to retract the same away from the locking surface and to urge the latching arms into the portion of the opening of the upper section surrounded by the guiding surface, whereby the upper and lower sections can be separated.

3,540,579

INDIVIDUALIZED DISPENSING PACKAGES

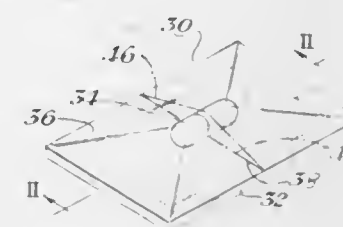
Harold Richard Hellstrom, 5245 Center Ave., Pittsburgh, Pennsylvania 15232

Filed March 27, 1968, Ser. No. 716,554

Int. Cl. B65d 85/00

U.S. Cl. 206—56

25 Claims



I provide an individualized package comprising a relatively rigid backing member, an item for dispensing positioned within a central area of said backing member, and a frangible membrane lightly stretched over said item and joined about the periphery of said backing member, the structural strength of said backing member being in excess of the rupture strength of said membrane so that said membrane breaks upon angulation of said backing member generally away from said item. Means are also provided for modifying the rupture characteristic of the membrane or the angulation characteristic of the backing member for controlling the dispensing characteristic of the item.

3,540,580

HEAT-SEAL ADHESIVE AND PACKAGE

Peter Spiros Columbus, Whitestone and Eva Marie Scharfy, Elmhurst, New York, assignors to Borden, Inc., New York, New York a corporation of New Jersey

No Drawing. Filed July 3, 1967, Ser. No. 650,605

Int. Cl. A61l 15/00; C08f 29/42

U.S. Cl. 206—63.2

7 Claims

This invention relates to water base thermoplastic heat-seal adhesives having minimum penetration into porous surfaces when both wet and dry and being resistant to chemical,

steam, and heat sterilization conditions, comprising specified proportions of a polyvinyl acetate emulsion, mineral filler and antipenetrant, and to packages utilizing said adhesives.

ERRATUM

For Class 206—65 see:

Patent No. 3,541,052

3,540,581

PACKAGE CONSTRUCTION FOR CARRYING HORIZONTAL SUPERPOSED ARTICLES

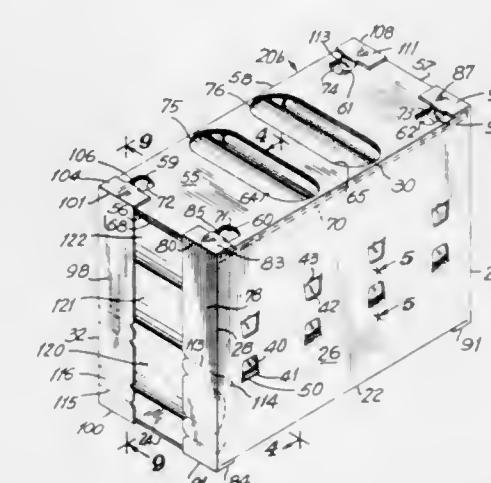
Stanley R. Koolnis, New York, New York, assignor to Lee Drechsler, Palisades, New York and Fred Zandell, New York, New York

Filed Feb. 26, 1968, Ser. No. 708,235

Int. Cl. B65d 71/00, 83/00

U.S. Cl. 206—65

12 Claims



This invention is essentially concerned with a package for carrying superposed articles, wherein a lower article rests on a bottom wall, and sidewalls upstand from opposite sides of the bottom wall and are provided with inwardly extending tabs overlying the lower article for supporting an article over the lower article.

3,540,582

WRAPPER FOR TUBULAR OPEN-ENDED SECONDARY PACKAGES

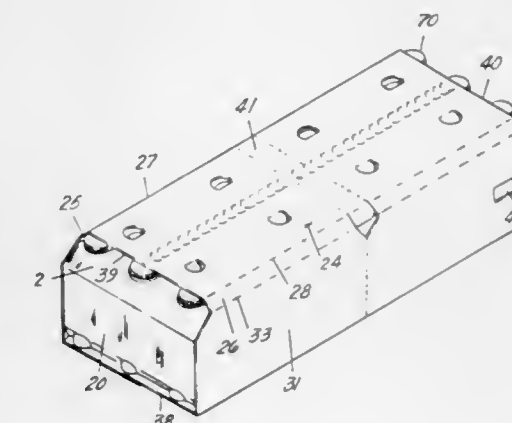
Prentice J. Wood, Jonesboro and James B. Funkhouser, Doraville, Georgia, assignors to The Mead Corporation, a corporation of Ohio

Filed Feb. 4, 1969, Ser. No. 796,440

Int. Cl. B65d 5/02, 5/54, 71/00

U.S. Cl. 206—65

3 Claims

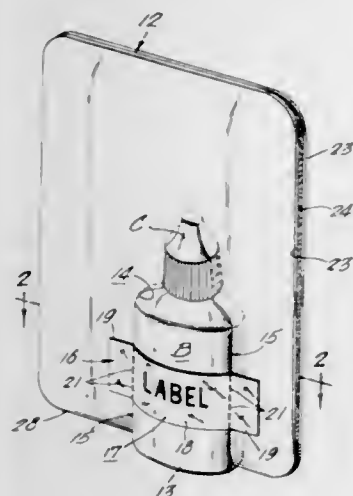


For enveloping a plurality of tubular open-ended secondary packages each of which includes primary packages therein, a wrapper is disclosed having top, bottom and spaced side walls foldably joined along their side edges to

form an open-ended tubular structure, the wrapper being disposed relative to the secondary packages in such manner that the side walls thereof overly and cover the open ends of the secondary packages. A plurality of holding tabs are struck from the bottom wall of the wrapper and inserted above the bottom panels of the secondary packages and underneath the bottoms of adjacent primary packages to secure the secondary packages against dislodgment through the open ends of the wrapper. A longitudinal tear strip is provided for severing the top panel of the wrapper so as to expose the secondary packages therein or if desired a transverse tear strip may be provided in the top wall together with perforations in the side and bottom walls for separating the wrapper into two or more component parts.

3,540,583 DISPLAY PACKAGE

Harold W. Tomlinson, Delmar, New York, assignor to Cavi-T-Pak Inc., Albany, New York a corporation of New York
Filed Feb. 13, 1969, Ser. No. 799,037
Int. Cl. B65b 43/00; B65d 5/52, 65/16
U.S. Cl. 206—80 14 Claims

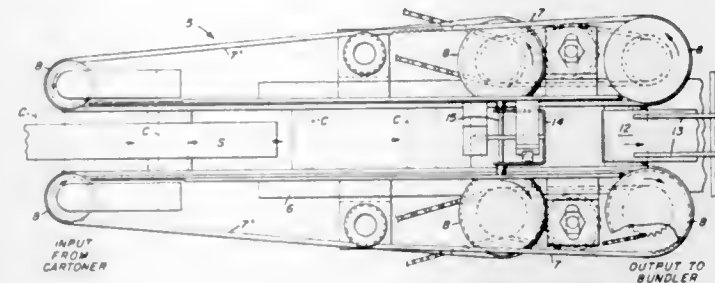


A package for displaying small articles such as bottles comprising a display board having two faces of stiff material enclosing a filler material of substantial thickness therebetween. The board has an open-faced pocket, opening into one edge and generally conforming to the outline of the article to be displayed, the width of the pocket being slightly less than the width of the article so that the article is frictionally engaged and retained between the sides of said pocket. A severable retainer is provided to retain the article in the pocket against inadvertent displacement. In one form the retainer comprises a label strip having its body portion secured to the article and constituting the label thereof and end portions secured to the display board and united to the body portion by a line of perforations coincident with the edge of the opening; and in another form the retainer comprises a wrapping of transparent film about the entire package including the display board and the article. The display package is particularly suited for bottles and may be assembled to the bottle as the final step of the bottling operation after capping.

**3,540,584
DIVERTING MEANS FOR CONVEYOR SYSTEM**
Joseph Francis Laukaitis; Milton Edwin Meerdink and Robert Joseph Herberger, Rochester, New York, assignors to Eastman Kodak Company, Rochester, New York a corporation of New Jersey
Filed Jan. 13, 1969, Ser. No. 790,658
Int. Cl. B07c 3/06 12 Claims

A device for diverting unsealed cartons from a position in a high speed production line at the output of a cartoner which normally seals the flaps of cartons. The device func-

tions to divert a group of cartons which remain unsealed because of a prior stoppage of the cartoner. A control means insures that only unsealed cartons are diverted from the nor-

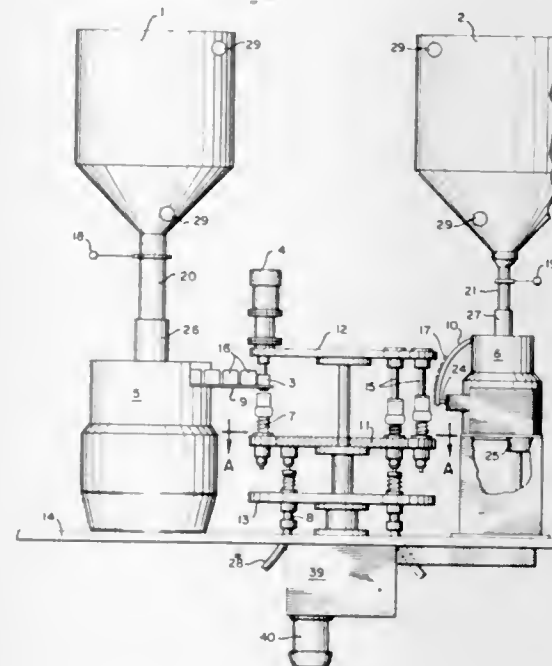


mal output of sealed cartons although the control means can be arranged so that any carton can be removed, sealed or unsealed, as desired.

3,540,585 METHOD OF ASSEMBLING AND TESTING SPRAY CONTROLS

Helmut Spranger, Oederan; Erhard Schreiber, Freital; Alexander Frenzel, Breitenau über Floha and Hans-Joachim Eisentraut, Dresden, Germany, assignors to Polyplaste H. Rolf Spranger K.G., Oederan Saxon, Germany
Filed May 16, 1968, Ser. No. 729,650
Int. Cl. B07c 5/34 8 Claims

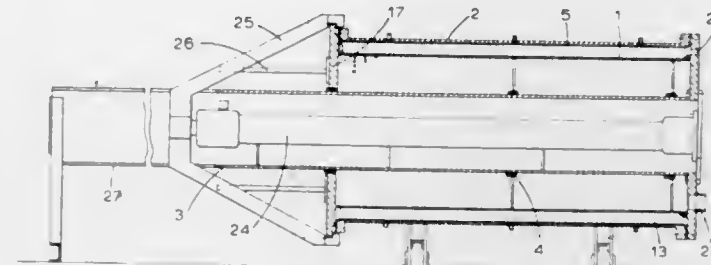
U.S. Cl. 209—73



A method of assembling and testing plastic parts specifically spray control. Each spray control is made up of a manually operable control member and a nozzle carried thereby and assembled therewith. The control members are first fed to a receiving station, and then they are successively transported to a cleaning station where they are cleaned, to a testing station, where the flow of fluid therethrough is tested, to an ejecting station, where unsatisfactory control members are rejected, and then to an assembly station where a nozzle is assembled with each control member. Then the assembled nozzle and control member are tested whereupon the unsatisfactory assemblies are rejected while the satisfactory assemblies are delivered to a desired location. The feeds of the control members and nozzles are regulated to achieve the maximum rate of supply thereof. In the event that a plurality of successive components in excess of a given number are rejected, the operations are terminated. The items are counted as well as tested, and the testing of the completed assemblies is carried out by electronically checking the spray which is produced.

**3,540,586
FILTRATION APPARATUS AND METHOD**
Peter Henshaw Bailey, Huddersfield, England, assignor to L.B. Holliday & Company Limited, Huddersfield, England a British company
Filed May 5, 1969, Ser. No. 828,797
Claims priority, application Great Britain, May 9, 1968, Oct. 24, 1968, 22009/68; 50525/68
Int. Cl. B01d 29/36 4 Claims

U.S. Cl. 210—65 4 Claims

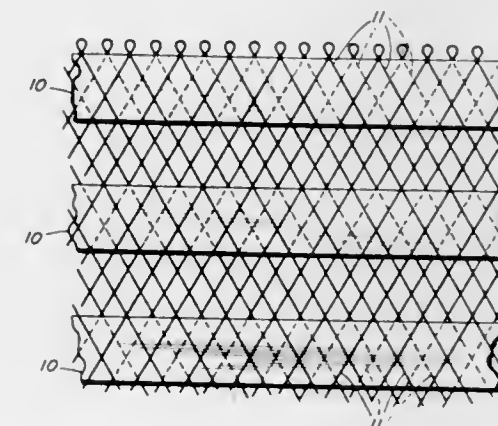


A filtration apparatus is provided which comprises a housing with a cylindrical inner wall and an axially movable cylindrical core within the housing. A flexible tube diaphragm is located within the annular cavity between the core and housing and is operated by the action of pressure fluid on its outside surface relative to the core. A mixture of solid and liquid media to be separated is fed into the annular space between the diaphragm and the outside of the core and the pressurized diaphragm is used to expel residual liquid from the cake deposited on the core. The mounting and movability of the core within and out of the housing allows ready removal of the filter cake and permits continuous operation of the filtration apparatus.

**3,540,587
METHOD FOR DEPOSITING PARTICLES**
Henry D. Dawbarn, Waynesboro, Virginia, assignor by mesne assignments to Thiokol Chemical Corporation, Bristol, Pennsylvania, a corporation of Delaware
Original application April 17, 1964, Ser. No. 360,673, now Patent No. 3,445,319. Divided and this application April 2, 1969, Ser. No. 841,642
Int. Cl. B01d 37/00 10 Claims

U.S. Cl. 210—65

10 Claims

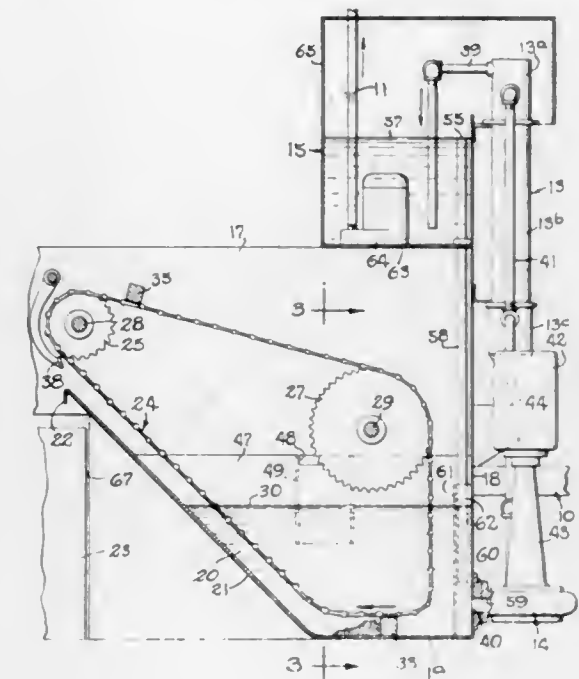


For depositing particles from a fluid stream, a method is disclosed which comprises suspending in the path of the fluid an integral unitary thermoplastic sheet which is made of a substantially unoriented thermoplastic film reinforced, generally in two directions, with oriented thermoplastic filaments. The thermoplastic sheet and filaments are preferably polyolefins and, preferably, the sheet is reinforced on both sides. Within the purview of the method disclosed is the use of the sheet in panels interconnected by the filaments, though separated, as an inexpensive snow fence or beach erosion prevention device, wherein the fluid (wind, say) substantially passes through the "fence" while depositing particles such as snow, sand or dust and the like at the fence, while the fluid, emptied of the particles passes through.

**3,540,588
METHOD AND APPARATUS FOR CLEANING LIQUID**
Mark R. Estabrook, Rockford, Illinois, assignor to Barnes Drill Co., Rockford, Illinois a corporation of Illinois
Filed Dec. 13, 1967, Ser. No. 690,122
Int. Cl. B01d 21/26 12 Claims

U.S. Cl. 210—73

12 Claims

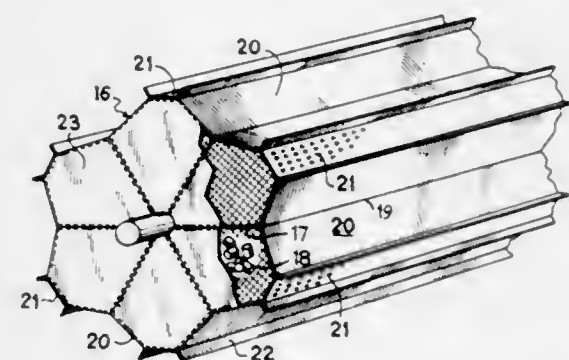


An apparatus and method for separating solid particles from a flow of machine tool coolant, using a drag tank as a settling pool for the dirty coolant, a centrifugal pump drawing dirty liquid from the pool through one section of an outlet opening, and a hydroclone separator receiving the pump output and delivering clean liquid to a transfer tank from which the clean liquid is pumped back to the using system. Excess clean liquid flows back to the drag tank through an overflow pipe opening into the transfer tank, and is delivered to a baffled compartment communicating with another section of the outlet opening. The dirty underflow from the hydroclone is collected by a trough and fed into an auxiliary pool in the drag tank separated from the main pool by a notched dam over which accompanying fluid flows, through a baffled passage, after settling out of the bulk of the returned solids. A conventional drag conveyor removes solids from the main pool and an extension thereof drags solids out of the auxiliary pool.

**3,540,589
APPARATUS FOR THE PURIFICATION OF POLLUTED WATER**
Jean-Mathieu Boris, Paris, France, assignor to Societe Nouvelle Seta S.A.r.l., Paris, France
Filed Aug. 27, 1968, Ser. No. 755,675
Claims priority, application Luxembourg, Aug. 30, 1967, 54404
Int. Cl. C02c 5/10 5 Claims

U.S. Cl. 210—150

5 Claims



This apparatus is specially adapted for the aerobic bacteriological processing of polluted water and comprises in a

substantially horizontal tank a horizontal rotating drum having a perforated external envelope. The rotating drum contains packing elements of the Raschig ring type. These elements are covered with bacteria. During the rotation of the drum which preferably is not completely immersed in the water, the latter flows through the elements and furthermore there is created a good bubbling effect resulting in an improved operation of the apparatus.

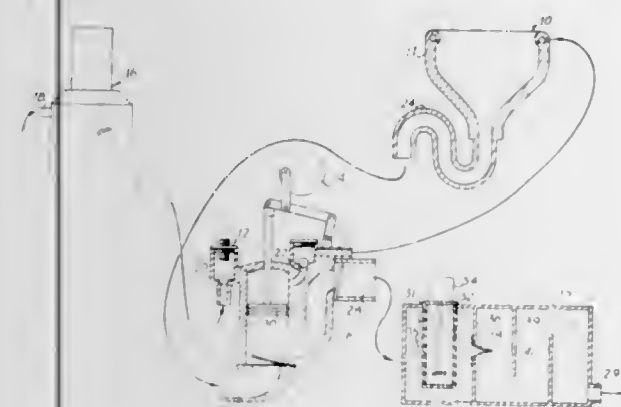
3,540,590

WASTE TREATMENT APPARATUS

Thomas E. Schneider, Jr., Atlanta and William E. Bradley, Jr., Smyrna, Georgia, assignors to Tesco Chemicals, Inc., Atlanta, Georgia a corporation of Georgia
Filed Dec. 18, 1968, Ser. No. 784,673
Int. Cl. C02c 1/40

U.S. Cl. 210—152

8 Claims



A waste treatment method and apparatus in which the method includes flowing liquid into the upper portion of a waste receptacle, washing the waste in a downward direction within the receptacle, grinding the waste into small particles, and discharging the waste and the liquid. A purifying chemical is added to the liquid prior to its entry into the waste receptacle. The apparatus includes a chemical mixing device which comprises a container for receiving a solid stick of soluble chemical compound in an upright attitude, and which defines a series of apertures at its lower end. A source of liquid is communicated to the outside surface of the container about the apertures, and a pump inlet communicates with the interior portion of the container, to reduce the pressure within the container and to induce liquid to flow through the apertures and impinge upon and erode the lower end of the chemical stick, and then pass to the pump.

3,540,591

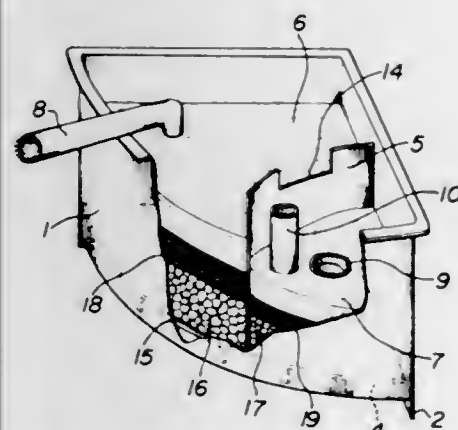
FILTERING DEVICE FOR WATER TANKS, PARTICULARLY AQUARIUMS

Makoto Yamazaki, Tokyo, Japan, assignor to Isuzu Kogyo Kabushiki Kaisha, Tokyo, Japan a corporation of Japan
Filed April 5, 1968, Ser. No. 719,191
Claims priority, application Japan, Dec. 8, 1967, 42/103,250; Dec. 9, 1967, 42/103,294

Int. Cl. B01d 23/00

U.S. Cl. 210—169

8 Claims



An external filtering device for aquariums having a filtering tank casing, said casing incorporating a first filter zone

and a second filter zone, said first and second filter zones being interconnected at the lower portion thereof so that water may flow from said first filter zone to said second filter zone.

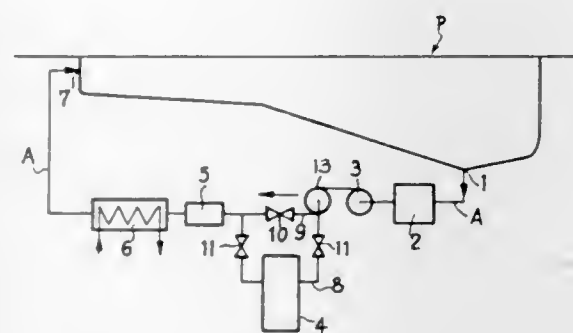
3,540,592

CLOSED-CIRCUIT SYSTEM FOR THE TREATMENT OF THE WATERS OF A SWIMMING POOL

Antoine Derreumaux, 18, Rue d'Arminonville 92, Neuilly sur Seine and Marc Lambert, Paris, France
Filed Dec. 26, 1968, Ser. No. 786,900
Claims priority, application France, Dec. 29, 1967, 134336
Int. Cl. E04h 3/20

U.S. Cl. 210—169

1 Claim



Closed-circuit system for treating water of a swimming pool or the like. A first portion of said circuit includes a water sterilizer and a second portion of said circuit is connected to said first circuit portion upstream of the sterilizer. A water filter is disposed in the second circuit portion. Valve means regulate the proportion of water which flows through the second circuit portion.

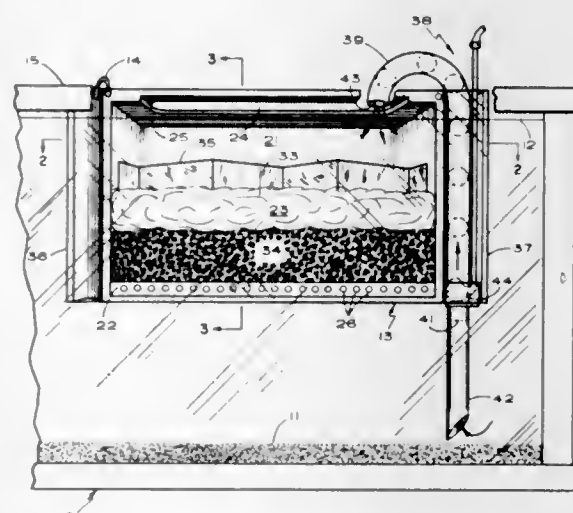
3,540,593

DISPOSABLE AQUARIUM FILTER

Eugene F. Stewart, 2 Dana Road, Peabody, Massachusetts
Filed April 17, 1969, Ser. No. 816,937
Int. Cl. E04h 3/20

U.S. Cl. 210—169

11 Claims



A disposable filter device adapted to be supported in an aquarium tank, partially above the normal water level, and connected to an outside air pump for drawing water from the bottom of the tank and lifting it above the normal water level, whereby the water passes downward through the filter device and back into the tank. In the preferred embodiment, the case of the filter is comprised of a flat transparent rear piece and an opaque front piece defining in side view a generally rectangular water-receiving upper portion, a downwardly tapering filtering middle portion, and a water-discharging bottom portion. In the filter portion, there is

disposed a layer of filter material over particulate purifying matter and means to hold the filter material against substantial movement, the water-discharging portion being adapted to prevent the purifying material from entering and plugging it.

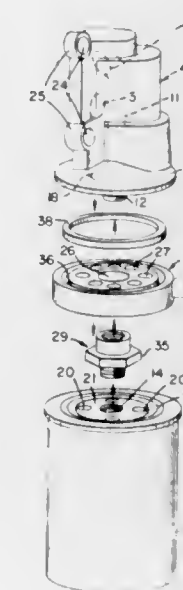
3,540,594

OIL FILTER ADAPTER

Joseph D. Sanderson, Orinda, California, assignor to Sky Center Corporation, Stockton, California a corporation of California
Filed July 25, 1966, Ser. No. 567,547
Int. Cl. B01d 35/14

U.S. Cl. 210—232

1 Claim



An adapter constructed to be conveniently fitted into the path of flow of an engine-lubricating system having in said path a full flow lubricant filter which adapter will direct away from said path a limited amount of said lubricant for filtration by a limited flow, bypass type lubricant filter while the remainder of the flow is allowed to pass through said full-flow filter.

3,540,595

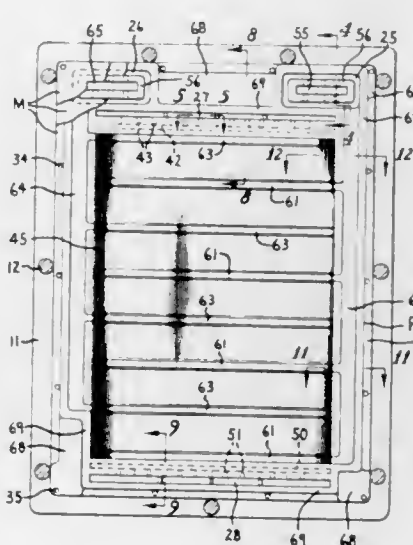
MEMBRANE FLUID DIFFUSION EXCHANGE DEVICE

Miles Lowell Edwards, 13191 Sandhurst Place, Santa Ana, California 92705
Continuation-in-part of application Ser. No. 631,668, April 18, 1967. This application Dec. 20, 1967, Ser. No. 692,151

Int. Cl. B01d 31/00

U.S. Cl. 210—321

6 Claims



A stack of plates and membranes for use primarily as a blood oxygenator or kidney dialysis device. The plates are all

identical, being grooved in their opposite sides to define capillary fluid passageways and distribution and collecting ducts for two fluids on opposite sides of the membranes. A first embodiment employs double membranes of elastic material and a second embodiment employs single membranes of inelastic material.

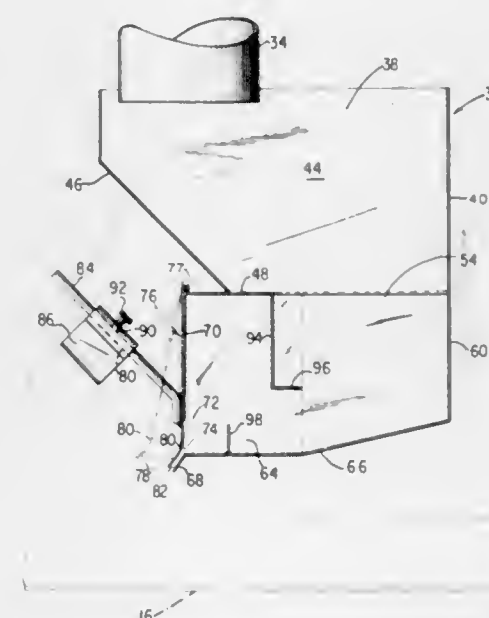
3,540,596

FILTER FEED DISTRIBUTOR

Cecil W. Bugbee and John G. Hicks, Jr., Tampa, Florida, assignors to Cities Service Company, New York, New York a corporation of Delaware
Filed Dec. 26, 1968, Ser. No. 787,101
Int. Cl. B01d 33/38

U.S. Cl. 210—328

8 Claims



An improved slurry distribution box for use with moving bed filters, preferably a tilting pan vacuum filter is disclosed herein. The distribution box is a horizontally mounted box with a flat side transverse to the path of the filter pans, the flat side having a coextensive opening therein and a gate pivotally mounted from the top opposite the opening and acting together with the opening to define a discharge port. Adjustably mounted counterweights are cantilevered from the front of the gate to provide a biasing force to hold the gate against the opening. Preferably the gate is angularly bent at its bottom to provide a slight taper to the discharge port formed by the gate and the opening so as to distribute slurry evenly over the annular filter surface area of the moving filter.

3,540,597

APPARATUS FOR CONTINUOUS FILTERING

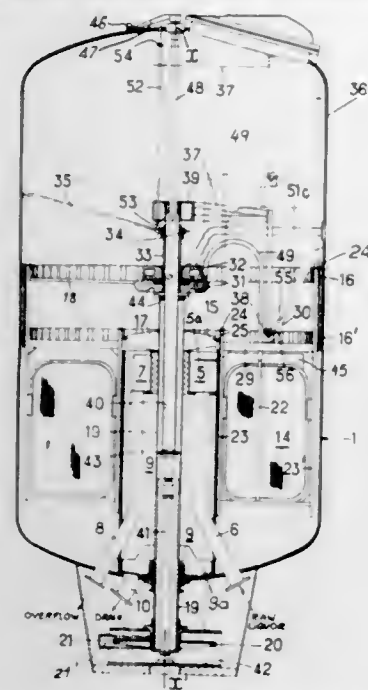
Guy Gaudfrin, 67, Rue de l'Assomption, Paris 16, France
Filed Dec. 2, 1968, Ser. No. 780,398
Claims priority, application France, Dec. 1, 1967, 130652
Int. Cl. B01d 35/12

U.S. Cl. 210—331

12 Claims

A filtration apparatus with a cylindrical vessel, peripherally subdivided into two symmetrical groups of charging, washing and discharge compartments by radial partitions, accommodates an array of radially extending hollow vanes whose interior is bounded by filter screens and communicates via flexible conduits with a distributor head. The vanes are vertically slidably held in a cage which is rotatable about the vessel axis under the control of a drive mechanism including a set of hoists, one for each partition, which engage an approaching vane and lift it above the associated partition, at the same time executing a limited swing in the direction of vane rotation to advance the array by one step whereby the vane clears the partition before being lowered again; after releasing the engaged vane, the hoist is returned to its start-

ing position ahead of the partition. In each discharge compartment, an abutment intercepts the descending vane to jolt water-immiscible organic solvent by the use of a vertically arranged separation zone of nonuniform cross section.



it for the purpose of dislodging adhering solids from its outer surface.

3,540,598

FILTERING DIAPHRAGMS

Guy J. J. Marie, Neuilly-sur-Seine, France, assignor to Societe D'Etudes Pour Papis Filtrantes Parfil, Paris, Victor-Hugo, France a company

No Drawings. Filed May 13, 1968, Ser. No. 728,803
Claims priority, application France, May 16, 1967,
PV 106,487

Int. Cl. B01d 39/18, 31/00

U.S. Cl. 210—483

3 Claims

A filtering diaphragm intended for osmotic exchanges and molecular separations constituted by a sheet of microporous paper made of regenerated cellulose fibres which have been subjected to a marked fibrillation, said sheet being coated with a tenuous sheet of plastic material such as silicone elastomer having osmotic properties. If said coat is reduced to submicronic thickness, the diaphragm can serve for molecular separations e.g. the removal of salt out of sea water.

3,540,599

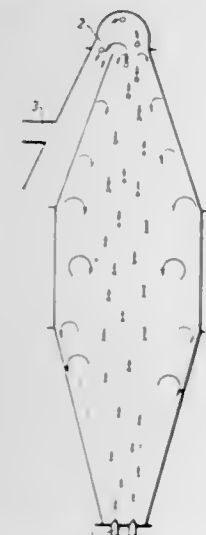
APPARATUS FOR PROCESSING POLYMER SOLUTIONS
Hildegard Schnoring, Wuppertal-Elberfeld; Herbert Nordt and Dietz Heine, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany a corporation of Germany
Original application June 23, 1967, Ser. No. 648,326, now abandoned. Divided and this application Oct. 25, 1968, Ser. No. 770,719

Claims priority, application Germany, Aug. 24, 1966 F 50,020

Int. Cl. B01d 41/10

U.S. Cl. 210—539

3 Claims



Apparatus for separating a polymer from solution in a

3,540,600

BOWLING BALL STAND

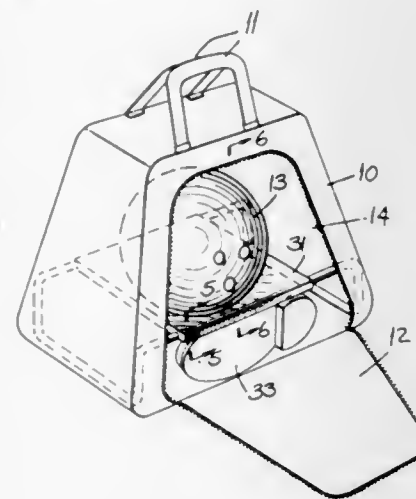
Edward Kaplan, Greenwich, Connecticut, assignor to Castle Sporting Goods, Inc., Yonkers, New York a corporation of New York

Continuation-in-part of application Ser. No. 724,037, April 25, 1968, now abandoned. This application July 30, 1969, Ser. No. 846,017

Int. Cl. A47f 7/00; A45c 11/00

U.S. Cl. 211—14

5 Claims



The present invention relates to a bowling ball stand for use within a carrying case. The stand comprises a resilient plastic platform which has provision for seating the ball, and a frame which supports the platform. In one embodiment, the frame serves to impart longitudinal strength to the platform. In a preferred embodiment, transverse strength is imparted to the platform by use of a pair of reinforcing members.

3,540,601

AUTO CLOTHING EXTENSION HANGER

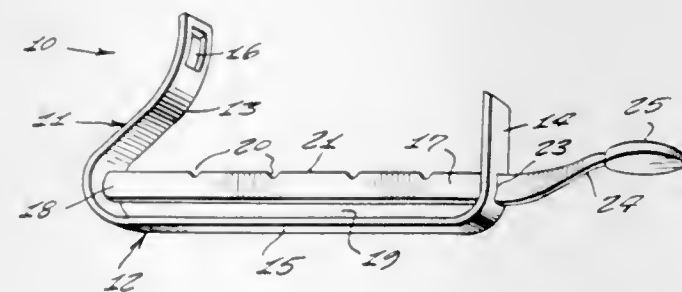
Leroy E. Hutchison, Highland Park, New Jersey (85 Coleman St., Edison, NJ 08817)

Filed Oct. 27, 1967, Ser. No. 678,673

Int. Cl. A47f 7/06

U.S. Cl. 211—32

1 Claim



An attachment to an automobile garment hanger, the attachment providing a means for supporting a relatively large number of garments, supported upon garment hangers, a relatively large number of neckties and belts as well as a hat.

3,540,602

RAILROAD COUPLERS

Robert B. Love, Park Forest, Illinois, assignor to AMSTED Industries Incorporated, Chicago, Illinois a corporation of Delaware

Continuation-in-part of application Ser. No. 747,778, July 18, 1968, now abandoned. This application June 16, 1969, Ser. No. 843,889

Int. Cl. B61g 9/00

U.S. Cl. 213—64

8 Claims



A standard A.A.R. (Association of American Railroads) type "F" coupler is improved in the pinhole area of the shank to reduce cracks and shank end failure. The pinhole is partially defined by the butt which has top and bottom straps and by a pair of sidewalls connected to the butt. Radial surfaces generated by 1 inch radii are tangential to the sidewalls and the straps. The straps are further blended into the upper and lower surfaces of the coupler and a concave bearing surface in the butt.

3,540,603

MILL LINER HANDLING MACHINE

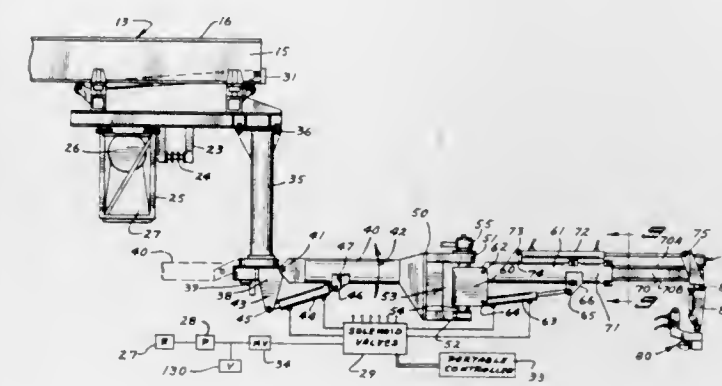
Karl E. Neumeier, Stillwater, Minnesota, assignor to Programmed & Remote Systems Corporation, St. Paul, Minnesota a corporation of Minnesota

Filed Sept. 23, 1968, Ser. No. 761,764

Int. Cl. B66c 1/66

U.S. Cl. 214—1

14 Claims



A machine for handling the heavy linings of mills, in particular taconite-grinding mills that have to be periodically changed after use. The machine can be utilized for a plurality of mills by removably mounting the machine on rails positioned adjacent the mill to be serviced. The machine has its base positioned outside of the mill, and has arms that will reach into all portions of the mill to remove and replace the liner sections. The arms can be folded back to make a compact unit for storage.

3,540,604

DEVICE FOR DISCHARGING LUMP OR VISCOUS MATERIAL, PARTICULARLY WOOD CHIPS, FROM THE LOWER PART OF AN UPRIGHT CONTAINER

Veikko Johannes Hyttinen, Eskilstuna, Sweden, assignor to Sunds Aktiebolag, Sundsbruk, Sundsvall, Sweden

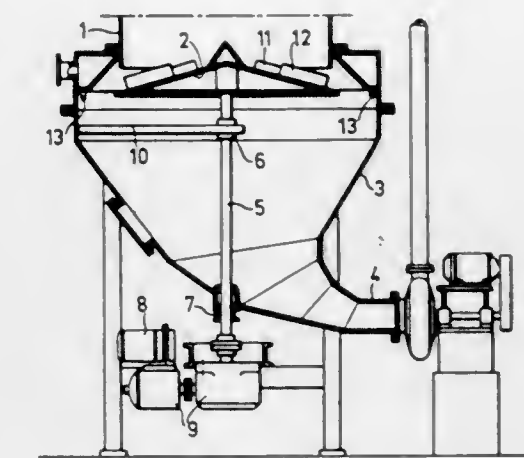
Filed Aug. 5, 1968, Ser. No. 750,233

Claims priority, application Sweden, Aug. 16, 1967, 11496/67

Int. Cl. B65g 65/48

U.S. Cl. 214—17

16 Claims



A device for discharging comminuted material such as wood chips or slurries thereof from the bottom of a container therefor in which the base of the container includes a rotating bottom element having vanes for moving material at the bottom of the container radially to the periphery of the rotating bottom element for discharge from the container and also in which means are provided for imparting movement to the material after it has been discharged from the container to facilitate further transportation of the material and to prevent clogging of the outlet.

3,540,605

OPERATING MECHANISM FOR VEHICLE DISCHARGE MEANS

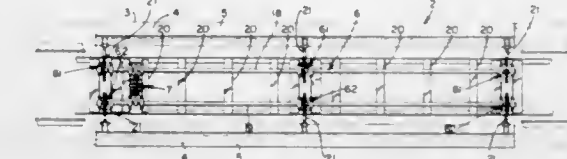
Ernest J. Nagy, Munster, Indiana, assignor to Pullman Incorporated, Chicago, Illinois a corporation of Delaware

Filed April 4, 1968, Ser. No. 718,892

Int. Cl. B65g 67/24

U.S. Cl. 214—63

18 Claims



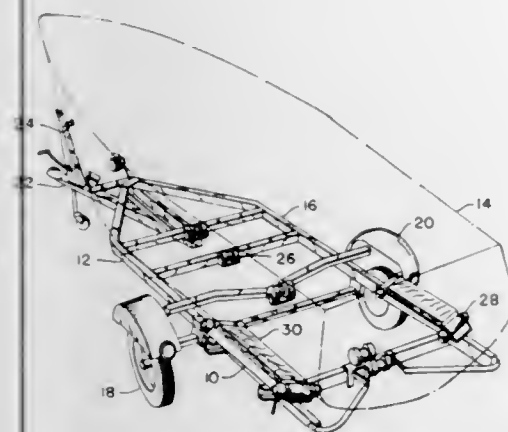
A railroad hopper door operating mechanism comprising car-mounted cam engaging wheel means engaging ground-mounted cam means, the wheel means having gear structure rotating about a transverse axis to drive a worm gear means which rotates further gear means about a longitudinal axis of a longitudinally extending door operating shaft connecting with flexible chainlike door opening arms which become rigid strut means in the extended position to hold doors open where the door opening and closing cam means is disposed beneath the hopper car and between the railroad tracks and wherein the cam engaging wheel means may be provided with a single wheel having clutch means for selective alternate opening and closing of the doors in either direction of car travel or may be provided with separate door opening wheels and door closing wheels and clutch means therefor.

3,540,606
ROLLER AND RETRACTABLE PAD BUNK STRUCTURE
 Eric W. Johnson, 2431 Pointe Tremble Road, Algonac,
 Michigan 48001

Filed April 15, 1968, Ser. No. 721,260
 Int. Cl. B60p 3/10

U.S. Cl. 214—84

9 Claims



Bunk structure for use with boat trailers or the like including both roller assemblies and a retractable pad structure. The pad structure is pivotally supported and cam means is provided in the form of a pair of arcuate inclined planes engageable with the pivot support for the pad structure for camming the pad structure into and out of engagement with an object supported on the roller assemblies.

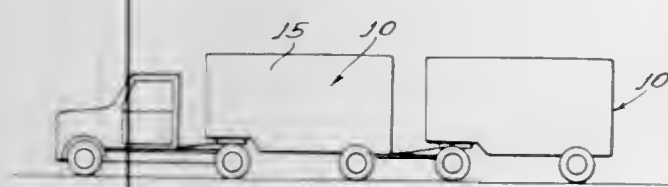
Means are also provided for maintaining the bunk structure at a predetermined angle with respect to the structure to which they are secured and for securing the bunk structure to a boat trailer or the like in different locations thereon with a minimum of difficulty.

3,540,607
CONVEYANCE WITH AN EXTENDABLE PLATFORM
 Richard M. Mandel, 604 Skokie Lane S., Glencoe, Illinois
 60022

Filed Aug. 5, 1968, Ser. No. 750,155
 Int. Cl. B60p 1/44

U.S. Cl. 214—85

8 Claims



A mechanism is provided for extending and retracting a platform for a conveyance. The platform is either retracted under the floor boards of the conveyance or is extended and is raised to the level of the floor boards by a novel power actuator, rack and gear means, and toggle link and cam arrangement. The operative parts of the mechanism can be disconnected easily from the conveyance and from the platform and removed therefrom for service and repair.

3,540,608
CORE RECEIVER ASSEMBLY
 Hugh A. Bourassa, University Heights; Arthur H. Emser,
 Mentor and Edward J. Ptak, Cleveland, Ohio, assignors to
 Acme-Cleveland Corporation, a corporation of Ohio

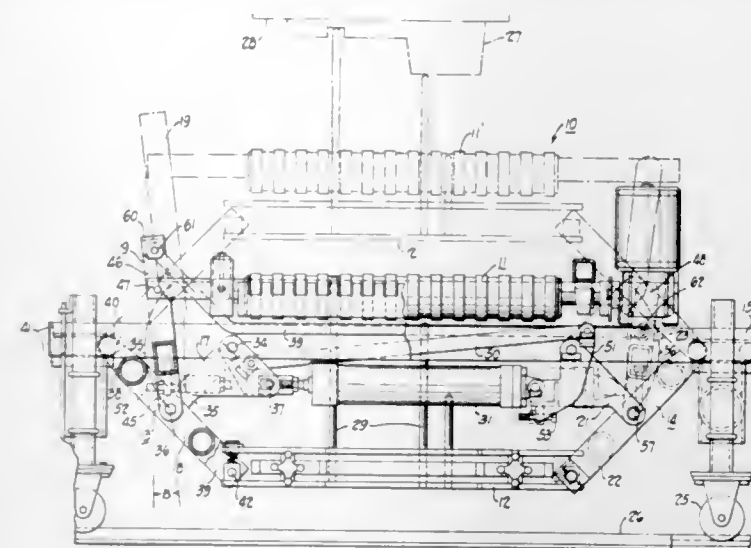
Filed June 10, 1968, Ser. No. 735,867
 Int. Cl. B66b 17/14; B65g 21/12

U.S. Cl. 214—89

7 Claims

The disclosure relates to an assembly to receive a core or mold from a foundry machine and to move it gently onto a conveyor. The core may be dropped by gravity onto a series of fingers held in a core receiving table and then this table drops downwardly to gently place the core on a ribbon type conveyor. The table moves downwardly about twice as far as

the conveyor to achieve this gentle transfer and to get both the conveyor and the table with its fingers out of the way of



the foundry machine and its succeeding cycles of operation. Both the core receiving table and the conveyor move along a vertical path with a common motive means for the two.

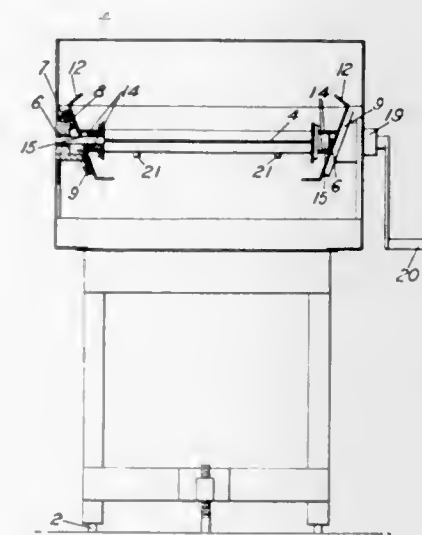
3,540,609
APPARATUS FOR THE TURNING-OVER TRAYS OF CONTAINERS
 Alfred LeFort, Essonne, France, assignor to Rhone-Poulenc,
 S. A., Paris, France a French body corporate

Filed Nov. 13, 1968, Ser. No. 775,288
 Claims priority, application France, Nov. 15, 1967, 128,322

Int. Cl. B65g 65/34

U.S. Cl. 214—312

6 Claims



The Specification describes an apparatus for turning over trays of bottles prior to insertion in a bottle filling machine. The lid of the tray is removed and the bottles, neck-down on the tray are placed so that they are supported by the lower flanges of a pair of channel section members which are mounted for rotation about inclined axes. Immediately above the bottoms of the bottles is a plate. Upon rotation of the plate about a horizontal axis by half a turn, the bottles stand on the plate and the two flanges are then sufficiently spaced apart to allow the tray to be removed.

3,540,610
BOAT TRAILER
 Andrew A. Pontani, 14728 Lassen St., Sepulveda, California
 91343

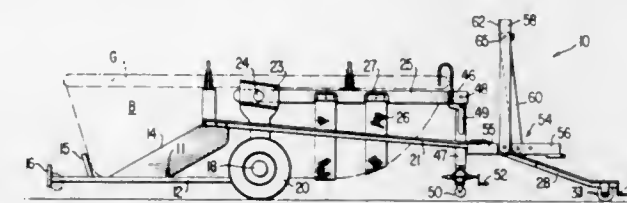
Filed Feb. 3, 1969, Ser. No. 796,007
 Int. Cl. B60p 3/10

U.S. Cl. 214—390

16 Claims

A boat trailer having a rear cradle frame and front peripheral U-frame rigid therewith which serves as a walkway. A nesting bar conforming to the bow shape of the boat

is mounted within the U-frame and is pivotally mounted for vertical swinging movement with respect thereto. Releasable



latch means secure the boat to the nesting bar and an extendible hitch arrangement couples the trailer to a prime mover.

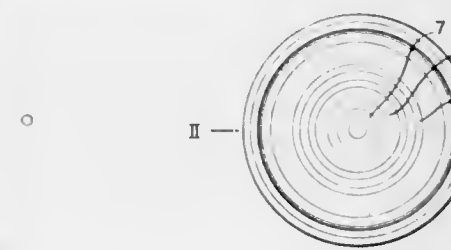
3,540,611
SEALING DISC FOR CROWN CLOSURES
 Isamu Nishikawa, Kyoto-shi, Japan, assignor to Mitsubishi
 Yuka Kabushiki Kaisha, Tokyo-to, Japan a part interest

Filed July 1, 1968, Ser. No. 741,419
 Claims priority, application Japan, July 10, 1967, 42/59499

Int. Cl. B65d 41/22

U.S. Cl. 215—39

4 Claims



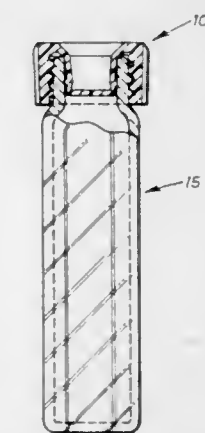
A sealing disc for use with a corrugated type cap closure for a bottle is made of nonrigid synthetic resin and has a thin, filmlike flange on its periphery. Projections are formed on the disc near its periphery for closely contacting the edge of the bottle opening and the adjacent surface of the cap closure. Additional annular projections are formed in the central region of the disc for contacting the inner surface of the cap. Upon capping the bottle, the filmlike flange is pressed into the internal recesses formed in the corrugated side portions of the cap and assists in sealing the bottle.

3,540,612
BOTTLE CAP AND BOTTLE COMBINATION
 William T. Brady, Indianapolis, Indiana, assignor to Bio-Dynamics Inc., Indianapolis, Indiana a corporation of Indiana

Filed Feb. 17, 1969, Ser. No. 799,707
 Int. Cl. B65d 41/04

U.S. Cl. 215—43

8 Claims



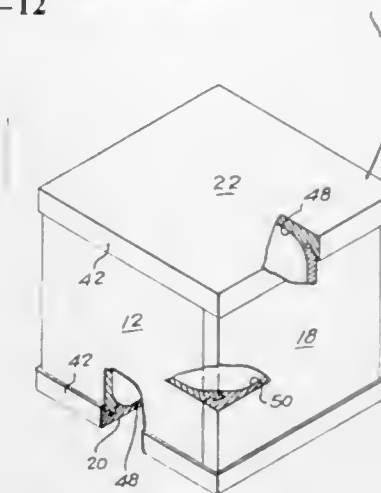
A bottle cap including an inner beaded tubular plug, a top wall and an outer tubular skirt having a screw thread on its inner wall. A frustoconical shaped section joins the top wall and the inner tubular plug, and along with the bead forms a seal on the inside of said bottle.

3,540,613
DEMOUNTABLE AND REUSABLE SHIPPING CARTON
 William E. Hudson, Jr., 245 McAuley Drive, Vicksburg,
 Mississippi

Filed Aug. 16, 1968, Ser. No. 753,213
 Int. Cl. B65d 9/12, 9/32

U.S. Cl. 217—12

1 Claim



A rapidly assembled and demountable shipping carton comprising a plurality of similar wall forming panels, each of said panels having a groove formed adjacent one vertical edge and a tongue at the opposite edge, each of the horizontal edges of such panels having a medial securing means formed thereon and extending less than the full length of such panel; a pair of top and bottom forming members each having a peripheral flange to overlap said wall forming panels when the latter are assembled in square or rectangular hollow form, each of said identical top and bottom forming members having, along each edge, a securing means to mate with the medial securing means of said wall forming panels; all of said parts, when assembled, forming a closed container of square or rectangular shape which may be sealed in closed form by application of a tie such as pressure sensitive tape, gummed tape, or other means which will be readily suggested for this purpose.

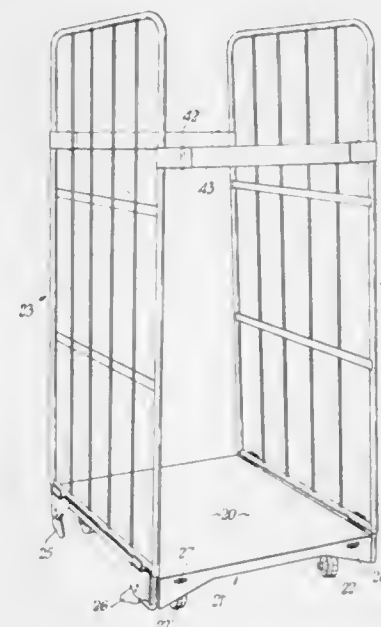
3,540,614
LOAD CARRYING CONTAINER
 John D. F. Flagg, Wells, Somerset, England, assignor to
 Clares (Engineering) Limited, Stalybridge, Cheshire, Eng-
 land, a British company

Filed Nov. 12, 1968, Ser. No. 774,762
 Claims priority, application Great Britain, Nov. 16, 1967,
 52299/67

Int. Cl. B65d 7/32

U.S. Cl. 220—4

13 Claims



A container such as a pallet comprising a deck-frame with a vertical side face and a tubular wall for removable engage-

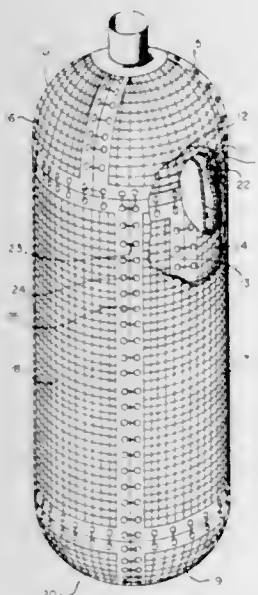
ment with the side face, two horizontally spaced shoulders and two vertically spaced abutments on the sideface, a vertically-extending lug spaced transversely from the side face by the thickness of the wall, a pivotal member mounted on the side face so as to be rotatable about an axis normal to the side face, the lug and pivotal member being spaced vertically, the wall being formed with parts which substantially mate with the shoulders and abutments and the arrangement being such that, in one position of the pivotal member, the wall can be placed between the lug and the side face in mating engagement with the shoulders and abutments, after which the pivotal member can be pivoted to a position in which it engages the outside of the wall so as to lock the wall against the side face.

3,540,615 PANELIZED HIGH-PERFORMANCE MULTILAYER INSULATION

T. O. Paine, Acting Administrator of the National Aeronautics and Space Administration with Respect to an Invention of; James M. Stuckey, Decatur, Alabama; Ralph A. Burkley, Cuyahoga Falls, Ohio and Clem B. Shriver, Clinton, Ohio
Filed Jan. 30, 1969, Ser. No. 795,217
Int. Cl. B65d 25/18

U.S. Cl. 220-9

9 Claims

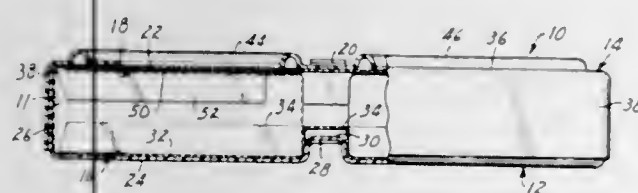


An insulation structure for cryogenic containers comprising a plurality of prefabricated panels conforming to the shape of the container. The panels are secured together in edge-to-edge relationship to form at least two panel layers covering the container, with the panel edges in the respective layers being overlapped. Each of the panels is made up of multiple layers of metallized film radiation shields interleaved with layers of low conductivity foam sheet. The outer panel layer is covered with resin-impregnated fiberglass cloth to provide micrometeoroid protection.

**3,540,616
FILM CARTRIDGE SHIPPING CONTAINER**
Harold F. Thompson, St. Paul, Minnesota, assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minnesota a corporation of Delaware
Filed Dec. 23, 1968, Ser. No. 786,257
Int. Cl. B65d 85/67, 25/10

U.S. Cl. 220-20

2 Claims



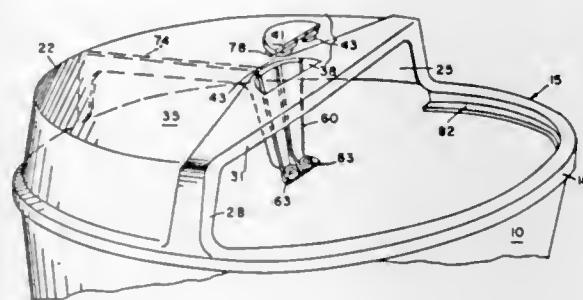
A tough polymeric film cartridge shipping-container having ribbed floor pieces bonded to the end walls of telescopic

cally mating traylike body and cover pieces to strengthen the container and to divide it into compartments. The container having a belt surrounding the body and cover pieces within an inset channel to hold the container together during shipment, and having a transparent window behind which an address label may be protectively retained.

**3,540,617
RECEPTACLE COVER DEVICE**
Anthony J. Iorio, North Providence, Rhode Island, assignor to United Sterilite Corporation, Townsend, Massachusetts a corporation of Massachusetts
Filed Jan. 21, 1969, Ser. No. 797,342
Int. Cl. B65d 43/1665, 51/10

U.S. Cl. 220-33

12 Claims

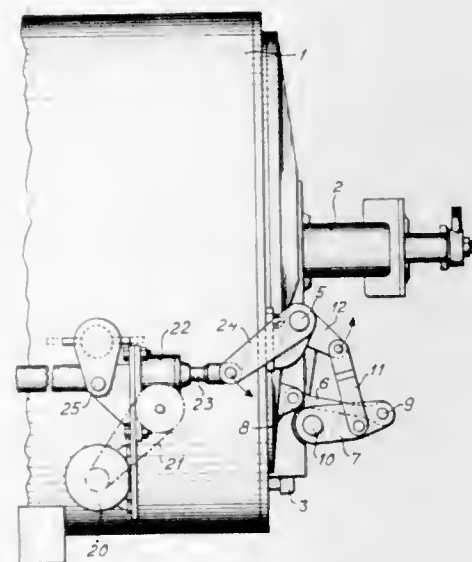


A cover device for a waste receptacle or the like, made of molded plastic and having a housing and pivotally mounted cover members rotative essentially in a horizontal plane into and out of the housing. A pair of such cover members are provided, each mounted on a slightly tilted axis so as to be biased out of the housing to closing position, and having engageable sides to effect full closure of a receptacle. The covers are swung by manual force into the housing by a camming action, effecting horizontal thrust, when a hand or object is pushed downwardly against the cover members at the plane of engagement.

**3,540,618
MANEUVERING MECHANISM FOR THE OUTLET
COVER OF A DRY-MELTER**
Jakob Jakobsen Lildal, Aage Beksvæg, Randers, Denmark
Filed Sept. 5, 1968, Ser. No. 757,726
Claims priority, application Denmark, Sept. 5, 1967, 4439/67
Int. Cl. B65d 43/26; A47j 27/24

U.S. Cl. 220-36

3 Claims



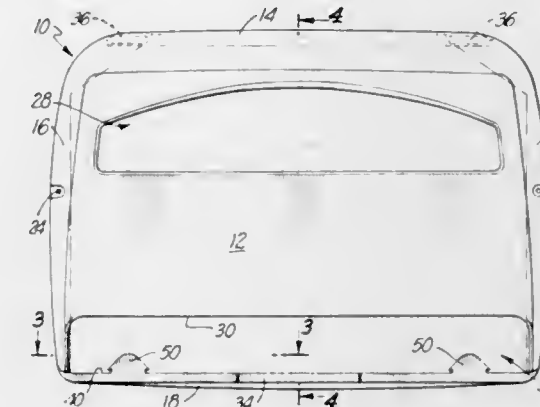
A maneuvering mechanism for the outlet cover of a dry-melter, wherein the cover is pivotally mounted at the top edge thereof. A pair of pivotal, mutually connected arms are provided at both sides of the cover, and the ends of the arms opposite the point of rotation are pivotally mounted on the boiler wall and the cover so that the arms of each pair, when the cover is closed, form a small angle with each other. Each of the arms mounted on the cover close to the point of rotation is pivotally connected to a third arm which, at the op-

posite end, is pivotally connected to a fourth arm fixed to a horizontal bar. The horizontal bar is pivotally mounted on the boiler wall above the cover and, at one end thereof, is connected to a power element for maneuvering of the cover.

**3,540,619
DISPENSER FOR TOILET SEAT COVERS AND SEAT
COVER PACKAGE IN COMBINATION THEREWITH**
Jack L. Perrin, Los Angeles and Council A. Tucker, Glendale, California, assignors to Towlsaver, Inc., Los Angeles, California a corporation of California
Filed May 29, 1968, Ser. No. 733,113
Int. Cl. A47k 10/24

U.S. Cl. 221-46

18 Claims

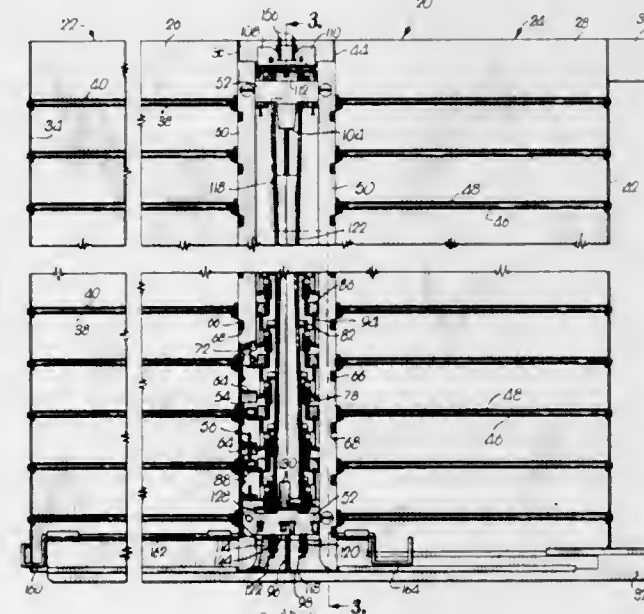


A dispenser has a downwardly and forwardly opening filler slot with upward tabs adjacent a rearward edge thereof. A package of seat covers has tab openings in a lower edge adapted for receiving the dispenser tabs upwardly therethrough and into the package when the package is inserted upwardly through the dispenser filler slot, thereby positioning the package for removal of the seat covers through aligned package and dispenser front dispensing openings. The dispenser may be formed sufficiently deep to accommodate two packages simultaneously, the forward package engaged by the tabs and when so formed, filler bars can be installed to convert the dispenser for accommodating only a single package.

**3,540,620
DOUBLE-DEPTH DROP-SHELF DISPENSING
MECHANISM**
Elmer Bradley Offutt, Independence, Missouri, assignor to The Vendo Company, Kansas City, Missouri a corporation of Missouri
Filed Jan. 16, 1968, Ser. No. 698,208
Int. Cl. G07f 11/06

U.S. Cl. 221-90

17 Claims



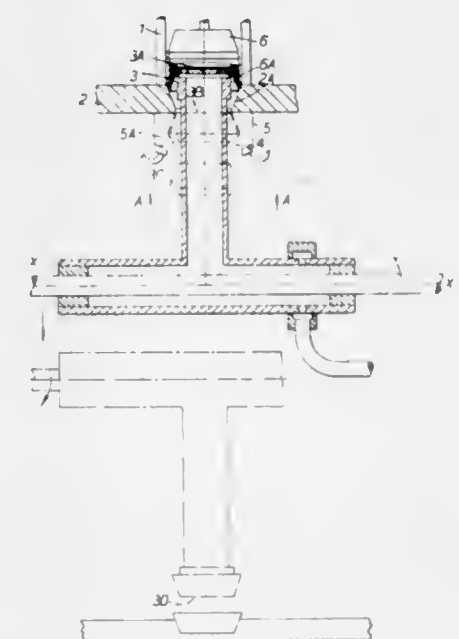
A vending machine of the type having side hinged, drop-shelf dispensing assemblies is provided with shelf releasing

mechanisms and control structure, including a common, vertically reciprocable actuating bar, which permits a double-depth arrangement of a number of side-by-side pairs of shelf columns. The releasing mechanisms permit the use of a single bar between the front and rear stack of shelves of each pair and operable such that the force which effects release of the mechanisms is in the same direction as gravity. The shelves are released consecutively from the bottom to the top of one stack and thence from the bottom to the top of the other stack. Switching apparatus permits initial setting for vending to commence either at the bottom of the front stack or the bottom of the rear stack.

**3,540,621
MEANS FOR WITHDRAWING CUPS FROM A NESTED
STACK**
Bernard J. Pilliner, 75 Brownhill Road, Chandler's Ford, Hampshire, England
Filed Aug. 9, 1968, Ser. No. 751,579
Claims priority, application Great Britain, Aug. 23, 1967, 38931/67
Int. Cl. B23q 7/04

U.S. Cl. 221-211

5 Claims

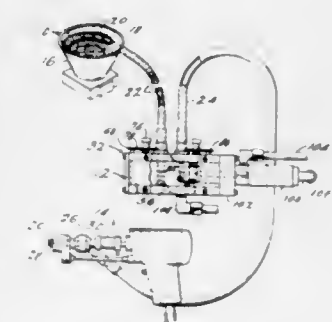


Apparatus for withdrawing cups singly from one end of a nested stack of cups of flexible sheet material including a suction head which is movable into the stack and then outwardly with the end cup adhering to the stack. In its outward movement the suction head draws a cup through a tapering aperture or equivalent structure which progressively deforms the edge of the cup to facilitate its particular separation from an adjacent cup still adhering to it. Air blast means may also be provided to facilitate the separation.

**3,540,622
PART-FEEDING APPARATUS**
Steve Spisak, Elyria, Ohio, assignor, by mesne assignments, to TRW Inc., Cleveland, Ohio a corporation of Ohio.
Filed June 13, 1968, Ser. No. 736,676
Int. Cl. B65h 5/00

U.S. Cl. 221-233

10 Claims



An escapement for fastener-feeding apparatus is capable of feeding a number of different types and sizes of fasteners.

and specifically welding studs, without requiring complicated mechanism. The escapement also has a unique interlock which prevents studs from being accidentally propelled when the feed tube through which the studs are supplied to a welding tool is disconnected from the escapement.

3,540,623

MULTI-PRODUCT DISPENSER WITH CO-DISPENSING VALVING MEANS

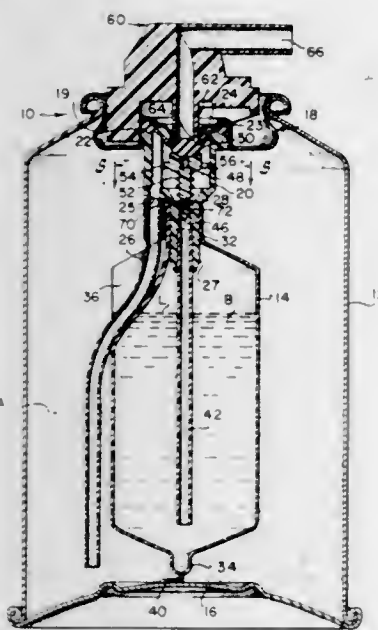
John M. Wittke, Westfield; Joseph F. Simmons, Middlesex and Joseph Pereira, Livingston, New Jersey, assignors, by mesne assignments, to Aerosol Devices and Systems, Inc., a corporation of New Jersey

Filed Feb. 26, 1968, Ser. No. 708,313

Int. Cl. B65d 35/22, 35/28

U.S. Cl. 222—94

16 Claims



A multi-product dispenser for the simultaneous pressure dispensing and thorough blending of two separately contained fluid products of diverse viscosities wherein a flexible inner product container is associated with a blending valve assembly which provides unique ease of fabrication as well as consumer convenience in achieving upright as well as inverted dispensing of chemically reactive products such as those which produce hot shaving lather.

3,540,624

AEROSOL PACKAGE HAVING A COMBINED ACTUATOR AND OVERCAP CONSTRUCTION AND METHOD FOR MAKING SAID CONSTRUCTION

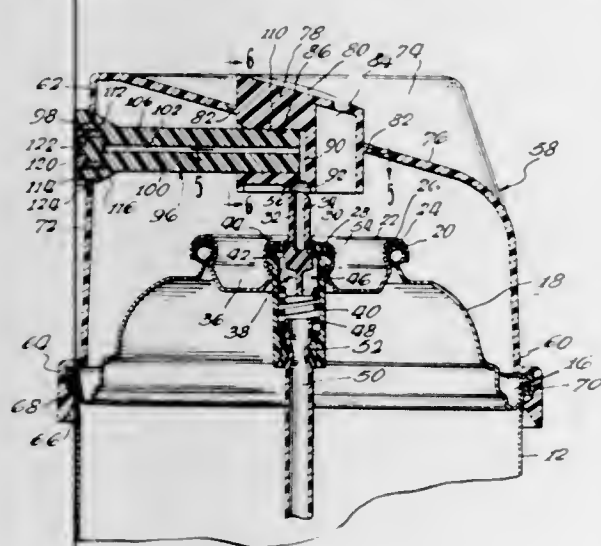
Edward H. Green, 711 Army Trail Road, Addison, Illinois 60101

Filed Dec. 9, 1968, Ser. No. 782,317

Int. Cl. B67b 5/00

U.S. Cl. 222—108

19 Claims



An overcap for an aerosol package having a stem valve with a rounded end stem protruding upwardly from the cen-

tral boss that is coaxial with the conventional well at the top of the package, the overcap being snapped onto the exterior crimped joint of the canister at its widest diameter. The overcap having a central pushbutton that is normally spaced above the rounded stem end so as not normally to be engaged therewith and the pushbutton having a concave recess in its bottom end forming the entrance to the center passageway of the pushbutton so that when moved into engagement with the stem the recess and stem end will form a cooperating connection. The pushbutton is molded integrally with the top wall of the overcap body and held in properly oriented position by means of small frangible tabs or webs so that during assembly of a conduit member to the overcap and a nosepiece to the conduit member, all of the parts are properly aligned. The first use of the aerosol package by pressing the pushbutton downward will break the pushbutton away from the overcap body due to fracture of the fragile webs or tabs, after which the pushbutton is supported in its proper poised position only by the physical connection thereof through the conduit member with the side wall of the overcap body. A laterally opening socket is molded into the pushbutton and an opening is provided in the side wall of the overcap body, the socket and side wall opening being substantially aligned. During manufacture, the conduit member has its smaller end passed through the side wall opening, is moved radially inward of the overcap body into the entrance of the socket and then is forced into the socket until it bottoms, there being an enlarged head opposite the smaller end which frictionally locks into connection with the side wall of the overcap body. An external metering or atomizing orifice is provided in the head of the conduit member, either by virtue of the construction of the member or through the later introduction of a suitable nosepiece, and a bore in the conduit member connects with the center passageway of the pushbutton. This in turn may be connected with the hollow center bore of the stem when the pushbutton is depressed so that pressurized product released by the valve will be expelled at the external orifice. The flexibility and resilience of the conduit member keeps the pushbutton normally spaced above the stem end so that after a use of the aerosol package the pushbutton will rise and any dribble or oozing from the pushbutton or the stem will flow over the boss into the well.

3,540,625

SOAP SUDS OR LATHER DISPENSING DEVICE

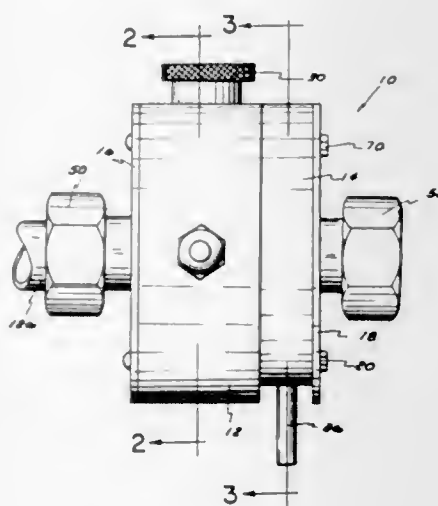
Donald M. Lambe, 579 Puritan Ave., Birmingham, Michigan 48009

Filed Dec. 3, 1968, Ser. No. 780,667

Int. Cl. B67d 5/60, 5/64

U.S. Cl. 222—133

18 Claims



A soap suds or lather dispensing device comprised of a container adapted to be connected to a water supply and having an outlet, the container being filled with liquid soap and having a separate housing contained therein defining a mixing and foam producing chamber connected to the liquid soap supply by means of a valve mechanism operable by manual actuation of a lever extending out of the container to charge the chamber with a preselected quantity of soap.

3,540,626

RESIN MIXER AND DISPENSER

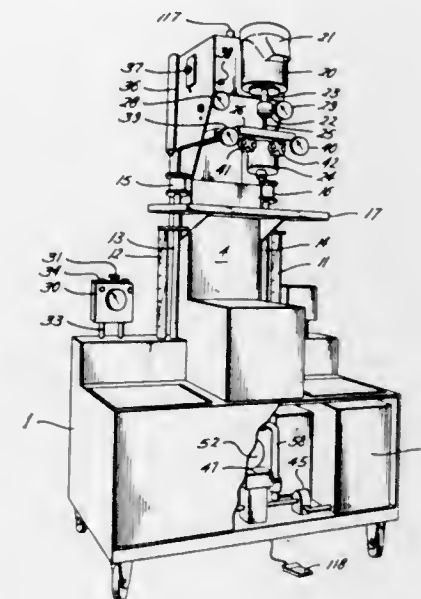
William J. Eberle, 1013 Slocum St., Dallas, Texas 75207

Filed Jan. 19, 1968, Ser. No. 699,107

Int. Cl. B67d 5/62

U.S. Cl. 222—146

17 Claims



A device for mixing and dispensing liquid resin and catalyst in predetermined quantities for filling battery case tops or other like devices wherein the contents of, and the connections thereon, are encased and sealed in solidified resin material.

3,540,627

DRAIN SEAL FOR METAL RECEPTACLES

William V. Armstead, 10212 E. 8th, Spokane, Washington

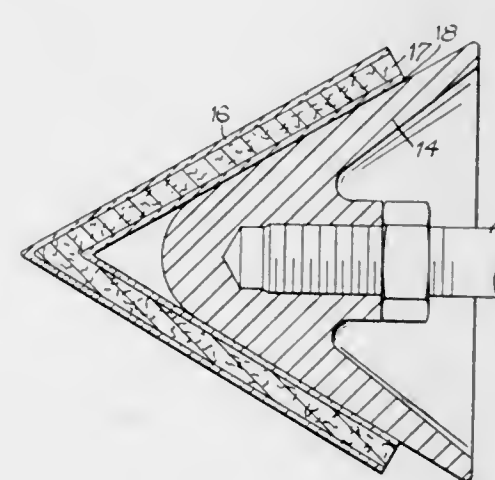
and William M. Peak, Box 6, Post Falls, Idaho

Filed March 14, 1968, Ser. No. 713,025

Int. Cl. B67d 3/00; C21b 7/12

U.S. Cl. 222—146

3 Claims



An apparatus for sealing the flow of metal from a molten metal receptacle using a conical plug fitted within a complementary orifice of a tapping block. A resilient refractory fiber pad covers the plug and a mat of glass fiber is interposed between the plug and the pad to provide economical backing for the relatively expensive pad. In one embodiment, the plug is hollow and cooling air is provided about the line of contact between the plug and orifice.

3,540,628

DISPENSER FOR DISPENSING A PREDETERMINED QUALITY OF A COSMETIC PREPARATION

Armin Trosch, Baar, Switzerland, assignor to Chandor S.A., Baar, Switzerland a corporation of Switzerland

Filed May 8, 1968, Ser. No. 727,507

Claims priority application Switzerland, May 24, 1967, 7.284/67

Int. Cl. B67d 5/06

U.S. Cl. 222—183

1 Claim



A dispenser comprising a resilient outer container including a yieldable jacket, a compressible exchangeable container adapted to hold a predetermined amount of a cosmetic preparation therein positioned in the outer container, adjacent the compressible jacket, and the jacket including a bottom portion having a bottom opening including screw threads adjacent thereto, the exchangeable cartridge adapted to be inserted and removed, respectively, through the bottom opening. A screw threaded bottom member is removably screwed into the bottom opening and includes a yieldable support part on which the exchangeable container is supported, and the support part comprises a long cylindrical neck resiliently pressing the exchangeable container against the jacket.

3,540,629

BEVERAGE DISPENSING SYSTEM

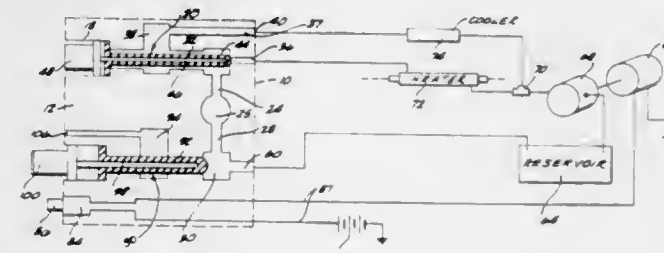
William I. Ballentine, Jr., Palm Springs, California, assignor, by mesne assignments, to Torginol Industries, Inc., Las Vegas, Nevada a corporation of Nevada

Filed Jan. 15, 1969, Ser. No. 791,338

Int. Cl. B67d 5/62

U.S. Cl. 222—146

7 Claims



A beverage dispensing system is described which is particularly adapted for use in a vehicle such as an automobile. A separate dispensing head is provided which includes all of the various controls that are necessary to dispense beverages. All other parts of the system are remotely located, and are coupled to the dispensing head by means of flexible conduits and cable, hence the dispensing head may be conveniently stored inside the glove compartment of the automobile and removed for use without disturbing its connections to the remainder of the apparatus. Provision is made for either heating or cooling the liquid before it is dispensed; and the liquid may be recirculated to the reservoir through a temperature sensing device which is felt by the operator to determine that the liquid is at the desired temperature before he starts to dispense it.

3,540,630

PASTE, CREAM AND LIQUID DISPENSING APPARATUS WHICH IS LOCKABLE AGAINST TAMPERING

Richard Brown and David Graham Lacey, Chapeltown, Sheffield, England, assignors to Newton, Chambers & Company, Limited, Sheffield, England a British company

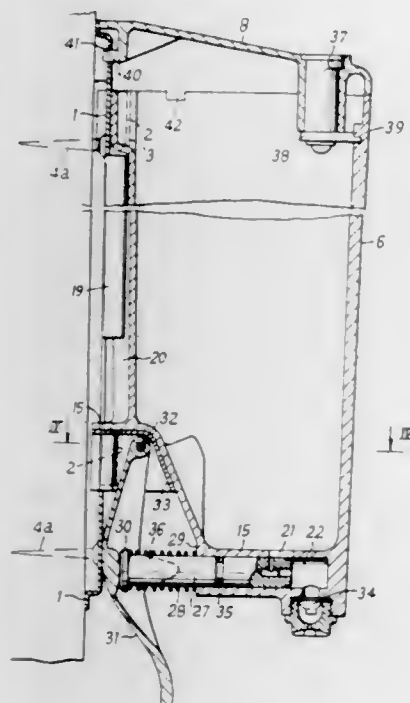
Filed May 24, 1968, Ser. No. 731,977

Claims priority, application Great Britain, June 29, 1967, 30154/67

Int. Cl. B67d 5/32

U.S. Cl. 222-153

4 Claims



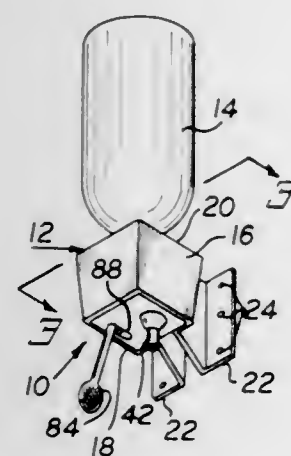
An apparatus for dispensing fluid substances comprises a mounting plate for attachment to a wall and a storage receptacle, associated with a charge-dispensing mechanism for the substance, removably supported by the mounting plate. The storage receptacle is provided with a lockable lid and cannot be removed from the mounting plate when the lid is locked, whereas the lid may be unlocked and it alone removed to enable the storage receptacle to be recharged.

3,540,631
DISPENSERHelmuth T. Schmidt, 109 Oak St., Amityville, New York
Continuation-in-part of application Ser. No. 659,542, Aug. 9, 1967, now abandoned. This application Nov. 8, 1968, Ser. No. 774,441

Int. Cl. B67d 5/06

U.S. Cl. 222-181

5 Claims



A dispenser for delivering fluids from a container including a valve mechanism comprising a rotatable member having a channel adapted to communicate upon rotation between inlet and outlet passages including means for rotating the

member and for limiting rotation within adjustable predetermined limits.

3,540,632

FIXEDLY DIRECTED HAND OPERATED STRIPING MACHINE WITH ATTACHMENT FOR FACILITATING MANEUVERABILITY

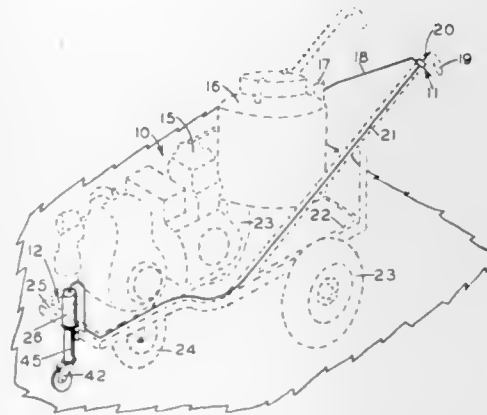
Andrew J. Clingan, Bowie County, Texas (Rte 10 Box 814 Texarkana, Tex. 75501)

Filed Dec. 16, 1968, Ser. No. 784,548

Int. Cl. A01c 15/00

U.S. Cl. 222-178

8 Claims



A hand operated paint striping machine having wheels journaled for rotation in coextensive parallel planes and utilizing compressed air for paint application has a pneumatic lift secured at its forward end. The lift has a swivelled caster at its lower end to facilitate manipulation of the machine, controlled from a valve on the handle of the machine.

3,540,633

APPARATUS FOR DISCHARGING PARTICULATE MATERIAL

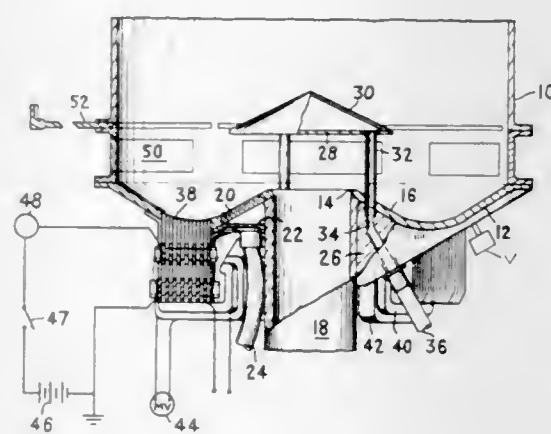
Hans A. Eckhardt, 55 Crescent Bend, Allendale, New Jersey 07401

Filed Jan. 11, 1968, Ser. No. 697,081

Int. Cl. B65g 3/12

U.S. Cl. 222-195

9 Claims



An apparatus for discharging powder, flake, and other particulate materials has a bottom with an interior surface ascending to a central opening. A spreader above that opening has a larger radial width than that opening. The bottom and the spreader are provided with means for introducing air into the particulate material contained in the apparatus. Foreign particles are forced to the bottom and are monitored by electrical and magnetic detection means.

3,540,634

TILT ACTUATOR FOR PRESSURIZED SPRAY DISPENSER

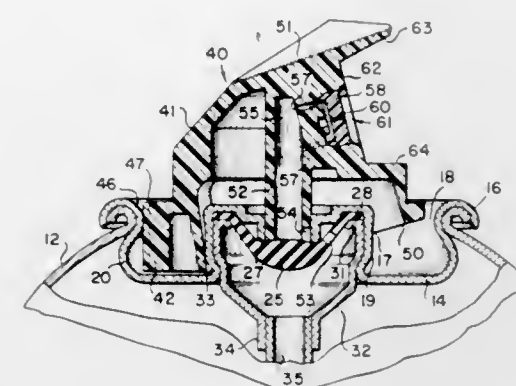
John G. Mayercik, Madison Apts., 423, Rellim Drive, Old Bridge, New Jersey 08857

Filed Feb. 23, 1968, Ser. No. 707,521

Int. Cl. B65d 84/114

U.S. Cl. 222-402.21

10 Claims



Means for dispensing a fluid product in a spray or mist from a supply of the product in a container and under pressure, wherein a fully controllable but compact actuator is easily mounted upon the container for vertical tilting valve-opening movement about an axis disposed transversely through the actuator.

3,540,635

FLUIDS DISPENSING VALVE WITH FLEXIBLE DIAPHRAGM FOR NOZZLE

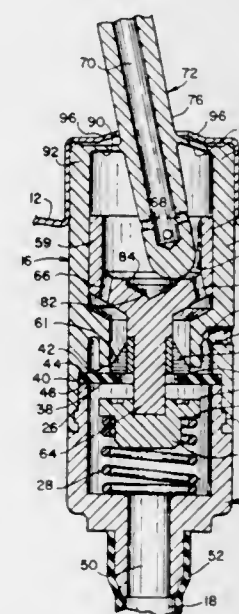
Samuel Prussin, Los Angeles and Jimmie L. Mason, Hacienda Heights, California, assignors to Dart Industries Inc., Los Angeles, California a corporation of Delaware

Filed Oct. 2, 1968, Ser. No. 764,529

Int. Cl. B65d 83/00

U.S. Cl. 222-402.21

5 Claims



A fluids dispensing valve disposed to dispense fluids from an aerosol container and having a housing supported in a conventional container cap and a relatively movable fluids dispensing nozzle extending from the housing and outwardly through the cap; said fluid dispensing nozzle having an integral flexible diaphragm sealingly fixed relative to the cap and the valve housing and adapted to provide a seal while also maintaining a flexible connection of the fluid dispensing nozzle and the container cap and valve housing.

This invention relates to a fluids dispensing valve, and more particularly, to a fluids dispensing valve for use with aerosol containers, wherein a fluids dispensing nozzle is provided with an integral diaphragm serving as a flexible support for the nozzle to allow movement thereof for actuating an aerosol valve, and at the same time, to provide a seal around

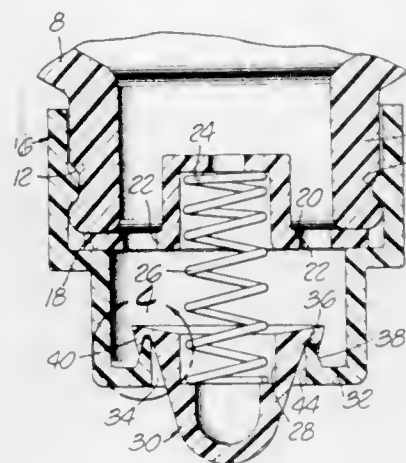
the perimeter of the nozzle to prevent leakage of fluid therearound when the nozzle is used to actuate said fluids dispensing valve.

3,540,636
DISPENSING VALVEFrank Dvoracek, 741 Salem St., Glendale, California
Filed May 3, 1968, Ser. No. 726,618

Int. Cl. B65d 5/72

U.S. Cl. 222-501

6 Claims



A dispensing valve for liquid soaps or the like comprising a valve body having a downwardly disposed outlet in part defined by a radially outwardly facing frusto-conical valve seat; a valve element of generally inverted cone shape having its base in the valve body and its apex disposed below the outlet in said valve body, the base of the valve element having a downwardly directed skirt or flange, the inner wall of which comprises a seating surface adapted to engage the valve seat at an acute angle and the valve seat flange, or the seating flange or skirt of the body, being of a slightly resilient material, preferably plastic, to provide a wiping seating action of the seating surface against the seat.

3,540,637

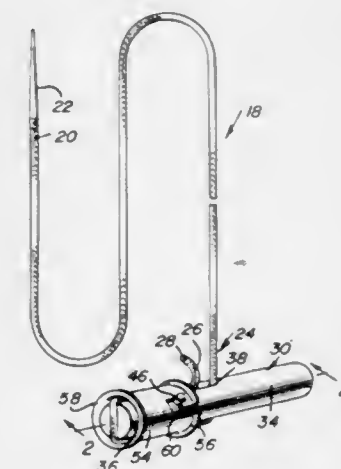
FISH STRINGER WITH RELEASABLE CROSSBAR
Dink W. Ezell, 121 Wall St., Warner Robins and William E. Russ, 626 Lawson Drive, Perry, Georgia

Filed March 12, 1968, Ser. No. 712,502

Int. Cl. A01k 65/00

U.S. Cl. 224-7

4 Claims



The stringers shown are all characterized by a limit stop, more particularly, a dowel-type crossbar having a centralized hole through which the lower end of the nylon or equivalent string is threaded upwardly. The upper end is equipped with the customary impaling needle. Four similar but comparably distinct retainers are herein disclosed for releasably connecting the crossbar. When the crossbar is unfastened the string fish are freed and drop into a container without handling them. Each embodiment reveals unique quickly releasable crossbar coupling means.

3,540,638

REGISTRATION GAUGE FOR A WEB BURSTER

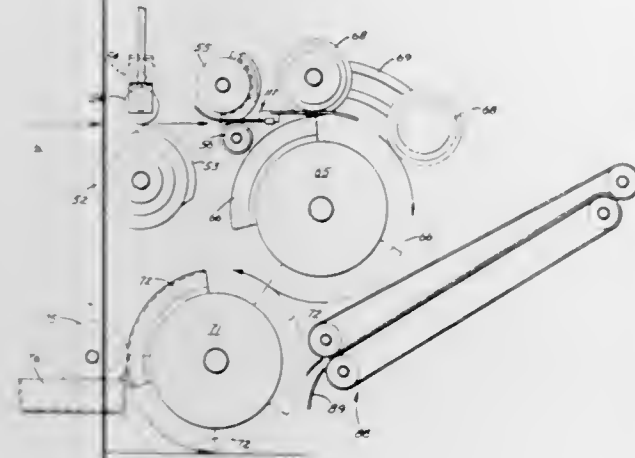
David H. Hamilton, North Madison and John J. Miller, Euclid, Ohio, assignors to Addressograph Multigraph Corporation, Cleveland, Ohio a corporation of Delaware

Filed Jan. 17, 1969, Ser. No. 791,987

Int. Cl. B26f 3/02

U.S. Cl. 225—96

5 Claims



A machine is provided which perforates along a web between columns of information, e.g. addresses, and thereafter cuts a strip off the end of the sheet, taking only one address from each column to produce a strip containing a series of address units connected by perforated areas. Finally, the strip is pulled to burst it progressively, unit-by-unit, into labels or heat transfer printing masters as the case may be, and each unit of information is applied to an item such as a magazine or newspaper moving along a conveyor. The same machine is also capable of adjustment so as to cut and apply units from a single column web.

3,540,639

DEGATING FIXTURE

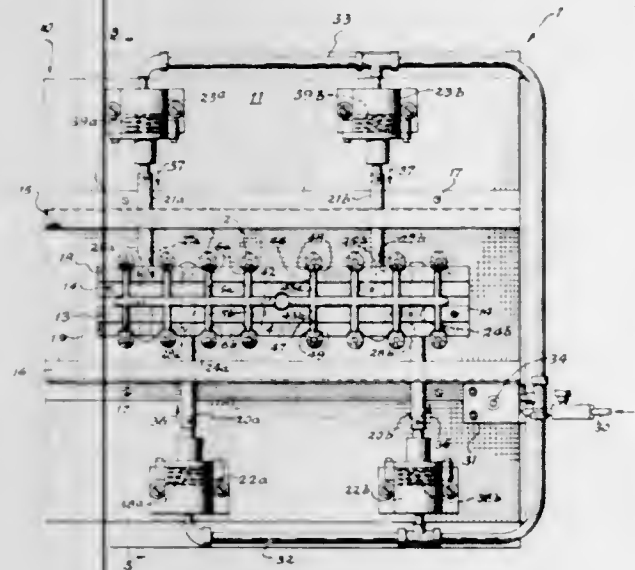
Marshall A. Carlson, Ashville and Norbert L. Nelson, Jamestown, New York, assignors to AVM Corporation, Jamestown, New York

Filed Feb. 28, 1969, Ser. No. 803,324

Int. Cl. B26f 3/00

U.S. Cl. 225—97

10 Claims



A fixture for simultaneously degating a plurality of molded plastic articles connected by gate portions to a common runner system, including means to constrain the runner system and means to translate the articles with respect thereto, whereby the articles are separated by tension failure of the gate portions.

3,540,640

CUTTING SYSTEM MEANS FOR SEVERING A PIPE

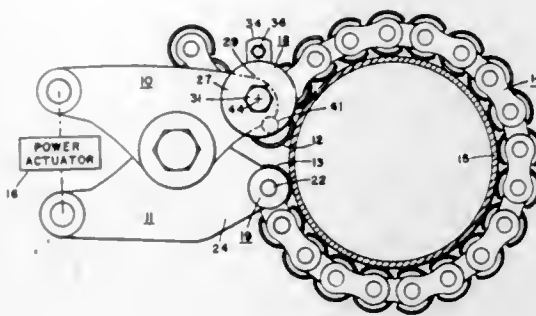
Sanford E. Coblitz, 567 Knollwood Ave., Ashtabula, Ohio 44004

Filed Jan. 24, 1969, Ser. No. 793,802

Int. Cl. B26f 3/00

U.S. Cl. 225—103

9 Claims



Cutting system means for severing a pipe by the use of at least first and second cutting elements and including a cutting chain disposed to be squeeze-drawn around said pipe and provided with a plurality of cutting elements for cutting into the wall of the pipe. Stop limit means are provided to limit the extent that said first and second cutting elements may cut into the wall of the pipe.

3,540,641

WEB ACCUMULATOR

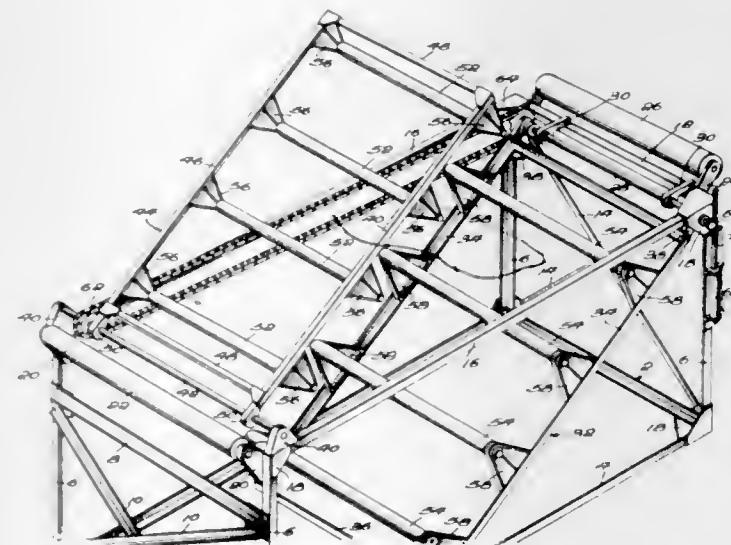
George F. Besnyo, Towson, Maryland, assignor to Celanese Corporation, New York, New York a corporation of Delaware

Filed Nov. 21, 1968, Ser. No. 777,781

Int. Cl. B65h 23/10

U.S. Cl. 226—1

11 Claims



A web accumulator for maintaining approximately uniform tension in an advancing web. The accumulator has a pair of opposed arms which are mounted for swinging movement at opposite ends of a frame. The arms each have a plurality of rollers at spaced intervals. The web is conducted alternately over a roll at the outer end of one arm and a roll at the inner end of the other arm and progressively back and forth over the rollers of both arms and then off of the frame at the opposite end. The arms swing in coordinated relation to provide wide variation of spacing. A power device applying torque to the arms causes the arms to swing when the tension in the web changes.

3,540,642

TENSION CONTROL APPARATUS FOR CONDUIT LAYING AND RETRIEVAL

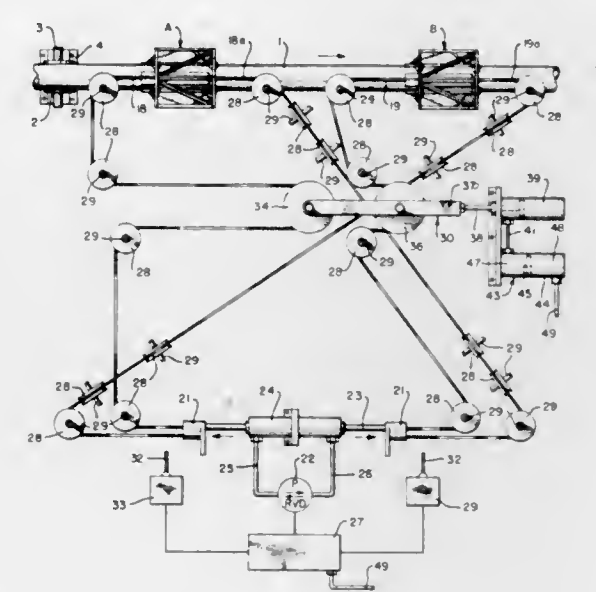
Peter S. Riegel, Columbus, Ohio, assignor to Columbia Gas System Service Corporation, New York, New York a corporation of Delaware

Filed Nov. 7, 1968, Ser. No. 774,130

Int. Cl. B65h 23/18

U.S. Cl. 226—39

5 Claims



This disclosure relates to an apparatus for controlling the tension of a conduit during its laying or retrieval between a marine platform and an underwater surface. Gripping units having shoes for frictionally gripping the conduit are held within a range of positions relative to the platform using a cable system and these units are positioned in tandem so that while one unit grips the conduit the other unit may move along the conduit to take a grip on the conduit at a different position relative to the marine platform. Shoes are moved against the conduit by resilient members and withdrawn by hydraulic units.

3,540,643

THERMISTOR SENSING OF TAPE POSITION

David A. Longland, Ascot, England, assignor to International Computers and Tabulators Limited, Putney, London, England a British company

Filed May 13, 1968, Ser. No. 728,647

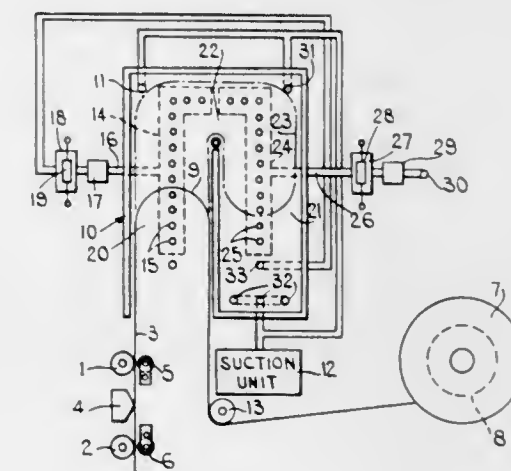
Claims priority, application Great Britain, May 16, 1967,

22,616/67

Int. Cl. B65h 25/08

U.S. Cl. 226—97

4 Claims



In a tape handler system, tape loop position varies an air flow through a tape loop reservoir. The quantity of air flow is detected by a thermistor which provides an electrical output signal representative of tape loop position. The thermistor is employed in an electrical bridge arrangement while a power

supply connected to the bridge is varied to maintain the resistance of the thermistor constant to balance the bridge. The magnitude of power required to effect such a balance provides an electrical indication of tape loop position.

3,540,644

APPARATUS FOR MEASURING LENGTHS OF MATERIAL

Karl Schleifenbaum, Haiger, Germany, assignor to Meteor-Siegen Apparatebau Paul Schmeck G.m.b.H. Siegen, Westphalia, Germany a corporation of Germany

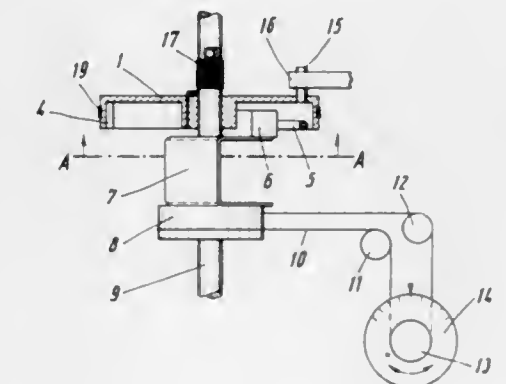
Filed Oct. 29, 1968, Ser. No. 771,400

Claims priority, application Germany, Nov. 2, 1967, 1,623,250

Int. Cl. B65h 17/22

U.S. Cl. 226—136

10 Claims



For measuring off a desired length of material from a continuous roll of that material, a contact roller driven by the material carries a cam which actuates a switch controlling the movement of the material. For each measuring operation, the measuring roller is initially returned by spring means to a starting position, relative to which the position of the switch is set according to the length to be measured off.

3,540,645

APPARATUS FOR STAPLING SHEETS INTO PADS

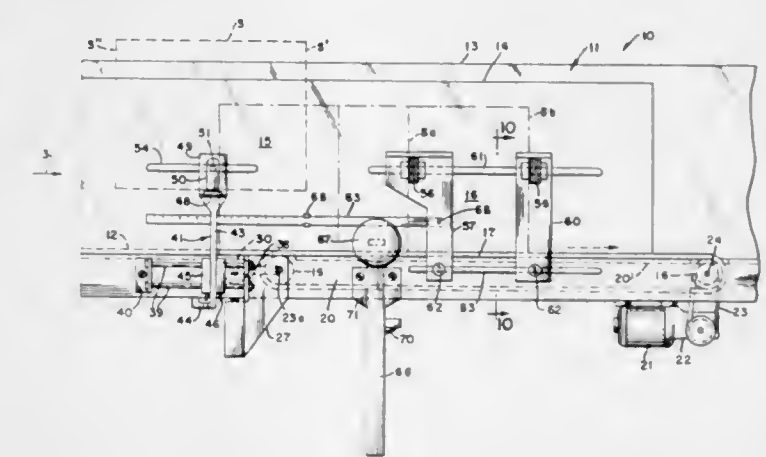
Dominick J. DeFrancis, 413 Eastman Road; James M. Fooks, 31 Paschall Road, Wilmington, Delaware and Louis T. Staats, Sr., Rte 1 Lincoln University, Lincoln University, Pennsylvania 19352

Filed Feb. 12, 1968, Ser. No. 704,834

Int. Cl. B27f 7/06

U.S. Cl. 227—7

28 Claims



A holder having a loading station for sheets to be stapled and a two-position stapling station with retractable stop pins at the two stapling positions. A conveyor belt is provided at the bottom of the holder for delivering sheets from the loading to the stapling station and a jogging wheel at the bottom of the loading station jolts the sheets vertically into contact with the conveyor belt which then aligns leading edges of the sheets with the stop pin at the first stapling position. The jogging wheel, stop pins and stapler are electrically actuated in a timed cycle responsive to photoelectric detection of sheets at the loading station.

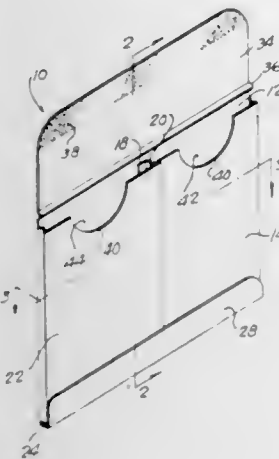
3,540,646

FILE ENVELOPE HAVING SIDE-BY-SIDE EXTENSIBLE POCKETS

John W. Kizler, 402 Ritchie Parkway, Rockville, Maryland
 Filed Nov. 22, 1968, Ser. No. 778,064
 Int. Cl. B65d 27/08

U.S. Cl. 229—72

5 Claims



A file envelope having side-by-side extensible pockets and formed from a one-piece integral paper blank with fold lines to define a front wall, a pair of partial rear walls connected to opposite lateral edges of the front wall by accordion pleats, one of said rear walls terminating at its inner edge in a divider having an accordion pleat and a gummed strip adhered to the central part of the front wall, the other rear wall overlying the inner edge of said first rear wall and being adhered thereto, a bottom flap connected to said front wall by an accordion pleat and folded over the bottom edges of said rear walls, and a top flap connected to the upper edge of said front wall by an accordion pleat and foldable over the upper edges of said rear walls.

3,540,647

INCREMENTAL DRIVE ASSEMBLY

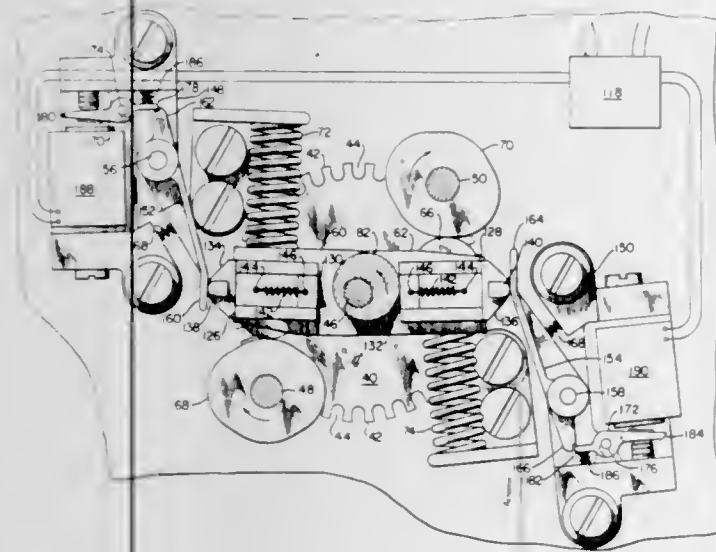
Dennis R. Olmsted, Westminster, Colorado, assignor to Up-time Corporation, Englewood, Colorado a corporation of Colorado

Filed Sept. 27, 1968, Ser. No. 763,136

Int. Cl. G06k 13/07

U.S. Cl. 234—128

7 Claims



Incremental drive to move record card step by step through punching machine and avoid narrow web between first and second columns includes eccentric shaft and two spaced cam shafts. Cam follower arms rock angularly on cams and carry pawls which reciprocate radially in response to eccentric and have dogs at outer ends to alternately engage teeth in ratchet wheel for stepped rotation as cams

rock. Pawls spring biased outwardly free of ratchet wheel between cards. At signal, pawl actuators resiliently force pawls against eccentric to follow it and drive ratchet wheel. Electrically controlled latch means to hold pawl actuators in retracted position.

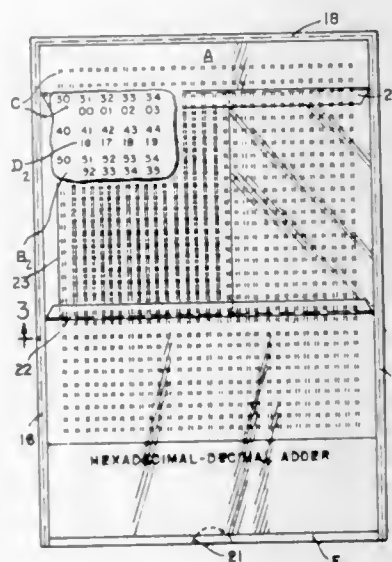
3,540,648

SLIDE CALCULATOR FOR DIRECT ADDITION AND/OR SUBTRACTION OF INTEGER QUALITIES IN TWO NUMBER SYSTEMS

Charles G. McGee, 602 E. Park Ave., Elmhurst, Illinois
 Filed May 28, 1968, Ser. No. 732,687
 Int. Cl. G06c 3/00

U.S. Cl. 235—89

5 Claims



The essential concept of this invention involves an improved form of calculator having relatively shiftable elements each bearing a set of geometrically positioned numerals of the same or different number systems whereby the relative shifting of the two elements accomplishes arithmetic operations.

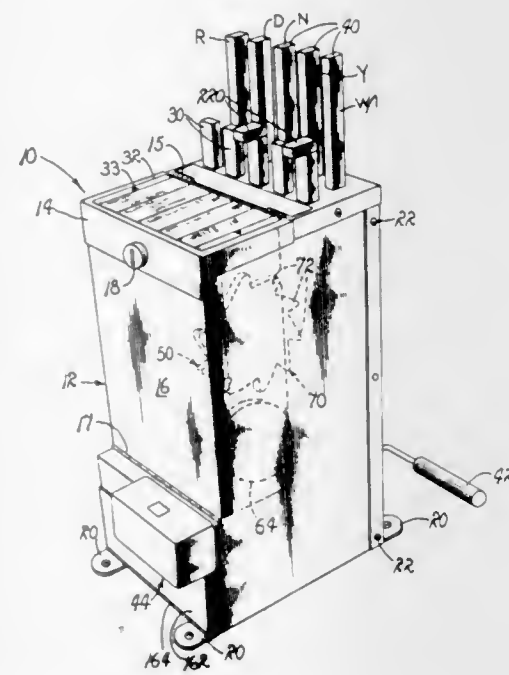
3,540,649

BALLOTING DEVICE

Edwin L. Kill, 620 Date St., Oildale, California 93308
 Filed July 31, 1968, Ser. No. 749,088
 Int. Cl. G07c 13/00

U.S. Cl. 235—50

13 Claims



A portable balloting device particularly suited for use by an electorate as a manually actuated, selectively operable

voting machine, characterized by a plurality of "paired" voting plungers, vote eradicating plungers, and a manually actuated balloting lever for use in preparing a final machine ballot comprising a selected slate of candidates and issue positions and then casting votes by advancing preprinted vote registering tapes in accordance with the finalized machine ballot.

3,540,650

THERMOSTATIC REGULATING DEVICE WITH A SYNTHETIC THERMOPLASTIC EXPANSION ELEMENT

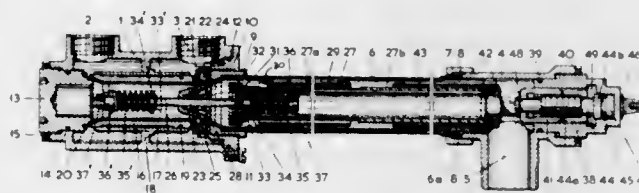
Willem Antonius Boekelman, Sr. and Willem Antonius Boekelman, Jr., Venlo, Netherlands, assignors to N. V. Metaalwarenfabriek "Venlo", Venlo, Netherlands

Original application March 26, 1968, Ser. No. 716,153, pending. Divided and this application Jan. 30, 1969, Ser. No. 817,597

Int. Cl. G01k 5/48; G05d 23/13

U.S. Cl. 236—12

3 Claims



A thermostatic regulating device utilizes an expansion element of thermoplastic synthetic material with a thermal coefficient of expansion of at least 1×10^{-4} mm./°C such as polypropylene or polyethylene in an elongated shape with a thickness over at least a part of its length of not more than 2 mm. The expansion element may be used in a combination hot and cold fluid tap with one end of the element connected to a valve member and the other end adjustably connected to the housing.

3,540,651

COMBUSTION HEATER VEHICLE HEATING SYSTEM

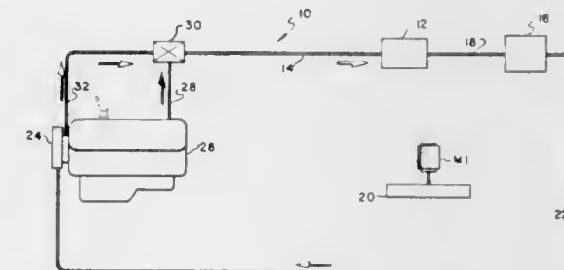
Gordon J. Fairbanks, Indianapolis, Indiana, assignor to Stewart-Warner Corporation, Chicago, Illinois a corporation of Virginia

Filed Oct. 4, 1968, Ser. No. 765,053

Int. Cl. F24d 3/02

U.S. Cl. 237—8

6 Claims



The following specification describes a quick heating system for a vehicle in which a portion of the coolant is bypassed from the engine and continuously recirculated through a combustion heater and the conventional vehicle cabin heater until a desired temperature is reached.

3,540,652

HEATING SYSTEM FOR A VEHICLE

Frank H. Harrison and Karl H. Neuhof, Brussels, Belgium, assignors to Stewart-Warner Corporation, Chicago, Illinois a corporation of Virginia

Filed Jan. 31, 1969, Ser. No. 795,625

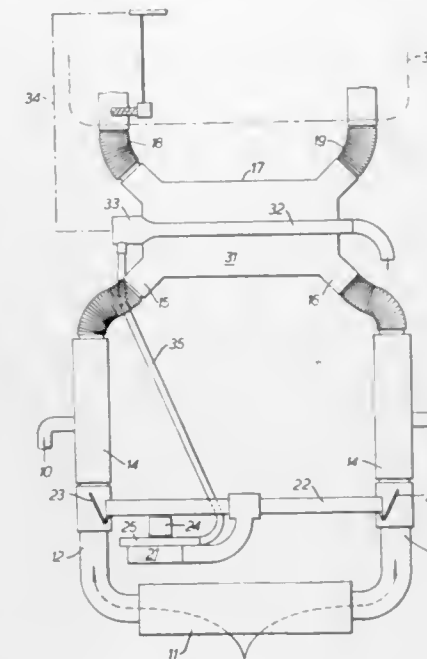
Int. Cl. B60h 1/18, 1/22

U.S. Cl. 237—12.3

6 Claims

Heating systems for a vehicle in which air is delivered by the vehicle engine fan through twin engine exhaust gas heat

exchangers and a combustion heater having inputs from both heat exchangers to additionally heat the air distributed to the vehicle cab if the heat available from the exhaust gas heat exchangers is inadequate to meet a desired demand. Auxiliary



ry fan means are provided for causing additional air to flow through both of the vehicle heat exchangers to the booster heater when the output of the vehicle engine fan is inadequate.

3,540,653

APPARATUS FOR DISPERSING AND ELECTRICALLY CHARGING SUBSTANCES IN DISCRETE PARTICULATE FORM

Pierre M. Fabre, Grenoble, France, assignor to Societe Anonyme De Machines Electrostatiques, Grenoble, France

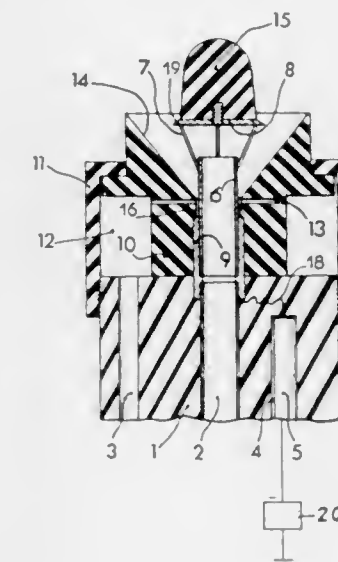
Filed March 22, 1968, Ser. No. 715,279

Claims priority, application France, March 22, 1967, PV99888

Int. Cl. B05b 5/00

U.S. Cl. 239—15

15 Claims



A nozzle assembly having an axial duct through which powder suspended in a low-pressure airstream is discharged, to impinge on a baffle plate which extends in a plane perpendicular to the path of the stream. Simultaneously, high-pressure air is delivered into an annular chamber and is formed into a whirling conically diverging vortex of gas adjacent the baffle plate. The particles of powder are deflected by the plate into the vortex and are entrained thereby. A high DC Voltage is applied to the plate to electrostatically charge the particles as they are deflected.

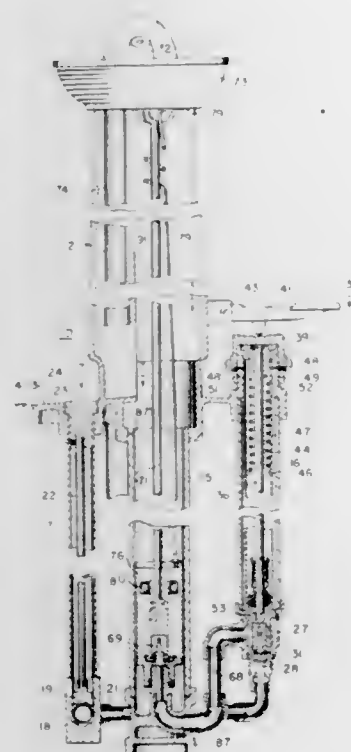
3,540,654

FROSTPROOF SANITARY DRINKING FOUNTAIN
Joseph K. Murdock and Eugene J. Riddle, Cincinnati, Ohio, assignors to Murdock Inc., Cincinnati, Ohio a corporation of Ohio

Filed Nov. 25, 1968, Ser. No. 778,616
Int. Cl. E03b 9/20

U.S. Cl. 239—29

6 Claims



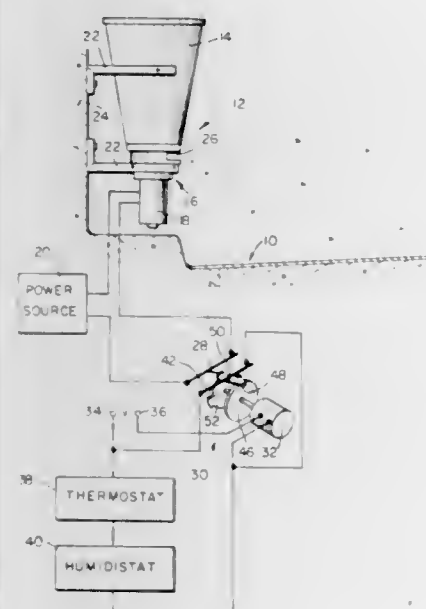
A frostproof fountain which includes a riser, a reservoir for receiving water from the riser, and air vent line connected to the reservoir, a nozzle for directing liquid into a lower end of the riser, there being a port connecting the nozzle with the interior of the reservoir so that when liquid is directed through the nozzle, liquid in the reservoir is withdrawn therefrom. A float is mounted in the reservoir, and means on the float engages an end of the port to close the port when liquid in the reservoir is exhausted to prevent entry of air into the port. A dam surrounds a drain line to prevent entry of ground water.

3,540,655

PAVEMENT DEICER
Bert F. Hinrichs, 926 N. Hampton Blvd., Shelbyville, Indiana
Filed Aug. 7, 1968, Ser. No. 750,812
Int. Cl. H05b 1/02

U.S. Cl. 239—75

14 Claims



A pavement deicer comprising means for preventing ice from forming on a pavement and control means including

means for sensing the ambient conditions adjacent such a pavement and, when such ambient conditions reach a point where ice is likely to form thereon, energizing the first-named means to prevent such formation of ice. In one embodiment, the first-named means may be a spreader for spreading granular material, such as salt, over the top surface of the pavement; in another embodiment, the first-named means may be means for spraying a liquid deicing solution over the top surface of the pavement; and in still another embodiment of the invention, the first-named means may be a heater, such as an electrically-energized heater. The control means may include a thermostat and humidistat connected in series, the humidistat being arranged to close when the humidity is above a predetermined level and the thermostat being arranged to close when the temperature is below a predetermined level.

3,540,656

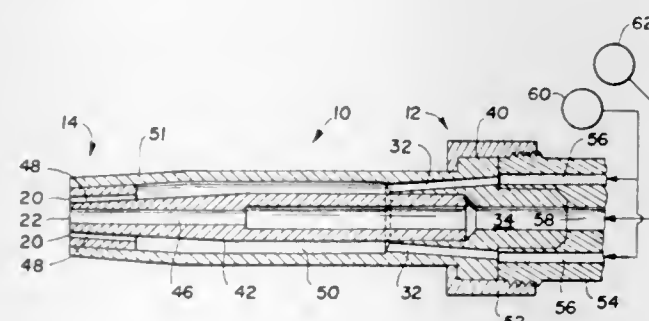
TORCH TIPS

Stephen J. Yerkins, Glenshaw, Pennsylvania, assignor to Goss Gas Inc., Glenshaw, Pennsylvania a corporation of Pennsylvania

Continuation of application Ser. No. 519,376, Jan. 7, 1966.
This application March 8, 1968, Ser. No. 711,709
Int. Cl. B05b 7/06

U.S. Cl. 239—424.5

2 Claims



Described are torch tips of the type adapted to burn mixtures of fuel gases for heating and cutting metals, characterized in that the tips are formed from two separate integral pieces which facilitate elimination of much of the drilling required with conventional one-piece tips.

3,540,657

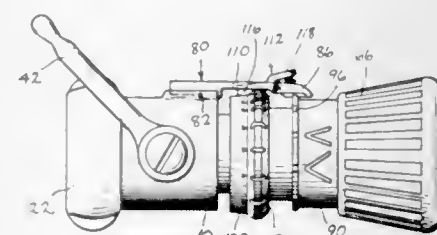
HOSE NOZZLE

William S. Thompson, Elkhart, Indiana, assignor to Elkhart Brass Manufacturing Company Inc., Elkhart, Indiana a corporation of Indiana

Filed Jan. 23, 1969, Ser. No. 793,287
Int. Cl. B05b 1/32

U.S. Cl. 239—458

3 Claims



A hose nozzle having a tubular body with inlet and outlet ends. A tubular central barrel is screw threaded on said body and is adapted when rotated to regulate the flow rate through the nozzle. An end sleeve is screw threaded on the central barrel and is adapted when rotated relative to the barrel to regulate the stream pattern of the fluid discharged from the nozzle. Both the central barrel and the end sleeve have a plurality of circumferentially spaced notches therein. A locking lever is pivotally carried by the body of the nozzle. An engagement member is pivotally connected to the forward free end part of the locking lever. One of said engagement

3,540,658

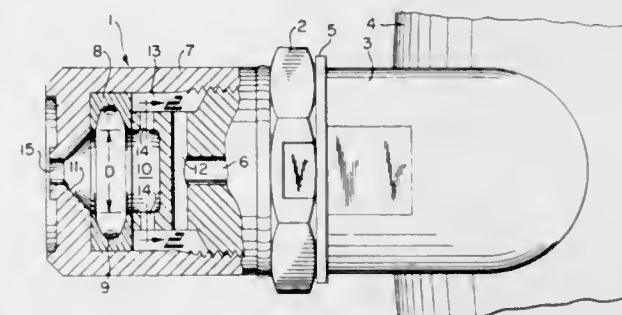
ANTI-EROSION FUEL INJECTION NOZZLE

Harold C. Simmons, Richmond Heights, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio a corporation of Ohio

Filed March 1, 1968, Ser. No. 709,650
Int. Cl. B05b 1/34

U.S. Cl. 239—472

5 Claims



Fuel injection nozzle of the type wherein a hollow conical spray of finely atomized liquid is produced by the action of a vortex within the nozzle. Nozzle characterized in that upstream portion of vortex chamber is diametrically enlarged adjacent the spin slots through which the liquid is tangentially introduced into the vortex chamber, the thus enlarged portion of the vortex chamber preferably being made of hard, erosion-resistant material.

3,540,659

HYDRAULIC BLAST GUN

Robert O. Mullins and Clark B. Mullins, both of Dallas, Texas, assignors to C. B. Mullins, Inc., Dallas, Texas a corporation of Texas

Filed March 18, 1968, Ser. No. 713,842
Int. Cl. B05b 1/26

U.S. Cl. 239—508

11 Claims



gun for dispensing high-pressure fluid having a protective shroud which may be pivoted in front of the high pressure stream to nullify the dangerous effects of the high-pressure fluid stream by reducing it to a harmless spray when the gun is not in use or is dropped.

3,540,660

FUEL INLET VAPORIZERS FOR CARBURATORS

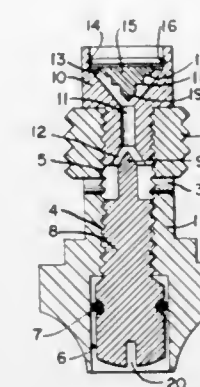
Arpad Simon, Nova Iguaçu City, Rio De Janeiro, Brazil, assignor to Atom Auto Pecos LTDA, Nova Iguaçu City, Rio de Janeiro, Brazil a corporation of Brazil

Filed Sept. 27, 1968, Ser. No. 763,283
Claims priority, application Brazil, Oct. 27, 1967, 194,221
Int. Cl. B05b 1/30

U.S. Cl. 239—581

1 Claim

An adjustable fuel jet spray nozzle for carburators is provided having a cylindrical body with laterally disposed fuel



inlets opening into a central chamber which is internally threaded to receive at the bottom an adjusting screw having a pointed central pin at its end, and at the top a passage body with a central bore having an enlarged inlet.

3,540,661

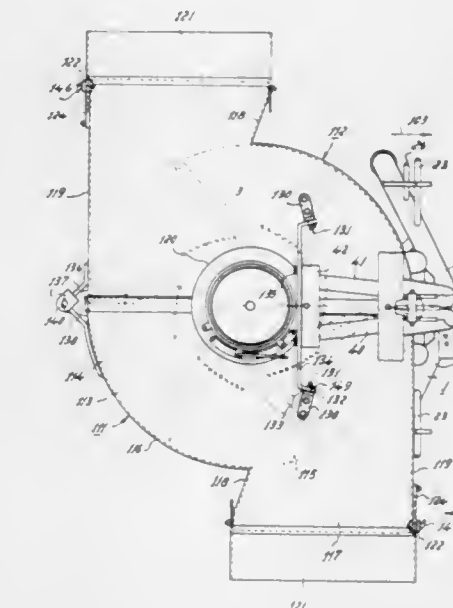
IMPLEMENT FOR SPREADING POWDERS OR GRANULAR MATERIAL

Cornelis van der Lely, Zug, Switzerland and Ary van der Lely, Maasland, Netherlands

Continuation of application Ser. No. 654,277, July 18, 1967, which is a continuation of application Ser. No. 548,943, May 10, 1966, which is a continuation-in-part of application Ser. No. 318,968, Oct. 25, 1963, now Patent No. 3,273,898. This application Feb. 24, 1969, Ser. No. 805,101
Int. Cl. A01c 3/06; E01c 19/20

U.S. Cl. 239—689

6 Claims



A spreader for connection to a three-point linkage of a tractor including a hopper and a rotatable spreading member positioned beneath the hopper. The spreader is supported by the frame of the tractor above the spreading member. A guide member surrounds the spreading member and has two outlet canals tangentially arranged 180° removed from one another.

3,540,662

DRY PROCESS FOR REMOVAL OF PYRITE FROM COAL

William T. Abel and James Wilson Eckerd, Morgantown, West Virginia, assignors to the United States of America as represented by the Secretary of the Interior

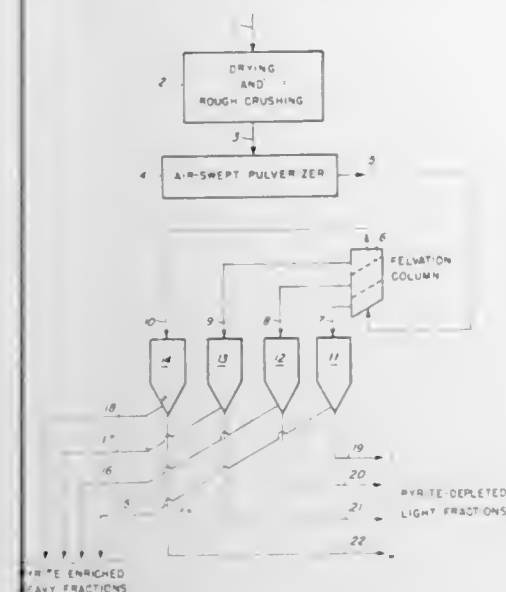
Filed March 21, 1968, Ser. No. 714,929
Int. Cl. B02c 21/00

U.S. Cl. 241—19

5 Claims

Pyritic sulfur is removed from pulverized coal by sequentially subjecting the coal to two separations; one of the

separations being based upon particle size and the other wardly from the base edge portions of the adjacent plates, the plates overlying the screened outlet openings of the drum.



based upon particle mass.

3,540,663

MILLING OF METAL POWDERS IN THE PRESENCE OF IODINE

John W. Dietz, Wilmington, Delaware, assignor to E. I. du Pont de Nemours and Company, Wilmington, Delaware a corporation of Delaware

Filed April 29, 1968, Ser. No. 725,151

Int. Cl. B02b 5/02

U.S. Cl. 241—22

6 Claims

Iodine is employed as a grinding aid in the milling of metal powders. Iodine is particularly useful in milling of metal powders to submicron sizes.

3,540,664

RESILIENT WHEEL IMPACT MILL

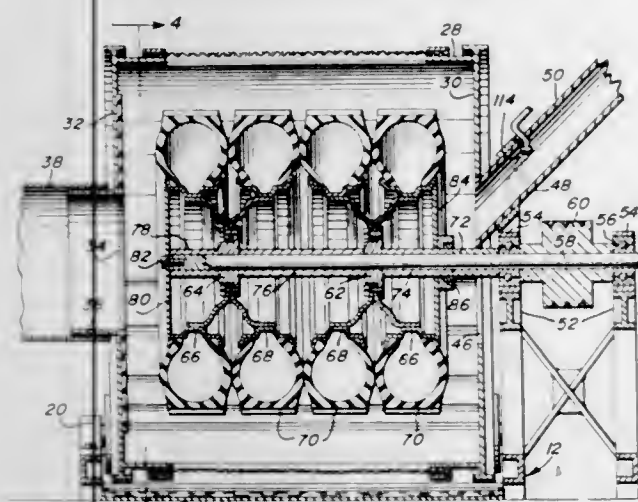
Archie Q. Adams, Central Point, Oregon, assignor of fifteen percent each to Alf M. Jacobsen, Goldendale, and I. Allen Brown, Vancouver, Washington, a part interest

Filed May 16, 1968, Ser. No. 729,628

Int. Cl. B02c 7/11

U.S. Cl. 241—38

13 Claims



A horizontally disposed rotary drum provided with opposite end wall portions and delivery means for delivering material generally axially into one end of the drum and means for withdrawing pulverized material from the drum. The drum is designed to rotate at low speed and includes internal high speed rotary impact means journaled for rotation about axes generally paralleling the axis of rotation of the drum. The peripheral wall portions of the drum include circumferentially spaced screened outlet openings defining the means for withdrawing pulverized material from the drum and the drum further includes baffle plates spaced about the inner surface portions of the drum disposed in planes lying generally along chords of the drum with the plates including base edge portions supported from the peripheral wall portion of the drum and free edge portions spaced slightly in-

The device has a supply passage for the scrap, below which is a rotor which is provided with hammers and rotates around a horizontal axis. A semicylindrical grid is located below the rotor, and a discharge passage for the broken scrap is located below the grid. A horizontal supply conveyor extends into the supply passage and terminates in a discharge end located above the level of the rotor, and a circulating passage extends laterally from the supply passage above the supply conveyor. A second grid extends below the circulating passage and above the supply conveyor to separate the pieces which are large enough to be thrown by the rotor upon and to be retained by the second grid from the pieces which are thrown only high enough to fall upon the supply conveyor.

3,540,666

APPARATUS FOR DISCHARGING AND DISINTEGRATING MATERIAL WHICH CAN BE PRESSED

Alois Altendorfer, Linz, Austria, assignor to Vereinigte Österreichische Eisen-und Stahlwerke Aktiengesellschaft, Linz, Austria

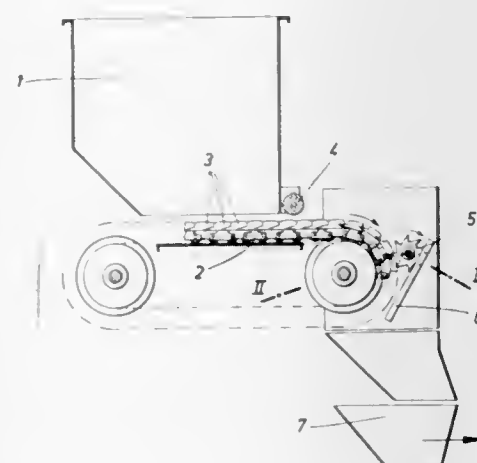
Filed Feb. 27, 1968, Ser. No. 708,609

Claims priority, application Austria, April 5, 1967, A3238/67

Int. Cl. B02c 18/22

U.S. Cl. 241—90

5 Claims



A discharge conveyor comprises a plate link belt having transversely spaced flights extending in the direction of travel

of said belt. The belt has a receiving portion disposed under a storage bin and a delivery portion remote from said bin. A rotatable shaft extends transversely to the direction of travel of the belt near the delivery portion thereof and has generally radial projections, which extend into respective spaces between adjacent flights and are adapted to remove material from said spaces during a rotation of said shaft. A bar grate is disposed on the side of said shaft opposite to said belt and has bars which define spaces which receive said projections.

a crushing machine for the purpose of dislodging rocks or boulders when they are caught in the jaws of the crusher or its feeder; the puncher thus causing the rocks or the like to go on through the machine.

3,540,669

PROCESS AND APPARATUS FOR STACKING OR STORING DELICATE THIN WEBS OF MATERIAL

Willi J. Schmidt, Hahn Taunus, Germany; Wolfgang Kornell and Eberhard Werner, Wiesbaden-Biebrich, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany a corporation of Germany

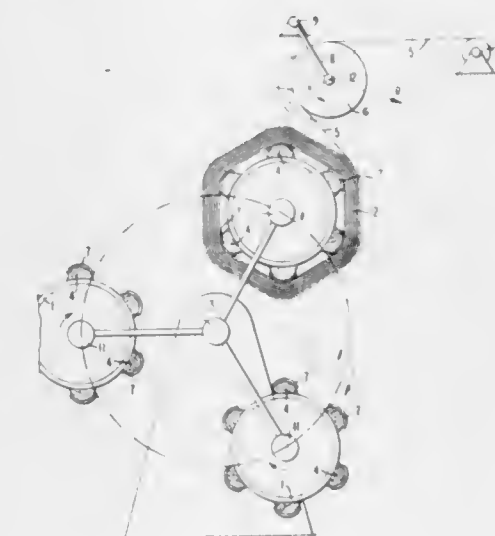
Filed Aug. 19, 1968, Ser. No. 753,693

Claims priority, application Germany, Aug. 22, 1967, K63167

Int. Cl. B65h 75/00

U.S. Cl. 242—64

11 Claims



3,540,667

IMPACT TYPE ROCK CRUSHER

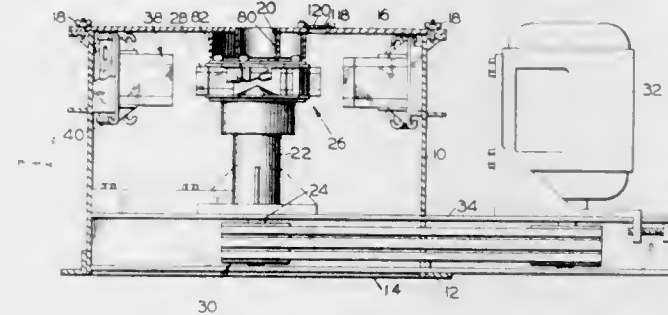
Charles T. Parker, Portland, Oregon, assignor to Charles T. Parker Construction Co., Portland, Oregon a corporation of Oregon

Filed May 23, 1967, Ser. No. 640,585

Int. Cl. B02c 19/00

U.S. Cl. 241—275

21 Claims



An impact rock crusher including an outer cylindrical shell which is closed by a cover having a central opening for the introduction of rock to be crushed. Impeller shoes are mounted on a rotary hub in the center of the shell, and the hub is mounted at the upper end of a vertical shaft which is driven through a belt drive by a motor mounted outside the shell. The impeller shoes fling rock fed into the center of the shell through the cover laterally against breaker plates lining the inside wall of the shell. The structure mounting the breaker plates is of a special construction which permits ready removal of the plates from the shell for replacement purposes by a simple lifting of a suspended portion of the breaker plate mounting from a fixed portion thereof, or reversal of the orientation of the plates for distribution of wear through reversal of the same portion of the mounting. The impeller shoes are mounted within the shell by a simple hook-type mounting. Both the breaker plates and the impeller shoes are designed to have especially long wearing qualities.

This invention relates to a process and apparatus for stacking or storing delicate thin webs of material in which a web of material is formed into a rotatably mounted stack which contacts a support at least at three contact areas over the entire width of the material, the contact pressure being limited by a resilient effect of the contact areas, and the speed and stress differences of the web occurring when passing the contact areas being compensated by a movable roller which is contacted by the web before it contacts the stack.

3,540,668

ROCK PUNCHER

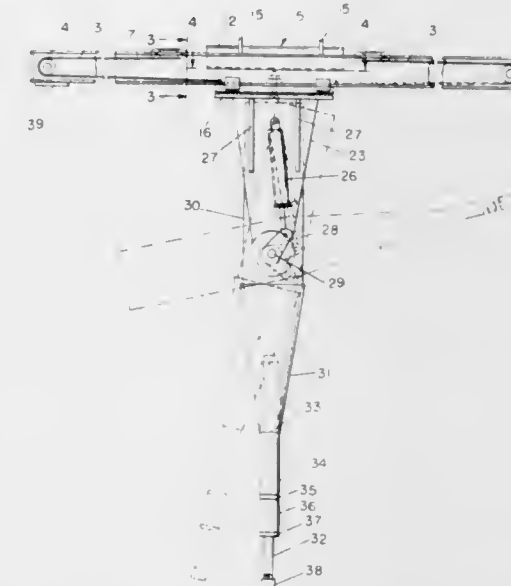
Cecil A. Cummings, R.R. 1, Norman, Indiana

Filed May 22, 1968, Ser. No. 731,050

Int. Cl. B02c 23/00

U.S. Cl. 241—283

3 Claims



This invention relates to rock or stone crushing machines; and more particularly to a puncher that is mounted on top of

3,540,670

DYNAMICALLY BALANCED SPOOL

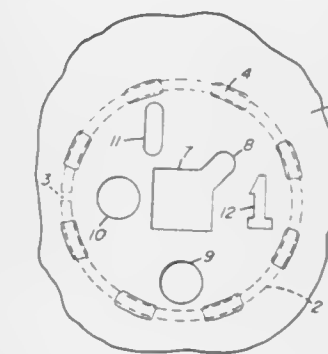
Arthur C. Rissberger, Jr., Webster, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed June 19, 1968, Ser. No. 738,279

Int. Cl. B65h 75/18

U.S. Cl. 242—71.8

9 Claims



A universal film spool or reel having various openings to engage the spindles of conventional devices and an identification numeral perforated in each flange. The perforated numerals are located at unique points on the flange to affect dynamic balance of the spool or reel.

3,540,671

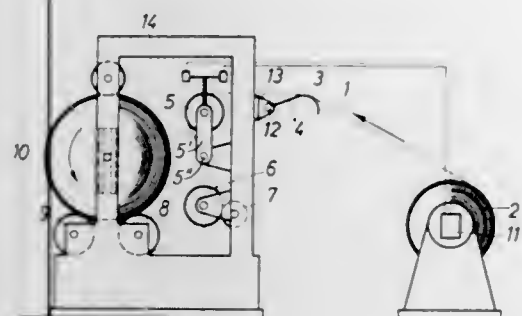
APPARATUS FOR COMPENSATING FOR THE EFFECTS OF NON-CIRCULARITY OF UNWINDING ROLLS
 Horst Moehle, Hilden, Germany, assignor to Jagenberg-Werke-AS, Dusseldorf, Germany

Filed June 14, 1968, Ser. No. 737,124

Claims priority, application Germany, June 22, 1967, J 33,963
Int. Cl. B65h 77/00

U.S. Cl. 242—75.43

3 Claims U.S. Cl. 242—118.3



An apparatus for compensating for the adverse effects occasioned by noncircularity of unwinding or delivery rolls in paper processing machinery such as roll cutting or slitting machines, rewinding machines and similar machines which operate in dependency upon a delivery roll and in which a measuring or sensing means influenced by the tensile stress of a web fed from a delivery or unwinding roll controls a brake operably associated with the shaft or axis of such delivery roll comprising a low weight guide means interposed in the path of web travel between the unwinding or delivery roll and the measuring or sensing means and acting upon such web in pressure yielding fashion.

3,540,672

FISHING REELS

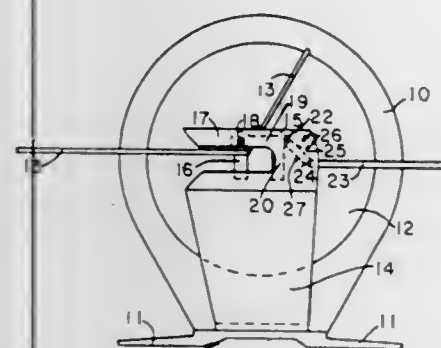
George H. Odom, 208 Tuna, Galveston, Texas

Continuation-in-part of application Ser. No. 646,818, June 19, 1967, now abandoned. This application June 3, 1968, Ser. No. 742,998

Int. Cl. A01k 89/00

U.S. Cl. 242—84.2

11 Claims



A fishing reel which acts as a drum type reel on rewinding and a spinning type reel for casting, the reel including a reel frame adapted for attachment to a fishing rod, a spool rotatably connected at one end only to the reel frame and a casting adapting means adjacent the free end of the spool, the casting adapting means providing an eyelet for passage of fishing line therethrough on casting, the front side of said eyelet being movably responsive to fishing line pressure as such fishing line is swept from normal line path into contact with said front side of said eyelet, thereby permitting fishing line to be swept into said eyelet, and means for locking said front side to prevent removal of fishing line from said eyelet until said locking means is released.

3,540,673

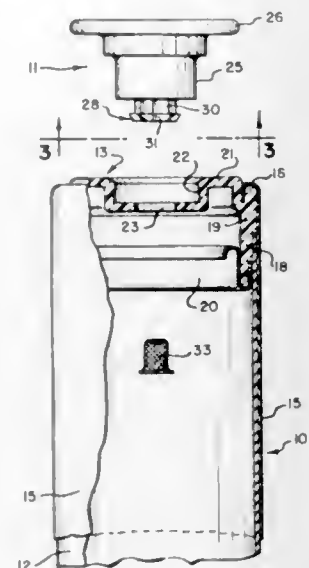
BOBBIN PICKUP KNOB

Charles C. L'Allemand, Murray Hill, New Jersey and Francis L. Hunt, Greenville, South Carolina, assignors by mesne assignments to Baldt Corporation, Milltown, New Jersey a corporation of Delaware

Filed June 12, 1968, Ser. No. 736,438

Int. Cl. B65h 75/10

3 Claims



A pickup knob for textile bobbins comprises a cylindrical main body having a manual pickup flange disposed at the top end and a tubular snap latch member extending downwardly from the bottom end of the main body. The tubular snap latch member comprises a plurality of springy latching fingers that are adapted to be inserted into an opening formed in the top end cap of a bobbin, and a locking bushing is adapted to be inserted into the lower end of the tubular snap latch member to prevent withdrawal of said member from said opening.

3,540,674

TENSION DRIVE SYSTEM AND TENSION REGULATOR MECHANISM FOR RELATIVELY THIN MATERIALS

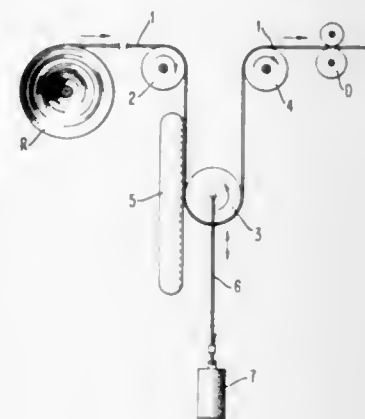
Shiro Okamura, c/o Nippon Electric Company Limited 7-15 Shiba Gochome, Minato-ku, Tokyo, Japan

Original application June 7, 1967, Ser. No. 667,872, now abandoned, which is a division of Ser. No. 363,034, Feb. 11, 1964, now Pat. No. 3,331,568, which is a division of Ser. No. 111,367, May 19, 1961, now abandoned. Divided and this application Dec. 9, 1968, Ser. No. 791,841

Int. Cl. B65h 59/10

U.S. Cl. 242—147

6 Claims



A tension regulator mechanism is described for regulating the tension in a thin material running from a source of supply to a takeup reel. A constant tension is provided in the thin material by running this along a frictional surface and controlling the amount of surface area of the thin material in contact with the frictional surface. In one embodiment, a longitudinal frictional surface is provided and in another em-

bodiment, the frictional surface control is provided by a unique coupling mechanism.

3,540,675

FILAMENT DISPENSING MECHANISM

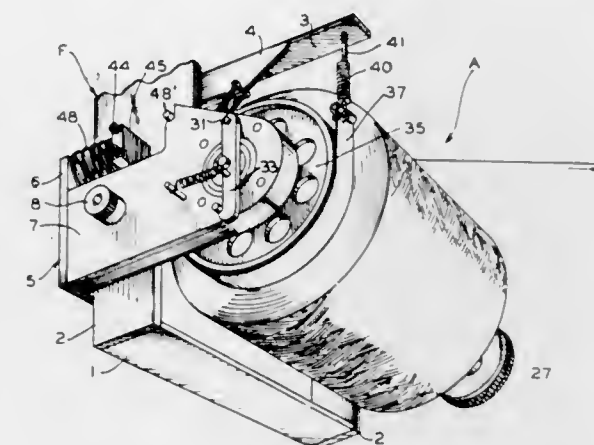
William Brandt Goldsworthy, Palos Verdes Estates, California, assignor to Goldsworthy Engineering, Inc., a corporation of Delaware

Filed Dec. 14, 1967, Ser. No. 690,495

Int. Cl. B65h 59/38

U.S. Cl. 242—156.2

16 Claims



A filament dispensing mechanism comprising a spool rotatably supported on a pivotally mounted cradle. The cradle is biased in one direction by means of a spring and in a second direction by the weight or acceleration of the filament spool. A belt is operatively trained around the spool and creates a braking action which will reduce as the weight of the spool or angular movement thereof is reduced. As the effective spool diameter is decreased, the moment arm about the axis of rotation of the spool is decreased and hence the braking action is decreased, thereby providing a controlled rate payout of filament.

3,540,676

REDUNDANT ACTUATING MECHANISM

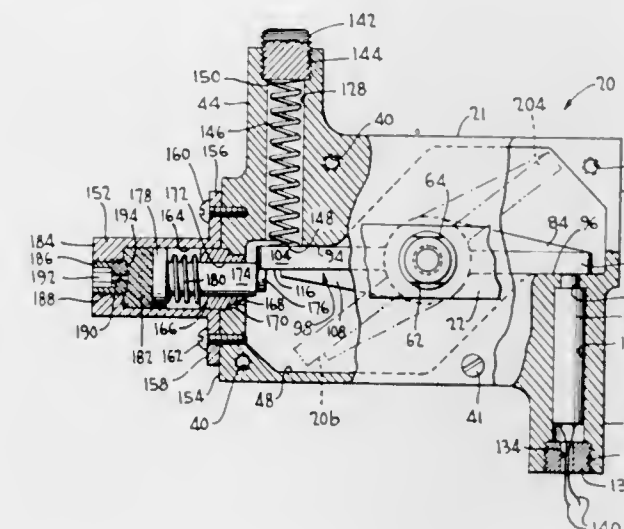
Jesse M. Madey, Hyattsville, and Xopher W. Moyer, New Carrollton, Maryland, assignors to The United States of America, as represented by the Administrator of the National Aeronautics and Space Administration

Filed Dec. 20, 1968, Ser. No. 785,611

Int. Cl. B64g 1/00

U.S. Cl. 244—1

9 Claims



A redundant cable release mechanism wherein spacecraft components such as releasable despin weights and extensible gravity gradient booms are connected by a cable network to the ends of a pivotal elongated release arm which is mounted for pivotal movement upon a central shaft having integrally connected therewith a first crank arm mounted within a

housing and forcibly rotated upon ignition of a pair of squibs, members of which impinge against the extended arms of the crank arm, thereby pivoting the crank arm and the elongated release arm to tension the cable network and release the despin weights and extensible booms. A redundant crank arm is interlockingly received by the first crank arm, the second crank arm being rotated by the action of a pair of preloaded coil springs reacting against its extended arms and being initially restrained from rotation by one spring loaded piston engaging the ends of the extended arms, said piston being retracted upon the escape of subliming material through an orifice provided in the piston housing, enabling the crank arm to rotate and thereby actuate the elongated release arm.

3,540,677

METHOD AND APPARATUS FOR LAUNCHING AND RETRIEVING BOATS AND PERSONNEL

John William Johnson, Cromwell and Horace Tom Hone, Trumbull, Connecticut, assignors to United Aircraft Corporation, East Hartford, Connecticut a corporation of Delaware

Filed June 30, 1969, Ser. No. 837,447

Int. Cl. B64d 1/08

U.S. Cl. 244—2

11 Claims



A buoyant boat carrier and launcher having slips for six boats is detachably secured beneath a helicopter by four cargo hoist cables, one adjacent each corner of the launcher, with the boats positioned in the launcher abreast of one another and crosswise of the longitudinal axis of the helicopter. Transfer of personnel is achieved with the helicopter hovering close to the water or floating on the water and with the launcher partly submerged alongside so that the boats are afloat. A folding ramp is provided in the helicopter which, when extended, provides a path for personnel between the helicopter and the floating boats.

3,540,678

METHOD OF AND APPARATUS FOR CONTROLLING THE TRANSVERSE ACCELERATION AND ROLL DAMPING OF STEERABLE AERODYNAMIC BODIES

Eveline Gottzein, Oberpfaffenhofen; Norbert Klamka, Otobrunn; Helmut Bittner, Munich and Hermann Schwake, Neubiberg, Germany, assignors to Bolkow GmbH, Otobrunn near Munich, Germany

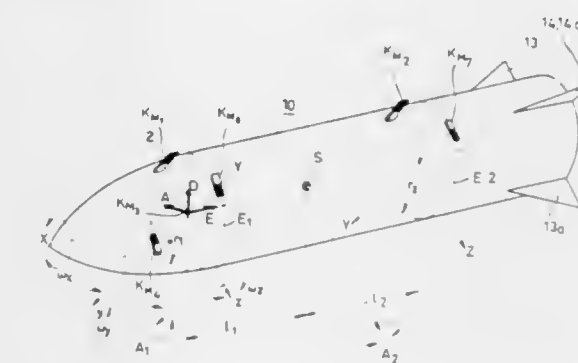
Filed Aug. 22, 1967, Ser. No. 662,435

Claims priority, application Germany, Aug. 24, 1966, B88601

Int. Cl. F41g 7/00

U.S. Cl. 244—3.2

5 Claims



Control of the transverse acceleration about the pitch axis and the yaw axis of a dirigible missile is effected solely by linear accelerometers, which also control roll damping about the roll axis. The roll axis is stabilized by a displacement gyroscope. The accelerometers are arranged on the Y and Z

axes of a Cartesian system of coordinates of which the X axis is the roll axis. The accelerometers are arranged in either one diametric plane, which also includes the displacement gyroscope, or are arranged in two diametric planes spaced on respective opposite sides of the center of gravity of the missile. All the accelerometers are at the same radial distance from the X axis and, in each diametric plane, the accelerometers are arranged at an angular spacing of 90°. The signals from the accelerometers are combined in a network to provide control signals for actuators for adjusting two pairs of steering rudders.

3,540,679

UNIFIED ROCKET CONTROL

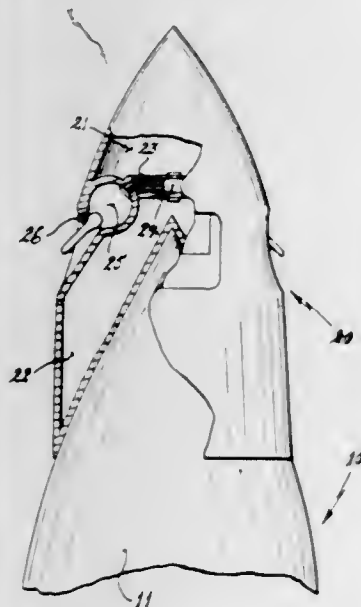
Edward E. McCullough and Donald E. Hume, Brigham City, Utah

Filed June 13, 1968, Ser. No. 738,723

Int. Cl. F41g 7/00; F42b 15/02

U.S. Cl. 244—3.22

4 Claims



A rocket motor for steering a ballistic missile during the powered stage of its flight. The motor, which is of the liquid propellant rocket type, is affixed to the forward end of the ballistic missile and includes a plurality of combustion chambers having angularly oriented plug nozzles. When it becomes necessary to change the course of the missile, fuel and oxidizer are introduced into one or more of the combustion chambers, to cause the resultant thrust to accomplish the desired change of course.

3,540,680

DUAL ROTOR SYSTEM FOR HELICOPTERS

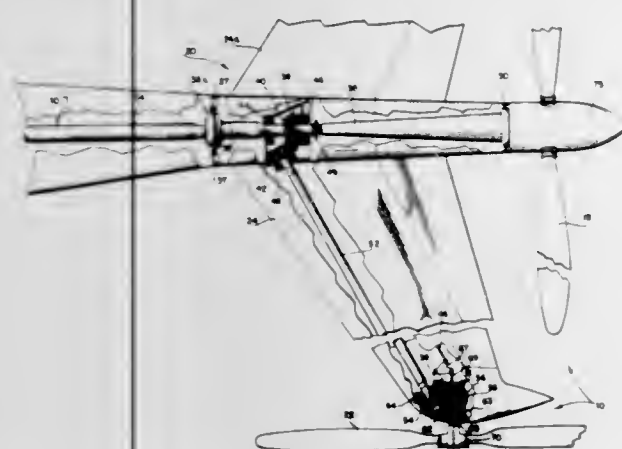
Carlton G. Peterson, Altadena, California, assignor to Lockheed Aircraft Corporation, Burbank, California

Filed May 24, 1968, Ser. No. 731,900

Int. Cl. B64c 27/22, 27/82

U.S. Cl. 244—17.19

3 Claims



This rotor system provides a helicopter with forward and anti-torque thrust by the inclusion of a pair of rotors

mounted in the empennage and rearwardly thereof and oriented at right angles to one another while being driven in rotation from a common shaft. Secondary drive shafts, acting through intermediate transmissions, provide the direct driving force. The rotors are independently controlled to the desired thrust rating by individual pitch controls. The anti-torque rotor is positioned at the forward region of the stabilizer chord, thereby minimizing flutter and enhancing vehicle stability.

3,540,681

ROTARY WING CONSTRUCTION

Paolo Orazi, Via S. Fiorano 1, Brescia, Italy

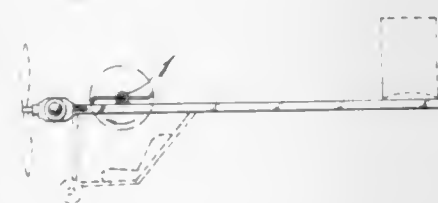
Continuation of Ser. No. 599,480, Dec. 6, 1966, abandoned.

This application Feb. 12, 1968, Ser. No. 704,835

Int. Cl. B64c 27/02

U.S. Cl. 244—39

2 Claims



A rotary wing assembly for aircraft has a wing mounted upon an aircraft fuselage for rotation about its span axis. The wing comprises a central spar extending spanwise and a plurality of transverse ribs attached symmetrically to said spar and spaced along the spar in a common plane. Sheets extend over the framework of the spar and ribs to provide a flying surface, the sheets covering only one surface of the ribs and extending on opposite surfaces thereof, with respect to the plane of the wing, as well as opposite sides of the span axis.

3,540,682

TURBOFAN TYPE ENGINE FRAME AND SUPPORT SYSTEM

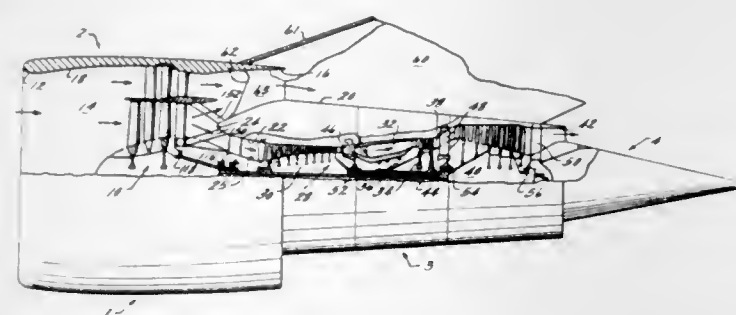
Charles G. Dibble and David Ferguson Howard, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York

Filed Dec. 2, 1964, Ser. No. 416,680

Int. Cl. B64b 1/24

U.S. Cl. 244—53

8 Claims



This invention relates generally to turbofan type fluid-flow machine structures and, more specifically, to an improved lightweight frame and support system for an improved type of front mounted axial-flow compressor for use in a turbofan type engine.

3,540,683

DUAL AIR CHAMBERED SHOCK STRUT

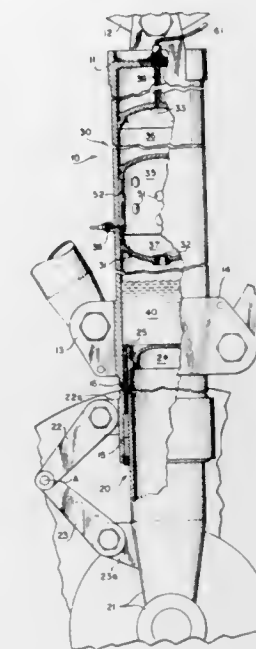
Curtis W. Foster, North Hollywood, California, assignor to Lockheed Aircraft Corporation, Burbank, California

Filed Nov. 7, 1967, Ser. No. 681,206

Int. Cl. B64c 25/58

U.S. Cl. 244—104

4 Claims



A dual air chambered shock strut for aircraft, having telescoping members which cooperate to define dual pressure chambers capable of applying a reaction force against the aircraft load during takeoff and landing procedures.

3,540,684

PILOT CHUTE CONTROLLED INFLATION SYSTEM FOR PARACHUTES

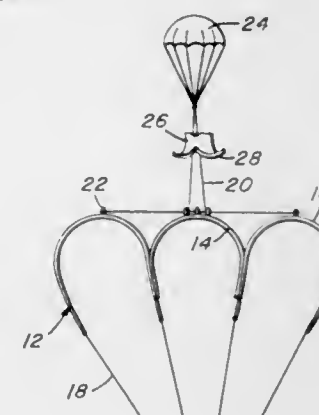
Stephen L. Snyder, 331 Cherry Hill Blvd., Cherry Hill, New Jersey 08034

Filed Feb. 11, 1969, Ser. No. 798,420

Int. Cl. B64d 17/64

U.S. Cl. 244—149

17 Claims



The drag of a pilot chute initiates inflation of a canopy to which it is connected by at least one continuous reefing line having a timed length to regulate dereefing and opening of the canopy. The drag force of the pilot chute is distributed in a stabilizing surface to the canopy at spaced locations by guide rings through which the reefing line extends. The decreasing influence of the pilot chute during descent may be abruptly removed upon full inflation of the canopy by inversion of a canopy storing bag over the pilot chute.

3,540,685

AUTOMOTIVE STAFF HOLDER

Emil V. Gualano, 2716 Via Paseo, Montebello, California

Filed Oct. 17, 1969, Ser. No. 867,304

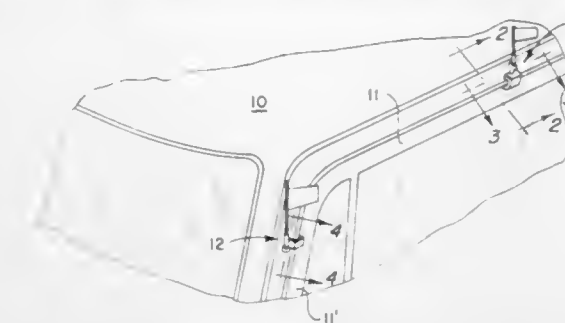
Int. Cl. G09f 17/00

U.S. Cl. 248—40

4 Claims

A staff holder having a C-shaped member for attachment onto an elongated flange portion of an automobile. A socket

device is mounted on and movable relative to the C-shaped member to present a vertical socket for vertically receiving a staff, regardless of the orientation of the C-shaped member. One embodiment includes a socket pivotally attached to the



screw of the C-member and another embodiment includes a rotating element attached to the C-shaped member and having a plurality of sockets therein, each at a different angle of inclination.

3,540,686

SUPPORT BRACKET

Marcel Charel Firmin Jean Bryse, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Phillips Corporation, New York, New York, a corporation of Delaware

Filed Sept. 5, 1968, Ser. No. 757,571

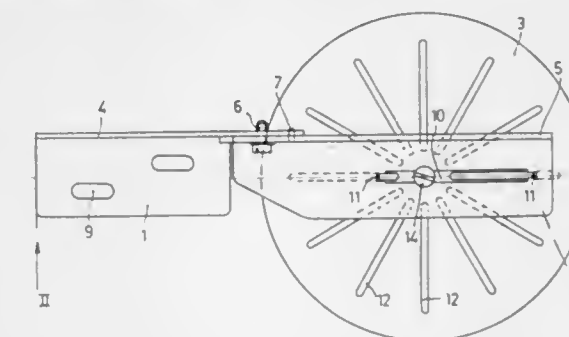
Claims priority, application Netherlands, Sept. 25, 1967,

67,13060

Int. Cl. A47f 7/00

U.S. Cl. 248—278

5 Claims



A support bracket for suspending a magnetic tape magazine storage cabinet from the dashboard of an automobile. The storage cabinet is affixed to a plate element which has a plurality of recessed portions therein adapted for interlocking engagement with tags protruding from a bipartite bracket assembly bolted to and supporting the plate for rotational adjustment with respect to the bracket. Further translatory adjustment is achieved by means of a slotted bolt hole provided in the bracket.

3,540,687

LIGHT SOCKET RETAINER

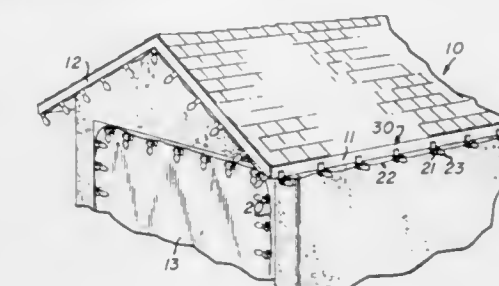
Angelo C. Cuva, 1024 Sumac Drive, Sunnyvale, California

Filed Oct. 31, 1969, Ser. No. 872,958

Int. Cl. F21p 1/02; F21v 21/00

U.S. Cl. 248—316

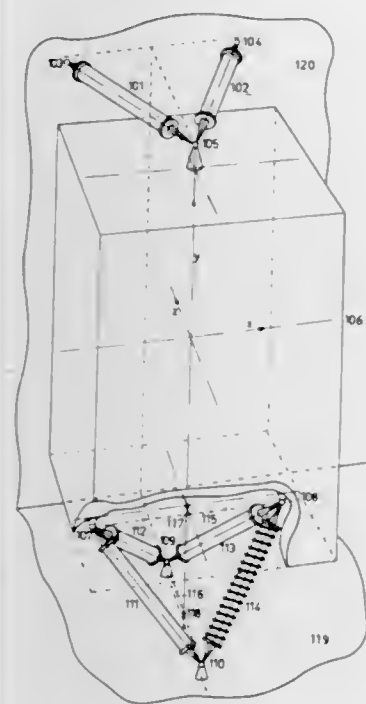
7 Claims



A light socket retaining means having a base element, for mounting to a house or like structure, and a clip-type light socket holder attachable to the base element and provided with clip elements for receiving and retaining a light socket.

3,540,688

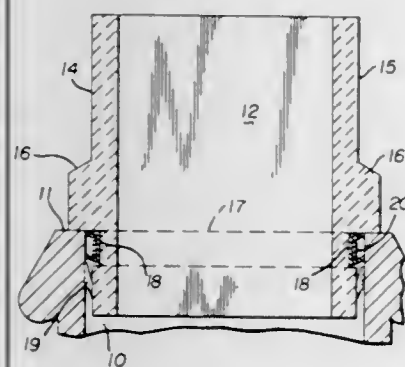
SUPPORTING MECHANISM FOR AN OBJECT
 Antonius Maria Schulte, 11 Villapack, Delden, Netherlands
 Filed Aug. 19, 1968, Ser. No. 753,459
 Claims priority, application Netherlands, Aug. 16, 1967,
 6711241
 Int. Cl. F16f 15/00
 U.S. Cl. 248—358 12 Claims



A mechanism for supporting an object against shock features six spring and damper support members. Two of the members are connected to the top of the object at the axis of the principle moment of inertia. The remaining four members are connected to the bottom of the object along four sides of a tetrahedron. The two unused sides are parallel to the bottom side of the object and the support plate respectively. The moment of inertia axis passes through the middle of the unused sides.

3,540,689

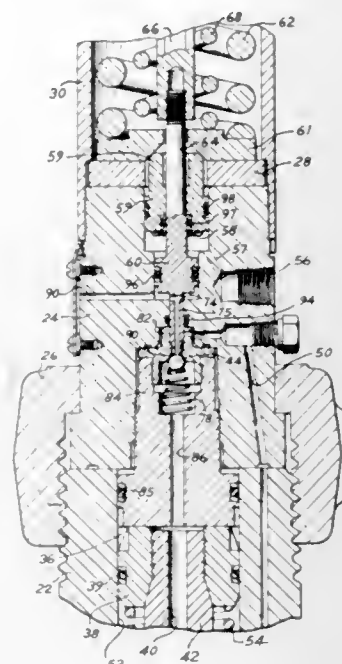
SECTIONAL HOT TOP WITH CHANNEL SHAPED WIPING AND HOLDING DEVICE
 Michael D. La Bate, 115 Hazen Ave., Ellwood City, Pennsylvania 16117
 Filed March 14, 1968, Ser. No. 713,090
 Int. Cl. B22d 7/10
 U.S. Cl. 249—106 9 Claims



A combustible hot top formed of four vertically standing sections arranged for self-support in assembled relation on an ingot mold and having a horizontally disposed channel in the outer surface of each of said sections with wiping devices having spaced parallel flanges extending outwardly therefrom disposed in said horizontal channels for sealingly engaging said ingot mold.

3,540,690

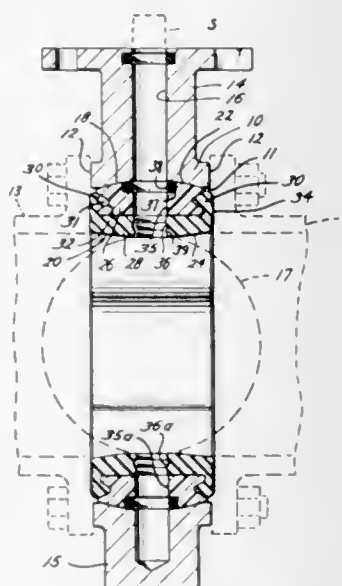
VALVE CONSTRUCTION
 Lewis E. Brown, Marshalltown, Iowa, assignor to Fisher Governor Company, a corporation of Iowa
 Filed Oct. 4, 1968, Ser. No. 765,248
 Int. Cl. F16k 31/12
 U.S. Cl. 251—28 2 Claims



A high and low pressure shutoff valve assembly including a valve plug responsive to control means including a small and a large piston coupled together, with control pressure applied therebetween. If the control pressure exceeds or falls below predetermined values, the small piston will be moved to permit a ball valve to close. Continued movement of the small piston away from the ball valve after the ball valve contacts its seat will enable pressure to be vented from one side of the actuator means for the valve plug to permit closure of the valve plug.

3,540,691

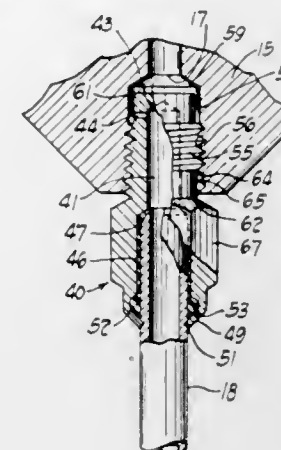
BODY AND SEAT CONSTRUCTION FOR BUTTERFLY VALVES
 Arthur H. Snell, Jr., 5843 Paisley, Houston, Texas 77035
 Filed Feb. 24, 1969, Ser. No. 801,481
 Int. Cl. F16k 1/226
 U.S. Cl. 251—151 6 Claims



A body and seat construction for butterfly valves in which the wall of the flow passage through the valve casing and the seat assembly installed therein have complementary spherical surfaces whereby to prevent axial movement of the seat assembly relative to the casing.

3,540,692

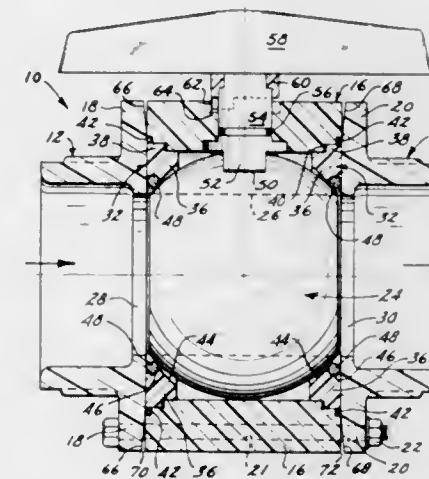
VALVE AND VALVE TUBE ASSEMBLY
 Albert J. Balon, 9717 Greenhaven Parkway, Brecksville, Ohio
 Continuation-in-part of application Ser. No. 501,545, Oct. 22, 1965, now Patent No. 3,460,804. This application Feb. 20, 1968, Ser. No. 706,857
 Int. Cl. F16l 29/00
 U.S. Cl. 251—149.8 12 Claims



A valve and valve tube assembly in which the valve includes a hollow, closed-end fitting having a lateral opening providing a conduit from a gas source to the interior of the fitting, and a second hollow fitting disposed within and being rotatable relative to the first fitting and having a close, sliding and sealing engagement therewith and a lateral opening, axially aligned with the opening in the first fitting, providing communication to the interior thereof, gas flowing from the source to the interior of the second fitting when the fittings are rotated to align the openings, and flow being prevented when the fittings are rotated so as to be nonaligned, the fittings being of similar material so that the valve setting is not affected by relative expansion thereof due to heating and the valve being particularly adapted for use with an assembly to supply gas, with accurate and preset control to a pilot light, and the like.

3,540,693

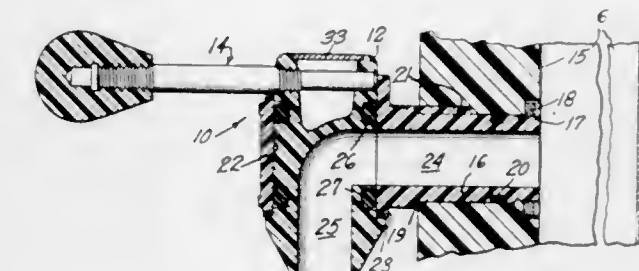
BALL VALVE
 Eugene H. Wise, Saugus, California, assignor, by mesne assignments, to R. & G. Sloane Manufacturing Company Inc., a corporation of Delaware
 Filed Aug. 9, 1968, Ser. No. 751,610
 Int. Cl. F16k 5/20
 U.S. Cl. 251—151 12 Claims



A random-entry cartridge type ball valve assembly including a pair of flanged connecting members, and a tubular valve body positioned between the flanged members and secured thereto by a plurality of nut and bolt connections. A valve ball member is rotatably mounted within the valve body and a plurality of annular sealing assemblies are provided within the valve body between the ball member and the flanged connecting members. Each of the sealing assemblies comprises an outer annular retainer and an inner annular seal in engagement with the ball member. A recess is provided between the valve body and each of the connecting members for the purpose of enabling the flanges on the connecting

3,540,694

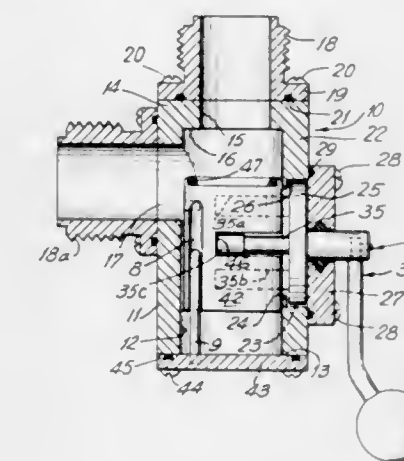
DISPENSING VALVE ASSEMBLY
 Richard T. Cornelius, Minneapolis, Minnesota, assignor to The Cornelius Company, Anoka, Minnesota a corporation of Minnesota
 Filed Jan. 5, 1968, Ser. No. 695,925
 Int. Cl. F16k 5/04
 U.S. Cl. 251—209 1 Claim



A valve assembly includes a body member having a bore, a valve core member rotatable therein, smooth-flow passage means extending through said members, a V-notch in the valve core member opening into said bore and said passage, a manually detachable handle retaining said valve core member in said body member, and a molded seal that includes a pair of spaced parallel circular portions and a pair of spaced elongated straight parallel connecting portions joined at their ends to the circular portions integrally, the seal portions respectively extending on opposite sides of the passage when the valve assembly is closed.

3,540,695

VACUUM VALVES
 Ivor John Taylor, 560 Riverside Drive apt. 6G, New York, New York 10027
 Filed June 20, 1968, Ser. No. 738,434
 Int. Cl. F16k 31/528
 U.S. Cl. 251—259 13 Claims



The invention relates to fast acting valves suitable for use in high vacuum systems. The valves employ a piston element which reciprocates in the cylindrical bore of the valve casing. In one valve type the piston forms a high compression vacuum seal at an end shoulder of the valve bore by utilizing a narrow section-sealing member retained in the piston end face. In a further valve type a vacuum seal is formed within a detachable end sleeve withdrawable from the valve casing, the sleeve construction enabling high quality vacuum sealing under conditions of extensive usage by reduction of frictional wear on the sealing member. Reciprocal motion of the piston is obtained from a rotary movement of an actuating spindle with crank disc. The crank disc is located within a bored

recess in the valve casing to allow absorption of operating stresses by the casing and permit the use of an efficient vacuum sealing arrangement for the spindle. A crank pin and external stop arrangement enables the valves to be locked in their open and closed positions.

3,540,696

VALVE SEAT STRUCTURE

Donald G. Fawkes, Aurora, Illinois, assignor to Henry Pratt Company, a corporation of Illinois
Original application Jan. 3, 1967, Ser. No. 606,649, now Patent No. 3,418,411, dated Dec. 24, 1968. Divided and this application July 5, 1968, Ser. No. 750,409
Int. Cl. F16k 1/226

U.S. Cl. 251-306

22 Claims



A valve seat means for use in a valve such as butterfly, ball, etc., valves. In one form, the seat comprises a generally V-shaped elastomeric element having a cross section defining an outer apron portion and inwardly diverging leg portions. The seat is provided with rib structures for effecting an improved interlocked association of the seat with suitable retaining material such as set plastic. In a second form, the seat comprises an elastomeric member having an outer seating portion and an inner narrow retention portion. The outer portion is provided with sealing ribs on the side surfaces thereof for improved sealing of the seat in a valve body channel.

3,540,697

APPARATUS FOR TESTING THE SUITABILITY OF THE CARCASS FOR RETREADING

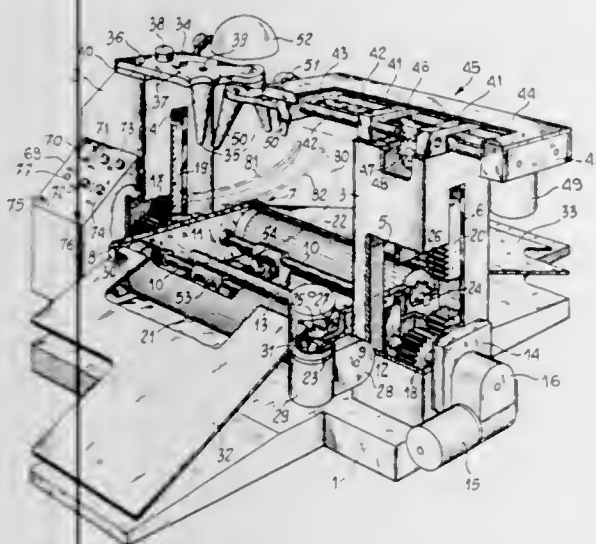
Claudio Matteuzzi, Via Olmetola no 15/6, I 40132, Bologna, Italy

Filed Feb. 26, 1969, Ser. No. 802,400

Claims priority, application Italy, Feb. 26, 1968, 15392A/68
Int. Cl. G01m 17/02

U.S. Cl. 254-50.2

4 Claims



Apparatus having selectively driven parallel rollers for supporting and rotatably driving a tire to be internally examined to determine its suitability for retreading. The tire rests on the roller and its plane is transverse to the axes of the rollers. Pivoted teeth movable toward and away from each other engage the inner walls of the tire while it is being rotated by the support rollers for gripping the tire and opening the tire so that its inside condition can be readily inspected by an operator during its rotation. Mechanism and control circuitry is provided for raising and lowering the parallel rollers relative to the teeth elements to accommodate different size tires and

to engage the teeth within the tire. The control circuitry provides for control of the teeth movement toward and away from each other in a plane transverse to the plane of the tires and for control of the rollers. A pin between the rollers applies pressure on the outside of the tire on the tread area thereof in a direction toward the axis of the tire to deflect it inwardly so that cracks and breaks in the carcass may be readily detected.

3,540,698

TOOL FOR SEPARATING BRAKE SHOES

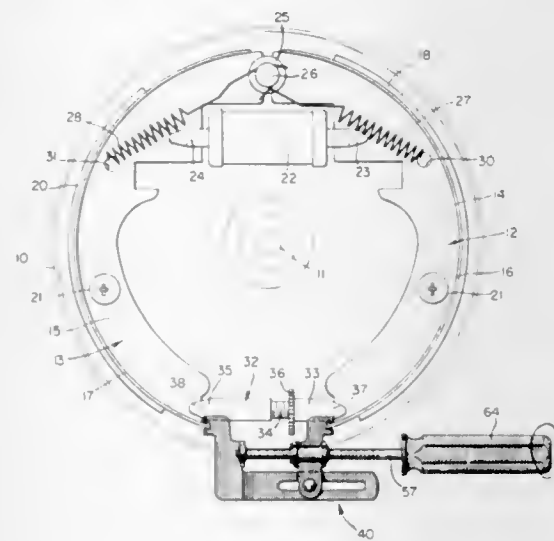
Frederick R. McFarland and Walter L. Diffenderfer, Lancaster, Pennsylvania, assignors to K-D Manufacturing Company, Lancaster, Pennsylvania a corporation of Pennsylvania

Filed Feb. 29, 1968, Ser. No. 709,270

Int. Cl. B66f 3/36

U.S. Cl. 254-100

4 Claims



A tool is provided, for engaging adjacent ends of brake shoes in the vicinity of the star nut adjustment mechanism associated with automotive brakes, to facilitate installation and removal of the star nut adjustment mechanism during installation or replacement of brake shoes. The device includes fingers which engage, preferably between lowermost ends of brake shoes, the fingers being capable of being driven apart by rotating a threaded member associated with each of the fingers.

3,540,699

HYDRAULIC BARRIER STRUCTURE FOR ROADWAYS

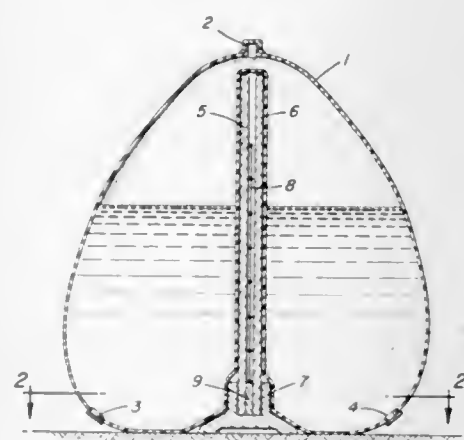
Alberto Guzzardella, Corso XXII Marzo 48, Milan, Italy

Filed June 12, 1967, Ser. No. 645,224

Claims priority, application Italy, June 14, 1966, May 22, 1967, 19,003;16,350
Int. Cl. E01f 15/00

U.S. Cl. 256-13.1

10 Claims



A device for preventing or hindering motor vehicles from going off a roadway by providing the sides and/or the middle of a road with a continuous line of hydraulic barriers formed with flexible, deformable, long tubular or short bag-type con-

tainers at least partially filled with water, water solutions, water suspensions or equivalent liquid materials, which are able to dissipate a substantial amount of the kinetic energy of an impacting motor vehicle.

3,540,700

ROTARY PROCESSING APPARATUS

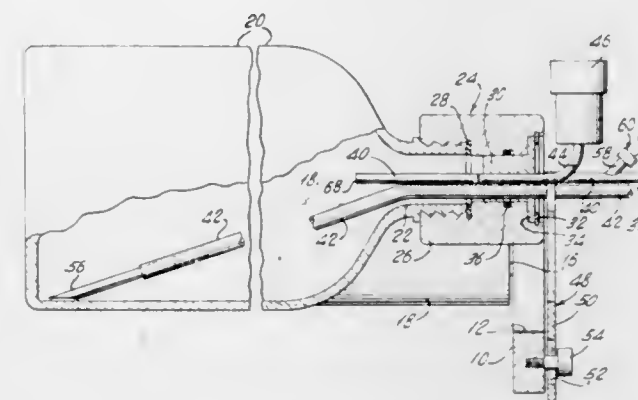
David Freedman, Highland Park and William G. Whitton, Old Bridge, New Jersey, assignors to New Brunswick Scientific Co., Inc., a corporation of New Jersey

Filed Jan. 24, 1969, Ser. No. 793,774

Int. Cl. B01f 15/02

U.S. Cl. 259-3

11 Claims



A rotary processing apparatus adapted to carrying out such processing as the production of tissue cultures. The apparatus includes a rotary container having an opening through which materials can be introduced into and removed from the interior of the container. This opening is closed by a closure means which includes an outer ring rotating with the container and an inner plug which is stationary and with respect to which the ring and container rotate. A tubular means extends through the inner stationary plug so that through this tubular means materials can be introduced into and removed from the interior of the container while the latter continues to rotate with respect to the plug and tubular means.

3,540,701

PACKED BOWL, POSITIVELY SCAVENGED, WEIR TYPE CARBURETOR

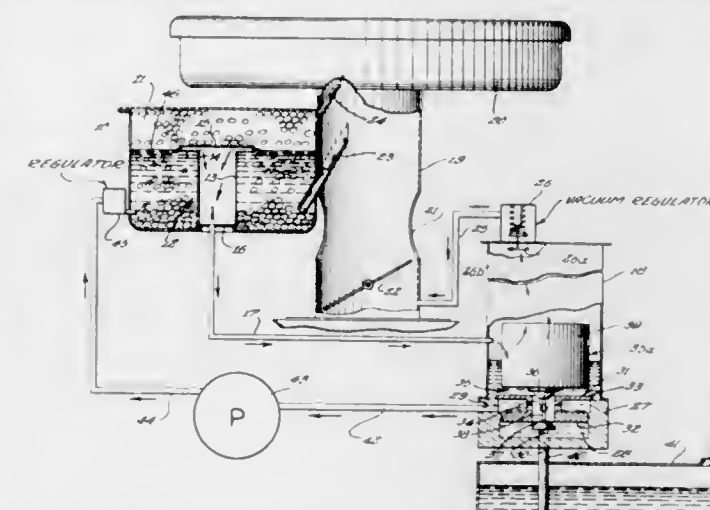
Arthur M. Brenneke, New Castle, Indiana and Errol J. Gay, Grosse Point, Michigan, assignors to TRW Inc., Cleveland, Ohio a corporation of Ohio

Filed Jan. 28, 1969, Ser. No. 794,703

Int. Cl. F02m 15/06, 17/06

U.S. Cl. 261-36

9 Claims



A carburetor bowl having a packing providing small interstices receiving liquid fuel and maintaining the fuel level relatively unaffected by disturbing forces caused by vehicle motion. An overflow in the bowl is connected by a scavenging line to a vapor separator. A vacuum line conducts fuel vapor from the vapor separator to an air intake and creates air flow through the scavenging line from the bowl to the vapor separator. A diversion valve is connected with the base of the vapor separator, a fuel tank and the inlet side of a fuel pump and is operated by a float in the vapor separator so

3,540,702

MULTI-WAVE PACKING MATERIAL AND A DEVICE FOR UTILIZING THE SAME

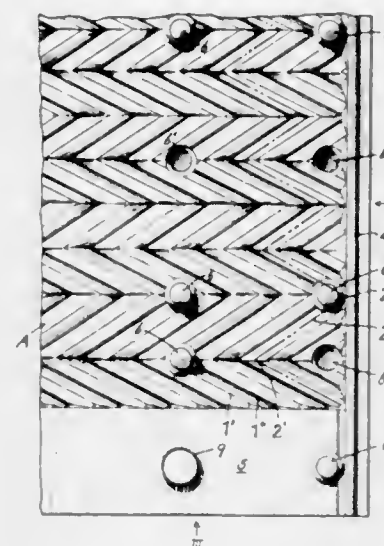
Kiyoshi Uyama, Kawasaki-shi, Japan, assignor to Nippon Kokan Kabushiki Kaisha, Tokyo, Japan

Filed Aug. 22, 1968, Ser. No. 754,691

Int. Cl. B01f 3/04

U.S. Cl. 261-112

13 Claims



A packing material for cooling towers or the like comprising a thin plate of plastic material or sheet metal which is formed with zigzag-shaped corrugations and bent transverse to its plane along a plurality of lines extending transverse to the corrugations. A plurality of such plates are joined back to back so that the bent portions of adjacent plates extend in opposite directions to form between themselves large flow passages for gas, while the corrugations of the plates form flow passages for a liquid.

3,540,703

CONTINUOUS LEHR FOR THE HEAT TREATMENT OF GLASS-BASED MATERIALS

Mikhail Ivanovich Kozmin, Ivan Fedotovich Mashir, Vasily Semenovich Bezbozhny, and Veniamin Matveevich Olomsky, Konstantinovka Donetskoi Oblasti, U.S.S.R., assignors to Ordena Trudovogo Krasnogo Znameni Zavod "Avtosteklo," Konstantinovka Donetskoi Oblasti, U.S.S.R.

Filed April 12, 1968, Ser. No. 720,816

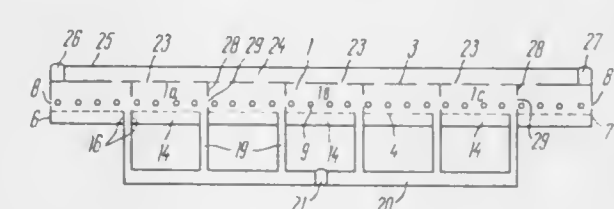
Claims priority, application U.S.S.R., April 14, 1967,

1,144,46, 1,144,462

Int. Cl. F27b 9/14

U.S. Cl. 263-6

4 Claims



A lehr having a heating chamber below which are combustion chambers on which is superposed a hearth grating. Direct heating devices are connected to the combustion chambers and to the upper part of the heating chamber through which extends a conveyor. The combustion chambers are subdivided by a longitudinal partition.

3,540,704

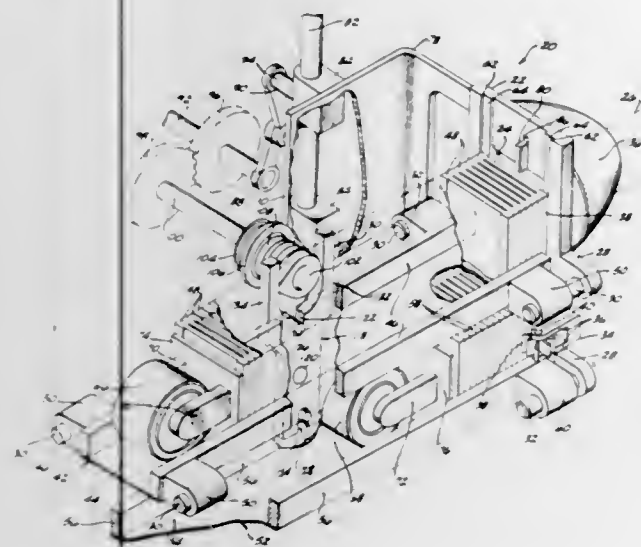
SEQUENTIAL SAMPLE CHANGING MECHANISM

Seiji Kami, Arleta, Robert G. Wilson, Canoga Park, and George R. Brewer, Malibu, California, assignors to Hughes Aircraft Company, Culver City, California a corporation of Delaware

Filed Oct. 4, 1968, Ser. No. 765,214
Int. Cl. F27b 9/14

U.S. Cl. 263—6

15 Claims



Adapted specifically for repeatably reliable ion implantation techniques, the mechanism comprises a first reciprocating tray for supplying a plurality of stacked substrate wafers or samples for sequential implantation. A second reciprocating tray rests below the supply tray and receives a plurality of stacked, already implanted wafer arrays. A wafer moving arm sequentially moves a single wafer array from the supply tray to the receiver tray and this arm is actuated by an oscillating and reciprocating device which is timed to the reciprocation of the supply and receiver trays. A heating element adjacent the wafer moving arm permits gradual and uniform heating and cooling, respectively, of the supplied and received wafers.

3,540,705

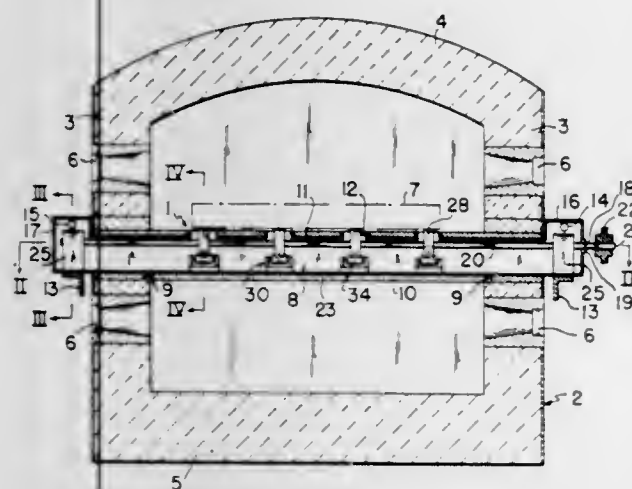
EXTERIORLY COOLED FURNACE ROLLER ASSEMBLY

Roland L. Hoffman, Upper St. Clair Township, Allegheny County, Pennsylvania, assignor to Bloom Engineering Company, Inc., Pittsburgh, Pennsylvania

Filed Feb. 10, 1969, Ser. No. 798,007
Int. Cl. F27b 1/24, 9/14

U.S. Cl. 263—6

13 Claims



An exteriorly cooled roll assembly comprising a closed water jacket extending transversely through a furnace, a driven shaft extending coaxially within the water jacket and

through the ends thereof and a series of discs concentrically disposed about the shaft and having a small section of each disc extending through slot openings in the top of the water jacket to support the workpiece. Bearing supports are positioned within the water jacket under each disc to bear the weight of the workpiece. Additional supports can be employed in alignment with the bearing supports and exterior to the water jacket.

3,540,706

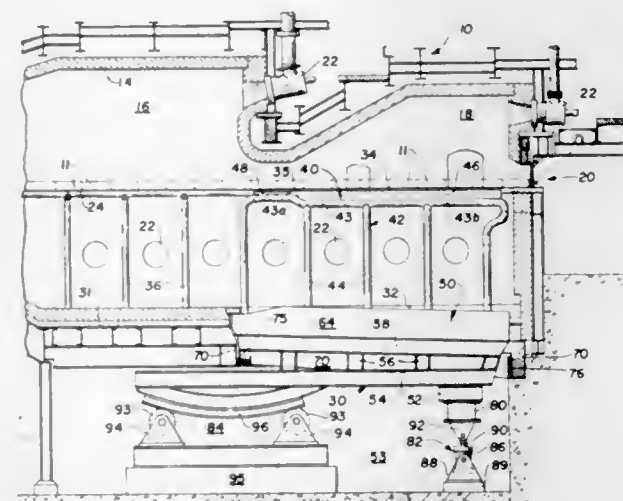
HEATING FURNACE WITH SKID RAILS

Charles Robert Wilt, Jr., Upper St. Clair, Pennsylvania, assignor to Salem-Brosius, Inc., a corporation of Pennsylvania

Filed Feb. 19, 1969, Ser. No. 800,912
Int. Cl. F27b 9/14

U.S. Cl. 263—6

13 Claims



A furnace for heating metal objects such as slabs, blooms, beam blanks, or the like. The metal objects are pushed through the furnace on water-cooled skids. Means are provided in the furnace for transferring the metal objects from the water-cooled skids onto members which support the metal objects when they are at rest during the final heat cycle.

3,540,707

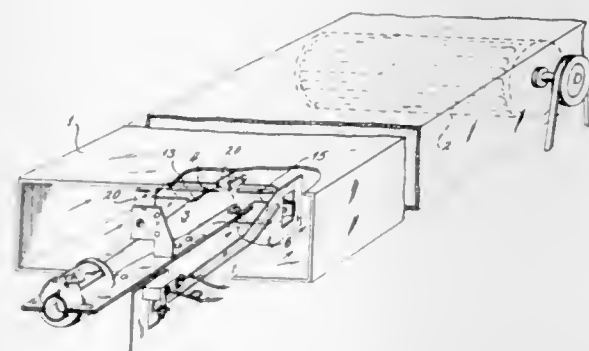
GAS BURNER

Gilbert J. Warmbrodt, St. Louis, Missouri, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Continuation of application Ser. No. 713,625, March 18, 1968. This application Aug. 4, 1969, Ser. No. 847,339

Int. Cl. F231 9/04

U.S. Cl. 263—19

12 Claims



Gas burner in which a stream of combustible gas emerging from a tube is deflected radially of the tube and parallel with an open deck, the marginal portions of which are perforated to pass air supporting combustion and to shape the base of the flame.

3,540,708

FLUIDIZED MEANS FOR HEAT TREATMENT OF RUBBER

William Ferguson Watson, Shrewsbury and William George Newell, Sturcheley, near Wellington, England, assignors to Rubber and Plastics Research Association of Great Britain, Shrewsbury, England a British Company

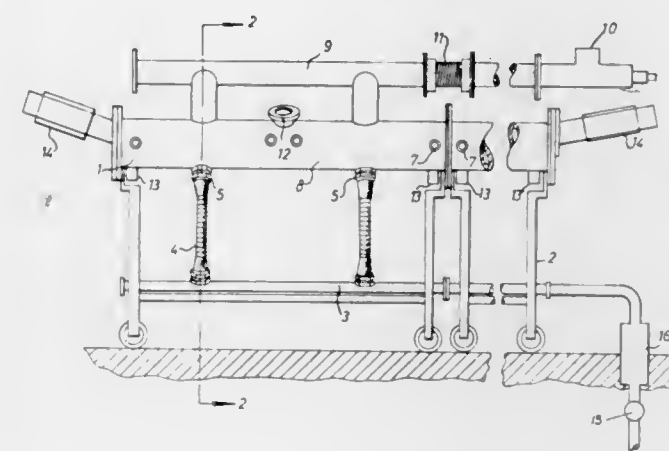
Filed May 9, 1968, Ser. No. 727,796

Claims priority, application Great Britain, May 10, 1967, 21,712/67

U.S. Cl. 263—21

Int. Cl. F27b 15/00

10 Claims



Curing apparatus comprising a sealed vessel having sealed inlet and outlet passages for passing material to be cured through the vessel; and valve controlled inlet and outlet passages for emitting a fluidizing medium such as steam into the vessel and for exhausting the steam from the vessel while maintaining a positive gas pressure in the vessel sufficient to prevent substantial expansion of volatiles or gases present in the material being cured.

3,540,709

COMBUSTION ASSEMBLY

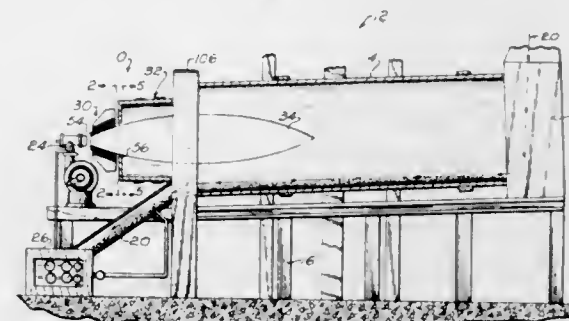
Ernest A. Gardner, North Canton and Harold E. Fisher, Alliance, Ohio, assignors to Mechtron-Genco Corporation, Alliance, Ohio a corporation of Ohio

Filed Feb. 5, 1968, Ser. No. 702,991

Int. Cl. F27b 7/00

U.S. Cl. 263—33

19 Claims



Disclosed herein is a combustion assembly wherein fuel is at least partially burned. The preferred combustion assembly includes an outer housing or shell formed by a plurality of plates and an inner liner or shell formed by a plurality of segments which are connected to the plates. The segments are spaced apart from the plates of the housing to provide air passages or spaces between the housing and liner. A segment mounted on one of the plates is spaced apart from the segments mounted on adjacent plates to provide for thermal expansion of the liner. The plates and the segments of the housing and liner are releasably interconnected to facilitate assembly and maintenance.

3,540,710

GAS ANNEALING FURNACE

Kazuo Yamagishi, Urawa and Yasuaki Nakagawa, Tokyo, Japan, assignors to Tokyo Gas Company Limited, Tokyo, Japan

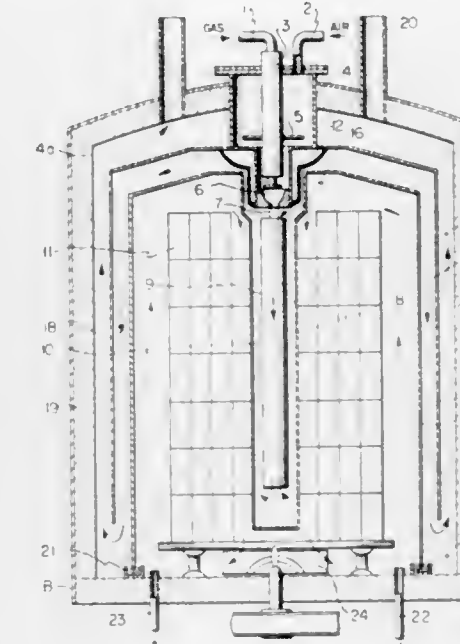
Filed Dec. 9, 1968, Ser. No. 782,158

Claims priority, application Japan, Dec. 14, 1967, 42/105,666; Dec. 30, 1967, 42/110,824 and 42/110,825

Int. Cl. F27b 5/00

U.S. Cl. 263—41

4 Claims



A gas annealing furnace. An inner bell-shaped cover has a radiant heat tube depending into said inner cover. An outer bell-shaped cover surrounds said inner cover and a burner assembly depends from the outer cover in alignment with said radiant heat tube for directing a stream of combustion gases into said radiant heat tube. A middle bell-shaped cover is secured to said burner assembly and is positioned between the inner and outer covers. Combustion gases from said burner assembly flow along said radiant heat tube, then downwardly between the inner and middle covers to heat the space within the inner cover, and then flow upwardly between the inner and outer cover to insulate the inner cover from the atmosphere outside the outer cover.

3,540,711

APPARATUS FOR THE REDUCTION AND PURIFICATION OF REACTIVE METALS

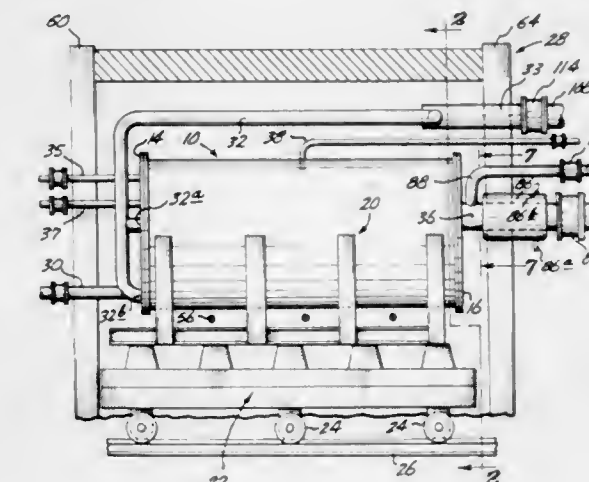
Stephen M. Shelton and Henry Gordan Poole, Albany, Oregon, assignors to Oregon Metallurgical Corporation, Albany, Oregon a corporation of Oregon

Original application Oct. 20, 1965, Ser. No. 498,500, now Patent No. 3,464,813, dated Sept. 2, 1969. Divided and this application Dec. 23, 1968, Ser. No. 786,333

Int. Cl. C22b 5/16

U.S. Cl. 266—19

4 Claims



Apparatus for producing a reactive metal. A halide of the reactive metal is reduced with a reducing metal in a retort to

form the reactive metal distributed as a bed on a grid within the retort. Such bed contains reducing metal and reducing metal halide as impurities. Such impurities are removed by heating the contents of the retort at an elevated temperature to vaporize the impurities. The retort is swept with an inert gas whereby the impurities in vaporous form are carried from the retort. A closed circulating system outside the retort including condenser means and filtering means is used to remove impurities from the inert gas prior to its being returned to the retort.

3,540,712

CONVERTER FOR USE IN THE METALLURGICAL TREATMENT OF IRON

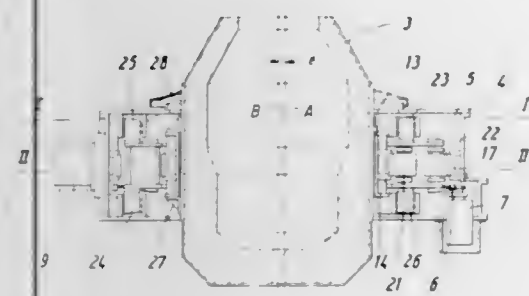
Leonhard Hohle, Hosel and Helmut Krohl, Duisburg-Grossenbaum, Germany, assignors to Gesellschaft für Huttenwerksanlagen m.b.H., Düsseldorf, Germany

Filed Feb. 6, 1968, Ser. No. 703,352

Claims priority, application Germany, Feb. 9, 1967, G49208 Int. Cl. C21c 5/42

U.S. Cl. 266—36

9 Claims



This invention is concerned with providing an iron converter having a capacity of the order of 100 tons with a mounting by which the converter vessel can be gyrated about an axis offset from its own axis, without rotating about its own axis at the same time, while a refining process is in progress. This motion generates a wave in the melt which facilitates mixing and hence speeds the refining. The converter vessel is mounted in an eccentric ring so that the eccentric ring is rotatable about the vessel, and the eccentric ring in turn is rotatably mounted within a fixed carrier ring. There is a drive for rotating the eccentric ring about its own axis and by this rotation, the converter vessel is caused to gyrate about the eccentric axis while not rotating about its own axis.

3,540,713

STEEL MAKING LADLE CONSTRUCTION

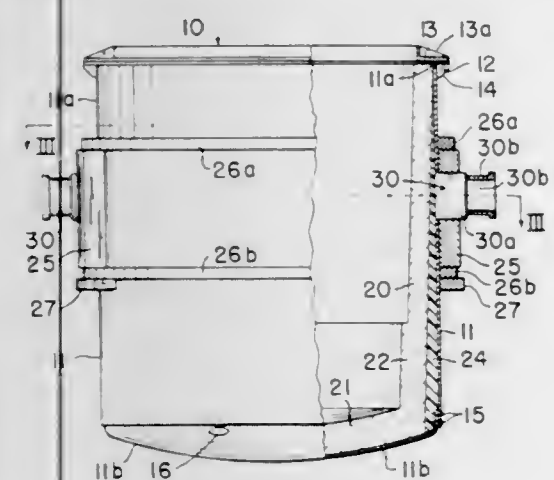
Harry T. Montgomery, New Castle, Pennsylvania, assignor to Pennsylvania Engineering Corporation, New Castle, Pennsylvania a corporation of Pennsylvania

Filed Feb. 24, 1969, Ser. No. 801,256

Int. Cl. F27d 15/00

U.S. Cl. 266—39

13 Claims



A large capacity ladle for processing molten ferrous metal is provided having a metal outer shell-like body of oval, cylindrical or lengthwise-straight barrel shape, a closed bottom portion of dished or flat shape, and a replaceable inner

lining of refractory brick or tile members defining a frusto-conical molten metal receiving cavity that converges towards the closed bottom portion thereof. A permanent type of intermediate lining is applied to and is adherently set along the inner side of the metal shell wall to provide it with a frustoconically contoured back-up support for the innermost refractory brick or tile lining; the intermediate lining is adapted to withstand the high temperatures and variations in temperature of the utilization, and to provide an inner mounting wall for supporting the conventional refractory brick or tile that is replaceable with respect thereto for servicing of the ladle.

3,540,714

TORSION ROD STABILIZER FOR MOTOR VEHICLES

Alf John Mueller, Bittenfeld, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed March 29, 1968, Ser. No. 717,235

Claims priority, application Germany, April 1, 1967, D52684 Int. Cl. B60g 21/02; F16f 1/14

U.S. Cl. 267—154

7 Claims



A torsion rod stabilizer for motor vehicles which is secured with lugs arranged at its ends at wheel guide members and is rotatably supported with respect to the vehicle superstructure at the latter in two places, and which is provided with such a bend that the lugs and the center of the bend are disposed on opposite sides of the connecting line of the bearing points at the vehicle superstructure.

3,540,715

SHOCK LIMITING DEVICE

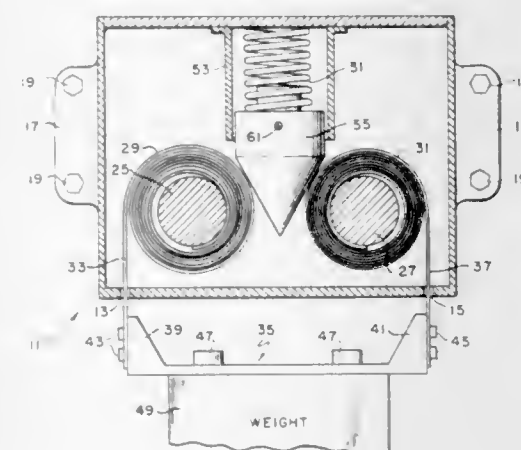
Charles E. Strother, Rockville and Frank I. Whitten, Bethesda, Maryland, assignors to the United States of America as represented by the Secretary of the Navy

Filed July 31, 1968, Ser. No. 749,099

Int. Cl. F16f 1/04

U.S. Cl. 267—1

5 Claims



A shock absorption device employing one or more spiral spring elements made of spring steel each wound upon itself around a stud with one free end of each spring attached to or supporting the load to be protected. The springs may be arranged close together in pairs having parallel axes. A checking element is urged between the springs as they unwind under shock for preventing free return or "snap back" of the springs to their initial positions.

3,540,716

SELF-LEVELING HYDRAULIC SHOCK ABSORBER

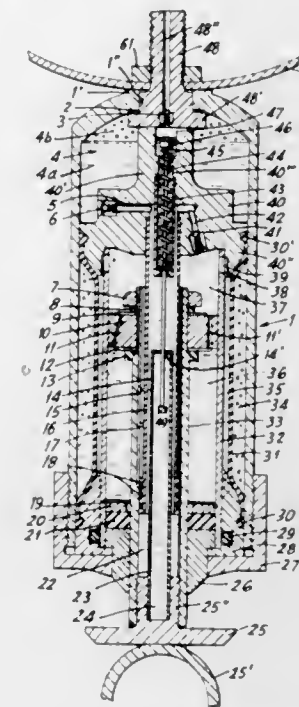
Erich Hahn, Ennepetal-Milspe, Germany, assignor to Firma August Bilstein, Ennepetal-Altenvoerde, Germany a corporation of Germany

Filed Jan. 22, 1968, Ser. No. 699,510

Claims priority, application Germany, Jan. 21, 1967, B90834 Int. Cl. B60g 11/28

U.S. Cl. 267—64

10 Claims



Shock absorber with a dashpot assembly whose cylinder and piston form an extensible unit enclosed within a housing which is rigid with the cylinder and defines therewith an air cushion for the exertion of pneumatic pressure upon a hydraulic working liquid in the cylinder; the tubular piston rod forms a pumping chamber receiving a plunger which is mounted on the inner end of the cylinder, this inner end being constituted by a header which is spaced from the adjoining housing end to form a liquid reservoir and which contains valve-controlled passages for the flow of hydraulic liquid between the reservoir and the working space of the dashpot cylinder by way of the pumping chamber.

3,540,717

SPRING-SECURING ELEMENT

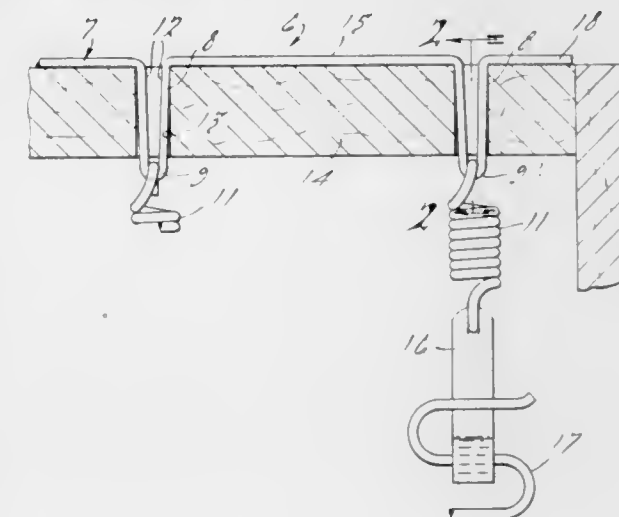
Edward M. Knabusch and Edwin J. Shoemaker, Monroe, Michigan, assignors to La-Z-Boy Chair Company, a corporation of Michigan

Filed Sept. 10, 1968, Ser. No. 758,742

Int. Cl. A47c 23/26

U.S. Cl. 267—112

4 Claims



The spring-securing element is a wire bent into V-shape with the wire at the open end extending outwardly in substantial alignment with each other. The outwardly extending wires between the elements may be continuous to form a strip having a plurality of V-shaped securing elements thereon. The elements are spaced in accordance with the lo-

cation of apertures in a rail of a chair frame through which the elements extend for supporting one end of the seat springs.

3,540,718

PRINTED CIRCUIT BOARD COMPONENT CLAMP AND ASSEMBLY JIG

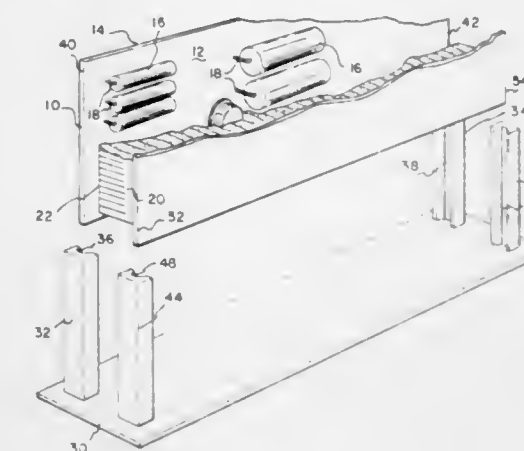
Robert E. Heffron, 550 N. Horn and Russell W. Meredith, 405 E. 10th St., Mesa, Arizona 85201

Filed Aug. 22, 1966, Ser. No. 574,111

Int. Cl. B23k 37/04; H05k 3/34

U.S. Cl. 269—254

1 Claim



A printed circuit board component clamp and assembly jig adapted to hold a printed circuit board in juxtaposition, and means for holding compressive board against components on a printed circuitry board during the trimming of the leads and the soldering thereof; the compressive elements of the jig comprising resilient material formed into a plurality of contiguous deflectable fingers adapted to deflect independently and individually to engage and compressively hold various components on said printed circuitry board as it is held in juxtaposition by said jig.

3,540,719

ARM AND INSTRUMENT HOLDING APPARATUS

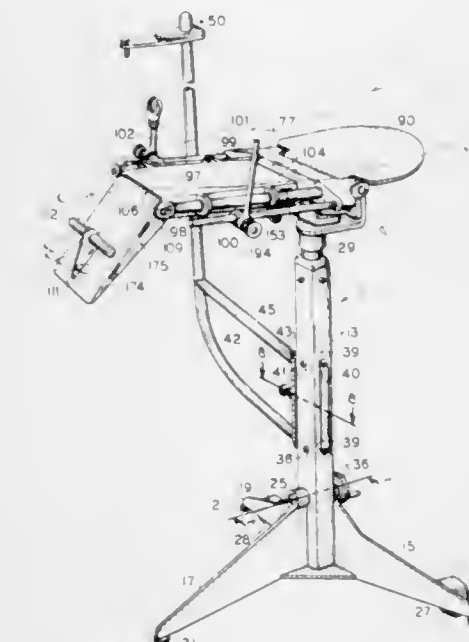
Russell H. Romney, 3259 Bon View Drive, Salt Lake City and Billy M. Jensen, 8129 South 1475 East, Sandy, Utah 84070

Filed Oct. 19, 1967, Ser. No. 676,539

Int. Cl. A61g 13/00

U.S. Cl. 269—324

12 Claims



An adjustable forearm rest apparatus of articulated type with hand holding means which is extensible or retractable and angularly positionable on a support bracket. The bracket may be mounted selectively on a stand of adjustable type or attached to a hospital bed and the apparatus includes an upper arm support and means for holding instruments and devices used in cardiovascular studies, etc.

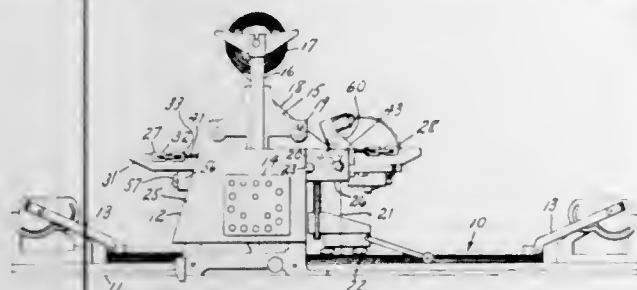
3,540,720

MANUALLY CONTROLLED CLOTH LAYING MACHINE
Edward M. Merrill, North Bellmore and Conrad A. Costigan,
Richmond Hill, New York, assignors to Cutting Room Ap-
pliances Corporation, New York, New York a corporation
of New York

Filed Aug. 19, 1968, Ser. No. 753,389
Int. Cl. B65h 29/46; H02p 7/00

U.S. Cl. 270—31

6 Claims



A manually controlled electrically powered cloth laying machine, including a trigger operated rheostat mounted on the carriage element thereof enabling the carriage to be "walked" under power by an operator. Controls for carriage speed, direction of movement, engagement or disengagement of a positively driven feed roller are incorporated in a single location to be readily manipulated by a single hand. Gravity positioned wrap roller means is provided for accumulating slack to be relieved at the time of formation of a fold by conventional fold forming means.

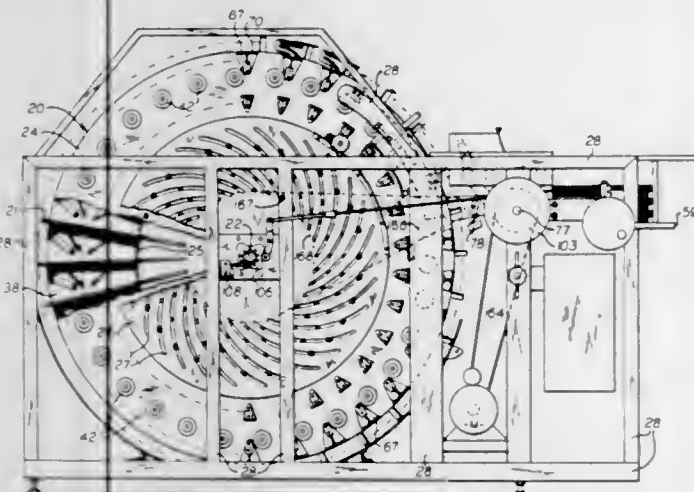
3,540,721

ROTARY COLLATOR WITH DRIVE WHEEL FOR SHEET PROJECTING MEANS
Frank C. Blowsky, Flushing, New York (718 Broadway, New
York 10003)

Filed June 13, 1968, Ser. No. 736,809
Int. Cl. B65h 39/02

U.S. Cl. 270—58

23 Claims



The invention is directed to a collator of the rotary drum type having a plurality of radial pockets and as the drum rotates a sheet is withdrawn from each pocket a distance sufficient to engage secondary sheet feeding means which complete the withdrawal of the sheet from its pocket and delivers the sheet to a deposit table thereby assembling a book with each page thereof in sequence. The mechanism for withdrawing a sheet includes feed rolls resting upon the top sheet of the pile of sheets in its respective pocket which rolls are rotated by a drive wheel which engages a driving shoe or the like at the proper moment when a sheet is to be projected out of the pocket of the rotating drum. Preferably, there is provided ahead of this drive shoe, a preliminary feed shoe which engages the drive wheel and projects a sheet out of its pocket a short distance initially and this partially projected sheet engages a stripper which frees or assures the freeing of the leading edge of the top sheet from sheet resisting means at a leading edge of the pile of sheets. Preferably also with the sheet feeding means there is a brake shoe which engages the drive wheel and holds the feed rolls stationary when the secondary sheet feeding means takes over. Each sheet is

gaged for a double or a miss and includes control means carried by the drum.

3,540,722

FOLDING APPARATUS FOR ROTOR REPRINTING PRESSES

Rudolf Kuhn, Frauenfeld, Switzerland, assignor to Winkler, Fallert & Co., Ltd., Berne, Switzerland

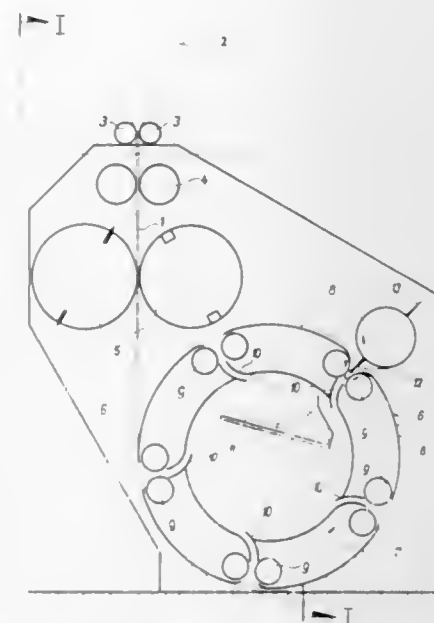
Filed Aug. 15, 1968, Ser. No. 753,009

Claims priority, application Sweden, Aug. 21, 1967,
11,684/67

Int. Cl. B65h 45/16

U.S. Cl. 270—72

3 Claims



Folding apparatus for rotary printing presses, for producing cross-folded copies, includes a rotating folding drum, pairs of folding rolls mounted rotatably in the drum and revolved around the drum axis, and short guiding tongues receiving the folded copies from the folding rolls. The drum has an open end, and a stationarily mounted cantilever arm extends through the open end to receive the folded copies from the tongues and discharge the copies through the open end of the drum. This cantilever arm may be provided with an endless conveyor.

3,540,723

GEAR FOLDER FOR ROTARY PRESSES

Hans-Bernhard Bolza-Schunemann and Otto Weschenfelder,
Wurzburg, Germany, assignors to Schnellpressenfabrik
Koenig & Bauer Aktiengesellschaft, Wurzburg, Germany

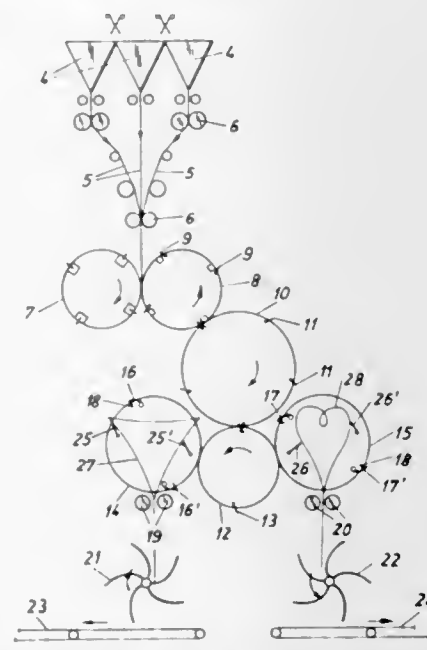
Filed June 20, 1968, Ser. No. 738,574

Claims priority, application Germany, June 20, 1968,
1,761,074

Int. Cl. B65h 45/16

U.S. Cl. 270—77

1 Claim



The apparatus provides for a folder to produce thick newspapers of for instance 144 pages or more. There is

shown three webs fed from three reel stars to three rotary press printing units. The printing units have six plates in width and four page plates in circumference. Each printing unit therefore produces 24 pages printed recto and 24 pages printed verso. The webs of the three printing units run into a folder having three formers. There are drag roller groups which drag the strips from the formers and these brought together strips are led from the drag rollers to a 4/4 cutting blade cylinder having four cutting blades that cut the strips to page size against a 4/4 cutting groove or cutting rubber cylinder.

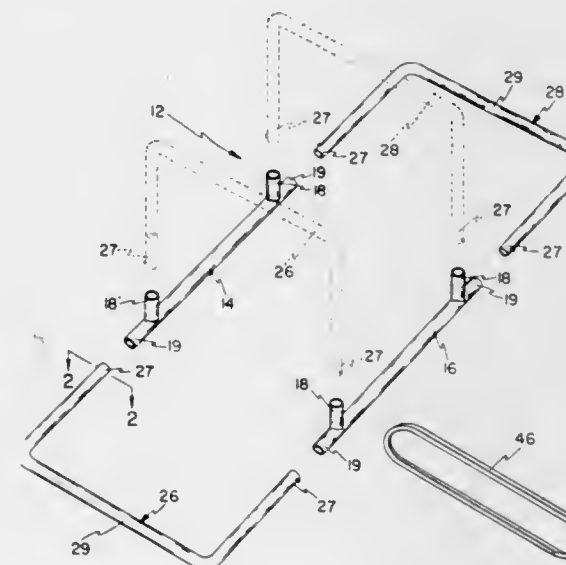
3,540,724

MULTI-POSITIONABLE EXERCISING DEVICE
William D. Hunter, 4585 Wellington St., Salt Lake City, Utah
Filed March 21, 1968, Ser. No. 714,841

Int. Cl. A63b 3/00

U.S. Cl. 272—63

3 Claims



A multipositionable exercising device comprising a frame including parallel two side bars, each adapted at both ends to be jointly releasably joined to the connecting portions of a U-shaped end piece alternatively in either coplanar or angularly related relation. An endless band of resilient elastomeric material may be used with the assembled device to provide a yieldable resistance to movement of selected parts of the exercising device.

3,540,725

AIR COMBAT GAME

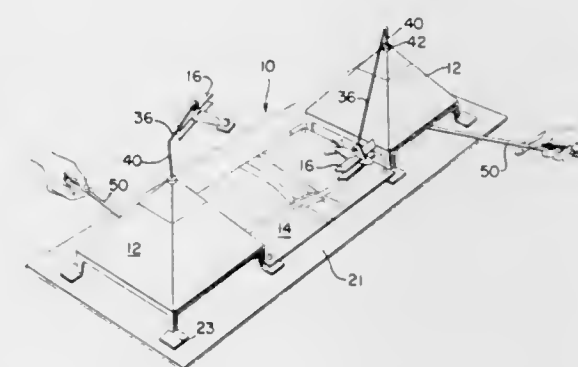
Charles P. Hill, Lorain, Ohio, assignor to Kusan, Inc., Nash-
ville, Tennessee a corporation of Kentucky

Filed Jan. 19, 1968, Ser. No. 699,195

Int. Cl. A63f 9/00; A63b 71/04

U.S. Cl. 273—1

7 Claims



An aerial toy preferably used in conjunction with another similar one detachably supported on the outer end of a generally horizontal arm for rotation about its universally pivotable, vertical axis, the inner vertical end being manipulatable to simultaneously effect rotary movement of the toy about the axis when inclined due to its weight and to vary its height so that one of the toys may aerially collide with the

other to knock it off of its support to effect a "kill", movement of the inner vertical end being effected by a manual control rod having a universal connection therewith.

3,540,726

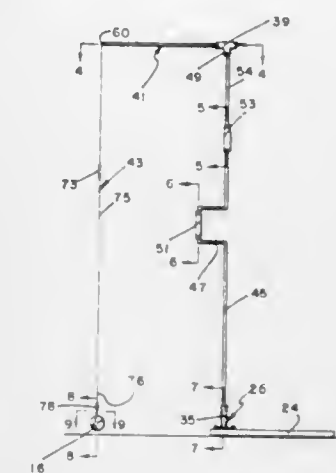
BATTING PRACTICE APPARATUS

Richard S. Davis, 1023 Union National Building, Wichita,
Kansas and Oscar Bridge, Chandler, Oklahoma
Filed Oct. 22, 1968, Ser. No. 769,629

Int. Cl. A63b 69/00

U.S. Cl. 273—26

2 Claims



This invention is a batting practice apparatus operable to rotate a ball in a desired pattern for the hitting of the same by a given player with a baseball bat or the like. More particularly, this invention is a batting practice apparatus including a support means, and a ball actuator means connected to the support means having a ball assembly with a ball member connected to a cord member whereby the ball actuator means is rotatable to achieve the desired momentum to the ball member for hitting the same to achieve batting practice.

3,540,727

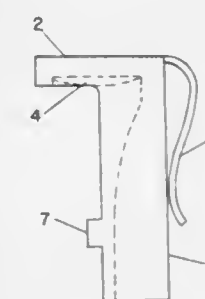
GOLF TEE SETTER

Solomon S. H. Hoe, Jr., 631-3 Hausten St., Honolulu, Hawaii
Filed Feb. 10, 1969, Ser. No. 797,849

Int. Cl. A63b 57/00

U.S. Cl. 273—33

2 Claims



An L-shaped tee setter of unitary construction includes cooperating recesses in the legs thereof to accommodate a golf tee and integral projections which span the recess in one leg to hold a tee in said recesses. An integral clip enables the setter to be clipped to a belt or pocket when not being used for setting a tee in the ground.

3,540,728

RACKET WITH METAL FRAME WELDED TO HANDLE SLEEVE

George R. Palmer, 19864 Onoko Drive, Fairview Park, Ohio
Filed Nov. 8, 1967, Ser. No. 681,426

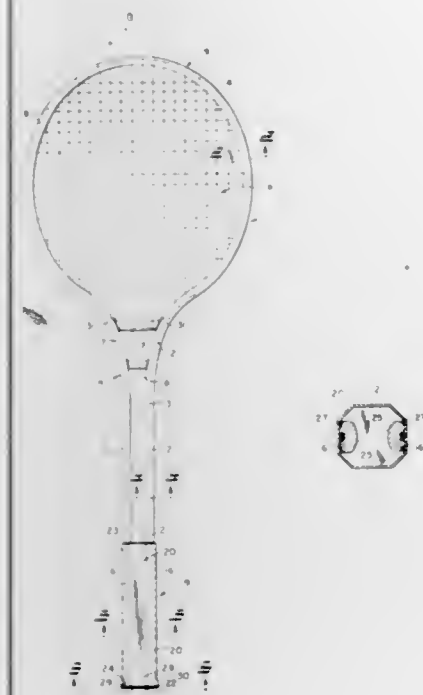
Int. Cl. A63b 59/00

U.S. Cl. 273—73

10 Claims

A racket having an extruded metal frame with string holes in the bow whose ends are coined or forged to provide smooth rounded shoulders which preclude string damage and wear. A continuous groove in the outer periphery of the frame contains the portions of the strings passing between

the holes to prevent damage thereto by contact with external surfaces. The frame has two parallel spaced handle extensions which extend into a handle sleeve. At each end of the



handle sleeve is a metal plate which has two opposite edge notches to receive the handle extensions. The end plates are welded to the handle extensions and to the handle sleeve.

3,540,729

COLLAPSIBLE RACK FOR HOLDING TARGETS, SIGNALS AND THE LIKE

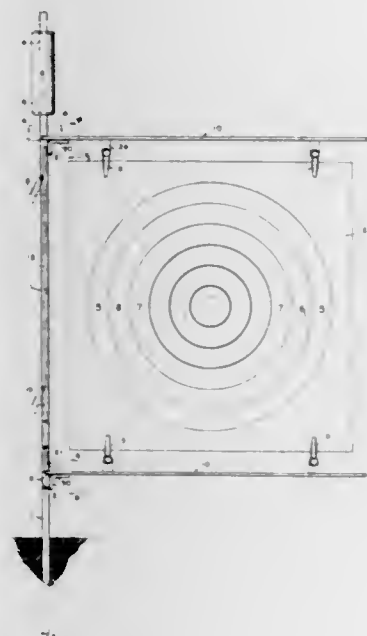
Edward J. Rahberger, Orofino, Idaho (Route 1 Box 566A, Waterford, Wis. 53185)

Filed Dec. 12, 1968, Ser. No. 783,294

Int. Cl. A45f 3/44

U.S. Cl. 273-102

4 Claims



A rack for holding paper or cardboard sheets having printed or lithographed thereon standardized targets for practicing marksmanship. The rack comprises a standard in the form of a rod adapted to be driven into the ground at any selected distance from a firing line or in accordance with rules of competitive riflery. The rod is provided with vertically adjustable, laterally extended arms and spring-clamps carried by the arms for holding target sheets tightly drawn vertically and laterally to present a smooth, correct and clearly visible sight picture.

3,540,730 AERIAL TARGET WITH POSTS AND ATTACHED RINGS

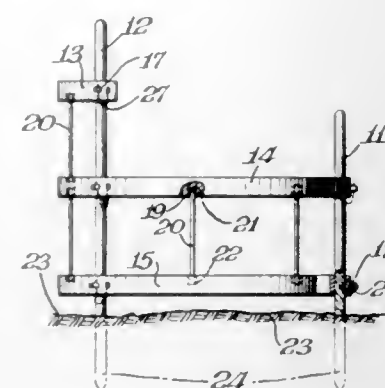
Robert A. Kerr, 1501 Pottstown Pike, West Chester, Pennsylvania

Filed Sept. 6, 1967, Ser. No. 665,874

Int. Cl. A63b 63/00

U.S. Cl. 273-105

3 Claims



A target is provided which affords a landing terminal for a simulated spacecraft game device which is capable of flying in a curved path. The target comprises barriers, hazards and the landing. In order to reach the landing the craft must pass barriers and hazards which are created by essentially upright posts that force the craft to enter the landing either from the sides or from the rear of the device. The posts extend above horizontally disposed ring-shaped members that are slightly larger than the craft to be landed, and there may be present supporting, rodlike members between the rings which also act as barriers. Posts of different lengths are used to create different barriers. The rings afford a hollow body which is generally cylindrical and comprises the landing. The upright posts generally extend below the lowermost ring and are tapered to afford a ready means for fixing and steadying the target on the ground.

3,540,731

PUZZLE MAZE WITH MOVABLE PARTITIONS

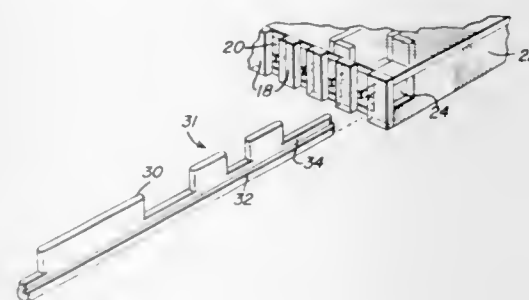
Raymond L. Muncey, 4285 Balliet Drive, Port Clinton, Ohio

Filed July 30, 1968, Ser. No. 748,878

Int. Cl. A63b 67/14

U.S. Cl. 273-109

3 Claims



A base plate has tracks formed therein for accommodating removable denticulated slide members which cooperate with fixed partition elements connected to the base plate transversely positioned between adjacently positioned tracks. The slide members and partition elements form a maze pattern. A ball is positioned within the maze and moved therethrough by a player. The slide members may be removed and repositioned to permit a large number of different maze patterns.

3,540,732

JIGSAW PUZZLE WITH SIMILARLY SHAPED AND SIMILARLY CODED SUBASSEMBLIES

Henry Allen Wilson, 4630 Leona St., Tampa, Florida 33609

Filed Jan. 30, 1968, Ser. No. 701,705

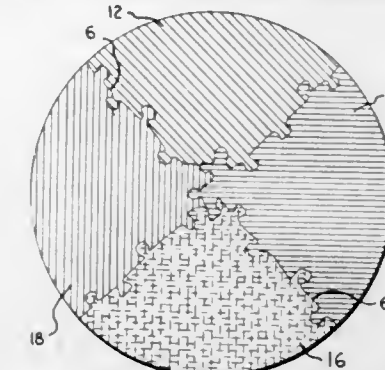
Int. Cl. A63f 9/10

U.S. Cl. 273-157

9 Claims

A jigsaw puzzle comprising a scene printed on one face and a code on the opposite face. The code is arranged to in-

dicating the zones or subassemblies of the puzzle in which the separate pieces are fitted. The zones can be indicated by different colors or by different indicia. Complicated puzzles can



be solved by dividing the pieces into groups containing the common zone characteristic to provide a plurality of simple puzzles capable of simple solution. Such a puzzle is thereby made useful to treat the mentally deficient.

3,540,733
GOLF GAME

Nicholas J. LaMattina, 361 Degraw St., Brooklyn, New York 11231

Filed Nov. 26, 1968, Ser. No. 778,986

Int. Cl. A63b 67/02, 69/36

U.S. Cl. 273-176

5 Claims



A golf ball putting device includes a housing positioned rearward of an inclined surface in which a putting hole is provided. The housing contains a rolled up putting surface which can be withdrawn from the housing, under the inclined surface, through a slotted lower end. Sunk balls actuate a solenoid switch and are returned along a gutter in the putting surface.

3,540,734

GOLFING TARGET

Lannis Wayne Temple, Dallas County, Texas, assignor of

forty-nine percent to Joe B. Carpenter, Fort Worth, Texas

Filed March 20, 1968, Ser. No. 714,515

Int. Cl. A63b 69/36

U.S. Cl. 273-181

2 Claims



A target for golfers includes a hoop having a net basket depending therefrom. A deflecting member extends vertically

above the hoop and telescoping support rods permit the deflecting member to be adjusted from a position centrally of the hoop to a position adjacent the rear of the hoop.

3,540,735

GOLF BALL INCLUDING PLANAR MIRROR SURFACE

Nathan Miller, 60 Hempstead Ave., Lynbrook, New York 11563

Original application Nov. 15, 1967, Ser. No. 683,360, now

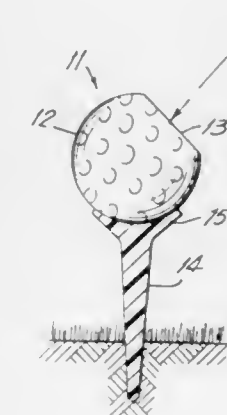
Patent No. 3,459,428. Divided and this application March 26,

1969, Ser. No. 810,466

Int. Cl. A63b 69/36, 37/14

U.S. Cl. 273-183

1 Claim



A golf training device comprising a planar mirror member disposed on a planar surface of a golf ball, the mirror being so oriented as to reflect a portion of the golfer's head, permitting the golfer visually to check the stability of his head throughout the golf swing by noting any movement of that portion of his head reflected in the mirror when the ball is struck, the flight characteristics of a spin imparted thereto will be accentuated, because of the ball's nonaerodynamic shape.

3,540,736

SAFETY PROTECTIVE DISCS FOR PHONOGRAPH RECORDS

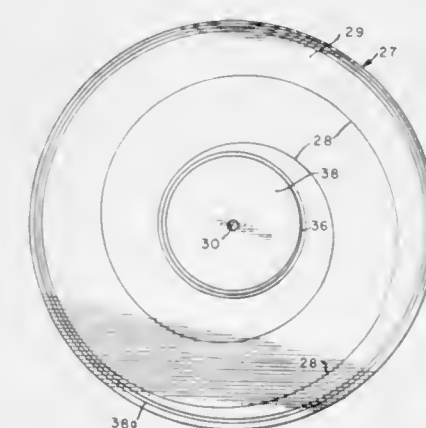
Alan Pallie, Silver Spring, Maryland (110 MacDougal St. New York, NY 10012)

Filed Sept. 25, 1968, Ser. No. 762,483

Int. Cl. G11b

U.S. Cl. 274-1

1 Claim



Safety protective discs which are of a material somewhat softer than that normally used, such as soft plastic. The discs are placed between adjacent stacked records, and have a silent fast groove therein, preventing the records from con-

tacting each other whereby damage to the phonograph records is prevented.

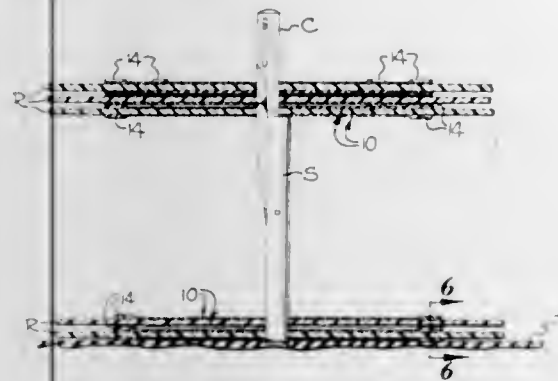
3,540,737 ADAPTOR DISC FOR PREVENTING SLIPPAGE BETWEEN RECORDS

Theodore H. Borthwick, 2741 Pilgrim Court, Winston-Salem, North Carolina 27106

Filed Jan. 17, 1969, Ser. No. 791,956
Int. Cl. G11b

U.S. Cl. 274-1

7 Claims

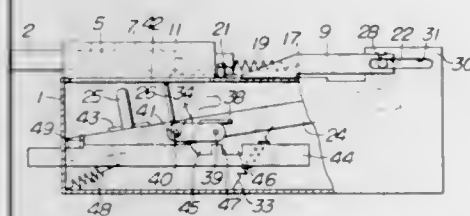


An adaptor disc for preventing slippage between records when stacked upon a rotating turntable of a record player and adapted to be mounted in overlying relation to the label area of various size phonograph records having centrally disposed therein a variety of size spindle receiving apertures. The adaptor disc comprises a transparent circular disc having a spindle receiving aperture centrally disposed therein, means forming a removable annular portion concentrically disposed therein adjacent said aperture, and one face of said disc having formed thereon a plurality of radially extending circularly arranged ridges of substantially uniform height.

3,540,738
MAGNETIC TAPE RECORDER OF MAGAZINE TYPE
Kozo Yamamoto, Hirakata-shi and Morihisa Naito, Moriguchi-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed March 12, 1968, Ser. No. 711,677
Claims priority, application Japan, March 15, 1967, 42/16785
Int. Cl. G11b 5/00

U.S. Cl. 274-4

6 Claims



A tape recorder of the magazine type having a movable platform containing tape recording and reproducing apparatus thereon. The movable platform is biased to an inoperative position to automatically eject a tape cartridge in response to a cartridge unlocking operation. The insertion of a tape magazine causes the movable platform to pivot within a guide slot causing the movable platform to move to an operative position in order to record on or reproduce from the tape magazine.

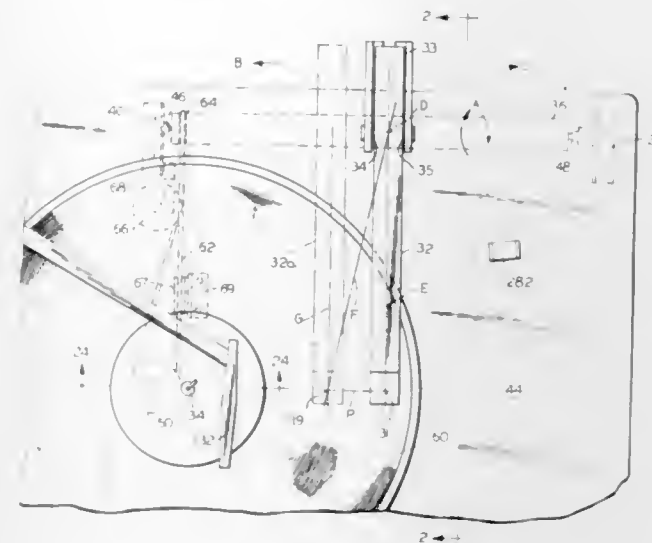
3,540,739
PHONOGRAPH RECORD CHANGER
Yasutaka Nakajima and Isao Kozu, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
Filed Jan. 29, 1968, Ser. No. 701,274
Int. Cl. G11b 17/08

U.S. Cl. 274-10

8 Claims

A phonograph record changer has a tone arm with a pickup needle adapted to move on a straight line drawn between said pickup needle and a center of a record on a turntable. Movement is produced by means of the coopera-

tion of a rotating cylinder and a roller pressed upon said cylinder. The record changer also has a record changing mechanism capable of returning said tone arm to its rest position, feeding a record singly from a spindle onto said

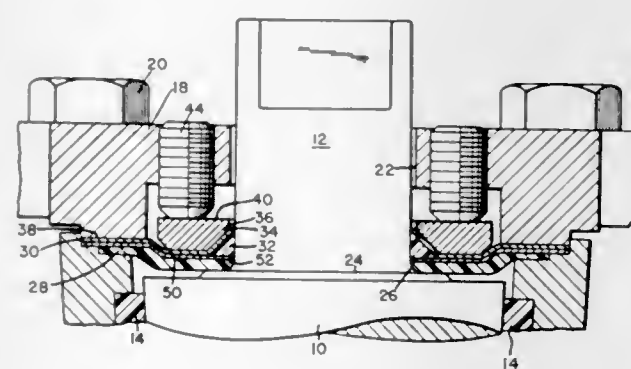


turntable, and starting said tone arm to lead said pickup needle to a run-in groove of the record at each record changing cycle. Operation of the record changing mechanism is initiated by detecting means in response to a quick movement of said tone arm due to entry of said pickup needle into a run-out groove of the record so that said tone arm moves to its rest position, and is also initiated by said detecting means in response to arrival of said tone arm at its rest position so that the next record is fed on the turntable and said tone arm moves toward the center of said record.

3,540,740
SEALING MEANS FOR PLUG VALVE STEMS
Russell G. Smith, Cincinnati, Ohio, assignor to Xomox Corporation, Cincinnati, Ohio a corporation of Ohio
Filed Nov. 26, 1968, Ser. No. 779,150
Int. Cl. F16j 9/00; F02f 5/00

U.S. Cl. 277-26

15 Claims



The sealing means surrounding the operating shank or stem of a plug valve, which may lose stability and gain an overburden of responsibility for leakage prevention resulting from destruction or volatilization of other internal seals, is provided with a system of diaphragms and sealing elements capable of augmenting the shank sealing function as the burden of leakage prevention increases. In effect, the diaphragm arrangement includes wedging areas for increasing the force of sealing contact of a sealing material against the shank, as other sealing means within the valve yield to destruction by heat or flame.

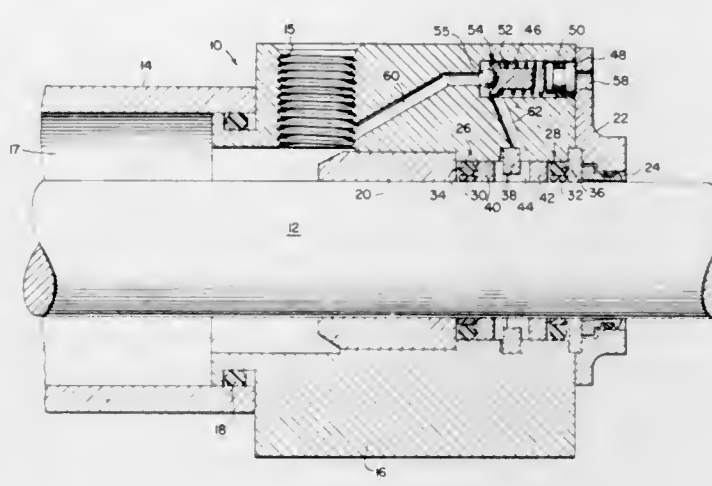
3,540,741 SEAL ASSEMBLY FOR A HYDRAULICALLY OPERATED CYLINDER

Arthur H. LeFebvre, Washington Township, New Jersey, assignor to Singer-General Precision, Inc., Little Falls, New Jersey a corporation of Delaware

Filed Sept. 18, 1968, Ser. No. 760,597
Int. Cl. F16k 41/00; F01b 31/10

U.S. Cl. 277-28

5 Claims



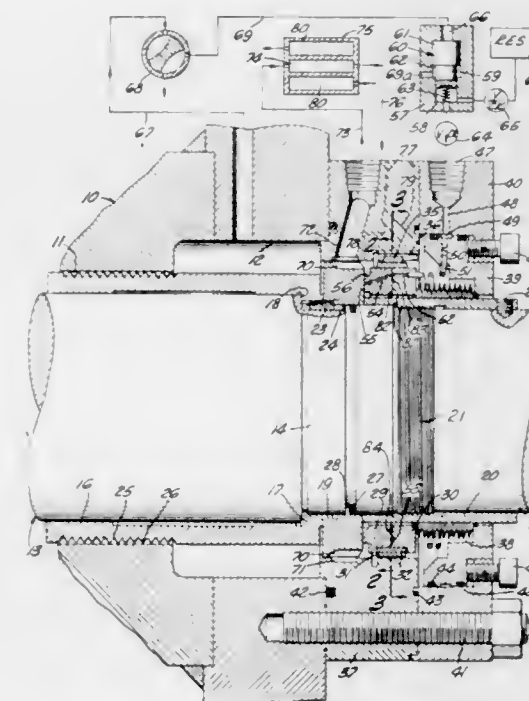
A seal assembly for a hydraulically operated cylinder comprising a pair of spaced sealing members acting on the operating shaft to seal the hydraulic operating fluid from the ambient fluid. Means are provided to supply the operating fluid to the space between the sealing members, and control the pressure differentials across each of the sealing members.

3,540,742
MECHANICAL SEAL CONSTRUCTION
Herbert E. Tracy, Alhambra, California, assignor to Borg-Warner Corporation, Chicago, Illinois a corporation of Illinois

A division of Ser. No. 469,700, July 6, 1965 which is a continuation of Ser. No. 791,859, dated Jan. 2, 1969. Now Pat. No. 3,526,408. Divided and this application July 18, 1967, Ser. No. 662,247

U.S. Cl. 277-88

2 Claims



A mechanical seal assembly having a sealing ring carried by a shaft and being rotatable relative to a stationary sealing ring sealed to a portion of the housing by a bellows. An adapter ring surrounds the shaft and is mounted on the housing for adjustable axial sliding movement. The bellows sur-

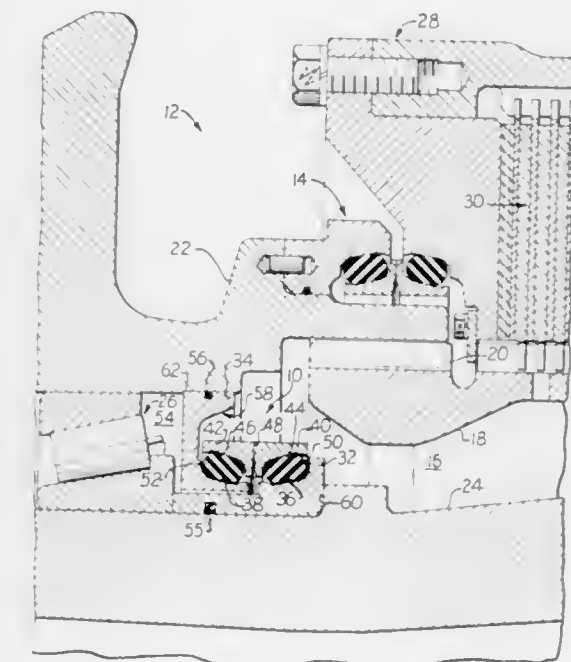
rounds the shaft and has one end fixedly sealed to the non-rotatable sealing ring means and the other end to the adapter ring.

3,540,743
INVERTED FLOATING RING SEAL
Edwin J. Ashton and Bernard F. Kupfert, Peoria, Illinois, assignors to Caterpillar Tractor Co., Peoria, Illinois a corporation of California

Filed Feb. 26, 1968, Ser. No. 707,999
Int. Cl. F16j 15/54

U.S. Cl. 277-92

8 Claims



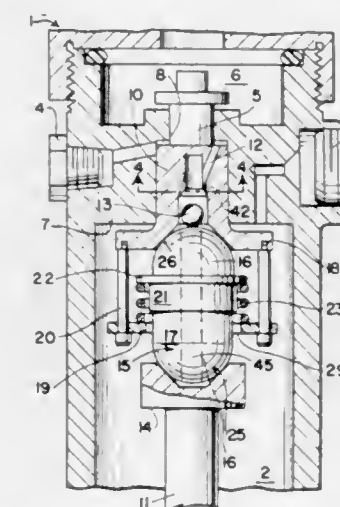
An inverted seal ring assembly disposed between concentrically spaced apart, relatively rotatable members. Load rings, disposed between seal rings and concentric retaining rings to provide loading, act upon inclined inside ramps of the seal rings and inclined ramps on the outside diameters of the retaining rings. Additional O-rings seal the junctures between the retaining ring inserts and the relatively rotatable members.

3,540,744
SEAL
Hsin Sheng Chen, Hamden, Connecticut, assignor to Ingersoll-Rand Company, New York, New York a corporation of New Jersey

Continuation-in-part of application Ser. No. 631,731, April 18, 1967, now abandoned. This application July 18, 1969, Ser. No. 843,165
Int. Cl. F16j 15/00

U.S. Cl. 277-99

10 Claims



A seal for use in high pressure applications. It includes a central section which is substantially cylindrical and end por-

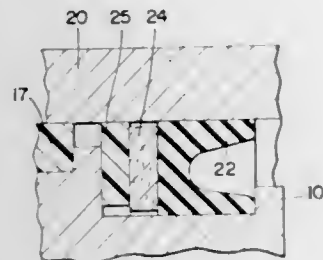
tions which are convex or hemispherical. The seal is to be used for providing a seal at two spaced apart locations. The seal may be used in a high energy rate actuator.

3,540,745 PISTON SEAL

Henry H. Flock, Park Ridge, Illinois, assignor to Parker-Hannifin Corporation, Cleveland, Ohio a corporation of Ohio
Filed Dec. 18, 1967, Ser. No. 691,435
Int. Cl. F16j 15/16

U.S. Cl. 277—188

5 Claims



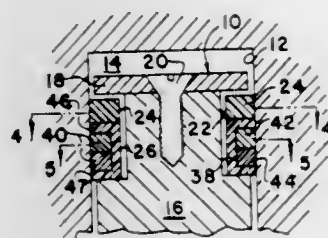
A piston seal in which the piston has a flange and sealing surface, the sealing surface having thereon a soft packing, a first nonmetallic backup ring and a second nonmetallic backup ring, the first backup ring being circumferentially continuous and of harder material than the packing and having little or no initial clearance at its I.D. and O.D. and being deformable radially inwardly and outwardly to take up any clearance that may exist at its I.D. and O.D., the second backup ring being between the first backup ring and the flange and of relatively rigid material, the second backup ring being circumferentially split and having little or no initial clearance at its O.D. and from zero to moderate clearance at its I.D., and the flange having a substantial clearance with the cylinder bore. The arrangement may also include a non-metallic bearing sleeve on the piston having less clearance with the cylinder bore than does the piston flange.

3,540,746

COMBINED SPLIT AND SEGMENTAL PISTON RINGS
Robert E. Jepsen, Emmaus, Richard E. Luybli, Hellertown, and Harold R. Sell, Trumbauersville, Pennsylvania, assignors to Air Products and Chemicals, Inc., Allentown, Pennsylvania a corporation of Delaware
Filed April 18, 1968, Ser. No. 722,265
Int. Cl. F16j 15/00, 9/16

U.S. Cl. 277—193

12 Claims



A plurality of fluid-sealing piston rings is disclosed including a top ring of split configuration composed of relatively soft, resilient material and at least one lower ring having individual segments composed of a much harder, nonresilient material. The segments are set into a resilient carrier ring which is composed of elastomeric material. Fluid passages admit pressurized fluid behind the radially inner ring surfaces and expand both the top and lower rings into effective sealing engagement with the cylinder wall whereby the combined rings provide substantially improved sealing and wear-life properties.

3,540,747

SEALING MEMBER

Bo Gustav Stjernstrom, Tyreso and Tord Roger Svensson, Stockholm, Sweden, assignors to Stenberg-Flygt AB, Solna, Sweden a corporation of Sweden

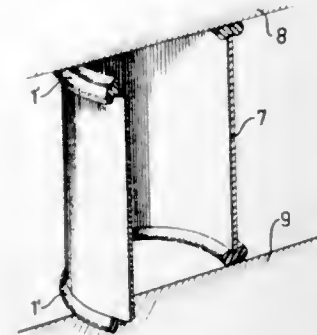
Continuation of application Ser. No. 640,218, May 22, 1967. This application Oct. 17, 1969, Ser. No. 867,419

This application is a continuation of U.S. Pat. application Ser. No. 640,218, filed May 22, 1967, abandoned.

Int. Cl. F16k 41/00; B65d 53/00; F16j 15/00

U.S. Cl. 277—211

1 Claim



A self-locking gasket of resilient material is constituted by two bead-shaped outer parts extending alongside each other and connected by a narrower intermediate part, the thickness of which is smaller than that of the outer parts.

3,540,748

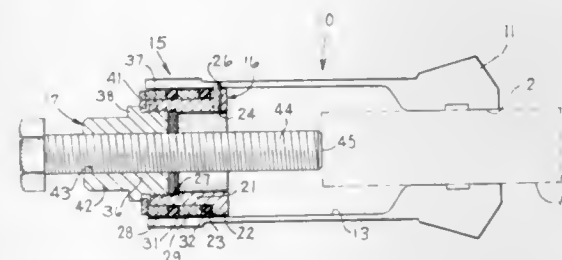
ADAPTER MECHANISM FOR UNTHREADED COLLETS
James R. Buck, Ross Township, Kalamazoo County, Michigan, assignor to Buck Tool Company, Kalamazoo, Michigan a corporation of Michigan

Filed May 15, 1968, Ser. No. 729,147

Int. Cl. B23b 13/12

U.S. Cl. 279—1

10 Claims



An adapter for a nonthreaded collet including a sleeve positionable within a bore formed within the collet. An expansion member surrounds the sleeve and is adapted to expand into radial gripping engagement with the collet when subjected to an axial force. Axial force-applying means are threadably engaged within the sleeve and include a radially extending abutment member adapted to contact and compress the expansion member for causing same to radially expand into gripping engagement with the collet. The axial force means are further adaptable to have either or both an adjustable stop member and/or an ejector mechanism mounted thereon.

3,540,749

SAFETY SKI BINDING

Hannes Marker, Hauptstrasse 51—53, Garmisch-Partenkirchen, Germany

Filed Feb. 9, 1968, Ser. No. 704,332

Claims priority, application Germany, Feb. 10, 1967, M 721,729, Jan. 8, 1968, M 761,852.

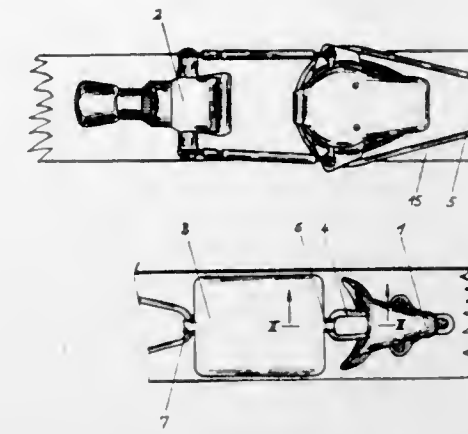
Int. Cl. A63c 9/081

U.S. Cl. 280—11.35

12 Claims

A safety ski binding comprises a toeholder and a heelholder for engaging the boot. One of said boot endholders is movable to a release position in response to an excessive twisting force which is transverse to the longitudinal direction of the ski. The binding comprises also a sole-bearing plate which extends parallel to the surface of the ski and is disposed close to that boot endholder which is responsive to twisting forces. The sole-bearing plate is movably held to the surface of the ski. The sole-bearing plate is held by at least one resilient retaining means with freedom of movement in its main plane, extending parallel to the surface of

the ski. Said freedom of movement is sufficient to permit said sole-bearing plate to follow a movement of the sole of the



boot relative to the ski until the boot is released by the respective boot endholder.

3,540,750

SKI VEHICLE

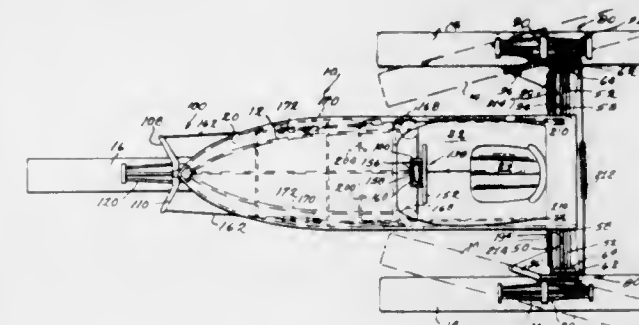
Paul J. Berger, 2318 Pleasant, Missoula, Montana 59801

Filed March 21, 1968, Ser. No. 714,834

Int. Cl. B62b 13/14

U.S. Cl. 280—16

4 Claims



A ski vehicle, which may be towed, propelled by gravity or self-propelled, is mounted on a pair of rear skis pivotally carried and interconnected by parallel linkage to enable vertical movement of one ski relative to the other for banking of the vehicle and to enable the skis to be pivoted into a snow-plow position for braking and a third ski located forward of the pair of skis for steering the vehicle with a pair of skis and the third ski being controlled by control pedals, a control wheel and a control column located in a cockpit of the vehicle.

3,540,751

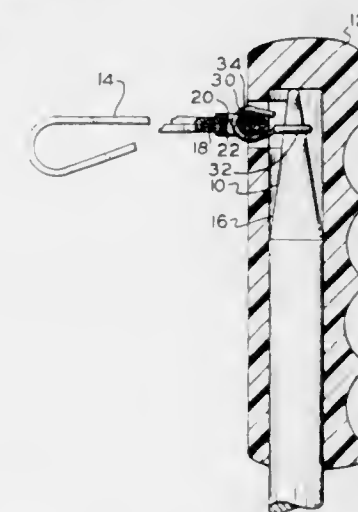
RELEASEABLE SKI POLE STRAP

Allan H. Pierce, 2515 Terrace View Drive, Eugene, Oregon
Filed Jan. 31, 1969, Ser. No. 795,504

Int. Cl. A63c 11/22

U.S. Cl. 280—11.37

6 Claims



A releasable ski pole strap construction having frangible means attached at one end to the apertured ends of a ski

strap and at the other end to means disposed within the ski pole handgrip, the frangible means being adapted to release the strap when such receives a skier-disabling impact force. The frangible means may comprise a wire link of "figure-8" shape, the loops of said link being disposed in planes located at right angles to each other, one loop being engageable with the apertured ends of the ski strap, the other loop being engageable with the attaching means in the handgrip, the loops of the link being adapted to open up on sustaining a skier-disabling impact force. Alternatively, the frangible means may comprise a plastic strip attached at one end to the ski strap and at the other end to the attaching means in the handgrip, the strip being adapted to break upon sustaining a skier-disabling impact force.

3,540,752

ADJUSTABLE LUGGAGE CARRIER

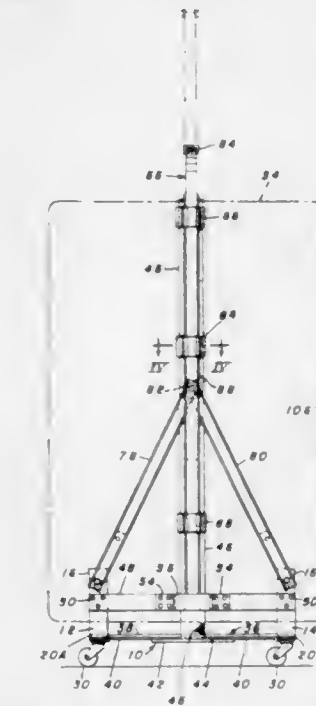
Sylvester J. Anuskiewicz and James M. Anuskiewicz, both of 625 Pennsylvania Ave., Oakmont, Pennsylvania 15139

Filed May 2, 1969, Ser. No. 821,224

Int. Cl. B62b 3/02

U.S. Cl. 280—35

8 Claims



Described is an adjustable luggage carrier, totally mechanical in nature and fully collapsible in design, utilizing a variety of light weight structural members arranged in a suitably structured configuration so as to increase or decrease the capacity of the device to accommodate pieces of luggage of various sizes and shapes.

3,540,753

HAND TRUCK

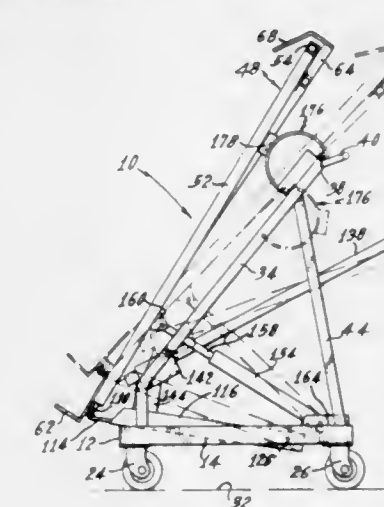
Derrick S. Hanson, 6442 Bartholf Ave., Jacksonville, Florida 32210

Filed Jan. 27, 1969, Ser. No. 794,109

Int. Cl. B62b 11/00

U.S. Cl. 280—47.34

20 Claims



A hand truck including a generally horizontal and wheeled base assembly movable over a surface area, a framework as-

sembly attached to the base assembly and extending upward therefrom, a generally upright receiving rack having a supporting lip positioned adjacent its lower end portion, and a connecting member having forward and rearward end portions. The forward end portion of the connecting member being pivotally attached to the rack adjacent the lower end portion with the general plane of said rack extending laterally of the normal rolling movement of the base assembly and the rearward end portion being pivotally attached to the base assembly. The truck further includes lifting means extending between and attached to the framework assembly and the forward end portion of the connecting member whereby the rack may be raised and lowered. The rack is pivotable from a rearward transporting position in contact with the framework assembly to a forward loading and unloading position in which the lip is generally parallel and closely adjacent to the surface area.

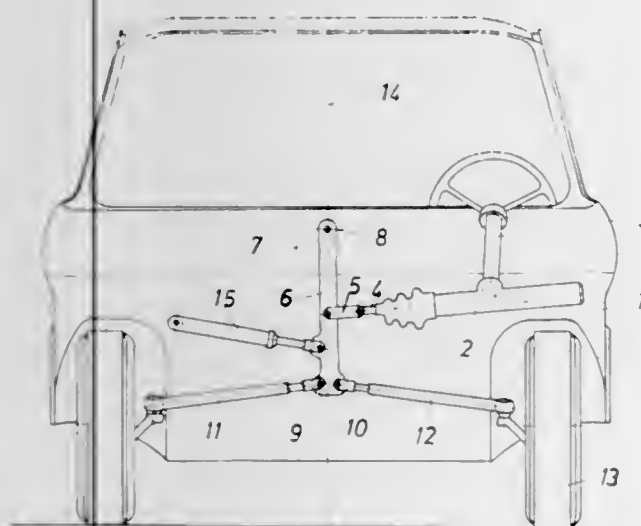
3,540,754

MOTOR VEHICLE STEERING MECHANISM

Philipp Schmidt, Frankenbach, Germany, assignor to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany
Filed May 21, 1968, Ser. No. 730,797
Claims priority, application Germany, May 23, 1967, N30557
Int. Cl. B62d 7/16

U.S. Cl. 280—96

4 Claims



This invention relates to a motor vehicle comprising a rack and pinion steering with a steering housing in which the rack is supported for longitudinal movement and in which the pinion is supported for rotation by the steering shaft and in engagement with the rack, the rack acting by way of a steering lever on the tie rods of the vehicle.

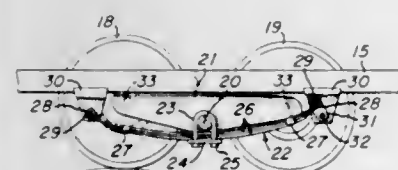
3,540,755

TANDEM TRAILER WHEEL SUSPENSION

Charles E. Babington, 35 Locust Drive, Springboro, Ohio
Filed May 20, 1968, Ser. No. 730,380
Int. Cl. B60g 5/02

U.S. Cl. 280—104.5

16 Claims



A suspension system for tandem-wheeled, automotive-drawn trailers comprising a single, nonrotatable main axle ex-

tending completely across the trailer bed and spring mounted thereto at each side thereof, and a yoke mounted at each end of the main axle shaft and rotatable in a plane perpendicular thereto wherein the tandem wheels are rotatably mounted near the ends of the yoke as a result of which changes in the relative vertical position of the wheels at either side of the trailer will be accommodated principally by the rotation of the yoke about the main axle and will have little or no effect upon the horizontal position of the trailer bed and the hitch load at the point where the trailer is connected to the vehicle drawing it.

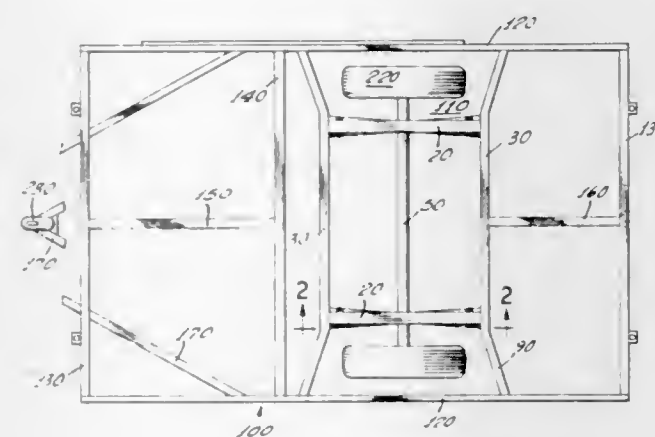
3,540,756

AXLED VEHICLE SUPPORT FRAME ASSEMBLY

Richard W. Stout, Elkhart and Milton J. Brunk, Goshen, Indiana, assignors to Stoutco, Inc., Bristol, Indiana
Filed Oct. 26, 1967, Ser. No. 678,389
Int. Cl. B62d 21/00

U.S. Cl. 280—106.5

4 Claims



A vehicle support frame assembly having skirted or flared spring support members to accommodate flexing of the spring assembly and having angled internal cross support members supported by the spring support member and supporting in turn the perimeter vehicle frame.

3,540,757

PIPE JOINT AND METHOD OF FORMING A PIPE JOINT
Martin Duane Neher, Burkburnett, Texas, assignor, by mesne assignments, to Ciba Corporation, Summit, New Jersey, a corporation of Delaware

Filed Feb. 29, 1968, Ser. No. 709,427

Int. Cl. F16l 13/02, 33/18

U.S. Cl. 285—21

13 Claims



A new method of joining pipe, especially thin wall plastic pipe, is provided. In this method a thread is molded onto the outer surface of the pipe at a predetermined length from the end of the pipe. Mating fittings are provided which have mating internal threads and which are adapted to receive the predetermined length of pipe in a mating relationship when said threads are engaged. The pipe joint is formed by applying an adhesive, preferably a thermal-setting resin, to the predetermined length of pipe and screwing the pipe into the fitting. The threads on the pipe and fitting hold the pipe and fitting in the proper mating position until a bond is formed between the pipe and the fitting by the adhesive.

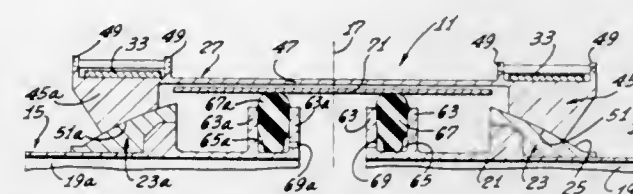
3,540,758

FLEXIBLE COUPLING FOR DUCTS

Jorge Torres, Newbury Park, California, assignor to Purolator Inc., Rahway, New Jersey a corporation of Delaware
Filed March 20, 1968, Ser. No. 714,593
Int. Cl. F16l 21/00, 27/04

U.S. Cl. 285—233

22 Claims



A flexible coupling for interconnecting adjacent duct sections. The coupling includes bearing means mounted on each of the duct sections and a retainer engageable with the bearings and spanning the space therebetween to hold the two duct sections together. The coupling is made airtight by sealing means which engage a freely floating sleeve within the retainer.

3,540,759

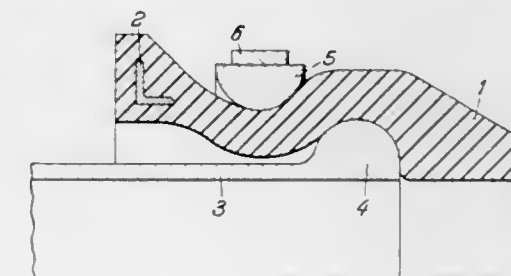
HOSE CONNECTION COUPLING

Klaus Schneider, Hamburg, Hausbruch, Germany, assignor to Firma Eddelbuttel & Schneider, Hamburg-Sinstorf-Fleestedt, Germany a corporation of Germany
Filed March 13, 1969, Ser. No. 806,866
Claims priority, application Germany, March 14, 1968, 1,675,298

Int. Cl. F16l 33/00

U.S. Cl. 285—238

5 Claims



A hose connection coupling for connection of a hose having a large diameter, made of rubber or rubberlike working material, which hose is flexible and reinforced by a textile fabric or equivalent material for high operational pressures to hose connection branches or rigid tubular conduits. The end of the tubular conduits or of the connection branches has an outwardly extending strong bead. The inner diameter of the end of the hose is slightly larger than the largest diameter of the bead. The hose has in its end range a stiffening means retaining the diameter and assuming the forces transmitted from the textile fabric or equivalent material of the hose. A clamplike member constricts the hose in its coupled position between the bead and the stiffening means. The inner diameter of the constriction is substantially smaller than the largest diameter of the bead.

3,540,760

QUICK CONNECT COUPLING

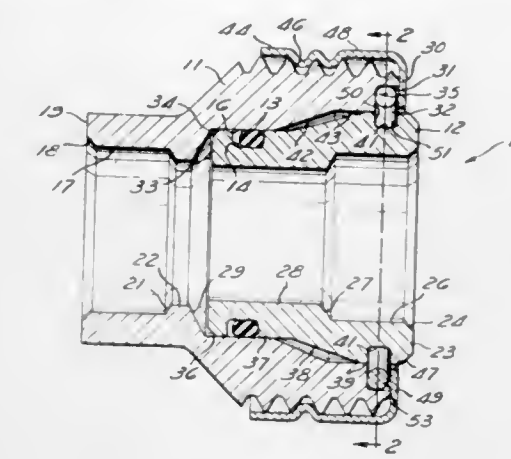
Paul J. Miller, Richmond Heights, Karl K. Chen, Cleveland Heights, James R. Jeromson, Jr., Willoughby, Ohio, and Ellis M. Wellman, Erie, Pennsylvania, assignors to The Weatherhead Company, a corporation of Ohio
Filed March 24, 1969, Ser. No. 809,635
Int. Cl. F16l 39/00

U.S. Cl. 285—321

7 Claims

A quick connect coupling for fluid lines comprises a tubular female member providing an internal cylindrical surface for sealing engagement with a resilient O-ring carried in an external annular groove in the leading end of a tubular male member. An internal conical transition zone leading to the cylindrical sealing surface guides the entering lead end of the male member and assures uniform sealing of the O-ring. The

male member provides a conical portion adapted to expand an elliptical retaining ring secured to the female member when it is inserted into the female member. The elliptical spring engages a second groove on the male member to lock



the members together. The members may be uncoupled by unthreading a shell that engages the outside surface of the female member and retains the elliptical spring. The coupling elements are proportioned to permit the coupling to be unsealed before it is completely disconnected.

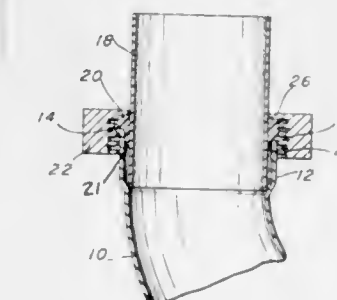
3,540,761

COUPLING ASSEMBLY

Joel Bruce Barlow, 44 Applewood Lane, Glastonbury, Connecticut 06033
Filed June 17, 1969, Ser. No. 833,941
Int. Cl. F16l 17/02

U.S. Cl. 285—342

3 Claims



A coupling assembly includes a first member which has a generally helical flange adjacent one end, and an internally threaded member engaged therewith having a complementary helical groove seating the flange. The flange and groove are of substantially rectangular cross section and are cooperatively dimensioned for close fitting threaded interengagement.

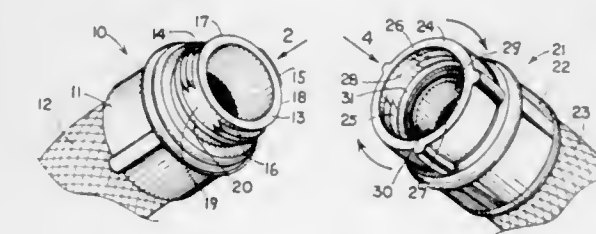
3,540,762

SEGMENTED THREAD COUPLING

Jerald V. Dunlap, P.O. Box 1541, Santa Monica, California
Filed Aug. 16, 1968, Ser. No. 753,299
Int. Cl. F16l 15/00

U.S. Cl. 285—391

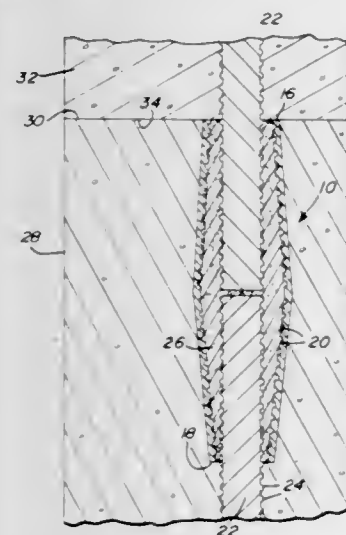
5 Claims



Quick connect and disconnect threaded couplings for fire hoses are provided with segmented thread means for enabling connection and disconnection to take place with less than one full turn of the coupling. The coupling includes

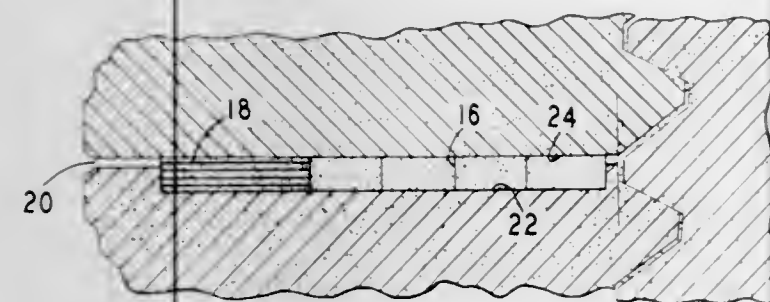
a first member having a cylindrical exterior forward portion with circumferentially spaced external thread segment means defining external sectors free of threads, and, a second member having a cylindrical interior surface portion with circumferentially spaced internal thread segment means defining internal sectors free of threads. Cooperating thread abutting means are provided on the members such that insertion of the forward portion of the one member into the interior surface portion of the other can take place with any one of the external thread segment means being received in any one of the internal sectors with complete assurance that the external and internal thread segment means will be in proper axial alignment and positions relative to each other for threading together upon rotation of one member relative to the other.

3,540,763
SPLICE SLEEVE FOR REINFORCING BARS
Alfred A. Yee, 3169 Alika Ave., Honolulu, Hawaii 96817
Filed June 27, 1968, Ser. No. 740,646
Int. Cl. F16b 7/00
U.S. Cl. 287-108 2 Claims



An elongated one piece splice sleeve adapted to receive adjoining ends of a pair of reinforcing bars which are locked within the sleeve through the utilization of an expanding grout. The sleeve is provided with a series of grout receiving internal grooves orientated generally transversely of the sleeve throughout the full length thereof with the interior of the sleeve, as well as the exterior thereof, having a maximum diameter at a generally central point and tapering outwardly in opposed directions to relatively smaller diameters at the opposite rod receiving ends to provide a wedge-type locking effect on the bars upon the hardening of the grout.

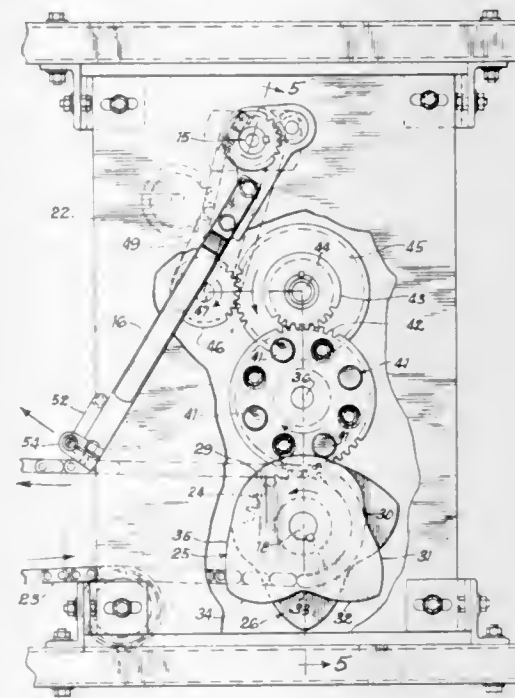
3,540,764
RESILIENT SPACER FOR ELECTRODE JOINTS
John R. Pans, Fairview Park, Ohio and Joseph F. Revilock, Scarsdale, New York, assignors to Union Carbide Corporation, a corporation of New York
Filed March 14, 1968, Ser. No. 713,244
Int. Cl. E04b 1/48
U.S. Cl. 287-127 7 Claims



An electrode joint in which expanded graphite is positioned between abutting end faces of the electrode sections.

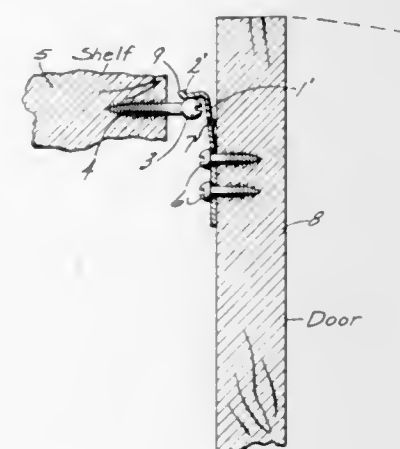
The expanded graphite is preferably primarily edge oriented and occupies a major portion of the available area. Flat oriented expanded graphite and a circumferential gap are also included adjacent the edge-oriented material. Electrical conductivity and thermal stress resistance of the joint are thereby greatly increased.

3,540,765
INTERMITTENT DRIVE FOR TYING MACHINE TWINE ARM
Robert G. Brown, Washington, District of Columbia, assignor to B. H. Bunn Company, Chicago, Illinois a corporation of Illinois
Filed Nov. 25, 1968, Ser. No. 778,563
Int. Cl. B65h 69/04
U.S. Cl. 289-15 7 Claims



The invention resides in a cam-type intermittent drive for the twine arm of a twine tying machine which results in a smoother and faster tying operation, eliminates the twine arm brake and produces a tighter wrap. The drive utilizes two cams which simultaneously engage rollers extending from the opposite sides of a wheel and which control the rotation of the wheel in both directions, the cams having a dwell portion during which the twine arm is held stationary while the knoter is operated. The wheel drives the twine arm through appropriate gearing.

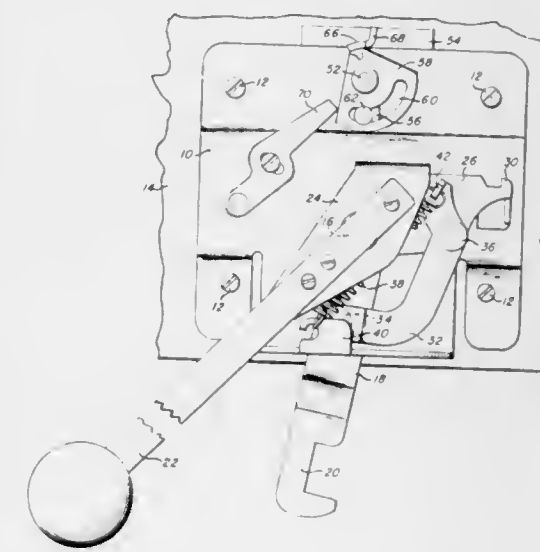
3,540,766
DOOR CATCH
Ray C. Hoffman, 1302 1/2 12th Ave., Sterling, Illinois
Filed April 16, 1968, Ser. No. 729,863
Int. Cl. E05c 19/02
U.S. Cl. 292-76 3 Claims



This cabinet door catch comprises an elongated L-shaped spring clip that is fastened adjustably to one of the door and

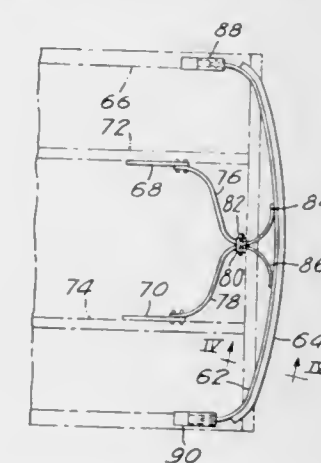
cabinet elements by two screws entered through longitudinally spaced holes near one end of the attaching leg of the L so that the fulcrum projection provided on the back of this leg spaced longitudinally from the other or free end provides rocking adjustment of the free end, where a keeper engaging projection is provided forming the short leg of the L. The keeper engaging projection has an outwardly angled outer end that is deflected outwardly in slipping over a rounded head on a keeper provided on the other of the door and cabinet elements. The keeper, being a screw with a spherical slotted head, is also adjustable axially to facilitate installation of the door catch and compensate for wear later.

3,540,767
ROTARY THERMAL LOCK WITH SLIP CLUTCH
Charles L. Siegel, Kutztown, Pennsylvania, assignor to Caloric Corporation, Tipton, Pennsylvania a corporation of Pennsylvania
Filed Oct. 1, 1968, Ser. No. 764,084
Int. Cl. E05c 3/30
U.S. Cl. 292-210 10 Claims



A thermally controlled lock for rendering inseparable a door latching device, comprising a rotary locking member movable under thermal control into a position to prevent operation of the latching device at a predetermined elevated temperature, the locking member having associated therewith means for preventing further rotary movement of the locking member upon continued temperature rise, and a slip clutch for permitting continued rotary movement of the supporting means for the locking member, which clutch functions to remove the locking member from locking position upon decrease in temperature before the supporting means returns to its initial position.

3,540,768
SPRING MOUNTED RESILIENTLY COVERED BUMPER
Norman L. Peters, 1502 N. Main St. Extension, Butler, Pennsylvania
Filed May 16, 1968, Ser. No. 729,614
Int. Cl. B60r 19/06, 21/14; B61f 19/04
U.S. Cl. 293-89 4 Claims



Described is a vehicle bumper construction, particularly adapted for use at the rear of a semitrailer, incorporating a

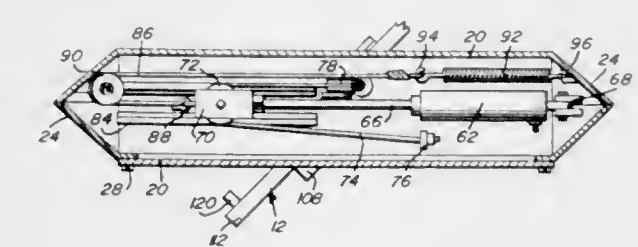
horizontal bar member having an external portion of rubber or other resilient material joined to a strength-imparting core which may, for example, be formed from steel tubing.

3,540,769
AUTOMATIC HAND HELD SNARE
Gerald E. Rosser, 1449 8th Ave. S, Seattle, Washington 98168
Filed April 26, 1968, Ser. No. 724,488
Int. Cl. A01m 23/34; A01k 81/04
U.S. Cl. 294-19 8 Claims



The snare has an elongated two part body formed by an elongated first member having a handle at one end and a cable clamp at the other end. An elongated, tubular second member telescopically surrounds the end portion of the first member opposite the handle. A closed loop portion of a snare cable extends endwise outwardly of the free end of the second member. The two end portions of the cable extend through the second member up to the clamp and the clamp secures them to the first member. A compression spring housed in said second member biases the first and second members telescopically apart, to contract the loop. A lock, releasable by a trigger positioned adjacent the handle, holds the two members telescopically together in opposition to the spring force.

3,540,770
REMOTE CONTROL GRAPPLE CARRIAGE
John H. Mitchell, 400 W. Curtis St., Aberdeen, Washington
Filed Dec. 11, 1968, Ser. No. 783,015
Int. Cl. B66c 1/00
U.S. Cl. 294-111 11 Claims



A grapple carriage riding on a skyline capable of being slackened and tightened, and having a grapple supported therefrom with means for opening and closing the grapple for gripping and releasing a log. The means includes a remote control so that an operator may cause opening or closing of the grapple from a remote point. A haulback line is connected with the carriage for moving it along the skyline for positioning the grapple during a logging operation.

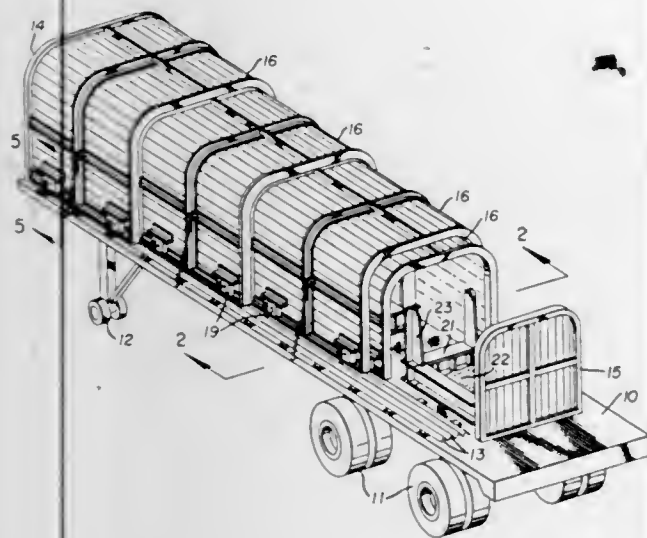
3,540,771

INGOT CARRYING VEHICLE

Jerry L. Stoneburner, P.O. Box 277, North Jackson, Ohio
 Filed Sept. 16, 1968, Ser. No. 759,977
 Int. Cl. B62d 33/00

U.S. Cl. 296-1

4 Claims



An ingot carrying vehicle particularly adapted for transporting hot steel ingots and including a plurality of ingot receiving cradles, an insulated deck beneath said cradles and a plurality of telescopically slidable insulated cover sections and ends for completely enclosing said ingots whereby said ingots may be shipped without critical temperature loss.

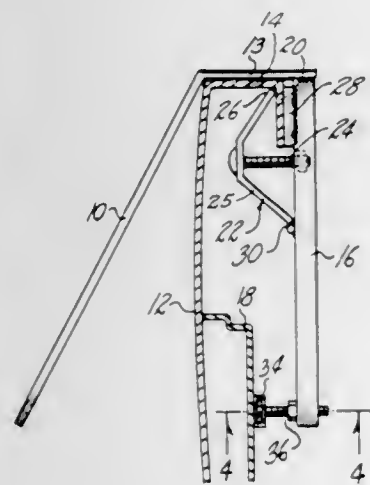
3,540,772

CAMPER TIE DOWN

Raywood C. Weiler, 17586 Vine St., Fontana, California
 Filed July 17, 1969, Ser. No. 842,604
 Int. Cl. B60p 3/32

U.S. Cl. 296-23

4 Claims



* A tie down device for campers in which the panel attachment member for the camper is anchored to the top side and inner angle lip of the truck bed by means of a lip clamp adjustably secured to an inner depending extension of the attachment member. The inner extension may have an adjustable clamping connection with the truck body. The adjustable lip clamp may or may not be associated with a truck bed fixture hold plug.

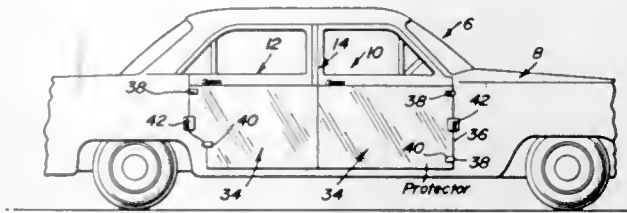
3,540,773

RETRACTABLE VEHICLE DOOR PROTECTOR

Benjamin T. Settle, Jr., and Sarah E. Settle, both of 3847 Monica Parkway, Sarasota, Florida
 Filed April 11, 1968, Ser. No. 720,653
 Int. Cl. B60j 11/00

U.S. Cl. 296-152

11 Claims



A sheet of tough pliant plastic material of requisite length and width is normally wound and stored on a spring-loaded drum or roller. It has a free end which can be caught hold of and pulled out and then drawn tautly over the surface of an automobile door (or doors). This free end has positioning and temporary anchoring and retaining hooks. It also has a pull-out flap or tab. When the sheet spans the door's surface it provides a protective cover while the automobile is parked on a lot, in a service garage or elsewhere. When released, the sheet winds automatically on the out-of-the-way storing roller.

3,540,774

ORTHOPEDIC AND LIKE CHAIR

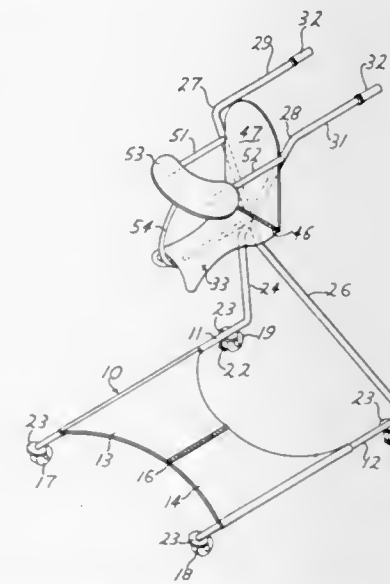
Harold A. Bailey, Birmingham, Alabama (P.O. Box 250, Pinson, Ala. 35126)

Filed Aug. 14, 1968, Ser. No. 752,618

Int. Cl. A47c 4/00

U.S. Cl. 297-42

10 Claims



A chair having a horizontal translatable frame carrying upstanding support members at one end thereof. A seat is carried by the upstanding members and extends forwardly thereof over and in vertically spaced relation to the horizontal frame with the seat being supported adjacent the rear thereof by the upstanding members with the forward end of the seat being free. The upstanding members cross each other and are pivotally connected to each other with the seat being supported adjacent the pivotal connection.

3,540,775

DEVICE FOR FASTENING OBJECTS TO A SEAT

Max Defleur, 119, rue Anatole, Levallois-Perret, France
 Filed June 6, 1968, Ser. No. 735,145
 Claims priority, application France, Feb. 29, 1968, 14/751
 Int. Cl. A47c 7/62

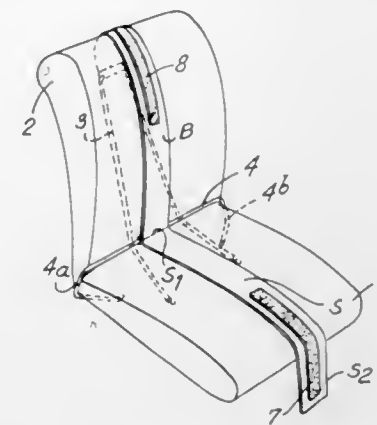
U.S. Cl. 297-188

7 Claims

A body support consisting of a seat and a back has a pair of flexible, straplike members anchored to it at the parting line between its seat and back surfaces, one member being tensioned to lie flat against one surface (e.g. that of the back) and having an exposed face provided with gripping elements,

such as the loops or hooks of a Velcro fastener, engageable with complementary elements on the free end of the other

members forming a hinged quadrilateral which allows forward and rearward displacement of the back with reference to the seat.



member when the latter is slung about an object to be secured to the seat.

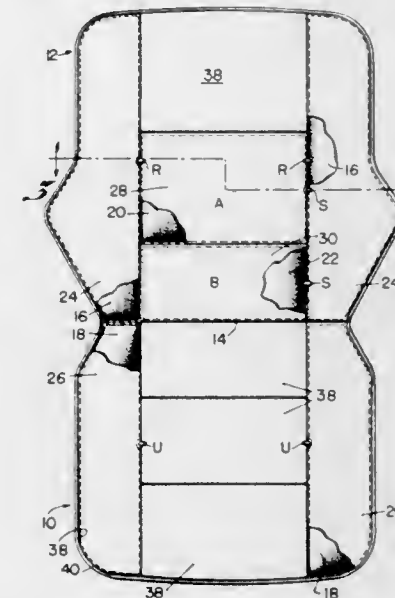
3,540,776

SEAT CUSHION

Minor E. Wilson, Batavia, Ohio, assignor to Wilson Seat Company, Batavia, Ohio a corporation of Ohio
 Continuation of application Ser. No. 618,279, Feb. 17, 1967.
 This application Nov. 29, 1968, Ser. No. 781,697
 Int. Cl. A47c 27/10

U.S. Cl. 297-253

4 Claims



The cushion embodies inflatable bags strategically located for maximum comfort in riding, by properly supporting various portions of the user's body. In one form, the inflatable bags are interconnected for self-equalization of pressure during use. Means may be provided for attachment of the cushion to user's body, or for retention of the cushion upon a vehicle seat when user leaves the vehicle. Featured also are light weight and simplicity.

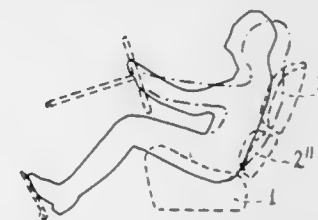
3,540,777

CHAIR FOR AUTOMOTIVE VEHICLES WITH A DISPLACEABLE BACK

Mario Revelli de Beaumont, Via Cravero 70, Grugliasco, Italy
 Filed Nov. 19, 1968, Ser. No. 777,090
 Claims priority, application Italy, Dec. 2, 1967, 53959/67
 Int. Cl. A47c 7/46

U.S. Cl. 297-284

5 Claims



A chair for automotive vehicles wherein the back is connected to the seat, on each side, by means of a pair of hinged

3,540,778

EXCAVATOR TOOTH DRIVING APPARATUS

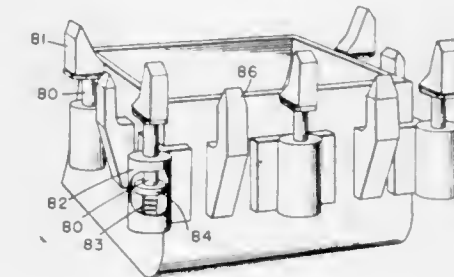
John D. Bennett, Richardson, Texas, assignor to Sun Oil Company, Philadelphia, Pennsylvania a corporation of New Jersey

Filed July 5, 1968, Ser. No. 742,599

Int. Cl. E02f 9/28

U.S. Cl. 299-67

8 Claims



The particular embodiments described herein as illustrative of one form of the invention utilize, in earth excavating equipment, apparatus for preventing breakage of excavator teeth when hard materials are encountered and apparatus for imparting a jarring force to the excavator in order to break or dislodge unusually hard material within the material being excavated.

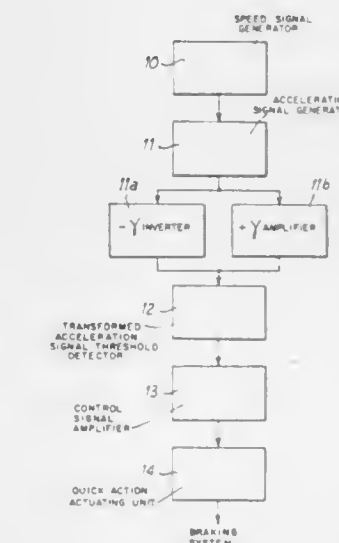
3,540,779

ANTISKID DEVICE FOR A VEHICLE BRAKING SYSTEM

Guy Marouby, Neuilly, France, assignor to Societe Anonyme D.B.A., Paris, France
 Filed June 20, 1968, Ser. No. 738,642
 Claims priority, application France, Oct. 6, 1967, 123,622
 Int. Cl. B60t 8/08

U.S. Cl. 303-21

2 Claims



An antiskid device for a vehicle braking system utilizing an electronic sensing unit for sensing the vehicle wheel speed and producing a speed signal which is proportional to wheel speed. From the speed signal is obtained an acceleration signal which is proportional to wheel acceleration or deceleration. The acceleration signal is processed so that its

deceleration portion is reversed and its acceleration portion is highly amplified. The production of a control signal for decreasing or canceling the pressure in the vehicle braking system to prevent the wheels from locking up is initiated when the reversed deceleration portion of the acceleration signal reaches a predetermined value and is interrupted when the highly amplified acceleration portion of the acceleration signal reaches a predetermined value. The predetermined values are correlative to a predetermined threshold of wheel deceleration and to a predetermined threshold near the end of the wheel acceleration period but subsequent to the wheel deceleration period, respectively.

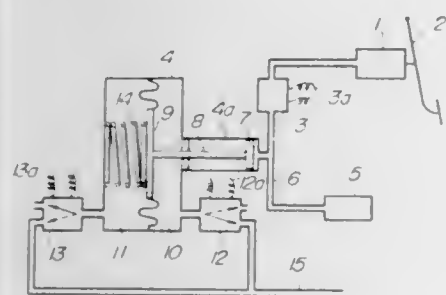
3,540,780

ANTISKID APPARATUS FOR AUTOMOTIVE VEHICLES
Atutosi Okamoto, Toyohashi-shi, Koichi Taniguchi, Kariya-shi, and Yoshiaki Nakano, Gifu-shi, Japan, assignors to Nippon Denso Company Limited, Kariya-shi, Japan, a corporation of Japan

Filed March 18, 1968, Ser. No. 713,772
Claims priority, application Japan, Aug. 31, 1967,
42/56005; 42/56007
Int. Cl. B60t 8/08

U.S. Cl. 303—21

2 Claims



An antiskid apparatus for an automotive vehicle, which comprises brake force control means adapted to control the brake force in three stages, that is, a high brake force stage, a medium brake force stage and a low brake force stage, and operative in such a way that on a non-slippery road surface the brake force is shifted from the high brake force stage to the medium brake force stage or vice versa upon variation in the brake system operating hydraulic pressure in accordance with a signal from vehicle speed detecting means, while on a slippery road surface the brake force is shifted from the high brake force stage to the low brake force stage or vice versa upon variation in the brake system operating hydraulic pressure in accordance with a signal from said vehicle speed detecting means.

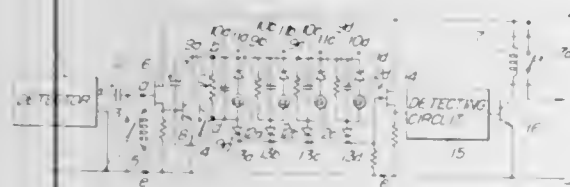
3,540,781

ANTISKID APPARATUS FOR AUTOMOTIVE VEHICLES
Atutosi Okamoto, Toyohashi-shi, Koichi Taniguchi, Kariya-shi, and Yoshiaki Nakano, Gifu-shi, Japan, assignors to Nippon Denso Company Limited, Kariya-shi, Japan a corporation of Japan

Continuation-in-part of application Ser. No. 685,118, Nov. 22, 1967, now Patent No. 3,467,443. This application Aug. 20, 1968, Ser. No. 753,953
Int. Cl. B60t 8/08, 8/14

U.S. Cl. 303—21

2 Claims



An antiskid apparatus for an automotive vehicle, which is capable of avoiding a loss of steerability of the steering wheel

during the braking operation due to unbalance between the braking forces applied to the front and rear wheels and thereby enables the body of the automotive vehicle to be braked in a stable manner, said apparatus comprising at least one speed generator provided on the front and rear wheels of the automotive vehicle respectively for detecting the speeds of the respective wheels and means for controlling the braking force by the output voltage of the speed generator which is mounted on that one of the front and rear wheels which is closest to the locked state.

3,540,782

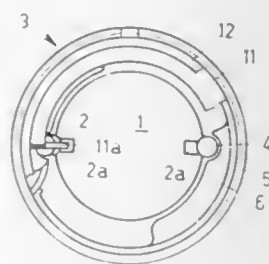
BALL BEARING

Hans Worm, 42 Schaberg D-565, Solingen, Germany
Filed Jan. 22, 1969, Ser. No. 793,000
Claims priority, application Switzerland, Nov. 4, 1968,
16,400/68

Int. Cl. F16c 19/10

U.S. Cl. 308—6

8 Claims



Ball bearing has outer tube surrounding a shell having two races which together with two races in the shaft form two separate endless paths for the balls. Two spring-steel plates with races press the balls along the shaft races to eliminate all play therealong.

3,540,783

HYDROSTATIC BEARING SYSTEM

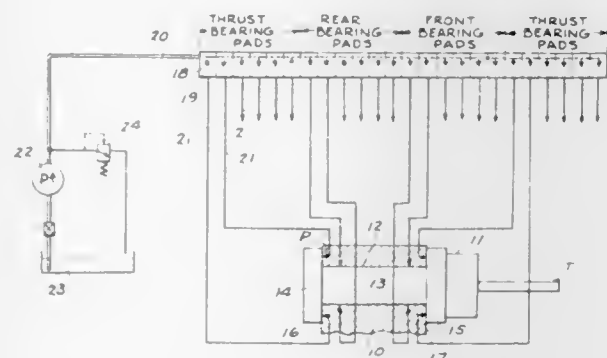
Sylvester R. Cudnohufsky, 1290 Lake Angelus Shore Drive, Pontiac, Michigan 48055

Filed March 13, 1969, Ser. No. 806,886

Int. Cl. F16c 17/16

U.S. Cl. 308—9

20 Claims



A hydrostatic bearing system comprising a pair of parts having adjacent surfaces with at least one of the surfaces having a plurality of spaced pressure pads or recesses therein. A positive displacement flow dividing and proportioning apparatus comprises a plurality of intercoupled pump motors connected to the pressure pads. The pump motors have a common inlet and the outlet of respective pump motors are connected to the pressure pads.

3,540,784

PEDESTAL BEARING ARRANGEMENT

Kurt Feix, Steyr, Austria, assignor to Vereinigte Österreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria

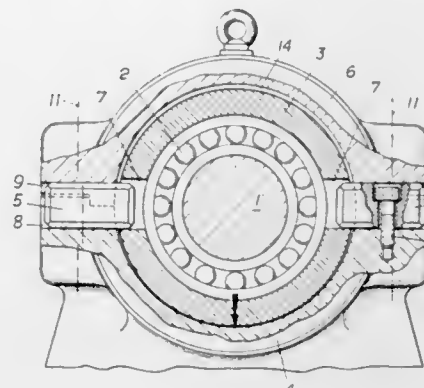
Filed Oct. 22, 1968, Ser. No. 769,606

Claims priority, application Austria, Nov. 6, 1967,
A 9,956/67

Int. Cl. F16c 13/00, 35/00

U.S. Cl. 308—74

2 Claims



The invention relates to a bearing arrangement, particularly, for the trunnions of tiltable converters, and provides a stationary bearing housing containing an undivided lining bushing encasing the bearing and connected to the lower part of said housing, the connection means being designed as fitting blocks arranged in the horizontal plane extending through the axis of the part to be mounted in the bearing, e.g. the trunnion, said fitting blocks being inserted in corresponding openings of the bushing and bearing housing, there being a clearance between the bushing and the upper housing portion.

3,540,785

ROLLING BEARING

Hakon Olof Scheibe Långström, Göteborg, Sweden, assignor to Aktiebolaget Svenska Kullagerfabriken, Göteborg, Sweden, a corporation of Sweden

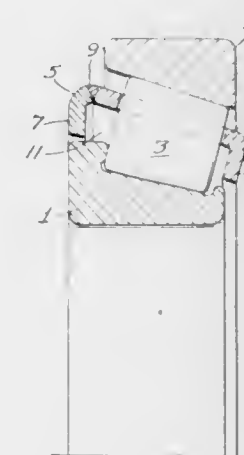
Filed Oct. 28, 1968, Ser. No. 770,981

Claims priority, application Sweden, Oct. 27, 1967,
14,707/67

Int. Cl. F16c 1/24, 33/46

U.S. Cl. 308—187

1 Claim



A tapered rolling bearing assembly comprising inner and outer ring members having spaced apart raceways, a plurality of tapered rollers in the annular space between the ring members, a cage having an axial web portion with a plurality of circumferentially spaced window-like openings for spacing the rollers, said web portion being disposed above a plane through the center of rotation of the rollers toward the outer ring, a radially inwardly directed continuous flange projecting inwardly from opposite ends of said web portion and terminating closely

to the inner ring adjacent opposite axial ends, one of said flanges at the large end of the rollers consisting of a separate part connected to said web portion and being spaced axially remote from the axial end faces of the rollers to define a large space of such size that a relatively great quantity of lubricant can be contained therein for lifetime lubrication.

3,540,786

FILING DEVICE

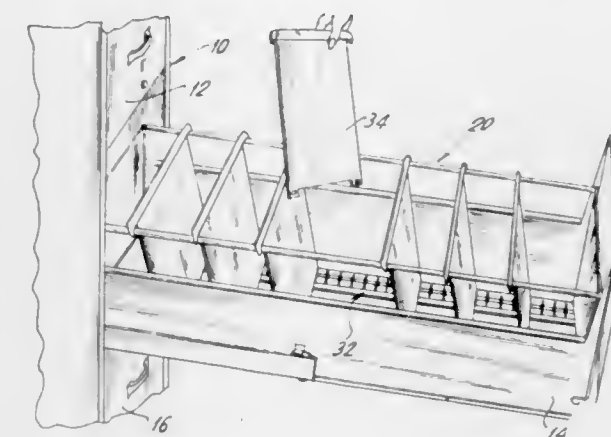
Frank Potter, Syosset, N.Y., assignor to Filing Systems, Inc., Syosset, N.Y., a corporation of New York

Filed Sept. 3, 1968, Ser. No. 756,906

Int. Cl. B24f 17/14

U.S. Cl. 312—184

4 Claims



This drawer file comprises a novel slotted base adapted to receive vertical dividers having apertured depending tabs that cooperate with V-shaped grooves in the base to retain said dividers in the slots when the dividers are disposed in an angled position other than perpendicular to the plane of the base.

3,540,787

COMBINED ARTIST'S PAINT BOX AND EASEL

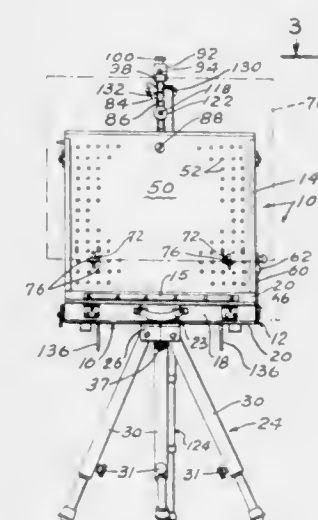
Thomas E. Ford, 150—24 6th Ave., Whitestone, N.Y. 11354

Continuation-in-part of application Ser. No. 739,872, June 25, 1968. This application Oct. 8, 1969, Ser. No. 864,850

Int. Cl. A47b 27/00, 97/04

U.S. Cl. 312—231

10 Claims



A combined artist's paint box and easel having a compartmented box body open at the top with a hinged cover for closing the opening therein, the hinged cover serving as an easel when in open position. A sliding cover is provided for the open top of the compartments in the body

when the box cover is in open position. The hinged box cover is provided with a perforated peg board adapted to receive and support removable brackets. A radial arm having a downwardly extending spring clip is slidably supported at the top end of the upright slotted rail and cooperates with a pair of spaced wire brackets removably mounted on the perforated peg board for removably supporting a canvas to be painted upon at a slight angle to the vertical. Another radial arm extending in a direction opposite to the direction of the first radial arm is formed with downwardly extending spaced flanges forming a groove therebetween and is supported at the top of the slotted rail. The grooved arm cooperates with a wire radial bracket adjacent each side of the peg board for removably supporting a canvas when the box is being transported. A tripod is removably supported on the box body for supporting the box body in horizontal position. A single telescopic leg is hingedly connected to one end of the slotted rail and when the cover is in open position is adapted to engage the supporting surface for steadying the paint box in erected condition.

3,540,788

UTILITY CABINET FOR SEWING MACHINES

Ray A. Lundquist, 129 Burr Ave.,

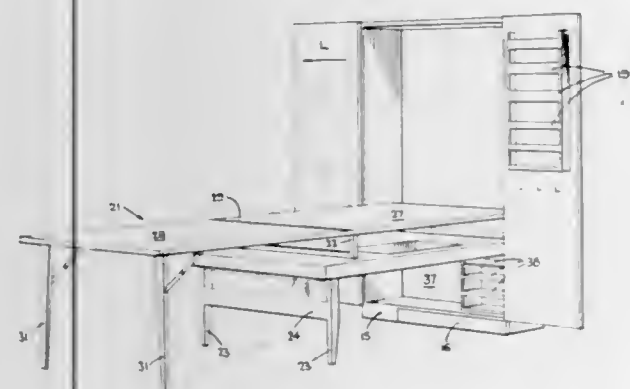
Northport, N.Y. 11768

Filed Aug. 23, 1968, Ser. No. 754,920

Int. Cl. A47b 83/00

U.S. Cl. 312-237

17 Claims



A generally rectangular upright enclosure provided with a hinged front door closure conceals one or more upwardly tiltable surfaces which can be swung outwardly for holding a sewing machine or to provide a work surface and also provides means for storing a sewing machine and accessories to the machine, such as a foot pedal control; and storage for other sewing equipment, such as shears, needles, thread, patterns, etc.

3,540,789

METHOD OF DOSING VAPOR-DISCHARGE LAMPS WITH GALLIUM

Karl T. Przybilla, Weehawken, N.J., assignor, by mesne assignments, to Engelhard Hanovia, Inc., Newark, N.J., a corporation of Delaware

Filed Apr. 8, 1968, Ser. No. 719,457

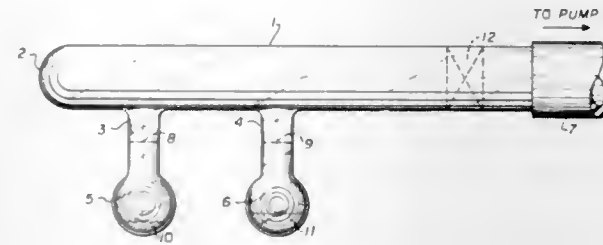
Int. Cl. H01j 9/38

U.S. Cl. 316-24

4 Claims

The present invention deals with a method of dosing vapor-discharge lamps of the metallic-additive type with gallium by mixing mercury and gallium in a vacuum mixing chamber in amounts calculated to provide a stock amalgam in a determined mercury-gallium ratio not exceeding 3 parts gallium to 100 parts mercury by weight. A predetermined small amount of the stock amalgam of determined mercury-gallium ratio is further mixed with a predetermined amount of additional mercury to provide a

lamp dosing amalgam having between about $\frac{1}{40,000}$ to $\frac{1}{100}$ weight percent gallium to mercury. The dosing amalgam and a predetermined amount of mercury halide



or a halogen are placed in a vacuum feed chamber communicating with the interior of a lamp envelope and therefrom fed into the lamp envelope.

3,540,790

METHOD AND MEANS FOR RECORDING AND RECONSTRUCTING HOLOGRAMS WITHOUT USE OF A REFERENCE BEAM

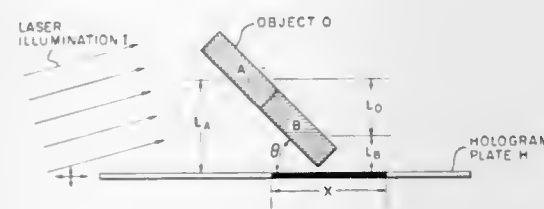
Lowell Rosen, Winchester, Mass., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Feb. 29, 1968, Ser. No. 709,399

Int. Cl. G02b 27/22

U.S. Cl. 350-3.5

8 Claims



Holograms having quite unique properties are made by angularly positioning the object with respect to the photographic plate such that laser light scattered from one portion of the object serves as the reference beam for the laser beam scattered from another portion of the object on the photographic plate. Reconstruction of the recorded hologram is accomplished by placing the reconstruction source (point or extended coherent or point or extended incoherent) at a position approximately duplicating the center position of the portion of the object which was furthest from the photographic plate during the recording process.

3,540,791

SIMPLIFIED MULTIPLE IMAGE GENERATION

Henry J. Caulfield, Carlisle, Mass., and Sun Lu, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 8, 1968, Ser. No. 727,587

Int. Cl. G02b 27/00

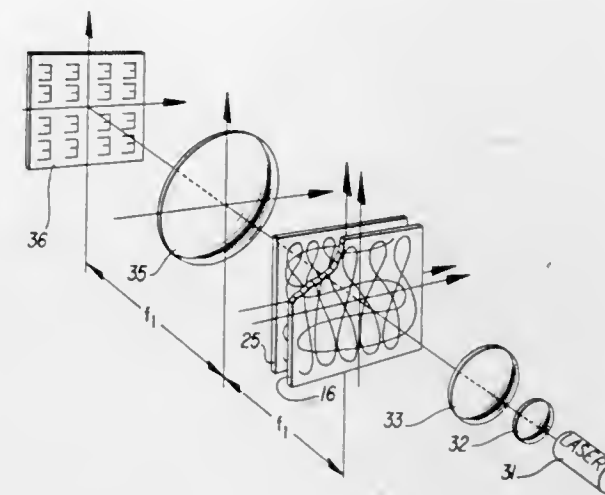
U.S. Cl. 350-3.5

1 Claim

Apparatus and method for forming multiple images from the image of an object are disclosed. In the method, the multiple images are formed on a recording medium by passing monochromatic light through two holograms and a double convex lens, the first hologram being of the Fourier transform of the light pattern of the image of the object and the second hologram being of the Fourier transform of the light pattern of an array of point sources of light in positions corresponding to the positions of the images to be formed in the multiple image array. In a modification of the method, multiple images are formed by passing monochromatic light through a

hologram of the image of the object, a double convex lens, a hologram of the Fourier transform of the light pattern of an array of point sources of light corresponding in position to the array of images to be formed, and a

darkened polarized state upon exposure to actinic radiation. These glasses are comprised of a silicate glass body having elongated silver halide particles incorporated therein.



3,540,794

MULTILAYER DIGITAL LIGHT DEFLECTOR

Kurt M. Kosanke and Werner W. Kulcke, Boblingen, and Erhard Max, Sindelfingen, Germany, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

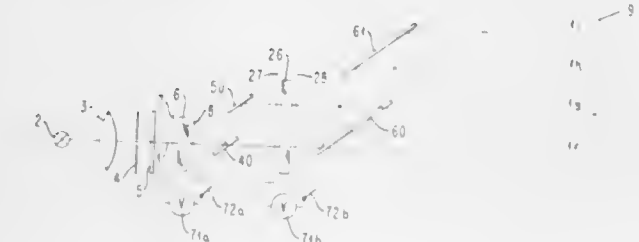
Filed Sept. 4, 1968, Ser. No. 757,302

Claims priority, application Germany, Nov. 18, 1967, 1,589,980

Int. Cl. G02f 3/00; H03k 19/14

U.S. Cl. 350-150

11 Claims



second double convex lens. In both cases the multiple images are formed on a recording medium in number and position determined by the number and position of the point sources in the array of the point sources of light.

3,540,792

RAPID-FOCUS BINOCULAR

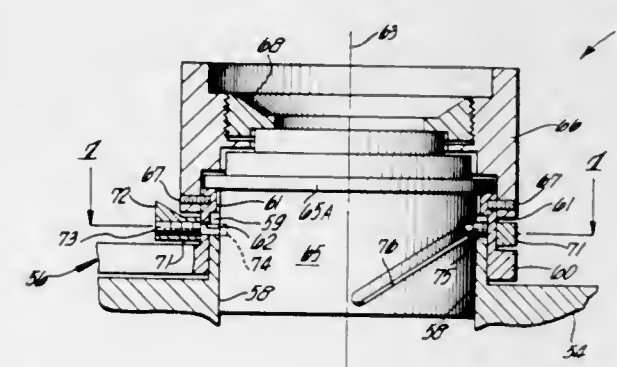
Alfred A. Akin, Jr., 1435 E. Verness St., West Covina, Calif. 91790

Filed Jan. 2, 1968, Ser. No. 695,190

Int. Cl. G02b 7/06

U.S. Cl. 350-77

2 Claims



An improved binocular having a focus-adjusting ring mounted on an ocular-lens housing to be rotatable about an optical axis of the lens and adapted to adjust both optical systems of the binocular simultaneously. A knob on the adjusting ring is positioned to fall comfortably under the user's thumb, and a short rotational stroke of the ring moves the optical systems rapidly through a full focusing range. A releasable lock is provided on the ring to prevent inadvertent loss of a desired focus setting.

3,540,793

PHOTOCHROMIC POLARIZING GLASSES

Roger J. Araujo, Corning, N.Y., William H. Cramer, Yakima, Wash., and Stanley D. Stookey, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed July 3, 1968, Ser. No. 742,151

Int. Cl. G02b 1/08

U.S. Cl. 350-147

6 Claims

Light polarizing glasses are found to be capable of reversibly changing from the clear unpolarized to the

3,540,795
ACHROMATIC COMPENSATION APPARATUS USING POLARIZATION ROTATION AND BIREFRINGENT ELEMENTS

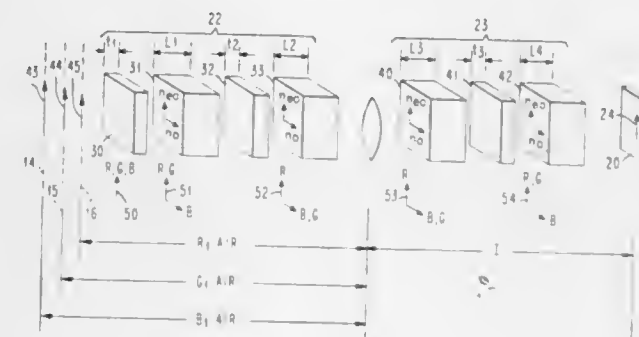
Thomas J. Harris, Chestnut Hill, Mass., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 15, 1969, Ser. No. 791,257

Int. Cl. G02f 3/00

U.S. Cl. 350-157

9 Claims



Longitudinal chromatic aberration and transverse chromatic aberration occurring in light deflection apparatus and other optical systems, such as chromatic displays and printers, are compensated. Compensation is simultaneously provided for a plurality of colors or wavelengths of light so that the colors and the position fields may be superimposed on an output medium. Object and image distances are both compensated by utilizing conventional lenses, polarization rotation and birefringent elements. The colors are rotated by different amounts and follow different axes and thus different optical paths through the birefringent elements.

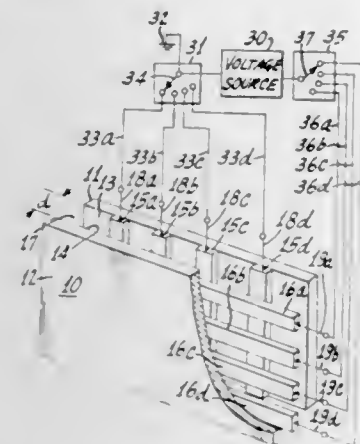
3,540,796 ELECTRO-OPTICAL COMPOSITIONS AND DEVICES

Joel E. Goldmacher, Princeton, and Joseph A. Castellano, North Brunswick, N.J., assignors to RCA Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 556,321, June 9, 1966. This application Mar. 31, 1967, Ser. No. 627,451

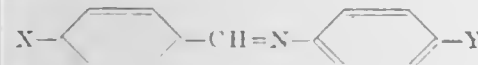
Int. Cl. G02f 1/28

U.S. Cl. 350—160

9 Claims



A novel class of nematic liquid crystal compositions and a novel display device employing the compositions wherein the compositions include a compound represented by the general formula



wherein X and Y are either alkoxy radicals or acyloxy radicals such that when X is an alkoxy radical Y is an acyloxy radical and vice versa. The novel display device consists of a film of a novel liquid crystal composition held between two support plates, and parallel electrode strips on each of the support plates. The longitudinal axes of the parallel strips on one support plate is orthogonal to the longitudinal axes of the parallel strips on the second support plate. The electrodes are in contact with the film. The device includes means for applying an electric field to the film so as to cause turbulence of the liquid crystal composition in the region of the applied field.

3,540,797 HIGH RESOLUTION PROJECTION SYSTEM UTILIZING AN OUTPUT LIGHT MASK HAVING A VARYING LIGHT TRANSMISSIVITY

William R. Glenn, Jr., Stamford, Conn., assignor to General Electric Company, a corporation of New York
Filed Mar. 7, 1968, Ser. No. 711,291

Int. Cl. G02b 27/18, 27/38

U.S. Cl. 350—162

11 Claims



Superior resolution is obtained in color displays utilizing a projection system having a polychromatic light source,

diffraction gratings for color modulating light passing therethrough and a selective masking element with a variable transparency distribution along the apertures passing the first order refractive light to the display screen. When the transparency of the output mask approximates $(1+\sin \theta)^2$, the first order light passed through the mask to the image plane is distributed by the output mask between only the zero order and the first order diffraction on either side of the zero order.

3,540,798 TRIPLET TYPE SYSTEM IN OBJECTIVE LENS FOR MICROSCOPE

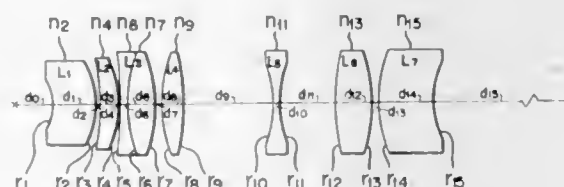
Hidekazu Kobaya, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Apr. 24, 1968, Ser. No. 723,719

Claims priority, application Japan, May 30, 1967, 42/33,927

Int. Cl. G02b 9/64, 11/34

U.S. Cl. 350—177

2 Claims



An objective lens is provided for a microscope having excellent resolution, an extended working distance, and a flattened image surface. A triplet type optical system of positive, negative, positive lens groups is provided in a conventional lens system having a thick meniscus in the front and rear portions, the system being almost symmetrical with respect to the negative lens group.

3,540,799 FOUR-COMPONENT VARIFOCAL OBJECTIVE WITH FIVE FIXED AND TWO MOVABLE LENS MEMBERS

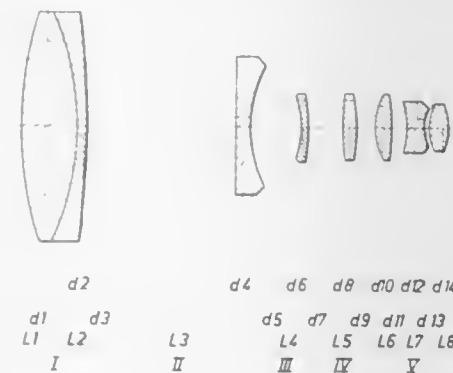
Karl Macher, Bad Kreuznach, Germany, assignor to Jos. Schneider & Co. Optische Werke Kreuznach, Bad Kreuznach, Rhineland, Germany, a corporation of Germany
Filed Nov. 8, 1968, Ser. No. 774,399

Claims priority, application Germany, Nov. 9, 1967, 1,572,859

Int. Cl. G02b 15/14, 9/64

U.S. Cl. 350—184

6 Claims



Varifocal objective with fixed positive front doublet followed by two movable negative singlets and four fixed singlets of respectively positive, positive, negative and positive refractivity, with varifocal ratio of 3:1 and relative aperture of 1:1.9.

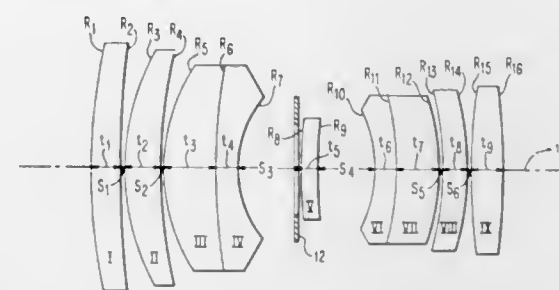
3,540,800 LARGE FIELD REDUCTION LENS SYSTEM

Raymond E. Tibbetts, Mahopac, and Janusz S. Wilczynski, Ossining, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 15, 1968, Ser. No. 744,830

Int. Cl. G02b 9/00

U.S. Cl. 350—214

4 Claims



The present invention relates to optical lens systems and more particularly, to a lens group for use as a reduction lens. The lens system consists of nine lens elements. The first and second lens elements are meniscus singlet lenses. The third and fourth lens elements are cemented together to form a meniscus doublet lens. The fifth lens element is a negative singlet lens. The sixth and seventh lens elements are cemented together to form a meniscus doublet lens. Lens element eight is a meniscus single lens and lens element nine is a biconvex lens. The lenses are optically aligned on an axis and a diaphragm is provided between the fourth and fifth lens elements in one embodiment and between the fifth and sixth lens elements in another embodiment. Two embodiments of the reduction lens are provided. The corresponding lens elements in both preferred embodiments have the same refractive index and Abbe numbers, but the radius of curvature and thickness in air space of the equivalent lens elements of the two embodiments differ slightly in order to provide different amounts of reduction, focal length and image field.

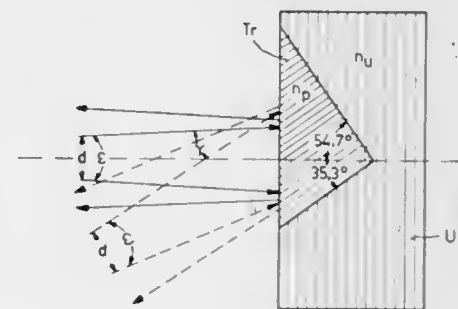
3,540,801 REFLECTOR FOR DIGITAL LIGHT DEFLECTORS

Uwe Schmidt, Pinneberg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1967, Ser. No. 683,576

Int. Cl. G02b 5/04

U.S. Cl. 350—286

6 Claims



A ray reversal element including a tetrahedron and a medium in which the three reflecting surfaces of the tetrahedron are embedded, where the indices of refraction of the tetrahedron and medium are related such that there will be a total internal reflection of rays in the tetrahedron while the state of polarization of the rays is maintained constant.

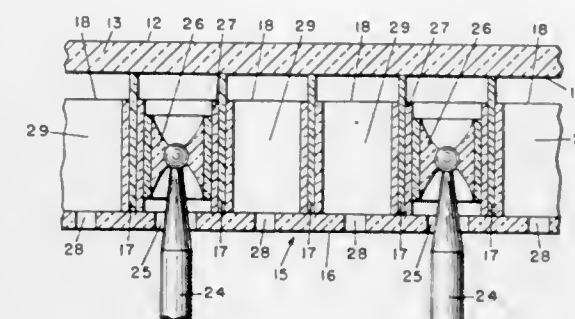
3,540,802 OPTICAL MIRROR APPARATUS

Hubert F. A. Tschunko, Milton, Mass., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Mar. 11, 1968, Ser. No. 712,099

Int. Cl. G02b 5/08

U.S. Cl. 350—310

8 Claims



An optical mirror for reflecting light and including an integral support cage formed by a plurality of cylindrical supports which contact the rear surface of the mirror along continuous paths concentric with the mirror's optical axis is disclosed. The support cage provides physical stability and minimizes harmful image distortion by producing a surface deformation pattern which qualitatively matches an expected light diffraction pattern of the created images.

3,540,803 FILM RECEPTOR FOR A MOTION-PICTURE PROJECTOR FOR REWINDING ONE FILM DURING PROJECTION OF A SECOND FILM

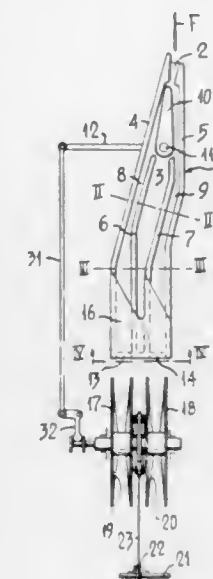
Louis Thévenaz, Les Rasses, near Sainte-Croix, Vaud, Switzerland, assignor to Paillard S.A., Sainte-Croix, Vaud, Switzerland, a company of Switzerland
Filed July 10, 1968, Ser. No. 743,849

Claims priority, application Switzerland, July 18, 1967, 10,228/67

Int. Cl. G03b 23/00

U.S. Cl. 352—125

10 Claims



In a motion picture projector for rewinding one film during the projection of another a receptor is provided for guiding the film strips between the exit from the projector and the takeup reel. The receptor has a single entrance and two exits. Inside the entrance a deflector is provided for guiding the entering film strip to one or the other of two paths leading from the entrance to the exits. Each path is open on one side a portion of its length so that the film may be removed edgewise. Also each path has a contour for twisting the film through an angle of approximately 90° to align it with the takeup reel.

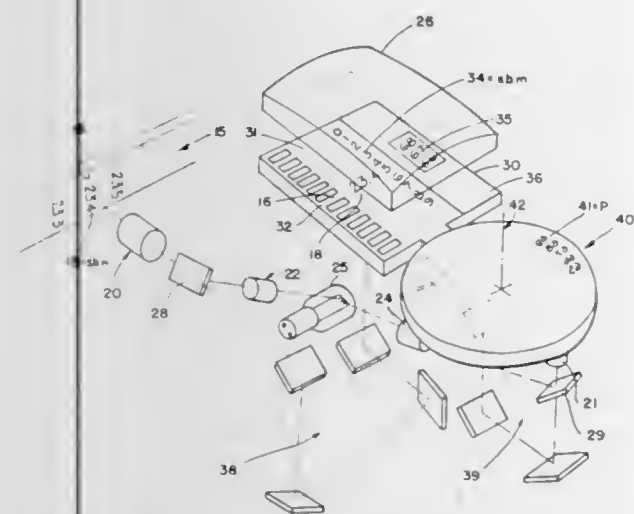
3,540,804 DIRECT READING OPTICAL MEASURING DEVICE

Warren J. Smith, Max J. Riedl, Gordon D. Hernlund, and Donald B. Healy, Santa Barbara, Calif., assignors to Infrared Industries, Inc., Santa Barbara, Calif., a corporation of Delaware

Filed June 14, 1968, Ser. No. 737,108
Int. Cl. G03b 21/00

U.S. Cl. 35—41

13 Claims



A precision optical reader and method is shown in which a scale scanning objective views line indicia spaced at $1/n$ and numerical indicia associated with each line. A shiftable screen having line indicia and numerical indicia of $1/nm$ associated therewith is slidably mounted for longitudinal shifting within a housing. The shiftable screen is moved by means of a sector cam having eccentricity proportioned to shift the shiftable screen to position its line indicia in an optically coupled relationship with the line indicia projected from the scale. A numbered sector having numerical indicia $1/nmp$ is associated with the cam, and optical means are provided to transfer the indicia onto a screen which reads in an ordered sequence numerically the divisions of measurement. The method contemplates shifting a vernier type divider with a rotating member having peripheral eccentricity and utilizing the radial displacement of the rotating member to divide further the scale distance.

3,540,805 ILLUMINATION MEANS

Dana K. Mortensen, Huntington Beach, Calif., assignor to Christie Electric Corp., Los Angeles, Calif., a corporation of California

Continuation of application Ser. No. 662,184, Aug. 21, 1967, which is a continuation of application Ser. No. 462,841, June 10, 1965. This application May 22, 1968, Ser. No. 732,494

Int. Cl. G03b 21/14

U.S. Cl. 353—82

13 Claims



An illumination device for illuminating a film aperture of a projector located in apposition to the front of the device with the film plane aperture centered on the optical axis of the device. The device has an adjustable light source on the optical axis with a small secondary mirror directing light rearwardly in the device and a pair of primary mirrors on opposite sides of the optical axis with

each primary mirror being mounted for individual adjustment about a separate vertical axis whereby each primary mirror directs light forward in the device in a separate beam which approaches the optical axis as the beam moves forward in the device. Lenses in the front end of the device image in the film plane aperture a cross section of each light beam, each of which cross sections is spaced slightly forward of the respective primary mirror. In one embodiment of the device, there are lenses near the front of the device which turn each of the separate light beams more nearly parallel to the optical axis of the device. In one embodiment of the device, the primary mirrors are adjusted so that one of the separate light beams fill substantially only one-half of the film plane aperture and the other of the separate light beams fills substantially only the other one-half of the film plane aperture. In one embodiment of the device where the separate beams each fill substantially a separate one-half of the film plane aperture and a cross section of each separate beam is imaged in the film plane aperture, there is a vertical light shield located at each such cross section on the side of each beam of light away from the optical axis to limit each light beam at the film plane aperture to only one-half of the film plane aperture.

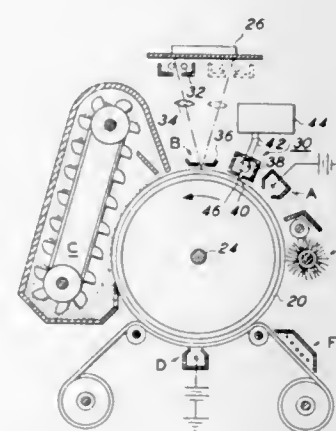
3,540,806 HALF-TONING METHOD AND APPARATUS FOR SOLID AREA COVERAGE

Gary K. Starkweather, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Mar. 6, 1968, Ser. No. 710,938
Int. Cl. G03b 15/00

U.S. Cl. 355—3

6 Claims



A method and apparatus for forming half-tone patterns on a xerographic photoreceptor that has been previously charged. The apparatus is used in a system employing a moving xerographic photoreceptor. The method and apparatus for producing a pattern includes the periodic shadowing of a line or dot pattern on the moving photoreceptor. This permits achievement of better development of complete solid areas as well as continuous-tone images and is preferred for certain uses of the copy formed from the photoreceptor.

3,540,807 PHOTOGRAPHIC COPYING MACHINE

Hans W. Minikes, Siegen, Germany, assignor to Eurograph Gesellschaft für Photomechanik m.b.H., a corporation of Germany

Filed July 15, 1968, Ser. No. 744,885
Claims priority, application Germany, July 21, 1967, E 25,480

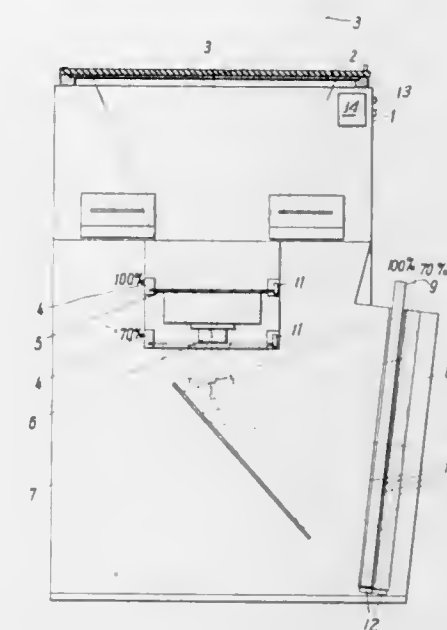
Int. Cl. G03b 27/70

U.S. Cl. 355—60

9 Claims

A photographic copying machine of the type used for the making of negatives for offset printing. The copy may be full-sized or reduced. Material to be copied is placed

on a horizontal glass at the top of the machine. A lens is mounted below the glass at an adjustable height depending on the reproduction size desired, and an oblique mirror reflects the image to one side onto negative material in a cassette. The cassette is variably positioned in



guides according to the reproduction size desired. Preferably, micro-switches detect the position of the lens and the cassette, and operate indicator lights as to position. The micro-switches may be wired through an interlock to insure operation only when the lens and cassette positions are properly correlated.

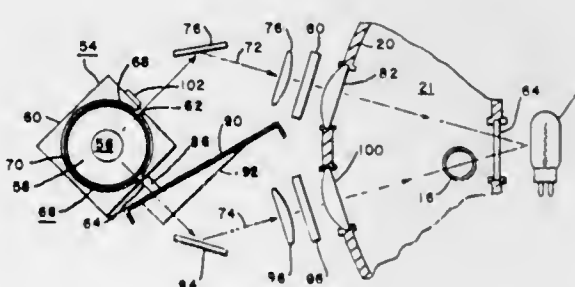
3,540,808 APPARATUS FOR EFFICIENTLY DIRECTING A BEAM OF RADIATION THROUGH A TEST SAMPLE

Duane D. Harmon and James M. Thoburn, Irondequoit, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Mar. 30, 1966, Ser. No. 538,743
Int. Cl. G01n 1/00, 33/16; G01i 3/46

U.S. Cl. 356—36

6 Claims



Apparatus for directing a beam of radiation through a test sample and a container therefor, both of which are at least partially immersed in a constant temperature bath. The bath chamber's walls include at least one collective lens and a filter as portions thereof. The respective refractive indexes of the test sample, the test sample container and the bath liquid are selected to approach one another so that refraction of the beam is held to an absolute minimum. In addition, resilient means urge the test sample container and its contents into precise alignment with the beam of radiation to avoid or significantly reduce the scattering thereof due to any focal effects introduced by the curvature of the sample container surfaces.

3,540,809 VIBRATION DAMPED HELICOPTER ROTOR

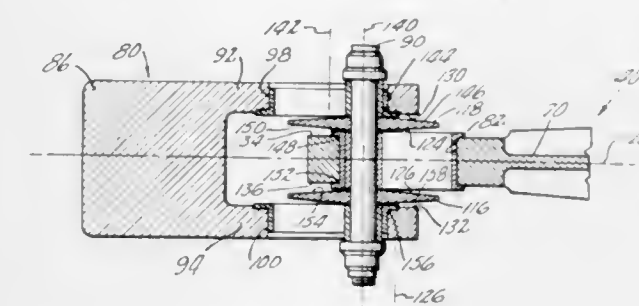
William F. Paul, Trumbull, and Kenneth C. Mard, Stratford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 20, 1968, Ser. No. 761,187

Int. Cl. B64c 27/32

U.S. Cl. 416—1

20 Claims



A multibladed helicopter rotor which carries at least one series of at least three bifilar vibration dampers there-with tuned to eliminate in-plane rotor vibrations which would otherwise be transmitted to the helicopter fuselage.

3,540,810 SLANTED PARTITION FOR HOLLOW AIRFOIL VANE INSERT

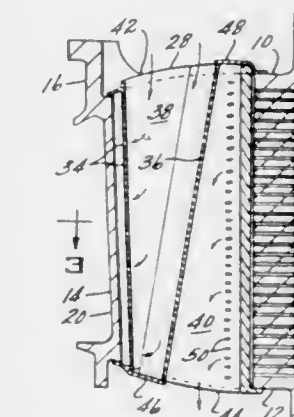
David M. Kercher, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed Mar. 17, 1966, Ser. No. 535,064

Int. Cl. F01d 25/12

U.S. Cl. 416—90

7 Claims



1. A fluid directing element for turbomachinery comprising, a hollow airfoil vane having leading and trailing edges, a hollow thin walled insert disposed in said vane and spaced therefrom to define passages, a slanted partition extending from substantially one end to the other within said insert and forming a single forward and aft plenum of constant static pressure therein, said insert having apertures oriented to discharge fluid from the forward plenum onto the leading edge inner vane surface to spread and flow through said passages toward said trailing edge, said insert having second apertures at the aft end to discharge some fluid from said passages into said aft plenum, means to discharge the remaining fluid adjacent the trailing edge and, means connected to said plenums for fluid entry and exit.

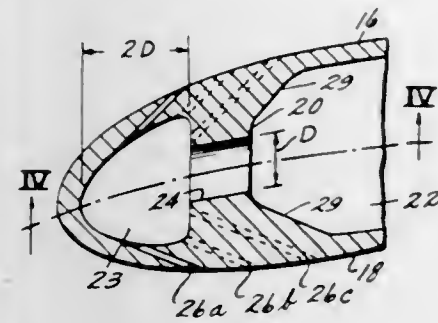
3,540,811

FLUID-COOLED TURBINE BLADE

David R. Davis, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 26, 1967, Ser. No. 649,790
Int. Cl. F01d 5/08

U.S. Cl. 416—90

8 Claims



An integral, shell-like turbine bucket has an internal rib extending between opposite walls of the shell adjacent the leading edge of the blade and divides the blade into a nose chamber and a cooling air chamber. Cooling air passes through holes in the rib into the nose chamber and provides impingement cooling of the extreme leading edge of the blade. Air then passes from the nose chamber through small holes angled in a downstream direction to provide convection and film cooling of the leading edge portion. Slots are cut in the leading edge portion of the blade in advance of the rib so that the rib serves as a structural member unaffected by differential thermal expansion between it and the nose portion. The slots terminate in certain of the smaller holes which also serve to reduce stress concentration. The smaller holes are arranged to maintain a minimum thermal gradient in the stress-bearing structural rib. An alternate embodiment of the invention illustrates a different manner in forming the very narrow stress-relieving slots.

3,540,812

SPUTTER ION PUMP

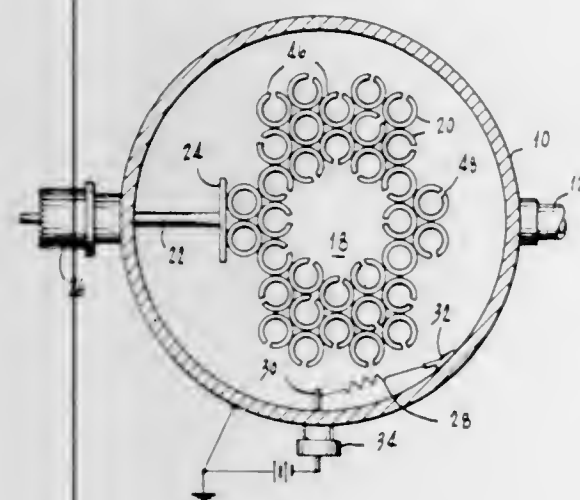
William G. Henderson and John T. Mark, Lancaster, Pa., assignors to RCA Corporation, a corporation of Delaware

Filed Apr. 12, 1968, Ser. No. 720,864

Int. Cl. F04b 37/02

U.S. Cl. 417—49

7 Claims



A sputter ion pump having an anode comprised of a plurality of open-ended tubular cells which have slots in the walls thereof and having a thermoemissive filament located within the pump envelope.

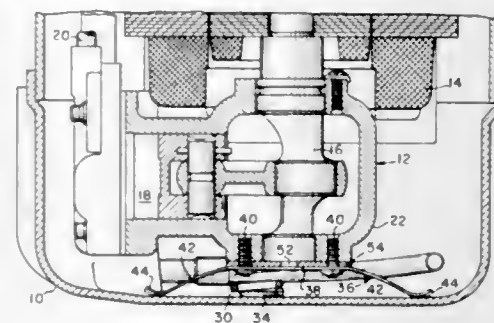
3,540,813

MOUNTING SUPPORT FOR HERMETIC MOTOR COMPRESSORS

Earl F. Murphy, Florence, Ala., assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Mar. 27, 1969, Ser. No. 811,058
Int. Cl. F04b 39/00

U.S. Cl. 417—363

5 Claims



Resilient mounting for hermetic motor compressor unit comprising a pair of diametrically opposed vertical coil springs between the unit and the bottom of the hermetic container and a stabilizing arched leaf spring having widely spaced legs on a line at substantially right angles to a line between the coil springs.

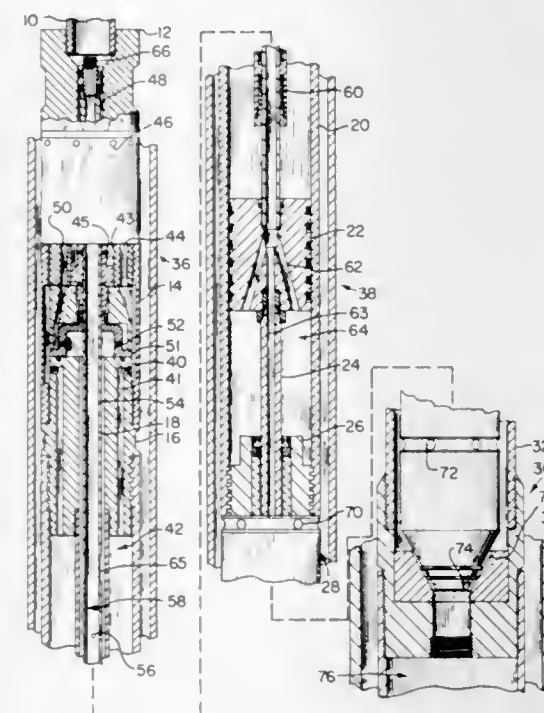
3,540,814

FLUID ACTUATED DOWN-HOLE PUMP

George K. Roeder, P.O. Box 3931, Odessa, Tex. 79760
Filed Jan. 13, 1969, Ser. No. 790,591
Int. Cl. F04b 47/00; F15b 11/00

U.S. Cl. 417—399

18 Claims



A fluid actuated pump assembly having a valve assembly, an engine, and a production pump. The valve assembly receives a source or power fluid from the surface of the earth. The production pump is reciprocally actuated by means of the engine which in turn receives a source of power fluid through the valve assembly. A piston, having a passageway therethrough, is connected to a hollow valve control rod and a hollow connecting rod. A dash pot plug in conjunction with an extension nipple and an aperture located within the valve control rod forms a path of fluid flow from the valve assembly to the bottom of the piston, thereby substantially increasing the permissible size of the piston with respect to the outside diameter of the engine cylinder. Other forms of the invention include reciprocating single and double acting pistons having the fluid flow path arranged therein in the before described manner.

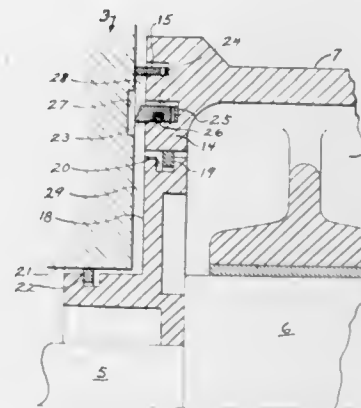
3,540,815

SEALING MEANS FOR ROTARY INTERNAL COMBUSTION ENGINES

Adolf Belzner and Georg Zorn, Heilbronn-Neckargartach, Germany, assignors to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany, and Wankel G.m.b.H., Landau-Bodensee, Germany
Filed June 10, 1969, Ser. No. 831,870
Int. Cl. F01c 1/02, 19/00, 19/12

U.S. Cl. 418—61

5 Claims



A rotary engine of the trochoidal type, having a fluid-cooled rotor, with provision for sealing against leakage of internal rotor coolant into the working chambers during both operating and standstill conditions.

3,540,816

COAXIAL MULTI-STAGE ROTARY COMPRESSOR

Rafael Gil Alcolea, % Jimenez de Quesada 17-3°, Cordoba, Spain

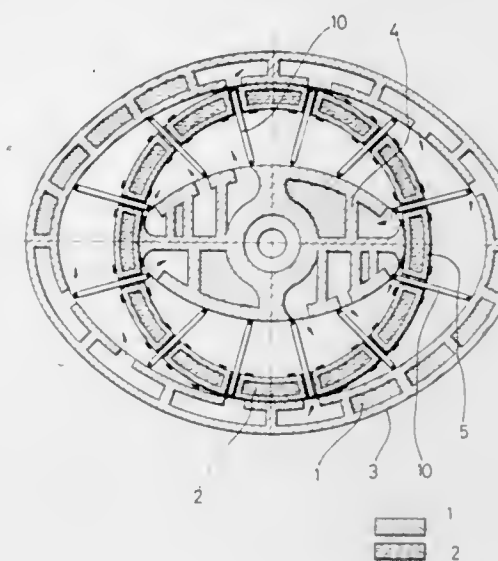
Filed Dec. 3, 1968, Ser. No. 780,809

Claims priority, application Spain, Dec. 5, 1967, 347,989

Int. Cl. F04b 13/02, 19/02; F04c 1/00

U.S. Cl. 418—177

16 Claims



A coaxial multi-stage rotary compressor comprising a cylindrical rotor which in turn carries and guides generally axially disposed and spaced reciprocable blades of constant length, each end of each blade being also guided in reciprocating movement between substantially elliptical surfaces, the blades always remaining in a radial position with respect to said rotor and, therefore, perpendicular to the tangent to the surface of the rotor which is adapted to drive said blades, one stage of said compressor being between an inner side of said rotor and one elliptical surface and another stage of said compressor being between the exterior of said rotor and a second conoidal transformed surface.

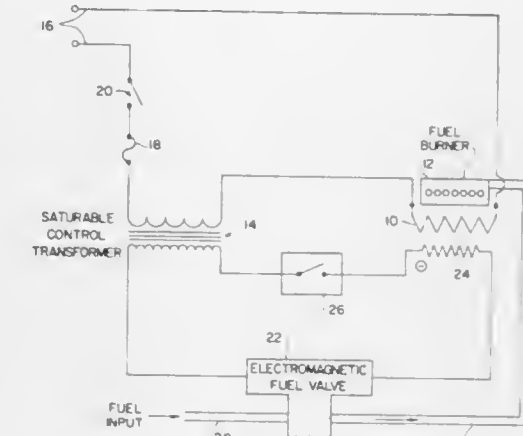
3,540,817

ELECTRIC IGNITION SYSTEM

Hugh J. Tyler, Santa Ana, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Feb. 28, 1969, Ser. No. 803,298
Int. Cl. F23n 5/00

U.S. Cl. 431—66

6 Claims



An electric ignition system comprising an electric fuel ignitor coupled in series with the primary winding of a saturable control transformer across an electric power supply. The secondary winding of the transformer is coupled in series with a thermistor type heat sensor, a control switch, and an electromagnetic fuel valve. The control transformer is designed to saturate with only a few volts applied to the primary winding, whereby nearly full line power is applied to the electric ignitor and a constant control voltage is supplied to the transformer secondary circuit. The constant control voltage induced in the secondary winding energizes the fuel valve when the control switch is closed and the heat sensor resistance is low indicating sufficient ignitor temperature.

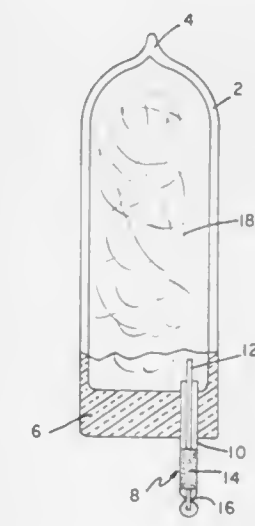
3,540,818

PHOTOFLASH LAMP

John W. Shaffer, Williamsport, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 28, 1968, Ser. No. 756,026
Int. Cl. F21k 5/02

U.S. Cl. 431—93

8 Claims



A percussive-type photoflash lamp in which the fulminating material of the primer thereof includes small quan-

ties of sulfur, either as elemental sulfur or as a sulfide, to improve the shelf life and impact sensitivity retention of red phosphorous-based fulminating materials.

3,540,819

PHOTOFLASH LAMP

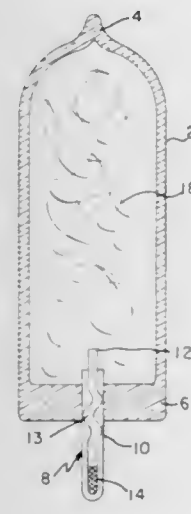
John W. Shaffer and Stephen V. Brown, Williamsport, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Aug. 30, 1968, Ser. No. 756,515

Int. Cl. F21k 5/02

U.S. Cl. 431-93

5 Claims



A percussive-type photoflash lamp in which a stainless steel wire is used as the anvil in the primer thereof.

3,540,820

PHOTOFLASH LAMP

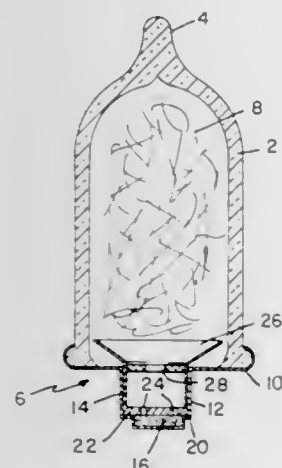
John W. Shaffer, Williamsport, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 691,558, Dec. 18, 1967. This application May 23, 1969, Ser. No. 827,298

Int. Cl. F21k 5/02

U.S. Cl. 431-93

3 Claims



A percussive-type photoflash lamp in which the primer thereof includes a charge of fulminating material having a chemical dispersing agent as one of its components in order to facilitate handling in production and to enhance performance in operation.

3,540,821

FLUE GAS RECIRCULATION BURNER

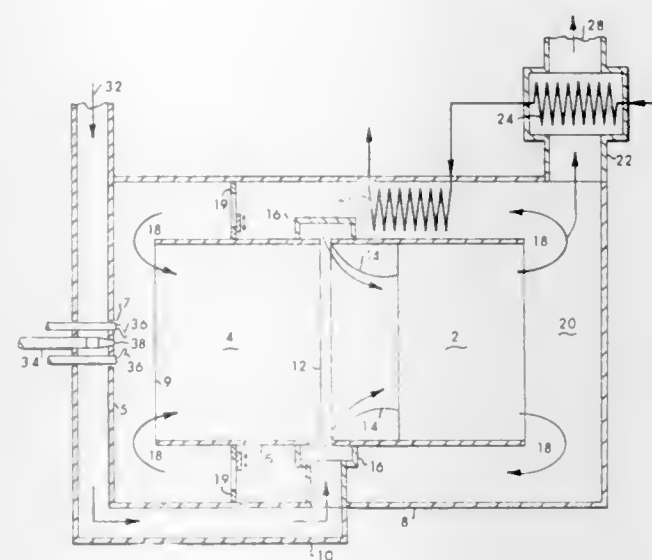
Charles W. Siegmund, Morris Plains, Robert L. Andrews, Roselle, and Duane G. Levine, Fanwood, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Apr. 1, 1968, Ser. No. 717,678

Int. Cl. F23j 5/02

U.S. Cl. 431-116

9 Claims



The disclosure relates to a novel recirculation flue gas burner wherein fuel is injected into recirculating flue gas prior to mixing fuel and flue gas with the air necessary to support combustion.

3,540,822

AGRICULTURAL HEATER SYSTEM AND HEATERS THEREFOR

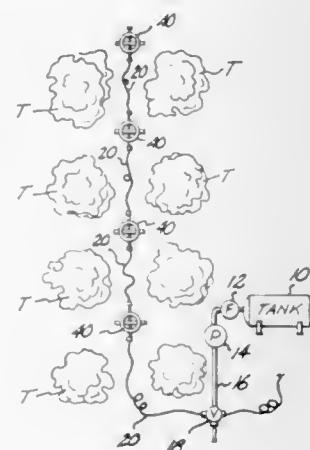
Jacques Filliol, Zillah, Wash.; Joanne Marie Filliol, 220 Westover Drive, Yakima, Wash. 98902, executrix of said Jacques Filliol, deceased

Filed Jan. 21, 1969, Ser. No. 792,381

Int. Cl. A01g 13/06

U.S. Cl. 431-207

3 Claims



Liquid fuel under pressure is conducted from a source over or under the ground among agricultural plantings. Spaced apart burner nozzles are arranged in the conductor means for upward discharge. In an upwardly open, upright burner housing surrounding each nozzle and rising thereabove, combustion of discharged liquid fuel occurs to produce heat and hot gases. Heat transfer means are included in the conductor system in proximity to the burner nozzles to absorb heat of combustion and to impart the same to liquid fuel flowing in the system.

3,540,823

PIEZOELECTRIC SPARK GENERATOR

Yasuhisa Ebine, Tokyo-to, Japan, and Martin Blake, Little Neck, N.Y., assignors to Kabushiki Kaisha Crown Sangyo, Tokyo-to, Japan

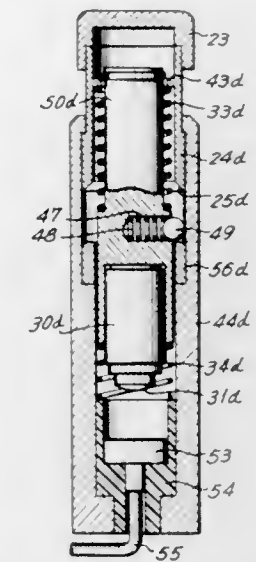
Filed May 28, 1968, Ser. No. 732,594

Claims priority, application Japan, Mar. 28, 1968, 43/19,751

Int. Cl. F23g 7/12

U.S. Cl. 431-255

9 Claims



A structure for generating a spark with a piezoelectric means. The structure is used in conjunction with an electrical circuit which has a pair of electrodes which are spaced from each other to define the spark gap. A stationary impact means coacts with a movable piezoelectric means to be engaged by the latter, and a drive means coacts with the movable piezoelectric means to drive it into impact engagement with the stationary impact means. Thus, by connecting the piezoelectric means into the electrical circuit at least at the instant of impact with the impact means the piezoelectric means will provide between the electrodes a potential difference great enough to create a spark across the gap between the electrodes.

3,540,824

EGG CANDLING APPARATUS AND METHOD FOR DETERMINING THE FERTILITY OF EGGS

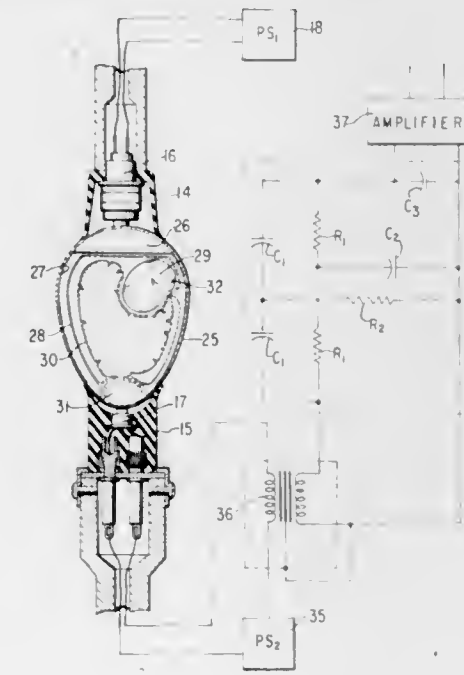
Dino B. Fonda, Philadelphia, and Henry M. Chandler, Hatboro, Pa., assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 16, 1968, Ser. No. 767,945

Int. Cl. G01n 33/08

U.S. Cl. 356-53

6 Claims



Apparatus and method for candling eggs to determine life in an incubating chick embryo in which relatively

intense white light is passed through the partially incubated egg and the resulting transmitted light at about 7300 angstroms is converted into electrical impulses from a photoelectric cell which are then amplified, passed through a low pass filter to eliminate frequencies other than 3 to 5 cycles per second, and then amplified to actuate means for accepting eggs containing live embryos or rejecting those in which the embryo is dead.

3,540,825

DOUBLE BEAM SPECTROMETER READOUT SYSTEM

Richard E. Grojean, North Weymouth, Mass., assignor to McPherson Instrument Corporation, Acton, Mass., a corporation of Delaware

Filed Jan. 18, 1968, Ser. No. 698,890

Int. Cl. G01j 3/42

U.S. Cl. 356-88

4 Claims



A double beam spectrometer having a readout system in which both channels of the spectrometer are coupled to one input terminal of a logarithmic amplifier, the output of which is switched between two integrators so that one integrator is connected when the spectrometer light beam is passing through a reference cell and the other is connected when the beam is passing through the sample cell. The integrator outputs are connected through a switching circuit to a difference amplifier, which has its output connected to a pen recorder or the like through a low pass filter. The output is then proportional to the logarithms of the ratio between light transmitted through the sample and through the reference.

3,540,826

SATURATION HYGROMETER

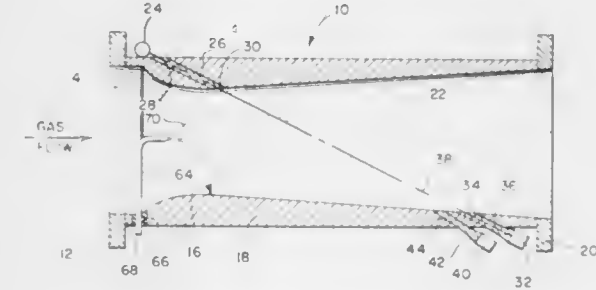
Arthur Bisberg, Lexington, Mass., assignor, by mesne assignments, to EG & G, Inc., Bedford, Mass., a corporation of Massachusetts

Filed June 6, 1968, Ser. No. 734,989

Int. Cl. G01n 15/02, 25/02

U.S. Cl. 356-102

15 Claims



A saturation hygrometer detects the onset of water vapor saturation in a flowing stream of gas. A continuous sample of the gas is directed into a venturi duct section and is cooled upon adiabatic expansion of the gas. A beam of light is directed diagonally across the section and normally impinges against a first photocell. A second photocell is connected in a bridge circuit with the first and detects scattered light from condensation droplets

forming within the section to provide an output from the bridge circuit to an indicator. The hygrometer is fail-safe in that failure of the lamp providing the beam of light will produce an indication.

3,540,827 APPARATUS FOR MEASURING CIRCULAR DICHROISM UTILIZING PHOTOELASTIC MEANS

Jacques Badoz, Bagneux, and Michel Billardon, Chilly-Mazarin, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a body corporate of France

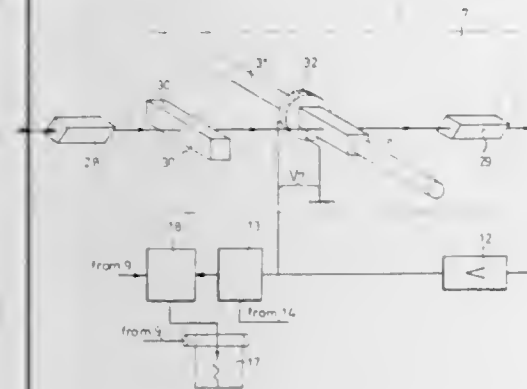
Filed May 26, 1967, Ser. No. 641,507

Claims priority, application France, May 26, 1966, 63,064

Int. Cl. G01n 21/40

U.S. Cl. 356—114

5 Claims



Apparatus for measuring the circular dichroism of optically active specimens comprising means for obtaining a monochromatic beam of light, rectilinearly polarized, means for varying the intensity of said beam, means for periodically varying the polarization of said beam from a left elliptically polarized light to a right elliptically polarized light, an electro-optical transducer adapted to receive said variable polarization light beam and means for controlling the beam intensity varying means by the signal from said transducer, in which the polarization varying means are great grasping power means (i.e., accept light rays forming a beam of large solid angle about the axis of the beam) including a plate of photoelastic material, a piezoelectric transducer coupled to said plate and an elongated bar undergoing acoustical longitudinal vibrations and having inserted at its middle the photoelastic plate and the piezoelectric transducer.

3,540,828 OPTICAL TESTING DEVICE AND METHOD OF USING THE SAME

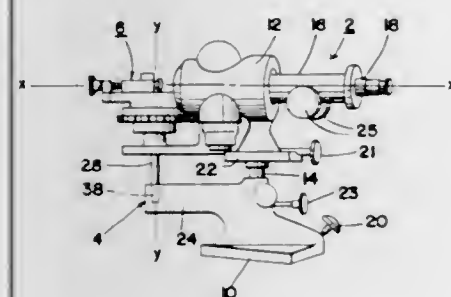
Joseph S. Nupuf, 1342 Cleveland Ave. NW., Canton, Ohio 44703

Filed Dec. 8, 1966, Ser. No. 600,216

Int. Cl. A61b 3/00, 3/10, 5/10; G01b 9/00

U.S. Cl. 356—127

17 Claims



A system for measuring the curvature of the optical surface of an optic including a measuring instrument and

a supporting device pivotally mounted thereon for rotation about a generally vertical axis. The measuring instrument includes a lens system having an optical axis which is maintained in a relatively fixed position during the measuring process. The supporting device includes a support member adapted for supporting the optic in alignment with the optical axis of the lens system, and an adjustment mechanism for rotating the optic about the aforementioned vertical axis for measuring the curvature of its optical surface along a horizontal plane extending through the geometrical center thereof.

3,540,829 LASER DETECTION OF CLEAR AIR TURBULENCE

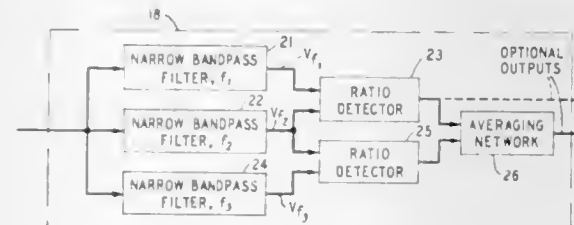
James A. Collinson, Mountain Lakes, John S. Cook, New Providence, and Mahadevan Subramanian, Whippany, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 9, 1968, Ser. No. 758,314

Int. Cl. G01m 21/46

U.S. Cl. 356—129

6 Claims



A laser transmitter transmits a laser beam through the atmosphere. When passing through clear air turbulence (CAT), the beam is modulated by fluctuations in the atmosphere's refractive index coefficient. The degree of modulation is related to the degree of turbulence. Receiving and processing apparatus responds to a portion of the beam and produces an indication of the degree of modulation.

3,540,830 MEANS AND METHOD FOR DETECTING THE EFFECTIVE POSITION OF FLAWS IN CLOTH WEBS ON CLOTH LAYING TABLES

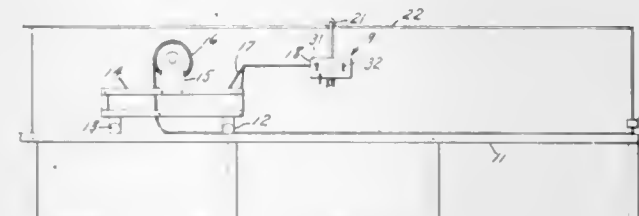
Anthony F. DiCanio, Elmhurst, N.Y., assignor to Cutting Room Appliances Corp., New York, N.Y., a corporation of New York

Filed July 3, 1967, Ser. No. 650,882

Int. Cl. A411 3/00

U.S. Cl. 356—156

3 Claims



An optical system for projecting a cloth cutting pattern upon the exposed surface of the upper most lamina of a cloth web to determine whether a flaw existing in the web lies within an area which will be cut out as waste, or within an area which will ultimately form a piece of a garment.

3,540,831 INDICIUM LOCATING APPARATUS

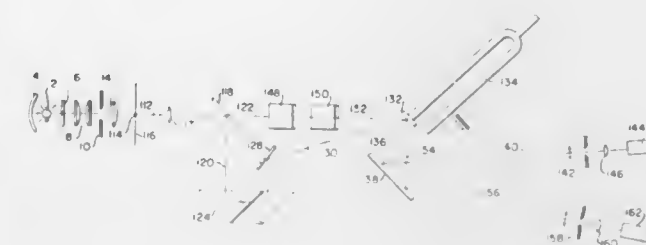
Howard B. Lovering, Bedford, Mass., assignor to GCA Corporation, Bedford, Mass., a corporation of Delaware

Filed June 1, 1966, Ser. No. 554,553

Int. Cl. G01b 11/00

U.S. Cl. 356—162

8 Claims



Optical apparatus for locating an indicium at the center of an aperture in two coordinates, in which an image of the indicium is oscillated across a slit by oscillating means for one coordinate; an image of the indicium is oscillated across a second slit by the same means for the other coordinate. Photocells receive the appearance of each image in its respective slit, and the electrical signals from the cells are used to form traces on an oscilloscope having a sweep circuit, there being two traces for each slit. The sweep is triggered each time the oscillation means reaches the maximum excursion on each side of the slits. The position of the traces on the oscilloscope depends on the position of the indicium in its aperture. If the indicium is moved so that the traces coincide, the indicium is then centered in its aperture.

3,540,832 LOOSE-LEAF BINDING DEVICES

Leslie Joe Morris, 225 Ash Road, Aldershot, Hampshire, England

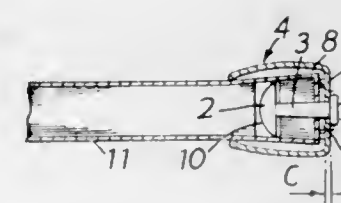
Filed Jan. 30, 1968, Ser. No. 701,660

Claims priority, application Great Britain, Feb. 3, 1967, 5,458/67

Int. Cl. B42f 3/00

U.S. Cl. 402—4

11 Claims



Binding loose leaves which includes an extended resilient channel which encloses aligned marginal edges of the leaves and which has one or more openings in its spine, and a number of studs, one for each opening. Each stud has a shank with a spade end at one end and a head at the other. The spade end is shaped to pass through the opening in the spine and, when aligned to extend longitudinally of the channel, to penetrate the stack of leaves, and can then be turned to bring the spade end transverse to the length of the channel to hold the leaves in the channel.

3,540,833 MECHANICAL SEAL

John Talamonti, Chicago Heights, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,373

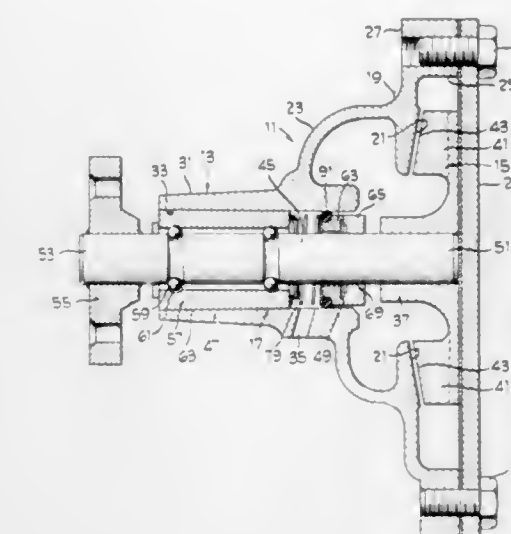
Int. Cl. F04d 1/00, 29/00; F16j 9/00

U.S. Cl. 415—170

6 Claims

A mechanical face seal which provides a dynamic seal between a rotating shaft and a housing. The seal includes

a sealing ring secured to the shaft in spaced relation to a supporting bearing secured to the housing, a relatively stationary seal ring urged into sealing engagement with the rotating ring disposed intermediate the bearing and



the rotating ring, a biasing means intermediate the stationary ring and the bearing providing an axial biasing force, and an O ring seal compressed between the housing and the stationary ring to provide a static seal.

3,540,834 APPARATUS FOR PUMPING LIQUIDS CONTAINING SOLIDS

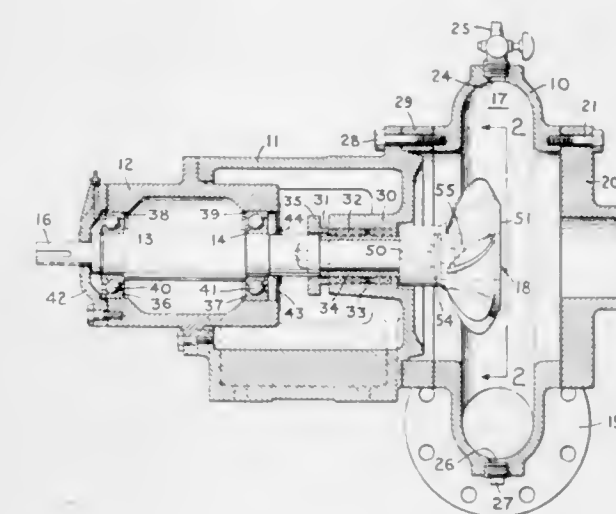
Robert W. Allerton, Short Hills, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Sept. 12, 1968, Ser. No. 759,472

Int. Cl. F04d 1/00, 29/18

U.S. Cl. 415—204

12 Claims



A pump for handling fluid containing solids wherein the pump impeller has vanes formed on the backside thereof and therefor takes its suction from the backside of the pump casing. Solids, heavier than the fluid, are centrifuged outward in the pump casing and passed through the pump discharge without contacting the impeller vanes. The discharge from the pump impeller is directed in a whirling motion into the stream containing solids providing momentum to this stream and further preventing solids from contacting the impeller.

CHEMICAL

3,540,835
CARBOXYLIC ACID GROUP CONTAINING COPOLYMER IS APPLIED TO TEXTILE WHICH HAS BEEN TREATED WITH AN AMINOPLAST RESIN TO IMPROVE SOIL RELEASE CHARACTERISTICS THEREOF

Francis W. Marco, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of South Carolina
 No Drawing. Continuation-in-part of application Ser. No. 570,169, Aug. 4, 1966. This application Aug. 11, 1967, Ser. No. 649,852

Int. Cl. D06m 15/54, 15/14
 U.S. Cl. 8—115.6 13 Claims

A process for imparting soil release and durable press characteristics to a textile material which comprises applying thereto a textile resin and a textile resin catalyst, at least partially curing said resin, applying to the resin-treated textile material a synthetic acid polymer comprising at least 20 weight percent acid calculated as acrylic acid, and heating the resulting textile material under textile resin curing conditions.

3,540,836
STABILIZATION OF PHYSICAL CONFIGURATIONS IN CELLULOSIC YARNS, FABRICS AND GARMENTS THROUGH REACTION WITH POLYFUNCTIONAL SULFONE OR SULFONIUM COMPOUNDS

Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Paul B. Stam, Kinnelon, Ildo E. Pensa, Palisades Park, and Robert O. Rau, Parlin, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

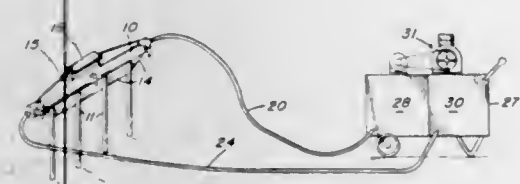
No Drawing. Continuation-in-part of applications Ser. No. 261,833, Feb. 28, 1963, and Ser. No. 292,727, July 3, 1963. This application Dec. 20, 1965, Ser. No. 515,151
 Int. Cl. D06m 13/28, 13/52, 13/54

U.S. Cl. 8—120 20 Claims
 Cellulosic textile materials are reacted with polyfunctional sulfone or sulfonium compounds under conditions of alkaline catalysis in a swollen state and thereafter heated. Polyfunctional sulfone or sulfonium-modified cellulosic textile materials are treated with a solution of alkaline catalyst, placed in the desired configuration and thereafter heated. The process lends itself to the delayed curing of yarns, fabrics and garments.

3,540,837
MULTIPLE INJECTION AND GROUTING ROD ASSEMBLY

Michael C. Pascucci, 151 E. Jericho Turnpike, Mineola, N.Y. 11501
 Filed Dec. 27, 1968, Ser. No. 787,514
 Int. Cl. A61I 3/00

U.S. Cl. 21—61 2 Claims



A device for inserting liquids below the surface of the ground. A hollow, horizontal manifold has attached to

it a plurality of vertically depending tines, or probes, having holes near their ends for the passage of the liquid. The tines are aligned in parallel relationship and are inserted into the ground by means of a handle attached to the manifold. Valves at each end of the manifold, and in the middle, make it possible to apply different liquids to each half of the tines, or one liquid to all of the tines. Thus, termite-proofing and waterproofing of the soil about the foundation of a building can be accomplished simultaneously.

3,540,838
METHOD OF TREATING EXHAUST GASES OF INTERNAL COMBUSTION ENGINES

Ronald E. Reitmeier, Middletown, Ky., and Daniel A. Hirschler, Jr., Birmingham, and Frances W. Lamb and Ruth E. Stephens, Detroit, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia, and Catalysts and Chemicals, Inc., Louisville, Ky., a corporation of Delaware

No Drawing. Original application June 1, 1965, Ser. No. 460,535, now Patent No. 3,428,573, dated Feb. 18, 1969. Divided and this application July 3, 1968, Ser. No. 747,384

Int. Cl. B01d 53/34 15 Claims

Method of purifying exhaust gases of internal combustion engines wherein the exhaust gas with air is contacted with an oxidation catalyst of palladium and copper oxide supported on a carrier consisting of a calcined mixture of clay, alumina gel and crystalline aluminum hydrate.

3,540,839
POLYMERIC CHROMIUM SULFATOZIRCONATE COMPOSITIONS, THEIR PREPARATION AND USE

Warren B. Blumenthal, North Tonawanda, N.Y., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 19, 1967, Ser. No. 631,906
 Int. Cl. C01g 25/00, 37/00

U.S. Cl. 23—51 9 Claims
 Polymeric chromium sulfatozirconates are produced by reduction of chromium compounds such as alkali metal dichromates in sulfuric acid to form chromic sulfate, reacting said sulfate with an acid soluble zirconium compound, and heating the reaction product to at least about 80° C. Organic fibrous webs and glass surfaces are rendered water-repellent by forming thereon adsorbates by reaction of the sulfatozirconates with alkali metal soaps of fatty acids.

3,540,840
RECOVERY OF TIN FROM TIN-BEARING SOLUTIONS

David C. Johnson, St. Paul, and Stanley L. Gordon, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
 No Drawing. Filed Dec. 19, 1967, Ser. No. 691,688
 Int. Cl. C01g 19/00

U.S. Cl. 23—53 10 Claims

An improved process for the recovery of tin existing as ionic or free tin in a tin-bearing solution wherein the tin-bearing solution is treated with a stoichiometric amount, based on tin content and acid value of the solution if any, and preferably an excess thereof, of an aqueous alkali metal hydroxide solution the improvement which is the subsequent recovery of tin by precipitating the tin as an alkali metal stannate.

NOVEMBER 17, 1970

CHEMICAL

949

3,540,841
PROCESS FOR THE PRODUCTION OF ANHYDROUS MAGNESIUM CHLORIDE

Heihachiro Fukuzawa, Kiyooki Sese, and Saizaburo Maeda, Tokyo, and Hiromoto Mogi and Tomoyasu Ishida, Kita-Kyushu, Japan, assignors to Asahi Glass Co., Ltd., Tokyo, Japan

No Drawing. Filed May 7, 1968, Ser. No. 727,373
 Claims priority, application Japan, May 8, 1967, 42/28,699

Int. Cl. C01f 5/30, 5/32 5 Claims

U.S. Cl. 23—91
 Magnesium carbonate having the following composition



wherein $m=0.5-1.0$, $n=0.5-0$, $w=3.0-0$ and $m+n=1$ is brought into contact with hydrogen chloride or ammonium chloride in counter-current at a temperature of from 250° to 550° C. to give anhydrous magnesium chloride.

3,540,842
METHOD FOR THE SEPARATION OF NICKEL AND CADMIUM FROM A MIXTURE

John P. Tourish, Wallingford, Pa., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 21, 1968, Ser. No. 754,493
 Int. Cl. C01g 11/00; H01m 47/00

U.S. Cl. 23—102 9 Claims
 Nickel and cadmium values are separated from mixed nickel-cadmium containing materials through differences in reactivity of the thermally generated oxides with cold nitric acid.

3,540,843
EXTRACTION ACIDULATION PROCESS

Edward Brooks Becker, Shawnee Mission, Kans., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed July 28, 1967, Ser. No. 656,710
 Int. Cl. C01b 25/18

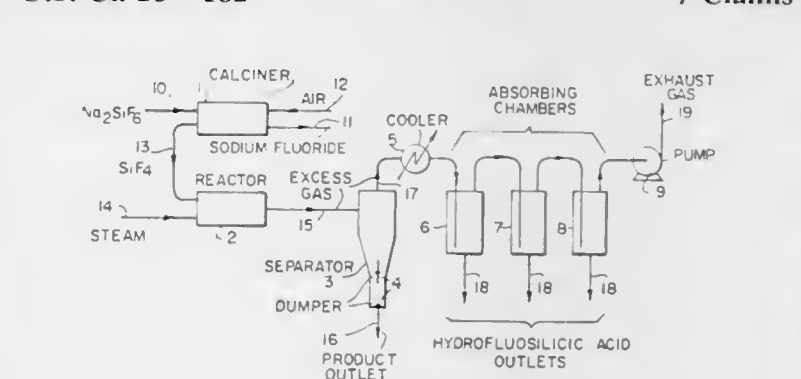
U.S. Cl. 23—165 4 Claims
 Particulate calcium phosphate rock is reacted with a two-phase liquid mixture of hydrochloric acid and 2-ethylhexanol or other branched eight-carbon atom primary alcohol to yield a reaction mixture consisting of solid sludge, aqueous calcium chloride and a solution of orthophosphoric acid in 2-ethylhexanol which is readily separated mechanically from the rest of the mixture as a result of its relatively lower specific gravity.

3,540,844
METHOD FOR MAKING SILICA FIBERS

Takashi Tomita, Osaka, Japan, assignor to Konoshima Chemical Co., Ltd., Osaka, Japan

Filed July 1, 1968, Ser. No. 741,434
 Claims priority, application Japan, July 5, 1967, 42/43,556

Int. Cl. C01b 33/00 7 Claims



Novel silica fibers and novel manufacturing methods are provided based on feeding steam and gaseous silicon

halide into a reactor at a temperature of 500 to 800° C. and obtaining pure fluffy silica in fiber form for use as thermal insulating material, high temperature filters, electric insulation, space industry material, etc. The silica SiO₂ is deposited when SiF₄ and H₂O are reacted in contact with reactor surfaces to form silica particles and fibers which become growth nuclei. The silicon fluoride or chloride and steam flow at a velocity lower than 1 m./sec. and the coagulated lumps of resultant silica fiber are isolated from the gas flow containing the by-product hydrogen halide at a temperature higher than the dew point of the hydrogen halide. There is a special speed-temperature relationship with respect to the reactor surface area. Sodium silicofluoride may replace the silicon fluoride.

3,540,845
RAPID FIELD PROCEDURE FOR THE DETERMINATION OF CHEMICAL OXYGEN DEMAND

Charles J. Overbeck, Palos Heights, and James J. Hickey, Chicago, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 6, 1968, Ser. No. 727,030
 Int. Cl. G01m 21/20, 31/16, 33/18

U.S. Cl. 23—230 2 Claims
 Method for the determination of COD (Chemical Oxygen Demand) in water by a procedure which reduces time and effort normally required for such an analysis by standard methods. The improvement comprises the use of a novel oxidizing composition. The oxidizing composition consists essentially of an equi-molar solution of sulfuric and phosphoric acid, also containing therein a water-soluble hexavalent chromium salt.

3,540,846
PROCESS FOR THE MANUFACTURE OF TITANIUM DIOXIDE PIGMENTS FROM HYDROCHLORIC ACID SOLUTIONS CONTAINING TITANIUM

Edgar Klein, Odenthal, Achim Kulling, Opladen, and Helmut Steinhausen, Odenthal, Germany, assignors to Tangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 3, 1969, Ser. No. 796,144
 Claims priority, application Germany, Feb. 15, 1968, 1,667,856

Int. Cl. C01g 23/06, 23/08 3 Claims

The invention is concerned with a process for the hydrolysis of hydrochloric acid solutions containing titanium, hereinafter referred to as titanium chloride solutions, which have been obtained by the digestion of titanium ores with concentrated hydrochloric acid.

3,540,847
HYDROGEN PEROXIDE

William R. Logan, Dunstable, England, assignor to Laporte Chemicals Limited, Luton, Bedfordshire, England, a British company

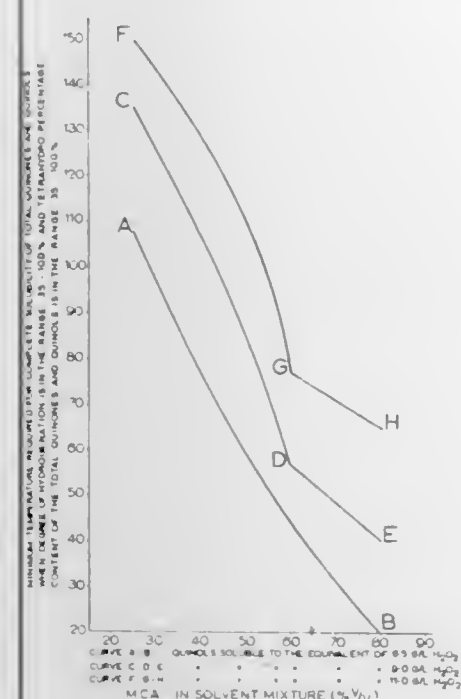
Continuation of abandoned application Ser. No. 508,021, Nov. 16, 1965. This application June 11, 1968, Ser. No. 739,898

Claims priority, application Great Britain, Nov. 17, 1964, 46,786/64

Int. Cl. C01b 15/02; C07c 49/68 11 Claims

The cyclic process for the preparation of hydrogen peroxide in which a mixture of anthraquinones and tetrahydroanthraquinone derivatives is alternately hydrogenated and oxidized, may be improved to obtain a working capacity of at least 6.5 grams per liter of hydrogen peroxide, by: (1) the use of at least one aromatic hydrocarbon and a cycloalkanol ester as a solvent (2) by reducing the quinones at least to the extent of 35% (3) by the use of a mixture containing at least 35% of ethyl tetrahydro-

anthraquinone and (4) by the use of a solvent mixture as specified in (1) above, wherein the proportion of the



cycloalkanol ester is between 25 and 80%. The temperature varies between 20 and 150°C.

3,540,848

CONTINUOUS PROCESS FOR PREPARING ELECTRICALLY CONDUCTIVE CARBONACEOUS FIBERS

Arthur H. Krugler, Whittier, and James E. Massie, Westminster, Calif., assignors to Hitec, a corporation of California

Filed July 12, 1967, Ser. No. 652,877

Int. Cl. C01b 31/07

U.S. Cl. 23-209.3

7 Claims

Electrically conductive carbonaceous fibers are prepared directly from non-conductive fibers by continuously radiantly heating a short strand of the non-conductive fiber by passing a current through an adjacent conductive carbon fiber strand. In a continuous process adjacent conductive and non-conductive strands are passed between a pair of relatively closely spaced electrodes which resistively heat the conductive strand which, in turn, radiantly heats the non-conductive strand to raise its carbon content and render it conductive.

3,540,849

ANALYSIS OF ALDEHYDES, UNSATURATED HYDROCARBONS AND KETONES

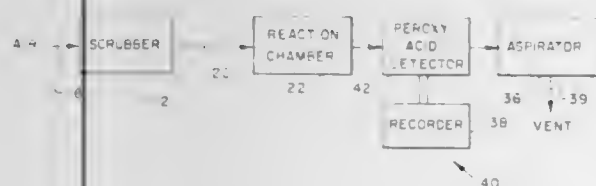
Radhakrishna M. Netti, Bea, and Tom J. Kelly, Rowland Heights, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed June 17, 1968, Ser. No. 737,666

Int. Cl. G01n 31/10

U.S. Cl. 23-230

8 Claims



Method and apparatus for determining aldehydes, unsaturated hydrocarbons and ketones in gases and liquids. A sample containing one or more of these constituents is photoexcited by ultraviolet radiation in the presence of

oxygen to photo-oxidize the constituents thus forming peroxy acids. Means such as spectrophotometric techniques or by reacting the acid with an aqueous halide solution to convert the halide ions to free halogen which can then be determined electrochemically or spectrophotometrically is provided for determining the peroxy acids as a function of the content of these constituents in the sample. The invention is particularly applicable to the monitoring of air for air pollution control.

3,540,850

TEST FOR THE EARLY DIAGNOSIS OF PHENYLKETONURIA, LEUCINOSIS AND HYPERVALINEMIA

Herbert Halpaap, Jugenheim, near Darmstadt, Germany, assignor to E. Merck A.G., Darmstadt, Germany

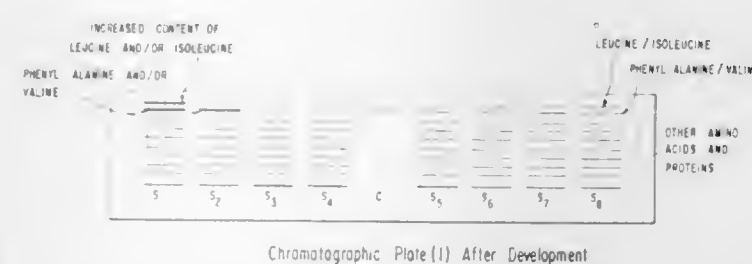
Filed July 17, 1967, Ser. No. 653,735

Claims priority, application Germany, July 16, 1966, M 70,261

Int. Cl. G01n 31/08, 33/16

U.S. Cl. 23-230

14 Claims



Thin-layer chromatography of body fluids provides a simple and rapid diagnostic for phenylketonuria, leucinos, and hypervalinemia.

3,540,851

METHOD OF DETERMINING TRACE AMOUNTS OF GASES

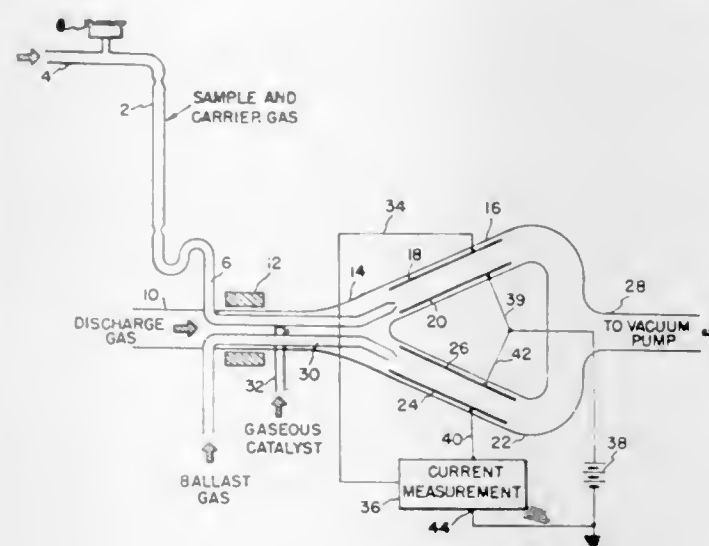
Pieter H. Vree and Arthur Fontijn, Princeton, N.J., assignors to AeroChem Research Laboratories, Inc., a corporation of Maryland

Filed Aug. 25, 1967, Ser. No. 663,369

Int. Cl. G01n 27/70

U.S. Cl. 23-232

19 Claims



Method of detecting trace amounts of volatile substances such as carbon oxides, nitrogen oxides, sulfur oxides and oxygen, comprising taking a measured sample of the gaseous mixture containing the gas to be detected, separating the gas being detected from the mixture where necessary, forming a first component which includes the gas being detected, and preferably, a carrier gas, providing a second component which contains a substance to be reacted with the first component to produce chemi-ions, subjecting at least one of the components

to an electrical discharge to produce the species necessary to form chemi-ions, mixing the components to form the chemi-ions, passing the mixture between electrodes and measuring an electrical current produced by the chemi-ions formed.

3,540,852

EFFLUENT SAMPLING METHOD AND APPARATUS FOR A GAS CHROMATOGRAPHIC PROCEDURE

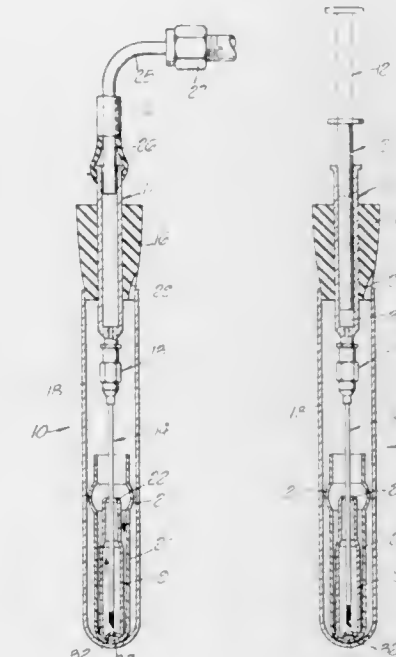
Phillip Gorne, Escondido, and Steven H. Kramer, San Diego, Calif., assignors to Gordon S. Lacy, doing business as Pacific Research Laboratory, Escondido, Calif.

Filed Sept. 30, 1968, Ser. No. 763,814

Int. Cl. B011 5/02; G01n 1/00

U.S. Cl. 23-259

8 Claims



In a chromatographic procedure, an effluent sampling method and apparatus for collecting a minute quantity of a gaseous constituent by passing the effluent sample through a syringe whose plunger is absent into a solvent for the effluent, the solvent flooding the tip of the syringe needle. After the sample has been absorbed the syringe plunger is replaced and manipulated to withdraw the solution into captivity within the syringe preliminary to further processing.

3,540,853

MEANS FOR PRODUCING TITANIUM DIOXIDE PIGMENT

Achim Kulling, Opladen, Hans Steinbach, Bergisch Gladbach, and Hermann Trüb, Opladen, Germany, assignors to Titangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany

Filed Apr. 24, 1968, Ser. No. 723,700

Claims priority, application Germany, June 3, 1967, T 34,024

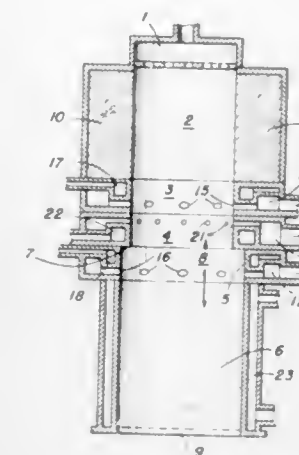
Int. Cl. C01g 23/04

U.S. Cl. 23-277

5 Claims

The present invention relates to a novel means for producing a rutile TiO_2 pigment by a vapor phase process wherein the heat required for the reaction of the gaseous TiCl_4 with oxygen is provided by a column of hot combustion gases which fills the entire cross-section of a pre-combustion chamber immediately preceding a feeding ring designed to introduce gaseous TiCl_4 into the column of hot gases from a multiplicity of radial apertures surrounding the column of hot combustion gases and lying in a common plane substantially at right angles to

its longitudinal axis, the reaction of the TiCl_4 with the O_2 in said hot gases taking place within a relatively short reaction zone which begins at the TiCl_4 feeding ring thus



insuring high reaction temperatures, short reaction time, uniform residence time and no reverse currents in the reaction zone.

3,540,854

METAL-WATER FUELED REACTOR FOR GENERATING STEAM AND HYDROGEN

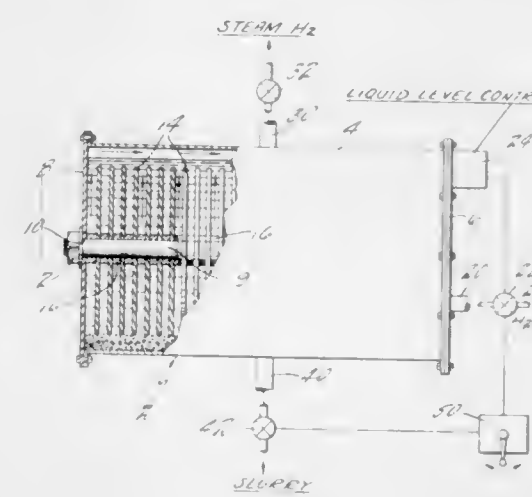
Arthur W. Brooke, Jr., and Robert A. Bean, Lake Park, Fla., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed May 26, 1967, Ser. No. 641,539

Int. Cl. B01j 7/02; C01b 1/07

U.S. Cl. 23-282

7 Claims



A reactor for producing steam and hydrogen wherein metal plates having amalgamated surfaces are fixedly positioned in a closed container so that the plates are aligned and spaced one from the other. In operation, the plates are completely submerged in water. The reaction between the water and the amalgamated plates provides an output of steam and hydrogen. For the plates, any of the metals selected from the group consisting of aluminum, beryllium, zirconium, magnesium, titanium, chromium and mixtures and alloys containing at least one of the foregoing may be used.

3,540,855

APPARATUS FOR ACIDULATING PHOSPHATE ROCK WITH GASEOUS HYDROGEN CHLORIDE

William P. Moore, Chester, Rob R. MacGregor, Hopewell, and Richard E. Ogden, Petersburg, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed July 10, 1967, Ser. No. 652,054

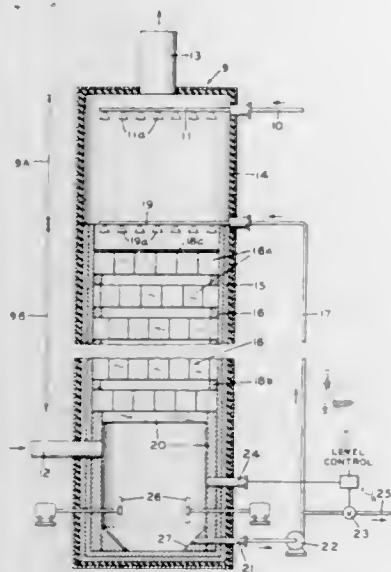
Int. Cl. B01j 1/00, 1/20; C01b 25/18

U.S. Cl. 23-283

3 Claims

An apparatus particularly useful for absorbing gaseous hydrogen chloride in an aqueous phosphate rock slurry and reacting the absorbed hydrogen chloride with the

phosphate rock to produce phosphoric acid. The apparatus includes a spray section, spray means in said spray section, a packed section, and an agitated reservoir or base section for completion of the reaction. The slurry is re-



cycled from the base section through the packed section for further absorption of hydrogen chloride. The packed section contains an open grid-type packing having at least 75% open area to avoid plugging of the apparatus with the slurry.

3,540,856 SAMPLE CAPSULE AND FILTERING MECHANISM

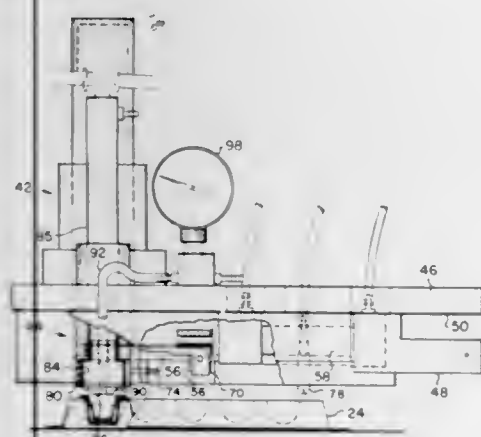
Jerry E. Rochte, Seal Beach, and Jack L. Hoffa, Brea, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Jan. 22, 1968, Ser. No. 699,619

Int. Cl. B01d 29/36

U.S. Cl. 23—292

9 Claims



A sample capsule having a cup or well of special form in which a sample is precipitated and a filter cup, with a filter paper bottom, is received atop the precipitated sample, and mechanism for automatically dropping the filter cup into the capsule and applying a vacuum thereto for drawing clear filtrate up through the filter paper bottom into the filter cup for further processing.

3,540,857 SAMPLE CAPSULE AND FILTERING MECHANISM

Donald N. Martin, Whittier, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Jan. 22, 1968, Ser. No. 699,520

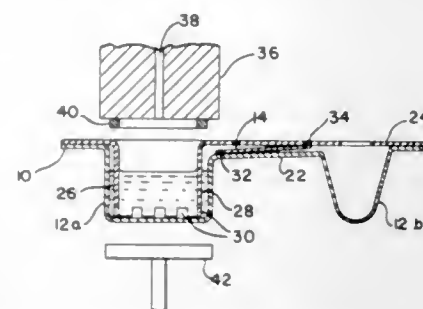
Int. Cl. B01d 29/36

U.S. Cl. 23—292

9 Claims

A sample holder of double wall construction having a filter and a cup with double sidewalls, notches in the lower edge of an inner sidewall communicating with an annular space between the sidewalls. The cup is

adapted to be pressurized by air, while held in sealing engagement by a mechanical ram, for forcing reacted



fluid through the annular space and the filter which traps solids and permits only the filtrate to pass to another cup.

3,540,858 SAMPLE HOLDER WITH FILTER MEANS

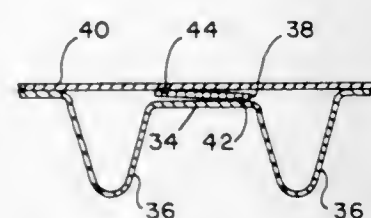
Jerry E. Rochte, Seal Beach, Hugh O. Brown, Fullerton, and David J. Malk, La Habra, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Jan. 22, 1968, Ser. No. 699,682

Int. Cl. B01d 23/02

U.S. Cl. 23—292

9 Claims



Disposable sample holding means for use in an automated chemical analyzer, having a plurality of cups formed in a flexible, liquid-impermeable material, such as plastic or plasticized paper, and incorporated filter means, such as a sheet of porous material or paper, associated with the cups. The sample holders may be in the form of a tape or a turntable disc, or a separate capsule processing a sample from a single source discarded after use.

3,540,859 METAL CHALCOGENIDES AND INTERMEDIATES FOR THEIR PREPARATION

Robert C. Taylor, Metuchen, and John B. Conn, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Division of application Ser. No. 76,139, Dec. 16, 1960. Continuation of application Ser. No. 578,887, Sept. 12, 1966, now Patent No. 3,390,090.

This application Sept. 9, 1966, Ser. No. 635,274

Int. Cl. C01g 9/00, 11/00; H01i 3/00

U.S. Cl. 23—315

14 Claims

This invention relates to the production of metallic selenides and tellurides by first reducing elemental selenium or tellurium by the use of hypophosphite ions, and subsequently reacting the selenium or tellurium anions thus formed with cadmium, zinc, antimony or arsenic cations to form the selenides or tellurides of cadmium, zinc, antimony or arsenic.

3,540,860 ACID REGENERATION

Linden Wayne Cochran, Basking Ridge, N.J., assignor to Multi-Minerals Limited, Toronto, Ontario, Canada, a corporation of Canada

No Drawing. Filed Sept. 13, 1967, Ser. No. 667,367

Int. Cl. C02b 1/46

U.S. Cl. 23—338

44 Claims

An acidic solution obtained from leaching or descaling operations is regenerated by treating the solution with a strong acid ion exchange resin while at least part of the cations in the solution are in the reduced state. The ion exchange resin is regenerated by elution with a sulfurous

acid-carbonyl solution. Economical advantages in the utilization of resin regenerant are enjoyed by sequential stripping-distilling operations on the eluate and thermal decomposition of precipitate therefrom to recover and recycle SO₂. Dissolved rare earth element salts present in the treated acid, may be further recovered by heating or allowing to stand to hydrolyze and form a gel which is removable by precipitation and filtration.

3,540,861 PURIFICATION OF SILICON COMPOUNDS

Howard B. Bradley, Pound Ridge, and Donald J. Neal, North Tonawanda, N.Y., assignors to Union Carbide Corporation, New York, N.Y., a corporation of New York

Filed Feb. 7, 1968, Ser. No. 703,717

Int. Cl. C01b 33/08; G01m 31/06

U.S. Cl. 23—366

11 Claims

The process of removing boron impurities from chlorosilanes which comprises dispersing preformed partial hydrolyzates of a chlorosilane in a clear liquid body of a chlorosilane containing an undesired quantity of boron impurity and thereafter separating chlorosilane from the partial hydrolyzates and from boron contained therein to obtain such chlorosilane free of such undesired quantity of boron impurity.

3,540,862 SLIDING SURFACE OR RUBBING CONTACT MATERIAL

Erich Roemer, Wiesbaden, Germany, assignor to Glyco-Metall-Werke, Daelen & Loos, GmbH, Wiesbaden, Germany, a company of Germany

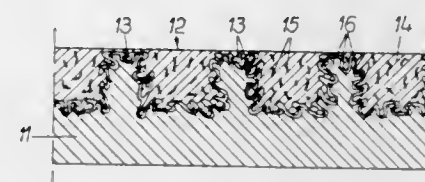
Filed Sept. 15, 1965, Ser. No. 487,388

Claims priority, application Germany, Oct. 2, 1964, G 41,684

Int. Cl. B22f 3/00

U.S. Cl. 29—182.5

7 Claims



A rubbing contact material for bearings and the like, comprising a porous member of a metal such as aluminum having great affinity for oxygen. The rubbing surface of the porous member is always oxidized. The pores of the member have a filling of an oxide of another metal which has a lesser affinity for oxygen than the base metal whereby any breaks of the oxidized surface which expose the base metal are healed by immediate oxidizing of the base metal, using oxygen which is obtained from the filling of the pores.

3,540,863 ART OF PROTECTIVELY METAL COATING COLUMBIUM AND COLUMBIUM-ALLOY STRUCTURES

Seymour Priceman and Lawrence Sama, Seaford, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Jan. 22, 1968, Ser. No. 699,534

Int. Cl. C22c 39/44; C23c 17/00

U.S. Cl. 29—191.2

17 Claims

Structures of Cb or Cb alloys are improved in their properties, especially in resistance to high-temperature, low-pressure oxidizing environments, by forming on exposed surfaces thereof a fused slurry coating or skin of a Si-Cr-Fe complex that is, for example, from about 1 to 6 mils thick.

The coating is applied initially in, for instance, the form of a composition comprised of the aforementioned

metals, in powder (—325 mesh) form, suspended in a fugitive organic binder (e.g., nitrocellulose) dissolved in an organic solvent (e.g., amyl acetate). The powdered metals are present initially in the coating composition in the following approximate weight percentages:

Si	60-85
Cr	10-40
Fe	5-40

The wet-coated, Cb-metal (preferably Cb-alloy) metal body is dried and then fired under non-oxidizing conditions (e.g., under vacuum or in an inert atmosphere, or using a combination of both such means) at a temperature and for a period of time sufficient to fuse the aforesaid metal components of the applied coating. The fused coating becomes an integral part of the Cb-metal substrate as is illustrated in FIG. 1.

The articles of the invention are useful, for example, as part of a space re-entry vehicle such as a nose cone; and in the fabrication of hypersonic aircraft.

3,540,864 MAGNETIC COMPOSITION

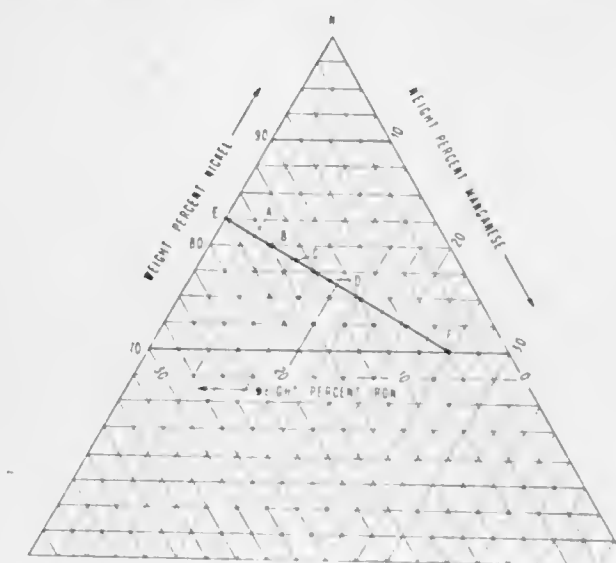
Barry L. Flur and Andrew J. Griest, Burlington, Vt., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Original application Nov. 15, 1965, Ser. No. 507,847, now Patent No. 3,399,129, dated Aug. 27, 1968. Divided and this application June 17, 1968, Ser. No. 802,297

Int. Cl. B32b 15/00

U.S. Cl. 29—195

3 Claims



Alloys suitable for magnetic film memories contain from about 70 to 80 percent by weight nickel, 10 to 20 percent by weight iron and 3 to 20 weight percent manganese and are non-magnetostrictive. Magnetic films made of these alloys exhibit a wide range of magnetic property combinations by varying compositions within these ranges and varying temperatures of substrates on which the magnetic films are deposited. With some compositions, wall motion threshold (H₀) increases with increasing substrate temperature. With other compositions within the above range, H₀ decreases with increasing substrate temperature.

3,540,865 SYSTEM FOR ABSORBING AND BURNING COMBUSTIBLE LIQUIDS

Hans Pape, Dortmund-Hochsten, Germany, assignor to Firma Ekoperl GmbH, Dortmund, Germany, a corporation of Germany

Filed Feb. 20, 1968, Ser. No. 706,951

Claims priority, application Germany, Feb. 22, 1967, E 24,753

Int. Cl. C101 11/00

U.S. Cl. 44—38

2 Claims

A system for the absorption and combustion of combustible liquids in which a porous absorptive body is

formed by bonding perlite or vermiculite particles together with an inorganic heat-resistant binder, preferably with a mineral fiber reinforcement, the combustible liquid is absorbed into the body thus formed and the fluid is ignited in the body to combust the organic liquid. The body may have a metallic shell forming a burner at the opening of which the ignition takes place and may be treated with a hydrophobic material adapted to repel water and promote the absorptivity of the body with respect to oils.

3,540,866

FUEL OIL-WATER COMPOSITION CONTAINING METAL OXIDE

Clark O. Miller, Willoughby, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed June 22, 1964, Ser. No. 377,128

Int. Cl. C101 1/14

U.S. Cl. 44—51

11 Claims

A fuel oil-water composition containing a large amount of a metal oxide is useful as an additive in fuel oils and is especially effective to counteract the corrosive effects of vanadium present in fuel oils.

3,540,867

PRODUCTION OF CARBON MONOXIDE AND HYDROGEN

Gerhard Baron and Ernst Kapp, Frankfurt am Main, Heribert Dernbach, Frankfurt, Franz Bieger, Dorsten, and Rudolf Kohlen, Pfaffenwiesbach, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, and Ruhrgas Aktiengesellschaft, Essen, Germany

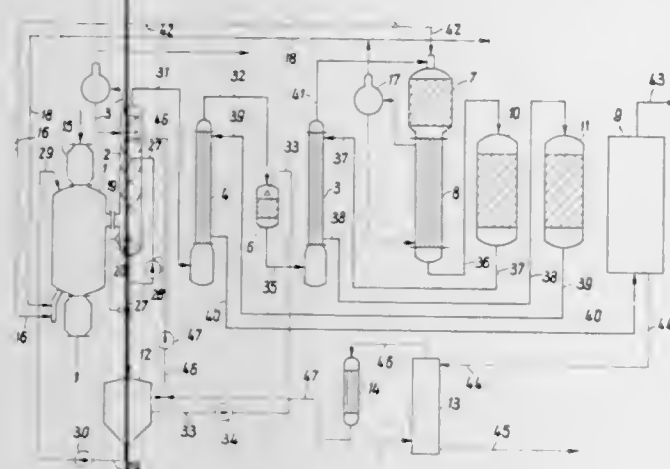
Filed May 10, 1967, Ser. No. 637,603

Claims priority, application Germany, May 20, 1966, M 69,561

Int. Cl. C10j 3/02; C10k 1/02, 1/04

U.S. Cl. 48—197

10 Claims



Manufacture of gases rich in carbon monoxide and/or hydrogen from solid carbonaceous fuels by distillation or by gasification with steam and oxygen, cooling the hot raw gas from said distillation or gasification to a temperature above about 180° C. to remove dust and condensable material, heating said gas with steam enrichment, adding oxygen thereto and cleaving said gas-steam-oxygen mixture at a temperature above about 700° C. on a cleaving catalyst; cooling the gas from said cleavage with or without conversion of the carbon monoxide contained therein with steam in the shift reaction and removing CO₂, H₂S and NH₃ from said cooled gas.

CONTROL OF CARBON DEPOSITION IN CATALYST BEDS

Alexander Chevon, Livingston, and Raul Chao, East Orange, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 29, 1967, Ser. No. 694,361

Int. Cl. C01b 2/14; G01r 27/02; G01n 27/04

U.S. Cl. 48—214

9 Claims

Carbon formation in catalyst beds is monitored by measuring electrical resistance across one or more catalyst pellets. The invention is especially useful in steam reforming processes.

3,540,869

GRINDING MEMBERS CONTAINING A BINDER OF A COPOLYMER OF AN UNSATURATED POLYESTER RESIN AND A POLYMERIZABLE ETHYLENE DERIVATIVE

Gerhard Bauer, Haltingen, Germany, assignor to Esterol A.G., Basel, Switzerland

Continuation-in-part of application Ser. No. 524,869,

Feb. 3, 1966. This application Aug. 25, 1967, Ser. No. 663,409

Claims priority, application Switzerland, Sept. 2, 1965, 12,277/65

Int. Cl. C08g 51/12; C08h 17/12

U.S. Cl. 51—298

18 Claims

Novel grinding elements, such as grindstones, grinding wheels and the like, contain, in addition to abrasive and if desired, other additives, a binder which is a copolymer of at least one unsaturated polyester resin and at least one originally liquid polymerizable ethylene derivative, with or without a polyisocyanate and/or a polyunsaturated solid polymerizable ethylene derivative, and if desired glass fibers. The latter may be in the form of an inset layer disposed at right angles to the rotational axis of the grinding wheel. Method of preparation, including a curing or hardening step in the presence of a hardening catalyst, is disclosed.

3,540,870

APPARATUS FOR DRAWING AND COATING QUARTZ GLASS FIBERS

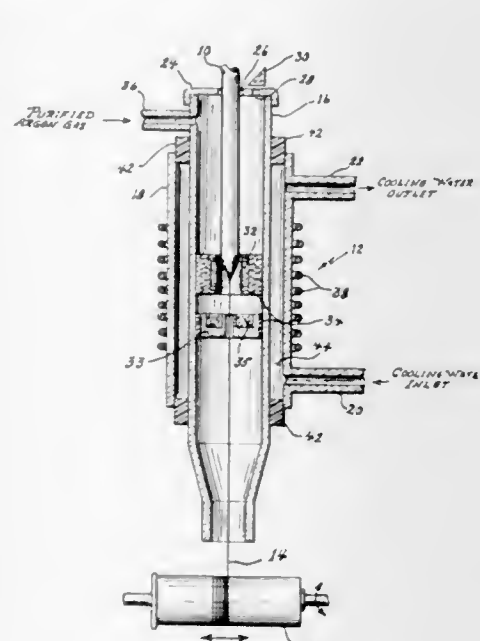
Pei Ching Li, Northbrook, Ill., assignor to the United States of America as represented by the Secretary of the Air Force

Filed May 7, 1968, Ser. No. 727,761

Int. Cl. C03b 37/04

U.S. Cl. 65—11

1 Claim



A quartz glass fiber drawing and coating apparatus having an induction coil type of furnace through which

the quartz glass fiber is drawn at a linear rate on the order of 340 feet per minute and is coated with vaporized magnesium fluoride. The magnesium fluoride pellets are vaporized in a graphite susceptor which is suspended in the zone through which the quartz glass fiber is drawn.

3,540,871

METHOD FOR MAINTAINING THE UNIFORMITY OF VAPOR GROWN POLYCRYSTALLINE SILICON

Lawrence D. Dyer, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

No Drawing. Filed Dec. 15, 1967, Ser. No. 698,366

Int. Cl. C03c 3/22

U.S. Cl. 65—31

10 Claims

In the production of polycrystalline silicon by the deposition of silicon from a gaseous stream of a halosilicon compound and hydrogen onto a silicon substrate being maintained at an elevated temperature, there will on occasion develop an area of single crystal silicon. Growth of the single crystal area may be terminated and polycrystalline growth initiated by increasing the concentration of the halosilicon compound in the gaseous stream by at least 50 mole percent for a period of about five minutes and then returning the concentration of the halosilicon compound back to its previous level. Alternatively, the single crystal growth may be inhibited and the growth of polycrystalline material initiated by introducing an oxygen impurity into the gaseous stream of the halosilicon compound and hydrogen. By decreasing the temperature of the substrate upon which the silicon is being deposited by about 100° C. for a period of about five minutes, the development of a single crystal silicon can also be terminated and polycrystalline growth initiated. Polycrystalline growth can also be initiated on a single crystal surface by etching the surface at about 900° C. with a hydrogen and hydrogen chloride gas stream.

3,540,872

METHOD OF AND CHAMBER FOR THE MANUFACTURE OF FLAT GLASS

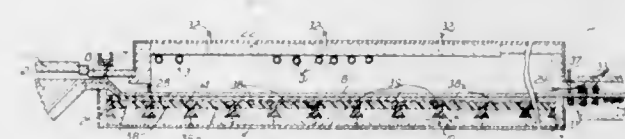
Thomas H. Oster, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 6, 1967, Ser. No. 673,434

Int. Cl. C03b 18/02

U.S. Cl. 65—65

11 Claims



A substantially enclosed chamber utilized in the float process of manufacturing flat glass contains refractory to define a cavity in which a molten metal bath is supported. The refractory defining the cavity is lined with slabs of carbonaceous material. In accordance with the functionally classified nature of particular zones of the chamber, carbonaceous material having high and low thermal conductances is utilized to control the extent of the heat transfer through the liner in the respective zones. The zone in which the high conductance liner is located is maintained at a relatively high temperature; and the zone in which the low conductance liner is located is maintained at a temperature below said high temperature.

3,540,873

GLASS BULB BLOWING APPARATUS

Takaaki Kurokawa, Chigasaki-shi, and Mitsugu Fukuda, Kawasaki-shi, Japan, assignors to Tokyo Shibaura Denki Kabushiki Kaisha, Kanagawa-ken, Japan, a joint-stock company of Japan

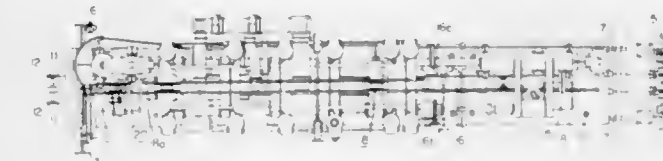
Filed May 16, 1967, Ser. No. 638,901

Claims priority, application Japan, Sept. 10, 1966, 41/59,732

Int. Cl. C03f 5/32

U.S. Cl. 65—184

5 Claims



A ribbon bulb-blowing machine is mounted on a base mounted on wheels riding on rails laid on a turn table which is adjustably revolvable about a vertical axis at a remote distance from the ribbon feed rollers of the machine, the wheels being individually adjustable in position relative to the base in directions perpendicular to the rails, and the base being adjustably movable along the rails in two directions at variable speed. Accordingly, the machine can be adjusted accurately in position not only in its longitudinal direction but also in vertical and transverse directions perpendicular to the longitudinal direction with respect to the blowing orifice of a glass melting furnace for supplying glass.

3,540,874

PROCESS FOR THE PRODUCTION OF AMMONIUM POLYPHOSPHATE

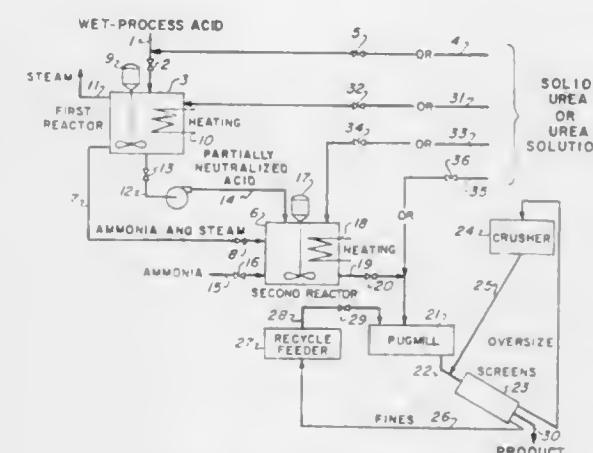
John M. Stinson, Sheffield, Ala., assignor to Tennessee Valley Authority, a corporation of the United States

Filed May 6, 1968, Ser. No. 726,681

Int. Cl. C05b 7/00

U.S. Cl. 71—29

6 Claims



ATMOSPHERIC PROCESS FOR PRODUCTION OF SOLID AMMONIUM-POLYPHOSPHATE FERTILIZER WITH USE OF UREA TO FORM POLYPHOSPHATE

Improved process for the production of high-analysis solid and liquid ammonium polyphosphate fertilizers of high P₂O₅ polyphosphate availability and water-solubility levels from wet-process phosphoric acid and ammonia. Small amounts of urea are added to effect and complement the conversions of orthophosphates to water-soluble and available short-chain polyphosphates.

3,540,875

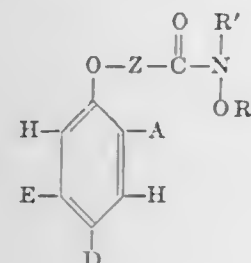
METHOD FOR THE CONTROL OF AQUATIC PLANT LIFE

Gideon Berger, Niles, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Mar. 27, 1968, Ser. No. 716,288
Int. Cl. A01n 9/00

U.S. Cl. 71—66

7 Claims

A method for the control of aquatic life which comprises contacting said plant life with a toxic amount of a composition which comprises a compound of the formula



wherein A is selected from the group consisting of hydrogen, chlorine, unsubstituted lower alkyl and unsubstituted lower alkenyl; D is selected from the group consisting of hydrogen, halogen, unsubstituted lower alkyl and unsubstituted lower alkenyl; E is selected from the group consisting of hydrogen and chlorine; provided that a maximum of one of A and D is hydrogen, A is chlorine only when D is chlorine, and E is chlorine only when A and D are both chlorine; R' is selected from the group consisting of hydrogen and alkyl; R is alkyl; and Z is an unsubstituted alkylene group containing from one to four carbon atoms; and the alkali metal salts of said compounds wherein R' is hydrogen.

3,540,876

NOVEL HERBICIDE MIXTURE

Jean Lhoste, Paris, France, assignor to Procidia, Marseille, France, a corporation of France
No Drawing. Continuation of abandoned application Ser. No. 698,665, Jan. 17, 1968, which is a continuation of abandoned application Ser. No. 471,756, July 13, 1965. This application July 16, 1969, Ser. No. 849,548
Claims priority, application France, July 20, 1964, 982,301
Int. Cl. A01n 9/22, 9/24

U.S. Cl. 71—94

7 Claims

Herbicide compositions comprised of at least two phenoxyalkanoic acids or their alkali metal or amine salts and up to 5% by weight of 4-amino-3,5,6-trichloropicolinic acid, its salts or lower alkyl esters and a method of killing weeds in cereal crops.

3,540,877

METHOD FOR MAKING MIXED METAL COMPOSITIONS

Tyson Rigg, Henry Ross Huffman, and Conrad Percival Gravenor, Edmonton, Alberta, Canada, assignors to Peace River Mining & Smelting Ltd., Edmonton, Alberta, Canada, a corporation of Canada
No Drawing. Filed July 7, 1967, Ser. No. 651,665
Int. Cl. C22b 5/12

U.S. Cl. 75—5

9 Claims

Providing an intimate mixture of at least two metals selected from iron, nickel, cobalt and chromium by a recrystallization mechanism. A mixture of metal-containing components, at least one metal being in the chloride form, is reduced with hot hydrogen to the metal state. Recrystallization occurs during reduction. A spongy mass is produced formed of interconnected particles, each particle being comprised of an aggregate of metallic crystals chemically constituted of a mixture of the metals used. The pulverized product is suitable for making alloy wrought products by powder metallurgy techniques.

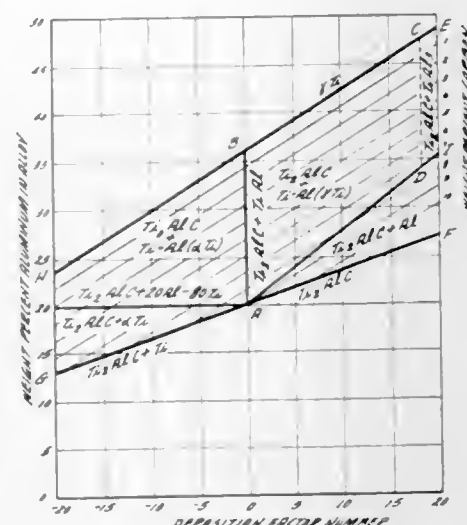
3,540,878

METALLIC SURFACE TREATMENT MATERIAL

David J. Levine and Moses A. Levinstein, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Dec. 14, 1967, Ser. No. 693,691
Int. Cl. C22c 15/00, 1/00

U.S. Cl. 75—5

5 Claims



The metallic powder produced from a ternary alloy of Ti, Al and C, having a dispersion of Ti_3AlC_2 complex carbide in a matrix of Ti or Al or their alloys, preferably the binary Ti-Al with the Ti within the gamma range of the Ti-Al phase diagram and avoiding detrimental amounts of $TiAl_3$, allows accurate control of the deposition of either or both Al and Ti or their alloys in a diffusion pack-type method. Deposition is brought about through the use of a halide salt activator preferably in the fluoride or chloride class.

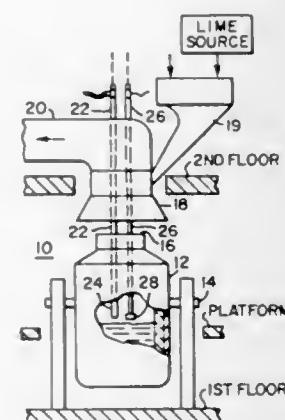
3,540,879

METHOD FOR CONTROLLING PHOSPHORUS REMOVAL IN A BASIC OXYGEN FURNACE

Norman R. Carlson, Export, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 27, 1967, Ser. No. 649,231
Int. Cl. C21c 5/32

U.S. Cl. 75—60

10 Claims



Phosphorus control is achieved in low and high carbon basic oxygen furnace heats on the basis of direct metal sampling during the oxygen blow. Dephosphorizing corrective action is applied after the sampling and prior to vessel turndown if such action is required to reach a phosphorus level equal to or less than the maximum

allowable process endpoint level. The phosphorus control is made compatible with carbon, temperature and other endpoint controls.

3,540,880

PROCESS AND APPARATUS FOR THE PRECIPITATION OF SUBSTANCES FROM SOLUTION, USING SOLID PRECIPITANTS

Henry Rush Spedden and Emil Edward Malouf, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
Filed June 14, 1967, Ser. No. 645,956
Int. Cl. C22b 25/04; B01f 5/02

U.S. Cl. 75—109

5 Claims

Improvements in a known process and apparatus whereby pregnant solution is projected as high pressure jet streams against solid precipitant, in a treatment vessel defining a reaction zone, by means of jet nozzles spaced apart along piping that makes up a manifold framework. One improvement comprises directing the jet nozzles and the jet streams issuing therefrom substantially concentrically with and, preferably, somewhat upwardly in the treatment vessel, so as to produce a swirling and gradually rising motion of the body of solution that collects in the vessel. Such motion is in the direction of travel of the jet streams, and serves to effectively sweep dislodged precipitate from the reaction zone. Another improvement comprises alternately directing similar jet streams in the opposite direction, circularly of the treatment vessel by means of a second jet-nozzle-provided framework manifold closely interpositioned relative to the first.

3,540,881

HIGH TEMPERATURE FERROUS ALLOY CONTAINING NICKEL, CHROMIUM AND ALUMINUM

Carol Henry White, Burley Gate, John Woolridge Eggar, Hereford, and Harry Gayter, Hampton Bishop, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 28, 1967, Ser. No. 671,244
Claims priority, application Great Britain, Oct. 3, 1966, 44,114/66
Int. Cl. C22c 39/02, 39/20

U.S. Cl. 75—124

6 Claims

An iron-base alloy having good short-time elevated temperature strength in the wrought, solution-treated and aged condition and useful in applications such as gas turbine engines contains about 0.02% to 0.1% carbon, about 11% to 16% chromium, about 4% to 7% molybdenum, about 0.3% to 0.8% niobium, about 2% to 3.5% titanium, about 0.25% to 0.75% aluminum, about 35% to 45% nickel, about 0.003 to 0.02% boron and 0% to about 0.1% zirconium.

3,540,882

METAL REFINING AGENT CONSISTING OF Al-Mn-Ca ALLOY

Tohei Ototani, Yasuji Kataura, and Shingo Koike, Sendai, Japan, assignors to The Research Institute for Iron, Steel and Other Metals of the Tohoku University, Sendai, Japan
Filed July 19, 1968, Ser. No. 746,175
Claims priority, application Japan, July 24, 1967, 42/47,186
Int. Cl. C22c 31/00, 21/00

U.S. Cl. 75—134

2 Claims

A metal refining agent comprising a base alloy essentially consisting of 5 to 25% of calcium, 5 to 80% of manganese, and 15 to 75% of aluminum. More particularly the metal refining agent comprising Al-Mn-Ca

3,540,883

METHOD OF PREPARING SILVER BASE ALLOYS

Kenneth R. Comey, Jr., Norwood, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
No Drawing. Filed Oct. 29, 1968, Ser. No. 771,637
Int. Cl. C22c 5/00

U.S. Cl. 75—173

10 Claims

An improved method for preparing alloys for use in forming electrical contact members consisting essentially of cadmium oxide, silver and a reactive metal such as sodium involves the steps of first heating a mixture of cadmium metal and silver to a temperature within the range 1760° F. to 2100° F. to completely melt the mixture while maintaining a flux cover consisting of boric acid and rock salt on top of the mixture, adding the reactive metal carried, for example, within the end of a hollow carbon stirring rod through the flux cover and stirring the reactive metal into the melt for approximately 10 seconds to six minutes, and retaining the resulting melt under the flux cover for at least approximately fifteen minutes. This latter step permits the reactive metal to diffuse throughout the melt to form a homogeneous mixture. The cadmium is subsequently internally oxidized to cadmium oxide in the usual manner. By preparing the alloy in this manner, a substantially homogeneous alloy is produced without excessive loss of cadmium and/or the reactive metal through vaporization and the percentage of reactive metal retained in the melt and the final alloy may thereby be more precisely controlled.

3,540,884

METHOD OF MANUFACTURE OF CELLULAR REFRACTORY OR METALLIC MATERIALS

Eric A. Horbury, Loughborough, England, assignor to Rolls-Royce Limited, Derby, England, a British company
No Drawing. Filed June 10, 1968, Ser. No. 735,586
Claims priority, application Great Britain, June 27, 1967, 29,507/67
Int. Cl. B22f 3/10

U.S. Cl. 75—211

9 Claims

The invention comprises a method of producing a cellular material in which a slurry is made from a powder of a metal, alloy or refractory material and a liquid binder, organic particles of preselected size are added to the slurry and the slurry is then allowed to solidify, whereupon the solid is heated at a carefully controlled rate so as to decompose and remove all organic matter due to the particles and the binder without destroying the solid and further heated to sinter the resulting powder structure.

3,540,885

REDUCTION OF FOG FORMATION IN AN ELECTROPHOTOGRAPHIC LIGHT SENSITIVE SHEET

Satoru Honjo, Yasuo Tamai, and Seiji Matsumoto, Saitama, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan
No Drawing. Filed Jan. 27, 1967, Ser. No. 612,076
Claims priority, application Japan, Jan. 27, 1966, 41/4,690
Int. Cl. G03g 5/00

U.S. Cl. 96—1

6 Claims

Before charging the surface of an electrophotographic light sensitive sheet for forming electrostatic latent images

thereon by light exposure followed by liquid development, the layer is coated with an insulating liquid such as kerosene to reduce formation of fogs.

3,540,886 ACIDIC PHOTOCONDUCTIVE RESIN BINDERS

Robert E. Ansel and Charles M. Taubman, Cook County, Ill., assignors to De Soto, Inc., Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed June 25, 1968, Ser. No. 739,619
Int. Cl. G03g 7/00; B44d 1/00

U.S. Cl. 96—1.8 10 Claims
The weight of the photoconductive coating on electrostatic copy paper is reduced by using as the binder resin for dispersing the usual zinc oxide particles a resin having an acid value of from 9 to 90 with the acidity being in a solution copolymer with at least 80% being selected from:

- (A) monovinyl aromatic compound such as styrene;
(B) monovinyl ester such as vinyl acetate; and
(C) esters such as ethyl acrylate,

at least 15% of the copolymer being from groups (A) and (B), and at least 15% being from groups (B) and (C) such as copolymers of 40–60% styrene or vinyl acetate with the balance except for the monoethylenic acid being acrylic ester.

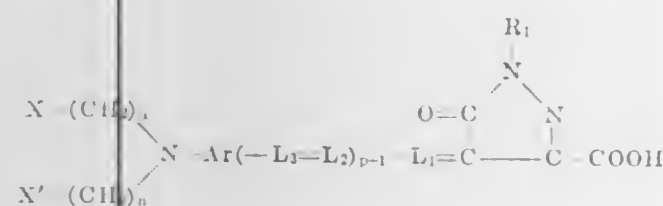
3,540,887 LIGHT-SENSITIVE ELEMENT CONTAINING FILTER DYE

Henri Depoorter, Mortsel, and Guy Alfred Rillaers and Theofiel Hubert Ghys, Kontich, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a company of Belgium

Filed May 31, 1968, Ser. No. 733,358
Claims priority, application Great Britain, June 16, 1967, 27,911/67

Int. Cl. G03c 1/84

U.S. Cl. 96—84 6 Claims
A light-sensitive element comprising a support and a water-permeable colloid layer including a light-sensitive silver halide emulsion and a dye corresponding to the formula:



wherein:

R_1 represents a phenyl group and a phenyl group condensed to form a fused ring system,
each of L_1 , L_2 , and L_3 represents a methine group,
 Ar represents a phenylene nucleus or a phenylene nucleus condensed to form a fused ring system,
 p is 1 or 2,
 n is 1, 2, or 3, and
each of X and X' represents a radical selected from the group consisting of cyano, carboxyl, an alkoxy carbonyl, an aryloxy carbonyl, halogen, sulfo, amino, quaternary ammonium, and $-SO_2R_2$ wherein R_2 represents an alkyl group, an aralkyl group or an aryl group

is described. The elements do not desensitize or fog when employed in photographic elements.

3,540,888 PHOTOGRAPHIC SILVER HALIDE EMULSIONS CONTAINING DYES HAVING A 5-ALKOXYCAR- BONYL-2,4-DIOXO-1-ARYL-6-THIOXOPIPER- IDENE MOIETY

John D. Mee, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 30, 1967, Ser. No. 686,787
Int. Cl. G03c 1/12

U.S. Cl. 96—139 22 Claims
Photographic silver halide emulsions are provided which contain a methine dye which features a 5-alkoxy-carbonyl-2,4-dioxo-1-aryl-6-thioxopiperidine moiety.

3,540,889 COFFEE FLAVOR ENHANCER

William P. Clinton, Monsey, and Floyd E. Pettit, Jr., White Plains, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 17, 1968, Ser. No. 698,380
Int. Cl. A23f 1/08

U.S. Cl. 99—71 9 Claims
The flavor of soluble coffee is improved in the direction of freshly roasted and ground coffee by addition of a small but effective amount of methyl mercaptan to an aqueous extract of soluble coffee solids prior to drying the extract to a stable moisture content.

3,540,890 PROCESS FOR PRODUCING ONION FLAVORED RING SNACK

John O. Benson, Mayer, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Jan. 25, 1967, Ser. No. 611,591
Int. Cl. A23i 1/10

U.S. Cl. 99—83 9 Claims
A gelatinous onion flavored cereal dough is mixed and then it is extruded as a hollow tube. This tube is sliced to form rings. These rings are dried, breaded, and then deep fat fried to a crisp, tender, irregularly shaped ring.

3,540,891 HOUSEHOLD CLEANING AND POLISHING COMPOSITION

Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Bloomington, Ind., a not-for-profit corporation of Indiana

No Drawing. Filed June 14, 1968, Ser. No. 736,956
Int. Cl. C08h; C09d; C09g

U.S. Cl. 106—3 10 Claims
Highly satisfactory household cleaning and polishing compositions may be obtained by employing therein a mixture of lava pumice and zirconium silicate, $ZrSiO_4$, as a cleaning component and at least one member selected from the group consisting of zirconium silicate, tin dioxide, SnO_2 , aluminum hydroxide, $Al(OH)_3$, and calcium pyrophosphate, $Ca_2P_2O_7$, primarily as a polishing component. Such compositions may be employed with other conventional ingredients (e.g., soaps, detergents, and bleaches) in household cleansers, or they may be provided in a carrier vehicle such as a steel wool or woven fiber scouring pad.

3,540,892 PROCESS FOR FLAMEPROOFING COMBUSTIBLE MATERIALS

Edwin W. Lard, Bowie, and Carl W. Orgell, Catonsville, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed May 6, 1968, Ser. No. 726,999
Int. Cl. C09d 5/18

U.S. Cl. 106—15 2 Claims
A process for flameproofing combustible materials such as paper, fabrics, etc., by depositing a coating of vermiculite on the surface of the combustible material by dip-

ping the material in a slurry of vermiculite crystals in an aqueous solution of a soluble inorganic salt, drying, and recovering the flameproof product.

3,540,893 GLASS YIELDING GLASS CERAMIC OF MOD- ERATELY LOW EXPANSION, AND METHOD

Richard W. Petticrew, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Nov. 9, 1964, Ser. No. 410,016
Int. Cl. C04b 33/00

U.S. Cl. 106—39 3 Claims
Glasses containing SiO_2 , Al_2O_3 , MgO , CaO , Li_2O , TiO_2 and alkali metal oxides are thermally crystallized to exceptionally strong partially crystalline ceramics exhibiting a differential in thermal expansion coefficient between the surface and the interior having a moderately low linear coefficient of thermal expansion greater than $30 \times 10^{-7}/^\circ C$.

3,540,894 EUTECTIC LEAD BISILICATE CERAMIC COMPOSITIONS AND FIRED CERAMIC BODIES

Charles M. McIntosh, Fishkill, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 29, 1967, Ser. No. 626,788
Int. Cl. C04b 33/00

U.S. Cl. 106—39 4 Claims
A composition which forms a dense ceramic body at low firing temperatures has the following major constituents: a low melting point lead bisilicate vitreous phase; and a suspending agent made up of a bentonite clay and a ball or kaolinite clay. A major crystalline phase selected from the group consisting of Al_2O_3 , $ZnZrSiO_5$ and $CaSiO_3$ is also included.

The composition, because of its low firing temperature, low shrinkage and adaptability to slip-casting, doctor-blading processes and other thin film processing, finds particular utility in fabricating microelectronic, multilevel ceramic modules.

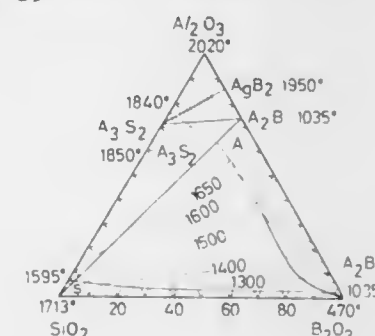
3,540,895 PROCESS FOR THE MANUFACTURE OF A DEVITRIFIED GLASS

Herwig Scheidler and Jurgen Petzold, Mainz Mombach, and Werner Sack, Mainz Gonsenheim, Germany, assignors to JENAer Glaswerk Schott & Gen., Mainz, Germany, a corporation of Germany

Filed Dec. 20, 1967, Ser. No. 692,053
J 32,675
Claims priority, application Germany, Dec. 31, 1966,

Int. Cl. C04b 33/00

U.S. Cl. 106—39 3 Claims



A = Al_2O_3 , B = B_2O_3 , S = SiO_2

The steps of adding to a composition of at least 85% by weight of $SiO_2 + Al_2O_3 + B_2O_3$, quantities up to a maximum of 15% by weight of MgO , CaO , BaO , ZnO , PbO and F to form a mixture, melting the mixture, cooling the mixture and then subjecting the mixture to a heat treatment above the transformation temperature to convert it into a semi-crystalline substance which is free of alkali oxide and having excellent refractory and dielectric properties. A nucleating agent, for example, ZrO_2 is also used in forming the initial mixture.

The glass preferably has the following composition in weight percent:

SiO_2	40–60
Al_2O_3	20–30
B_2O_3	5–25
ZnO	0–3
MgO	0–3
CaO	0–3
BaO	0–5
PbO	0–5
ZrO_2	1.5–3

3,540,896 CERAMIC COATING COMPOSITION

Howard D. Flicker, North Miami, Fla., assignor to Aircraft Plating Inc., Miami, Fla., a corporation of Florida

No Drawing. Filed Jan. 20, 1967, Ser. No. 610,484
Int. Cl. C03c 5/02

U.S. Cl. 106—49 1 Claim
A ceramic coating particularly for cermet-bonding with heat resistant metal alloys used in fabricating aircraft and spacecraft parts that are subject to high temperatures combustion products and frictional heat, the coating being able to withstand thermal shock and high temperature heat to at least 2100° F. without cracking, chipping or spalling. The coating can be used in repairing previously coated aircraft or spacecraft parts without dis-assembly thereof by simply brushing or spraying the coating material on as a mixture and fusing it in place with portable means such as an oxy-acetylene torch.

As applied the coating essentially comprises:

Constituent	Weight percent
Silicon dioxide	40–60
Aluminum oxide	15–25
Sodium tetraborate (hydrous)	25–35
Lead monoxide (yellow)	4–7
Silicon carbide	1/2–1 1/2
Potassium nitrate	2–3 1/2
Nickel powder	1/4–1
Sodium hydroxide	2–3
Ammonium carbonate	1/2–2

or

Optical crown glass of soda-lime type	40–50
Silicon dioxide	12–20
Titanium dioxide	12–20
Aluminum oxide	5–12
Boric acid	1/2–2
Magnesium oxide	1/2–2
Bentonite	1–4
Potassium nitrite	1/5–3/4
Aluminum powder	1/5–3/4
Lead oxide	3–5
Sodium pyrophosphate	1/4–2
Fire clay of high temp. type known as Norton No. 1162	5–15
Sodium hydroxide	1/4–3

in which all of the constituents are present in finely divided form. Any inert liquid vehicle that will evaporate prior to fusion of the coating can be used to make more convenient application of the coating possible.

3,540,897 GUNNABLE REFRACTORY

Jacques R. Martinet, San Jose, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 565,690, July 18, 1966. This application June 3, 1968, Ser. No. 733,785

Int. Cl. C04b 35/04, 35/42, 35/59

U.S. Cl. 106—56 13 Claims
A refractory gunning composition comprising refractory grain and a phosphate or borate bond shows vastly

improved adherence when gunned, particularly when gunned onto a hot surface, when there is included in the composition hydrated lime. The addition of graphite or other form of carbon to the lime-containing compositions also results in less rebound.

3,540,898

CREEP RESISTANT PERICLASE REFRACTORIES
James R. Kreglo, Jr., Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
No Drawing. Filed Oct. 31, 1967, Ser. No. 679,540
Int. Cl. C04b 35/04

U.S. Cl. 106—58 2 Claims
A high purity magnesite basic refractory shape having improved resistance to creep and having good cold and hot strength made from a basic refractory graded mix of high purity magnesite containing not less than 90% magnesia by weight to which is added a 50% titanium oxide-50% manganese oxide mix in an amount to obtain from about 0.5% to about 5.0% titanium oxide by weight and from about 0.5% to about 5.0% manganese oxide by weight in the basic refractory mix. The titanium oxide and manganese oxide grains are of a size that substantially all will pass a 325 mesh Tyler Sieve size, and the shape is fired at not less than 2800° F.

3,540,899

BASIC FUSED REFRACTORY MATERIAL
Allen M. Alper, Corning, Robert C. Doman, Painted Post, and Robert N. McNally, Corning, N.Y., assignors to Corhart Refractories Company, Louisville, Ky., a corporation of Delaware
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,167
Int. Cl. C04b 35/04, 35/06

U.S. Cl. 106—58 13 Claims
Fused refractory material consisting of, analytically by weight, 58 to 85% CaO, 10 to 59% MgO, at least 80% CaO plus MgO, 0.15 to 11.5 fluorine, 0 to 10% oxide selected from Cr₂O₃ and/or Fe₂O₃, 0 up to less than 7% SiO₂, and 0 up to less than 10% Al₂O₃. Fluorine provides increased hydration resistance and, in presence of Cr₂O₃ and/or Fe₂O₃, increased resistance to thermal shock and to thermal gradient stresses. At least 0.5% by weight Cr₂O₃ and/or Fe₂O₃ yields higher bulk density.

3,540,900

CERAMIC REFRACTORY
Donald L. Guile, Horseheads, N.Y., assignor, by mesne assignments, to Corhart Refractories Company, a corporation of Delaware
No Drawing. Filed Nov. 2, 1967, Ser. No. 680,042
Int. Cl. C04b 35/42

U.S. Cl. 106—59 8 Claims
High hot strength, sintered, magnesia-chrome ore refractory bodies derived from raw batch materials containing titania as magnesium orthotitanate spinel rather than as free titania. Products having a hot modulus of rupture of the order of 4000 p.s.i. or more are obtained.

3,540,901

REFRACTORY MAGNESIA SHAPES
Erich Kaltner, Leoben, Styria, Austria, assignor to Veitscher Magnesitwerke-Actien-Gesellschaft, Vienna, Austria, a corporation of Austria
No Drawing. Continuation of application Ser. No. 548,839, May 10, 1966. This application Sept. 30, 1968, Ser. No. 763,988
Claims priority, application Austria, May 14, 1965, A 4,420/65
Int. Cl. C04b 35/04

U.S. Cl. 106—60 7 Claims
An oxygen converter lining brick consisting of a tar-impregnated fired refractory body consisting mainly of

MgO and including, on an "as calcined" basis, 2-5% Fe₂O₃, up to 2% SiO₂ and sufficient CaO so that the silica and ferric oxide are present substantially completely as dicalcium silicate and dicalcium ferrite.

3,540,902

REFRACTORY MATERIALS
John Kington Groves, Birmingham, England, assignor to Foseco International Limited, Birmingham, England, a British company
No Drawing. Filed Sept. 18, 1967, Ser. No. 668,659
Claims priority, application Great Britain, Sept. 28, 1966, 43,293/66, Patent 1,165,363
Int. Cl. C04b 35/16

U.S. Cl. 106—66 6 Claims
Low quality refractory materials, such as perlite, may be upgraded by treatment with a refractory metal oxide, such as aluminium, chromium or magnesium oxide. This invention relates to refractory compositions particularly refractory compositions containing perlite.

3,540,903

RESINS PLASTICIZED WITH N-SUBSTITUTED ESTERS OF HIPPURIC ACID
James Kern Sears, Webster Groves, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 14, 1968, Ser. No. 712,941
Int. Cl. C08b 27/52

U.S. Cl. 106—178 15 Claims
This invention relates to the use of certain esters of N-substituted hippuric acid as plasticizers for thermoplastic resins.

3,540,904

RESINS PLASTICIZED WITH ESTERS OF HIPPURIC ACID
James Kern Sears, Webster Groves, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 14, 1968, Ser. No. 712,940
Int. Cl. C08b 27/52

U.S. Cl. 106—178 17 Claims
This invention relates to the use of certain esters of hippuric acid as plasticizers for thermoplastic resins.

3,540,905

PROCESS FOR STABLE DISPERSIONS OF DIALDEHYDE POLYSACCHARIDES
Richard Allan Plunkett, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
No Drawing. Filed Jan. 22, 1968, Ser. No. 699,349
Int. Cl. C08b 25/02, 27/42; C08j 1/46

U.S. Cl. 106—213 6 Claims
Stable dispersions of dialdehyde polysaccharides, such as dialdehyde starch, can be produced by reacting hydrogen peroxide with an aqueous alcoholic mixture of dialdehyde polysaccharide at a temperature from about 65° C. to about 100° C.

3,540,906

AIR-BLOWN HOMOGENEOUS ASPHALT COMPOSITION CONTAINING HYDROXY-TERMINATED POLYDIENE OIL OF HIGH VISCOSITY TO PENETRATION RATIO
Eugene M. Fauber, Hammond, Ind., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 6, 1967, Ser. No. 628,828
Int. Cl. C08h 13/00, 17/22; C08j 1/46

U.S. Cl. 106—278 4 Claims
A composition having improved homogeneity and viscosity to penetration ratio is produced by air blowing an

asphalt containing a minor amount of hydroxyl-terminated polydiene oil. The composition is especially suitable as a paving asphalt. It is preferred that the hydroxyl groups on the polydiene be allylic.

3,540,907

HOT-DIP METAL COATING PROCESS
William Ross Moore, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 3, 1968, Ser. No. 742,184
Int. Cl. B44d 1/092

U.S. Cl. 117—6 12 Claims
Process for hot-dip metal coating of iron and steel articles wherein the articles are coated and protected from corrosion prior to the metal coating by a coating of alpha-olefin polysulfones which depolymerize and vaporize in the flux normally used in hot-dip metal coating processes.

3,540,908

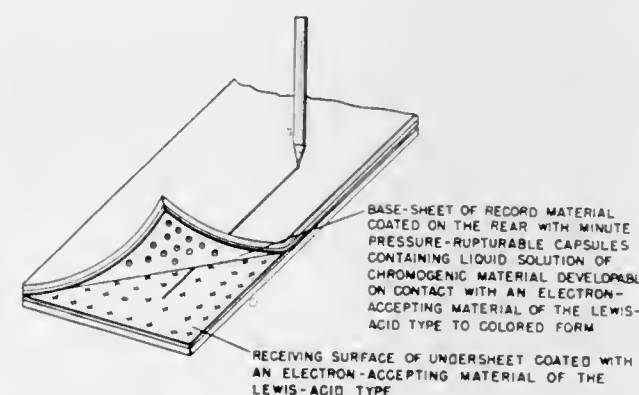
PHOSPHORS FOR COLOR DISPLAY SYSTEMS
Robert Carvell, Jr., Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Nov. 2, 1967, Ser. No. 680,243
Int. Cl. H01s 31/20

U.S. Cl. 117—33.5 3 Claims
Phosphor particles are treated in a molten salt bath at elevated temperatures on the order of at least 400° C. to render the surface portion of the particles nonluminescent through alteration of the properties thereof. The molten salt employed is itself compatible with the phosphor particles but contains small amounts of impurities such as magnesium which will form an electron retarding surface barrier on the particles. After cooling of the mixture of the phosphor particles and salt, the salt in the mixture is dissolved in a solvent in which the phosphor particles are substantially insoluble to produce phosphor particles having a surface barrier layer. A viewing screen utilizing these phosphors is also described.

3,540,909

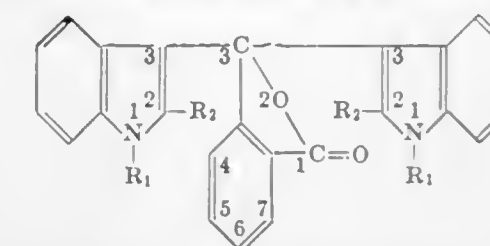
PRESSURE SENSITIVE RECORDING SHEETS EMPLOYING 3,3-BIS(PHENYLINDOL-3-YL) PHTHALIDE
Chao-Han Lin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Original application Jan. 30, 1967, Ser. No. 612,496. Divided and this application Jan. 24, 1969, Ser. No. 810,894
Int. Cl. B41m 5/22

U.S. Cl. 117—36.2 22 Claims



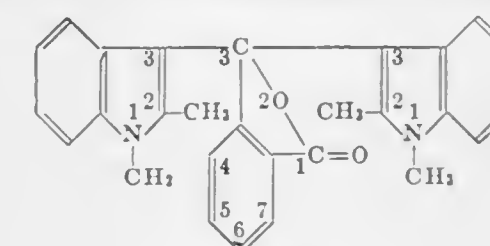
A pressure-sensitive record material and method for

marking is disclosed using chromogenic material of normally colorless form, having a structural formula:



where R₁ and R₂ consist of alkyl radicals having fewer than five carbon atoms, phenyl radicals, and hydrogen; said material assuming a colored form upon contact with a Lewis acid molecule.

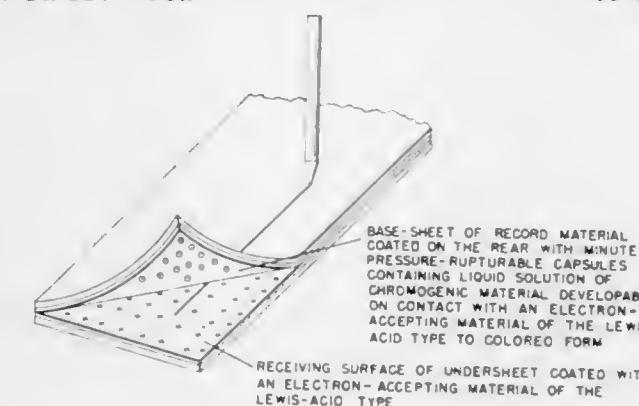
A specific example of the chromogenic material of this invention is 3,3-bis(1,2-dimethylindol-3-yl) phthalide.



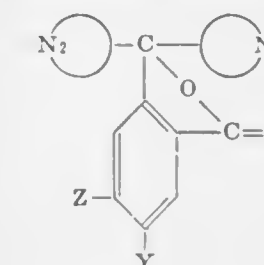
3,540,910

PRESSURE SENSITIVE RECORD SHEETS EMPLOYING INDOLE- AND CARBAZOLE-SUBSTITUTED PHTHALIDES
Chao-Han Lin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Original application Jan. 30, 1967, Ser. No. 612,369, now Patent No. 3,491,111, dated Jan. 20, 1970. Divided and this application Jan. 24, 1969, Ser. No. 817,596
Int. Cl. B41m 5/22

U.S. Cl. 117—36.2 46 Claims



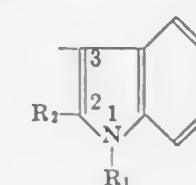
A pressure sensitive record unit and method of marking, employing chromogenic material of normally colorless form having a structural formula:



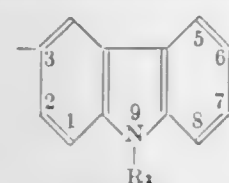
where



consist of mono and disubstituted indolyl radicals having the structural formula:



and carbazoyl radicals having the structural formula:



where R_1 , R_2 and R_3 consist of alkyl radicals having from one to four carbon atoms, aryl radicals, and hydrogen; and where Y and Z consist of hydrogen and dialkyl-amino radicals where the alkyl substituents have from one to four carbon atoms, providing that one of Y and Z must be hydrogen and the other must be said dialkyl-amino radical.

Specific examples are 3,3-bis-(1,2-dimethylindol-3-yl)-5-dimethylaminophthalide and 3,3-bis-(1,2-dimethylindol-3-yl)-6-dimethylaminophthalide.

3,540,911

PRESSURE SENSITIVE RECORD SHEETS EMPLOYING 3-(PHENYL)-3-(INDOL-3-YL)-PHTHALIDES

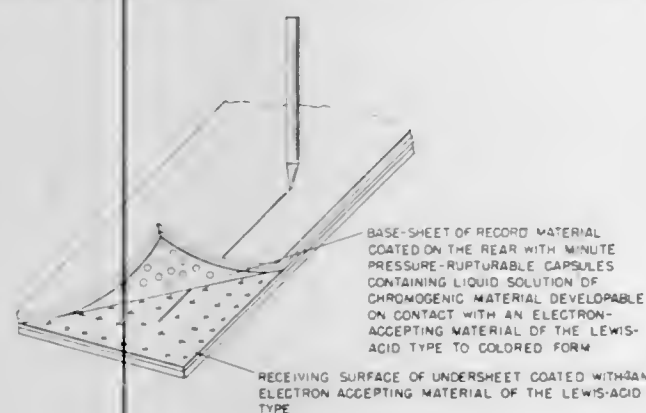
Chao-Han Lin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Original application Jan. 30, 1967, Ser. No. 612,459, now Patent No. 3,491,116, dated Jan. 20, 1970. Divided and this application Jan. 24, 1969, Ser. No. 821,537

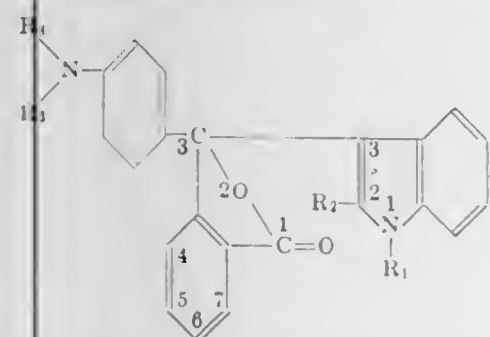
Int. Cl. B41m 5/22

U.S. Cl. 117—36.2

38 Claims



A pressure sensitive record unit and method of marking employing chromogenic material normally colorless form, having a structural formula:



wherein R_1 and R_2 comprise alkyl radicals having from one to five carbon atoms, aryl radicals, and hydrogen; and R_3 and R_4 comprise alkyl radicals having from one to five carbon atoms and hydrogen; said material assuming a colored form upon contact with a Lewis acid molecule. Examples include

- 3-(p-dimethylaminophenyl)-3-(1,2-dimethylindol-3-yl) phthalide;
- 3-(p-dimethylaminophenyl)-3-(2-methylindol-3-yl) phthalide;
- 3-(p-di-n-butylaminophenyl)-3-(2-dimethylindol-3-yl) phthalide;
- 3-(p-di-n-butylaminophenyl)-3-(2-methylindol-3-yl) phthalide;
- 3-(p-dimethylaminophenyl)-3-(2-phenylindol-3-yl) phthalide;

- 3-(p-dimethylaminophenyl)-3-(1-methyl-2-phenylindol-3-yl) phthalide;
- 3-(p-diethylaminophenyl)-3-(2-phenylindol-3-yl) phthalide.

3,540,912

PRESSURE SENSITIVE RECORD SHEETS EMPLOYING 3-(PHENYL)-3-(HETEROCYCLIC-SUBSTITUTED)-PHTHALIDES

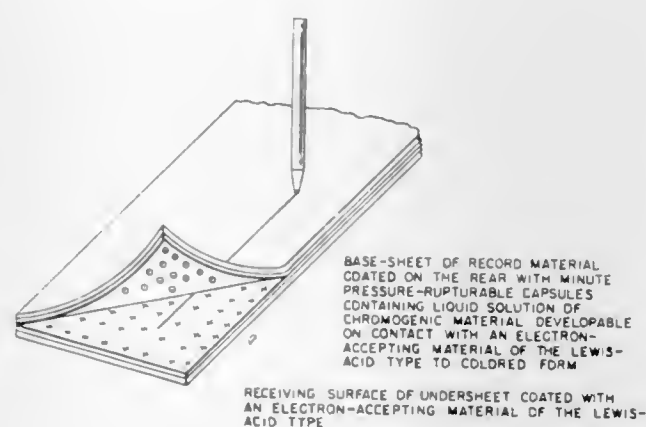
Chao-Han Lin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Original application Jan. 30, 1967, Ser. No. 612,524, now Patent No. 3,491,112, dated Jan. 20, 1970. Divided and this application Jan. 24, 1969, Ser. No. 821,538

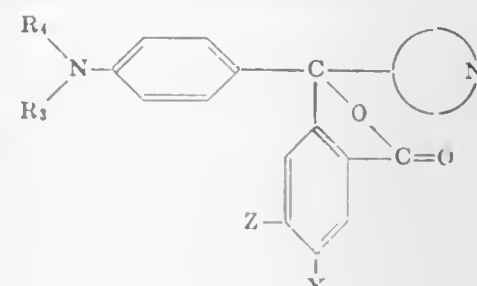
Int. Cl. B41m 5/22

U.S. Cl. 117—36.2

40 Claims



A pressure sensitive record unit and method of marking employing chromogenic material of normally colorless form having a structural formula:

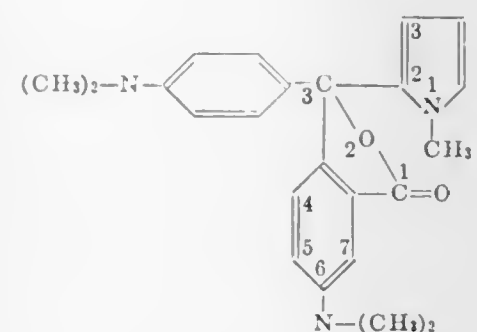


where



is a heterocyclic aryl radical, where Z and Y consist of hydrogen and dialkylamino radicals having fewer than five carbon atoms, providing that one of Y and Z must be hydrogen and the other must be said dialkylamino radical, and R_3 and R_4 are alkyl radicals having fewer than five carbon atoms; said material assuming a colored form upon contact with a Lewis acid molecule.

An example is 3-(p-dimethylaminophenyl)-3-(1-methylpyrr-2-yl)-6-dimethylaminophthalide having the structural formula:



3,540,913

PRESSURE SENSITIVE RECORDING SHEET EMPLOYING SUBSTITUTED INDOLE PHTHALIDES

Chao-Han Lin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

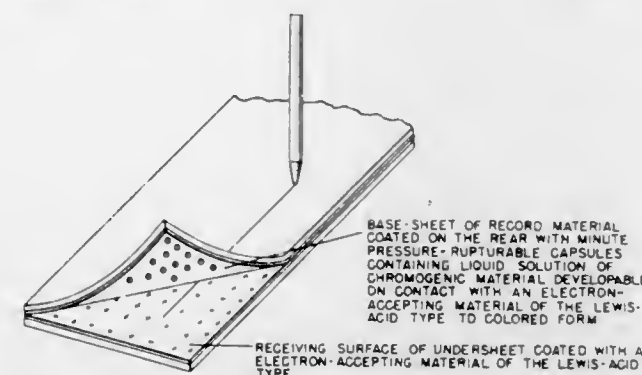
Original application Jan. 30, 1967, Ser. No. 612,558.

Divided and this application Jan. 24, 1969, Ser. No. 821,539

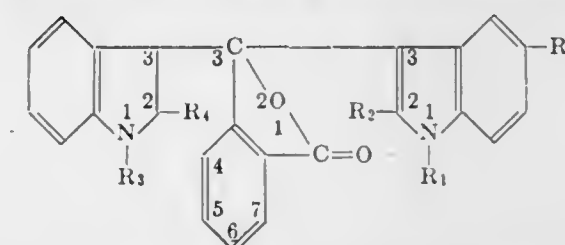
Int. Cl. B41m 5/22

U.S. Cl. 117—36.2

31 Claims



A pressure-sensitive record material and method for marking is disclosed using chromogenic materials of normally colorless form, having structural formulae:



where R_1 , R_2 , R_3 , and R_4 are selected from a group consisting of alkyl radicals having fewer than five carbon atoms, phenyl radicals, and hydrogen, and R_5 is selected from a group consisting of alkoxy radicals having fewer than five carbon atoms and hydrogen, said material assuming a colored form upon contact with a Lewis acid molecule. A specific example of these novel compounds is 3-(1,2-dimethylindol-3-yl)-3-(2-methylindol-3-yl) phthalide.

3,540,914

PRESSURE SENSITIVE RECORD SHEETS EMPLOYING INDOLE SUBSTITUTED PYROMELLITIDES

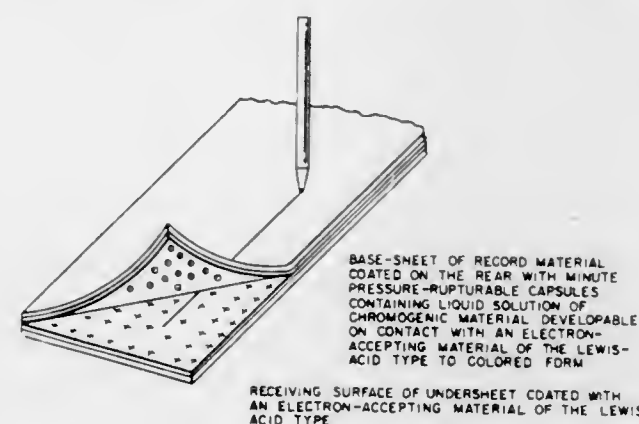
Chao-Han Lin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Original application Jan. 30, 1967, Ser. No. 612,497, now Patent No. 3,491,117, dated Jan. 20, 1970. Divided and this application Jan. 24, 1969, Ser. No. 821,540

Int. Cl. B41m 5/22

U.S. Cl. 117—36.2

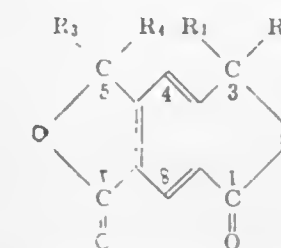
29 Claims



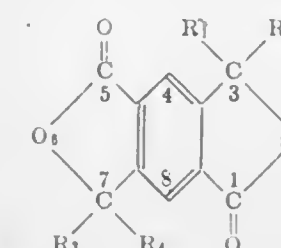
Pressure sensitive record unit and method of marking

880 O.G.—35

employing chromogenic material of normally colorless form having structural formulae:



CIS CONFIGURATION



TRANS CONFIGURATION

where R_1 , R_2 , R_3 , and R_4 consist of substituted and unsubstituted indolyl radicals and dialkylaminophenyl radicals such that at least two indolyl radicals are present in a cis relationship in compounds having a cis configuration and in a trans relationship in compounds having a trans configuration; said material assuming a colored form upon contact with a Lewis acid molecule. Examples of these novel compounds include 3,5-bis(p-diethylaminophenyl)-3,5-bis(1,2-dimethylindol-3-yl)pyromellitide and 3,7-bis(1,2-dimethylindol-3-yl)pyromellitide.

3,540,915

METHOD OF STRENGTHENING ALUMINA AND SPINEL BODIES AND STRENGTHENED ALUMINA AND SPINEL BODIES PRODUCED THEREBY

Henry P. Kirchner, 700 S. Sparks St.,

State College, Pa. 16801

Filed Dec. 20, 1965, Ser. No. 515,073

Int. Cl. B44d 1/092, 1/52; C03c 15/00

U.S. Cl. 117—47

4 Claims

A method of increasing the bending strength, thermal shock and hardness characteristics of bodies of a ceramic material, and the strengthened bodies produced thereby. The body is treated with a fluorine containing material to dissolve out material included in the ceramic material, and then there is formed on the surface of the body at an elevated temperature a coating of a low expansion material having a coefficient of expansion which is less than that of the material of the body. The body is then cooled, and there is produced on the coated surface a layer which is under compression relative to the body.

3,540,916

PROCESS FOR MANUFACTURING ARTIFICIAL LEATHERS

Kazuo Fukada, Takarazuki-shi, Hyogo, Yoshiaki Sakata, Osaka-shi, Osaka, Yoshio Yamada, Nishinomiya-shi, Hyogo, and Noribumi Hakoda, Takatsuki-shi, Osaka, Japan, assignors to The Toyo Rubber Industry Co., Ltd., Osaka, Japan

No Drawing. Filed Nov. 6, 1967, Ser. No. 680,967

Claims priority, application Japan, Nov. 12, 1966,

41/74,600

Int. Cl. D06n 3/04; B42d 1/44

U.S. Cl. 117—63

15 Claims

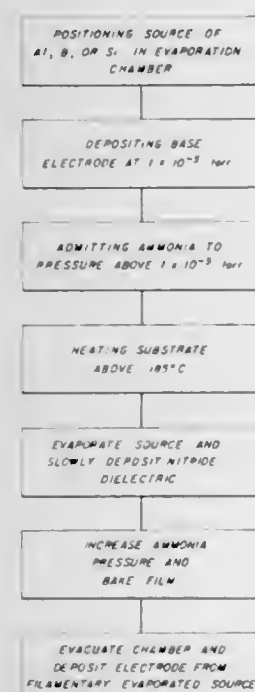
A process for manufacturing artificial leathers comprising mixing into a solution of a polyurethane elastomer maintained at 25–40° C., a solution in a solvent for said polyurethane elastomer of a polyamide which is capable of being dissolved in said solvent at temperatures of at least 65° C., maintaining said polyamide solution in the

tially completed device in an argon atmosphere at low pressure, (ii) applying a high voltage between electrodes exposed to the argon gas to ionize the gas and initiate a glow discharge, and (iii) leaving the device in the glow discharge region for a predetermined time so that ions from the discharge region bombard the dielectric layer.

3,540,926

NITRIDE INSULATING FILMS DEPOSITED BY REACTIVE EVAPORATION

John R. Ralston III, Niskayuna, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 9, 1968, Ser. No. 766,152
Int. Cl. C23c 11/08; B44d 1/14, 1/18
U.S. Cl. 117-217 10 Claims



Nitride insulating films suitable for utilization both as a capacitor dielectric and an encapsulating material are formed by reactively evaporating a source of aluminum, boron or silicon in an ammonia atmosphere greater than 1×10^{-5} torr and slowly depositing the evaporated source upon a substrate heated above 185°C . Subsequent to the insulating film deposition, ammonia is fed back into the evaporation chamber to produce an ammonia pressure greater than 1 micron wherein the insulating film is heat treated and cooled. To inhibit shorting of the insulating film resulting from a charge build-up of high energy electrons on the insulating film, the deposition of electrodes atop the insulating film is accomplished utilizing filament evaporation.

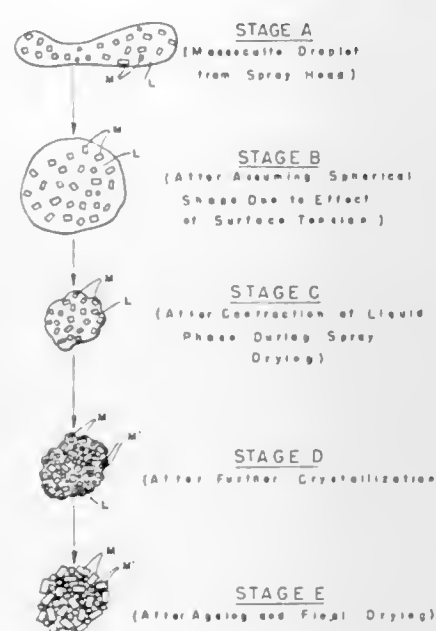
3,540,927

GRANULAR TOTAL SUGAR PRODUCTS AND PROCESS FOR PRODUCING

Masahiro Niimi, Tetsu Furukawa, and Hitoshi Masada, Tokushima, Japan, assignors to Nippon Shiro Kogyo Co., Ltd., Tokushima, Japan
Continuation-in-part of application Ser. No. 607,853, Jan. 6, 1967, which is a continuation of application Ser. No. 324,253, Nov. 18, 1963. This application Oct. 10, 1967, Ser. No. 674,168
Claims priority, application Japan, July 4, 1964, 39/37,902
Int. Cl. B01d 9/02; C13k 1/10
U.S. Cl. 127-30 10 Claims

Granular crystalline products are prepared from water solution of high D.E. starch hydrolyzates. The total sugar solution is subjected to partial crystallization to form a pumpable massecuite composed of microcrystals of the sugar dispersed in a water solution of the sugar. The

massecuite is sprayed into a drying air stream to form atomized droplets, and part of the water is removed to form granular aggregates of the sugar microcrystals containing residual crystallizable sugar solution. The aggregates are aged and dried to form internally additional sugar crystals and to further reduce water content. The

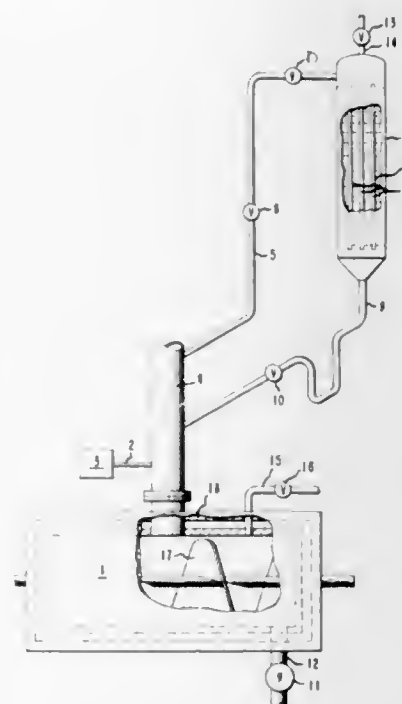


products, comprising generally spherical granules formed of aggregates of microcrystals of the sugar, are characterized by being free-flowing and non-hygroscopic, and by rapid dissolution in water. Additives, such as sweetening or flavoring agents, can be homogeneously incorporated by dispersion in the massecuite before spray drying.

3,540,928

REMOVING AMMONIUM CHLORIDES FROM TML PRODUCTION EQUIPMENT

Derek Bryce-Smith, Reading, Berkshire, England, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 28, 1968, Ser. No. 741,005
Int. Cl. B08b 9/00, 5/00
U.S. Cl. 134-22 10 Claims



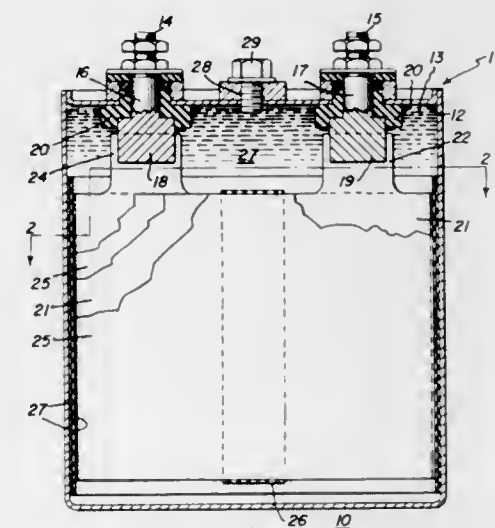
Removal of solid deposits of ammonium chlorides from methylation equipment utilized for manufacture of tetramethyl lead by ammonia or amine catalyzed reaction of

methyl chloride and sodium lead alloy including the steps of (A) causing sufficient ammonia vapor to condense on components of the equipment to effectively remove substantial portions of said deposits; (B) collecting the ammonia and removed deposits in an area where convenient removal is possible; and (C) removing the ammonia and collected deposits.

3,540,929

DEEP SUBMERGENCE RECHARGEABLE SEALED SECONDARY CELL

William N. Carson, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 5, 1969, Ser. No. 821,702
Int. Cl. H01m 1/02, 1/08
U.S. Cl. 136-6 2 Claims



A rechargeable sealed secondary cell is described for operation with high ambient pressures which includes a flexible, pressure transmitting casing having positive and negative terminals, positive and negative plates within the casing electrically connected respectively to the positive and negative terminals, and an aqueous electrolyte impregnated separator between the plates. The cell has its void volume filled with a liquid to prevent serious deflection of the cell casing and permit recharging during exposure to high ambient pressures. This liquid, which exhibits a high solubility for molecular oxygen, is selected from the class consisting of fluorochloromethanes, fluorochloroethanes, fluorochloropropanes, and trifluorovinyl chloride polymer oil.

3,540,930

PRODUCTION OF NEGATIVE ELECTRODES FOR NICKEL-CADMIUM BATTERIES

Serge A. Loukowsky, Sea Cliff, N.Y., assignor to Battery Development Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 19, 1968, Ser. No. 777,022
Int. Cl. H01m 43/04
U.S. Cl. 136-24 14 Claims

A method is provided for producing improved negative electrodes for use in nickel-cadmium batteries comprising immersing a sintered porous nickel plaque in a hot aqueous solution of cadmium nitrate containing a wetting agent, which solution at ambient temperature is unsaturated, whereby to impregnate the plaque with the solution. Following impregnation, the plaque is removed from the solution and dried below the temperature at which the hydrated cadmium nitrate melts, following which the dried plaque is rapidly immersed in an alkaline solution containing up to about 50% by weight, e.g., 20% to 35%,

of an alkali metal hydroxide such as potassium hydroxide, to convert the cadmium nitrate to cadmium hydroxide. Depending upon the amount of active material desired in the electrode, the foregoing steps may be repeated until the desired amount is obtained.

3,540,931

PRODUCTION OF POSITIVE NICKEL ELECTRODES FOR NICKEL-CADMIUM BATTERIES

Serge A. Loukowsky, Sea Cliff, N.Y., assignor to Battery Development Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 19, 1968, Ser. No. 776,894
Int. Cl. H01m 43/04
U.S. Cl. 136-29 14 Claims

A method is provided for producing improved positive nickel electrodes for use in nickel-cadmium batteries comprising immersing a sintered porous nickel plaque in a hot aqueous solution of nickel nitrate containing a wetting agent, which solution at ambient temperature is unsaturated, whereby to impregnate the plaque with the solution. Following impregnation, the plaque is removed from the solution and dried below the temperature at which the hydrated nickel nitrate melts, following which the dried plaque is rapidly immersed in an alkaline solution containing up to about 40% by weight e.g., 20 to 35%, of an alkali metal hydroxide, such as potassium hydroxide, to convert the hydrated nickel nitrate to nickel hydroxide. Depending upon the amount of active material desired in the electrode, the foregoing steps may be repeated until the desired amount is obtained.

ERRATUM

For Class 136-86 see:
Patent No. 3,540,485

3,540,932

METHOD OF SUPPLYING GAS IN LIQUID ELECTROLYTE TO ELECTROCHEMICAL CELL

Solomon Zaromb, 376 Monroe St., Passaic, N.J. 07055
Filed Nov. 9, 1966, Ser. No. 598,582
Int. Cl. H01m 27/00
U.S. Cl. 136-86 9 Claims

A method of dissolving gaseous reactant in a liquid electrolyte at a pressure of about 100 atmospheres and supplying the gas-liquid mixture to an electrode of an electrochemical cell.

3,540,933

REDOX FUEL CELL

Jan Boeke, 70 Monument St., Concord, Mass.
No Drawing. Filed July 11, 1967, Ser. No. 652,417
Int. Cl. H01m 27/26
U.S. Cl. 136-86 17 Claims

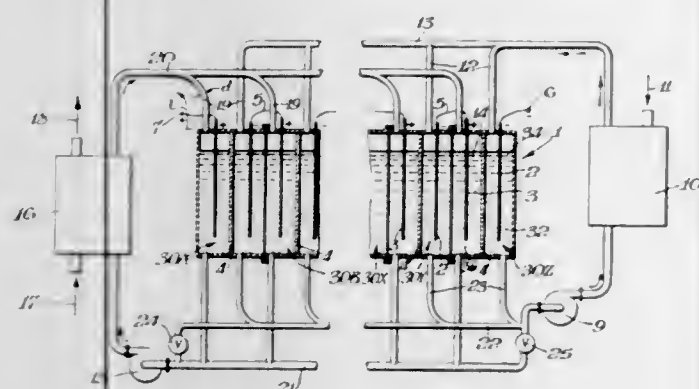
Anolyte and catholyte of same overall chemical composition for redox cell with simple porous separator therebetween and/or each including at least two metallic redox couple complexes. The composition includes metallic complexes having variable valency states (such as ions, oxides, sulphates, phosphates, nitrates, halogenides or other salts) in electrolyte solutions (such as acidic or ionic). Combinations of many complexes of metallic elements in Groups III, IV, V and VI of the Periodic Table having equilibrium potentials relatively close to each other (not more than 0.8 volt apart) are particularly effective in improving power generation. The portion of the electrolyte to be used for the anolyte is reduced by suitable chemical agents and that for the catholyte is oxidized. Suitable electrolyte

solutions are acids, such as strong sulphuric or phosphoric acids. Measured amounts of anolyte and catholyte are mixed to have their chemical reaction provide the heat necessary to evaporate the end products resulting from the chemical conversion occurring in the cell. This provides a highly simple and effective means of eliminating waste products such as water.

3,540,934
MULTIPLE CELL REDOX BATTERY
Jan Boeke, 70 Monument St.,
Concord, Mass. 01742
Filed July 11, 1967, Ser. No. 652,489
Int. Cl. H01m 27/26

U.S. Cl. 136—86

2 Claims

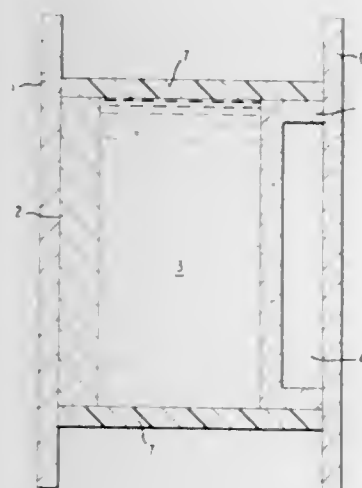


Series-connected multiple redox cell battery with anolyte and catholyte sections of each cell being connected by non-conductive tubing to separate regenerators. The connecting tubing having a ratio of length to inside diameter of at least ten to one. If the overall anolyte and catholyte compositions are similar, portions of each may be mixed to balance the amounts circulating in the anolyte and catholyte sections and to provide heat for eliminating waste fuel products.

3,540,935
ALKALINE SECONDARY BATTERY AND ELECTROLYTE THEREFOR
Kenneth Bernard Keating and James Edgar McNutt, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 708,012, Feb. 26, 1968. This application Jan. 15, 1969, Ser. No. 807,473
Int. Cl. H01m 27/00, 43/04, 41/00

U.S. Cl. 136—86

17 Claims



The problem of recharging an alkaline secondary battery (such as a zinc-air or cadmium-air secondary battery) due to zinc or cadmium dendrites forming on the

anode during recharging is overcome by incorporating at least one complexing agent for the active anode metal cations present in the alkaline electrolyte. Such a complexing agent is preferably a cyanide salt of an alkali metal, the active anode metal, or mixtures thereof.

3,540,936
LEAD ADDITIVE FOR RECHARGEABLE BATTERIES EMPLOYING AN ORGANIC DEPOLARIZER
Alvin J. Salkind, Princeton, N.J., assignor to ESB Incorporated, a corporation of Delaware
No Drawing. Filed Nov. 1, 1968, Ser. No. 772,826
Int. Cl. H01m 15/00, 39/04

U.S. Cl. 136—137

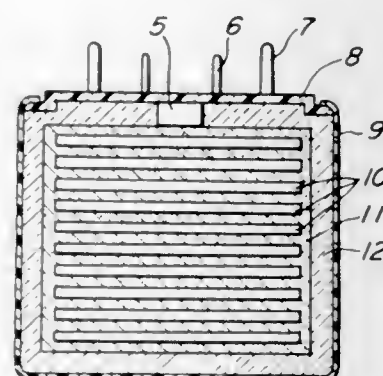
8 Claims

An electric battery having an azodicarbonamide compound as the depolarizer in which a lead salt is added to the cathode (depolarizer) mix to improve the battery cycle life. The lead additive may be dry blended with the depolarizer or dissolved in the electrolyte which is mixed with the dry cathode mix. The lead salt is added to the cathode mix in amounts ranging from about 0.0001 to about 0.1 gram of lead per square inch of anode surface surrounding the cathode. The lead salt is effective for both substituted and unsubstituted azodicarbonamide battery depolarizers.

3,540,937
THERMAL BATTERY WITH THALLIUM SESQUIOXIDE DEPOLARIZER
Hiroshi Kumano, Daito-shi, Yoshimi Omukai, Hirakata-shi, and Hiroshi Yamasaki, Neyagawa-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Feb. 27, 1969, Ser. No. 802,994
Int. Cl. H01m 15/06

U.S. Cl. 136—137

4 Claims



A thermal battery having a large discharge capacity, in which thallium sesquioxide is used as depolarizer.

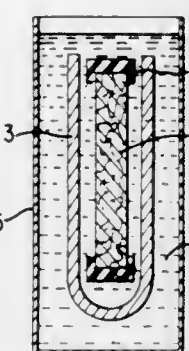
3,540,938
ELECTROLYTE COMPRISING A NON-AQUEOUS SOLVENT AND ELECTROCHEMICAL GENERATOR HAVING SUCH ELECTROLYTE
Jean Paul Gabano, Poitiers, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France
Filed Nov. 4, 1968, Ser. No. 773,015
Claims priority, application France, Nov. 15, 1967, 128,379
Int. Cl. H01m 43/06

U.S. Cl. 136—155

17 Claims

An electrolyte with non-aqueous solvent unreactive towards electrodes of an electrochemical generator, including a solute to insure adequate conductivity. The solvent comprises a halogen derivative of an organic ester whose formulation is $XR-COOR'$ in which X is a halogen, R is a radical of the form C_nH_{2n+1} , R' is a radical of the form C_pH_{2p+1} , n is an integer equal to 0 or 1 or 2 and p is an integer equal to 1 or 2. The halogen is

preferably chlorine or bromine, the solvent is preferably either methyl or ethyl bromo- or chloroformate. A salt such as lithium chloroaluminate is dissolved in the solvent when the latter is a chlorine derivative or lithium bromoaluminate when the solvent is a bromine derivative. The concentration of said salt in the solvent ranges from between 1 and 3 moles per liter. The electrochemical

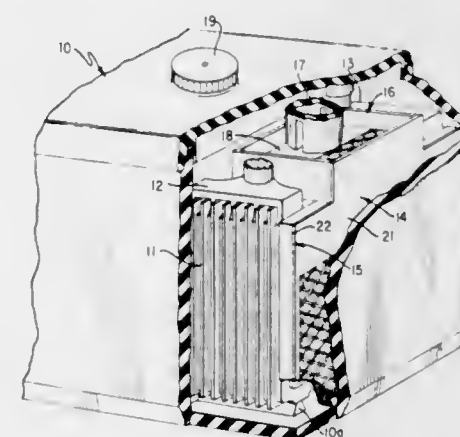


generator utilizing this electrolyte is provided with negative electrodes containing highly reactive metals such as alkali metals and especially lithium. The positive electrodes are mainly of cuprous chloride and copper when the solvent is a chlorine derivative or are sintered copper plates from which cuprous chloride is formed by positive polarization in the described electrolyte.

3,540,939
WATER-ACTIVABLE BATTERY CONSTRUCTION
John P. Badger, Genoa, and Herbert A. Bernholtz, Sylva, Ohio, assignors to Eltra Corporation, Toledo, Ohio
Filed May 29, 1968, Ser. No. 733,135
Int. Cl. H01m 45/00

U.S. Cl. 136—162

14 Claims

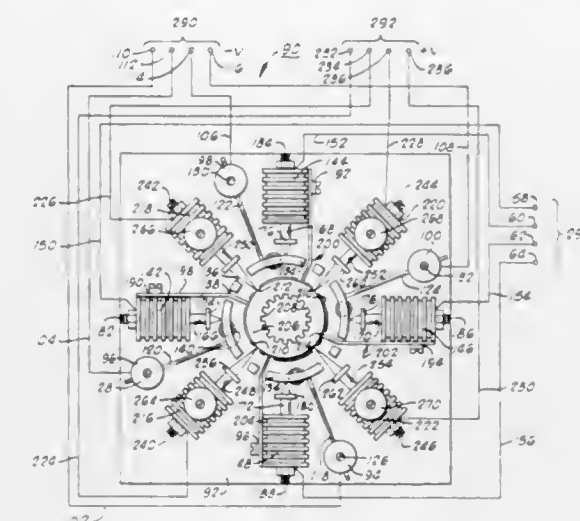


A container for immobilized concentrated battery acid in semi-solid or granular form for use in a water-activable battery. The container has a first hollow rectangular portion adapted to be vertically positioned within a battery cell between the plates and a cell sidewall. A second hollow section is generally at right angles to the first section so that it overlies and rests upon the plates beneath the filler opening in the battery cover. A filler tube extends upwardly from the upper surface of the second section below the battery vent cap. The first section includes a water-permeable area in the lowermost regions thereof so that liquid entering the second hollow section at the top of the container will flow through both portions of the container and into the battery cell through the water-permeable section. The container may include an overflow cup on the upper surface of the second section to facilitate rapid pouring of the liquid into the battery and can have a filler tube extending upwardly toward the filler opening of the battery.

3,540,940
THERMOELECTRIC GENERATOR
Frank Hodgson, P.O. Box 401,
Crested Butte, Colo. 81224
Filed June 4, 1965, Ser. No. 461,390
Int. Cl. H01v 1/22, 1/32

U.S. Cl. 136—208

4 Claims



Apparatus for direct conversion of thermal energy into electrical energy which consists of a copper heat collector supported by a conductive metal rod in position to receive thermal energy from an external source, and one or more contacting elements which are brought into contact with the heat collector through an oxide coating. An electrical energy output is realized across the conductive support rod and respective ones of the contacting elements.

3,540,941
METHOD OF HEAT TREATING SEMICONDUCTOR ELECTROLUMINESCENT DEVICES
Max R. Lorenz, Mahopac, and Aare Onton, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 1, 1967, Ser. No. 687,264
Int. Cl. H01l 7/34, 7/38

U.S. Cl. 148—1.5

17 Claims

GaP electroluminescent diodes, fabricated using a solution growth process, are heat treated to enhance their light emitting characteristics in a particular portion of the electromagnetic spectrum. The heat treatment is carried out either after the diodes are fabricated, or the heat treatment is incorporated as part of the solution growth process. The recombination region in these diodes is the p region which is doped with zinc and partly compensated with oxygen. The original wafer from which the diode is prepared is p type and contains both zinc and oxygen. The junction and n type region, doped with tellurium, are prepared using the solution growth process. The zinc and oxygen atoms in the p region can exist in either an associated state or in a dissociated state. When in the associated state, the transition energy for electron-hole recombination at the zinc-oxygen pair is about 1.80 electron-volt (red emission). When in a dissociated state the transition energy is about 1.35 electron-volt (infrared emission). Heat treating the diode at higher temperatures (900° C.), causes the zinc and oxygen atoms to dissociate thereby enhancing the infrared emission at the expense of red emission. This infrared emission is inherently less efficient in GaP than the red emission. Heat treatment to produce the red emission, which is more desirable because it is visible and is more efficient, is carried out in a lower temperature range (450–700° C.). Heating in this temperature range causes the zinc and oxygen impurities to associate as nearest neighbors, and produce the state within the material which is more conducive to efficient production of red emission. The time

for the heat treatment is carefully controlled since continued heating in either temperature range causes other changes within the diode, which degrade the over-all light emitting efficiency. Degradation begins to set in, and lessens the initial enhancement produced by heating, after about five minutes at 700° C. At the lower temperature 500° C., the heat treatment can be carried out for periods up to three hours before the degradation effects become pronounced. A diode, once fabricated, can be tested to determine if heat treating will improve its red emission. If the output of the diode includes a relatively high amount of infrared, heat treating in the lower temperature range will improve the emission in the red.

3,540,942

PROCESS FOR APPLYING BLACK COATING TO METALS

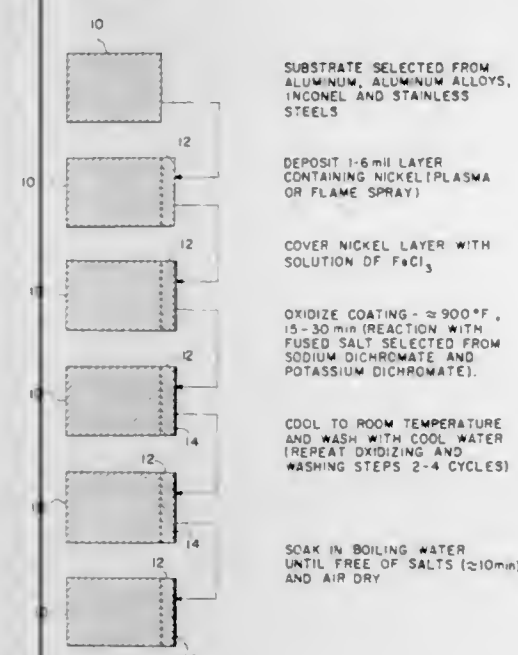
Beverley W. Lewis and Donald J. Progar, Hampton, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Feb. 5, 1968, Ser. No. 702,911

Int. Cl. C23f 7/02

U.S. Cl. 148—6.11

6 Claims



This invention relates to high thermal emittance black coatings and a process for applying the same to metals and metal alloys for use in radiative cooling of spacecraft, including space power systems and the like and is capable of obtaining a measured emittance of approximately 0.96. The black coating is applied by treating a flame-sprayed nickel containing coating with a solution of metallic salts followed by reacting the surface with molten sodium or potassium dichromate.

3,540,943

METHOD OF MAKING GALVANNEALED FERROUS METAL OF IMPROVED SOLDERABILITY

Edward M. Grogan, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 391,010, Aug. 20, 1964. This application Aug. 8, 1968, Ser. No. 751,023

Int. Cl. C23f 7/00

U.S. Cl. 148—6.14

6 Claims

A process of producing solderable galvanized ferrous metal articles in which the galvanized surface is contacted with an aqueous solution of a substance of the group consisting of sodium fluoborate, ammonium fluoborate, mixtures of sodium and ammonium fluoborates, potassium hydroxide and sodium hydroxide. The galvanized surface is obtained in the common manner by

applying a coating of zinc which contains some aluminum to a ferrous metal base and then heating the coated base to alloy the coating with the base.

3,540,944

WELDING FLUX FOR NICKEL-SILICON-TITANIUM-COPPER-MOLYBDENUM ALLOYS

Peter Sharples, Inglewood, Calif. assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 20, 1968, Ser. No. 730,602

Claims priority, application Great Britain, May 23, 1967, 23,940/67

Int. Cl. B23k 35/34, 35/36

U.S. Cl. 148—24

2 Claims

Quinary nickel-base alloys containing silicon, titanium, copper and molybdenum are welded with filler metal of similar quinary alloy composition which is applied by oxyacetylene welding with special flux consisting essentially of a dry powder mixture of 30-60% sodium fluoride, about 30-60% dehydrated sodium silicate, about 5-15% lithium chloride, and up to 35% sodium carbonate.

3,540,945

PERMANENT MAGNETS

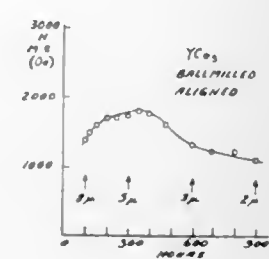
Karl J. Strnat and Gary I. Hoffer, Fairborn, N.J., John C. Olson, Dayton, Ohio, and Werner Ostertag, Painted Post, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force

Original application June 5, 1967, Ser. No. 644,460, now Patent No. 3,424,578, dated Jan. 28, 1969. Divided and this application June 11, 1968, Ser. No. 748,889

Int. Cl. H01f 1/08; C22c 19/00, 31/00

U.S. Cl. 148—31.57

3 Claims



A method of making permanent magnets comprising the steps of pulverizing an alloy consisting of (a) selected rare earth metals and (b) cobalt (or mixtures of Co with Fe and Mn) characterized by high crystal anisotropy in specific atomic percent ratios, mixing the pulverized alloy with a binding agent, subjecting said powder to a magnetic field of sufficient magnitude so as to align the alloy particles with their direction of easiest magnetization parallel to the applied magnetic field, and thereafter permanently bonding together the aligned powdered alloy, and the article resulting therefrom.

3,540,946

TITANIUM-BASE ALLOYS

Clive Dudley Thomas Minton, Lichfield, and Richard Ernest Goosey, Aldridge, England, assignors to Imperial Metal Industries (Kynoch) Limited, Witton, Birmingham, Warwickshire, England, a corporation of Great Britain

Continuation-in-part of application Ser. No. 514,364, Dec. 16, 1965. This application Apr. 28, 1969, Ser. No. 819,762

Claims priority, application Great Britain, Dec. 23, 1964, 52,271/64; Jan. 26, 1965, 3,386/65; May 28, 1965, 22,775/65

Int. Cl. C22c 27/00

U.S. Cl. 148—32.5

8 Claims

A titanium-base alloy having very high ultimate tensile strength, a high ratio of notched tensile strength to ultimate

mate tensile strength and good forgeability containing by weight 2.5-7.5% aluminum, 2-7% zirconium, 2.5-5.5%

3,540,948

METHOD OF PRODUCING CUBE-ON-CORNER ORIENTED ELECTRICAL STEEL SHEET

James G. Benford, Monroeville Borough, and Edward B. Stanley, Washington Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of Delaware

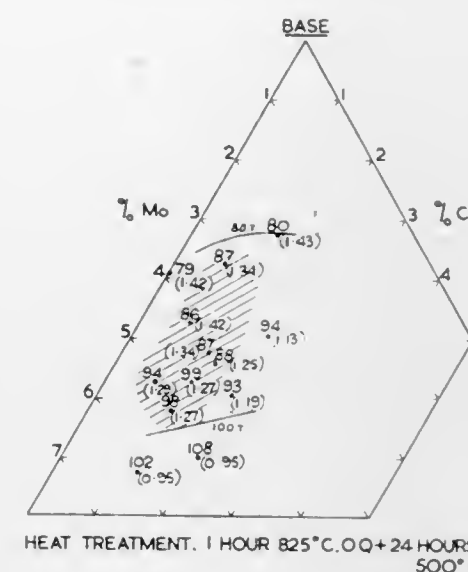
No Drawing. Filed Dec. 18, 1967, Ser. No. 691,130

Int. Cl. H01f 1/16

U.S. Cl. 148—111

3 Claims

An electrical sheet steel having a cube-on-corner or (111)[112] preferred orientation produced by annealing at a temperature of at least about 2000° F. in the presence of a selenide or telluride.



molybdenum, 0.5-1.75% copper, 0.1-1.0% silicon and optionally 0.05-0.4% carbon and up to 7% tin.

3,540,947

METHOD OF MANUFACTURING A PERMANENT MAGNETIC ALLOY

Sadaichi Komaki, 2-20-5 Kaga, Itabashi-ku, Tokyo, Japan

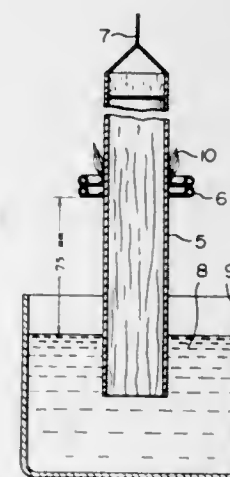
Filed Oct. 23, 1967, Ser. No. 677,307

Claims priority, application Japan, Oct. 25, 1966, 41/69,970

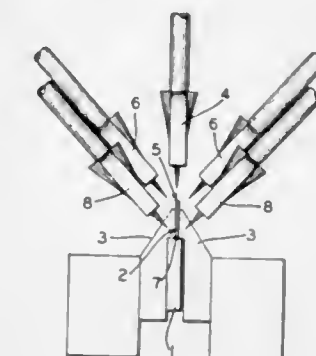
Int. Cl. C21d 1/04; H01f 1/02

U.S. Cl. 148—103

2 Claims



A method of manufacturing a permanent magnetic alloy formed with columnar crystals oriented parallel to the axis of the alloy, characterized by steps of melting and casting in a mould a permanent magnetic alloy blank comprising cobalt, nickel, aluminum, copper, titanium and iron, applying a coat of sulphur to the surface of said blank, inserting the blank in a non-magnetized sheath, passing the blank containing sheath through a heat area defined by an electromagnetic induction coil energized by an alternating current of frequency to progressively heat the zones of the blank passing through said area to such a degree as to destroy original crystalline structure and cause recrystallization, and thereafter passing said sheath into a cooling liquid so as to progressively quench said blank to thereby produce substantially completely unidirectionally oriented crystals in said blank.



A method of heat treating hacksaw blades which includes the steps of passing the elongated hacksaw blade in a longitudinal direction with its cutting edge upward between two or more downwardly converging heat sources, directing the heat sources at the gullets of the teeth formed on the cutting edge of the hacksaw blade, applying an equal amount of heat to the back portion of the hacksaw blade by moving the blade between similar downwardly converging burners directed at the back of the blade, and subsequently tempering said blade.

3,540,950

METHODS OF MANUFACTURING PLANAR TRANSISTORS

Owen Francis Joseph, Harlow, England, assignor to The Marconi Company Limited, London, England, a British company

Filed Dec. 26, 1967, Ser. No. 693,576

Claims priority, application Great Britain, Jan. 19, 1967, 2,795/67

Int. Cl. H01l 7/34

U.S. Cl. 148—187

1 Claim

In a known method of manufacturing planar transistors P-type impurities are diffused into a silicon chip through an aperture in an oxide coating layer. The oxide layer formed at the aperture during the diffusion is removed and N-type impurities are diffused into the silicon. The resulting oxide layer is punctured to allow electrical connections to be made. Such transistors have the defect of undesirably high saturation currents.

3,540,951

METHOD FOR DOPING SEMICONDUCTOR CRYSTALS WITH PHOSPHORUS

Erich Pammer and Hans Christ, Munich, Germany, assignors to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Apr. 22, 1968, Ser. No. 722,927

Claims priority, application Germany, Apr. 20, 1967, S 109,426

Int. Cl. H011 7/00, 7/44

U.S. Cl. 148—189

4 Claims

The present invention relates to a method for, particularly large-scale, doping of semiconductor crystals with phosphorus, whereby heated semiconductor crystals, to be doped, are subjected to a phosphorus containing atmosphere, which is produced by heating a source, consisting of a phosphorus substance and a carrier substance. In accordance with the present invention, this method is characterized by the use of a source, produced by fusing alkali earth phosphate and phosphorus pentoxide. The present invention further prefers the use of tertiary alkali earth phosphates. Thus, for example, the use of a source produced from tertiary calcium phosphate and phosphorus pentoxide yielded excellent reproducible results for doping semiconductor crystals of silicon or germanium, even when the process was repeated several times.

3,540,952

PROCESS FOR FABRICATING SEMICONDUCTOR LASER DIODES

Roger S. Ehle, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 2, 1968, Ser. No. 695,102

Int. Cl. H011 7/44

U.S. Cl. 148—189

12 Claims

Injection laser diodes with low stimulated emission thresholds, high differential quantum efficiencies, and negligible stimulated emission delays are fabricated by diffusing zinc into N-type gallium arsenide wafers at a temperature preferably between 750° C. and 770° C. in an evacuated quartz capsule which is subsequently fast quenched in water. This is followed by a short duration arsenic heat treatment in an evacuated quartz capsule which is thereafter fast quenched in water.

3,540,953

BLASTING COMPOSITIONS CONTAINING AMMONIUM NITRATE PRILLS, FUEL, AND A CARBO-NACEOUS BLACK

Roy E. Schulze and Paul H. Rydlund, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 4, 1969, Ser. No. 813,736

Int. Cl. C06b 19/00

U.S. Cl. 149—2

8 Claims

Blasting agents or explosive compositions containing high density ammonium nitrate prills, a carbon black and a liquid hydrocarbonaceous fuel.

3,540,954

METHOD FOR MANUFACTURING MULTI-LAYER FILM CIRCUITS

John P. Pritchard, Jr., Richardson, Antoinette G. Queen, Dallas, and Joe T. Pierce and Buford G. Slay, Jr., Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 30, 1966, Ser. No. 606,200

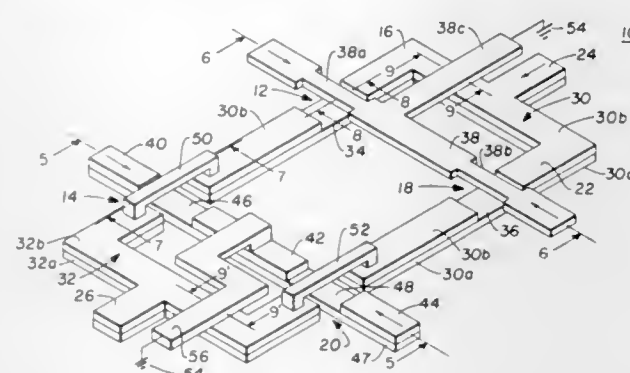
Int. Cl. C23f 1/00, 1/02

U.S. Cl. 156—3

5 Claims

A multilayer cryogenic flip-flop circuit having tin gates formed between lead conductor strips and controlled by lead control conductors which are formed by coating a glass substrate with a lead ground plane which is covered by an insulating film. Over the insulating film is

coated a tin film followed by a lead film and a film of a photo-resist material. The photo-resist material is exposed and developed to leave an area of the lead film exposed. The exposed area of the lead and the tin thereunder is etched with a nitric acid solution. The remainder of the photo-resist is removed and a new layer is applied, exposed and developed to permit etching of portions of the remaining lead by a water solution of acetic acid and



hydrogen peroxide which removes the lead but does not remove the underlying tin, thus forming tin gates. The remaining photo-resist is removed, an insulating layer applied and a film of lead coated over the insulation. A layer of photo-resist is applied over the lead, exposed and developed to permit etching with a nitric acid solution. The remainder of the photo-resist is removed, leaving lead control conductors and ground leads.

3,540,955

METHOD FOR SELECTIVELY ETCHING SILICON SURFACES

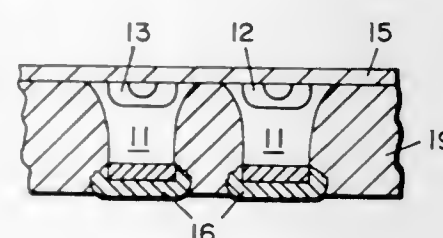
Terrell B. Koger, Mesa, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Apr. 18, 1968, Ser. No. 722,470

Int. Cl. H011 7/34

U.S. Cl. 156—17

2 Claims



A better definition of patterns is obtained in the selective etching of a silicon wafer by using a platinum-on-silicon dioxide layer as the etch-resistant mask. The mask is formed by selectively etching the oxide in accordance with known procedures, followed by the deposition of platinum over the entire surface including both the oxide and the exposed silicon areas. Then by heating the composite structure to 600° C. to 700° C., a platinum silicide layer is formed covering the areas to be etched. A known silicon etchant may then be used to complete the process, since the platinum silicide and silicon are readily attacked while the pure platinum remains unaffected.

3,540,956

PRECISE CONDUCTOR CABLES

Howard W. Arnold and Wilbert L. Gore, Newark, Del., assignors to W. L. Gore & Associates, Inc., Newark, Del., a corporation of Delaware

Original application Dec. 7, 1967, Ser. No. 688,802.

Divided and this application Apr. 11, 1968, Ser. No. 740,788

Int. Cl. H01b 13/06

U.S. Cl. 156—54

12 Claims

A multi-conductor cable is provided in a continuous fashion by preforming grooves in a tape in a precise

3,540,959

METHOD OF MANUFACTURING A LAMINATED TUBULAR ARTICLE HAVING A MATTE FINISH SURFACE

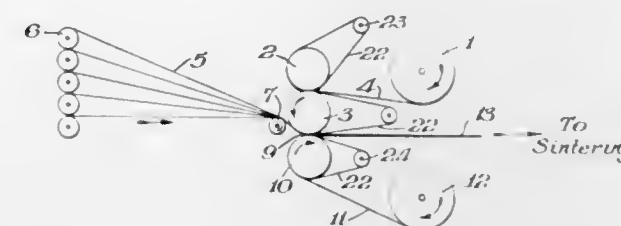
John Houghton Connor, Chester, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 346,686, Feb. 24, 1964. This application Mar. 14, 1969, Ser. No. 808,377

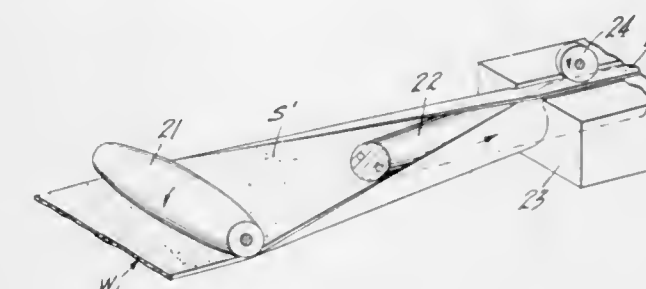
Int. Cl. B29d 23/10

U.S. Cl. 156—203

2 Claims



groove and completing the encapsulation by laying a tape over said conductors and pressing the resultant assembly to press the tape material between conductors into webs.



3,540,957

CERAMIC BONDING

Mohendra S. Bawa, Dallas, Leslie O. Connally, Arlington, and James K. Truitt, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

No Drawing. Filed Oct. 5, 1966, Ser. No. 584,359

Int. Cl. C04b 37/00

U.S. Cl. 156—89

2 Claims

Ceramic parts such as aluminum oxide or magnesium oxide are bonded together by interposing a mixture of about 85 to 95 weight percent aluminum and about 15 to 5 weight percent zinc or zinc oxide between the parts and firing the mixture to about 900–1200° C. in an oxidizing atmosphere.

3,540,958

METHOD FOR REDUCING FIBER DENSITY AND EXPANDING FACE DIMENSIONS OF SELF-SUPPORTING SHEET STRUCTURES

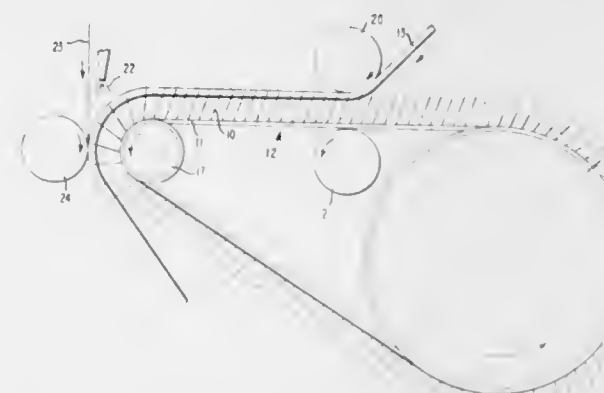
Paul Morrison Cole, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 13, 1967, Ser. No. 609,123

Int. Cl. B32b 31/08

U.S. Cl. 156—164

13 Claims



A method for reducing the fiber density and expanding the face dimensions of self-supporting sheet structures by (1) causing the sheet to engage the projections of a layer of card clothing, (2) flexing the layer of card clothing to spread apart the projection and thereby expand the face dimensions of the sheet, and (3) setting the sheet in the expanded condition.

3,540,960

METHOD OF ORNAMENTING A WOODEN ARTICLE WITH METAL FOIL

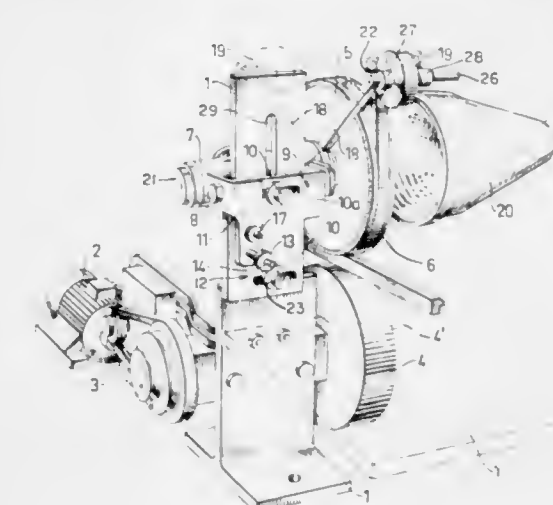
Sven Holger Widigs, Gustafs, Sweden, assignor to Gustafs List Aktiebolag, Gustafs, Sweden, a corporation of Sweden

Filed Jan. 4, 1966, Ser. No. 518,571

Int. Cl. B32b 3/00

U.S. Cl. 156—219

4 Claims



This invention relates to methods of and apparatus for ornamenting articles, such as wooden picture moldings, frames, or the like. The apparatus includes cooperating rolls, one roll having a metallic rim and the other having a rim made of a heat resistant, resilient material such

as rubber or a synthetic elastomer. The roll having the resilient covering preferably is heated. An article to be ornamented is placed between the rolls, the rolls are actuated, and pressure is exerted on the article by the rolls, whereby the desired ornamental impression is caused to be effected on the article. A tape of ornamenting material also may be placed between the article and one of the rolls. The tape preferably comprises a strip of plastic material having a thin layer of gold leaf, or the like, thereon. When such tape is used, the metal layer on the tape adheres to and covers the impression made by the rolls, thereby creating a pleasing ornamental effect. Means are provided for adjusting the relative positions of the rolls and the article being ornamented in accordance with the size and shape of the article so that the rolls engage and apply the desired pressure on the article.

3,540,961

PROCESS FOR FORMING BONDED, POLYMERIC SEALANT FILLED EXPANSION JOINTS

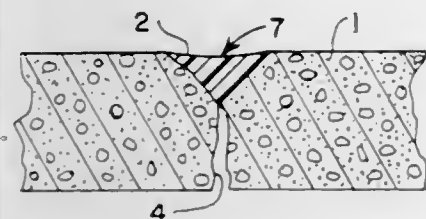
Daniel B. Shipp and George F. Walker, Trenton, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed May 17, 1966, Ser. No. 550,588

Int. Cl. C09j 3/30; E01c 11/10

U.S. Cl. 156—242

11 Claims



Bonded, filled expansion joints and laminated structures comprising in combination a solid mass of a polysulfide sealant composition at least partially embedded in and adhesively self-bonded to a set hydraulic cement-aggregate concrete are made by embedding the sealant composition either in shaped, cured form, or in an in situ shaped, and curable form, into the freshly poured concrete at the desired location and allowing the concrete to set, and in the latter form, the sealant composition to cure. The cured sealant composition provides a line of weakness along which the set concrete may crack upon expansion while the sealant composition remains adhered to the concrete substrate and seals the crack against passage of fluids.

3,540,962

METHOD OF EXTRUDING POLYETHYLENE ONTO AN ETHYLENE-HYDROLYZED VINYL ACETATE COPOLYMER

Haruyoshi Anzawa, Teiichiro Chiba, and Katsuaki Hirano, Kurashiki, Japan, assignors to Kurashiki Rayon Co., Ltd., Kurashiki-shi, Okayama Prefecture, Japan, a corporation of Japan

No Drawing. Filed Sept. 22, 1965, Ser. No. 489,409

Claims priority, application Japan, Oct. 3, 1964, 39/56,128

Int. Cl. B32b 27/08, 3/02

U.S. Cl. 156—244

3 Claims

A method for producing a heat-sealable wrapping material is claimed. The material consists essentially of a base film of saponified ethylene-vinyl acetate copolymer containing from about 20 to 70 mole percent of ethylene and a saponification degree of at least about 90 mole percent, coated on at least one side with a film. The surface of the film layer applied to the base film is oxidized, e.g. in air at elevated temperatures, before being applied to the base film.

3,540,963 METHOD OF MAKING A COMPOSITE ABSORBENT LAMINATE

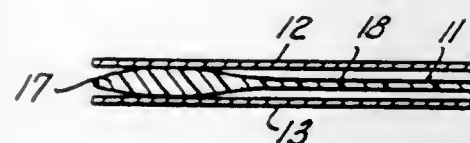
Charles D. Dipner, Cranford, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Original application May 18, 1964, Ser. No. 367,989, now Patent No. 3,423,277, dated Jan. 21, 1969. Divided and this application Dec. 1, 1967, Ser. No. 725,961

Int. Cl. B29d 7/00; B32b 31/00

U.S. Cl. 156—244

5 Claims



Water impermeable absorbent laminates of absorbent flexible sheet material and water impermeable film are prepared utilizing thermoplastic films having softening temperatures above 300° F. by using film having in the main body of the film a thickness of not over 0.3 mil and side edges of thickness several times this. The film is bonded to the absorbent sheet only along the thicker side edges. The laminate is prepared by heat extruding the polymer onto the absorbent sheet the extruded polymer sheet passing through an air gap in which the edges of the film so formed thicken prior to contact of the extruded polymer film with the absorbent sheet. The thickened edges, while still heat softened, are bonded by pressure to the absorbent sheet.

3,540,964

METHOD FOR EXTRUDING MULTICOLORED SHEET MATERIAL

Jan P. Nauta, West Hartford, Conn., assignor to Rowland Products, Incorporated, Kensington, Conn., a corporation of Connecticut

Original application Oct. 22, 1965, Ser. No. 500,775, now Patent No. 3,443,278, dated May 13, 1969. Divided and this application Oct. 18, 1968, Ser. No. 768,740

Int. Cl. B29c 9/00

U.S. Cl. 156—244

6 Claims

A method is provided for extruding thermoplastic sheet material having differentially colored layers wherein differentially colored streams of the thermoplastic material are caused to flow in vertical layers and are combined in the extruder into a composite stream. The thermoplastic sheet material having differentially colored layers and in various patterns is also disclosed.

3,540,965

METHOD OF FORMING A JOINT BETWEEN AN ORIENTED AND NONORIENTED PLASTIC

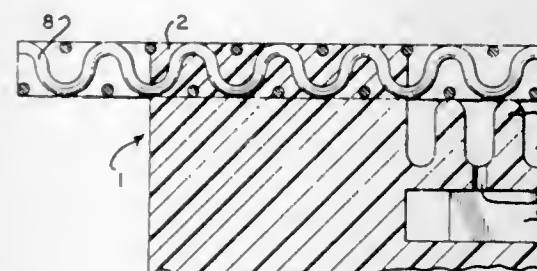
Herbert G. Vore, Nashua, N.H., assignor to Improved Machinery, Inc., Nashua, N.H., a corporation of Delaware

Filed Mar. 31, 1967, Ser. No. 627,343

Int. Cl. C09j 5/00

U.S. Cl. 156—306

4 Claims



A joint between a nonoriented plastic body and an oriented open weave fabric. The open weave fabric is embedded in the melted surface of the nonoriented plastic

body. This constitutes the sole bonding between the two parts. A method and apparatus for forming this joint which includes a heater for heating and softening the surface of the nonoriented plastic body and a fluid pressure actuated press for forcing the oriented open weave fabric into the melted surface of the nonoriented plastic. The oriented plastic and the surface of the nonoriented plastic may be cooled while pressure is being applied.

3,540,966

PROCESS FOR LAMINATING FILMS

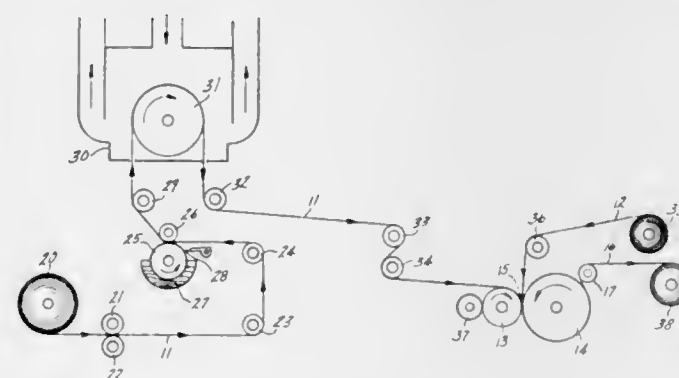
Paul W. Baker and Edward J. Retzer, Brevard, N.C., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed July 10, 1967, Ser. No. 652,080

Int. Cl. C09j 5/02

U.S. Cl. 156—307

7 Claims



Polymer-coated flexible films, for example layers of cellophane coated with a vinyl polymer or copolymer, such as a copolymer of vinylidene chloride and acrylonitrile, are laminated by an improved process whereby the resulting composite film displays unusual clarity and the initially separate layers are strongly bonded. A shallow pool of water, or other liquid, is maintained between a pair of heated laminating rolls and the films are united at the nip therebetween, one of the films being conducted downwardly through the pool and the other being carried by one of the rolls so that a surface contacts the pool. For high speed lamination, the latter surface is preferably provided with a coating of adhesive prior to lamination at the roll nip.

3,540,967

MACHINE FOR MAKING CONTOUR-CORE STRUCTURES

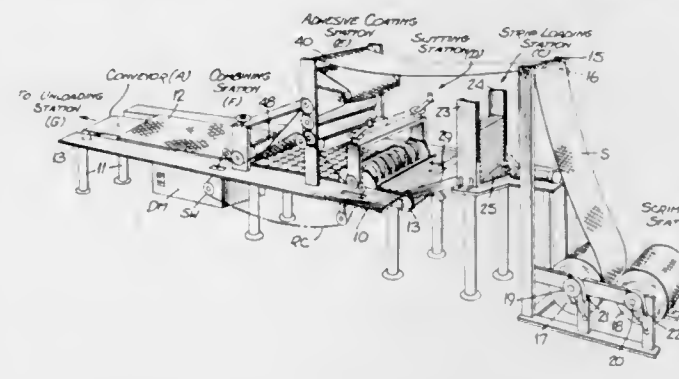
Gerald D. Shook, Huntington, and Robert S. Levine, Harrison, N.Y., assignors to Balsa Development Corporation, New York, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 389,149, Aug. 12, 1964, now Patent No. 3,376,185. This application Jan. 12, 1968, Ser. No. 697,444

Int. Cl. B32b 31/00; G05g 17/00

U.S. Cl. 156—363

2 Claims



A machine for fabricating a tessellated contour-core blanket having an array of individual blocks of wood or plastic secured to a common scrim formed of nonstretchable flexible material, the machine including a conveyor

which advances a continuous array of blocks into a combining station into which a continuous web of the scrim is also supplied, the underside of the web being coated with pressure-releasable adhesive which facilitates selective dislodgement of the blocks from the scrim.

3,540,968

APPARATUS FOR DECORATING ARTICLES OF DIFFERENT CROSS-SECTIONAL CONTOURS

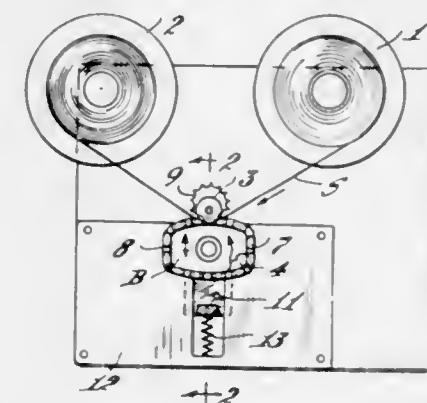
Kenneth J. White, Framingham, Mass., assignor to Denison Manufacturing Company, Framingham, Mass., a corporation of Delaware

Filed May 17, 1968, Ser. No. 730,022

Int. Cl. B44c 1/24; B65c 3/16

U.S. Cl. 156—475

7 Claims



For decorating the sides of bottles and the like which have different shapes such as oval, square, etc., apparatus comprising means for pressing an ink strip against the bottles while being rotated and means for driving the strip and the periphery of a bottle at the same linear velocity irrespective of the shape of the bottle.

3,540,969

TAPE APPLICATOR

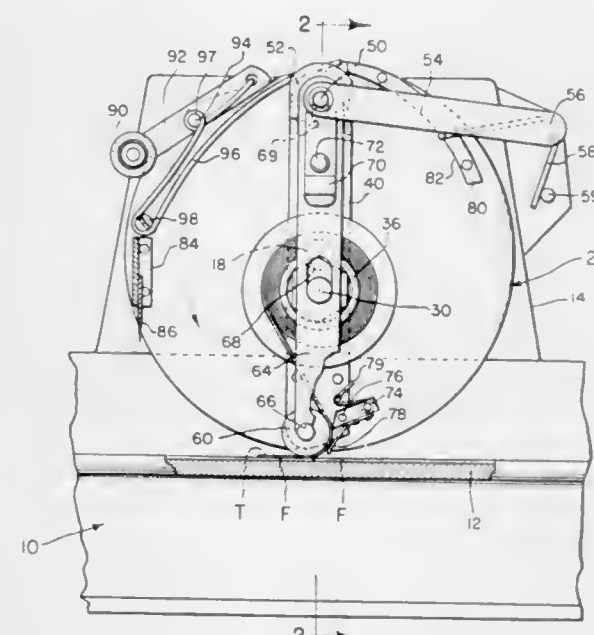
Leif G. Jorgensen, 517 W. St. Charles Road, Lombard, Ill. 60148

Filed Aug. 31, 1967, Ser. No. 664,676

Int. Cl. B32b 31/18; B31f 5/06

U.S. Cl. 156—523

9 Claims



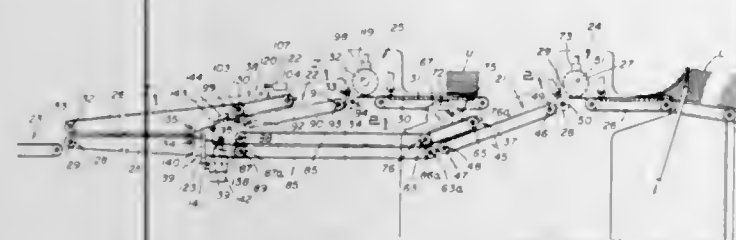
A device for applying a predetermined length of adhesive tape to a surface, comprising: a rotatable member

carrying a roll of tape, tape severing means, and a reciprocating member; said reciprocating member carrying a tape applying element and being movable by said rotatable member; and means for rotating the rotatable member.

3,540,970

TIPPING MACHINE

Claude Raymond Huntwork, Upper Arlington, Ohio (2759 Brentwood Ave., East Lansing, Mich. 48823)
Filed Dec. 5, 1967, Ser. No. 688,225
Int. Cl. B65c 9/08; B32d 31/12; B65h 29/12
U.S. Cl. 156—556 7 Claims



A tipping machine which receives separate supplies of sheets or laminated sheet units and moves them progressively through separate paths into a single converging path where the separate sheets or sheet units are brought into superimposed registry and are caused to contact. Adhesive applying means is provided on the machine for applying adhesive to preselected areas of the sheets, just prior to their coming in contact, so that after contact, they will be adhesively secured together for subsequent use as an assembly of sheets.

3,540,971

PACKAGING MACHINE HAVING AN IN LINE AUTOMATED MULTISTATION WEIGHING AND LABELING APPARATUS

James G. Johanski, Jr., Green Bay Wis., assignor to Safeway Stores Incorporated, Oakland, Calif., a corporation of Maryland
Filed Dec. 14, 1967, Ser. No. 690,526
Int. Cl. B65c 9/02; B65g 43/08, 37/00
U.S. Cl. 156—566 4 Claims

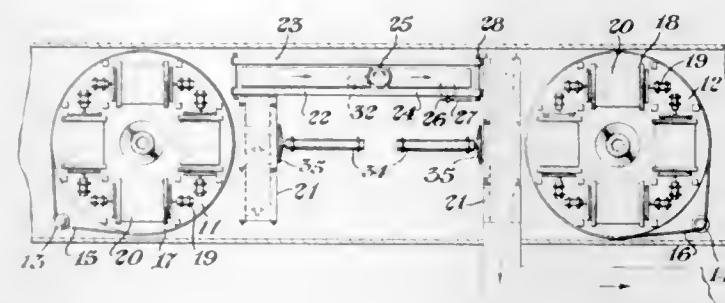


A method and apparatus for the continuous wrapping, weighing and labeling of articles. There is included conveying means for transporting a plurality of spaced apart articles along a continuous path whereupon the articles are sensed by a pulser switch device. The pulser switch device selectively actuates a diverting mechanism to divert selective ones of the articles to an alternate path where the articles are weighed and labeled with a label carrying indicia indicative of the weight of the article. Means is provided for diverting the labeled articles from the alternate path to the continuous path where the articles are directed towards an accumulator.

3,540,972
CARROUSEL SEALING APPARATUS FOR TOWER PACKING BUNDLES

Thomas R. Irwin, Wilbur G. Freer, Jr., and William A. Doidge, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Jan. 16, 1969, Ser. No. 791,761
Int. Cl. B30b 15/34; B32b 31/20
U.S. Cl. 156—567 2 Claims



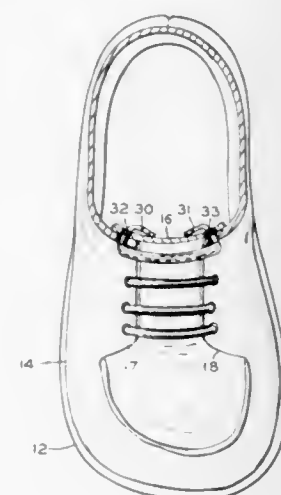
An apparatus is described for assembling and flanging convoluted sheets into tower packing bundles employing opposed heated platens which are mounted on a rotatable disc and which engage a stacked bundle of sheets on opposite sides and simultaneously flange and fuse adjacent edges together while the disc is rotating and other bundles are being inserted and removed.

3,540,973

INFANT'S DISPLAY SHOE AND METHOD OF PREPARING SAME

Daniel E. Johnson, 309 1/2 W. A St., Colton, Calif. 92324

Filed Feb. 19, 1968, Ser. No. 706,371
Int. Cl. A01n 1/00
U.S. Cl. 161—19 8 Claims

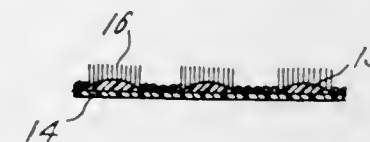


A method of preparing for display an infant's shoe including removing the shoe lace from the shoe, cleaning, electroplating and polishing the shoe, including the tongue portion thereof with the shoe lace removed, then cutting a shoe lace to be reinserted in the shoe into segments corresponding in length to the distances between laterally adjacent pairs of eyelets, then cleaning, electroplating and polishing the shoe lace segments apart from the shoe, and finally inserting each plated and polished lace segment through a corresponding pair of eyelets and through aligned holes in the tongue of the shoe and then bending the end portions of each segment back against the inside of the tongue to clamp the segments in place. Each shoe lace segment includes a bendable wire core suitably coated with fabric or other material between the bent opposite end portions of each segment so that when the segments are inserted in the plated shoe they give the appearance of a laced shoe.

3,540,974
PROCESS FOR MAKING DECORATED SHEET MATERIALS AND PRODUCT

Jack M. Broadhurst, Mishawaka, Ind., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

Filed Apr. 23, 1968, Ser. No. 723,373
Int. Cl. D04h 11/00; B44c 1/08
U.S. Cl. 161—64 10 Claims



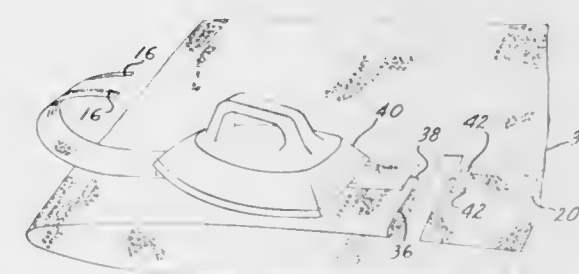
The invention resides in the production of a patterned flock and plastic granule material produced without resorting to grid-like shield members. The pattern is effected by first depositing a liquid, plastic material on a continuous belt in an uninterrupted pattern containing a plurality of spaced open portions. Thereafter, the wet plastic design is flocked, heated, if necessary, so that it is partially fused or cured, and then this flocked component is passed onto a second releasable belt which has been prepared with a film of liquid plastic material. The entire composite is sprinkled with plastic resin granules, whereby the application of plastic granules adheres only to those exposed surfaces of the second plastic layer. Lastly, the entire composite is passed through a final heating stage wherein the first flocked component is united to the second layer, and the flock material and plastic granules are securely set.

3,540,975

IRON-ON TRIMS AND FINDINGS

William R. Wright, Warren, and Gerald A. Guild, Brimfield, Mass., assignors to Wm. E. Wright Co., West Warren, Mass., a corporation of Delaware
Continuation-in-part of application Ser. No. 549,756, Apr. 21, 1966, which is a continuation-in-part of application Ser. No. 472,261, July 15, 1965. This application Aug. 17, 1967, Ser. No. 663,924

Int. Cl. B32b 7/14; C09j 7/04
U.S. Cl. 161—86 1 Claim



Iron-on trims and findings are produced by extruding at least two filaments of a hot-melt thermoplastic resin adhesive onto a textile fabric, and flattening and cooling the filaments to form bands adhered to the surface of the fabric. The adhesive is characterized in that it has a relatively low softening temperature of from about 200° F. to 280° F. and a plastic range of from about 220° F. to a point in excess of 500° F.

The relationship of thickness between the fabric and the adhesive bands is such that the adhesive shows through the fabric when heat and pressure are applied to the side of the fabric opposite the adhesive providing a visual indicator in the form of lines showing when a permanent bond has been achieved.

3,540,976
COMPOSITE INSULATING LAMINATE AND METHOD FOR MAKING THE SAME

Thomas A. Bombicino, Wayland, Mass., assignor to New England Mica Company, Waltham, Mass., a corporation of Massachusetts

Filed Dec. 18, 1967, Ser. No. 691,626
Int. Cl. B32b 5 Claims



A composite electrically insulating laminar material and a process for manufacturing it. A siliceous layer of a material such as reconstituted mica paper is bonded with a thermoplastic sheet on the one side and an impregnating resin on the other between two outer layers of polyester film. The process sequence first bonds the fragile siliceous material to one polyester film so that the resin may be impregnated without use of a transfer layer prior to the bonding of the glass cloth and second polyester film.

3,540,977

SELF-ADHERING FOAM COMPOSITION

Erich G. Schickedanz, Altenstadt, Germany, assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York

Filed Feb. 29, 1968, Ser. No. 709,421
Int. Cl. B32b 3/26, 7/02
U.S. Cl. 161—160 11 Claims

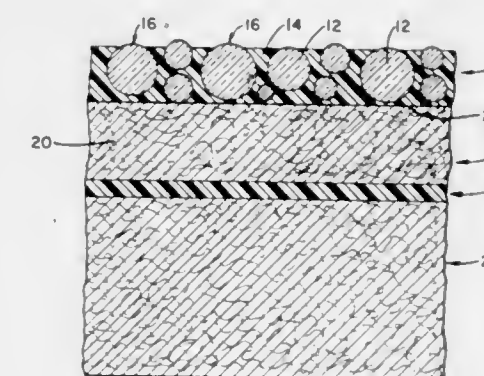
Foam structures with thin films thereon integral therewith or laminated thereto, the films having the property of adhering to smooth surfaces and being substantially non-adherent to rougher surfaces, the film being a resilient material having a mirror-like finish and having a Shore hardness in the range from about 10 to 60.

3,540,978

ABRASION RESISTANT LAMINATES AND COATING THEREFOR

Harold R. Ames, Munising, Mich., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Nov. 8, 1967, Ser. No. 681,342
Int. Cl. B32b 5/16, 19/00
U.S. Cl. 161—162 11 Claims



A sheet component and coating material for use in fabricating abrasion resistant decorative laminates in

which the wearing surface consists of a cured thermosetting acrylic coating having tiny glass spheres called microbeads dispersed therethrough.

3,540,979

LAMINATES OF SIMILARLY CONSTITUTED FILMS OF DIFFERENT CRYSTAL STRUCTURE

James K. Hughes, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed July 11, 1966, Ser. No. 563,984
Int. Cl. B32b 27/08; C09j 5/00

U.S. Cl. 161—252 9 Claims

A laminate comprises at least two films made from polymer differing in crystal structure, one of said films having predominantly hexagonal crystals and the other having predominantly monoclinic crystals. The different crystal structures can be produced by utilizing certain selected nucleating agents which result in the formation of monoclinic crystals on rapid quenching and the formation of the hexagonal crystals on slower quenching.

3,540,980

PROCESS OF ROSIN SIZING PAPER

Harold L. Jones, Mobile, Ala., assignor to International Paper Company, New York, N.Y., a corporation of New York

No Drawing. Continuation of application Ser. No. 716,001, Mar. 26, 1968, which is a continuation-in-part of application Ser. No. 549,819, May 13, 1966. This application Oct. 30, 1968, Ser. No. 772,474

Int. Cl. D21d 3/00; D21h 3/34

U.S. Cl. 162—180 6 Claims

A process of sizing paper in which a water-soluble aluminate is added to aqueous wood pulp until its pH is at least 9, a material yielding hydrogen ions and non-aluminum-containing polyvalent anions is added to bring the pH down to not less than about 4.5, and rosin size is applied to the surface of paper made from the pulp.

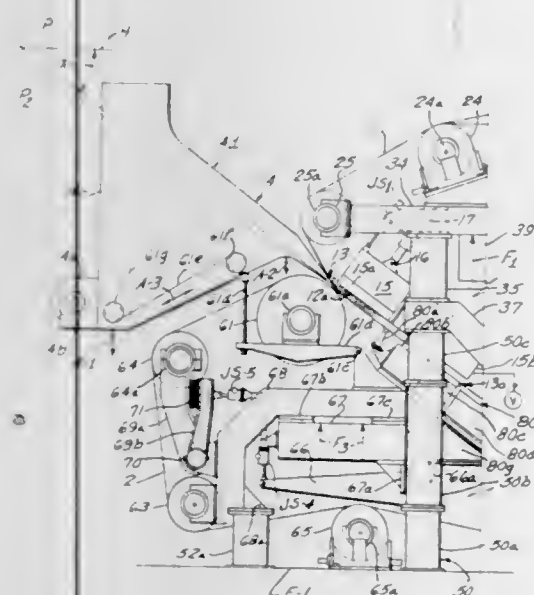
3,540,981

WEB FORMATION BETWEEN A PAIR OF FORAMINOUS BELTS

John S. Finnilla, 421 Oakland, South Beloit, Ill., and Edgar J. Justus, 2471 E. Ridge Road, Beloit, Wis.
Continuation of application Ser. No. 498,422, Oct. 20, 1965. This application Feb. 20, 1969, Ser. No. 805,957

Int. Cl. D21f 1/00

U.S. Cl. 162—301 4 Claims



A paper forming machine and process having upper and lower converging wires supported by cantilever

means defining a forming zone in a uniplanar relationship in a downwardly inclined direction for maintaining uniform pressure throughout the forming zone.

3,540,982

LABORATORY APPARATUS FOR EXPERIMENTAL WORK IN PULPING, BLEACHING AND CHEMICAL TREATMENTS OF CELLULOSICS

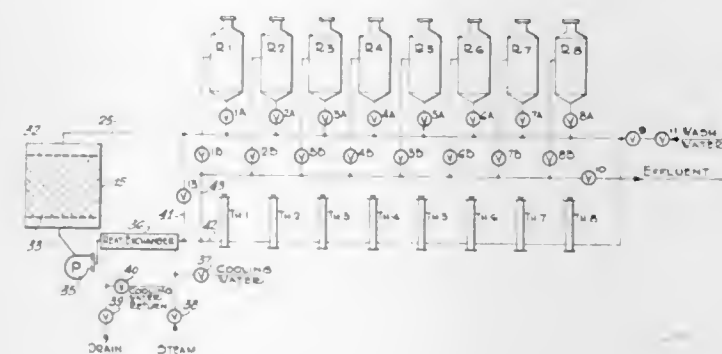
Ola Sepall, 220 Grande Allee East, Apt. 10, Quebec, Quebec, Canada

Filed Jan. 27, 1969, Ser. No. 793,941

Int. Cl. D21

U.S. Cl. 162—253

6 Claims



The invention relates to a laboratory device suitable for conducting heterogeneous reactions on filterable solids and is particularly useful in situations where a sequence of reactions is desired with various reagents under different conditions of temperature and time. A particular field of usefulness is in experimental work in studies related to fields such as pulping, bleaching and chemical treatments of cellulose and other textiles.

3,540,983

METHOD FOR PRODUCING PROTEIN BY GROWTH OF MICROORGANISMS ON A WATER EXTRACT OF COAL

Michael James Rose, Greenbelt, Jerry Michael Carosella, Laurel, and John Douglas Corrick and Joseph Augustine Sutton, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Apr. 11, 1968, Ser. No. 720,494

Int. Cl. C12d 13/06

U.S. Cl. 195—28 8 Claims

Coal is extracted with water, and the extract is employed as nutrient for microorganisms.

3,540,984

REAGENT MATERIAL AND METHOD FOR CREATIVE KINASE ASSAY

Alfred Deutsch, Los Angeles, Calif., assignor to Calbiochem, Los Angeles, Calif., a corporation of California

No Drawing. Application June 30, 1966, Ser. No. 561,757, now Patent No. 3,413,198, dated Nov. 26, 1968, which is a continuation-in-part of application Ser. No. 320,004, Oct. 30, 1963. Divided and this application June 14, 1968, Ser. No. 736,976

Int. Cl. G01n 31/14

U.S. Cl. 195—103.5 14 Claims

Substantially anhydrous, solid assay materials for the determination, inter alia, of Regent for Assaying Creatine Phosphokinase . . . are rendered storage stable by the presence of certain polyhydric compounds preferably mannitol, sorbitol, lactose or polyvinyl alcohol.

3,540,985

MICROBIOLOGICAL INHIBITION TESTING DEVICE

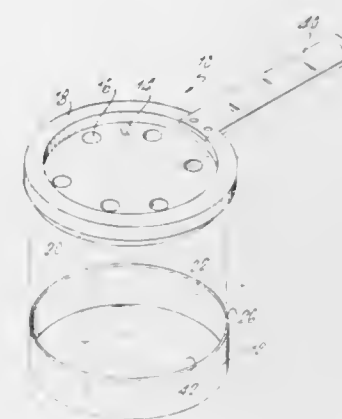
Leo Gross, 36—11 217th St., Bayside, N.Y. 11361

Continuation-in-part of application Ser. No. 503,812, Oct. 23, 1965. This application Nov. 22, 1968, Ser. No. 786,530

Int. Cl. C12k 1/10

U.S. Cl. 195—127

3 Claims



A device for positioning microbiological test cylinders in combination with a Petri dish for use in the assay of the potency of antibiotics and the like, including means for positioning a plurality of test cylinders in a secure manner in a Petri dish in predetermined relative position without the use of a slide.

3,540,986

DISTILLATION CONDENSATION APPARATUS WITH VAPOR COMPRESSION AND SEMI-PERMEABLE MEMBRANE

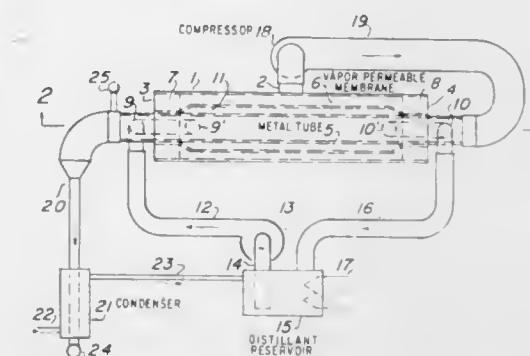
Louis Joseph Guarino, Box 164, Washingtonville, N.Y. 10992

Continuation-in-part of application Ser. No. 639,937, May 15, 1967. This application Nov. 27, 1968, Ser. No. 780,936

Int. Cl. B01d 3/10; C02b 1/06

U.S. Cl. 202—187

3 Claims



An apparatus for distilling fluids which includes a housing, a conduit formed of a semipermeable membrane disposed in spaced relation around an impermeable conduit, with the conduits being mounted within the housing. Means are provided for the passage of distilland through space between the permeable and impermeable conduits and means for compressing and passing distilland vapors through the impermeable conduit to increase the heat of the distilland by conduction in the space between the permeable and impermeable conduits.

3,540,987

PURIFICATION OF PHTHALIC ANHYDRIDE BY BATCH DISTILLATION, ACCUMULATION AND CONTINUOUS DISTILLATION

Otto Garkisch, Frankfurt am Main, and Wolf Mehner, Königstein, Taunus, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

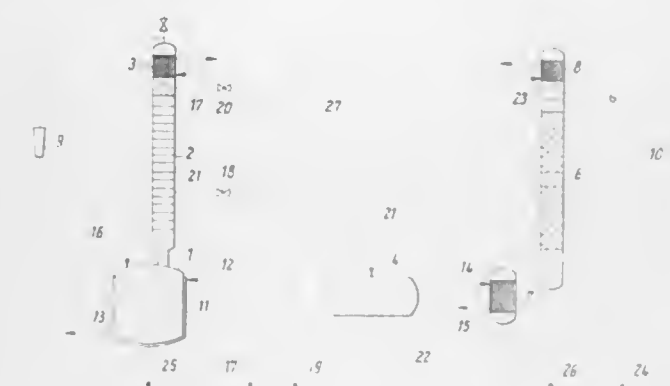
Filed May 22, 1968, Ser. No. 731,210

Claims priority, application Germany, July 7, 1967, M 74,673

Int. Cl. B01d 3/10; C07c 63/18

U.S. Cl. 203—77

3 Claims



Naphthalene or o-xylene is batch distilled in a first stage to obtain prepurified phthalic anhydride which is then continuously distilled in a second stage to obtain purified phthalic anhydride.

3,540,988

COATING METHOD

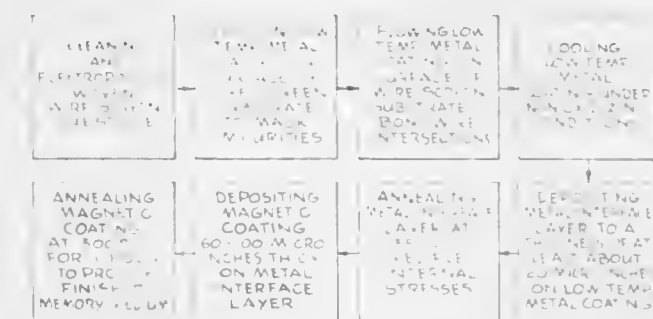
Paul E. Wells, Los Angeles, John S. Davis, Glendale, Ronald E. Lee, Simi, and David R. Boles, Van Nuys, Calif., assignors to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Original application Mar. 11, 1963, Ser. No. 264,127, now Patent No. 3,292,164, dated Dec. 13, 1966. Divided and this application July 22, 1966, Ser. No. 586,340

Int. Cl. C23b 5/32, 5/48, 5/50

U.S. Cl. 204—24

7 Claims



A method of depositing a remanently magnetic material over a wire-like substrate to form a magnetic memory element. In an exemplary embodiment of the method, an initial masking layer is provided on the substrate to mask impurities. An interface layer of metal selected from the group consisting of iron, cobalt, nickel and mixtures thereof is then electroplated to a thickness of at least about 50 microinches. Thereafter, a layer of magnetic material selected from the group consisting of iron, cobalt, nickel and mixtures thereof is electroplated on the interface layer to a thickness of about 60 to 100 microinches at a pH of about 2.6—3.0 with a current density not in excess of about one ma./cm.², and for a time sufficient to provide a square hysteresis loop characteristic. The resulting magnetic properties of the memory element are significantly improved by providing the initial wire-like substrate with longitudinally extending grooves and by also providing the wire-like substrate with a sufficiently small radius of curvature so that crystals of the final magnetic layer become magnetically oriented.

3,540,989 PROCESS FOR REDUCING SECONDARY ELECTRON EMISSION

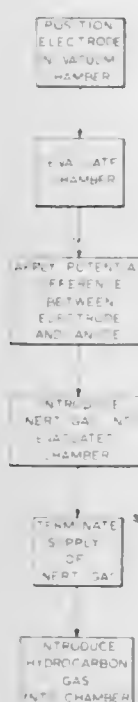
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Hubert Erpenbach, Pasadena, Calif.

Filed June 8, 1967, Ser. No. 645,573

Int. Cl. H01j 43/02

U.S. Cl. 204-168

1 Claim



A method of depositing a hard coat of carbon on the surface of a metallic element, consisting of placing the element in a chamber, evacuating the chamber and applying a potential between the element and an anode, the element being at the lower potential. Then an inert ionizable gas is injected into the chamber at a controlled rate and pressure. It produces surface glowing which cleans the metallic surface. Thereafter, the supply of the inert gas is terminated, and while the potential is applied, a carbon-containing gas is injected into the chamber. The gas ionizes, with carbon ions being attracted by the element to form a hard carbon film thereon.

3,540,990 ELECTROCOATING PROCESS

Yoichiro Onishi and Takashi Suetake, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan

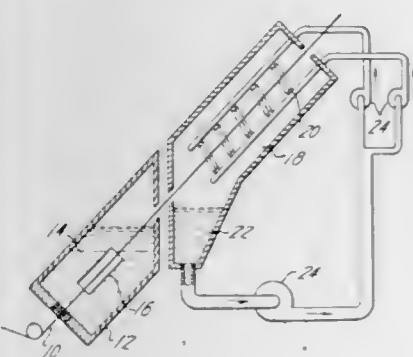
Filed Feb. 28, 1967, Ser. No. 619,262

Claims priority, application Japan, Mar. 7, 1966, 41/13,955

Int. Cl. B01k 5/02; C23b 13/00

U.S. Cl. 204-181

9 Claims



Cataphoresis is utilized to precipitate an insulating coating on a conductive member in a bath of insulating varnish dispersed into water. The varnish may be composed of polystyrene resin or emulsified acrylonitrile resin. The precipitated coating is applied with a coagulant

composed of an organic solvent soluble or partially soluble in water, for example, phenol or *n,n'*-dimethyl formamide. The coagulant is preferably maintained at at least room temperature. The coating applied with the coagulant is preliminarily hardened in the order of 70° C. and finally hardened in the order of 180° C. Alternatively, it may be fully hardened through a single operation. Also apparatus for carrying out the above steps are illustrated and described.

ERRATUM

For Class 204-224 see:
Patent No. 3,541,083

3,540,991 ELECTROLYTIC CELL ARRANGEMENT

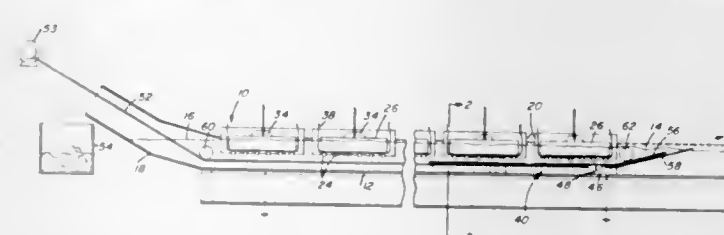
Gerald R. Green, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 11, 1967, Ser. No. 689,533

Int. Cl. B01k 3/00; C22d 1/02

U.S. Cl. 204-275

2 Claims



An electrolytic cell which is provided with a relatively simple, effective mechanical scraper for removing the deposited metal from the cathode and for lifting the metal out of the electrolytic bath. The metal is removed by a simple blade which is drawn along the cathode. The blade pushes the metal up a portion of the bottom, which slopes upward and extends above the electrolytic solution surface, and into a receptacle exterior of the cell.

3,540,992 COMBINED MASKING AND ELECTRO- PLATING TIPS

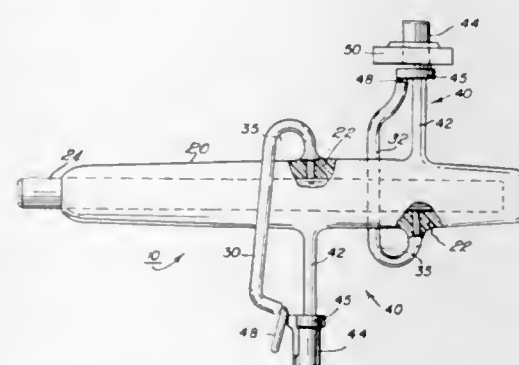
Ralph E. Belke, Oak Park, Ill.
(947 N. Cicero Ave., Chicago, Ill. 60651)

Filed Feb. 16, 1967, Ser. No. 616,523

Int. Cl. C23b 5/70

U.S. Cl. 204-297

9 Claims



An electroplating assembly for carrying a plurality of electroplating tips mounted on a supporting body having an elongated electrical conductor member covered with insulating material except for an exposed end, which is secured to a bus bar of an electroplating rack. Each electroplating tip consists of a support member and a spring member. The support member of electrical insulating material extending transversely from the supporting body having an outer end portion with an article supporting surface formed to loosely hold an article to be plated. The spring member of electrical conducting material extending transversely from the supporting body with its

fixed end connected to the electrical conductor member and covered with insulating material except for an exposed portion along its free end, which under spring tension cooperates with the article supporting surface to lockingly engage an article to be plated.

3,540,993 SPUTTERING APPARATUS

Joseph Gerard Wurm, Varese, Pierre Beucherie, Blandrono, Varese, and Michel Block, Cocquio, Varese, Italy, assignors to European Atomic Energy Community (Euratom), Brussels, Belgium

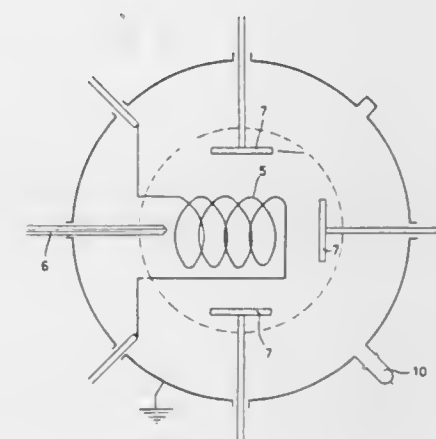
Filed Sept. 16, 1966, Ser. No. 579,917

Claims priority, application Belgium, Dec. 17, 1965, 21,744

Int. Cl. C23c 15/00

U.S. Cl. 204-298

10 Claims



A method and apparatus for depositing a thin layer of at least partially conducting material on a body and comprising maintaining the body in a low pressure gaseous atmosphere, feeding gas into the atmosphere while maintaining the low pressure and applying a high-frequency voltage to a coil or electrode pair located within the atmosphere and adjacent both the body and feeding means to produce a high-frequency electromagnetic field for ionization of the gas.

3,540,994 APPARATUS FOR TREATING EMULSIONS

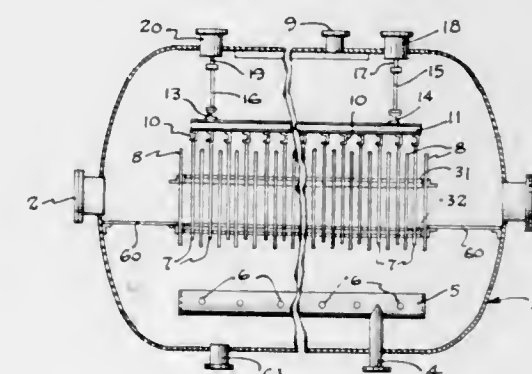
Harris G. Napier, Lindale, Tex., assignor to Howe-Baker Engineers, Inc., Tyler, Tex., a corporation of Texas

Filed Jan. 19, 1968, Ser. No. 699,189

Int. Cl. B01d 13/02; C10g 33/02

U.S. Cl. 204-302

13 Claims



This invention relates to an apparatus and method for the electrical treatment of emulsions of the oil-continuous type, and more specifically to a new apparatus by which the amount of residual dispersed-phase in the treated oil is reduced to a much lower value in smaller equipment than is possible with older known commercial processes.

3,540,995 H-COAL PROCESS: SLURRY OIL SYSTEM

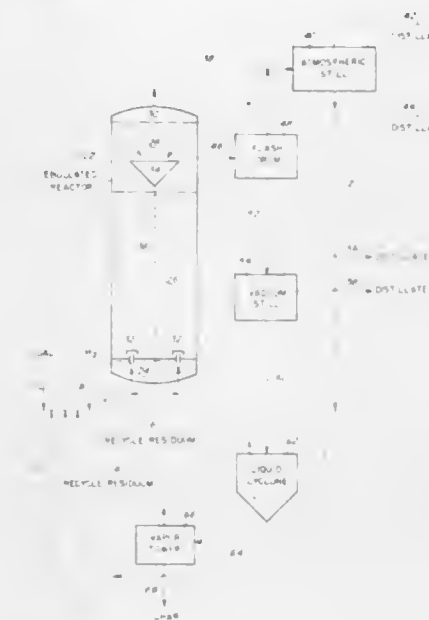
Ronald H. Wolk, Lawrence Township, and Edwin S. Johanson, Princeton, N.J., assignors to the United States of America as represented by the Secretary of the Interior, and Hydrocarbon Research, Inc., New York, N.Y.

Filed Nov. 14, 1968, Ser. No. 775,618

Int. Cl. C10g 1/06

U.S. Cl. 208-10

4 Claims



An improved manner of operating a coal hydrogenation in an ebullated bed reactor wherein the composition of the liquid slurry within the reactor is controlled so as to contain a liquid residuum content of from about 30 to 45 weight percent and an unconverted processed solids content of from 10 to 25 weight percent. This control can be effected by recycle of liquid residuum having a portion of its solids removed.

3,540,996 SPLIT FEED NAPHTHA REFORMING

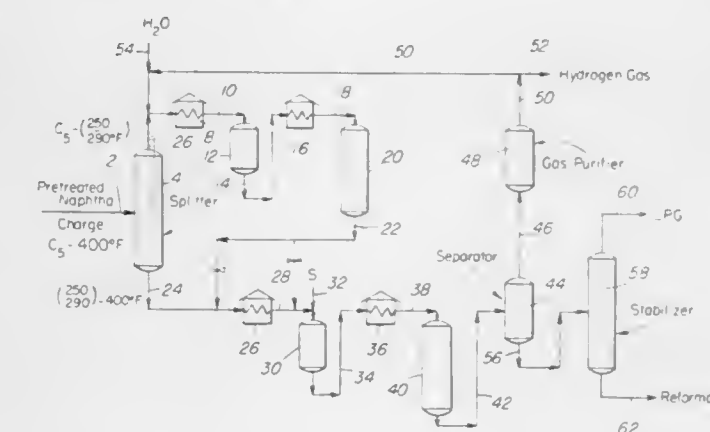
John Maziuk, Woodbury, and Donald A. Zanolini, Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York

Filed Aug. 1, 1968, Ser. No. 749,422

Int. Cl. C10g 35/08, 39/00

U.S. Cl. 208-65

7 Claims



A method for improving the octane rating of a pre-treated full boiling range naphtha is defined to include reforming the light naphtha portion thereof in an initial reforming processing region and the heavy naphtha portion thereof in a final reforming processing region. The effluent from the initial reforming region is passed with the heavy naphtha through the final reforming region and the total effluent is pressure flash separated to permit recovery of a hydrogen rich recycle gas from a liquid reformate fraction which is stabilized to remove residual

hydrogen and light hydrocarbons therefrom. The described process provides a lower catalyst deactivation rate, increased aromatics production and an improved front end octane rating.

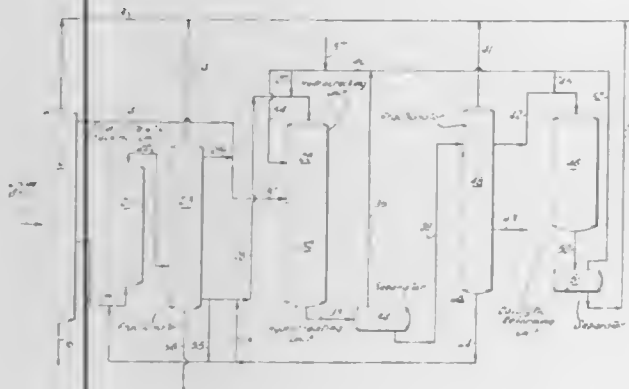
3,540,997

PRODUCTION OF MOTOR AND JET FUELS
Frederick K. Hahn and William R. Coons, Jr., Port Arthur, and Odes B. Robertson, Groves, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 27, 1968, Ser. No. 763,236
Int. Cl. C10g 37/00

U.S. Cl. 208—69

13 Claims



Jet and motor fuels are produced by a process involving hydrocracking and hydrogenation. In a specific embodiment, a crude oil is fractionated to produce naphtha, kerosene and gas oil fractions, the gas oil fraction is catalytically cracked to produce additional naphtha and kerosene fractions and an unconverted gas oil fraction, the unconverted gas oil fraction is hydrocracked and then combined with the various naphtha and kerosene fractions, the resulting mixture is hydrotreated, the product is separated into naphtha and jet fuel, the naphtha is catalytically reformed to produce a high octane motor fuel and the reformer by-product hydrogen is recycled to the hydrocracking zone.

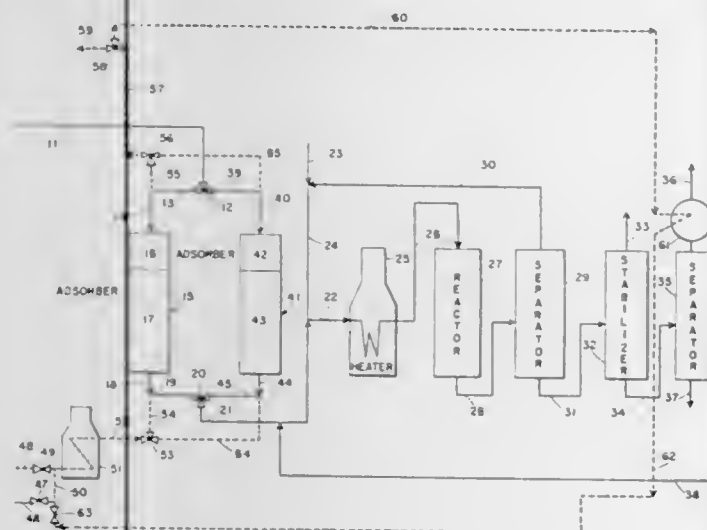
3,540,998

PLURAL ADSORPTIVE TREATMENT
Paul G. Berck, Beaumont, Tex., and Alfred M. Henke, Springdale, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 27, 1967, Ser. No. 693,880
Int. Cl. C07c 5/24; C10g 25/04

U.S. Cl. 208—91

10 Claims



A combination of solid adsorbents is provided for extended protection of isomerization catalysts from flame-front type deactivation.

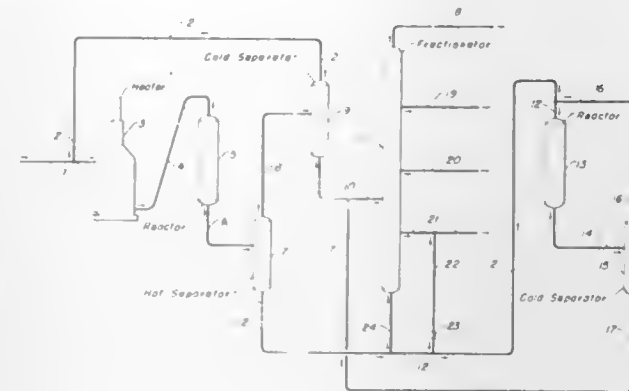
3,540,999 JET FUEL KEROSENE AND GASOLINE PRODUCTION FROM GAS OILS

William L. Jacobs, Crystal Lake, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Jan. 15, 1969, Ser. No. 791,229
Int. Cl. C10g 23/00

U.S. Cl. 208—59

7 Claims



A process for converting heavier hydrocarbonaceous material into jet fuel kerosene, and gasoline fractions. The simultaneous production of both jet fuel and gasoline fractions, in maximum quantities, is afforded through the utilization of a modified "series-flow" system. A two-stage process in which the jet fuel kerosene fraction is produced in the first stage, with the gasoline fraction being produced in the second stage.

3,541,000

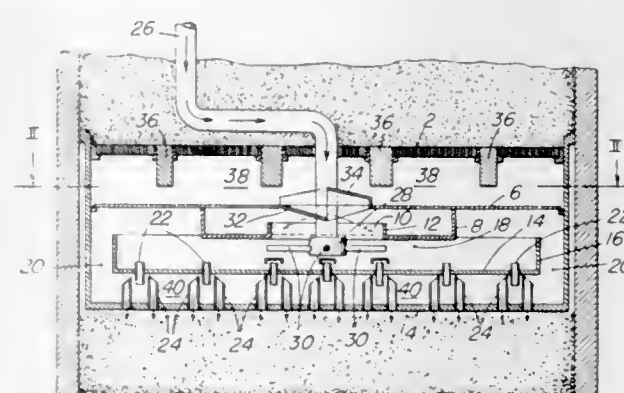
METHOD AND MEANS FOR TREATING MIXED PHASE VAPOR AND LIQUID REACTANTS UNDER EXOTHERMIC REACTION CONDITIONS AND TEMPERATURE CONTROL

Francis V. Hanson and Paul W. Snyder, Jr., Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York

Filed Aug. 27, 1968, Ser. No. 755,638
Int. Cl. C10g 13/02

U.S. Cl. 208—108

6 Claims



A quench zone system or apparatus utilizable in a multiple catalyst bed exothermic reaction system is described which will provide for controlling more uniformly lateral and longitudinal temperature gradients within well defined limits by more effectively adjusting the temperature of each of collected vapor and liquid phases in suitable transverse mixing zones before recontact with catalytic materials. Quenching of gasform material is accomplished with hydrogen rich quench gas in a highly turbulent transverse mixing zone before redistribution over the surface of the catalyst bed to be contacted and quenching of the liquid phase after adjustment to a uniform temperature is particularly effected on the surface and upper portion of the catalyst bed by the quenched gasform material above identified.

3,541,001 HYDROCARBON CONVERSION PROCESS WITH Gd CATALYST

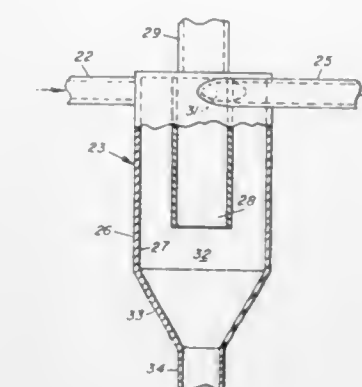
Alfred E. Hirschler, Springfield, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Mar. 26, 1968, Ser. No. 715,994
Int. Cl. C10g 35/06; C07g 5/24

U.S. Cl. 208—135

9 Claims

A process for converting hydrocarbons comprises contacting a hydrocarbonaceous feed in a conversion zone at an elevated temperature with a Gb aluminosilicate zeolite catalyst and recovering an upgraded hydrocarbon conversion product. The process can involve double-bond isomerization, hydroisomerization, cracking, hydrocracking, cyclization, reforming and dealkylation.



a vortex reactor with the reacting liquid phase being tangentially injected into the periphery of the vortex reactor

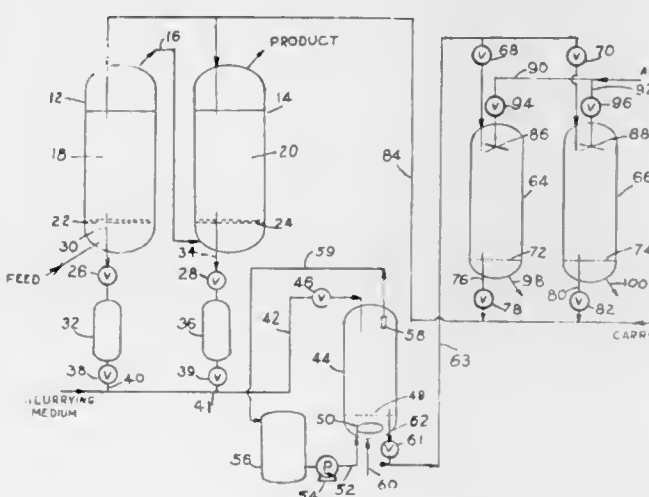
3,541,002 PARTICULATE CATALYST REGENERATION METHOD

Lester M. Rapp, Hightstown, N.J., assignor to Cities Service Research and Development Company, New York, N.Y., a corporation of Delaware

Filed Dec. 29, 1967, Ser. No. 694,561
Int. Cl. B01j 11/02

U.S. Cl. 208—143

6 Claims



This invention is for a method of semi-continuously withdrawing, regenerating, and replacing particulate catalyst in a continuously operating high pressure hydrogenation treatment process, particularly a process utilizing an expanded or ebullated catalyst bed. The invention comprises intermittently withdrawing spent particulate catalyst from the ebullated bed, washing and stripping the withdrawn catalyst, accumulating the stripped catalyst particles in a first regeneration zone, and regenerating the accumulated catalyst in the first regeneration zone while simultaneously accumulating stripped catalyst particles in a second regeneration zone. Regenerated particulate catalyst is semi-continuously fed to the hydrogenation zone from the first regeneration zone as required to maintain the level of the operating catalyst bed, while accumulated catalyst in the second regeneration zone is regenerated and the process repeated.

under pressure and the reacted liquid phases being continuously withdrawn from different portions of the reactor.

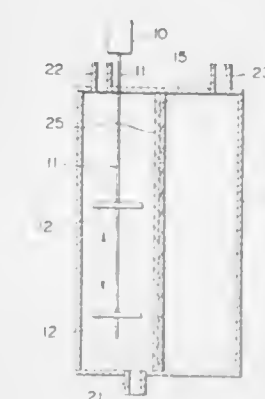
3,541,004

CLEANING AN ULTRAFILTER WITH AN ELONGATED, RECIPROCATING, AGITATOR
William W. Cooper IV, Sudbury, and Russell W. Pierce, Hanover, Mass., assignors to Abcor, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed June 10, 1968, Ser. No. 735,757
Int. Cl. B01d 13/00

U.S. Cl. 210—19

10 Claims



Residue concentrated on or near the surface of a fluid permeable surface, such as a filter or membrane, is removed by employing a mixer oscillating in a plane parallel to the plane of the surface to pump the fluid parallel to the surface thus providing a shearing action to the surface.

3,541,005 CONTINUOUS ULTRAFILTRATION OF MACROMOLECULAR SOLUTIONS

Heinrich Strathmann, Aachen, Germany, and Richard W. Baker, Brooklyn, N.Y., assignors to Amicon Corporation, Lexington, Mass., a corporation of Massachusetts

No Drawing. Filed Feb. 5, 1969, Ser. No. 796,928
Int. Cl. B01d 13/00

U.S. Cl. 210—19

7 Claims

A process for effecting the separation of macromolecular, gel-forming substances from solutions thereof comprising forcing said solutions across the face of a membrane separation device under conditions of relatively high velocity, yet laminar flow, thereby achieving an improved rate of liquid throughput with a surprisingly effective separation efficiency.

3,541,003 TWO-PHASE VORTEX REACTION- SEPARATION SYSTEM

Norman L. Carr, Allison Park, and Harry A. Hamilton, Natrona Heights, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Mar. 6, 1968, Ser. No. 710,979
Int. Cl. C10g 19/00; 31/14

U.S. Cl. 208—230

16 Claims

Continuous and instantaneous liquid-liquid phase reaction and separation of reaction products are achieved in

3,541,006

ULTRAFILTRATION PROCESS

Harris J. Bixler, Lexington, and Gerald C. Rappe, Newton, Mass., assignors to Amicon Corporation, Lexington, Mass., a corporation of Massachusetts
No Drawing. Filed July 3, 1968, Ser. No. 742,153
Int. Cl. B01d 13/00, 31/00

U.S. Cl. 210—23 6 Claims
A process (and apparatus for carrying out said process) for improving the throughput rate of membrane ultrafilters comprising the introduction of solid particulate materials into the liquid on the upstream side of the membrane. It has been discovered that such particulate matter, which is advantageously of an inert polymeric material, or glass, augment the diffusion of retained solute from a membrane surface and thereby increase flux through the membrane.

3,541,007

USE OF RETICULATED FOAMS FOR PURIFICATION AND SEPARATION OPERATIONS

John J. van Venrooy, Wyncroft, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed June 18, 1969, Ser. No. 834,516
Int. Cl. B01d 15/08

U.S. Cl. 210—31 4 Claims
A method of adsorption chromatography wherein the packing material used in the process is an open celled high molecular weight foam polymeric material, such as reticulated polyurethane foam. The separation is based on the ability of the packing material to selectively absorb more-polar compounds from less-polar compounds.

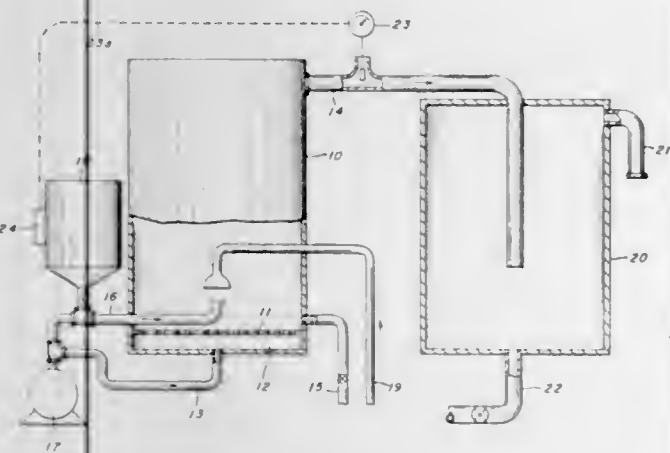
3,541,008

METHOD AND APPARATUS FOR NEUTRALIZING ACID WASTE WATER

Anthony A. Spinola, Penn Hills Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Aug. 7, 1968, Ser. No. 767,875
Int. Cl. C02c 5/04

U.S. Cl. 210—49 3 Claims



A reaction chamber for holding water to be treated has a porous plate spaced above the bottom thereof, defining an air plenum. A water-inlet pipe discharges downwardly into the chamber at a level above the plate. A neutralizer-inlet pipe discharges upwardly into the chamber below said level but above said plate. Air under pressure is supplied to the plenum and neutralizer-inlet pipe. Solids removed from the effluent gases leaving a cement kiln are introduced into the air flowing through said neutralizer-inlet pipe for entrainment therewith.

3,541,009

POLYMER-POLYSACCHARIDE-CAUSTIC ALKALI COMPOSITIONS AND PROCESS OF SEPARATING SOLIDS FROM AQUEOUS SUSPENSIONS THEREWITH

Phillip S. Arendt, Chicago, and Elmer W. Palmer, Lisle, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Dec. 18, 1968, Ser. No. 784,880
Int. Cl. B01d 21/01

U.S. Cl. 210—52 7 Claims
Compositions consisting essentially of a high molecular weight water soluble polymer of at least one olefinically unsaturated monomer, a high molecular weight polysaccharide and a caustic alkali are prepared which are especially useful in the coagulation, flocculation, sedimentation and/or filtration of aqueous suspensions of solids.

ERRATUM

For Class 210—65 see:
Patent Nos. 3,540,586 and 3,540,587

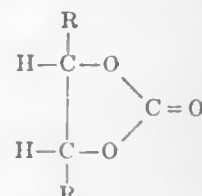
3,541,010

ETHOXYLATED ALKYLPHENOL AND ALKYL CARBONATE FIRE EXTINGUISHING COMPOSITION

John Charles Dingman and Darle Lee Nienecker, Austin, Tex., assignors to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Aug. 19, 1968, Ser. No. 753,753
Int. Cl. A62d 1/00; B01f 17/32

U.S. Cl. 252—3 3 Claims
An improved fire-fighting composition of an ethoxylated alkylphenol and an alkyl carbonate of the formula:



where R is hydrogen or a methyl group has been discovered. This improved fire-extinguishing composition is useful as a wetting agent, emulsifying agent, low-expansion or high-expansion foam and performs exceptionally well in the presence of both fresh and salt water.

3,541,011

LUBRICATING COMPOSITION

William J. Davis, Wyomissing, Richard C. Gilles, Sinking Spring, and Lawrence A. Miller, Reading, Pa., assignors to Joseph E. Ferri, Shillington, Pa.

No Drawing. Continuation-in-part of application Ser. No. 486,214, Sept. 9, 1965, which is a continuation-in-part of application Ser. No. 363,294, Apr. 28, 1964. This application Oct. 28, 1968, Ser. No. 771,348

Int. Cl. C10m 7/14

U.S. Cl. 252—12 21 Claims
Lubricating composition containing a hydrocarbon oil, polyethylene having an average molecular weight within the range of from about one and one half million to about five million, and polyethylene having a molecular weight of up to and including one million.

3,541,012

LUBRICANTS AND FUELS CONTAINING IMPROVED ACYLATED NITROGEN ADDITIVES

Carl W. Stuebe, Euclid, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 15, 1968, Ser. No. 721,207

Int. Cl. C10m 1/32

U.S. Cl. 252—51.5 38 Claims
An improved process for preparing oil-soluble acylated nitrogen compositions suitable as additives in lubricants

and fuels comprising preparing the oil-soluble acylated nitrogen composition according to usual procedures contacting the resulting acylated nitrogen composition with a substantially insoluble, acidic, solid material, and thereafter removing solid materials from the acylated nitrogen composition. A preferred substantially insoluble, acidic, solid material is an acidified clay.

unique combination of properties, such as viscosity index improver, thickener, good shear stability, good 0° F. properties, and as ashless dispersant for gums, resins and other oxidation products, present or formed, in the lubricating oil during the operation of combustion engines of various types.

3,541,013

LITHIUM BROMIDE-LITHIUM THIOCYANATE-WATER COMPOSITION FOR AN ABSORBENT-REFRIGERATION SYSTEM

Robert A. Macriss, Deerfield, and William F. Rush, Arlington Heights, Ill., assignors, by mesne assignments, to American Gas Association, Inc., New York, N.Y., a membership corporation of New York

Filed Jan. 24, 1968, Ser. No. 700,111

Int. Cl. C09k 3/02; F25b 17/10

U.S. Cl. 252—69 4 Claims
The specification discloses a refrigerant-absorbent solution for use in an air-cooled absorption-refrigeration system that has a lower viscosity than prior art solutions, and does not undergo crystallization at temperatures prevalent in an air-cooled system. The working fluid comprises water in combination with lithium bromide-thium thiocyanate mixtures as the absorbent. The absorbent is of high solubility and the resultant working fluid has low heat capacity, low viscosity, is non-corrosive, non-toxic, thermally stable, and is a solution having a small heat of dilution.

3,541,014

MOLYBDENUM-CONTAINING LUBRICANT COMPOSITIONS

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed July 12, 1967, Ser. No. 652,671

The portion of the term of the patent subsequent to Feb. 17, 1987, has been disclaimed

Int. Cl. C10m 1/10, 1/32

U.S. Cl. 252—49.7 15 Claims
The disclosure sets forth lubricant compositions having improved extreme pressure capabilities and anti-wear properties which are characterized by the presence therein of oil-soluble molybdenum-containing organic complexes. These complexes are produced by contacting molybdenum-containing anions with oil-soluble overbased, Group II metal containing compositions until a portion of the anions react with Group II metal. Lubricating oils, cutting oils, greases, and the like are illustrative of the lubricant compositions disclosed.

3,541,015

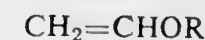
LUBRICATING OIL CONTAINING METHYL VINYL ETHER COPOLYMERS

Herman S. Schultz, Easton, William Katzenstein, Broomall, and Earl P. Williams, Pen Argyl, Pa., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 515,201, Dec. 20, 1965. This application Dec. 20, 1967, Ser. No. 691,935

Int. Cl. C10m 1/20

U.S. Cl. 252—52 6 Claims
Methyl vinyl ether is copolymerized with a comonomeric compound of the formula:



wherein R is phenyl or alkyl of from 3 to 30 carbon atoms, to give a copolymer containing from 20 to 85 weight percent of said comonomeric compound and having an inherent viscosity (0.1% solution in toluene) at 25° C. in the range of 0.6 to 2.0. The resulting copolymer is soluble in hydrocarbon lubricating oils and exhibits a

3,541,016

PROCESS FOR THE PRODUCTION OF FERRITE MIXTURES OF IMPROVED QUALITY

Balázs Pataky, Dezső Horváth, and György Szakács, Budapest, and Tibor Horváth, Veszprem, Hungary, assignors to Licencia Talalmanyokat Ertekesito Vallalat, Budapest, Hungary

No Drawing. Filed Dec. 19, 1967, Ser. No. 691,700
Claims priority, application Hungary, Dec. 29, 1966, Va 1,210

Int. Cl. C04b 35/30, 35/38

U.S. Cl. 252—62.56 3 Claims
Ferrite mixtures from metal powders of iron and at least one of manganese and nickel are produced by subjecting the metal powders to an oxygen stream at temperatures above their melting point until the liquid ferrite phase develops and solidifies and by then grinding the solidified ferrite and thereafter adding at least one relatively volatile metal oxide such as zinc oxide, molding the mixture, and then sintering the molded mixture. This invention relates to a process for the production of ferrite mixtures of improved quality.

3,541,017

DENTURE CLEANSER PREPARATIONS COMPRISING ZIRCONIUM SILICATE AND ZIRCONIUM DIOXIDE

Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Bloomington, Ind., a not-for-profit corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 703,874, Feb. 8, 1968, which is a continuation-in-part of applications Ser. No. 673,283, Oct. 6, 1967, and Ser. No. 558,270, June 17, 1966. This application Feb. 4, 1969, Ser. No. 796,582

Int. Cl. C11d 3/12, 7/10

U.S. Cl. 252—140 12 Claims
New and more effective cleaning and polishing preparations may be obtained by employing a mixture of zirconium silicate (ZrSiO₄) and zirconium dioxide (ZrO₂) as a cleaning and polishing constituent thereof, as hereinafter described in detail. Such preparations are especially useful in denture cleanser compositions and in other agents useful in cleaning and polishing acrylic resin materials and the like.

3,541,018

INFRARED-EXCITABLE YTTERBIUM SENSITIZED ERBIUM OR THULIUM ACTIVATED RARE EARTH FLOURIDE LUMINESCENT MATERIAL

Ralph A. Hewes, Cleveland Heights, and James F. Sarver, Lyndhurst, Ohio, assignors to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 716,898, Mar. 28, 1968. This application Sept. 18, 1968, Ser. No. 767,038

Int. Cl. C09k 1/06

U.S. Cl. 252—301.4 17 Claims
Fluorides of lanthanum, gadolinium, yttrium and lutetium, activated with erbium or thulium, and containing ytterbium as a sensitizer can be efficiently excited respectively to green and blue luminescence by infrared radiation, and then can be used in certain light-producing applications. Such materials can be made by reacting the respective oxides, preferably mixed, with anhydrous hydrogen fluoride to avoid contamination with oxygen or hydroxyl ions.

3,541,019

METHOD OF PREPARING A ZINC SILICATE PHOSPHOR

Rimantas Glenza and Gordon James Turner, Baltimore, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Mar. 15, 1968, Ser. No. 713,314
Int. Cl. C09k 1/54

U.S. Cl. 252—301.6

5 Claims

A process for preparing a manganese doped zinc orthosilicate phosphor by slurring a silica hydrogel with solutions of soluble salts of zinc and manganese to form an intimate mixture of the components. The salts are precipitated inside and outside the hydrogel structure and the slurry is fed into a high temperature fluid energy mill to effect dewatering and decomposition of the zinc and manganese salts. The milled product is then fired at temperatures about 1600° F. to prepare a phosphor having a green fluorescence.

3,541,020

CALCIUM HALOPHOSPHATE PHOSPHORS

Hideo Mizuno, Takatsuki-shi, Japan, assignor to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan
Filed Mar. 24, 1966, Ser. No. 537,144
Claims priority, application Japan, Mar. 30, 1965, 40/19,321

Int. Cl. C09k 1/36

U.S. Cl. 252—301.4

2 Claims

Calcium halophosphate phosphors are activated with antimony, manganese, and terbium. The terbium improves the green emission and the overall emission efficiency of the phosphors. These phosphors are useful in fluorescent discharge lamps.

3,541,021

CERIUM AND TERBIUM ACTIVATED ALKALINE EARTH HALOPHOSPHATE PHOSPHOR

Hideo Mizuno, Takatsuki-shi, Japan, assignor to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan
Filed Aug. 10, 1967, Ser. No. 659,751
Claims priority, application Japan, Aug. 17, 1966, 41/54,565

Int. Cl. C09k 1/36

U.S. Cl. 252—301.4

6 Claims

A high efficiency phosphor for discharge lamps composed of alkaline earth metal halophosphate, having an empirical formula such as, for calcium,



X representing fluorine or chlorine or both, activated with about 0.2-2 cerium atoms and about 0.3-6 terbium atoms per 100 atoms of alkaline earth metal. The phosphor is formed by firing the components at 1150°-1350° C. in a weak reduction atmosphere. The phosphor shows a bright green luminescence under ultra-violet ray excitation.

3,541,022

INFRARED EXCITABLE YTTERBIUM SENSITIZED ERBIUM ACTIVATED RARE EARTH OXSULFIDE LUMINESCENT MATERIAL

Ralph A. Hewes, Cleveland Heights, Ohio, assignor to General Electric Company, a corporation of New York
Filed Mar. 28, 1968, Ser. No. 716,921
Int. Cl. C09k 1/14

U.S. Cl. 252—301.4

8 Claims

Oxysulfides of lanthanum, gadolinium and yttrium, activated with erbium, and containing ytterbium as a sensitizer can be efficiently excited to green luminescence by infrared radiation, and they can be used in certain light-producing applications. Such materials can be made by reacting the respective oxides, preferably mixed, with an atmosphere of H₂S and N₂.

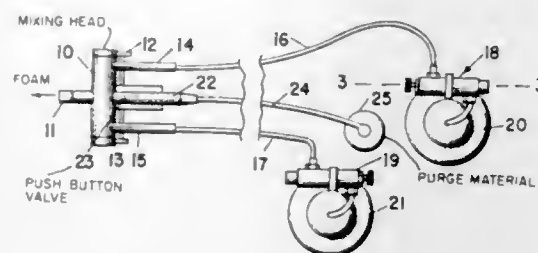
3,541,023

PORTABLE FOAMING SYSTEM

Austin Cole III, Santa Monica, Calif., assignor, by mesne assignments, to Olin Corporation, a corporation of Virginia
Continuation of application Ser. No. 264,419, Mar. 11, 1963. Division of application Ser. No. 450,242, Apr. 13, 1965. This application Feb. 23, 1968, Ser. No. 729,840
Int. Cl. B01j 2/04

U.S. Cl. 252—359

3 Claims



The apparatus for generating urethane foam which comprises:

- preparing a pre-polymer solution by incorporating toluene diisocyanate in an expanding agent in the form of a gas in liquid state,
- preparing a resin solution comprised of a glycol incorporated in an expanding agent in the form of a gas in liquid state,
- pressurizing pre-polymer (a) and resin solution (b),
- placing the pressurized pre-polymer (a) and resin solution (b) into a static mixing chamber at a constant flow and at a constant ratio whereby said expanding agent expands to form a gas which lathers the reaction product of pre-polymer (a) and resin (b) to form a urethane foam, and
- expressing the urethane foam from an outlet nozzle secured to the mixing head.

3,541,024

GENERAL PURPOSE HYDROCARBON SOLVENT FOR EMULSION-TYPE, RESIN-BONDED, PIGMENT PRINTING PASTES

Herman S. Weisz, Bernard Scheffler, and Wallace W. Neely, Rock Hill, S.C., and John B. Fisher, Charlotte, N.C., assignors to M. Lowenstein & Sons, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 10, 1968, Ser. No. 720,389
Int. Cl. B01f 1/00; C08h 17/22; C09b 67/00

U.S. Cl. 252—364

1 Claim

A solvent is provided for general use in formulating emulsion-type, resin-bonded, pigment printing pastes, which is equally effective in preparing the concentrated pigment and clear components and for cutting the clear in the course of formulation. This solvent is a composite hydrocarbon derived from petroleum and having a percentage composition by volume of 60% aromatics, 20% naphthenes and 20% paraffins and is further characterized by having a K-B number of 59 and a ASTM distillation range (° F.) of 324 to 385.

3,541,025

PROCESS FOR PRODUCING ACTIVATED CARBON IN AN ASCENDING TURNING CURRENT OF ACTIVATING GAS

Takashi Oda and Jiro Manaka, Ashiya, and Kozo Minamiyama, Minoo, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan
Filed Nov. 14, 1968, Ser. No. 775,689
Int. Cl. C01b 31/08

U.S. Cl. 252—421

8 Claims

A process for producing activated carbon. A cyclone-type reaction chamber in a shaft kiln having a funnel-

3,541,028

PHOTOCONDUCTIVE INSULATING MATERIALS

Katsuo Makino and Iwao Sawato, Odawara-shi, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan
No Drawing. Filed Sept. 29, 1966, Ser. No. 583,059
Claims priority, application Japan, Sept. 29, 1965, 40/59,165

Int. Cl. G03g 5/00

U.S. Cl. 252—501

7 Claims

Disclosed is a photoconductive insulating composition comprising an organic resin binder or low melting glass having dispersed therein particles of cadmium sulfide or mixtures of cadmium sulfide and cadmium carbonate having iodine absorbed thereon.

3,541,029

ELECTRICALLY CONDUCTIVE ZINC OXIDE

Robert S. Bowman, Pittsburgh, Pa., assignor to St. Joseph Lead Company, New York, N.Y., a corporation of New York
No Drawing. Filed June 29, 1967, Ser. No. 649,852
Int. Cl. H01b 1/06

U.S. Cl. 252—519

6 Claims

Normally nonconductive zinc oxide is converted into colored electrically conductive forms by heating the zinc oxide with an oxide of a transition metal of the group consisting of iron, cobalt, nickel and copper, or a precursor thereof convertible into such oxide under the conditions of treatment. The products have both colorant and anti-static properties.

3,541,030

METHOD OF MAKING INORGANIC ION EXCHANGE MEMBRANES

David B. Boies, Chicago, and Paul K. Ase, Evanston, Ill., assignors, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
No Drawing. Filed Dec. 8, 1966, Ser. No. 600,057
Int. Cl. C08j 1/34

U.S. Cl. 260—2.1

1 Claim

The invention is a new method for making inorganic ion exchange membranes. A polymeric membrane carrier material is dissolved in a solvent and mixed with a soluble salt of thorium or zirconium dissolved in the same solvent. The mixture is deposited on a surface and allowed to dry. The resultant film is immersed in a solution containing a suitable acid or base to both precipitate the thorium or zirconium salt and to leach out previous solvents. Treatment with an acid solution results in a cationic membrane whereas treatment with a basic solution results in an anionic membrane.

3,541,031

SILOXANE-OXYALKYLENE COPOLYMERS AND USE THEREOF

Robert J. Boudreau, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Application June 7, 1967, Ser. No. 644,047, now Patent No. 3,483,240, dated Dec. 23, 1969, which is a continuation-in-part of application Ser. No. 512,208, Dec. 7, 1965. Divided and this application Oct. 11, 1968, Ser. No. 798,235

Int. Cl. C08g 22/44, 47/04; C08j 1/14

U.S. Cl. 260—2.5

4 Claims

New siloxane-oxyalkylene copolymers contain monoalkyl or monoaryl ethers of polyalkylene glycols attached to silicon-bonded alkylene groups through carbamate linkages. These copolymers are prepared by reacting an

shaped fluid flow distributor in the lower part of the reaction chamber is continuously charged with a carbonaceous material laterally through the lower portion of the shaft kiln wall at a point above the flow distributor. Simultaneously activating gas is supplied to the reaction chamber through the fluid flow distributor at the lower part of the chamber and through at least one gas inlet in the cylindrical side wall of said chamber in a nearly tangential direction with respect to the side wall of the reaction chamber, thereby to activate said carbonaceous material. The activated carbon and the gas are discharged continuously from the top of said reactor, and at the same time the impurities contained in the carbonaceous material or formed during the activation of the material are removed from an exhaust port provided at the bottom of the reactor.

3,541,026

PEROXIDIC CATALYSTS FOR POLYMERIZATION OF ETHYLENICALLY UNSATURATED COMPOUNDS

Bodo Schaaf, Munich, and Heinz Winter, Pullach, near Munich, Germany, assignors to Elektrochemische Werke Munchen A.G., Holriegelskreuth, near Munich, Germany
No Drawing. Filed Aug. 1, 1967, Ser. No. 657,489
Claims priority, application Germany, Aug. 2, 1966, E 32,194

Int. Cl. C08f 29/04, 29/18, 29/40

U.S. Cl. 252—426

13 Claims

Acetyl cyclohexyl sulphonyl peroxide, unstable as such, is used as a non-explosive and not shock sensitive catalytic composition for the polymerization of ethylenically unsaturated compounds, in mixture with water and with lauroyl peroxide or a solid ethylenic polymerization product or a mixture thereof.

3,541,027

USING ADDED AMMONIA DURING DEAMMONIATION TO CRACKING CATALYST CONTAINING HYDROGEN FAUJASITE

Jules S. Lapides, Broomall, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Aug. 8, 1968, Ser. No. 751,021
Int. Cl. B01j 11/40

U.S. Cl. 252—455

4 Claims

Particles comprising ammonium faujasite in an aluminosilicate matrix are transformed into cracking catalysts by heating the particles in the presence of a gas comprising at least 5% but less than 95% added ammonia and at least 5% but less than 95% added steam. The added gases are introduced for their modifying effect and are to be distinguished from the relatively small amounts of gases evolved during deammoniation of the precursor. The hydrogen faujasite resulting from such heat treatment is of a type which has remarkable stability, that is, it is resistant to deactivation in hot steam. Thus, after accelerated aging in hot steam, the cracking catalyst is more stable, more selective and/or more active than comparable catalysts prepared in the absence of added ammonia during the deammoniation of the precursor. Ammonia recovery, enhanced attrition-resistance, and other advantages are also available through the use of added ammonia and steam in the final stages of manufacture of the cracking catalyst particles.

alkenyl isocyanate, such as allyl isocyanate, with a polyalkylene glycol monoether to form a urethane and then reacting the urethane with an organopolysiloxane containing silicon-bonded hydrogen groups to produce the siloxane-oxalkylene copolymer. Copolymers containing up to about 0.5 oxalkylene groups per silicon atom are useful as urethane foam surfactants and those having more than about 0.5 oxalkylene groups per silicon atom are useful as sensitizers for heat-sensitive latices.

3,541,032

PROCESS FOR THE PRODUCTION OF OIL-EXTENDED POLYBUTADIENE RUBBER

Gottfried Pampus, Leverkusen, Kurt Vohwinkel, Cologne-Stammheim, Nikolaus Schon, Leverkusen, and Josef Witte, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 392,289, Aug. 26, 1964. This application Jan. 24, 1968, Ser. No. 700,294

Claims priority, application Germany, Sept. 7, 1963, F 40,704

Int. Cl. C08d 13/22, 5/02

U.S. Cl. 260—5

8 Claims

An oil-extended polybutadiene mixture comprising a cyclised polybutadiene and 30 to 70 parts by weight of a highly aromatic extender oil.

3,541,033

CRYSTALLINE ETHYLENE, ALPHA-BETA OLEFINICALLY UNSATURATED CARBOXYLIC ACID COPOLYMER LATEX PAPER COATING COMPOSITIONS

George W. Buttrick and James F. Hoover, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 25, 1968, Ser. No. 715,519

Int. Cl. C08h 7/00; D21h 1/28

U.S. Cl. 260—8

32 Claims

Crystalline ethylene, alpha-beta olefinically unsaturated carboxylic acid copolymers optionally copolymerized with vinylidene compounds having surprisingly been found to exhibit excellent pigment binding properties especially in paper coating compositions employing large percentages of mineral pigments such as clay. The crystallinity and high filming temperatures of the latexes used would indicate that these compositions would be unsuitable in pigment binding applications, especially where high pigment concentrations are employed such as in the paper coating art.

Examples of copolymer latexes suitable in this regard comprises ethylene acrylic acid copolymers, ethylene, acrylic acid, terpolymers with a 1 to about 12 carbon atom alkanol ester of acrylic acid and methacrylic acid and similar vinylidene compounds.

3,541,034

POLYURETHANE FOAMS PREPARED FROM STARCH-BASED POLYETHER POLYOLS

Stephen Fuzesi, Hamden, and Leonard J. Klabs, Cheshire, Conn., assignors to Olin Corporation, a corporation of Virginia

No Drawing. Original application Mar. 26, 1965, Ser. No. 443,098, now Patent No. 3,402,170, dated Sept. 17, 1968. Divided and this application May 10, 1968, Ser. No. 736,902

Int. Cl. C08b 19/06; C08g 22/14, 22/44

U.S. Cl. 260—2.5

10 Claims

Urethane foams prepared from starch-based polyhydroxyalkylene oxide ethers which are prepared

by first reacting starch, and a polyol with an alkylene oxide in the presence of an acid catalyst, wherein the proportion of polyol to starch is at least 0.5 mole of alcohol per glucose unit weight of starch, and adding to the resulting reaction mixture additional starch, additional catalyst and additional alkylene oxide, the proportion of starch being sufficient to increase the ratio of total glucose unit weights of starch to alcohol to at least 2:1, the proportion of alkylene oxide being sufficient to yield a polyhydroxy-polyoxyalkylene ether having a hydroxyl number in the range between about 30 and about 800. Foams are prepared by reacting the resulting ether with an organic polyisocyanate in the presence of a foaming agent and a reaction catalyst. The resulting urethane foams contain a high proportion of starch and are less expensive than foams prepared from polyethers where the proportion of alcohol is greater than 0.5 mole of alcohol per glucose unit weight of starch. In addition, the physical properties of the resulting foams are as good as or better than foams prepared from other starch-alcohol based polyethers.

3,541,035

ETHYLENE-ACRYLIC ACID COPOLYMERS AS WAX ADDITIVES

Bernard O. Baum, Ridgewood, Wilmington, Del., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 203,470, June 19, 1962. This application Oct. 12, 1965, Ser. No. 495,339

Int. Cl. C08f 45/52

U.S. Cl. 260—28.5

5 Claims

A wax composition comprising a wax and from about 2 to about 60 weight percent of either an ethylene/acrylic acid copolymer consisting of from about 10 to 40 weight percent combined acrylic acid and from 60 to 90 weight percent combined ethylene or an ethylene/vinyl ester/acrylic acid terpolymer comprising from about 65 to 96 weight percent of combined ethylene, from 1 to about 25 percent of combined vinyl ester and from about 3 to 10 percent by weight of combined acrylic acid. This combination provides wax having markedly improved adhesive strength, seal strength and protective properties.

3,541,036

POLYAMIC ACID POLYMER DISPERSION

Anfir Libackyj, Philadelphia, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 533,255, Mar. 10, 1966, which is a continuation-in-part of application Ser. No. 511,976, Dec. 6, 1965. This application Mar. 30, 1967, Ser. No. 626,923

Int. Cl. C08g 51/24, 53/18

U.S. Cl. 260—29.2

7 Claims

A polyamic acid polymer ("PAP") dispersion useful for the manufacture of polyimide coatings, films and bonding layers is made up of PAP dispersed in (1) acetone, (2) dimethylphthalate, (3) a mixture of a solvent for PAP and a nonsolvent for PAP which contains a carbonyl group, a carbonyl ester group, a thiocarbonyl group or a thiocarbonyl ester group (e.g., acetone, ethyl acetate, thioacetone or methyl thionacetate), or (4) a mixture of a solvent for PAP and a ternary liquid containing about 60–87% methyl ethyl ketone, 10–30% water and 3–10% of a volatile alcohol (e.g., ethanol).

3,541,037

METHOD OF PREPARING POLYMERS CONTAINING AMINO ALKYL GROUPS

William M. Finn, Framingham Center, and Francis L. McCarthy, Wollaston, Mass., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Original application Mar. 12, 1962, Ser. No. 179,239. Divided and this application Oct. 13, 1965, Ser. No. 511,008

Int. Cl. C08f 15/40, 27/04, 45/52

U.S. Cl. 260—29.6

5 Claims

This invention involves a novel method of polymerizing ethylenically unsaturated monomers by an emulsion process in which the monomers are added in two steps. An amino alkyl monomer is added usually in the second monomer addition. The product is useful in the preparation of floor polish compositions.

ERRATUM

For Class 260—30.4 see:
Patent No. 3,541,274

3,541,038

NOVEL POLYIMIDAMIDE RESIN

Mineo Nakano and Takeshi Koyama, Hitachi-shi, Japan, assignors to Hitachi Chemical Company, Ltd., Tokyo, Japan, a corporation of Japan

Continuation-in-part of application Ser. No. 537,388, Mar. 25, 1966. This application Sept. 11, 1968, Ser. No. 759,130

Claims priority, application Japan, Mar. 30, 1965, 40/18,014

Int. Cl. C08g 20/32

U.S. Cl. 260—30.6

10 Claims

A novel, high molecular weight polyimide resin having high thermal resistance and electric insulation is prepared by condensing one mole of a tribasic acid anhydride and 1.00 to 1.06 moles of a diisocyanate compound at a temperature of about 60° to 150° C. in the presence of an inert solvent, while removing the formed carbon dioxide from the reaction system. Said resin is especially useful as coil-impregnation varnishes or electric insulation varnishes. Tough films can be prepared from solutions of the polyimide resins.

3,541,039

FLEXIBLE POLYMERIC VINYLIDENE FLUORIDE COMPOSITIONS

Alfred C. Whiton, Norristown, Pa., assignor to Pennwalt Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 27, 1962, Ser. No. 219,742

Int. Cl. C08f 29/22, 3/22, 45/36

U.S. Cl. 260—31.6

9 Claims

Crystalline polymeric vinylidene fluoride is plasticized with minor amounts of a linear saturated polymeric polyester having a molecular weight below about 5000 to form compositions having high flexibility and workability in sheet, film, rod or tubing form.

3,541,040

ANTIFOG POLYOLEFIN FILM

Frank Edisha Eastes, Spartanburg, Alfred Paul Engelmann, Greenville, and Samuel Ervin Laird, Mauldin, S.C., assignors to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut

No Drawing. Filed June 28, 1968, Ser. No. 741,211

Int. Cl. C08f 45/36, 45/34

U.S. Cl. 260—31.6

10 Claims

An antifogging polyolefin film produced from a mixture comprising polyolefin resin, sodium dioctyl sulfosuccinate, glycerol monostearate, and the reaction product of lauryl alcohol and ethylene oxide.

3,541,041

MOULD PARTING AGENT FOR POLYAMIDE MOULDING COMPOSITIONS

Karl Heinz Hermann, Ernst Reichold, and Kurt Schneider, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 3, 1967, Ser. No. 680,356

Claims priority, application Germany, Nov. 10, 1966, F 50,640

Int. Cl. B29f 1/00; C08k 1/44

U.S. Cl. 260—32.6

10 Claims

Hydroxyalkylated fatty amines are incorporated into polyamide molding compositions as mould parting agents. These agents can be introduced into the reaction mix used to prepare the polyamide or into the finished polyamide.

3,541,042

SOLVENT COMPOSITIONS FOR NATURAL AND SYNTHETIC RUBBER BASE ADHESIVES

Sheldon G. Levy, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 523,937, Feb. 1, 1966. This application Dec. 15, 1967, Ser. No. 690,744

Int. Cl. C08a 51/30; C08c 11/24; C08f 45/30

U.S. Cl. 260—338

6 Claims

The present invention relates to novel compositions of matter suitable for use as solvents. More particularly the present invention concerns compositions which are mixtures of chlorinated hydrocarbon solvents which mixtures have particular utility as solvents for natural and synthetic rubber, including the so-called silicone rubbers, which may be used either as adhesives or coatings and which are further characterized by their general purpose utility as solvents which are nonflammable and which have designable evaporation rates.

3,541,043

METHOD OF DRY BLENDING AN AGGLOMERATED MATERIAL WITH A POWDERED MATERIAL

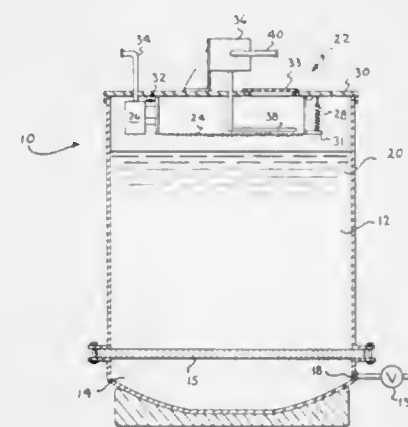
Lawrence J. Guilbault, Akron, Ohio, assignor to General Electric Company, a corporation of New York

Filed Apr. 26, 1967, Ser. No. 633,952

Int. Cl. B01f 13/02; C08g 51/10

U.S. Cl. 260—37

9 Claims



Finely divided, electrical insulating materials which tend to agglomerate, such as glass fibers, powdered pigments, fumed silica and the like, are added to a fluidizable powder, such as powdered thermosetting film-forming material, by sifting the agglomerated material into an active fluid bed of the fluidizable powder.

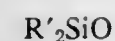
3,541,044

SILANOL-CONTAINING ORGANOPOLYSILOXANE ADMIXED WITH REACTIVE FILLER AND CURING AGENT

Melvin D. Beers, Ballston Lake, and Alfred H. Smith, Jonesville, N.Y., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 6, 1969, Ser. No. 789,354
Int. Cl. C08g 51/04; C08k 1/02U.S. Cl. 260—37 9 Claims
A substantially anhydrous organopolysiloxane composition curable to the elastomeric state upon exposure to moisture comprising

(A) a silanol-containing organopolysiloxane consisting essentially of chemically combined units of the formula,



and terminal siloxy units selected from the class consisting of

(a) silanol units of the formula,



and

(b) a mixture of (a) and chain-stopping siloxy units of the formula,



wherein (b), the ratio of (a) to said chain-stopping siloxy units has a value greater than (1),

(B) a silanol reactive curing agent in an amount sufficient to effect the room temperature vulcanization of said organopolysiloxane composition,

(C) a reinforcing amount of a pyrogenic silica filler substantially free of infrared absorbance at 3760 cm.⁻¹ and having from about 1 percent to 20 percent by weight of chemically combined triorganosiloxyl units of the formula,where R is selected from the class consisting of monovalent hydrocarbon radicals and halogenated monovalent hydrocarbon radicals, R' is selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and cyanoalkyl radicals and R'' is selected from the class consisting of R' radicals and R₃CO radicals.

3,541,045

COATING COMPOSITION

Harold Jabloner, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 7, 1968, Ser. No. 711,216
Int. Cl. C08f 45/24; C08g 51/24

U.S. Cl. 260—29.6 8 Claims

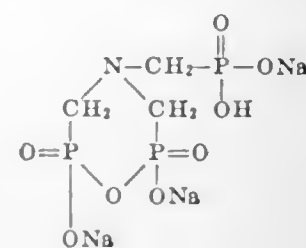
Disclosed is a coating composition useful for forming a hard normally solid coating on a surface when applied thereto. The composition comprises an aqueous solution comprising (1) polyacid material selected from the group consisting of fumaro-pimaric acid and water-soluble poly(acrylic acid), the average number of acrylic acid units in the molecules of which are in a range from about four to about the number at which the kinematic viscosity of a 5% by weight solution thereof in water at about 38° C. is about ten centistokes, (2) water-soluble poly(ethyleneimine), the number average molecular weight of which is in a range from about one thousand to about one million, at an effective concentration and (3) ammonia at least at a substantially stoichiometrically equivalent concentration relative to said polyacid material. Also disclosed are a process for making the composition, and a process for forming from the composition a hard, normally solid coating on a surface.

3,541,046

ORGANO-AMINO-POLYPHOSPHONATES AS FLAME RETARDANTS FOR POLYMERSAl F. Kerst, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Sept. 11, 1968, Ser. No. 759,250
Int. Cl. C08f 45/60, 45/62

U.S. Cl. 260—45.8 13 Claims

The invention relates to polymeric compositions containing partial anhydrides of organo-phosphonates which include such a compound as shown below:



3,541,047

PLASTIC VINYL CHLORIDE SURFACE COVERINGS OF IMPROVED ULTRAVIOLET STABILITY

Jackson S. Boyer, Claymont, Del., and Richard D. Cassar, West Chester, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 20, 1968, Ser. No. 777,476
Int. Cl. C08f 45/58

U.S. Cl. 260—45.85 12 Claims

Plastic surface covering compositions having improved ultraviolet stability comprising a plasticized solid vinyl chloride polymer resin containing an ultraviolet stability improving quantity of an additive selected from the group consisting of polymethylated muconic acids and/or their C₁-C₂₀ mono- and di-hydrocarbyl esters.

3,541,048

HIGH MOLECULAR WEIGHT POLYBENZ-1,3-OXAZINE-2,4-DIONES

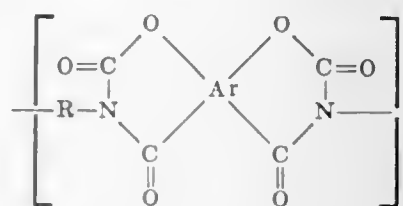
Rudolf Binsack and Ludwig Bottenbruch, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdlingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 30, 1968, Ser. No. 788,065
Claims priority, application Germany, Jan. 8, 1968, 1,720,774

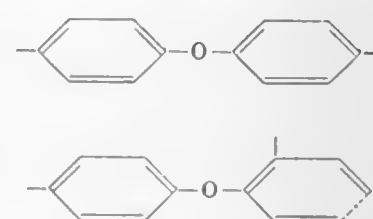
Int. Cl. C08g 22/04

U.S. Cl. 260—47 2 Claims

High molecular weight polybenz-1,3-oxazine-2,4-diones having recurring structural units of the formula



wherein Ar is a tetravalent aromatic radical derived from an o,o'-dihydroxy aromatic dicarboxylic acid, and R is a bivalent phenylene ether of the formula



the phenylene ethers being present in the polybenz-oxazine diones in a molar ratio of 1:9 to 9:1.

**3,541,049
CYANURIC CHLORIDE BRANCHED POLYCARBONATES**

Thomas H. Cleveland, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Aug. 21, 1969, Ser. No. 852,076
Int. Cl. C08g 17/13

U.S. Cl. 260—47 5 Claims

Polycarbonates are branched by including from about 0.1 to 1 mol percent of cyanuric chloride as a comonomer in the reaction mixture from which the polycarbonate is prepared.

3,541,050

PRODUCTION OF POLYESTERS DYEABLE WITH BASIC DYES FROM PHENOLSULFONATES

Tatundo Tanaka, Sunto-gun, Shizuoka-ken, Yutaka Yasuhara, Tunes Harada, and Tatuo Nogi, Mishima-shi, and Osamu Iida, Tagata-gun, Shizuoka-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Oct. 28, 1968, Ser. No. 771,341
Int. Cl. C08g 17/14

U.S. Cl. 260—49 2 Claims

In producing modified polyesters containing a minor proportion of an organic group having a sulfonate substituent in the form of an alkali metal salt, the method which comprises adding at least one phenolsulfonate selected from the class consisting of the alkali metal salts of m-phenolsulfonic acid, 2-chlorophenol-4-sulfonic acid, 2-naphthol-8-sulfonic acid and resorcinol-5-sulfonic acid and the lithium salts of p-phenolsulfonic acid and hydroquinonesulfonic acid, to the reaction mixture prior to the completion of the synthesis of the polyester to be modified and thereafter completing the synthesis of the polyester.

3,541,051

SULFONAMIDE-SUBSTITUTED BENZYLANILINES

Fumio Hirata, Suita, Tadao Tanouchi, Takatsuki, and Yasumichi Kajita, Nishinomiyu, Japan, assignors to Ono Pharmaceutical Co., Ltd., Osaka, Japan

No Drawing. Filed Feb. 27, 1968, Ser. No. 708,512
Claims priority, application Japan, Mar. 6, 1967, 42/14,312

Int. Cl. C07c 143/80

U.S. Cl. 260—397.7 4 Claims

Sulfonamide-substituted benzylanilines, such as 2,4'-disulfonamidebenzylaniline, 4,4' - disulfonamidebenzylaniline, and 2,4,4'-trisulfonamidebenzylaniline, are useful as anticonvulsant or antiepileptic agents. A method for the preparation thereof is also disclosed.

3,541,052

UNITARY CARTON AND REUSABLE SHIPPING PACKAGE THEREFOR

Leland H. Kirk, Watertown, Conn., assignor to Anacanda American Brass Company, a corporation of Connecticut

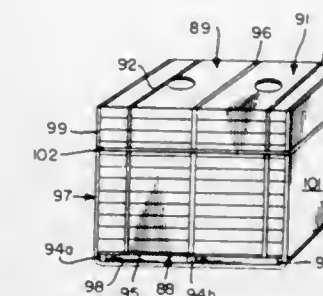
Filed Oct. 15, 1968, Ser. No. 767,762

Int. Cl. B65d 71/00, 85/04, 85/675

U.S. Cl. 206—65 8 Claims

A carton having a unitary body and a plurality of relatively foldable panels includes a base panel, side panels adjacent opposite marginal edges of the base panel which in turn include two relatively foldable portions, and end panel adjacent a third marginal edge of the base panel, and a cover panel adjacent the end panel; the surface of a portion of each side panel has at least one opening and the surface of the cover panel has at least two integral tabs which register with the respective side panel openings when the carton is assembled by folding the several panels with respect to each other, the tabs being bendable out of the surface plane of the cover panel and into the respective

openings in the side panels to constrain the several panels in their relatively folded positions; a plurality of cartons may be transported in a reusable shipping package which includes a rigid base upon which the cartons are arranged in a suitable number of stacks and secured, a unitary cover



sheet of substantial thickness which includes a first portion underlying the base and second and third portions foldable into surface contact with opposite lateral carton stacked faces, and fastening means for securing the cover sheet to the carton stacks.

3,541,053

SEGMENTED POLYURETHANES CONTAINING MONODISPERSE HARD SEGMENTS

Leon Lamar Harrell, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 30, 1968, Ser. No. 748,641
Int. Cl. C08g 22/00

U.S. Cl. 260—77.5 10 Claims

Segmented polyurethanes containing monodisperse hard segments derived from low molecular weight diols and diamines and soft segments derived from polyether glycols. The hard and soft segments are connected by urethane linkages. The segmented polyurethanes are useful as fibers and in making cast objects.

3,541,054

POLYMERS CONTAINING QUINAZOLONE RINGS

Tohru Takekoshi, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 5, 1968, Ser. No. 749,974
Int. Cl. C08g 20/20

U.S. Cl. 260—78 7 Claims

Linear polymers containing amide linkages are prepared by the reaction of diaminodiamido aryl organic compounds with difunctional acid halides and quinazoline-4-one ring systems are produced by the thermal cyclocondensation of the linear polyamides. These compositions are useful as protective films for metals, as electrical insulation, and as the dielectric film for capacitors, etc.

3,541,055

CROSSLINKABLE LACQUER RESINS

Georg Malamet and Bernd Peltzer, Krefeld, Hermann Schnell, Krefeld-Urdingen, and Clemens Niehaus, Krefeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 24, 1968, Ser. No. 747,088
Claims priority, application Germany, Aug. 22, 1967, F 53,303

Int. Cl. C08f 15/40, 27/12

U.S. Cl. 260—78.4 6 Claims

A lacquer resin which is the semister of an α-hydroxycarboxylic acid ester and a cyclic dicarboxylic acid anhydride, said α-hydroxycarboxylic acid ester being an ester of (A) a copolymer of at least one vinyl monomer and a polymerizable monomer having both a single epoxide group and a polymerizable double bond and (B) a hydroxycarboxylic acid.

droxy steroid with a vinyl ether to give the corresponding saturated ether, photosensitized oxidation yields the Δ^{16-20} (α and β) hydroperoxides which are converted to the Δ^{16-20} -keto-21-hydroxy-21ethers followed by hydrolysis to yield the Δ^{16-20} -keto-21-hydroxy steroids. The compounds are useful as intermediates and as anti-inflammatory agents.

3,541,083

ELECTROLYTIC STRIP-MARKING ROLL

James G. Beemer, Walnut Creek, and Lewis C. Tompkins, Lafayette, Calif.; said Beemer assignor to United States Steel Corporation, and said Tompkins assignor to Electro-Coatings, Inc., Oakland, Calif., both corporations of Delaware

Filed Feb. 21, 1968, Ser. No. 707,155

Int. Cl. C23b 5/76

U.S. Cl. 204—224

2 Claims

A roll for electrolytically etching metal strip and the method for making such roll which includes providing a cylindrical roll body made of electrically conductive material, attaching a plurality of short lengths of wire to the circumference of the roll body in radially projecting fashion arranged in the form of a desired marking pattern, and then forming a sleeve of electrically insulating material around the roll body with the lengths of wires projecting through the sleeve. After the roll has thus been made, it may be immersed in a solvent solution to dissolve the wires projecting from the roll body through the insulating sleeve so as to form etching holes in the sleeve; or the ends of the wires may be finished to a flush condition with the insulating sleeve so that the wire ends can function as etching means.

3,541,084

PROCESS FOR SYNTHESIZING SEMISYNTHETIC PENICILLINS USING N-HYDROXY SUCCINIMIDE MONO- AND DICHLOROACETATE ESTERS

Akira Hagitani, Tokyo, Ichiro Muramatsu, Saitama-ken, Shunpei Sakakibara, Kobe-shi, Jinnosuke Abe, Shizuoka-ken, and Tetsuo Watanabe, Musashino-shi, Tokyo, Japan, assignors to Toyo Jozo Kabushiki Kaisha, Takata-gun, Shizuoka-ken, Japan, a corporation of Japan

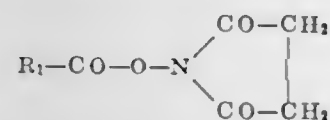
No Drawing. Filed Sept. 14, 1967, Ser. No. 667,662
Claims priority, application Japan, Sept. 16, 1966,
41/60,768

Int. Cl. C07c 103/04; C07d 27/10, 99/22

U.S. Cl. 260—239.1

1 Claim

Process for the manufacture of a compound having the general formula $R_2-CO-NH-R_3$ comprising reacting a compound of the general formula



with a compound having the following general formula:



Reaction occurs in an inorganic solvent at room temperature or below. The succinimide ester product which is formed is reacted with a compound of the following general formula:



to yield the product. The second reaction occurs in an inert organic solvent at room temperature or below. The generic moieties shown are fully defined in the specification. The compound produced finds utility in the pharmaceutical field.

3,541,085
METHOD OF PREPARING THIOTRICYCLIC COMPOUNDS

Richard Moats Sheeley, Shippensburg, Pa., and George Rodger Allen, Jr., Old Tappan, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 602,147, Dec. 16, 1966. This application May 9, 1969, Ser. No. 823,510

Int. Cl. C07d 53/00, 93/42, 87/54

U.S. Cl. 260—239.3

10 Claims

This invention describes the preparation of oxazepines, thiazepines, diazepines and azepines. These compounds are prepared by condensing intermediates such as substituted thiocarbonyl compounds or thioureas with an excess of polyphosphoric acid to produce dibenz heterocyclic thiones. The present compounds are intermediates for preparing compounds having physiological activity at the central nervous system.

3,541,086

6-HALO-9,11,21-TRICHLORO - 16,17-ALKYLIDENE-DIOXYPREGNANES AND DERIVATIVES AND COMPOSITIONS THEREOF

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Palo Alto, Calif., a corporation of California

No Drawing. Filed Apr. 22, 1968, Ser. No. 723,274

Int. Cl. C07c 173/00

U.S. Cl. 260—239.55

2 Claims

9 α ,11 β ,21 - trichloro - 16 α ,17 α -alkylidenedioxypregna-4-ene-3,20-diones substituted with fluoro or chloro at position C-6 α and the pregna-1,4-dienes, -4,6-dienes and -1,4,6 - trienes thereof having topical anti-inflammatory activity.

3,541,087

PREPARATION OF CYCLIC CARBONATES FROM ACETYLENIC GLYCOLS

Robert J. Tedeschi, Whitehouse Station, and George L. Moore, South Plainfield, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

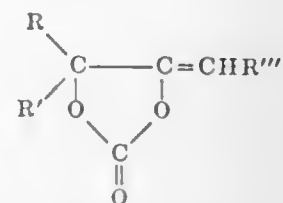
No Drawing. Filed June 29, 1967, Ser. No. 649,816

Int. Cl. C07d 13/06

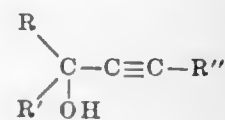
U.S. Cl. 260—240

5 Claims

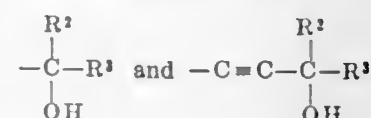
Acetylenic carbonates:



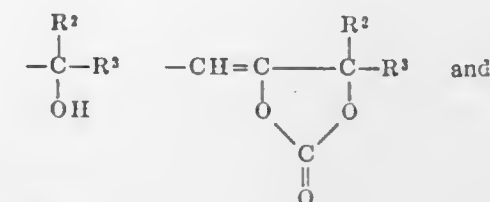
are produced by reacting acetylenic glycols with liquid carbon dioxide in the presence of a suitable catalyst, the acetylenic glycols used in the reaction having the formula



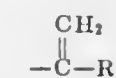
wherein R and R', which may be the same or different, are alkyl groups, e.g. lower alkyl groups containing up to six carbon atoms, which may be separate groups or which may be joined to form a ring structure, cycloalkyl of 6 to 12 carbon atoms, e.g. cyclohexyl, aryl and alkaryl containing up to 12 carbon atoms, such as phenyl and tolyl, R'' is a radical selected from the group consisting of



wherein R² and R³, which may be the same or different, have the same meanings as R and R', and R''' is selected from the group consisting of



when R² is methyl,



3,541,088

CARBAZOLE DERIVATIVES

Othmar Schindler, Gutzwiller, Switzerland, assignor to Dr. A. Wander S.A., Bern, Switzerland, a corporation of Switzerland

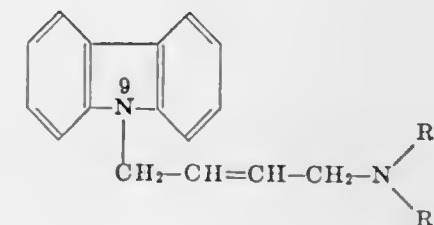
No Drawing. Filed Nov. 13, 1967, Ser. No. 682,637
Claims priority, application Switzerland, Nov. 16, 1966,
16,461/66; June 2, 1967, 7,865/67

Int. Cl. C07d 27/68

U.S. Cl. 260—240

9 Claims

Carbazole derivatives of the formula:



wherein R₁ and R₂ are the same or different and denote lower alkyl, aminoalkyl, monoalkylated aminoalkyl or dialkylated aminoalkyl or R₁ and R₂ together with N form pyrrolidinyl (1), piperidinyl, morpholino, piperazinyl (1), 4-(lower alkyl)-piperazinyl (1), 4-(lower hydroxyalkyl)-piperazinyl (1), 4-(acylated lower hydroxyalkyl)-piperazinyl (1); or 4-(alkoxy lower alkyl)-piperazinyl (1) having at most 6 carbon atoms in the alkoxy-alkyl radical; and (b) the acid addition salts of (a). These compounds exhibit strong anti-convulsant activity, and the free base and the non-toxic acid addition salts are adapted for use as antiepileptic drugs.

3,541,089

METHOD OF PREPARING CHAIN-SUBSTITUTED TRIMETHINE INDOLE DYESTUFFS

Donald W. Heseltine and John D. Mee, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

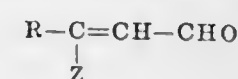
No Drawing. Continuation-in-part of application Ser. No. 676,602, Oct. 19, 1967. This application July 22, 1968, Ser. No. 746,252

Int. Cl. C09b 23/06

U.S. Cl. 260—240.65

14 Claims

Chain-substituted trimethine indole dyes are prepared by reacting an indole with an acid and an acrolein of the formula



wherein R represents the desired substituent and Z represents a halogen atom.

3,541,090

PRODUCTION OF SUBSTITUTED TETRAHYDRO-1,4-THIAZINE-1,1-DIOXIDES

Heinz Herlinger and Karl Heinrich Mayer, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

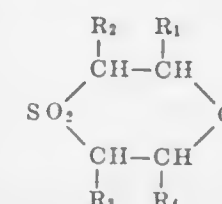
No Drawing. Filed Mar. 1, 1968, Ser. No. 709,809
Claims priority, application Germany, Mar. 31, 1967,
F 51,981

Int. Cl. C07d 93/10

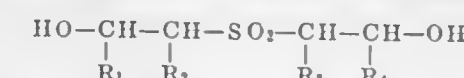
U.S. Cl. 260—243

6 Claims

Substituted tetrahydro - 1,4 - thiazine - 1,1 - dioxides are produced by reacting 1,4-thioxane-1,1-dioxide of the formula:



or bis-(β -hydroxyethyl)-sulfone of the formula:



with at least the stoichiometrically required amount of a compound of the formula:



wherein R₁, R₂, R₃ and R₄ are the same or different hydrogen, alkyl, substituted alkyl, or R₁ with R₂ and R₃ with R₄ are components of a carbocyclic 6-membered ring system, and R₅ is NH₂, lower alkyl-NH—, an aliphatic moiety, a substituted aliphatic moiety, a cycloaliphatic moiety, a substituted cycloaliphatic moiety, an aralkyl, substituted aralkyl, amino-alkyl, or aminoalkyl substituted 5 - or 6 - membered heterocyclic moiety at a temperature of from about 60° C. to about 100° C. in the presence of catalytic quantities of an inorganic base of an element of the first and second main group of the Periodic Table and the substituted aliphatic moiety is straight or branched chain alkyl of 1 to 18 carbon atoms, alkoxy of 1 to 4 carbon atoms or alkenyl substituted by —NH₂, OH, dialkylamino of 1 to 4 carbon atoms in each alkyl moiety, —NH₂ as part of a heterocyclic ring, or —NH₂ as part of a heterocyclic ring having an oxygen, nitrogen or sulphur heteroatom or which is substituted by N-methyl-N-phenylamino, —COO-alkali or SO₃-alkali and recovering the 4-substituted tetrahydro-1,4-thiazine-1,1-dioxides produced.

These compounds are useful as intermediates for the production of dyestuffs and are also useful in the same manner as tertiary and secondary amines such as, for example, acid receptors, or in the case of secondary amines or hydrazines, for reaction with isocyanates to produce ureas or semicarbazides.

3,541,091

PROCESS FOR PRODUCING IMIDOCHLORIDE CONTAINING COMPOUNDS BY TWO STAGE CHLORINATION OF SECONDARY AMINES

Wilfried Zecher, Cologne-Stammheim, and Horst Tarnow and Hans Holtschmidt, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation of application Ser. No. 505,965, Nov. 1, 1965. This application Dec. 28, 1967, Ser. No. 694,094

Claims priority, application Germany, Dec. 21, 1964,
F 44,766

Int. Cl. C07d 93/10

U.S. Cl. 260—243

4 Claims

A process for producing compounds containing an imidochloride group which comprises chlorinating a secondary amine in two stages; the first at a temperature

of -20 to $+60^{\circ}$ C. until all easily replaceable hydrogen atoms are replaced by chlorine and then continuing the chlorination at 70 to 250° C. to produce the desired compound.

3,541,092

SUBSTITUTED PHENYL BENZOXAZINE DIONE COMPOUNDS

John Krenzer, Oak Park, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Delaware

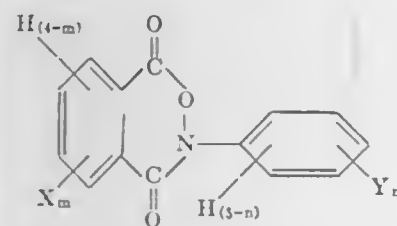
No Drawing. Filed Nov. 17, 1967, Ser. No. 683,835

Int. Cl. C07d 87/04

U.S. Cl. 260—244

7 Claims

A compound of the formula:



wherein each X and Y is selected from the group consisting of hydrogen, halogen, alkyl, alkenyl, haloalkyl, alkoxy, nitro, and dialkylamino; m is an integer from 0 to 4; and n is an integer from 0 to 5. A fungicidal composition comprising an inert carrier and, as an essential active ingredient, in a quantity toxic to fungi, a compound described above. A method for the control of fungi which comprises applying to said fungi a fungicidal composition comprising an inert carrier and, as an essential active ingredient, in a quantity toxic to fungi, a compound heretofore described.

3,541,093

PROCESS FOR THE PREPARATION OF 1H-IMIDAZO[4,5-b]PYRAZINE-2-ONES

Roger J. Tull, Metuchen, and Peter I. Pollak, Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 22, 1968, Ser. No. 754,711

Int. Cl. C07d 51/76

U.S. Cl. 260—250

26 Claims

A process is described for the preparation of 1H-imidazo[4,5-b]pyrazine-2-ones that comprises treating a 2,3-diaminopyrazine with a cyclization reagent. The products prepared by the process of this invention have activity as antihypertensive agents.

3,541,094

4-(SUBSTITUTED AMINO)-QUINAZOLINES

Karl Lutz, Basel, and Rupert Schneider, Riehen, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland, a corporation of Switzerland

No Drawing. Filed Apr. 20, 1967, Ser. No. 632,192

Claims priority, application Switzerland, Apr. 26, 1966, 6,060/66; May 18, 1966, 7,208/66; Dec. 1, 1966, 17,191/66

Int. Cl. C07d 51/48

U.S. Cl. 260—256.4

4 Claims

Compositions containing liquid or solid 4-aminoquinazolinones are used to control plant pests and tests are given showing their fungicidal contact and systemic effect with barley, vines, potatoes and beans and the acaricidal and ovicidal effect on spider mites with beans. New pesticidal-

ly active 4-aminoquinazolinones substituted on the amino radical with one or two lower alkyl (C_3 to C_{14}) radicals are produced by methods known per se.

3,541,095

1-BUTOXY-3-AMINO-2-PROPANOLS

Herman E. Faith, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 1, 1968, Ser. No. 717,992

Int. Cl. C07d 31/40, 51/42

U.S. Cl. 260—256.4

5 Claims

1-butoxy-3-(2-pyridylamino)-2-propanol and 1-butoxy-3-(2-pyrimidinylamino)-2-propanol and their salts are novel compounds useful as skeletal muscle relaxants in animals.

3,541,096

2-ARYL-SUBSTITUTED-TETRAHYDRO-HALO-SULFAMYL-QUINAZOLINONES

Bola Vithal Shetty, Rochester, N.Y., assignor to Pennwalt Corporation, East Orange, N.J., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 683,450, Nov. 16, 1967. This application Dec. 24, 1968, Ser. No. 786,773

Int. Cl. C07d 51/48

U.S. Cl. 260—256.5

13 Claims

A 2-aryl-3-aryl or aralkyl-6-sulfamyl-7-halo(including 7-trifluoromethyl)-1,2,3,4-tetrahydro-quinazolinone having diuretic characteristics is made by reduction of the corresponding unsaturated compound or by cyclizing the anthranilamide. A typical compound is 2-phenyl-3-o-tolyl-6-sulfamyl-7-chloro-1,2,3,4-tetrahydro-4-quinazolinone.

3,541,097

PROCESS FOR THE PRODUCTION OF COUMARIN DERIVATIVES

Rudi Beyerle, Bruchkobel, Kreis Hanau, and Adolf Stachel, Rolf-Eberhard Nitz, and Klaus Resag, Frankfurt am Main-Fechenheim, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main-Fechenheim, Germany, a company of Germany

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,864

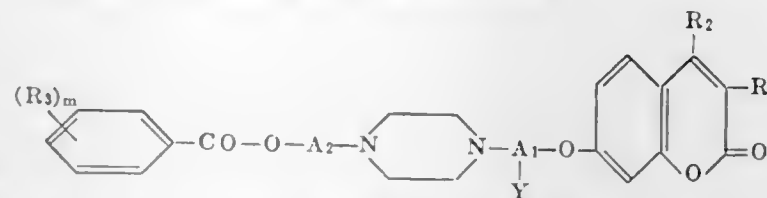
Claims priority, application Germany, Jan. 7, 1967, C 41,146; Nov. 3, 1967, C 43,731

Int. Cl. C07d 51/70

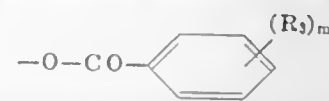
U.S. Cl. 260—268

9 Claims

This disclosure describes new and useful pharmaceutical products particularly useful as coronary dilators and methods for their preparation. They can be designated as coumarin derivatives having the formula



wherein R_1 stands for hydrogen, allyl, lower alkyl, dialkylaminoalkyl, where alkyl in each case contains 1-4 carbon atoms, and whereby the alkyl groups attached to the nitrogen form a piperidine ring, R_2 stands for hydrogen, lower alkyl or phenyl, and A_1 and A_2 are straight or branched alkylene residues having 2-4 carbon atoms, and Y is hydrogen, a hydroxy group or the residue



and R_3 stands for lower alkoxy where the alkyl contains 1-4 carbon atoms, and m represents the integer 1, 2 or 3.

3,541,098 N-[1-PIPERAZINYL]ALKYL SUBSTITUTED 1,2-CYCLOBUTANEDICARBOXIMIDES

John H. Menneer, West Lafayette, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

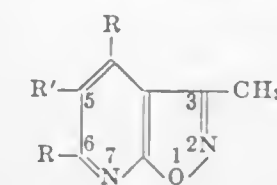
No Drawing. Filed Dec. 21, 1967, Ser. No. 692,305

Int. Cl. C07d 51/70

U.S. Cl. 260—268

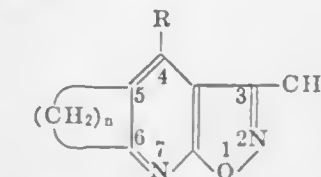
2 Claims

N-[4-(chlorophenyl)-1-piperazinyl]alkyl-1,2-cyclobutanedicarboximides are prepared by the reaction of 1,2-cyclobutanedicarboxylic anhydride with a [4-(chlorophenyl)-1-piperazinyl]amine. The compounds are useful as central nervous system depressants and have useful analgesic and sedative properties.



(1)

wherein R is selected from the group consisting of lower-alkyl, phenyl, lower-alkylphenyl, lower-alkoxyphenyl, and halophenyl, R' has the same meaning as R and in addition hydrogen; and 5,6-polymethyleisoxazolo[5,4-b]pyridines of the formula



(1a)

wherein R'' is selected from the group consisting of phenyl, lower-alkylphenyl, lower-alkoxyphenyl and halophenyl, n is an integer of from 3 to 6, inclusive; also the acid addition salts of the compounds embraced by the above Formulae I, 1a. The compounds of Formula I are useful as anti-fungals while those of Formula 1a are useful as anti-inflammatories.

3,541,099 NITRO-ACRIDONE DYESTUFFS

Kurt E. Burdeska and Hans Bosshard, Basel, and André Pugin, Riehen, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Continuation of application Ser. No. 609,347, Jan. 16, 1967. This application Mar. 20, 1969, Ser. No. 812,953

Claims priority, application Switzerland, Jan. 21, 1966, 849/66

Int. Cl. C07d 37/30

U.S. Cl. 260—279

9 Claims

Acridone dyestuffs bearing at the acridone nucleus in 1-position an organically substituted mercapto group and in 4-position NO_2 of which those free from acidically water-dissociable solubilizing groups are suitable for the dyeing of hydrophobic synthetic organic fiber materials, especially textile materials consisting of high molecular organic esters, of synthetic polyamide or of polyolefin fibers, for the dyeing or pigmentation of lacquers, oils and waxes and of cellulose derivatives in the mass; while acid addition salts of the above defined acridone dyestuffs with strong inorganic or organic acids are suitable for dyeing acrylic fibers, and those containing solubilizing groups are useful for dyeing or printing natural or synthetic polyamide fibers from an acid to neutral bath.

3,541,100

BENZHETEROAZOLO[2,3-a]ISOQUINOLIUM SALTS

Paul Ramirez, Spring Valley, N.Y., and Charles Frederick Howell, Upper Saddle River, and Robert Allis Hardy, Jr., Ridgewood, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 14, 1967, Ser. No. 690,414

Int. Cl. C07d 49/38

U.S. Cl. 260—286

8 Claims

The preparation of substituted benzoheterazoloisoquinolinium salts by acid-catalyzed cyclization of 2-(α -cyano-o-tolyl)benzoheterazoles such as 2-(α -cyano-o-tolyl)benzothiazole or 2-(α -cyano-o-tolyl)benzoxazole. The novel products have shown anti-inflammatory activity and central nervous system (CNS) depressant activity.

3,541,101

ISOXAZOLO[5,4-b]PYRIDINES, 5,6-POLYMETHYLENEISOXAZOLO[5,4-b]PYRIDINES AND PROCESSES THEREFOR

John H. Markille, Cooper Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Mar. 4, 1966, Ser. No. 531,746

Int. Cl. C07d 85/22

U.S. Cl. 260—288

6 Claims

This invention relates to isoxazoles and to processes

for their preparation. It is more particularly directed to isoxazolo[5,4-b]pyridines represented by the formula

3,541,102 POLYFLUOROVINYL PYRIDINES

Everett A. Mailey, Norristown, Pa., assignor to Pennwalt Corporation, Philadelphia, Pa., a corporation of Pennsylvania

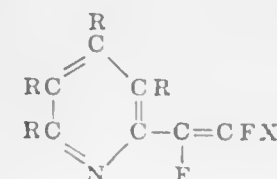
No Drawing. Filed Dec. 22, 1967, Ser. No. 692,681

Int. Cl. C07d 31/24

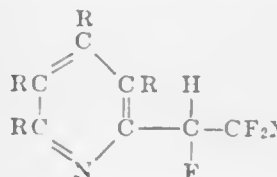
U.S. Cl. 260—290

7 Claims

2-(polyfluorovinyl)pyridines of the structure



where the R substituents are, for example, hydrogen, alkyl and haloalkyl, and X is fluoroine, alkyl and haloalkyl, are prepared by contacting a 2-(polyfluoroethyl)-pyridine of the formula



at 400° C. to 750° C. with an alkali metal fluoride.

3,541,103

2-(4-BENZYLPIPERIDINO)ETHYLGUANIDINES

Maurice Claude Ernest Carron and Claude Louis Clement Carron, Chateauf-Malabry, Alexandra Francine Jullien, born Jandot, Paris, Bernard Philippe Bucher, Palaiseau, and Guy Charles Francois Georges Vandergucht, Paris, France, assignors to Societe Anonyme des Laboratoires Robert et Carriere, Paris, France, a company of France

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,866

Claims priority, application France, Jan. 6, 1967, 90,187

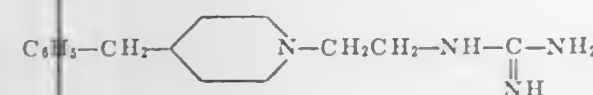
Int. Cl. C07d 29/28

U.S. Cl. 260—293

3 Claims

2-(4-benzyl-1-piperidyl)ethylguanidine and its pharmaceutically acceptable acid addition salts are useful as hypotensive agents.

The present invention provides the new compound, 2-(4-benzyl-1-piperidyl)ethylguanidine [or 4-benzyl 1-(2-guanidinoethyl)piperidine], whose formula is:



and its pharmaceutically acceptable acid addition salts, e.g. the dihydrochloride, sulphate, nitrate, tartrate, citrate, succinate or ascorbate.

3,541,104 PROCESS FOR THE PREPARATION OF AZIRIDINE DERIVATIVES

Wataru Nagata, Nishinomiya-shi, and Shoichi Hirai, Ibaraki-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Filed May 27, 1968, Ser. No. 732,057
Int. Cl. C07d 57/00

U.S. Cl. 260—293 23 Claims

A process for preparing bridged aziridine derivatives useful as reagents for organic synthesis, particularly for the synthesis of various polymers and of isoquinuclidine alkaloids.

3,541,105 PROCESS FOR OBTAINING THE PRINCIPAL ALKALOID OF THE PLANT *TUPA PORTORICENSIS* VATKE

Esteban Nunez Melendez, University Station, Box 21301, Rio Piedras, Puerto Rico 00931

No Drawing. Filed June 29, 1967, Ser. No. 649,855
Int. Cl. C07d 29/20

U.S. Cl. 260—294.7 2 Claims

The present invention is directed to alkaloids and derivatives which are derived from an endemic plant of Puerto Rico which is commonly referred to as "tubey tupa" and scientifically classified as *Tupa portoricensis* Vatke. The alkaloids are obtained by extraction utilizing suitable solvents which separate the alkaloids from the plant. The alkaloids and their derivatives are particularly useful as respiratory stimulants in specific cases where normal respiration has been impaired.

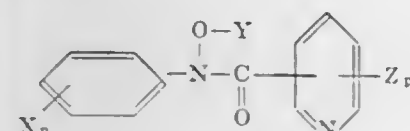
3,541,106 CERTAIN SUBSTITUTED N-PHENYL-N-HYDROXY- NICOTINAMIDES, THE CORRESPONDING ISO- NICOTINAMINES AND PICOLINAMIDES

John Krenzer, Oak Park, and Sidney B. Richter, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Dec. 28, 1967, Ser. No. 694,124
Int. Cl. C07d 31/44

U.S. Cl. 260—295.5 8 Claims

A compound of the formula



wherein n is an integer of from 1 to 3; X is selected from the group consisting of halogen, an aliphatic radical, nitro, hydroxy, alkoxy, acyl, acyloxy, and cyano; Y is

selected from the group consisting of hydrogen, alkyl, acyl, alkoxy, carbonyl, alkylthiocarbonyl and a carbamoyl radical; Z is selected from the group consisting of halogen, alkyl, alkoxy, cyano, nitro and acyl; and p is an integer of from 0 to 3.

3,541,107 2,5-DIARYL-1,2,3,4,5,6-HEXAAZAPENTALENE SYNTHESIS

Lionel A. Henderson, Columbus, Ohio, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 28, 1967, Ser. No. 686,319
Int. Cl. C07d 55/02

U.S. Cl. 260—296 9 Claims

A process for making diarylhexaazapentalenes which comprises consecutively forming, from an aryl diazonium salt, a formazyl nitrile an amidoxime; an aminotriazole; an azidotriazole; and the hexaazapentalene.

3,541,108 ISOTHIAZOLE DERIVATIVES

Karl Günther Schmidt, Günther Mohr, and Sigmund Lust, Darmstadt, and Walter Wirtz, Darmstadt-Eberstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany

No Drawing. Filed Apr. 5, 1967, Ser. No. 628,569
Claims priority, application Germany, Apr. 6, 1966, M 69,057; Mar. 3, 1967, M 73,010

Int. Cl. A01n 9/12; C07d 91/12
U.S. Cl. 260—306.8 7 Claims

N-substituted derivatives of 3-chloro-4-cyano-5-aminoisothiazoles suitable as insecticides.

3,541,109 1-SUBSTITUTED IMIDAZOLES USEFUL IN ACTH RESERVE ASSAY

James C. Kauer, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 620,666, Mar. 6, 1967. This application June 25, 1968, Ser. No. 739,644

Int. Cl. C07d 49/36
U.S. Cl. 260—309 8 Claims

Described and claimed are 1-substituted imidazoles, e.g., 1-(2-cyano- or 1-(2-nitro-4-fluorophenyl)-imidazole, useful as ultraviolet screening agents and in the form of picrates, as dyes. The compounds also have biological utility, particularly in ACTH (adrenocorticotrophin) reserve assay.

3,541,110 INDAZOLE-5-SULFONAMIDES

Stanley C. Bell, Narberth, and Carl Gochman, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 20, 1967, Ser. No. 610,471
Int. Cl. C07d 49/18

U.S. Cl. 260—310 4 Claims
3-(2-amino-5-halo-, 5-alkyl- and 5-alkoxyphenyl)-indazole-5-sulfonamides, tautomers and acylamino derivatives thereof (1a and 1b) are obtained by a process comprising treating a 3-(2-amino-5-halo-, 5-alkyl- or 5-alkoxybenzoyl)-4-chlorobenzenesulfonamide with hydrazine and, when required, alkanoylating the reaction product. Compounds 1a and 1b have central nervous system activity

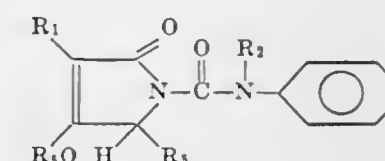
and are useful as central nervous system depressants, especially as antinauseants, sedatives, tranquilizers and anti-convulsants; additionally, they possess antiinflammatory utility.

3,541,111 PYRROLINCARBOXANILIDE COMPOUNDS

Peter Gerike, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 8, 1968, Ser. No. 727,712
Int. Cl. C07d 27/16

U.S. Cl. 260—326.3 8 Claims
Novel compounds are presented which have the following structure



where:

R_1 is hydrogen, halogen, methyl or ethyl,
 R_2 and R_3 are independently selected from hydrogen or alkyl of one through three carbon atoms and salts of said compounds when R_5 is hydrogen where the salt forming constituent is an alkali metal ion, alkaline earth metal ion, ammonium ion or mono-, di-, tri-, or tetra-substituted ammonium ion where the substituents are alkyl of one through four carbon atoms or benzyl, and R_5 is hydrogen or alkyl of one through four carbon atoms.

These compounds are excellent defoliant.

3,541,112 1-(ALICYCLIC SUBSTITUTED CARBONYL)-3- INDOLYL ALIPHATIC ACID DERIVATIVES

Hisao Yamamoto, Nishinomiya-shi, Yasushi Nakamura, Hirakata-shi, Toshio Atsumi, Takarazuka-shi, Masaru Nakao, Osaka, Tsuyoshi Kobayashi, Minoo-shi, and Chiharu Saito and Hiroshi Awata, Toyonaka-shi, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed July 7, 1967, Ser. No. 651,705
Claims priority, application Japan, July 13, 1966, 41/46,141

Int. Cl. C07d 27/56
U.S. Cl. 260—326.13 9 Claims

A new 1-acyl-3-indolyl aliphatic acid derivative having anti-inflammatory and anti-cholesterolemic effects which is characterized in that the 1-acyl-substituent is an alicyclic-substituted carbonyl or an alicyclic-substituted alkyl-carbonyl group, and processes for producing such compound.

3,541,113 PREPARATION OF ϵ -CAPROLACTONE

Johan P. H. von den Hoff, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Feb. 20, 1968, Ser. No. 706,765
Claims priority, application Netherlands, Feb. 25, 1967, 6703009

Int. Cl. C07d 7/06
U.S. Cl. 260—343 5 Claims

A process is distributed wherein cyclohexanone is oxidized to ϵ -caprolactone in the liquid phase with molecular oxygen using a soluble nickel salt as catalyst and in the presence of benzaldehyde.

3,541,114 RECOVERY OF HYDROPHOBIC OXIRANE COMPOUNDS

Wallace E. Taylor, Corpus Christi, Tex., and Merle F. Sehnert, Palatine, Ill., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 13, 1967, Ser. No. 608,978

Int. Cl. C07d 1/12

U.S. Cl. 260—348.5 2 Claims

In a process for producing an epoxide by reacting an olefinic compound with an epoxidizing agent which forms a carboxylic acid as a by-product of the epoxidation reaction, the epoxide is separated from the carboxylic acid by dual-solvent extraction with two solvents, one being aqueous and the other being a water-immiscible liquid which is a solvent for the epoxide. When the epoxide is propylene oxide and the carboxylic acid is acetic acid, the aqueous solvent is advantageously an aqueous solution of a metal salt and the other solvent a hydrocarbon liquid comprising propylene.

3,541,115 AROMATIC QUINONE PRODUCTION

William A. Michalowicz, Verona, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed June 8, 1967, Ser. No. 644,491

Int. Cl. C07c 49/68, 49/70

U.S. Cl. 260—385 5 Claims

Phenanthrene and anthracene are oxidized to 9,10-phenanthraquinone and 9,10-anthraquinone by chlorine oxidation in aqueous media. Phenanthrene or anthracene is contacted with gaseous chlorine while in aqueous suspension, at a temperature of 100–225° C. The phenanthrene or anthracene is oxidized by the chlorine in the presence of three to ten mole percent bromine based on the total amount of chlorine and bromine present, which bromine may be present in the form of an inorganic salt and which is released during the reaction. Phenanthraquinone and anthraquinone are valuable compounds used in medicines, dyestuffs, and in the preparation of numerous fungicides and insecticides.

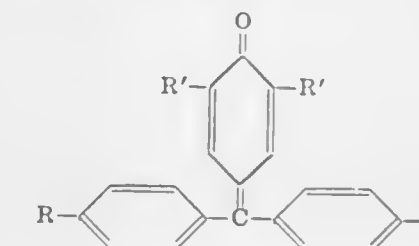
3,541,116 3,5-DI-SUBSTITUTED FUCHSONES

Hans-Dieter Becker, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Sept. 13, 1966, Ser. No. 579,008

Int. Cl. C09g 11/06

U.S. Cl. 260—389 7 Claims
Novel fuchsones having the formula



where each R has no more than 8 carbon atoms and is independently selected from the group consisting of hydrogen, hydroxyl, halogen, alkyl, aryl, alkoxy, carbonyl, acyloxy and hydrocarbonoxy and each R' has from 1 to 8 carbon atoms and is independently selected from the group consisting of aryl and primary and secondary alkyl and, in addition, tertiary alkyl and alkoxy when R is other than hydrogen are prepared by photochemical or synthetic chemical techniques. Since the fuchsones are highly colored they may be used as dyes or they may be used as intermediates in the process of making bisphenols or hindered phenols.

3,541,117

3-OXIME AND 3-AZA STEROIDS

Arvin Pramal Shroff, Piscataway, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey

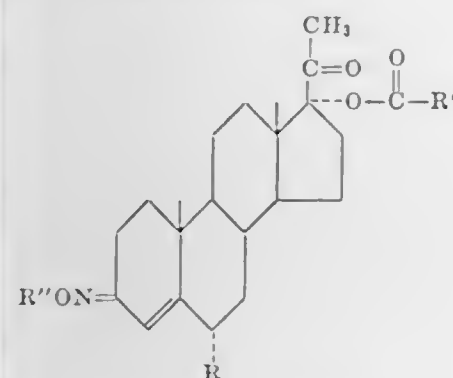
No Drawing. Division of application Ser. No. 592,295, Nov. 7, 1966, now Patent No. 3,455,903. Continuation-in-part of applications Ser. No. 412,828, Nov. 20, 1964, and Ser. No. 424,184, Jan. 8, 1965. This application Aug. 12, 1968, Ser. No. 772,874

Int. Cl. C07c 169/20

U.S. Cl. 260—397.4

12 Claims

Compounds having the formula



wherein R is hydrogen, lower alkyl of 1 to 4 carbon atoms, chlorine, bromine or fluorine. R' is hydrogen or alkyl from 1 to 11 carbon atoms and R'' is hydrogen or lower acyl of up to 10 carbon atoms which are progestational agents and, in particular possess anti-ovulatory activity.

3,541,118

3-ALKOXYALKOXY-13-ALKYLGONA-1,3,5(10)-TRIENES UNSATURATED AT THE DELTA-6, DELTA-7, DELTA-8(9), DELTA-9(11)- AND DELTA-6,8(9)-POSITIONS AND 8-ISOGONA ANALOGS THEREOF

Harshavadan C. Shah, Philadelphia, Reinhardt P. Stein, Conshohocken, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 814,447, Apr. 8, 1969. This application May 19, 1969, Ser. No. 825,961

Int. Cl. C07c 169/08, 169/10

U.S. Cl. 260—397.4

10 Claims

Novel Δ^6 , Δ^7 , $\Delta^8(9)$, $\Delta^9(11)$, and $\Delta^6,8(9)$ -dehydro-3-(alkoxyalkoxy)-13-alkylgona-1,3,5(10)-trienes and 8-isogona analogs thereof (I) are hormonally active, especially estrogenically and anti-lipemically. Compounds (I) are provided by alkylating an active metal derivative of a 3-hydroxyl group in the corresponding A-ring aromatic steroid with a (lower)alkyl halo(lower)alkyl ether.

3,541,119

METHOD OF PRODUCING UNSATURATED SULFONES

Sven U. K. A. Richter, Stocksund, Sweden, and Alexandros K. Isolís, Upton, N.Y., assignors to Sanitized, Incorporated, New York, N.Y., a corporation of New York

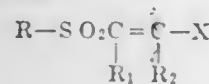
No Drawing. Continuation-in-part of application Ser. No. 516,770, Dec. 27, 1965. This application Apr. 10, 1969, Ser. No. 815,220

Int. Cl. C07c 147/00, 147/04, 147/08

U.S. Cl. 260—397.6

10 Claims

A single step method for producing α,β -unsaturated sulfones of the formula



wherein R is an alkyl, substituted alkyl, aryl, substituted aryl, cycloalkyl or heterocyclic radical; R₁ and R₂ are hydrogen, alkyl, substituted alkyl, aryl, substituted aryl

or an acyl radical; and where X is an electron withdrawing stabilizing group. The method involves reacting an α,β -dihalogenide and a sulfinic acid reactant in a liquid reaction medium in the presence of an added alkaline material.

3,541,120

METHOD FOR PREPARING PERFLUOROACYL ISOCYANATES

William Charles Firth, Jr., Wilton, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

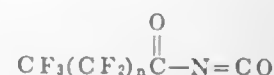
No Drawing. Filed June 1, 1967, Ser. No. 642,714

Int. Cl. C07c 53/28; D06m 13/20

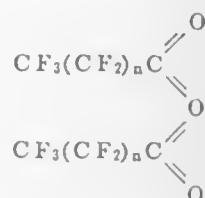
U.S. Cl. 260—404

5 Claims

A class of perfluorinated acyl isocyanates having the formula



where n is an integer of from 0 to 16, are prepared by (1) condensing together in a cooled reaction zone (a) from about one-half mole to about 3 mole proportions of isocyanic acid and (b) about 1 mole proportion of a perfluorinated carboxylic acid anhydride of the formula



where n has the same meaning as above, (2) removing the cooling means whereby the reaction zone is exposed to room temperature, (3) permitting the reaction zone to stand at room temperature for from about one-half to about five hours and (4) recovering the perfluoroacyl isocyanate product from the reaction zone. The new compounds are useful as textile treating agents.

3,541,121

SEPARATION OF ORGANIC ACIDS BY REACTIVE-EXTRACTION WITH AMINES

John W. Crandall and Richard C. Grimm, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 28, 1968, Ser. No. 740,985

Int. Cl. C11c 1/00

U.S. Cl. 260—419

16 Claims

Higher organic acids (those containing 4 to 16 carbon atoms in their carbon chain) can be separated from the products of partial oxidation of aliphatic hydrocarbons containing 1 to 16 carbon atoms. These partial oxidation products (known as "oxidate") are first washed with water to remove the lower acids (those containing 1 to 3 carbon atoms). The water-washed oxidate is then contacted with an amine or ammonia to form the corresponding amine-acid (or ammonia-acid) complexes. These complexes are then thermally decomposed to liberate the acids therefrom.

3,541,122

SEPARATION OF FATTY MATERIALS

George R. Payne, Germantown, and William B. Campbell, Memphis, Tenn., and Nicholas S. Yanick, Elmhurst, Ill., assignors to Kraftco Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 25, 1968, Ser. No. 724,277

Int. Cl. C07c 7/00

U.S. Cl. 260—419

14 Claims

A method is provided for separating mixtures of fatty materials. In the method the mixture of fatty material is

3,541,126

ORGANOTRISILOXANES AND THEIR PREPARATION

Jean Henri Baronnier and Georges Pagni, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

Filed June 16, 1967, Ser. No. 646,700

Claims priority, application France, June 27, 1966,

67,109, Patent 1,491,413

Int. Cl. C07d 103/04; C07f 7/04, 7/18

U.S. Cl. 260—448.8

4 Claims

New trisiloxanes containing one or two hydroxyl groups attached to silicon, and useful inter alia in the production of silicone resins, are produced by the controlled inter-reaction of a dichlorosilane, a trichlorosilane, water, and an organic hydroxy-compound.

3,541,123

PROCESS FOR THE FRACTIONATION OF OILS AND FATS

Tsukasa Kawada and Nobuya Matsui, Tokyo, Japan, assignors to Kao Soap Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Oct. 21, 1968, Ser. No. 769,414

Int. Cl. C11b 7/00

U.S. Cl. 260—428.5

1 Claim

A process for fractionating oils and fats in which the oil or fat is dissolved in 1-nitropropane, 2-nitropropane or mixtures thereof, following which a first fraction is obtained by crystallization at 10–18° C. and a second fraction is obtained by crystallization at 3–5° C. The second fraction being rich in β -oleodisaturated glycerides and being useable as a cacao butter substitute.

3,541,124

ORGANIC AMMONIUM SILVER IODIDE SOLID ELECTROLYTES

Boone B. Owens, Calabasas, Calif., assignor to North American Rockwell Corporation

Original application July 6, 1967, Ser. No. 651,499, now Patent No. 3,476,606, dated Nov. 4, 1969. Divided and this application June 11, 1969, Ser. No. 851,515

Int. Cl. C07f 1/10

U.S. Cl. 260—430

15 Claims

Ionically conductive solid compositions of matter used as solid electrolyte elements in solid state electrochemical devices. These compositions have an ionic conductivity greater than that of silver iodide and contain between 75 and 97.5 cationic mole percent silver cations wherein the conductivity-imparting component is an organic ammonium silver iodide salt whose preferred composition range is from $QAg_4I_5(QI \cdot 4AgI)$ to $QAg_9I_{10}(QI \cdot 9AgI)$ where Q is an organic ammonium cation, preferably a quaternary ammonium cation.

3,541,125

PREPARATION OF AMINE COMPLEXES OF ALUMINUM HYDRIDE

Leslie L. Sims, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 17, 1968, Ser. No. 729,912

Int. Cl. C07f 5/06

U.S. Cl. 260—448

10 Claims

A process for the synthesis of amine complexes of aluminum hydride by the reaction of a tertiary amine hydrohalide or a tertiary amine and an aluminum halide with an alkali metal aluminum hydride in the presence of a hydrocarbon solvent.

3,541,128

PERFLUOROALKYL HYDROPEROXIDES AND DERIVATIVES THEREOF

Richard L. Talbott, White Bear Lake, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 448,575, Apr. 12, 1965. This application July 25, 1966, Ser. No. 568,369

Int. Cl. C07c 73/06

U.S. Cl. 260—453

9 Claims

Perfluoroalkyl hydroperoxides are provided together with derivatives thereof in which they are formally coupled with $F-CO_2H$, HCN , CF_3CO_2H , H_2CO_3 and $(HO)_2CFOF$. These compounds are useful as oxidizing agents.

3,541,129

PROCESS FOR THE PREPARATION OF ACRYLONITRILE

Keisho Yamada, Sumio Umemura, and Kyoji Odan, Ube-shi, Japan, assignors to Ube Industries, Ltd., Ube-shi, Yamaguchi-ken, Japan, a corporation of Japan

No Drawing. Filed Aug. 3, 1967, Ser. No. 658,029

Claims priority, application Japan, Aug. 12, 1966,

41/52,568

Int. Cl. C07c 121/32

U.S. Cl. 260—465.3

7 Claims

A process for the preparation of acrylonitrile by contacting a mixture composed of propylene, ammonia and oxygen with a molybdenum-containing catalyst in the vapor phase, characterized in that the catalyst consists essentially of molybdenum, bismuth, antimony and oxygen at the percentile atom ratio of the three components of Mo: 5–60%, Bi: 25–70% and Sb: 5–70%.

3,541,130

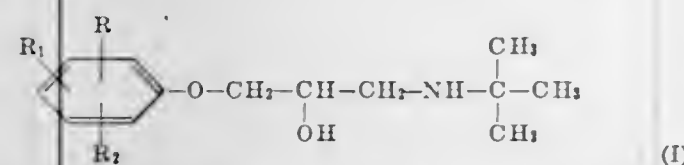
1-(CYANOPHENOXY)-2-HYDROXY-3-TERT-BUTYLAMINE PROPANES

Herbert Koppe, Ingelheim (Rhine), Albrecht Engelhardt, Mainz (Rhine), and Karl Zeile, Ingelheim (Rhine), Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim (Rhine), Germany, a corporation of Germany
 No Drawing. Filed Jan. 25, 1968, Ser. No. 700,376
 Claims priority, application Germany, Feb. 6, 1967, B 91,070; June 15, 1967, B 93,025; July 25, 1967, B 93,645; Great Britain, June 15, 1967, 27,645/67
 Int. Cl. A61k 27/00; C07c 121/74

U.S. Cl. 260—465

9 Claims

A compound selected from the group consisting of racemates of 1-phenoxy-2-hydroxy-3-tert-butylamino propanes of the formula



wherein R is selected from the group consisting of alkynyl of 2 to 4 carbon atoms, $-(CH_2)_x-OH$, $-(CH_2)_x-CN$ and $-(CH_2)_x-NH_2$, where x is an integer from 0 to 3, COOH and COOR' where R' is alkyl of 1 to 4 carbon atoms; R₁ is selected from the group consisting of hydrogen, alkoxy and alkylthio of 1 to 4 carbon atoms, $-CN$ and alkenyl and alkynyl of 2 to 4 carbon atoms and R₂ is selected from the group consisting of hydrogen, halogen and alkyl and alkoxy of 1 to 4 carbon atoms, their optically active isomers and their non-toxic, pharmaceutically acceptable acid addition salts of said racemates and said optically active isomers which compounds possess bradycardia activity and isoproterenol-antagonistic activity.

3,541,131

ION EXCHANGE RECOVERY OF OXAZOLE FROM ACRYLONITRILE COMPOSITIONS

Claude Darcas and Claude Tcherkowsky, Saint-Avoid, France, assignors to Ugine Kuhlmann, Paris, France, a corporation of France
 No Drawing. Filed May 23, 1967, Ser. No. 640,492
 Claims priority, application France, May 27, 1966, 63,185

Int. Cl. C07c 121/32

U.S. Cl. 260—465.3

4 Claims

This disclosure describes a procedure for the removal of oxazole and like compounds from the partially purified reaction product of the vapor phase catalytic reaction between an ethylenic hydrocarbon such as propylene with ammonia and air. The removal is effected by contacting the nitrile composition with a cationic ion exchange resin in the acid form. The disclosure also describes the regeneration of cationic ion exchange resins partially or totally saturated with weakly basic materials by contact with deionized water.

3,541,132

PREPARATION OF α -AMINONITRILES

Richard N. Knowles, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 No Drawing. Filed Aug. 6, 1968, Ser. No. 750,470
 Int. Cl. C07c 121/42, 121/46

U.S. Cl. 260—465.5

8 Claims

Water-immiscible α -aminonitriles, such as 2-amino-2,4-dimethylpentanonitrile, are prepared in a one-step synthesis in good yield by reacting a stoichiometric amount of the corresponding water-immiscible ketone, such as 4-methyl-2-pentanone, with a stoichiometric amount of hydrogen cyanide and an excess of ammonia, in the absence of a solvent, at temperatures of about 20 to 60° C.,

and at pressures above atmospheric. This process permits for good separation of impurities from the product and results in an aminonitrile having very good color.

3,541,133

METHOD FOR SYNTHESIZING MALONONITRILE

Dennis E. Johnson, Cambridge, Philip L. Levine, Lexington, and Wilmer L. Kranich, Worcester, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
 No Drawing. Continuation of application Ser. No. 597,200, Nov. 28, 1966. This application Apr. 3, 1969, Ser. No. 813,408
 Int. Cl. C07c 121/22

U.S. Cl. 260—465.8

2 Claims

A method for making malononitrile by first reacting HCN and Cl₂ and then contacting the reaction products with acetonitrile.

3,541,134

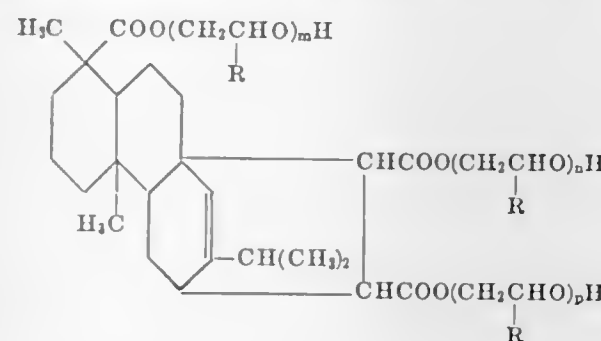
REACTION PRODUCTS OF ROSIN-FUMARIC ACID ADDUCTS AND ALKYLENE OXIDES

Jay B. Class, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
 No Drawing. Filed July 20, 1966, Ser. No. 566,460
 Int. Cl. C07c 69/74

U.S. Cl. 260—468.5

5 Claims

Disclosed is a compound having the formula



wherein R is selected from the group consisting of hydrogen, methyl, ethyl, phenyl and halogenated methyl; and wherein m, n, and p are whole numbers 1, 2 or 3, the total of m, n, and p being at least 3 and no greater than 6. Compounds of this type have utility as ingredients of synthetic foams and as components of protective coating compositions.

3,541,135

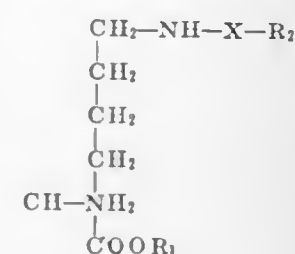
LYSINE DERIVATIVES

Albert Jöhl, Basel, Switzerland, Albert Hartmann, Grenzach, Germany, and Hans Rink, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
 No Drawing. Filed Feb. 2, 1967, Ser. No. 613,418
 Int. Cl. C07c 101/26, 101/24

U.S. Cl. 260—471

9 Claims

Lysine derivatives of the formula



wherein

X represents $-CO-$ or $-CO-O-$ which is linked via its carbon atom to NH,
 R₁ represents a saturated monocyclic hydrocarbon radical having at most 12 carbon atoms, and

R₂ represents a hydrocarbon radical having at most 12 carbon atoms which, optionally, is substituted by halogen up to the atomic number 35 and/or low alkoxy groups, and which, when X is $-CO-O-$ cannot be an optionally substituted phenyl or naphthyl radical,

and their pharmaceutically acceptable salts with acids, which compounds have stimulating action in the metabolism of the connective tissue, as well as antiallergic activity and a promoting action on the healing of wounds, and are useful in the treatment of diseases of the connective tissue and allergies of various origin; therapeutic compositions containing them, and methods of treating inflammatory diseases and allergic conditions with the aid of the aforesaid compounds and compositions.

3,541,136

PROCESS FOR PREPARING DIALKYL TEREPHTHALATES

Charles J. Lind, Hamburg, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
 No Drawing. Continuation-in-part of application Ser. No. 523,272, Jan. 27, 1966. This application Dec. 12, 1967, Ser. No. 689,818
 Int. Cl. C07c 69/82

U.S. Cl. 260—475

13 Claims

Dialkyl terephthalates are prepared in high yield by heating a mixture of terephthalic acid and at least 2 molar equivalents of a monohydric alcohol under superatmospheric pressure in the presence of a molybdenum compound and an oxidizing agent. The molybdenum compound is preferably one which contains molybdenum in a positive oxidation state of six and the oxidizing agent is either a nitro-compound of the benzene series or a molecular oxygen-containing gas.

3,541,137

D-HOMO-B-NOR-ESTRIENES

Marinus Los, Trenton, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
 No Drawing. Filed Feb. 27, 1968, Ser. No. 708,487
 Int. Cl. C07c 171/06

U.S. Cl. 260—479

9 Claims

This invention relates to novel steroid-like compounds which have utility as antiovarulatory and estrogenic agents in treatment of warm-blooded animals and to a novel process for synthesizing said compounds.

3,541,138

CROSSLINKING POLYMERIZABLE SURFACTANTS

William D. Emmons, Huntingdon Valley, and George A. Frank, Fort Washington, Pa., assignors to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware
 No Drawing. Filed Mar. 20, 1967, Ser. No. 624,152
 Int. Cl. C07c 69/52

U.S. Cl. 260—485

5 Claims

This invention relates to crosslinking polymerizable nonionic and anionic emulsifying agents having both a

bound to the polymer in such a manner as to prevent migration of the emulsifying agent on coagulation, and provide an internally stabilized polymer. The polymerizable emulsifying agents of this invention are α,β -unsaturated dicarboxylic acid substituted esters having a hydrophilic portion alpha to or conjugated with a polymerizable double bond and a hydrophobic ester radical portion beta to or unconjugated with the polymerizable double bond. Polymer dispersions formed according to this invention may be used in the preparation of coating, impregnating and binding compositions.

3,541,139

RESOLUTION OF RACEMIC α -HYDROXY- β,β -DIMETHYL- γ -BUTYROLACTONE

Robert Winterbottom, New City, N.Y., and William M. Ziegler, Clementon, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
 No Drawing. Filed Oct. 19, 1967, Ser. No. 676,633
 Int. Cl. C07c 87/66

U.S. Cl. 260—501.1

1 Claim

This disclosure describes a process for the resolution of racemic α -hydroxy- β,β -dimethyl- γ -butyrolactone by converting the racemic lactone into the (+) or (−) 1-(1-naphthyl)ethyl amine salts of the (+) and (−) α,γ -dihydroxy- β,β -dimethylbutyric acids, separating the salts by fractional crystallization, and then converting the separated salts into the optical isomers (−) and (+) α -hydroxy- β,β -dimethyl- γ -butyrolactone.

3,541,140

PROCESS FOR PREPARING DETERGENT SULFONATES

Clarence R. Murphy, Allison Park, and Warren K. Porter, Jr., Gibsonia, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
 No Drawing. Filed Dec. 17, 1968, Ser. No. 784,484
 Int. Cl. C07c 143/02, 143/20

U.S. Cl. 260—513

12 Claims

A process for separating sulfonates obtained from the reaction of an olefinic compound with an alkali bisulfite in a lower water-soluble alcohol and water in the presence of a free radical initiator which involves maintaining a critical ratio of water to said alcohol in the reaction product and separating the resulting aqueous phase from the organic phase at an elevated critical temperature.

3,541,141

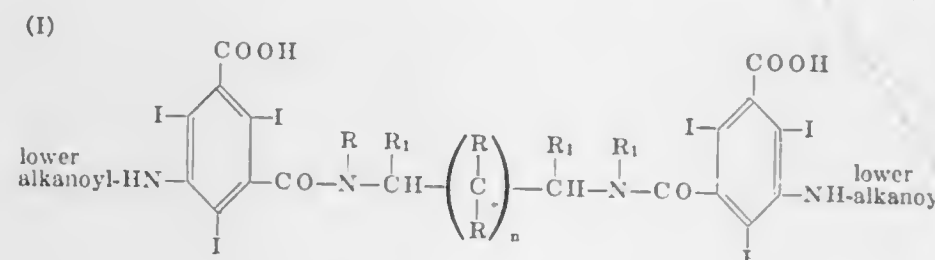
BIS-TRIODIOSOPHTHALAMIC ACID COMPOUNDS

Jack Bernstein and Kathryn Alice Losce, New Brunswick, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
 No Drawing. Filed June 29, 1967, Ser. No. 649,831
 Int. Cl. C07c 103/28, 103/46

U.S. Cl. 260—518

11 Claims

This invention relates to new bis-triodoisophthalamide acid compounds having the formula



hydrophilic ester radical portion and a hydrophobic ester radical portion. The emulsifying agents are chemically and to salts and lower alkyl esters of those compounds. These compounds are useful as radiopaque agents.

3,541,142

[4-(2-HYDROXYMETHYLALKANOYL)-PHENOXY] ACETIC ACIDS

Edward J. Cragoe, Jr., Lansdale, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 2, 1966, Ser. No. 576,854

Int. Cl. C07c 63/36

U.S. Cl. 260—521

6 Claims

A method for the preparation of diuretically active [4-(2-methylenealkanoyl)phenoxy]acetic acid products via the reaction of a [4-[2-(hydroxymethyl)alkanoyl]phenoxy]acetic acid with an acidic reagent. The [4-[2-(hydroxymethyl)alkanoyl]phenoxy]acetic acid starting materials of the process are novel compounds, also useful as diuretics, which may be synthesized by treating a (4-alkanoylphenoxy)acetic acid with an aqueous solution of formaldehyde in the presence of an acid.

3,541,143

PROCESS FOR THE PREPARATION OF ACRYLIC ACID

Mamoru Nakano, Isao Komuro, Kenichi Nagai, and Bunzi Oshida, Kawasaki-shi, Japan, assignors to Mitsubishi Petrochemical Co., Ltd., Chiyoda-ku, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 29, 1967, Ser. No. 663,963

Claims priority, application Japan, Sept. 7, 1966, 41/59,054

Int. Cl. C07c 51/26

U.S. Cl. 260—530

6 Claims

A process for the preparation of acrylic acid which comprises contacting acrolein with molecular oxygen in vapor phase at the temperature ranging 250–500° C., in the presence of a solid catalyst containing vanadium, antimony, titanium, phosphorus and/or tellurium and oxygen.

3,541,144

PROCESS FOR THE PREPARATION OF PROPIOLIC ACID

Robert J. Tedeschi, Whitehouse Station, and George L. Moore, South Plainfield, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 30, 1966, Ser. No. 613,377

Int. Cl. C07c 51/32

U.S. Cl. 260—533

7 Claims

Disclosed is the preparation of propiolic acid and related compounds by reaction of alkali metal with liquefied acetylene and carbon dioxide.

3,541,145

HERBICIDE COMPOSITIONS

Jan Johannes van Daalen, Jasper Daams, and Johannes Wijma, Weesp, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,975

Claims priority, application Netherlands, Jan. 3, 1967, 6700027

Int. Cl. C07c 153/05

U.S. Cl. 260—551

16 Claims

Low volatile derivatives of the herbicidal compound 2,6-dichlorobenzonitrile are produced by reacting 2,6-dichlorobenzamide with an aliphatic or aromatic aldehyde and reacting the resultant product with either a second molecule of the thiobenzamide, an aliphatic or aromatic thioamide or an aliphatic carbonitrile. The re-

sultant product is decomposed in the soil to form 2,6-dichlorobenzonitrile.

3,541,146

PROCESS FOR THE SEPARATION AND RECIRCULATION OF UNREACTED STARTING GASES IN THE UREA SYNTHESIS

Anton Ledergerber and Lung-Pao Chen, Domat-Ems, Switzerland, assignors to Inventa A.G. für Forschung und Patentverwertung, Zurich, Switzerland

Filed Nov. 29, 1966, Ser. No. 597,817

Int. Cl. C07c 127/00

U.S. Cl. 260—555

7 Claims

The invention relates to a process for the separation and recirculation of unreacted starting gases present in the synthesis of urea from ammonia and carbon dioxide and, more particularly, to such a process whereby no prior separation of these gases from each other is carried out.

3,541,147

3-iodo-3',4',5-trichlorosalicylanilide

Jack D. Early, Bethesda, Md., and John P. Chupp, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 29, 1968, Ser. No. 732,870

Int. Cl. C07c 103/30

U.S. Cl. 260—557

1 Claim

3-iodo-3',4',5-trichlorosalicylanilide which is useful in the control of *Prudenia eridania* larvae, commonly known as southern armyworm larvae.

3,541,148

3',4'-DICHORO-5-NITRO-3-PHENYLSALICYLANILIDE

Jack D. Early, Bethesda, Md., and John P. Chupp, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 28, 1968, Ser. No. 732,534

Int. Cl. C07c 103/30

U.S. Cl. 260—559

1 Claim

3',4'-dichloro-5-nitro-3-phenylsalicylanilide which is useful in controlling mosquitoes.

3,541,149

CRYSTALLINE ORGANOLITHIUM-TERTIARY CHELATING POLYAMINE COMPLEXES

Arthur W. Langer, Jr., Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 560,110, June 24, 1966, which is a continuation-in-part of application Ser. No. 505,976, Nov. 1, 1965, which in turn is a continuation-in-part of applications Ser. No. 359,434, Apr. 13, 1964, and Ser. No. 589,240, Oct. 25, 1966, which also in turn are continuations-in-part of application Ser. No. 266,188, Mar. 19, 1963. This application Dec. 13, 1967, Ser. No. 690,054

Int. Cl. C07c 87/20, 87/34, 87/54

U.S. Cl. 260—563

6 Claims

New crystalline organolithium compounds which consist of an organolithium complexed with a chelating tertiary polyamine are prepared in liquid phase reactions; the products are useful as polymerization and isomerization catalysts and as reagents in organometallic syntheses.

3,541,150

CERTAIN ALDOXIME SUBSTITUTED CARBAMATES AND THEIR USE AS INSECTICIDES AND ACARICIDES

Arnold D. Gutman, Pinole, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

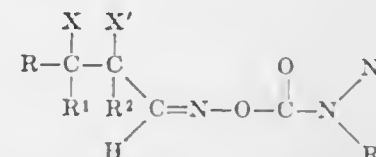
No Drawing. Filed May 15, 1968, Ser. No. 729,417

Int. Cl. C07c 131/00

U.S. Cl. 260—566

4 Claims

Compounds of the formula



in which X and X' are halogen, R and R¹ are hydrogen, halogen, lower alkyl or halo lower alkyl; R² is hydrogen, halogen, lower alkyl; R³ is alkyl and the use of the compounds as insecticides and acaricides.

3,541,151

PREPARATION OF TERTIARY-BUTYLAMINO-BENZOPHENONES

Robert V. Coombs, Summit, and Goetz E. Hardtmann, Florham Park, N.J., assignors to Sandoz-Wander Inc., Hanover, N.J.

No Drawing. Filed Dec. 26, 1968, Ser. No. 787,256

Int. Cl. C07d 51/34

U.S. Cl. 260—570

4 Claims

The invention discloses preparation of 2-tert-butylamino-benzophenones by thermal rearrangement of a corresponding 1-tert-butyl-4-aryl-2,1-benzisoxazoline. The latter compounds are prepared by reduction of a corresponding 1-tert-butyl-4-aryl-2,1-benzisoxazolium salt which may be prepared by reaction of a corresponding 4-aryl-2,1-benzisoxazole with tert-butanol. The 2-tert-butylamino-benzophenones are useful as intermediates in preparing pharmaceutically useful 1-substituted-4-aryl-2(1H)-quinazolinones.

3,541,152

HEXAHALOHYDROXYISOPROPYL-AROMATIC AMINES

Edward S. Jones, Hanover Township, Morris County, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 329,889, Dec. 11, 1963, now Patent No. 3,405,177. This application Feb. 6, 1968, Ser. No. 703,246

The portion of the term of the patent subsequent to Oct. 8, 1985, has been disclaimed

Int. Cl. C07c 91/40

U.S. Cl. 260—571

3 Claims

Hexahalohydroxyisopropyl-aromatic amines, useful in the preparation of azo dyestuffs, polyesters, polyamides, insecticides, plasticizers and pharmaceuticals, are produced by reacting aromatic amines with hexahaloacetones in the presence of sulfonic acid catalysts.

3,541,153

REDUCTIVE ALKYLATION OF ANILINE AND NITROBENZENE

Robert L. Sandridge, Proctor, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed July 21, 1966, Ser. No. 566,981

Int. Cl. C07c 85/08, 85/10

U.S. Cl. 260—577

5 Claims

Amines and oxidation precursors thereof are reductively alkylated by a process which comprises hydrogenating

a mixture of the amine or oxidation precursor thereof and a ketone in a ratio of ketone to amine or its precursor of at least about 1:1 in the presence of a platinum or palladium catalyst, at least about 1.5 parts of a monocarboxylic acid having from 1 to 4 carbon atoms or a halogen acid and at least about one percent by weight of the reaction mixture of water, at a temperature of at least about 80° C. and under a pressure of at least 500 p.s.i.

3,541,154

ISOPRENOID AMINES

Peter Schmialek, Berlin-Dahlem, Germany, and Rudolf Rüegg, Bottmingen, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Application Aug. 14, 1963, Ser. No. 301,968, now Patent No. 3,429,970, dated Feb. 25, 1969, which is a continuation-in-part of applications Ser. No. 168,834, Jan. 25, 1962, and Ser. No. 196,521, May 21, 1962. Divided and this application Jan. 11, 1968, Ser. No. 696,987

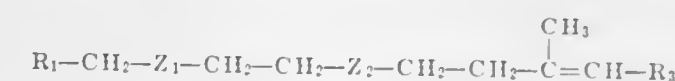
Claims priority, application Germany, Feb. 2, 1961, Sch 29,159; Switzerland, May 24, 1961, 6,019/61

Int. Cl. A01n 9/20; C07c 87/24

U.S. Cl. 260—583

2 Claims

Isoprenoid compounds having the general formula



or a salt thereof, useful for hindering or impeding the metamorphosis and reproduction of arthropodes are disclosed.

3,541,155

PHENOXY-PENTANEDIONES

John J. D'Amico, Dunbar, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

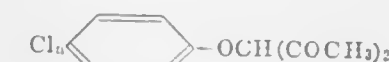
No Drawing. Filed May 16, 1968, Ser. No. 729,540

Int. Cl. C07c 49/80, 49/76

U.S. Cl. 260—590

2 Claims

Compounds of the formula



where n is an integer from zero to five, inclusive, are described, which are useful as biological toxicants.

3,541,156

1,4-OXAPHOSPHONIUM PYRANE HALIDES

Michel Simally, Villejuif, and Hilmil Chahine, Paris, France, assignors to Etablissement Public: Centre National de la Recherche Scientifique, Paris, France, a corporation of France

No Drawing. Filed Jan. 4, 1968, Ser. No. 702,152

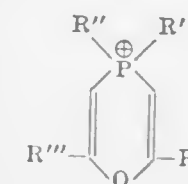
Claims priority, application France, Jan. 6, 1967, 90,294; Dec. 26, 1967, 133,760

Int. Cl. C07f 9/02

U.S. Cl. 260—606.5

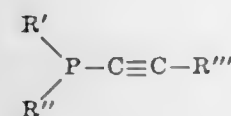
15 Claims

Substituted oxa-4-phosphonium halides of the formula:



wherein R and R''' are each a hydrogen atom, an alkyl or aryl radical or a heterocycle, R' and R'' are alkyl or aryl radicals, and X is chloride or bromine; a novel process for

their preparation by the reaction of an α -halogenated ketone $R-CH-CH_2X$ and an acetylenic tertiary phosphine



R, R', R'', R''' and X having the same meaning as above. These compounds find utility as antiinfection, antiseptic, antifungal and antiparasitic agents.

3,541,157 PROCESS FOR THE PREPARATION OF SUBSTITUTED PHENYL ETHERS

Russell G. Hay, Gibsonia, and John G. McNulty and William L. Walsh, Glenshaw, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 18, 1967, Ser. No. 691,233
Int. Cl. C07c 43/20

U.S. Cl. 260—612 7 Claims
A process is defined for preparing a substituted phenyl ether thermally. The ether is prepared by reacting an activated chloride or bromide such as benzyl chloride with a 2,4,6-trisubstituted phenol under thermal conditions including a temperature of at least 150° C. For example, the reaction of 2,4,6-trimethylphenol with benzyl chloride yields 2,4,6-trimethylphenyl benzyl ether.

3,541,158 1-(DI(LOWER ALKOXY)-4-ALKYLPHENYL)- 2-NITROPROPENES

Alexander T. Shulgin, Lafayette, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 605,598, Dec. 29, 1966. This application Dec. 19, 1967, Ser. No. 691,717

U.S. Cl. 260—613 8 Claims
1 - (di(lower alkoxy) - 4 - alkylphenyl) - 2 - nitropropenes wherein alkoxy occupies one pair of the 2,5 and 2,6 positions on the benzene ring and alkyl is from 1 to 6 carbon atoms, inclusive. These compounds are useful as intermediates and pesticides.

3,541,159 FLUORINATED ALLYL ETHERS AND USE THEREOF

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Application Apr. 23, 1968, Ser. No. 740,013, which is a division of application Ser. No. 647,273, Apr. 27, 1967, now Patent No. 3,437,692, which in turn is a division of application Ser. No. 433,818, Feb. 18, 1965, now Patent No. 3,382,222. Divided and this application June 30, 1969, Ser. No. 835,217

The portion of the term of the patent subsequent to May 7, 1985, has been disclaimed
Int. Cl. C07c 43/00

U.S. Cl. 260—614 4 Claims
Allyl fluoro-alkyl ethers are prepared by reacting a fluorine-containing ketone with an alkali-metal halide and then, without isolating the intermediate, reacting it with an allyl halide to yield the desired ether, typically allyl heptafluoroisopropylether where the starting ketone is fluoroacetone. The allyl ether products are useful, in monomeric and especially polymeric form, for enhancing the repellency of fibrous materials, e.g., textiles.

3,541,160 PREPARATION OF BIS(2-FLUORO-2,2- DINITROETHYL)FORMAL

Mortimer J. Kamlet, London, England, assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Dec. 4, 1962, Ser. No. 243,196
Int. Cl. C07c 41/00, 43/12

U.S. Cl. 260—615 7 Claims
1. The method of preparing bis(2-fluoro-2,2-dinitroethyl)formal which comprises admixing the corresponding metal salt of a bis(dinitroethyl)formal with an inert solvent and contacting the mixture with a fluorinating agent selected from the group consisting of fluorine and perchloryl fluoride.

3,541,161 PROCESS FOR PREPARING PRIMARY ALKANOLS FROM 4,4-DIALKYL-METADIOXANES

Gianfranco Pregaglia and Gregorio Guglielmo, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Continuation of application Ser. No. 505,055, Oct. 24, 1965. This application Apr. 12, 1968, Ser. No. 721,119

Claims priority, application Italy, Dec. 30, 1964, 27,665/64
Int. Cl. C07c 31/02

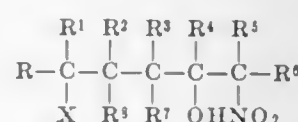
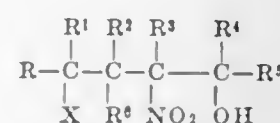
U.S. Cl. 260—632 9 Claims
Described is a process for preparing primary alkanols by hydrogenolysis of 4,4-dialkyl-metadioxanes in which a first alkyl is methyl or ethyl and the other alkyl contains 1 to 5 carbon atoms. The process comprises reacting the metadioxane with hydrogen at temperatures of 120–220° C. under hydrogen pressures from 20 to 200 atm., in the presence of Raney nickel and anhydrous zinc chloride, in a low molecular weight alkanol anhydrous medium.

3,541,162 PREPARATION OF HALONITROALCOHOLS

John M. Larkin, Hopewell Junction, and Donald R. Lachowicz, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 14, 1967, Ser. No. 694,020
Int. Cl. C07c 31/34

U.S. Cl. 260—633 11 Claims
A method for preparing halonitroalcohols having at least 4 carbon atoms by heating a vicinal nitroalkyl nitrate having at least 4 carbon atoms in the presence of a halogen-donating reagent at a temperature of at least 100° C. where the donating halogen has a bond dissociation energy of from 25 to 65 kcal./mole. The halonitroalcohols so prepared correspond to the formulas:



where the R and R¹⁻⁸ groups are hydrogen or alkyl, X is a halogen of the group iodine, bromine and chlorine and are useful as solvents, plasticizers, bactericides, lubricant additives and fuel additives.

3,541,163 PROCESS FOR PREPARING HEPTACHLOR Robert E. Whaley, Memphis, Tenn., assignor to Velsicol Chemical Corporation, Memphis, Tenn., a corporation of Tennessee

No Drawing. Filed Mar. 18, 1968, Ser. No. 714,022
Int. Cl. C07c 17/10, 23/20

U.S. Cl. 260—648 17 Claims
A process for preparing 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene which comprises reacting chlorine with 4,5,6,7,8,8-hexachloro-3a,4,7,7a-tetrahydro-4,7-methanoindene in the presence of a free radical inhibitor.

3,541,164 FRACTIONATION OF MONOCHLOROPARAFFINS Thomas A. Washall, Wilmington, Del., and Frank W. Melpolder, Wallingford, and Leonard N. Leum, Media, Pa., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 16, 1968, Ser. No. 762,359
Int. Cl. C07c 17/38, 18/00

U.S. Cl. 260—652 4 Claims
Fractionation of monochloroparaffins both by molecular weight and by position of the chlorine atom on the chain is accomplished by a silica gel adsorption method.

3,541,165 PROCESS FOR OBTAINING HALOGENATED FLUORINE-CONTAINING HYDROCARBONS

Martino Vecchio, Italo Cammarata, and Vittorio Fattore, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Continuation-in-part of application Ser. No. 329,402, Dec. 10, 1963. This application May 14, 1968, Ser. No. 728,927

Claims priority, application Italy, Dec. 28, 1962, 25,492/62
Int. Cl. C07c 17/02, 17/06

U.S. Cl. 260—653.4 11 Claims
Process for preparing fluorine-containing and chlorine-fluorine-containing derivatives of ethylene and ethane wherein a mixture of chlorine, hydrogen fluoride and ethylene or ethane are reacted together in the presence of recycled mixture of gaseous halo compounds (i.e. fluorinated, chlorinated and chloro-fluorinated hydrocarbons) having a maximum of two carbon atoms. The recycled mixture preferably consists at least in major part of CCl₂=CCl₂, CF₂Cl=CCl₂ or CF₂Cl=CFCl₂. The reaction is carried out in the presence of a catalyst in the solid state which is conducive to the chlorination-fluorination reaction, at a temperature in the range of about 300° to 600° C. and at a contact time in the range of about 0.1 to 30 seconds.

3,541,166 PRODUCTION OF VINYL FLUORIDE AND/OR 1,1-DIFLUOROETHANE

Hiroyuki Wada, Kyoto-fu, and Yasumasa Kawakami, Osaka-fu, Japan, assignors to Daikin Kogyo Co., Ltd., Osaka-fu, Japan, a corporation of Japan

No Drawing. Filed May 21, 1968, Ser. No. 730,949
Claims priority, application Japan, May 24, 1967, 42/32,979

U.S. Cl. 260—653.4 4 Claims
In the production of vinyl fluoride and/or 1,1-difluoroethane by reacting acetylene with hydrogen fluoride in the vapor phase in the presence of a solid catalyst, a method which comprises introducing feed materials, i.e. acetylene and hydrogen fluoride, with at least one of additive materials, i.e. vinyl fluoride and 1,1-difluoroethane, into the reaction zone under the conditions substantially satisfying the relationship of the following equation:

$$(R-Y+1)(F+Y+R+V+A-1) - PB(Y+V)(F+Y-2)=0$$

wherein Y is the molar ratio of vinyl fluoride yield to feed acetylene, F is the molar ratio of feed hydrogen fluoride to feed acetylene, V is the molar ratio of additive vinyl fluoride to feed acetylene, R is the molar ratio of additive 1,1-difluoroethane to feed acetylene, P is the reaction pressure (absolute pressure), A is the molar ratio of an inert gas to feed acetylene and B is the value calculated from the following formula:

$$B = 2.79 \times 10^{-9} (1.43 \times 10^5 \frac{1}{T+273})^{10.02}$$

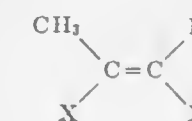
in which T is the reaction temperature, F plus Y being larger than 2, to produce vinyl fluoride and/or 1,1-difluoroethane in an optional proportion.

3,541,167 SELECTIVE HALOGENATION OF 2,3-DIHALOPROPENES

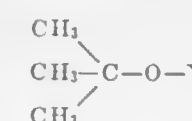
Reginald F. Roberts, Jr., Baton Rouge, La., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 22, 1968, Ser. No. 715,181
Int. Cl. C07c 21/02

U.S. Cl. 260—654 3 Claims
A process for the selective halogenation of 2,3-dihalo-propenes of the formula



wherein in each X is F, Cl, Br or I, said process producing only the 1,2,3-tri-halo-propenes, which comprises reacting by contacting the above propenes with a tertiary-butyl hypohalite of the formula

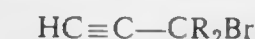


wherein Y is F, Cl, Br or I, in the presence or absence of a free-radical source.

3,541,168 ISOMERIZATION OF 3-BROMO-1-PROPYNES Chester E. Pawloski, Bay City, and Russell L. Stewart, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 27, 1968, Ser. No. 716,332
Int. Cl. C07c 21/02; A01n

U.S. Cl. 260—654 10 Claims
3-bromo-1-propynes having the formula



are isomerized to their corresponding 1-bromo-1,2-propadienes having the formula



where each R independently is H or alkyl having up to four carbon atoms, by a process which comprises contacting the 3-bromo-1-propyne in the liquid phase with an amido catalyst at a temperature between 80 and 150° C. It is preferred to conduct the reaction in the presence of a catalytic amount of a metal halide. The 1-bromo-1,2-propadiene products produced by this reaction have biological activity.

3,541,169

NAPHTHALENE HYDROGENATION

Harold N. Hicks, Jr., Huntington, W. Va., and Andrew E. Haile, Ashland, Ky., assignors to Ashland Oil & Refining Company, Houston, Tex., a corporation of Kentucky

Filed Jan. 9, 1968, Ser. No. 696,649
Int. Cl. C07c 5/10

U.S. Cl. 260—667 13 Claims
A process for selectively hydrogenating naphthalene to substantial quantities of high purity Tetraline which includes: mixing a naphthalene feed material, preferably the naphthalene product of a hydrodealkylation reaction, with hydrogen at a hydrogen-to-hydrocarbon ratio adapted to maintain vapor phase conditions at the hereinafter-mentioned steps, preferably between about 6 and 25 to 1; preheating the mixture to a temperature sufficient to vaporize the naphthalene feed, preferably between about 375° and 450° F.; passing the mixture through a chemisorptive solid material, preferably copper oxide deposited on an inert carrier in an amount of about 10 to 20%, for example about 20%, to remove sulfur contaminants from the feed mixture, passing the clarified feed mixture through a plurality of adiabatic catalytic reactors, for example between 4 and 7, each followed by a separate cooling unit, without intermediate separation of the products, under conditions to maintain a pressure of about 20 to 100 p.s.i.g., a nominal reactor temperature of about 400–550° F., a weight hourly space velocity of about 0.5 to 2.5, and a temperature rise through any one of said reactors not exceeding between about 50° and 100° F., and while maintaining in the catalytic reactors a sulfur-sensitive hydrogenation catalyst, preferably nickel oxide, in an amount of about 0.5 to 25% by weight, and preferably 10%, on an inert support; said conditions of hydrogenation and operation of said adiabatic reactors also being selected to convert a major portion of the naphthalene feed, preferably at least 80% of the naphthalene, to Tetralin; passing the product from the last cooling unit to an isothermally operated catalytic hydrogenation reactor, preferably containing the same catalyst as the adiabatic reactors; separating unreacted hydrogen from the product of the isothermal reaction, preferably recycling the hydrogen to the feed, and stabilizing the liquid product to remove about 5% thereof as an overhead and recover a bottoms product comprising Tetralin of high purity.

3,541,170

PREPARATION OF TETRAPHENYLENE AND DERIVATIVES

Lester Friedman, Beechwood, Ohio, and Donald F. Lindow, Snyder, N.Y., assignors to Case Western Reserve University, a corporation of Ohio

No Drawing. Filed Mar. 1, 1968, Ser. No. 709,788
Int. Cl. C07c 15/12

U.S. Cl. 260—668 2 Claims
According to this invention biphenylene is dimerized to tetraphenylene by pyrolyzing it in a non-oxidizing atmosphere at a temperature in the range of 250° to 460° C. for a period of time up to 30 hours.

3,541,171

AUTOXIDATION INHIBITION WITH CHLOROPHENOLS

William H. Starnes, Jr., and Henry J. Tarski, Baytown, Tex., assignors to Esso Research and Engineering Company

No Drawing. Filed July 1, 1968, Ser. No. 741,319
Int. Cl. B01j 1/16; C07c 7/18; C10g 9/16

U.S. Cl. 260—666.5 4 Claims
The metal catalyzed autoxidation of organic substrates is inhibited by phenols having one or more atoms of

chlorine in the positions ortho and/or para to the hydroxyl group. These chlorophenols function both as free radical chain stoppers and as metal scavenging agents.

3,541,172

STRONTIUM NICKEL PHOSPHATE DEHYDROGENATION CATALYST

Robert A. Stowe, Zen C. Hanger, and Richard W. Roberts, Ludington, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 586,315, Oct. 10, 1966. This application Mar. 25, 1968, Ser. No. 715,491

Int. Cl. C07c 5/18; C01b 25/32

U.S. Cl. 260—669 31 Claims
 β -Strontium nickel phosphate and strontium nickel pyrophosphate and mixtures thereof are catalysts for dehydrogenating monoolefins, having at least four carbon atoms in a chain, to diolefins and alkyl aromatic hydrocarbons to β -alkenyl aromatics. These new compounds also catalyze the dehydrogenation of olefins to dienes, alkyl aromatic hydrocarbons to alkene aromatics, and alkanes having at least four carbon atoms in a chain to mixtures of dienes and monoolefins and alkyl aromatic hydrocarbons to alkene aromatics in the presence of molecular oxygen and bromine. The catalyst precursors are also new. These are made by co-precipitation of a strontium nickel phosphate material at a pH of 5.0 to 9.5.

3,541,173

PROCESS FOR MAKING COLORLESS STYRENE

Leon E. Solomon and John E. Ollerenshaw, Sarnia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 28, 1969, Ser. No. 819,974

Int. Cl. C07c 7/18

U.S. Cl. 260—669 4 Claims
The disclosure concerns a process for removing color from styrene by treating the colored styrene with hydrazine or a hydrazine derivative.

3,541,174

CATALYST IN USE FOR TRANSALKYLATION OF ALKYL-BENZENES (DEALKALIZED ZEOLITE TUFF) AND PROCESS UTILIZING THE SAME

Takehisa Inoue, Tadashi Miyata, Takeshi Sonoda, Takeshi Hashiguchi, and Masaki Sato, Kamakura-shi, Kanagawa-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Dec. 3, 1968, Ser. No. 780,877

Claims priority, application Japan, Apr. 15, 1968, 43/24,737

Int. Cl. C01b 33/28; C07c 3/50, 3/58

U.S. Cl. 260—672 11 Claims
A catalyst useful for the transalkylation of alkyl-benzenes, which catalyst consists of a dealkylated zeolite tuff wherein the metaxylene adsorption amount is at least 1.0 weight percent and the ratio of the benzene adsorption amount to the metaxylene adsorption amount is in the range of from 0.9 to 1.5. The catalyst is obtained by subjecting a zeolite tuff having a zeolite content of at least 40 weight percent to a dealkylization treatment until more than 50 mol percent of the total alkali metal content is dealkylated, the tuff being thereafter washed, dried and calcined.

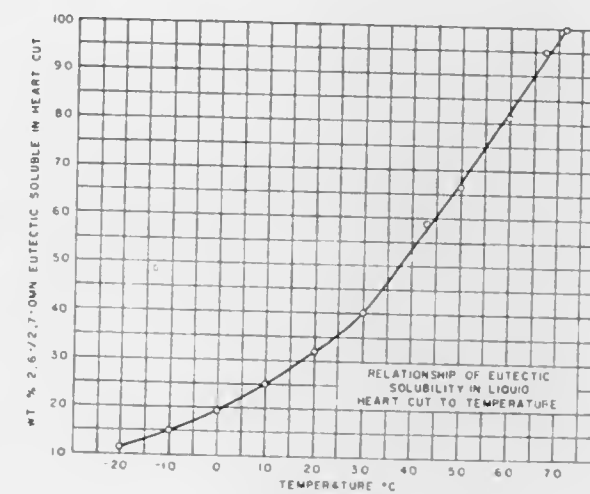
3,541,175

SEPARATION OF 2,6-DMN AND 2,7-DMN EUTECTIC VIA TRANS 2,6-DIMETHYLDECALIN CRYSTALLIZATION

John A. Hedge, Devon, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Nov. 29, 1968, Ser. No. 779,827
Int. Cl. C07c 13/50

U.S. Cl. 260—674 11 Claims



Essentially all of the 2,6-dimethylnaphthalene (DMN) contained in the 2,6-/2,7-dimethylnaphthalene eutectic mixture can be recovered by hydrogenating the eutectic mixture to produce a mixture of 2,6- and 2,7-trans-syn-dimethyldecalin (TSS-DMD). The 2,6-/2,7-TSS-DMD also forms a eutectic, however, it is at a different ratio than the 2,6-/2,7-DMN. The shift is in favor of greater 2,7-TSS-DMD in the eutectic thus there is free 2,6-TSS-DMD that can be recovered from this mixture. 2,6-TSS-DMD can be recovered in high yields and high purity by carefully controlling the temperature of crystallization at the lowest temperature determined from FIG. 3 at which all of the 2,6-/2,7-TSS-DMD eutectic is soluble in the liquids present. For example, a hydrogenated 2,6-/2,7-DMN eutectic feed containing

	Wt. percent
2,6-TSS-DMD	24
2,7-TSS-DMD	24
Other DMD	52

will have a eutectic of 2,6-/2,7-TSS-DMD in the weight ratio of .333/1. Thus, the eutectic represents 32% of the incoming feed. To use FIG. 3, the weight percent of eutectic is calculated on total feed excluding the free 2,6-TSS-DMD in this case the weight percent of eutectic to be dissolved is calculated to be 38 wt. percent. From FIG. 3, 38 wt. percent eutectic is soluble at -33° C. The temperature of crystallization should be no less than -33° C. (+ or -2° C.) to avoid crystallization of the 2,6-/2,7-TSS-DMD eutectic and no more than -33° C. (+ or -2° C.) to avoid dissolving free 2,6-TSS-DMD.

3,541,176

POLYMERIZATION

Ernest A. Zuech, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Application Apr. 11, 1966, Ser. No. 541,516, now Patent No. 3,393,245, dated July 16, 1968, which is a continuation-in-part of abandoned application Ser. No. 500,226, Oct. 21, 1965. Divided and this application Jan. 15, 1968, Ser. No. 697,629

Int. Cl. C07c 11/02, 11/12

U.S. Cl. 260—677 12 Claims
At least one conjugated diene is reacted with ethylene using a catalyst which forms on mixing a conjugated diene-organolithium adduct with one of an iron compound, nickel compound, and a cobalt compound.

3,541,177

PROCESS FOR THE PREPARATION OF BUTADIENE DIMER

Nobue Hagihara, Osaka, Shigetoshi Takahashi, Izumi-Ohtsu-shi, and Akira Kogure, Yokkaichi-shi, Japan, assignors to Japan Synthetic Rubber Co., Ltd., Tokyo, Japan

No Drawing. Filed Mar. 11, 1968, Ser. No. 711,889
Claims priority, application Japan, Mar. 15, 1967, 42/16,032

Int. Cl. C07c 11/00, 11/14

U.S. Cl. 260—677 9 Claims
A process for the preparation of butadiene dimer such as n-octatriene-1,3,7 by contacting butadiene with a transition metal catalyst, characterized in that the said catalyst is a palladium-tertiary phosphine complex which contains a dienophile as the ligand.

3,541,178

PROCESS FOR REMOVING ACETYLENES FROM MIXTURES OF HYDROCARBONS

Gottfried Nettesheim, Wesseling, near Cologne, Germany, assignor to Union Rheinische Braunkohlen Kraftstoff Aktiengesellschaft, Wesseling, near Cologne, Germany, a corporation of Germany

Filed May 28, 1968, Ser. No. 732,706

Claims priority, application Germany, June 2, 1967, U 3,941; Nov. 16, 1967, U 14,411

Int. Cl. C07c 5/02, 7/00; C10g 23/02

U.S. Cl. 260—681.5 3 Claims
Selectively removing acetylenes from hydrocarbon mixtures containing diolefins by liquid phase hydrogenation whereby the hydrocarbon mixtures are prevented from being saturated with hydrogen throughout the entire reaction.

3,541,179

PROCESS FOR MANUFACTURING OLEFINS BY CATALYTIC PARTIAL OXIDATION OF HYDROCARBONS

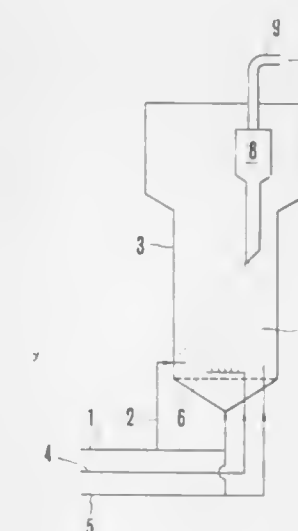
Akio Okagami and Seichi Matsuoka, Tokyo, Japan, assignors to Japan Gasoline Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Nov. 1, 1967, Ser. No. 679,863

Claims priority, application Japan, Nov. 10, 1966, 41/73,503

Int. Cl. C07c 5/18, 5/22; C07g 11/04

U.S. Cl. 260—683.3 12 Claims



Mono-olefins, predominantly ethylene, are manufactured by the catalytic cracking of hydrocarbons at a temperature of 650° to 900° C., with an oxygen-containing gas, with the amount of oxygen being in the range of 0.03 to 1.1 parts by weight based on the weight of the hydrocarbon, in the presence of a fluidized bed of a catalyst composition consisting of at least 80 percent by

weight of inert fire resistant particles of a particle size 20μ to 5 mm., on which is deposited from 0.5 to 20 percent by weight, calculated as the metal, of at least one catalyst component selected from the group consisting of copper, manganese, and vanadium.

3,541,180

ALKYLATION OF ISOBUTENE WITH ETHYLENE OR PROPYLENE AND WITH AN ALUMINO-SILICATE CATALYST

Charles L. Thomas, Swarthmore, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed June 25, 1968, Ser. No. 739,625
Int. Cl. C07c 3/52

U.S. Cl. 260—683.43 4 Claims

Preparation of 2,2-dimethylbutane or 2,2-dimethylpentane by alkylation of isobutene with ethylene or propylene in the presence of an aluminosilicate catalyst characterized by having a silicon:aluminum atomic ratio in the range of 1:2 and a pore size of less than 2 angstroms.

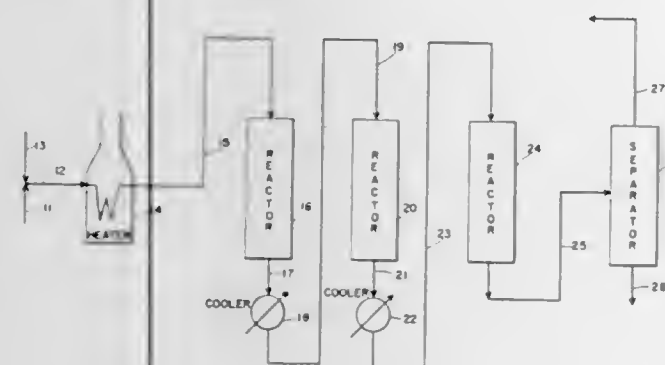
3,541,181

MULTISTAGE ISOMERIZATION PROCESS WITH INTER-STAGE COOLING

Paul G. Berck, Beaumont, Tex., and Alfred M. Henke, Springdale, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 27, 1967, Ser. No. 693,849
Int. Cl. C07c 5/30

U.S. Cl. 260—683.67 10 Claims



Inter-stage cooling of the reactor effluent in a multistage isomerization process employing adiabatic reaction zones suppresses hydrocracking of the isomeric product and increases the ultimate isomer yield.

3,541,182

ANTHRAQUINONE CONTAINING MONOAZO DYESTUFFS

Hans Peter Kolliker, Munchenstein, and Mario Christen, Reinach, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,060
Int. Cl. C07c 107/04; C09b 43/00

U.S. Cl. 260—207.1 8 Claims

Difficultly water-soluble 1-amino- and 1-lower alkyl-amino-4-phenylamino-anthraquinone dyestuffs free from salt-forming, water-solubilizing groups which dissociate in water, bearing in m- or p-position at the benzene nucleus of the phenylamino substituent a substituent of the formula $-N=N-Z$ wherein Z represents an optionally substituted carbocyclic aromatic or heterocyclic aromatic radical and at the same benzene nucleus optionally further substituents, while the 2-position of the anthraquinone nucleus is occupied by an organically esterified or an amidified carboxyl group; these dyestuffs being suited particularly for the dyeing, from an aqueous dispersion, of hydrophobic organic fiber materials, e.g. polyglycol

terephthalate type fibers, but also other polyester fibers and synthetic polyamide and polyacrylonitrile fibers; processes of dyeing such hydrophobic organic fiber materials with such dyestuffs, and such fiber materials dyed with such dyestuffs.

3,541,183

CROSSLINKED POLYURETHANES CONTAINING SEGMENTS FROM HYDROXY TERMINATED 1,6-HEXANEDIOL POLYCARBONATE

Wilhelm Kallert, Cologne-Stammheim, Josef Ivanyi, Opladen, and Erwin Müller, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 16, 1968, Ser. No. 705,890
Claims priority, application Germany, Feb. 28, 1967, F 51,555

Int. Cl. C08g 41/04

U.S. Cl. 260—858 4 Claims

Cross-linked polyurethanes prepared from diisocyanates, polyhydroxy compounds which are mixtures of at least about 70% of 1,6-hexanediol polycarbonate and not more than about 30% of an hydroxyl polyester prepared from at least two glycols and one dicarboxylic acid, and chain lengthening agents containing at least two hydrogen atoms which are reactive with isocyanate groups.

3,541,184

IMPACT RESISTANT VINYL CHLORIDE POLYMER COMPOSITIONS

Robert D. Lundberg, Somerville, N.J., and Clyde J. Whitworth, Jr., Charleston, and William F. Garrett, Dunbar, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 13, 1968, Ser. No. 728,792
Int. Cl. C08f 29/24

U.S. Cl. 260—876 12 Claims

The impact strength of vinyl chloride polymers was improved without a significant lowering of heat distortion temperature by mixing them with about 3 to 20 percent by weight of terpolymers prepared by grafting bicyclo[2.2.1]hept-2-yl acrylate onto butadiene/styrene copolymer or butadiene/alkyl acrylate copolymer. The resultant compositions are particularly useful for fabricating molded or extruded shaped articles.

3,541,185

CHLORINATED POLYVINYL CHLORIDE RESIN COMPOSITION FOR MOLDING

Susumu Taina, Uozu-shi, and Saiji Nozaki, Unazuki-machi, Japan, assignors to Nippon Carbide Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Dec. 27, 1967, Ser. No. 693,952
Claims priority, application Japan, Nov. 16, 1967, 42/73,332

Int. Cl. C08f 29/22

U.S. Cl. 260—876 4 Claims

Chlorinated polyvinyl chloride resin composition for molding the processability of which for molding is remarkably improved and the heat stability and impact resistance of which are additionally improved without substantially lowering an improved softening point inherently possessed by chlorinated polyvinyl chloride per se, and said composition consisting of the following

- (A) 100 parts by weight of a specific chlorinated polyvinyl chloride,
 - (B) a methyl methacrylate-butadiene-styrene copolymer,
 - (C) 1-7 parts of a specific ethylene-vinyl acetate copolymer, and
 - (D) known additives for a composition for molding,
- characterized in that the total of said (B) and (C) is 3-20 parts by weight, and 20-80% by weight of the total of said (B) and (C) is occupied by said (B) copolymer.

3,541,186

PROCESS FOR POLYMERIZING NITRILE MONOMERS WITH ALPHA OLEFINS IN THE PRESENCE OF A TERPENE

Yoon Chai Lee, Springfield, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,856
Int. Cl. C08f 15/04, 15/22

U.S. Cl. 260—878 7 Claims

Disclosed herein is an improvement in a process for the polymerization of interpolymers of ethylenically unsaturated monomers containing nitrile groups with at least one lower alpha-olefin containing from 2 to 10 carbon atoms, wherein at least 55% by weight of the interpolymers is the nitrile-containing moiety. The improvement comprises the use of particular terpenes, such as dipentene, as chain transfer agents in the polymerization process. As a result of such use, products with improved color and clarity are obtained.

3,541,187

MASS POLYMERIZATION PROCESS IN THE PRESENCE OF AN ALIPHATIC NITRILE

Alva F. Harris, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 13, 1967, Ser. No. 690,085
Int. Cl. C08f 7/04, 7/06, 15/22

U.S. Cl. 260—880 15 Claims

There is disclosed a mass polymerization process for monovinylidene aromatic hydrocarbons wherein an aliphatic nitrile is incorporated in the polymerizable mixture. The mixture is then heated to effect polymerization of the monomers, after which the polymerized formulation is separated from the reaction vessel.

3,541,188

HOT MELT ADHESIVE

Richard E. Srail, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 18, 1967, Ser. No. 668,680
Int. Cl. C08f 29/12

U.S. Cl. 260—889 7 Claims

An improved hot melt adhesive composition which comprises an admixture of at least one thermoplastic polymer and a synthetic hydrocarbon resin tackifier wherein the said synthetic resin tackifier comprises from about 40 to about 80 weight percent units derived from 1,3-pentadiene from about 60 to about 20 weight percent units derived from 2-methyl-2-butene.

ERRATUM

For Class 263—52 see:
Patent No. 3,541,190

3,541,189

METHOD FOR CONTINUOUSLY MOLDING HOLLOW ARTICLES OF THERMOPLASTIC RESINS

Shinsuke Yoshikawa and Hiromitsu Makita, Nakoso-shi, Japan, assignors to Kureha Kagaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan

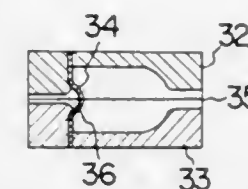
Continuation of application Ser. No. 531,399, Mar. 3, 1966. This application Aug. 4, 1969, Ser. No. 849,579

Claims priority, application Japan, Mar. 8, 1965, 40/13,207; Aug. 27, 1965, 40/52,344
Int. Cl. B29c 17/07

U.S. Cl. 264—25 3 Claims

A process of continuously moulding hollow articles of a polyvinylidene chloride resin from a continuously melt extruded tube of said resin, the method comprising the successive steps of: supercooling the tube immediately after extrusion thereof to a temperature for

rendering the material of the tube into an amorphous polymer without the formation of spherulites; prestretching the cooled tube longitudinally at the optimum stretching temperature to a length corresponding to an elongation such that the elastic recovery of the tube will be at least 70 percent, enclosing the tube in its prestretched state within a mould adapted to clamp one end of the



tube; introducing a fluid under pressure into the tube through the other end thereof thereby to blow and mould the tube into a hollow moulded article; and heat sealing said one end of the tube clamped by the mould thereby to form the bottom part of the hollow moulded article. The present disclosure also provides an apparatus for carrying out the above-mentioned process.

3,541,190

GAS-STREAM HEATING METHOD

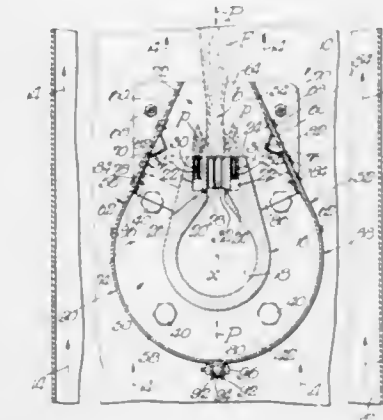
John H. Flynn, 234 Elk Ave., New Rochelle, N.Y. 10804

Continuation-in-part of application Ser. No. 759,741, Sept. 13, 1968, which is a continuation-in-part of application Ser. No. 559,246, June 21, 1966. This application Oct. 1, 1969, Ser. No. 868,960

Int. Cl. F231 7/00

U.S. Cl. 263—52

5 Claims



A burner installation located in a gaseous stream to be heated has a burner casing with a flame surface to which lead main and pilot flame ports for flames projecting downstream of the gaseous stream into a flame space therein. The installation further provides for operation of the burner, including shielding of the flames from extinction by partial vacuum induced by the passing stream, by constantly delivering to a pilot space part of the flame space a gaseous medium at a rate to suppress therein any stream-induced flame-extinguishing partial vacuum at any stream velocity.

3,541,191

METHOD FOR MANUFACTURING FILM FROM THERMOPLASTIC RESINOUS FILM-FORMING MATERIALS

Jon Thordarson, 51 Skipholt, Reykjavik, Iceland

Original application Oct. 24, 1966, Ser. No. 589,135, now Patent No. 3,445,891, dated May 27, 1969. Divided and this application Feb. 11, 1969, Ser. No. 798,377

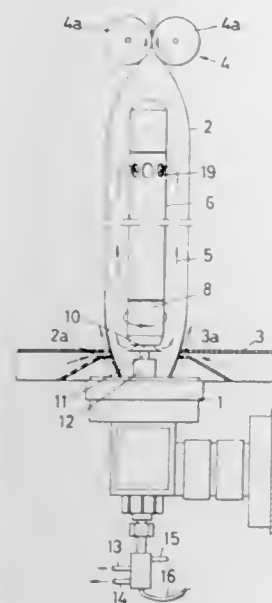
Claims priority, application Norway, Oct. 27, 1965, 160,235/65

Int. Cl. B29c 17/02, 23/00, 25/00

U.S. Cl. 264—37 6 Claims

A method is described for the continuous extrusion of thermoplastic seamless tubing which is immediately cooled

following extrusion by a radially directed cooling gas against the internal surface of the tube. To insure that the cooling gas stream is uniform and thus minimize irregularities in the extruded tubing, the air stream is pro-



jected radially from the center of the tubing through a rotating annular outlet passage whereby any irregularities in the cross-section of the air stream or in the surface of the outlet passage itself are cancelled out.

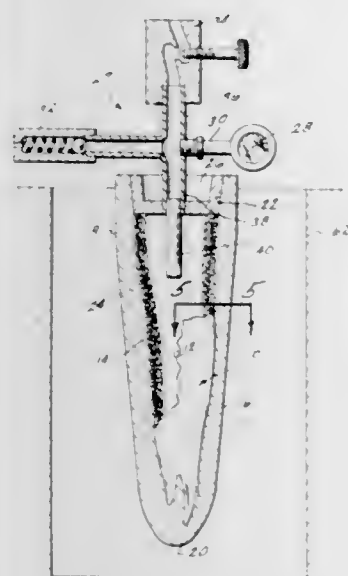
3,541,192

METHOD OF PRODUCING PLASTIC OBJECTS HAVING SMOOTH SKIN PORTIONS AND FOAMED INTERIOR PORTIONS

Wallace H. Shapero, Torrance, and Fleet E. Nuttall, Alhambra, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed May 2, 1967, Ser. No. 635,538
Int. Cl. B29d 27/04

U.S. Cl. 264—45

4 Claims



A plastic base material having gas-releasing capability is placed in a mold, which is subjected to a forced internal pressure change to control the timing of the release of the gas (to form the foamed interior portions of an object) while it is treated (as by heating a vinyl plastisol composition in the known rotocasting process) to form a smooth, soft skin and to complete formation of both the skin and interior portions.

3,541,193 COOLING A SINTERED REFRACTORY CONTAINING UNSTABILIZED ZIRCONIA THROUGH A DISRUPTIVE CRYSTAL PHASE INVERSION

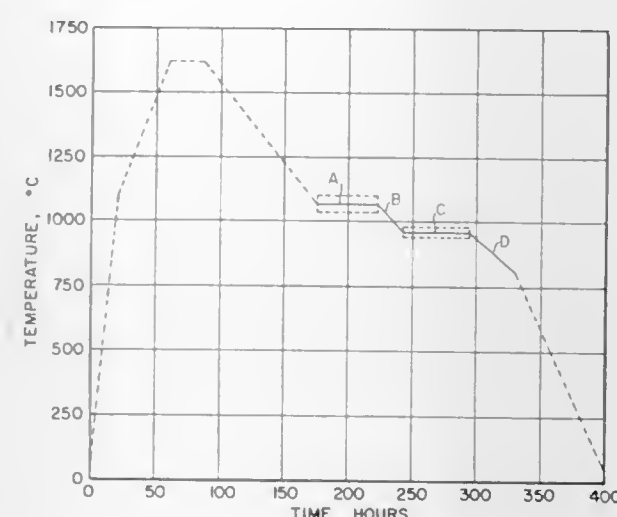
Edward F. Adams, Corning, N.Y., assignor, by mesne assignments, to Corhart Refractories Company, a corporation of Delaware

Filed Aug. 21, 1967, Ser. No. 662,018

Int. Cl. C04b 33/32, 35/48

U.S. Cl. 264—66

9 Claims



Green ceramic bodies in the system $ZrO_2-Al_2O_3-SiO_2$, in which ZrO_2 is the major component, cannot readily be fired to crack-free sintered refractory products of practical size because of thermally induced changes of the crystal habit of zirconia. A method of cooling fired bodies from the sintering temperature is disclosed which obviates the difficulty. The method involves control of cooling rate and providing at least one holding period during which fired bodies are maintained within a definite temperature range.

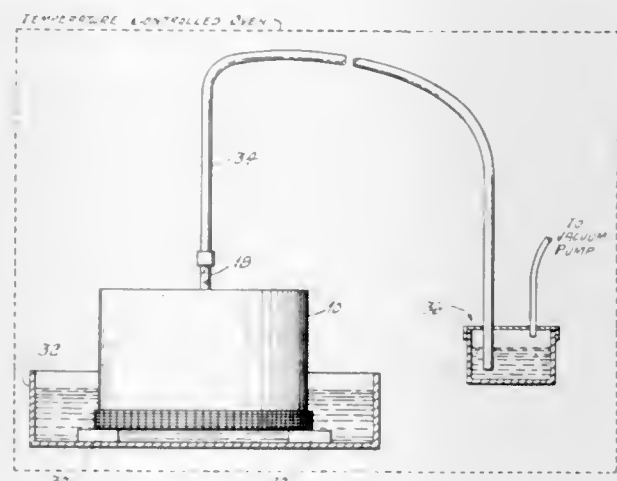
3,541,194

METHOD FOR MAKING SYNTACTIC FOAM

Israel Resnick, Bellerose, N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Original application Mar. 28, 1966, Ser. No. 538,920, now Patent No. 3,477,967, dated Nov. 11, 1969. Divided and this application Oct. 15, 1968, Ser. No. 798,823
Int. Cl. B28b 1/08; C08f 47/10; C08g 53/08

U.S. Cl. 264—71

2 Claims



A method of preparing syntactic foam buoyancy material is disclosed including confining and compacting a quantity of low density filler, flowing an uncured epoxy resin mix through the compacted filler by drawing the said mix upward by means of a vacuum pump attached to the mold confining the filler to fill the entire volume

of the mold not occupied by the said filler and curing the epoxy resin mix.

3,541,195 METHOD FOR MOLDING INSULATION MATERIALS

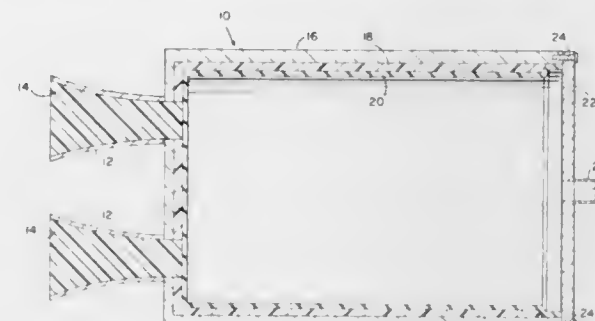
Stanley E. Anderson, Huntsville, and Bernard L. Thompson, Toney, Ala., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Nov. 27, 1968, Ser. No. 779,334

Int. Cl. B29g 1/00

U.S. Cl. 264—94

8 Claims



Method for molding insulation materials on the inner surface of hollow bodies comprising the steps of placing insulation materials to the inner surface of the hollow body to be insulated, coating the inner surface of the insulation materials with silicone rubber, curing the silicone rubber, pressurizing the hollow body, curing the insulation materials with heat, depressurizing the hollow body, and stripping silicone rubber from cured insulation material on the inner surface of the hollow body.

ERRATUM

For Class 264—136 see:
Patent No. 3,541,075

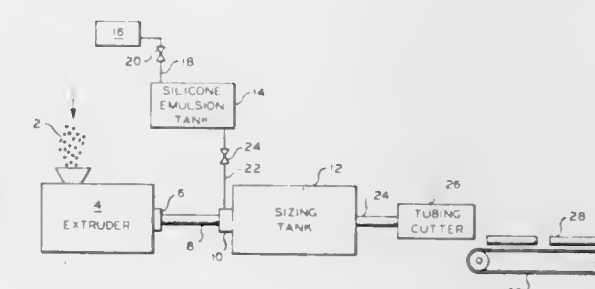
3,541,196

METHOD FOR FORMING SILICONE COMPOSITION COATED POLYOLEFIN ARTICLES

Dixie E. Gilbert, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 26, 1967, Ser. No. 656,281
Int. Cl. B29c 17/07; B22b 31/16; B44d 1/02

U.S. Cl. 264—99

7 Claims



A method of improving the optical clarity and resistance to gas permeation of articles produced from polyolefins. The polyolefin material is heated and a fluid silicone composition is applied in a continuous film to at least one surface of the heated material. The material is then shaped into an article. The fluid silicone composition has a viscosity greater than 10,000 centistokes and is applied in amounts equivalent to about 0.016 to about 1.6 grams of silicone per square foot of material surface. The material may be in parison form and shaped into an article by blow molding.

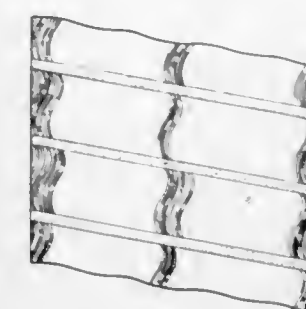
3,541,197

PRODUCTION OF NET-LIKE STRUCTURES

James K. Hughes, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 13, 1968, Ser. No. 728,603
Int. Cl. B29b 3/00; B29c 17/14

U.S. Cl. 264—154

9 Claims



Production of net-like structures from uniaxially oriented thermoplastic sheet materials by subjecting the sheet material to localized heating at spaced points which are at an angle with respect to the direction of orientation and fibrillating the sheet to produce a network of fibers between the heated localized areas and form the net-like structure.

3,541,198

PROCESS FOR MANUFACTURING COMPOSITE FILAMENTS

Keizo Ueda, 56 Tsuto-Ayabacho, Nishinomiya-shi, Hyogo-ken, Japan; Satoshi Ando, 8 5-chome, Nishishigino, Joto-ku, Osaka-shi, Japan; and Masao Matsui, 108 Tainaka, Mishima-cho, Mishima-gun, Osaka-fu, Japan
Continuation-in-part of application Ser. No. 416,071, Dec. 4, 1964. This application Mar. 19, 1969, Ser. No. 814,880

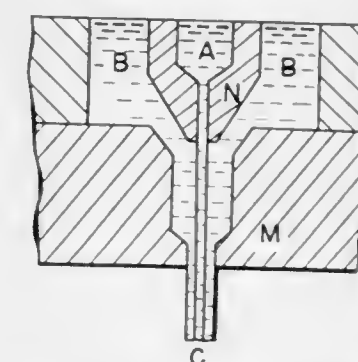
Claims priority, application Japan, Dec. 7, 1963,

38/66,030

Int. Cl. B29f 3/10; D01d 5/12

U.S. Cl. 264—171

4 Claims



A novel method for manufacturing heat crimpable filaments. Two different synthetic linear polymers having a ratio of melt viscosity greater than 2 are conjugately spun in such a manner that these polymers have a cross sectional arrangement in which one of said polymers substantially concentrically surrounds the other. Thereafter they are mechanically treated to cause the polymers to become eccentric relative to each other.

3,541,199

PROCESS FOR IMPROVING THE TENSILE PROPERTIES OF POLYBENZIMIDAZOLE FIBER OR YARN

Thomas C. Bohrer, Summit, and Arnold J. Rosenthal, Whippany, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 520,657, Jan. 14, 1966. This application Oct. 23, 1968, Ser. No. 770,109

Int. Cl. B29c 17/02

U.S. Cl. 264—290

13 Claims

Foamable polybenzimidazole fiber or yarn (strand material) which undergoes foaming or exploding during hot

drawing is subjected, prior to the hot drawing step, to a non-degrading-heat treatment at a temperature in the range of from about 50° C. below the hot drawing temperature up to the degradation temperature of the polybenzimidazole fiber or yarn for a period of time of at least about 1 second.

ERRATUM

For Class 264—293 see:
Patent No. 3,541,216

3,541,200

SURFACE CRYSTALLIZATION OF POLY(2,2,4,4-TETRAMETHYLCYCLOBUTANEDIOL-1,3) CARBONATES BY SOLVENT VAPOR

Walter D. Niegisch, Watchung, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 26, 1967, Ser. No. 693,120

Int. Cl. B29c 25/00

U.S. Cl. 264—343

6 Claims

A shaped, transparent, non-oriented carbonate polymer containing the esterification residue of 2,2,4,4-tetramethylcyclobutanediol-1,3 wherein either the shaped article has a plurality of surfaces or a single surface, with the proviso that where the shaped article has a plurality of surfaces at least two surfaces thereof are crystalline and any portion of the article which is free of crystallinity is amorphous and that where the shaped article has a single surface the single surface is crystalline and any portion of the article which is free of crystallinity is amorphous, and which crystalline surfaces are resistant to attack by solvating organic liquids, such as conventional solvents for the amorphous polymer, and body oils, without adversely affecting its transparency. The method of crystallizing the polycarbonate involves contacting the surfaces of the amorphous polymer with an amount of vaporized organic solvent therefor or for a period of time sufficient to crystallize the surfaces without adversely affecting the transparency of the polymer and thereafter annealing the polymer by heating to a temperature below its glass transition temperature for a period of time sufficient to remove stresses.

3,541,201

NOVEL SODIUM CHLORIDE ENCAPSULATED INJECTIONABLE SUBSTANCES

Ethan Alan Brown, 75 Bay State Road,
Boston, Mass. 02215

No Drawing. Continuation of application Ser. No. 324,861, Nov. 19, 1963, which is a continuation-in-part of application Ser. No. 150,899, Nov. 8, 1961, and also a continuation-in-part of application Ser. No. 580,582, Sept. 20, 1966, which is a continuation-in-part of application Ser. No. 324,861, Nov. 19, 1963. This application Dec. 18, 1968, Ser. No. 784,914

Int. Cl. A61k 9/04, 27/12

U.S. Cl. 424—7

26 Claims

Finely divided crystalline lattice micro-particles of a protein, protease, protamine or amino acid as a metabolizable substance with an active fluorescent dye-tagged or untagged drug, bacterial micro-organism, or allergen physically incorporated into the internal structure of the micro-particles, which are encapsulated in sodium chloride as a metabolizable substance, are physically suspended in a physically acceptable oil or aqueous carrier to provide a therapeutic composition for injection.

3,541,202

DETECTION OF RUBELLA BY HEMAGGLUTINATION-INHIBITION

Harry M. Meyer, Jr., Waterford, Va., Paul D. Parkman, Kensington, George L. Stewart, Rockville, and Hope E. Hopps, Silver Spring, Md., Barbara C. Meyer, Waterford, Va., and Robert D. Douglas and Judith P. Hamilton, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Department of Health, Education, and Welfare

No Drawing. Filed June 26, 1967, Ser. No. 648,975

Int. Cl. G01n 33/16; C12k 1/00

U.S. Cl. 424—12

9 Claims

Method of detecting the presence of rubella antibodies in blood by hemagglutination-inhibition. Serodiagnosis of rubella is accomplished by mixing a sample to be tested, which can be blood serum or gamma globulin, with a rubella virus antigen and adding erythrocytes from either chicken, preferably chick less than 24 hours old, goose, or sheep and observing the same to determine if hemagglutination is inhibited.

3,541,203

PROTECTED VIRUS COMPOSITION FOR INSECT CONTROL

Mark V. Fogle, Lewisburg, and David G. Peyton, Miami, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

No Drawing. Filed May 8, 1969, Ser. No. 823,172

Int. Cl. C12k 1/08

U.S. Cl. 424—17

12 Claims

A process is disclosed for providing viruses, specifically insect viruses, in an improved form wherein the viruses can be applied in an agricultural area and can exhibit a sustained or prolonged effectiveness at a predetermined viral dosage. Moreover, such an improved virus form is disclosed as a composition wherein the virus is protected from environmental conditions;—especially from actinic radiation, such as the portion of white light in the ultraviolet wave length range. In one preferred embodiment, a virus and an ultraviolet absorbing material are contained within a matrix of polymeric material, and the matrix is divided into minute particles. Release of the virus is occasioned by some matrix-breaching force such as by grinding pressures or by solution or degradation of the matrix material. A specific, preferred, composition includes Nuclear Polyhedrosis Virus, carbon black and ethylcellulose combined to afford minute particles of virus and carbon black in an ethylcellulose matrix.

3,541,204

ENCAPSULATED BIOLOGICALLY ACTIVE MATERIALS FOR FEEDING TO RUMINANTS AND PROCESS FOR THE PRODUCTION THEREOF

Ian Ramsay Sibbald, 587 Cheddington Place; Thomas Crossley Loughheed, 67 Garden Wood Drive; and John Herbert Linton, 182 Elworthy Ave., all of London, Ontario, Canada

No Drawing. Continuation-in-part of application Ser. No. 617,817, Feb. 23, 1967. This application Dec. 2, 1968, Ser. No. 780,591

Int. Cl. A61j 3/07

U.S. Cl. 424—38

11 Claims

Controlled release capsules for feeding to ruminants in the form of capsules having a core containing biologically active material, e.g., amino acids, encapsulated in a material which is capable of passing through the rumen without releasing a substantial portion of the biologically active material and passing into the abomasum or anterior part of the small intestine, the environment of

which modifies the encapsulating material and releases the biologically active material for utilization by the animal.

3,541,205

WASH RESISTANT LOTION CONTAINING ORGANOSILICON RESINS

William D. Hardigan and Leo F. Stebleton, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 481,105, Aug. 19, 1965. This application Apr. 11, 1966, Ser. No. 541,536

Int. Cl. A61k 9/06; A61l 23/00

U.S. Cl. 424—60

10 Claims

Organosilicon skin preparations containing two incompatible organosiloxane fluids that resist removal from the skin by washing. As a result, they are useful as hand lotions or ointments for dentists and for others who are required to wash their hands frequently. Illustrative of such a preparation is a dispersion of 2 percent by weight



fluid, 2 percent by weight dimethylsiloxane fluid and 96 percent by weight 1,1,1-trichloroethane. Optionally the skin preparation can also contain an organosilicon resin such as a copolymer of SiO₂ units and (CH₃)₃SiO_{1/2} units.

3,541,206

PREVENTIVE TREATMENT FOR INFECTIOUS VIRAL EQUINE RESPIRATORY DISEASE, EQUINE ENCEPHALOMYELITIS AND EQUINE TETANUS, AND VACCINE THEREFOR

Richard L. Hall, 8217 N. Main St.,
Eden, N.Y. 14057

No Drawing. Continuation-in-part of application Ser. No. 293,286, July 8, 1963. This application May 1, 1967, Ser. No. 634,829

Int. Cl. A61k 27/00

U.S. Cl. 424—89

5 Claims

Inoculation of equines with a vaccine developed from human influenza virus has proven effective in combating equine influenza. Protective antibody response against influenza, tetanus and encephalomyelitis by inoculating an equine with a vaccine combining influenza and encephalomyelitis vaccines and tetanus toxoid is demonstrated.

3,541,207

THERAPEUTIC AGENTS FOR CONTROLLING UNWANTED AQUATIC PROTOZOAL LIFE AND METHOD OF USE

Edward L. Sharpe, Berea, Ohio, assignor to Douglass R. Falkenberg, Rocky River, Ohio

No Drawing. Filed Mar. 24, 1967, Ser. No. 625,617

Int. Cl. A01k 63/00; A61k 27/00

U.S. Cl. 424—127

3 Claims

This invention is in a composition of matter prepared by heating a dilute solution of formaldehyde with an alkali metal bicarbonate at ordinary pressure until the volume of the solution has been reduced by from about 65% to 85%, to yield an alkaline reacting solution or gel. This product, whether in solution form or as a gel, when administered to an aquarium at the rate from .1 cc. to about 2.5 cc. per 10 gals. of water, provides a therapeutic agent which is amazingly effective in the treatment of common fish disorders.

3,541,208

RELIEF OF ARTHRITIS WITH A SOLUBLE SILICATE AND A SOLUBLE POLYPHOSPHATE

Clay J. Dann, Sr., Secaucus, N.J., assignor to Arcom Holding Corporation, Old Tappan, N.J.

No Drawing. Filed Sept. 10, 1968, Ser. No. 758,680

Int. Cl. A61k 27/00

U.S. Cl. 424—128

4 Claims

This invention relates to a method of relieving arthritis, and particularly osteoarthritis by administering to a patient suffering from the same a solution of a soluble silicate, particularly sodium silicate plus a soluble polyphosphate, particularly sodium polyphosphate, which has the effect of preventing the deposition of calcium on the bone surface and eventually of removing the calcification of the arthritis.

3,541,209

METHOD OF ALLEVIATING HYPERTROPHIC CONDITIONS

Friedmund Neumann, Berlin, Germany,
assignor to Schering AG.

No Drawing. Continuation of application Ser. No. 536,311, Mar. 22, 1966. This application Oct. 12, 1967, Ser. No. 675,003

Claims priority, application Germany, Mar. 24, 1965, Sch 36,759

Int. Cl. A61k 17/00

U.S. Cl. 424—243

7 Claims

This invention relates to a method for treating a patient suffering from hypertrophy of the prostate by intramuscular injection of 19-Nor-17 α -hydroxy-progesterone ester.

3,541,210

17-ALPHA-(2-BUTYN-1-YL)-SUBSTITUTED STEROIDS

Eugene E. Galantay, Morristown, N.J., assignor to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware

No Drawing. Filed Apr. 10, 1968, Ser. No. 720,342

Int. Cl. C07c 169/08

U.S. Cl. 424—243

6 Claims

The compounds are 17 α -substituted gonane derivatives, e.g., 17 α - (2' - butyn - 1' - yl) - estra - 4 - en - 17 β - ol-3-one. The compounds have estrogenic/progestational activity.

3,541,211

METHOD OF COMBATING PHYTOPATHOGENIC FUNGI AND COMPOSITIONS THEREFOR

Karl Gätzi, Basel, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Original application July 8, 1965, Ser. No. 470,623, now Patent No. 3,419,548, dated Dec. 31, 1968. Divided and this application May 8, 1968, Ser. No. 727,713

Claims priority, application Switzerland, July 13, 1964, 9,205/64

Int. Cl. A01n 9/00

U.S. Cl. 424—244

16 Claims

Methods for combating fungi involve the use of 3-sec- and 3-tert-aminoazacycloalkan-2-ones having 6 to 8 ring carbon atoms and their acid salts having fungicidal activity. Compositions containing these compounds are disclosed as fungicides.

3,541,212

AGRICULTURAL BACTERICIDAL COMPOSITION
Shoji Kamimura and Hiroshi Takahashi, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan
No Drawing. Filed Jan. 23, 1968, Ser. No. 699,789

Int. Cl. A01n 9/22; A61k 27/00

U.S. Cl. 424—251

4 Claims

To prevent plant diseases of plants attacked or to be attacked by pathogenic bacteria, the invention proposes the application to the plants of 2-aminoquinazoline or its acid addition salts.

3,541,213

FUNGICIDAL AND MITE OVICIDAL SUBSTITUTED 2-AMINOBENZIMIDAZOLES

Hein L. Kloppe, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 629,900, Apr. 11, 1967, which is a continuation-in-part of application Ser. No. 548,034, May 6, 1966. This application Mar. 20, 1968, Ser. No. 714,462

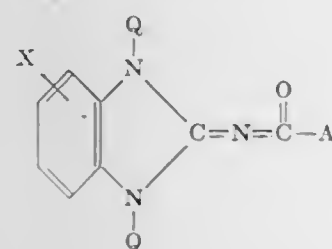
Int. Cl. A01n 9/22

U.S. Cl. 424—273

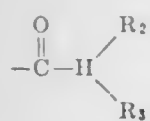
36 Claims

Substituted 2-aminobenzimidazoles of the following three formulas are useful as mite ovicides and fungicides. The compounds also have utility in that when they are added to sewage, they result in an increase in the rate of sewage decomposition. When added to soil, the compounds increase the rate whereby the nitrogen present in fertilizers is converted into usable plant food. The compounds also possess activity against the helminth parasites of warm blooded animals.

Formula I

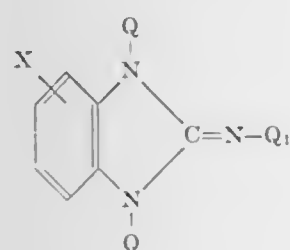


where one Q is



and X, A, R₂, R₃ and the other Q are as defined herein-after. An exemplary species of the general class is the compound: methyl 1-(butylcarbonyl)-2-benzimidazole-carbamate.

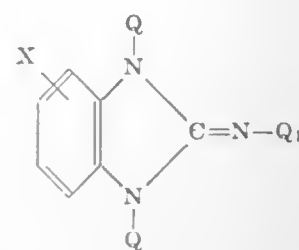
Formula II



where one Q is —SZ and X, Z, Q₁ and the other Q are as defined hereinafter. An exemplary species of this gen-

eral class is the compound: 1-(trichloromethylthio)-2-benzimidazolecarbamic acid, methyl ester.

Formula III



where X, Q₁ and Q are as defined hereinafter. Q includes such groups as hydrogen, alkoxycarbonyl, acyl, and alkyl. An exemplary species of the general class is the compound: 1-methylcarbonyl-2-benzimidazolecarbamic acid, methyl ester.

3,541,214

2-ALLYL-2-(β-HYDROXYPROPYL) MALONIC ACID UREIDE IN THE TREATING OF DISORDERS DUE TO INSUFFICIENT OXYGEN AND GLUCOSE UTILIZATION IN THE BRAIN CELLS

Jean Heusser, Langnau am Albis, and Christian Schmid, Adliswil, Switzerland, assignors to Messrs. Hommel Aktiengesellschaft, Zurich, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 567,830, July 26, 1966. This application Dec. 17, 1968, Ser. No. 784,474

Claims priority, application Switzerland, July 26, 1965, 10,440/65

Int. Cl. A61k 27/00

U.S. Cl. 424—279

3 Claims

Method of treating disorders due to insufficient oxygen and glucose-utilization in the brain cells which comprises administering to a subject suffering such disorders an effective amount of the lactone 2-allyl-2-(β-hydroxypropyl)malonic acid ureide.

3,541,215

METHOD OF RENDERING SUBSTRATES RESISTANT TO FUNGI AND BACTERIA AND RESULTING PRODUCT

Richard E. DeMarco, 7 River Drive, Severna Park, Md. 21146, and Ambrose J. Gibbons, Jr., 101 Locust Ave., Catonsville, Md. 21228

No Drawing. Continuation of application Ser. No. 445,750, Apr. 5, 1965. This application Dec. 23, 1968, Ser. No. 786,857

Int. Cl. A01n 9/00; A61k 27/00; A61l 13/00

U.S. Cl. 424—287

3 Claims

Resistance to fungi and bacteria can be imparted to such substrates as synthetic resins, paper, textiles, cement and wood by incorporating to at least the surface portions thereof from about 0.00004% to about 2% by weight of a triorganostannoxy compound having the formula R₃SnOMR^v where R is an alkyl group having from 1 to 10 carbon atoms or a mixture of said alkyl groups and alkoxy groups having from 1 to 10 carbon atoms; wherein R^v can be an alkoxy group having from 1 to 18 carbon atoms or a vinyl group (CH₂=CH—), or a mixture thereof, wherein M represents silicon, boron, or a metalliferous unit selected from the group consisting of titanium, antimony, aluminum, and the vanadyl radical, and wherein v represents the valency of the silicon or metalliferous unit. Method of impregnation and resulting impregnated substrates are shown.

3,541,216

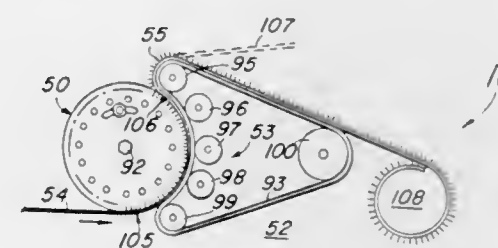
PROCESS FOR MAKING AN EMBOSSED PRODUCT
James J. Rochlis, New York, N.Y., assignor to Christ-Craft Industries, Inc., New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 641,714, Mar. 24, 1967, which is a division of application Ser. No. 313,356, Oct. 2, 1963. This application Aug. 26, 1968, Ser. No. 755,413

Int. Cl. B29c 21/00; B29d 7/14

U.S. Cl. 264—293

2 Claims



An embossing mold is made from an assembly or lamination of plates, each plate having recesses along an edge thereof. A sheet of pre-softened plastic material is processed and pushed under mild pressure into the embossing surface formed by the recesses. This embosses the thermoplastic material with a contour complementary to the aggregate contours formed by the recesses. A special effect is produced when various thermoplastic materials are used, and the thermoplastic material has expansion or shrinkage characteristics related to the heat absorption

ELECTRICAL

3,541,219

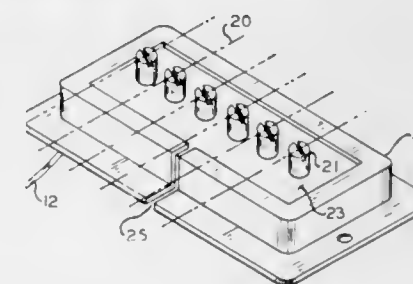
MAGNETIC PICKUP UNIT FOR MUSICAL INSTRUMENTS

Raymond L. Abair, Toledo, Ohio, assignor to Rowe Industries Incorporated, a corporation of Ohio
Filed Oct. 15, 1968, Ser. No. 767,643

Int. Cl. G10b 3/00

U.S. Cl. 84—1.15

11 Claims



An electromagnetic pickup unit for musical instruments wherein the surrounding housing and adjustment sleeve elements of the associated permanent magnet core pieces are slit so as not to act as short circuited electrical loops especially in the resonant frequency range of the unit, thereby promoting higher fidelity reproduction and efficiency of operation of such unit.

3,541,220

REINFORCED LONG PORCELAIN BUSHING
Koji Kikuchi, Yokohama, Koichi Ishizu, Ichikawa, and Hiroshi Suzuki and Hiroyuki Kimura, Yokohama, Japan, assignors to The Furukawa Electric Company Limited, Tokyo, Japan

Filed June 3, 1968, Ser. No. 733,939

Claims priority, application Japan, Sept. 8, 1967, 42/76,465; Apr. 19, 1968, 43/26,224

Int. Cl. H01b 17/26

U.S. Cl. 174—12

4 Claims

A reinforced long porcelain bushing having an insulating cylinder of fibre-reinforced plastic fitted in the long

due to color or other thermal properties so that sculptured effects are in register.

3,541,217

o-CHLOROBENZYLAMINOGUANIDINE FOR TREATING BOVINE KETOSIS

Frederick J. Marshall and Jack Mills, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 630,545, Apr. 13, 1967. This application June 30, 1969, Ser. No. 837,903

Int. Cl. A61k 27/00

U.S. Cl. 424—326

5 Claims

o-Chlorobenzylaminoguanidine and its salts with pharmaceutically acceptable acids are active hyperglycemic compounds useful for the treatment of bovine ketosis.

3,541,218

o-FLUOROBENZYLAMINOGUANIDINE FOR DIABETES

Frederick J. Marshall and Jack Mills, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

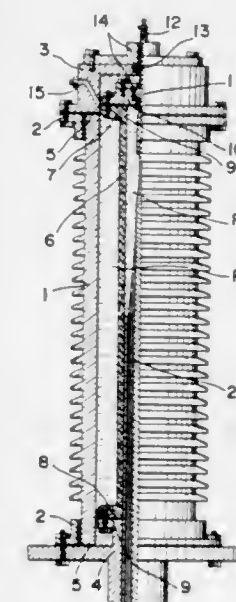
No Drawing. Continuation-in-part of application Ser. No. 630,539, Apr. 13, 1967. This application June 18, 1969, Ser. No. 834,506

Int. Cl. A61k 27/00

U.S. Cl. 424—326

4 Claims

o-Fluorobenzylaminoguanidine and its salts with pharmaceutically acceptable acids are useful hypoglycemic compounds for the treatment of diabetes mellitus.



jected to a compressive stress to make it strong enough to withstand external force. The insulating cylinder is given a taper such that the inner diameter of the long porcelain bushing can be made smaller. Those portions of the flange of the insulating cylinder which occlude voids and gaps are coated with electric conductive or semi-conductive paint for increasing the partial discharge inception voltage.

3,541,221

ELECTRIC CABLE WHOSE LENGTH DOES NOT VARY AS A FUNCTION OF TEMPERATURE

Marcel Aupoix, Paris, and François Moisson-Franckhauser, Bretigny-sur-Orge, France, assignors to Compagnie Generale d'Electricite, Paris, France, a corporation of France

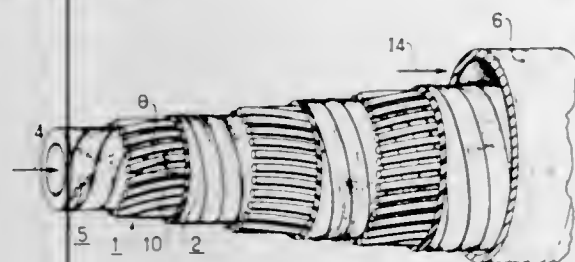
Filed Dec. 10, 1968, Ser. No. 782,558

Claims priority, application France, Dec. 11, 1967, 131,779

Int. Cl. H01b 7/34, 7/06

U.S. Cl. 174—13

6 Claims



An electric cable of nonvarying length regardless of change in temperature formed by at least two concentric layers, one of which is of conducting metal, the other being of insulating material, and in which the conducting metal layer consist of helically-coiled wires disposed at a given angle with respect to the cable axis.

3,541,222

CONNECTOR SCREEN FOR INTERCONNECTING ADJACENT SURFACES OF LAMINAR CIRCUITS AND METHOD OF MAKING

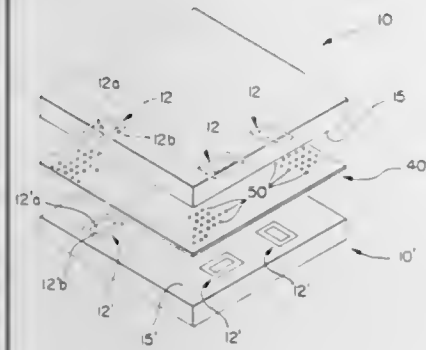
Howard L. Parks, Woodland Hills, Tome Kitaguchi, Northridge, and Robert B. Older, Woodland Hills, Calif., assignors to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware

Filed Jan. 13, 1969, Ser. No. 790,722

Int. Cl. H05k 1/08

U.S. Cl. 174—68.5

10 Claims



A connector screen for interconnecting aligned electrodes of adjacent circuit boards or modules. The connector screen comprises a matrix of spaced conductive connector elements embedded in a supporting non-conducting material with the conductive connector elements protruding from both sides thereof. The size and spacing of the connector elements are chosen so that the connector screen can be disposed between the circuit boards or modules to provide the required interconnections between the electrodes without requiring alignment of the connector screen with respect to the boards or modules. A preferred method of making the connector screen involves forming a conductive mold having a grid pattern of ridges in a non-conductive base. Conductive material is then cast between the ridges of the mold, following which selected portions of the mold are removed to form a web of non-conductive material supporting a matrix of spaced conducting elements protruding from both sides of the web.

3,541,223

INTERCONNECTIONS BETWEEN LAYERS OF A MULTILAYER PRINTED CIRCUIT BOARD

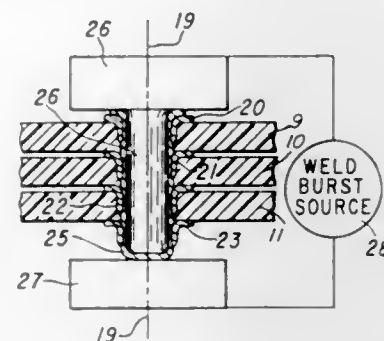
John D. Helms, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Original application Sept. 23, 1966, Ser. No. 581,539, now Patent No. 3,489,877, dated Jan. 13, 1970. Divided and this application Mar. 25, 1969, Ser. No. 810,104

Int. Cl. H05k 1/04

U.S. Cl. 174—68.5

2 Claims



Vertical interconnections between multilayer printed circuit boards are made by embedding a wire into a hole formed through the stacked boards. The hole is formed through the various circuit elements to be interconnected and the insulating layers. A wire is introduced into the hole with a tool which impresses the wire laterally into the surface wall of the hole and the various circuit elements to be interconnected. A current is then passed through the wire which causes it to bond to the conductive elements.

3,541,224

ELECTRICAL DISTRIBUTION SYSTEM INCLUDING RIGID TUBULAR CONDUIT LENGTHS CONNECTIBLE IN END-TO-END RELATION BY LINK MEMBERS

Jean Louis Andre Joly, Houilles, Yvelines, France, assignor to La Telemecanique Electrique, Nanterre, Hauts-de-Seine, France, a company of France

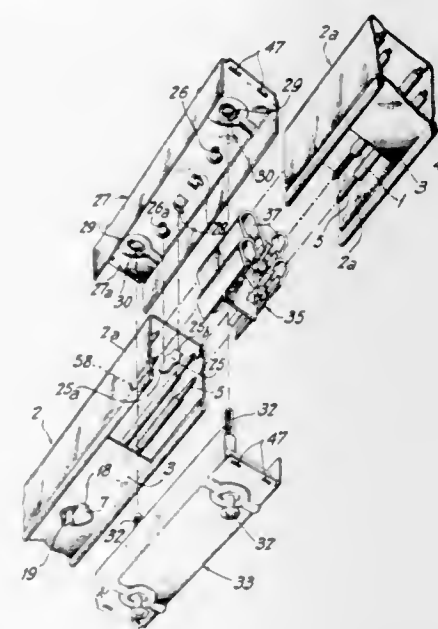
Filed Mar. 5, 1969, Ser. No. 804,647

Claims priority, application France, Mar. 12, 1968, 143,348

Int. Cl. H02g 3/36

U.S. Cl. 174—72

15 Claims



An electrical distribution system comprises a number of linear conduit lengths which are to be aligned in correct phase relationship by intermediate link members, and the correct alignment is ensured by means of offset holes in the conduit lengths and link members respectively,

which serves to accommodate fastening screws for temporary assembly of the conduit lengths prior to their electrical connection. Also described are a terminal connector and alternative junction-type link members.

3,541,225

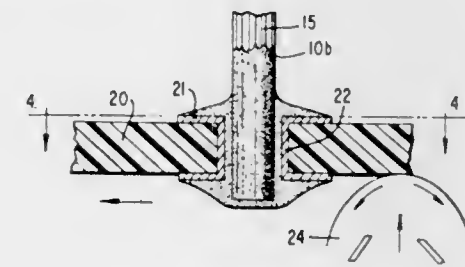
ELECTRICAL CONDUCTOR WITH IMPROVED SOLDER CHARACTERISTICS

Joseph A. Raciti, East Boxford, Mass., assignor to General Electric Company, a corporation of New York

Original application Aug. 29, 1966, Ser. No. 575,813. Divided and this application Dec. 20, 1968, Ser. No. 785,649

Int. Cl. H01c 1/14; H02g 15/02; H05k 3/30

U.S. Cl. 174—74 2 Claims



An electrical conductor having improved soldering characteristics. The conductor has a plurality of independent solder capillaries formed therein. Each capillary consists of a longitudinal groove in the conductor.

3,541,226

ELECTRICAL CONNECTOR FOR TERMINATING MULTILAYER CONDUCTIVE FOIL AND CORRUGATED INSULATION THEREFOR

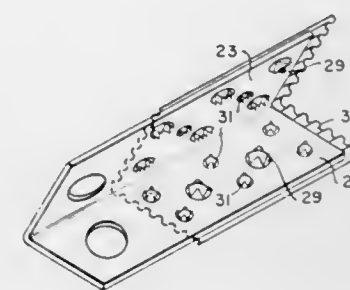
Carmen Achille Cea, Harrisburg, and Joseph Agusta Wise, Mechanicsburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Dec. 2, 1968, Ser. No. 780,423

Int. Cl. H01r 9/08; H02g 15/08

U.S. Cl. 174—84

12 Claims



The disclosure relates to an electrical connector for terminating a multilayer conductive foil, a corrugated insulator and the use of a corrugated insulator in conjunction with an electrical connector or termination. The electrical connector or termination is formed from a flat blade which is bent over at its center portion to form two side portions, each forming an acute angle with the other. Each of the side portions includes tangs therein, the tangs on one side portion mating with the other, the mating tangs being of different diameter wherein one of the tangs will fit directly within the opposing tang on the opposite side. In use, the foil layers are positioned between the two sides of the acute angle formed by the terminal sides and a crimping action takes place. The larger tangs pierce and scrape oxides from the foil members and their ends become riveted against the surface of the opposing side. The smaller tangs pierce the underlayers of the laminated foil and press outwardly to provide tight engagement with

the foil. The insulator includes a corrugated outer portion which is secured to the connector member by an adhesive. The corrugations flatten out during crimping at points of stress to avoid any weakening of regions which might be stretched during the crimping action.

3,541,227

TERMINAL FOR INTERCONNECTING FOIL CONDUCTOR AND WIRE CONDUCTOR

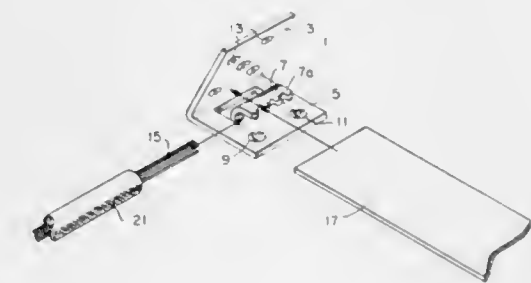
Joseph John Bendrick, Hummelstown, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Nov. 13, 1968, Ser. No. 775,249

Int. Cl. H01r 9/06; H02g 15/08

U.S. Cl. 174—94

6 Claims



The disclosure relates to a terminal for interconnecting an electrically conductive foil and an electrically conductive wire wherein the wire barrel is a stamped out portion of the terminal member, the foil conductor being placed over the barrel and being secured within the terminal by means of lances formed in the terminal member and on opposite sides thereof upon crimping. Crimping of the terminal compresses the wire barrel over the wire conductor, all within the terminal, to provide the interconnection between the electrically conductive foil and the electrical conductor wire.

3,541,228

MEDIUM VOLTAGE CABLES

Luigi Lombardi, Milan, Italy, assignor to Pirelli Societa per Azioni, Milan, Italy, a corporation of Italy

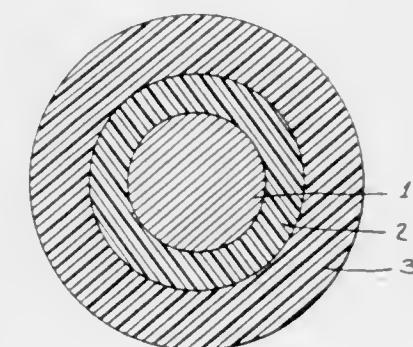
Filed May 20, 1968, Ser. No. 730,657

Claims priority, application Italy, May 23, 1967, 16,392/67

Int. Cl. H01b 7/00

U.S. Cl. 174—120

5 Claims



Describes a medium voltage cable including an insulating layer and a semiconductive layer in contiguous but not adhesive relationship. The insulating layer is an amorphous olefine copolymer, saturated or unsaturated, and the semiconductive layer is a composition containing carbon particles dispersed in chlorosulfonated polyethylene.

Product is prepared by heat treatment of the superimposed layers on a conductor.

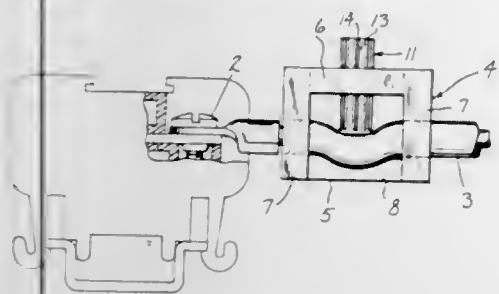
3,541,229 FANNING STRIP FOR ELECTRICAL CONDUCTORS

Woodrow A. De Smidt, Whitefish Bay, Milwaukee, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Feb. 21, 1968, Ser. No. 707,145
Int. Cl. H01r 13/58

U.S. Cl. 174-135

1 Claim



A device for receiving the ends of a plurality of electrical conductors and holding them in a uniformly spaced array which has a lengthwise body of a channel configuration, openings along the sides of the body through which the conductors are extended, and pins that are pressed against the conductors to deform them and hold them in place.

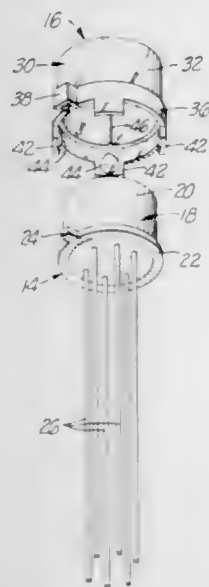
3,541,230 COMBINATION INSULATING AND STAND-OFF COVER FOR TRANSISTORS AND THE LIKE

Roy G. Kramer, 1342 Signal Drive, Pomona, Calif. 91716

Filed Apr. 29, 1968, Ser. No. 724,840
Int. Cl. H05k 5/03

U.S. Cl. 174-138

4 Claims



A combined insulating and stand-off cover is provided for electrical circuit elements such as transistors and the like having terminals for connection to a circuit board. The cover is a cap which fits over the circuit element to isolate the latter from other conductors on the circuit board and projecting stand-off lugs which seat against the board to space the circuit element from the board.

3,541,231 ELECTRICAL TERMINAL PROVIDING A PLURALITY OF CIRCUITS

August I. Keto, Sharpville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

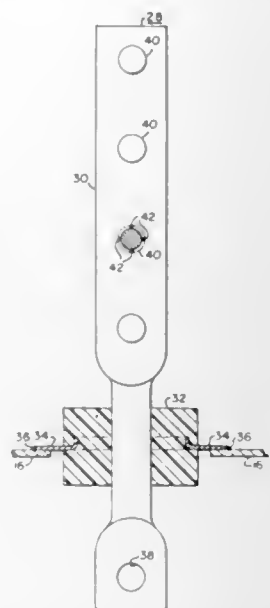
Filed Jan. 7, 1969, Ser. No. 789,537
Int. Cl. H01b 17/26

U.S. Cl. 174-152

3 Claims

An electrical terminal assembly for connecting a plurality of load circuits to electrical apparatus housed in a casing. The terminal assembly comprises a first elongated

gated electrical conductor cast through an insulating member, with a flange for mounting the terminal assembly on a casing cast into the insulating member. The lower end of the first electrical conductor extends into the casing and is connected to electrical apparatus housed in the casing. The upper end of the first electrical conductor extends outside of the casing and has electrically con-



nected thereto a plurality of spaced studs or second electrical conductors located substantially transverse to the first electrical conductor. Each of the studs or second electrical conductors has portions extending on at least two sides of said first electrical conductor. A load circuit may be electrically connected to each of the portions of the studs or second electrical conductors which extend beyond the sides of the first electrical conductor.

3,541,232 TRANSMISSION DEVICE FOR A START-STOP TELEPRINTER

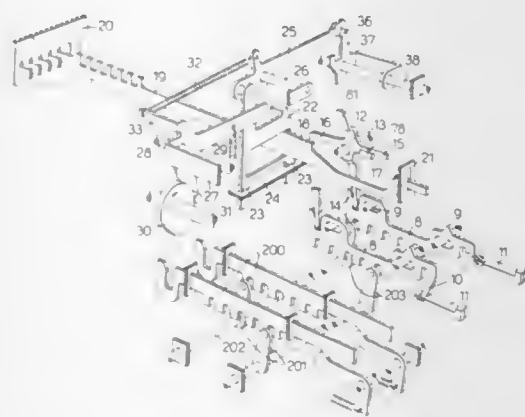
Boris Ukmar and Giuseppe Ricciardi, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy

Filed Mar. 20, 1968, Ser. No. 714,488
Claims priority, application Italy, Mar. 24, 1967, 803,664

Int. Cl. H04l 15/18

U.S. Cl. 178-17

12 Claims



A transmission device for a start-stop teleprinter wherein a set of transmission bars are set up under the control of a set of transfer levers to control a cyclically operable parallel-to-series converter, and an answer back drum is simultaneously sensed by a set of sensing members, the levers are cross-shaped and comprise each one a pair of opposite arms engageable by a pair of shoulders of a corresponding code member, and a third arm connected to a corresponding one of said transmission bars,

each transfer lever moreover comprising a pair of elements engageable selectively by a pair of counterelements of one of said sensing members. The transmission device is also provided with a tape reader having a set of code elements rigidly connected to the transmission bars and comprises various interlocking means for preventing the tape reading and the answer back sensing as long as the teleprinter is transmitting code combinations from the code member.

3,541,233 COLOR CONVERSION SYSTEM FOR X-RAYS

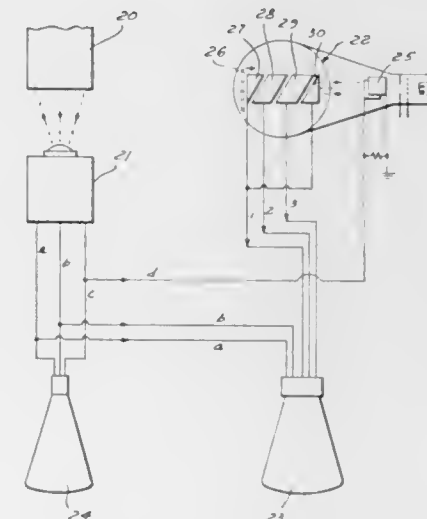
Waldemar A. Ayres, Rutherford, N.J., assignor to Becton, Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey

Filed July 6, 1967, Ser. No. 651,473

Int. Cl. H04n 5/32

U.S. Cl. 178-5.2

4 Claims



A system for converting two and three dimensional X-rays from black and white into color by assigning different colors to different shades of gray in the black and white image thereby increasing the contrast between portions of the image and facilitating viewing of the X-ray. An X-ray image is projected and picked up by a television camera which in turn is connected to both a color conversion control tube and a color television tube which are in turn connected to each other so that the conversion tube is responsive to the gray scale of the image and controls the color guns of the TV tube in response to the gray scale thereby converting the various grays of the image into colors to be viewed on the colored TV tube. A manual control knob may be provided on the color conversion tube to allow the observer to manually shift the color spectrum relative to the gray values in a particular X-ray picture to obtain an optimum color contrast. In addition, the black and white TV tube may be additionally hooked up to the intensifier so that a black and white image and a colored image are shown simultaneously.

3,541,234 VIDEO CIRCUITS EMPLOYING CASCODED COMBINATIONS OF FIELD EFFECT TRANSISTORS WITH HIGH VOLTAGE, LOW BANDWIDTH BIPOLAR TRANSISTORS

Wayne Miller Austin, Flemington, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Oct. 20, 1967, Ser. No. 676,887

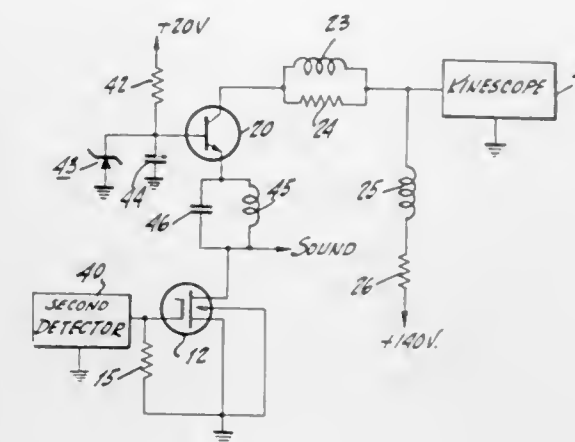
Int. Cl. H03f 3/16; H04n 5/60, 9/52

U.S. Cl. 178-5.4

6 Claims

There is disclosed a circuit capable of exhibiting large output voltage swings over a broad band of frequencies. A high voltage and large dissipation rated bipolar transistor has its emitter electrode coupled to the drain electrode of a low voltage rated, but a high gain-bandwidth,

field effect device. The coupling is such that, in combination with proper biasing of the devices, the bipolar transistor assumes most of the required output voltage swing while a relatively small voltage swing is developed across the field effect device. The field effect device serves to drive the bipolar over a broad range of frequencies due to the



field effect's large gain bandwidth product, while the high voltage swing and consequent dissipation is assumed by the bipolar. The field effect device's gate electrode is coupled to the source of video signals and presents a high impedance thereto. Therefore the circuit applications of the disclosed amplifier are numerous and especially applicable in the field of television receivers.

3,541,235 KEYING CIRCUIT

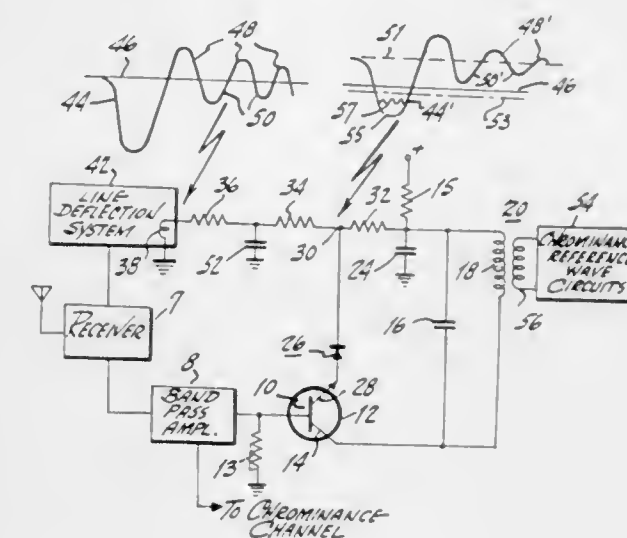
John M. Kresock and Thomas W. Burrus, Indianapolis, Ind., assignors to RCA Corporation, a corporation of Delaware

Filed Oct. 31, 1967, Ser. No. 679,345

Int. Cl. H04n 9/46

U.S. Cl. 178-5.4

4 Claims



Keying pulses are applied to the emitter-base junction of a transistor amplifier via a diode, and signals to be keyed are applied to the base.

3,541,236 SCANNING SYSTEM FOR COLOR DISPLAYS

George E. Goode, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,563

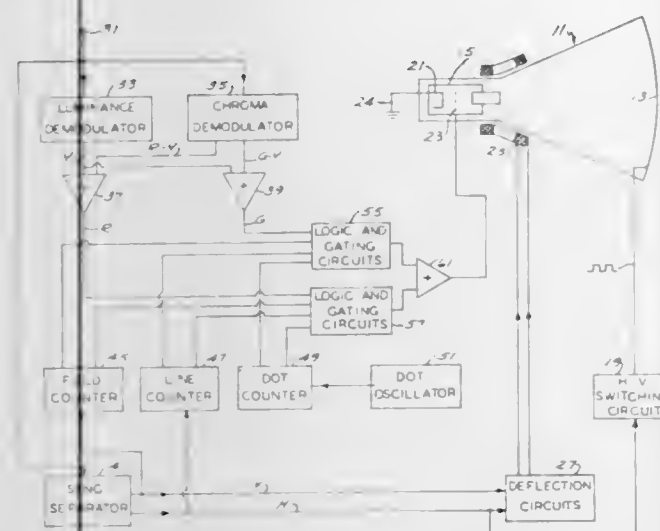
Int. Cl. H04n 9/12

U.S. Cl. 178-5.4

12 Claims

A line-sequential color display system is disclosed in

which the objectionable lined quality usually associated with such sequential displays is reduced by superimposing



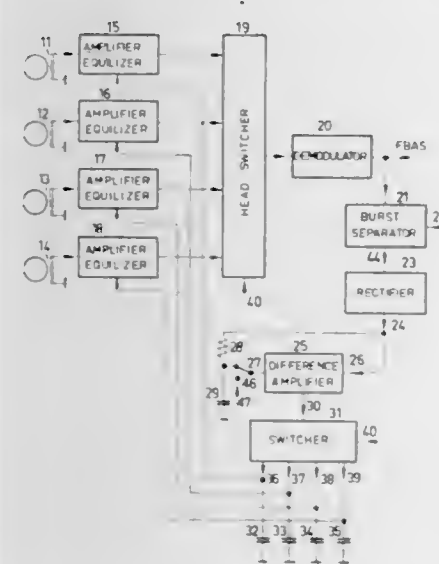
an alternation or interlacing of dots of light of different colors in the same line on successive fields.

3,541,237 CONTROL ARRANGEMENT FOR COLOR TELEVISION

Wolfgang Dillenburger, Niederramstadt, near Darmstadt, Germany, assignor to Fernseh GmbH, Darmstadt, Germany

Filed Oct. 18, 1967, Ser. No. 676,194
Claims priority, application Germany, Oct. 19, 1966, F 50,480

Int. Cl. H04n 9/48; G11b 5/44
U.S. Cl. 178-5.4 10 Claims



An arrangement applicable to color television for automatically controlling the amplitude of the chrominance signal component in a color television signal when played back from magnetic tape. The color television signal is stored on the magnetic tape in tracks which are inclined to the longitudinal axis of the tape coinciding with the direction along which the tape moves translationally. The tape is scanned by a plurality of transducer heads mounted on a rotating head wheel at equal spaces from each other. The transducers convert the signals stored on the magnetic tape into corresponding transducer signal components which are transmitted by way of circuit paths connecting to the transducer heads. The amplitudes of the color synchronizing signals in all of the transducer signal components are averaged, and a signal is produced representing the mean or average value of the synchronizing signal. The resulting average value is then compared

with the individual transducer signal components and a difference from this comparison process is established. The transmission characteristics of the circuit paths containing the transducer heads are then adjusted so as to maintain the difference realized from the comparison process, at a minimum.

3,541,238 REAL TIME THREE DIMENSIONAL TELEVISION SYSTEM UTILIZING WAVE FRONT RECONSTRUCTION TECHNIQUES

Louis H. Enloe, Colts Neck, William C. Jakes, Jr., Rumson, and Charles B. Rubinstein, Colts Neck, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Continuation-in-part of application Ser. No. 662,325, Aug. 22, 1967. This application Nov. 29, 1968, Ser. No. 779,844

Int. Cl. H04n 9/54
U.S. Cl. 178-6.5 6 Claims



This disclosure relates to a television system that utilizes wave front reconstruction techniques (i.e., holography) to provide a real time, three dimensional image at the receiving end of the system, with the image changing in perspective as the object and/or observer moves. The coherent light from a plurality of laser sources is used to illuminate an object scene. The respective laser sources are positioned at widely different angles for illumination purposes. The light reflected from the object scene impinges on a photodetector while a narrow reference beam of coherent light raster scans the photodetector to thereby generate a signal which is modulated in phase and amplitude in accordance with the heterodyning of the object reflected and reference beams on the photodetector. The instantaneous phase difference between each of the coherent light signals from said plurality of laser sources and the reference beam signal is locked by phase-lock loop techniques to the instantaneous phase of a signal from a radio frequency reference oscillator. The carrier

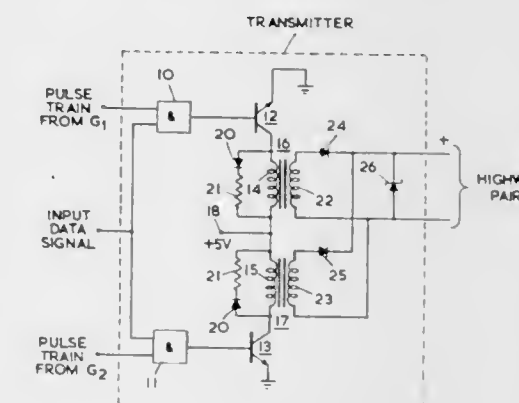
frequency of the modulated signal from the photodetector is thus equal to the frequency of the radio frequency reference oscillator, which is chosen to be an integral multiple of the frame repetition rate. The signals carrying the hologram information, and interspersed sync pulses, are then transmitted to a remote receiver. At the receiving end, the holographic signals are impinged on a video display surface by an electron beam using conventional television techniques. After each frame of the latter signals are so impinged, a coherent light source is pulsed with the light therefrom directed toward the written frame of holographic information. In this manner, an instantaneous image of the original object is obtained at the receiver. The described operation is continuously carried out a frame at a time.

3,541,239 DATA TRANSMITTER UTILIZING A PARALLEL PAIR OF INTERMITTENTLY ENERGIZED TRANSFORMERS WITHOUT SATURATION

James David Reid, Blackwater, Camberley, England, assignor to English Electric Computers Limited, London, England, a British company

Filed Apr. 11, 1968, Ser. No. 720,597
Claims priority, application Great Britain, Apr. 18, 1967, 17,792/67

Int. Cl. H03k 17/02; H04l 25/02
U.S. Cl. 178-68 8 Claims



A data transmitter which includes two isolating transformers having their output windings connected in parallel and having their input windings intermittently energisable in accordance with a data signal to be transmitted. The intermittent energisation of the transformers, controlled by the phased pulse trains from two pulse generators, is such that at any instant of time at least one of the transformers is being energised in accordance with the data signal. The duration of each such energisation of a transformer is, however, insufficient for the transformer to saturate so that the transmitter output signal, formed of the output signals of the transformers superimposed in time relation, corresponds to the data signal.

3,541,240 AUTOMATIC BEAM CURRENT LIMITING USING REFERENCE CURRENT SOURCES

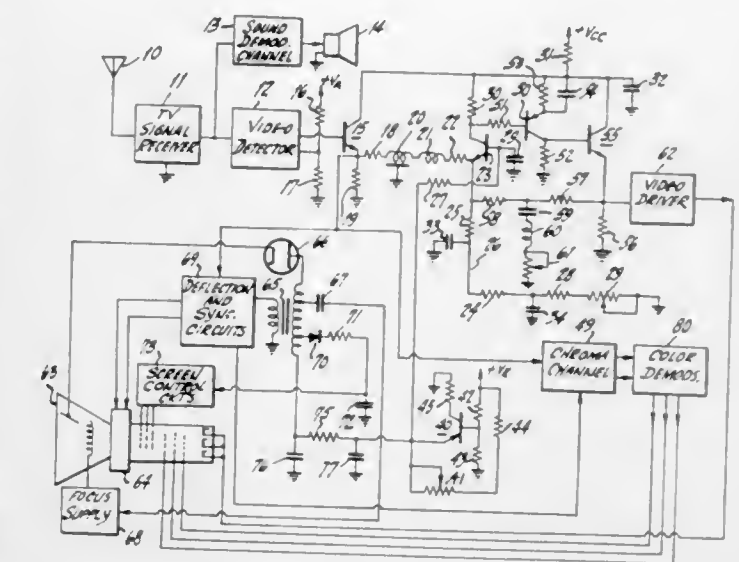
Edward W. Curtis, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware

Filed May 22, 1968, Ser. No. 730,994
Int. Cl. H04n 3/16, 5/44

U.S. Cl. 178-5.4 7 Claims

There is disclosed a system for limiting the amount of beam current drawn by a kinescope regardless of the particular kinescope efficiency and irrespective of changes in signal or biasing requirements. The circuit provides a means for limiting the drive to the kinescope without causing degradation of the deflection system and other perturbations which will adversely effect the overall quality of the final display. The circuit operates by sens-

ing the amount of current flowing through a high voltage winding of a transformer used in the kinescope power supply and uses this current to control a switch coupled



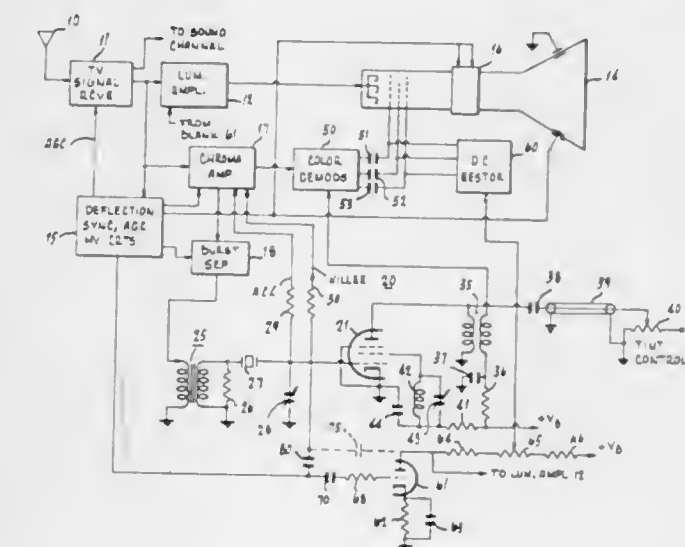
to the video amplifier chain. The switch serves to effect the D.C. bias of the video chain in a direction to reduce the kinescope drive when the levels associated therewith become critical.

3,541,241 CIRCUIT FOR ELIMINATING SPURIOUS MODULATION OF THE SUBCARRIER FREQUENCY OSCILLATOR IN A COLOR TELEVISION RECEIVER

Larry A. Cochran, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware

Filed Sept. 11, 1968, Ser. No. 759,192
Int. Cl. H04n 9/46

U.S. Cl. 178-5.4 9 Claims



A phase locked color reference subcarrier oscillator operating in a color television receiver has an output modulated by a spurious pulse during a repetitive interval associated with each television line. This spurious modulation, in turn, affects the output of color demodulators, included in the receiver, to introduce an improper clamping reference for D.C. restorers used for biasing control electrodes of the kinescope. Because of the nature of such demodulators and of the modulation, the spurious level as effecting the control electrode bias varies according to a setting of a tint control potentiometer. A suitable magnitude impedance serves as a coupling path for a compensating pulse which is applied to the oscillator during said interval to substantially eliminate the spurious modulation.

3,541,242

COLOR TEMPERATURE CORRECTION CONTROLLED BY THE COLOR KILLER AND COLOR OSCILLATOR

Cyril J. Hall, Horgen, and René Peter, Basel, Switzerland, assignors to RCA Corporation, a corporation of Delaware

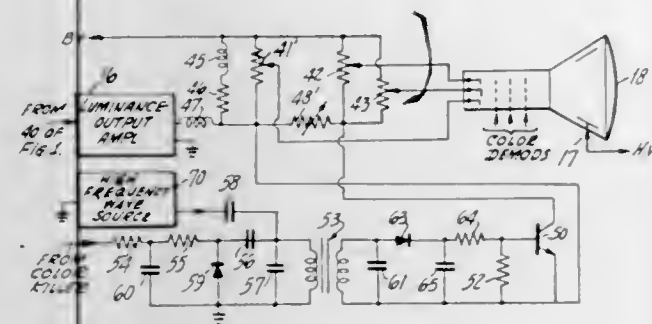
Filed Dec. 16, 1968, Ser. No. 783,915

Claims priority, application Great Britain, Aug. 27, 1968, 40,979/68

Int. Cl. H04n 9/48

U.S. Cl. 178—5.4

9 Claims



A transistor is used to switch the drive level to a color kinescope between a relatively high color temperature when receiving monochrome transmissions to a lower color temperature when receiving color transmissions. The transistor collector-to-emitter impedance is controlled from a biasing source coupled to provide a low capacitive reactance to the base electrode. The source provides biasing levels under the influence of the color killer circuitry.

3,541,243

VISUAL ASSIST MANUAL PROGRAMMING SYSTEM FOR PROVIDING DATA TO CONTROL A CUTTING TOOL

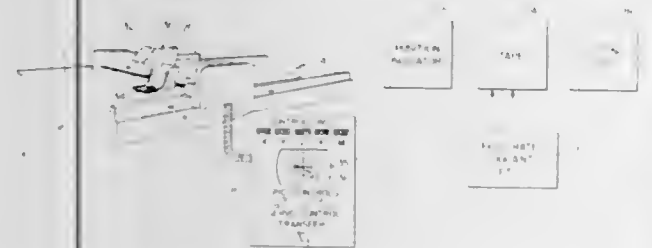
Jay F. Whitsel, Southampton, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 19, 1966, Ser. No. 602,697

Int. Cl. G11b 31/00

U.S. Cl. 178—6.6

6 Claims



Means for converting data from a drawing to a tape to control a tool is provided. An image represents the size of the tool. A television camera views the drawing and the image is moved to follow the drawing. An operator may insert additional data on the tape as the image is moved.

3,541,244

TV BANDWIDTH REDUCTION SYSTEM

Russell R. Law, Malibu, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Jan. 15, 1968, Ser. No. 697,822

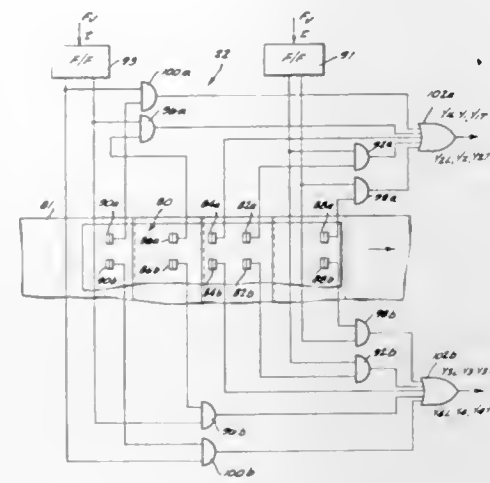
Int. Cl. H04n 5/78, 7/12

U.S. Cl. 178—6.6

20 Claims

A video tape recorder system including an encoder for sampling video information in a repetitive pattern of evenly-spaced information elements; a multichannel recorder coupled to record the encoded information; and

a playback processor for playing back each encoded information element three times—once as a real time information element and the other times as leading and trailing artificial elements—preferably from the subse-



quent and preceding adjacent interlaced lines of a leading and a trailing field, respectively, to fill in the otherwise blank space between spaced real time information elements in the real time field.

3,541,245

ELECTROOPTICAL DRUM SCANNERS FOR IMAGE REPRODUCTION PERMITTING VARIABLE IMAGE ENLARGEMENT OR REDUCTION

William Peter L. Wilby, London, England, assignor to Crosfield Electronics Limited, London, England, a British company

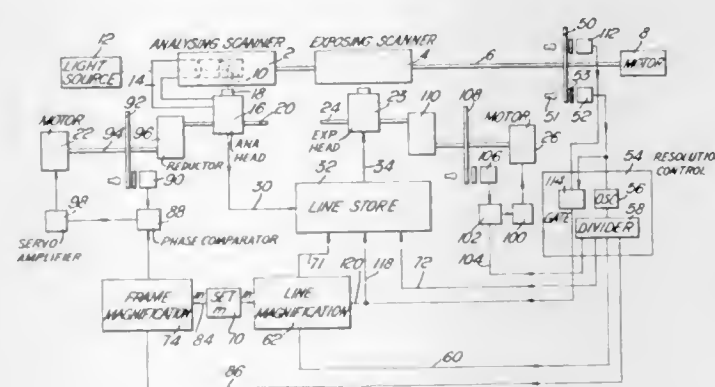
Filed May 5, 1967, Ser. No. 636,474

Claims priority, application Great Britain, May 9, 1966, 20,509/66

Int. Cl. H04n 5/84

U.S. Cl. 178—6.7

4 Claims



In image reproducing apparatus, variable enlargement or reduction is obtained with a drum scanner by sampling signals derived from a head scanning an original on the scanner drum and transferring them to a store at a first rate, and by extracting the stored signals at a different rate and applying them to a reproducing head exposing a photosensitive sheet on the drum. The resultant change in image line length around the drum periphery is accompanied by a dimensional change in the longitudinal direction of the drum produced by corresponding adjustment of the relative rates of movement of the analysing and reproducing heads with respect to the scanner drum, and a pulse generator functions to maintain the desired relationship between the drum rotation, the longitudinal movements of the analysing and reproducing heads, the rate of signal sampling and the rate of signal extraction from the store.

3,541,246

CENTROID TRACKER SYSTEM

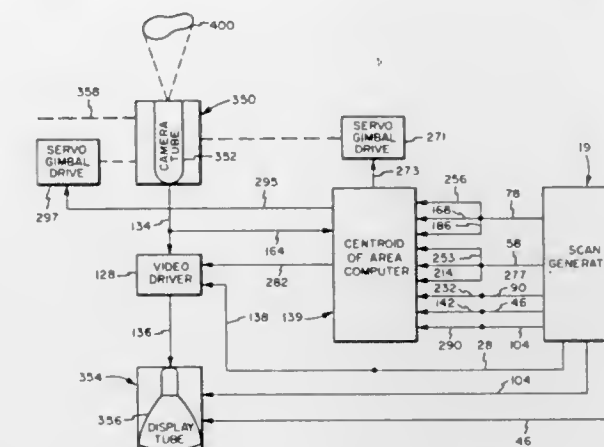
Lester I. Goldfischer, New Rochelle, N.Y., assignor to Singer-General Precision, Inc., a corporation of Delaware

Filed Apr. 13, 1967, Ser. No. 630,608

Int. Cl. H04n 3/00

U.S. Cl. 178—6.8

11 Claims



A single target centroid tracking system is disclosed which performs its tracking function on the basis of continuous computation of the centroid of area of the target of interest. As currently preferred, the tracking system comprises transmitter means, including camera tube means which provide video signals indicative of the target configuration, and are adjustably positionable, in response to target centroid displacement or error signals provided thereto, to maintain the target substantially centered within the field of view thereof; and receiver means including a display tube upon which is provided a target display in response to the said video signals. The target display is provided on the raster of the display tube through the use of a somewhat modified rectangular scanning pattern, the nature of which is particularly compatible with the target display centroid area of computation process. Scan generator means and target display centroid of area computer means are also provided and the former function to provide, in proper time relationships, the waveforms required to achieve the desired scanning pattern and the operating waveforms for the centroid of area computer means, while the latter function, through the analysis of the said video signals, and various of the said operating waveforms, to determine the displacement, if any, of the centroid of area of the target display from the center of the display tube raster and in turn provide error signals representative thereof. Means are provided to transmit these error signals to the adjustably positionable camera tube means and change the position of the latter in accordance therewith to substantially center the target in the field of view thereof and drive the centroid of area of the target display into substantial coincidence with the center of the display tube raster.

3,541,247

ELECTRO-OPTICAL SCANNER

Manfred E. Moi, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed June 28, 1967, Ser. No. 650,572

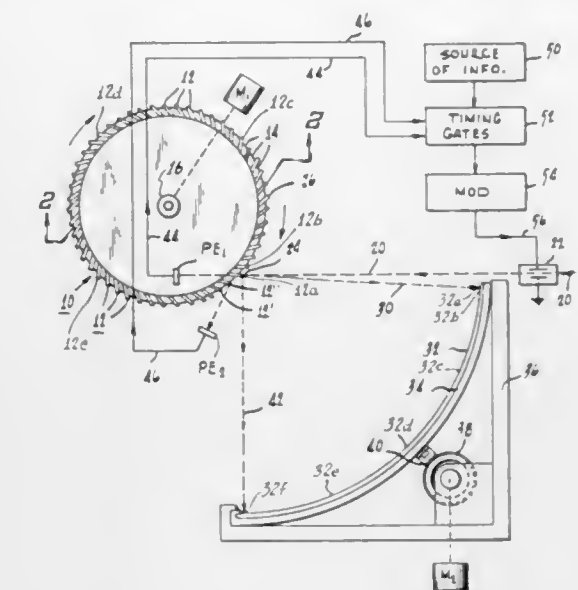
Int. Cl. H04n 1/10

U.S. Cl. 178—6.6

11 Claims

An electro-optical scanner includes a rotatable disc having its periphery provided with a large number of progressively-oriented, discrete light reflecting or deflecting surfaces. A light beam such as a laser beam is directed to an incident point in the circular path of movement of the light deflecting surfaces. Each discrete light deflecting surface is oriented to cause a deflecting of a light beam to a respective discrete point along a line on a record

sheet. The record sheet is supported by a carriage which moves at right angles to the scan line. The scanner can be used with an electrically modulated light beam to engrave or record graphic information on the record



sheet, or can be used with a constant-amplitude light beam and a photoelectric-pickup to produce an electrical signal varying in accordance with graphic copy on the record carrier.

3,541,248

DOCUMENT ABTRACTOR WITH HAND-HELD OPTICAL SCANNER WITH CONSTANT RESOLUTION SCANNING

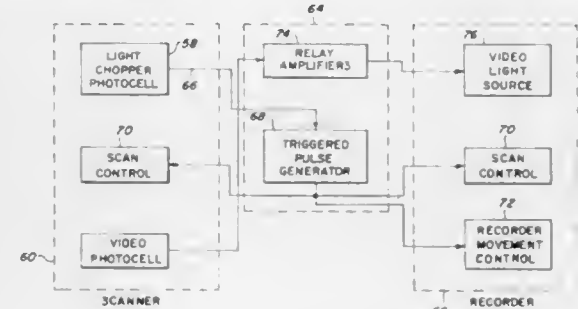
James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 29, 1967, Ser. No. 671,653

Int. Cl. H04n 5/76, 3/08

U.S. Cl. 178—6.6

15 Claims



A recording system employing a hand-held scanner unit wherein a spot of light is moved across the material to be recorded in a direction perpendicular to the direction of movement of the scanner unit and a light chopper or similar device provides signals indicative to the rate at which the scanner unit is moved so as to correlate the movement of the spot of light with the movement of the scanner unit; and a recorder unit employing a similar light spot whose movement is similarly correlated with the movement of the scanner unit wherein the relative movement between a light sensitive medium and the recorder unit is a function of the movement of the scanner unit.

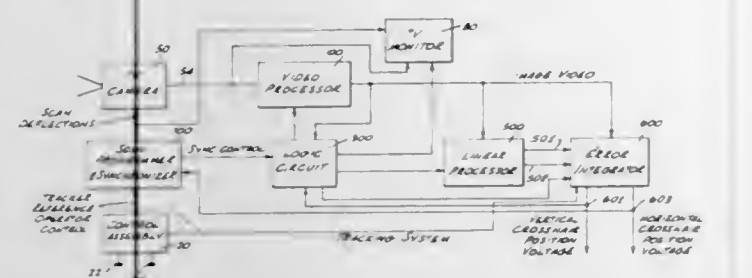
3,541,249

ADAPTIVE TARGET TRACKING SYSTEM

William A. Chambers, Torrance, and Paul R. Prince, Hawthorne, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Sept. 30, 1966, Ser.

received energy for sequentially developing and applying signals representative of object area increments in selected quadrants within a field of view of a selected area to a logic circuit which, in turn, develops output signals representative of object area increments of only the design-



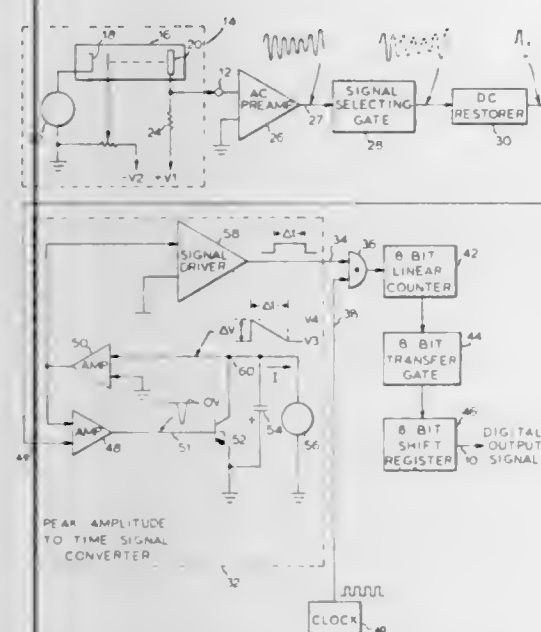
nated object. A linear processor divides the designated object area incremental signals by a function of two transverse dimensions of the designated object and applies first and second incremental linear dimension signals to an integrator circuit, which, in turn, determines the relative angular position of the center of the designated object.

3,541,250

TELEVISION SIGNAL PROCESSING SYSTEM
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Robert Y. Wong, Monterey Park, Calif.
Filed Dec. 19, 1967, Ser. No. 691,737
Int. Cl. H04n 5/20

U.S. Cl. 178-7.1

8 Claims



A system for converting video signals from a camera to digital outputs indicating brightness levels, comprising a circuit for sampling the camera AC output and generating a pulse of a length proportional to the peak value of the sample, the pulse length operating a counter with digital output.

3,541,251

IMPLOSION-PROTECTING FRAME FOR TELEVISION PICTURE TUBES AND PROCESS FOR ITS INSTALLATION
Rudolf Wittenbecher, Berlin, Germany, assignor to Standard Elektrik Lorenz Aktiengesellschaft, a corporation of Germany

Filed Feb. 27, 1968, Ser. No. 708,541
Claims priority, application Germany, Sept. 19, 1967, 1,639,050

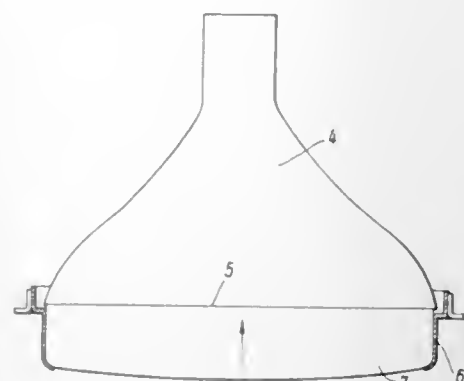
Int. Cl. H01j 29/28, 61/50

U.S. Cl. 178-7.82

6 Claims

A band frame protecting television picture tubes upon implosion which consists of a part closely hugging the

bulb of the tube and a shoulder having parallel walls with the first part which protrudes at given spacing beyond the frit seam present in each such tube. The frame can be



mounted from the picture side of the tube and hence is particularly suited for installation on color tubes. It closely hugs the picture tube and provides magnetic shielding.

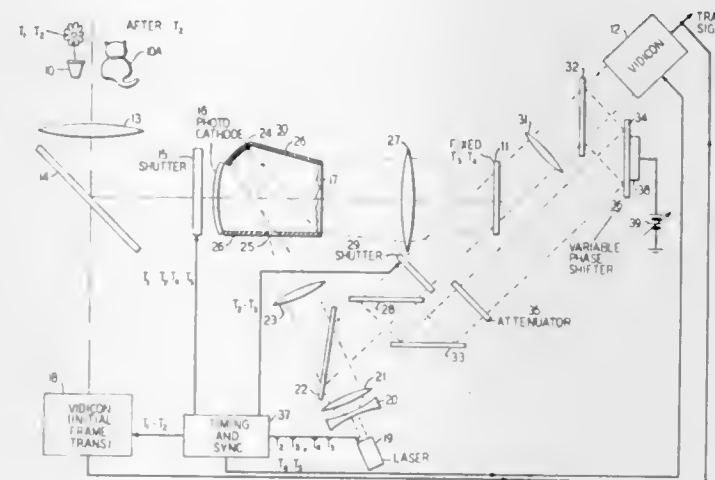
3,541,252

HOLOGRAPHIC METHOD FOR VIEWING CHANGES IN A SCENE

Robert J. Collier, New Providence, and Keith S. Pennington, Basking Ridge, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Dec. 21, 1966, Ser. No. 603,496
Int. Cl. H04n 1/38, 7/12

U.S. Cl. 178-7.2

4 Claims



A real-time transmission-bandwidth-reduction technique for television systems is disclosed in which a hologram is formed in response to an original phase-object display, and subtraction of the unchanged portion of a subsequent phase-object display is achieved by projecting a phase-object form of the subsequent display through the hologram to produce a phase-modulated, conjugate diffracted beam representative of the differences between the displays. This phase-modulated beam is then converted to an intensity-modulated beam and detected and scanned for transmission by a device such as a standard television vidicon. Each phase-object display is created from a conventional image by electron beam modification of a deformable oil film. The phase-modulated beam from the hologram is converted to an intensity-modulated beam by interference with a secondary phase-related reference beam having an effective $\pi/2$ radians phase shift relative to the average phase of the phase-modulated beam.

3,541,253

APERTURE FOR FACSIMILE RECORDER IMAGING SYSTEM

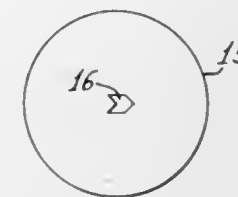
John R. Shonnard, East Setauket, N.Y., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Aug. 5, 1968, Ser. No. 750,161

Int. Cl. H04n 1/06, 1/24

U.S. Cl. 178-7.4

2 Claims



A field limiting aperture for a facsimile recorder imaging system in the form of a double rhomboid having a "V" configuration. This modifies the elemental recording area on the film which is exposed by the light source to minimize the "staircase" effect on the edges of a recorded line produced by the usual square or rectangular aperture.

3,541,254

TELEVISION DISPLAY DEVICE WHICH UTILIZES ELECTRON MULTIPLIERS

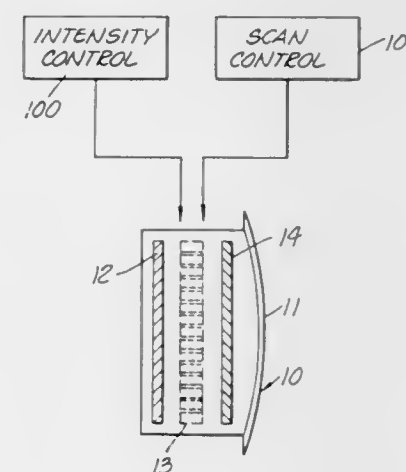
Richard Kaspar Orthuber, Sepulveda, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 19, 1968, Ser. No. 753,448

Int. Cl. H04n 3/14, 9/30

U.S. Cl. 178-7.3

10 Claims



The invention comprises a television receiver which utilizes a special scanning mode in combination with a picture tube including a channel type electron multiplier and a continuous primary electron source for all the holes therethrough. The electron multiplier has channels or holes across which two sets of insulated conductive strips extend. One set is perpendicular to the other. One strip of each pair is supplied with a voltage to allow only one hole at a time in the electron multiplier to emit electrons. Scan is thereby effected. Intensity may be controlled by applying a suitable voltage between perforate conductive layers bonded to opposite sides of the electron multiplier or the strips themselves. A semiconductive coating may be used on the internal surfaces of the holes of the electron multiplier to provide for large current pulses while maintaining a high gain.

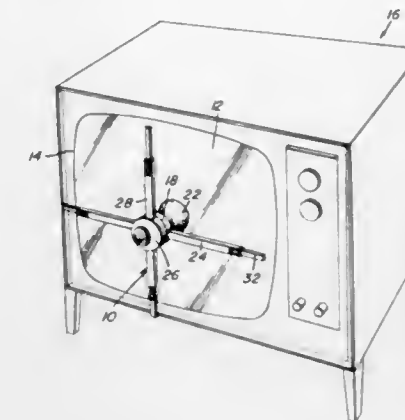
3,541,255

TV SCREEN ALIGNMENT DEVICE

George M. Yazigi, 2060 Sutterville Road, Sacramento, Calif. 95822
Filed July 13, 1967, Ser. No. 653,192
Int. Cl. H01j 29/02

U.S. Cl. 178-7.8

14 Claims



A device for centrally aligning the test pattern image on a television screen. A locator body provided with suction cup, supports an assembly of extendible arms on the vertical surface of a television picture tube. The arms extend to the visible edges of the picture tube screen for centrally positioning the locator body thereon.

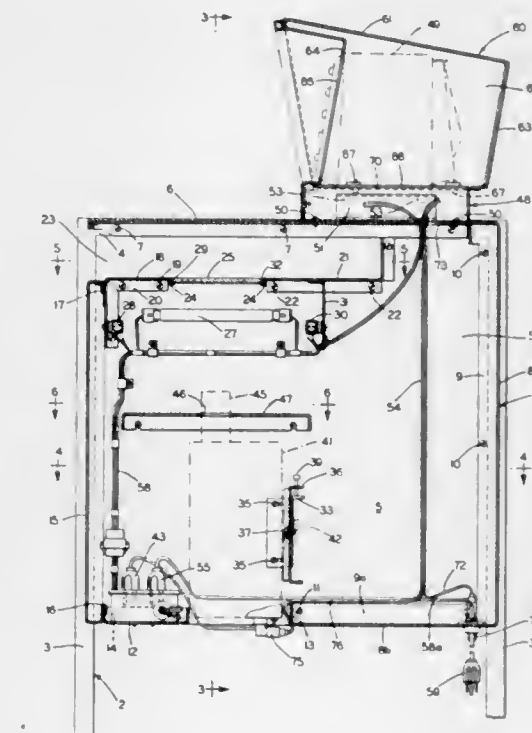
3,541,256

CABINET HOUSED TV TRANSMITTER AND RECEIVER CONSTRUCTION

Walter G. Anders, Canton, Ohio, assignor to Diebold, Incorporated, Canton, Ohio, a corporation of Ohio
Filed Oct. 16, 1967, Ser. No. 675,529
Int. Cl. A47b 81/06; H04n 5/64; H05k 5/00

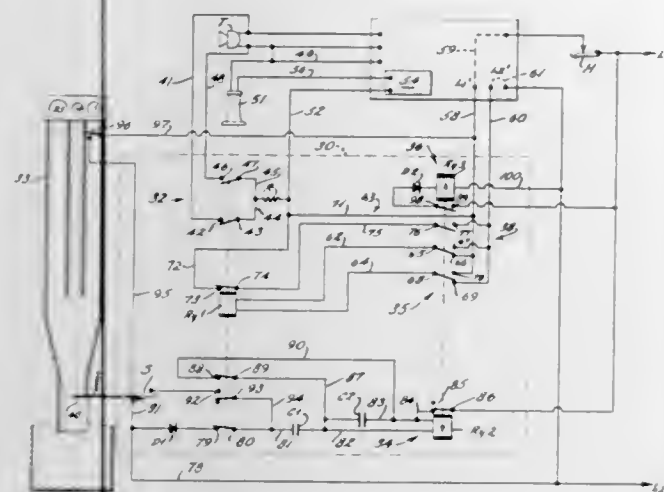
U.S. Cl. 178-7.9

12 Claims



Cabinet housed portable TV camera and monitor construction of compact design, with a semi-concealed transparent shelf below a work counter on which a card or other document is supported and exposed to the lens of the camera adjustably housed below the shelf, with light reflection baffled lighting equipment below the shelf, and with the monitor mounted adjacent the work table in closed circuit television connection with the camera, the camera and monitor being removable plug-in units for ready replacement.

assist in the energization in the second relay upon deposit of proper coins and for restoring the second charge while line polarity flows in said initial direction, a first rectifying diode for preventing discharge of said capacitor upon reverse of said line polarity before deposit of coins, and a third relay means for restoring the contacts



3,541,264

APPARATUS FOR DELETING A PORTION OF A SIGNAL

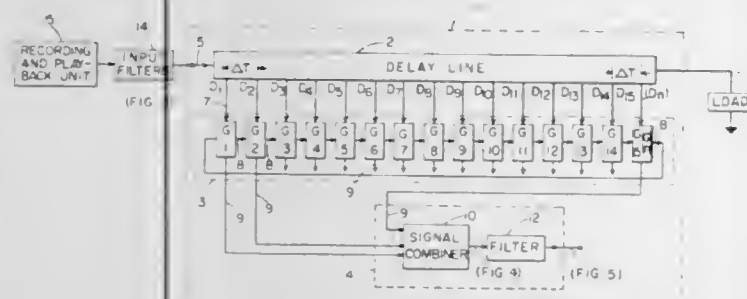
Wilson P. Boothroyd, Carlisle, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 15, 1967, Ser. No. 638,217

Int. Cl. H04b 1/66

U.S. Cl. 179-15.55

2 Claims



Audio compression system utilizing apparatus operable to periodically and repetitively delete discrete portions of a continuous stream of audio information sensed from an original recording played back at a speed accelerated from the original recording speed. The audio information, having a level of pitch higher than the level of pitch of the original recording, is applied to a multi-tapped delay line and sampled at each tap. Because of the rate of sampling and the delay provided by the delay line, the level of the pitch of the audio information applied to the delay line is lowered to the level of pitch of the original recording, and a plurality of discrete portions of the audio information are periodically and repetitively deleted therefrom, thereby permitting a reduction in the normal playback time of the original recording.

3,541,265 RECEIVER FOR A TIME MULTIPLEXED TRANSMISSION SYSTEM

Johannes Anton Greefkes, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

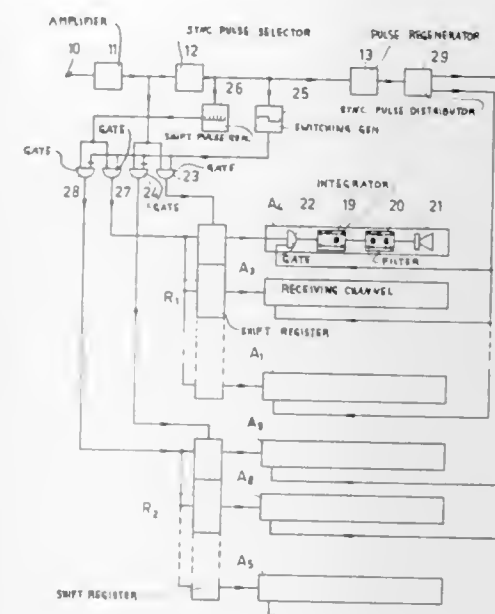
Filed Mar. 1, 1968, Ser. No. 709,568

Claims priority, application Netherlands, Jan. 10, 1968, 6704096

Int. Cl. H03k 19/40

U.S. Cl. 179-15

3 Claims



A system for distributing the pulses of a time multiplexed pulse signal to separate channels is comprised of a pair of shift registers. The pulses of the pulse signal are stepped into the registers during opposite halves of a pulse cycle. The outputs of each of the registers are gated to the separate channels by means of a gating pulse which occurs during the time signals are being stepped into the other shift register.

3,541,266

BANDWIDTH COMPRESSOR AND EXPANDER

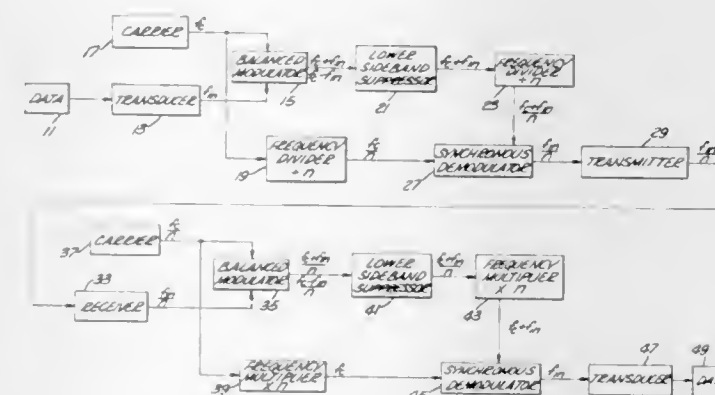
Arnold I. Klayman, Marina del Rey, and Leonard J. Genest, Inglewood, Calif., assignors to Oetronix Inc., a corporation of California

Continuation of application Ser. No. 508,635, Oct. 22, 1965, which is a continuation-in-part of application Ser. No. 474,243, July 23, 1965. This application Sept. 30, 1968, Ser. No. 763,989

Int. Cl. H04b 1/66

U.S. Cl. 179-15.55

7 Claims



An electronic system is disclosed for the transmission of high-bandwidth intelligence over a low-bandwidth communication channel by means of frequency compression

and expansion. A bandwidth compressor is used to lower all frequency components by a given amount, and the bandwidth expander conversely raises all frequency components by the same amount. A plurality of encoders and decoders are tuned in successive stages over the whole frequency spectrum utilized by the data being transmitted.

3,541,267

COMMON-CONTROLLED AUTOMATIC TELEPHONE EXCHANGE SYSTEM WITH OVERFLOW TRUNKS

Reijiro Fukutomi, Kanazawa-shi, Yoshihiro Saito, Shozo Nishimura, and Koji Yamashita, Yokohama-shi, Soichi Inoue, Mikio Iwasaki, and Kazuo Ashihara, Tokyo, Takeshi Kondo, Kawasaki-shi, Sadayuki Hiragi, Kazuo Itoh, and Yoshiaki Hori, Yokohama-shi, and Yukio Ozawa, Hiratsuka-shi, Japan, assignors to Nippon Telegraph & Telephone Public Corporation, Tokyo, Fujitsu Limited, Kawasaki, Oki Electric Industry Co., Ltd., Tokyo, Nippon Electric Company, Limited, Tokyo, and Hitachi, Ltd., Tokyo, Japan

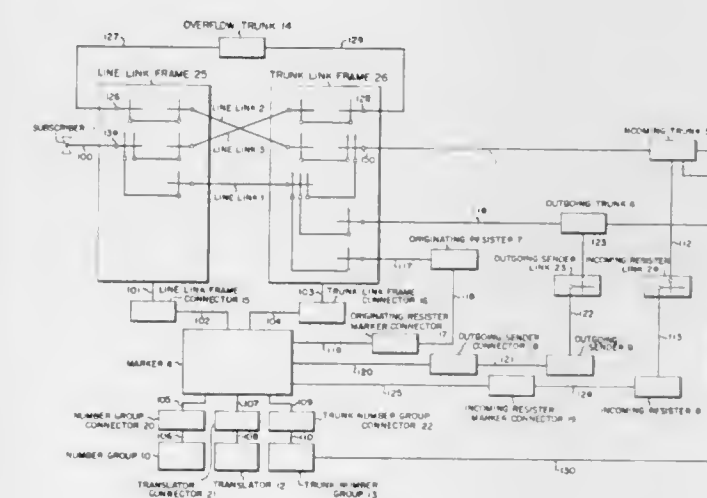
Filed Apr. 10, 1967, Ser. No. 629,654

Claims priority, application Japan, Apr. 14, 1966, 41/23,684

Int. Cl. H04q 3/42

U.S. Cl. 179-18

2 Claims



The invention pertains to a common-controlled automatic telephone exchange system which includes a number of overflow trunks. Each of the overflow trunks has an inlet connected to a terminal side of a line link frame and an outlet connected to a trunk side of a trunk link frame, and connects the terminal side of the line link frame with the trunk side of the trunk link frame. A market controls the connection of an incoming trunk, via one of the overflow trunks, to a subscriber's station when all the talking channels between the incoming trunk and the subscriber's station are busy.

3,541,268

ELECTRONIC TELEPHONE CALLING SYSTEM

Daniel Zucker, Rishon Lezion, Israel, assignor to Telrad Telecommunication & Electronic Industries Limited, Lod, Israel, a corporation of Israel

Filed May 1, 1969, Ser. No. 820,811

Claims priority, application Israel, May 15, 1968, 29,996

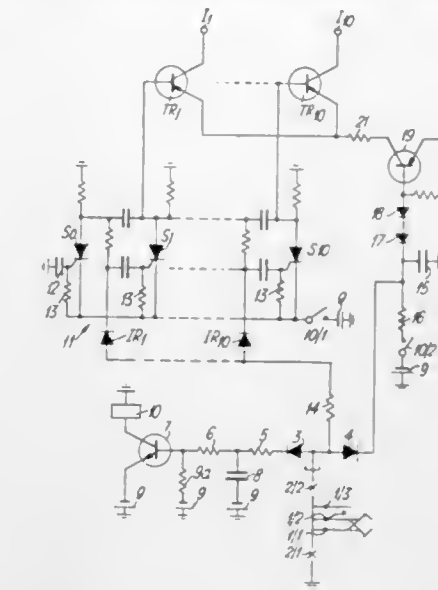
Int. Cl. H04m 3/06

U.S. Cl. 179-18

1 Claim

This invention relates to an electronic telephone calling system and in particular to an internal telephone system wherein the dialing or calling circuit is altogether separate from the speaking circuit allowing for dialing or calling to take place even when the speaker circuit is

busy. The system incorporates a ring counter connected to a plurality of telephone extensions. The individual



stages of the ring counter are coupled to respective telephone extensions through a transistor switch.

3,541,269

ARRANGEMENT FOR MONITORING COMMUNICATION LINES FOR THE PRESENCE OF SIGNALS

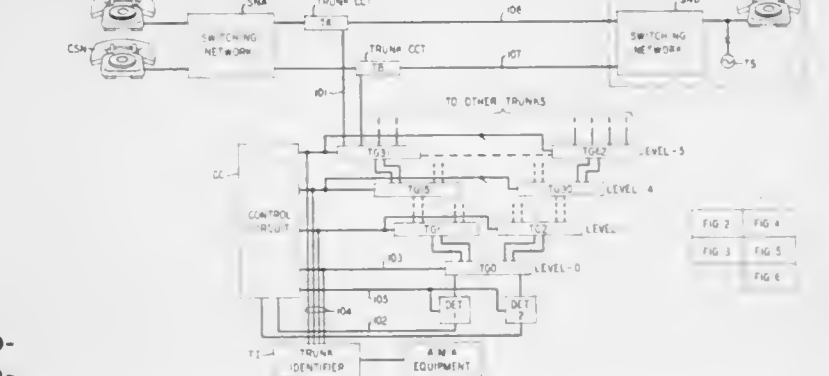
Walter W. Fritsch, Atlantic Highlands, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Aug. 28, 1967, Ser. No. 663,789

Int. Cl. H04m 3/22

U.S. Cl. 179-18

14 Claims



A telephone switching office is disclosed having apparatus for monitoring trunks for the presence of a particular signal such as an annoyance call tracing tone. The trunks are divided into groups and each group is coupled to a signal detector. Upon the detection of a signal in one group, a control circuit successively divides that group into smaller groups and connects the smaller groups to each of the detectors. When the trunk having the signal is found, the identity of the trunk is recorded.

3,541,270

MAGNETIC READ/WRITE HEAD WHICH SENSES DATA TRACK LATERAL ALIGNMENT ERROR

George Ludwig Walther, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 7, 1967, Ser. No. 621,240

Claims priority, application Netherlands, Mar. 9, 1966, 6603051

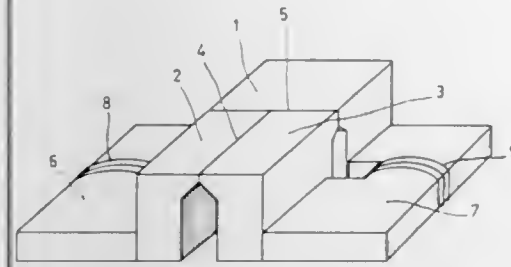
Int. Cl. G11b 5/26, 5/28

U.S. Cl. 179-100.2

3 Claims

A magnetic transducing head for recording or reproducing and for detecting positional error relative to a track on a record carrier having movement in the direc-

tion of travel of the recording track carrier said magnetic head having two pole pieces, one of which is divided into two magnetically insulated portions, each portion being connected by a separate yoke, each yoke having a coil coupled thereto. By comparison of the voltages induced



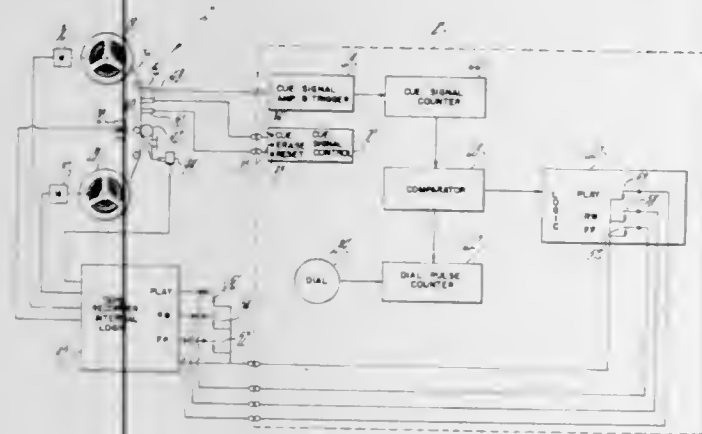
in the coils during the adjustment of a head to a track, any positional error may be directly detected. Once correctly adjusted to the track, the head may be used as a conventional writing or reading head across a full track width.

3,541,271 DIAL OPERATED SEARCH CONTROL FOR TAPE RECORDER

David L. Joslow, Chester, and John J. Bosnak, Old Saybrook, Conn., assignors to Chester Electronic Laboratories, Inc., Chester, Conn., a corporation of Connecticut

Filed Oct. 30, 1967, Ser. No. 678,799
Int. Cl. G11b 15/20, 15/44, 19/26

U.S. Cl. 179—100.2 15 Claims



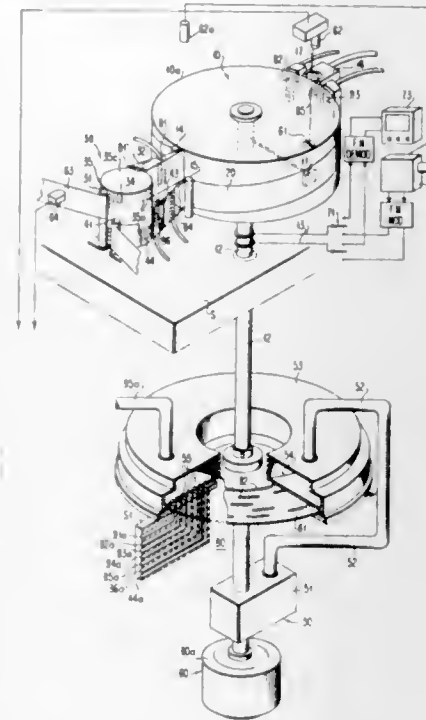
A dial operated control mechanism is disclosed for providing access to information recorded in serial fashion on magnetic tape or the like. The tape or other record medium is divided into a number of segments or programs and on a separate track cue signals mark the beginning of each program. Each program has a number assigned to it corresponding to its position on the tape. By dialing a number on the associated dial the control mechanism is caused to make the tape transport or other drive for the record medium first search for and then play the program having the dialed number, the search process involving a counting of cue signals as the record medium is moved in either a fast forward or fast reverse condition. At the end of the search process, and before the playing of the selected program begins, the record medium is recued to bring the last detected cue signal back to the detecting device to take up the travel of the record medium occurring during its stopping and to thereby assure that the selected program is played from its very beginning. A switch is provided whereby the mechanism may be set so that at the end of the playing of a program the record medium drive is either automatically stopped or automatically caused to replay the same program.

3,541,272 REPRODUCTION SYSTEM WITH TAPE CON- TROLLED CYCLIC REPRODUCTION OF ONLY A FIXED RECORD PORTION

Ernie G. Nassimbene, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 19, 1968, Ser. No. 746,179

Int. Cl. G11b 15/22, 15/52, 15/38
U.S. Cl. 179—100.2 8 Claims



A video recorder wherein the magnetic tape is helically wound about a drum with the drum containing a magnetic record and playback head for recording and playing back video information on angularly disposed tracks on the video tape. The magnetic head scans a first semicircular portion of the tape while this portion of the tape is being held fixed by two vacuum brakes positioned at both ends of the semicircular portion and a loop is formed before the drum. While the head is so scanning this first portion of the tape, pneumatic brakes at either end of the second semicircular portion of the tape are not actuated and this portion of the tape is moved longitudinally removing a slack portion between the first and second portions. As the head approaches the second portion of the tape, two vacuum brakes at either end of this portion are actuated so as to fix the second portion of the tape. While the magnetic head is scanning the second semicircular portion of the video tape, the two brakes at either end of the first semicircular portion are deactivated and this portion is moved longitudinally the distance between two tracks removing the loop ahead of the first portion. The cycle then repeats and the head scans the next track.

3,541,273 MAGNETIC TAPE REPRODUCING DEVICE

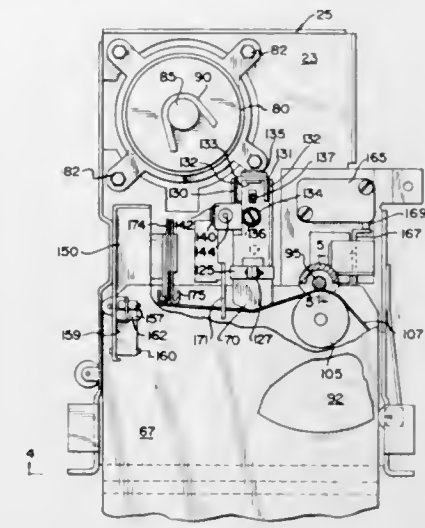
Charles E. Lyon, Jr., Des Plaines, William B. Huber, Park Forest, and Robert A. Wolf, Oak Lawn, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Continuation of application Ser. No. 520,169, Jan. 12, 1966, which is a continuation-in-part of application Ser. No. 487,996, Sept. 17, 1965. This application Aug. 25, 1969, Ser. No. 859,494

Int. Cl. G11b 5/56, 21/12, 21/24

U.S. Cl. 179—100.2 3 Claims
In a cartridge-type tape player, a solenoid has the extended end of the core thereof supported by a coupling member to which is resiliently attached a pawl. The pawl is spring biased into contact with a ratchet wheel on a cam shaft. Upon the completion of playing of one track on the tape, the solenoid is energized to move the core against the spring bias to disengage the pawl from the

ratchet wheel. With the solenoid being de-energized, the spring biases the pawl back into engagement with the ratchet wheel to advance the same moving the cam to position the tape head to play another track on the tape. The tape head is mounted to the tape deck by a mounting which includes an azimuth adjustment pivot and a track



index axis which lie in a common plane passing through the center of the tape head, and a track adjustment screw which is positioned on the center line of the head in line with the azimuth pivot so that alignment in one direction by varying one of the adjustments will not affect the alignment control by the remaining adjustments.

3,541,274 POLYESTER CINE FILM SPLICING COMPOSITION CONTAINING A POLYESTERURETHANE, A HY- DROGEN-BONDING SOLVENT AND AN OR- GANIC SOLVENT

Alex Wasy D'Cruz, Somerset, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 541,982, Apr. 12, 1966. This application July 3, 1968, Ser. No. 742,195

Int. Cl. C08g 22/00 3 Claims

U.S. Cl. 260—30.4
A liquid polyester cine film splicing composition comprising

- [1] a polyesterurethane obtained by heating a mixture of (a) 1 mole of a linear hydroxyl-terminated polyester of a glycol of the formula $\text{HO}-(\text{CH}_2)_n-\text{OH}$, when n is 4-10 carbons, and a dicarboxylic acid of the formula $\text{HOOC}-\text{R}-\text{COOH}$ where R is alkylene of 3-8 carbons, average molecular weight of 600-1200 and acid number less than 10, and (b) about 1.1-3.1 moles of a diphenyldiisocyanate in the presence of (c) about 0.2-2.1 moles of a glycol of the foregoing formula.
- [2] at least one hydrogen bonding fluorine-containing organic solvent liquid at 20° C.,
- [3] a plasticizer having a boiling point above 100° C., e.g., a dialkyl phthalate or a triaryl phosphate, and
- [4] a volatile organic solvent, liquid at atmospheric pressure.

3,541,275 PRESETTABLE TIMING MECHANISM AND SIG- NALLING DEVICE FOR COOKING STOVES AND THE LIKE

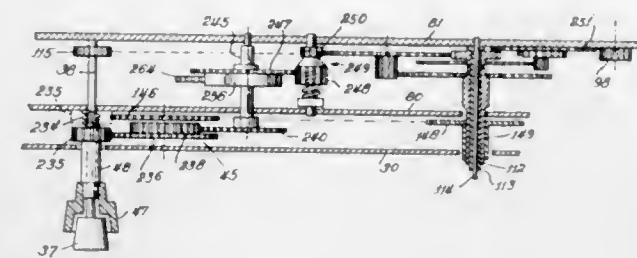
Ronald M. Bassett, Chicago, Ill., assignor to International Register Company, Chicago, Ill., a corporation of Illinois

Filed Nov. 26, 1968, Ser. No. 779,083

Int. Cl. H01h 43/14 7 Claims

U.S. Cl. 200—38
A stop time hand is mounted coaxially with the time indicating hands of a synchronous motor driven mecha-

nism to indicate by its position relative to the hours scale the time that the oven is to be deenergized to stop cooking. An interval timer is also driven by the motor. The minute and hour hands are set by a time set knob on a shaft having a hollow shaft rotatably and slidably mounted thereon and held outwardly by a spring so that an outer knob can adjust the interval timer. When the outer

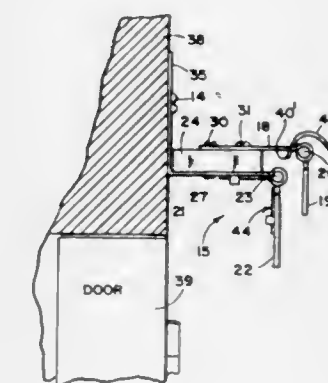


knob and hollow shaft are moved inwardly and rotated, the stop time hand is rotated to the desired stop time and at the same time a planetary gear mechanism is adjusted to effect energization of the oven and start the cooking cycle according to the required number of cooking hours that are set on a cook hours dial which also is connected to the planetary gear mechanism.

3,541,276 ELECTRICAL CLOSURE OPERATED SWITCH CHANGEABLE BETWEEN NORMALLY OPEN AND NORMALLY CLOSED CONDITION

Lawrence N. Lea, 1683 University Ave., Bronx, N.Y. 10468
Filed Oct. 7, 1968, Ser. No. 765,465
Int. Cl. H01h 3/16 8 Claims

U.S. Cl. 200—61.62



* One leaf of each of two nested, loose metal hinges are horizontally positioned and assembled with a dielectric piece between them; such assembly having a mounting element. Their other leaves hang downwardly. The downward leaf of the inner hinge, when swung upwards, for instance by the opening of a door or drawer, will cause the other downward leaf to swing upwards, and depending upon the arrangement, the circuit in which said hinges are interposed, will be opened or closed. For a set-up to constitute a normally open switch, said downward leaves are spaced when at normal rest position. To be a normally closed switch, the downward leaf of the outer hinge, at normal rest position, rests on the knuckles of the inner hinge, and the face of the downward leaf of the inner hinge, which is opposite the downward leaf of the outer hinge, has an insulative tape covering. Arrangement is also provided to convert from one type to the other, by change of position of the horizontal leaf of the outer hinge. Means are also provided to avoid over movement of the downward leaves.

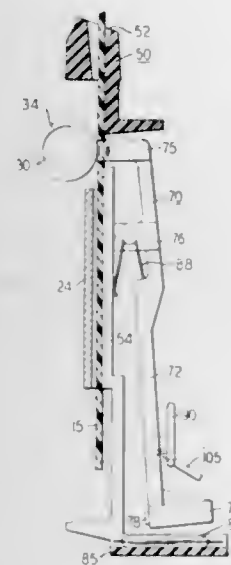
3,541,277

WEB ACTUATED SWITCH

Daniel L. Miller and Terry B. Prince, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed May 28, 1968, Ser. No. 732,702
Int. Cl. H01h 25/14, 43/08

U.S. Cl. 200—61.13

3 Claims



A switch includes a plurality of sensing members individually actuated responsive to coding on a web moving relative to the switch. Each sensing member has a feeler portion at one end, a permanent magnet at the other end, and is pivotally mounted therebetween. A sealed reed switch is positioned adjacent to each permanent magnet and when the feeler portion of a sensing member engages an encoded part of the web the sensing member is deflected so as to move the permanent magnet into position to operate the associated reed switch.

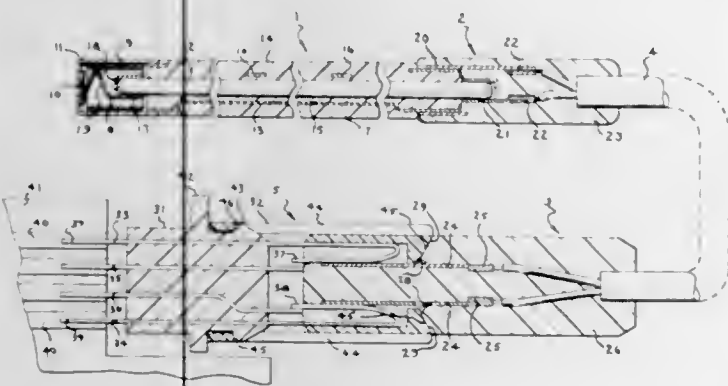
3,541,278

SOCKET MEMBER FOR TEMPERATURE-SENSING DEVICE

Lincoln Edwin Roberts, Winston-Salem, N.C., assignor to AMP Incorporated, Harrisburg, Pa.
Original application Jan. 5, 1965, Ser. No. 423,500, now Patent No. 3,356,980, dated Dec. 5, 1967. Divided and this application Sept. 26, 1967, Ser. No. 670,644
Int. Cl. H01r 33/30

U.S. Cl. 200—51.09

1 Claim



A socket member for receiving a plug member has pairs of contact means with one pair being in normal engagement and being moved out of engagement when electrically engaged by the plug member and another pair being normally disengaged and being moved in engagement when electrically engaged by the plug member; a cover means is removably placed around the pairs of contact means to protect same, to provide support therefor and to provide bias thereto.

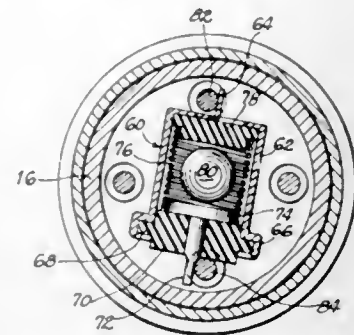
3,541,279

SWITCH CONSTRUCTION WITH ARMING MEANS

Guy M. Farrell, Elmhurst, Ill., assignor to Chicago Switch, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 26, 1968, Ser. No. 762,737
Int. Cl. H01h 3/16, 35/14

U.S. Cl. 200—61.45

5 Claims



A switch construction having terminal elements with a wire-like contact extending between the terminal elements. An opening is defined by the construction housing for receiving a pin which engages the wire-like contact to hold the contact out of engagement with a terminal element. The pin is removable when subjected to a pulling force whereby the wire-like contact will be moved into engagement with respective terminal elements.

The invention also contemplates a novel disturb switch construction preferably employed in conjunction with the switch construction referred to. The disturb switch has end terminals which engage terminal elements of the other switch construction. The disturb switch includes a coil spring located in spaced-apart relationship relative to a conductive outer wall. A weight is located in the interior of the coil spring so that the application of physical force, for example if the disturb switch is kicked or dropped, will complete contact between the end terminals.

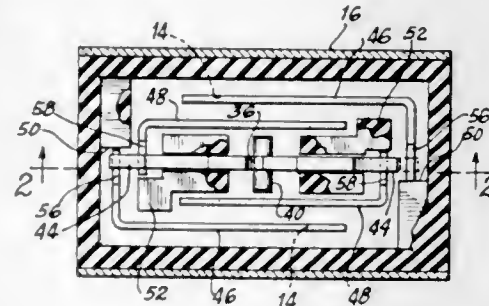
3,541,280

SLIDE SWITCH WITH ROCKER CONTACT

Guy M. Farrell, Elmhurst, Ill., assignor to Chicago Switch, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 3, 1968, Ser. No. 764,873
Int. Cl. H01h 13/28

U.S. Cl. 200—67

13 Claims



A switch construction including a base with at least one pair of spaced apart contacts mounted on the base. A movable contact in the form of a rocking element is adapted to engage the spaced apart contacts and to force itself between these contacts. Each of the spaced-apart contacts is provided with an inclined edge so that the rocker element will wipe against the respective edges in the course of its movement between the contacts. An overcenter spring is preferably employed for imparting driving movement to the rocker element. The push button employed in the construction includes camming means which will engage the rocker element in the event that the spring is ineffective to impart the necessary movement to the rocker element. A detent spring is associated with the push button and registers with the switch housing in a position of rest so that sufficient force for insuring rapid switching must be applied.

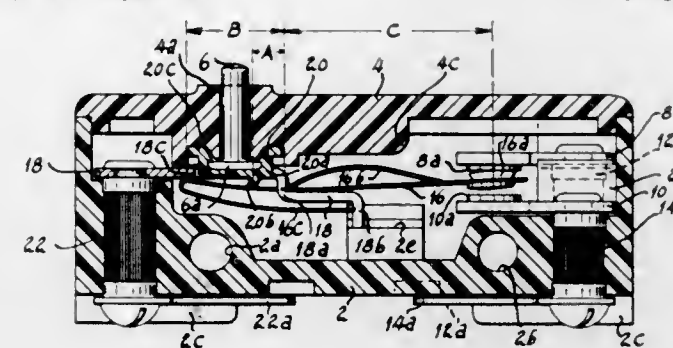
3,541,281

PRECISION SNAP ACTION SWITCH WITH LOW DIFFERENTIAL BETWEEN TRIPPING POSITIONS

Alvin W. Krieger, West Bend, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Apr. 7, 1969, Ser. No. 814,095
Int. Cl. H01h 13/36

U.S. Cl. 200—67

9 Claims



A precision snap action switch having a one-piece contactor blade removably mounted on a conductive support within an insulating housing and including a contact element at one end thereof, and a first pair of compression force spring strips extending from a point near the contact element with an upward bow to a pivot point on the support to apply a force in one direction, and a second compression force spring strip extending with a reentrant bend from the extreme other end thereof with a downward bow to another pivot point on the support for free pivoting thereon to apply a force in the other direction and also to bias the bent end upwardly against the support, an actuator engaging the contactor blade between the bent extreme other end thereof and the pivot points and including a plunger for depressing the actuator for snap action operation of the contact element between normally closed and normally open stationary contacts, and the bent extreme other end of the contactor blade being formed long enough and shaped to be biased against and to maintain engagement with a surface of the support until the line of action of the contactor blade passes overcenter at the first-mentioned pivot point for snap-action tripping of the contact element thereby to reduce the differential between the tripping positions and to disengage the surface of the support and move away therefrom in response to further depression of the plunger to afford a large amount of overtravel without damaging the contactor blade.

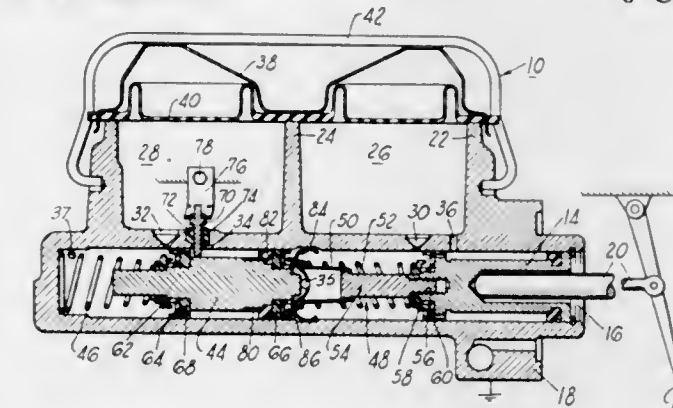
3,541,282

SWITCH FOR MASTER CYLINDER

Gerald L. Kretchman, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Jan. 26, 1968, Ser. No. 700,918
Int. Cl. H01h 35/38

U.S. Cl. 200—82

8 Claims



A switch between piston elements of a hydraulic actuator which is adapted to close an electrical circuit through the housing of the actuator in the normal position, which switch is inclusive of elements which may be operated to open the electrical circuit.

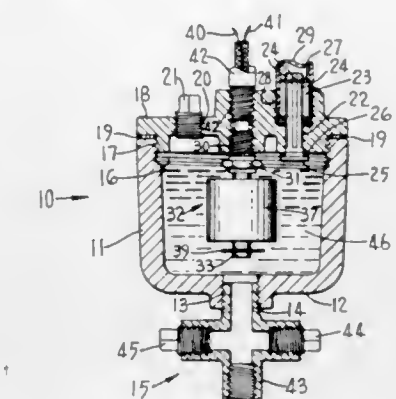
3,541,283

LEAK DETECTOR FOR PUMPED LIQUID SYSTEMS

August Milo, 1015 Schliefer Drive, Hillside, N.J. 07205
Filed Sept. 27, 1968, Ser. No. 763,183
Int. Cl. H01h 36/02

U.S. Cl. 200—84

3 Claims



A leak detector for detecting a leak in a liquid pump discharge system, such as a gasoline pumping and dispensing system, comprises a bowl body having a liquid discharge inlet and a cover sealably attached to the body. A vertically sliding valve is mounted in an opening in the cover and it is designed to vent air into or out of the bowl as the liquid level in the bowl rises or falls, and to seal off the bowl when the latter is filled with liquid under pressure. A float stem is mounted on the bottom of the bowl with a float disposed around it in a manner such that when the liquid rises in the bowl, the float rises and when the level drops, the float drops. An electrical switch is disposed in the float mounting in a manner such that when the level falls the switch will provide a signal to indicate a leak in the system. A bleed plug for bleeding off any air in the bowl may be inserted in the cover, and a vent pipe may be connected to the cover and around the valve to vent air and vapors.

3,541,284

COMBINED VACUUM CIRCUIT INTERRUPTER AND IMPEDANCE MEANS

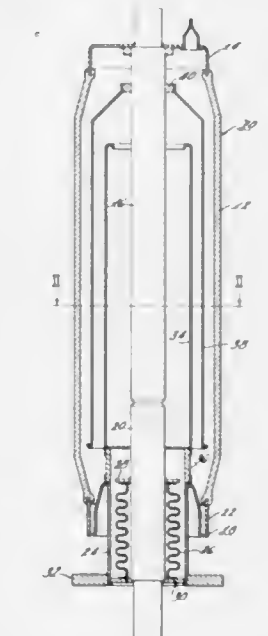
Zygmunt A. Wachta, Chicopee Falls, Mass., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Dec. 14, 1967, Ser. No. 690,597

Int. Cl. H01h 33/66

U.S. Cl. 200—144

4 Claims



A vacuum circuit interrupter comprising a cylindrical glass envelope having a pair of axially aligned relatively movable butt type contact rods extending thereinto is pro-

vided with impedance means comprising a pair of cylindrical metal shields which are concentrically arranged with respect to the contact rods and each other and electrically connected to respective contact rods. In one embodiment, the shields are located within the envelope and in another embodiment, the shields are located or embedded within the envelope wall. In a further embodiment, resistance means which also mechanically support the shield are connected in series circuit between each shield and its respective contact rod.

3,541,285

HIGH-VOLTAGE GAS BLAST SWITCH HAVING UPSTREAM VALVES FOR CONTROL OF GAS MOVEMENT

Fritz Kestelring, Kusknacht, Zurich, Switzerland, and Hansruedi Aumayer, Los Angeles, Calif., assignors, by direct and mesne assignments, to Siemens Aktiengesellschaft, a corporation of Germany, and ITE Imperial Corporation, Philadelphia, Pa., a corporation of Delaware

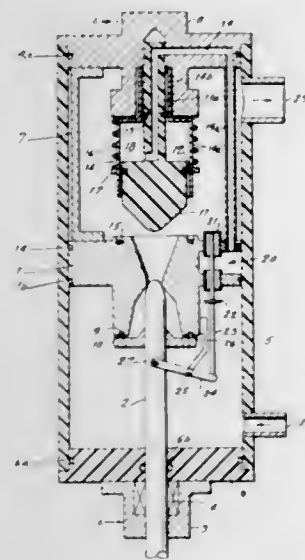
Filed Feb. 23, 1968, Ser. No. 707,562

Claims priority, application Germany, Feb. 28, 1967, S 108,546

Int. Cl. H01h 33/82

U.S. Cl. 200—148

4 Claims



A high-voltage gas blast switch has a stationary nozzle contact carried in a cylindrical insulation tube. An elongated movable contact entering the tube from one end thereof is movable into and out of engagement with the stationary contact, and carries a valve member which cooperates with a valve seat surrounding the stationary contact on the side thereof facing the movable contact. The chamber below this valve is filled with high-pressure gas which flows through the stationary nozzle contact when the contacts are open. A second valve cooperates with a valve seat on the opposite side of the stationary contact to cut off gas blast after the interruption of an arc, with the second valve protected by a central insulation cone against the effects of hot, ionized products produced during arcing. The insulation cone is surrounded by a movable cylinder which is moved responsive to pressures from the main pressure chamber, which are connected to the cylinder through a valve which is operated by the movement of the movable contact.

3,541,286

SWITCH BANK

Pierre P. Schwab, River Edge, N.J., and Robert W. Pollock, Manchester, N.H., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Apr. 23, 1969, Ser. No. 818,638

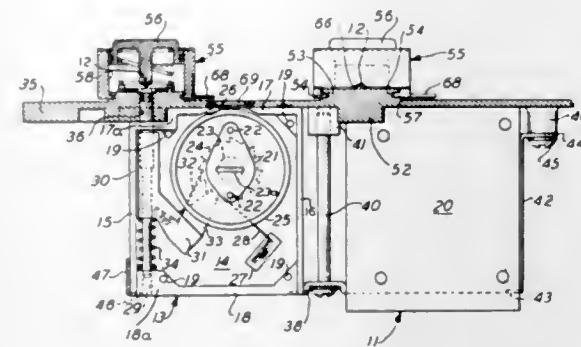
Int. Cl. H01h 3/34, 3/50, 13/00

U.S. Cl. 200—156

7 Claims

A bank of multiposition switches is provided wherein each switch has a plunger depressible to step the switch

ahead to successive positions through successive cycles. A common push button for the bank of switches is slidably mounted in a track extending along the plungers and is detented in successive positions wherein the push button



3,541,287

DOUBLE ACTING CONTACT SPRING

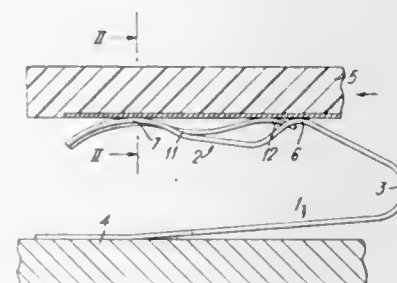
Peter Wilson, Gayton, Wirral, and James Aidan Milner, Huyton, England, assignors, by mesne assignments, to BICC-Burndy, St. Helens, Lancashire, England

Filed Sept. 24, 1968, Ser. No. 762,080

Int. Cl. H01n 1/10

U.S. Cl. 200—166

9 Claims



An electrical contact element for use in establishing electrical connections by sliding engagement with mating electrical conductors such as printed circuits. The contact element includes a reversely bent cantilever arm which can be attached at one end to a connector body, and a second cantilever arm which is attached at one end to the free end of the reversely bent arm. The second cantilever arm serves as the principal electrical path to a mating conductor, while the reversely bent arm engages the conductor, or the conductor support, mainly for the purpose of positioning the second arm properly relative to the conductor.

3,541,288

SPLASH-PROOF ELECTRICAL SWITCH

John E. Maas, Valparaiso, Ind., assignor to McGill Manufacturing Company, Inc., Valparaiso, Ind., a corporation of Indiana

Filed Jan. 27, 1969, Ser. No. 794,287

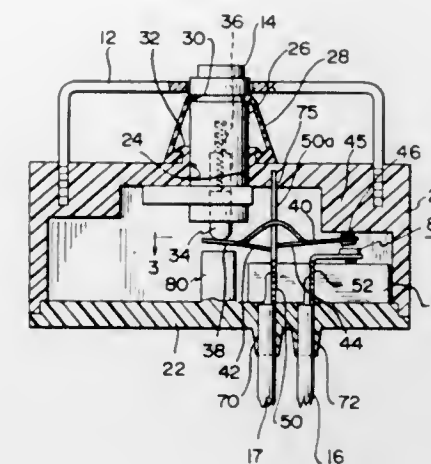
Int. Cl. H01h 9/04

U.S. Cl. 200—168

7 Claims

A splash-proof electrical switch which includes a single piece molded housing having a removable base portion that snaps into place on the housing to seal the same against moisture. The switch terminals are mounted to the base portion by inserting leads connected to the respec-

tive terminals through resilient sleeve portions of thin cross-section integrally molded to the base portion and pulling the terminals into corresponding slots in wall sup-



3,541,289

CONVEYOR TYPE HEATING

Peter Harold Smith, London, England, assignor to Microtherm Limited

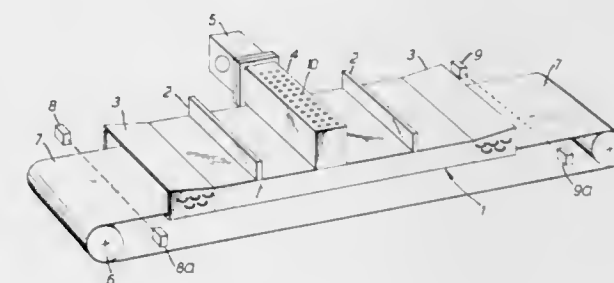
Filed Dec. 11, 1967, Ser. No. 689,489

Claims priority, application Great Britain, Dec. 9, 1966, 55,345/66

Int. Cl. H05b 5/00, 1/02, 9/00

U.S. Cl. 219—10.69

11 Claims



The disclosure relates to an oven in which articles are passed on a conveyor through a heating compartment where the articles are exposed to microwave radiation. The articles are counted as they enter and leave the heating compartment and either, or both, of the power of the radiation and the speed of the conveyor is controlled as a function of the number of articles between the counting points. Another oven disclosed is intended for heating bulk material, and the power of the radiation is controlled as a function of the movement of the conveyor.

3,541,290

PROCESS AND DEVICE FOR THE ELECTRO-EROSIVE MACHINERY OF WORKPIECES UNDER A PRESSURIZED DIELECTRIC

Ilie Isarie, Timisoara, Rumania, assignor to Institutul Politehnic Timisoara, Timisoara, Rumania, an institute of Rumania

Filed Jan. 22, 1968, Ser. No. 699,694

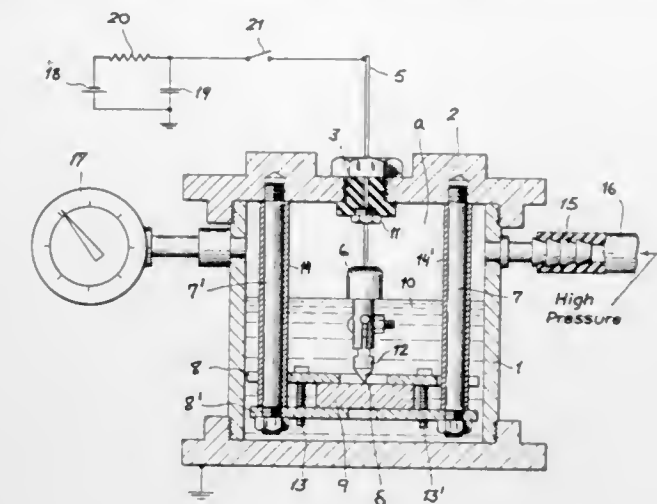
Claims priority, application Rumania, Jan. 21, 1967, 52,934

Int. Cl. B23p 1/08

U.S. Cl. 219—69

6 Claims

A metallic workpiece is machined by spark discharge



several atmospheres, preferably substantially greater than the magnetic pressure exerted upon the plasma column.

3,541,291

PRECISION ADJUSTED ELECTRICAL DISCHARGE MACHINE

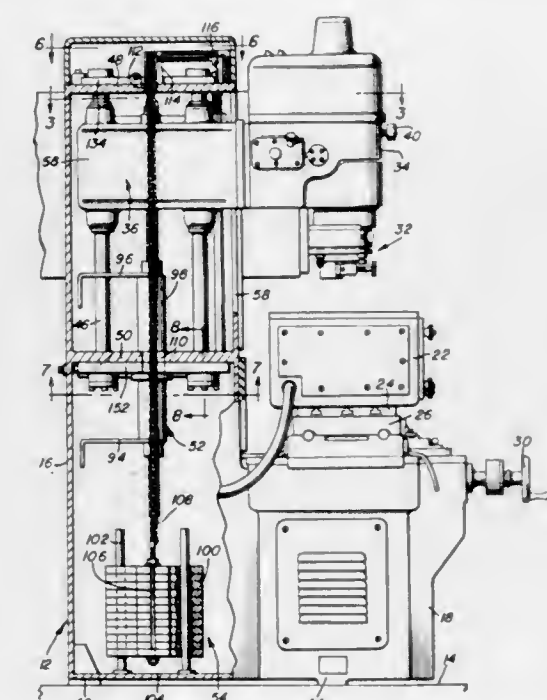
Lars Johanson, West Caldwell, N.J., assignor to Eltec, Inc., a corporation of New Jersey

Filed Aug. 6, 1968, Ser. No. 750,696

Int. Cl. B23p 1/08; B30b 5/00; F16c 1/26

U.S. Cl. 219—69

17 Claims



The path of movement of the head section of an electrical discharge machine is adjusted with a high degree of precision for vertical motion of the rotating spindle after the machine housing is firmly anchored and leveled, by adjustment of four guide columns guiding movement of the carriage on which the head section is mounted. The guide columns are pivotally and slidably connected at upper and lower ends to anchor plates slidably mounted with the housing for displacement to adjusted positions.

3,541,292

APPARATUS FOR MAKING MULTIPLE BRAZED TUBE ASSEMBLIES

Francis J. Hanback, Palos Verdes, and Norman F. Robinson, Manhattan Beach, Calif., assignors to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Feb. 4, 1969, Ser. No. 796,409

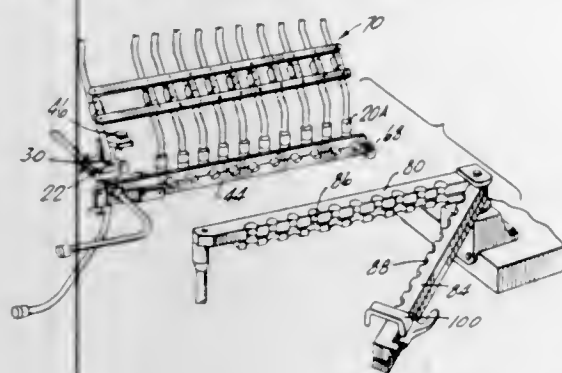
Int. Cl. B23k 1/04

U.S. Cl. 219—85

6 Claims

A multiple station brazing tool and associated appara-

tus to facilitate the production of brazed tube connections, capable of brazing several subassembly connections at



once. Inert gas shields, RF energy and chill block sections are used as in co-pending applications.

3,541,293

MUFFLE FURNACE

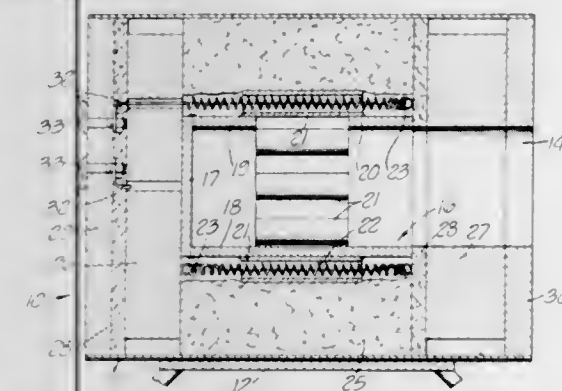
Ronald MacDonald, 9140 Brookshire, Downey, Calif. 90240, and Elliott E. La Frier, 9615 Brighton Way, Beverly Hills, Calif. 90210

Filed Oct. 29, 1968, Ser. No. 771,409

Int. Cl. F27b 5/14

U.S. Cl. 219—390

19 Claims



A muffle furnace having a unitary core supporting a readily-replaceable heating unit. The core and heating unit assembly utilizes a blanket wrapping of heat insulating material to support the assembly centrally of a furnace housing. Refractory end members, one of which is equipped with an access port, provide closures for the furnace. The core is fabricated from thin-walled molded refractory members fused into a rigid assembly having tubular passages through which a flexible heating element is threaded.

3,541,294

STUD WELDING

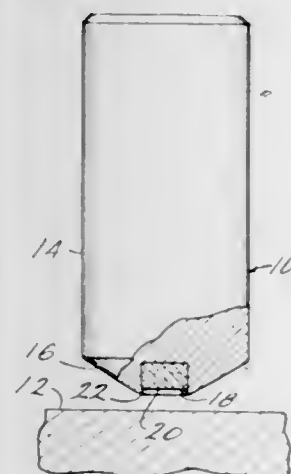
Joseph A. Jerdonek, Parma, Ohio, assignor, by mesne assignments, to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Feb. 7, 1968, Ser. No. 703,614

Int. Cl. B23k 9/20

U.S. Cl. 219—99

3 Claims



Calcium fluoride is used as a flux with a weldable titanium stud designed to be arc welded to a surface of

a titanium workpiece. The flux improves the arc stabilization, the uniformity of the weld, and the strength and cleanliness thereof.

3,541,295

WELDING TOGETHER OF RAILWAY TRACK RAILS AND LIKE ELONGATED METAL SECTIONS

William McGuire, Inverness, Scotland, assignor to A. I. Welders Limited, Inverness, Scotland

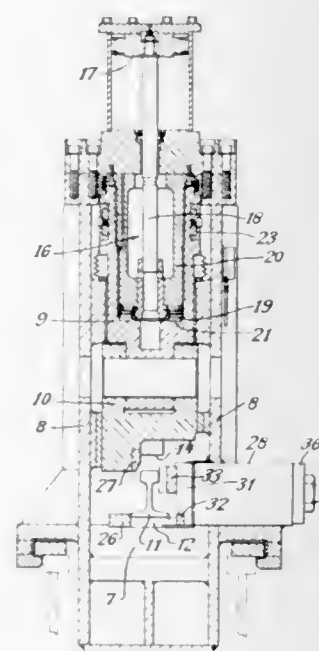
Filed July 28, 1967, Ser. No. 656,871

Claims priority, application Great Britain, Nov. 10, 1966, 50,426/66

Int. Cl. B23k 11/02

U.S. Cl. 219—101

8 Claims



In the welding together in end-to-end relation of railway rails or like elongated metal sections the said sections are clamped in the platens of a resistance welding machine so as to ensure that their ends are in proper alignment, one clamping means close to the end of each section engaging each side of the section at points spaced across its width so as to correct any twist, and another clamping means spaced from the said end holding the portion of the section between the two clamping means truly parallel to the direction of movement of the machine platens during the welding operation.

3,541,296

WELDING OF LOW THERMAL MASS PARTS

Wallace C. Rudd, Larchmont, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Nov. 2, 1967, Ser. No. 680,240

Int. Cl. B23k 11/00

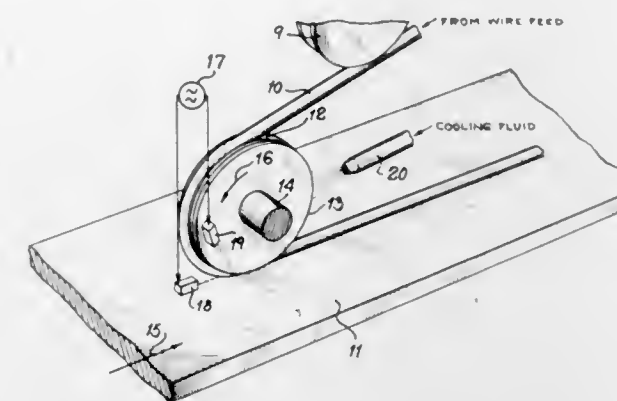
U.S. Cl. 219—117

26 Claims

One metal part of low thermal mass, such as a wire, rod, tube or thin strip, is welded to another metal part by bringing the parts together along converging paths which meet at or adjacent a weld point and by heating facing surfaces of the parts to welding temperature by the time they reach the weld point by supplying high frequency current to points on the parts in advance of the weld point. From the point at which current is supplied to said one part of low thermal mass up to the weld point, a substan-

tial portion of the periphery of the one part is maintained in contact with a member of good electrical and thermal conductivity, such as a roll, which moves with the one

member which is tightened about the contact tube by a locking-assembly. A threadless nozzle is replaceably held



part and which is in close proximity to the facing surface of the other part, the member acting as a heat sump and carrying part of the current.

3,541,297

HEATING A REACTIVE FLUID TO HIGH TEMPERATURE

Jean Albert Francois Sunnen, Waterloo, and Henry René Paul Jules Schoumaker, Jette, Belgium, assignors to La Soudure Electrique Autogene Procèdes Arcos, Brussels, Belgium, a corporation of Belgium

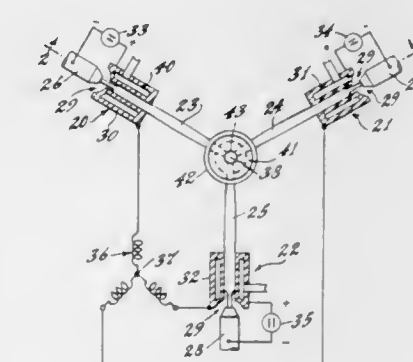
Filed Dec. 31, 1968, Ser. No. 788,209

Claims priority, application Belgium, Oct. 7, 1968, 64,373

Int. Cl. B23k 9/00

U.S. Cl. 219—121

16 Claims



A process or apparatus for heating a reactive fluid by at least two plasma torches having converging jets in which the reactive fluid is carried to the vicinity of the zone of convergence of the plasma jets in a helical motion whose axis is equally inclined with respect to each of the plasma jets.

3,541,298

METAL-INERT-GAS WELDING TORCH

Donald Wesley Carkhuff, Jamesburg, N.J., assignor to Union Carbide Corporation, New York, N.Y., a corporation of New York

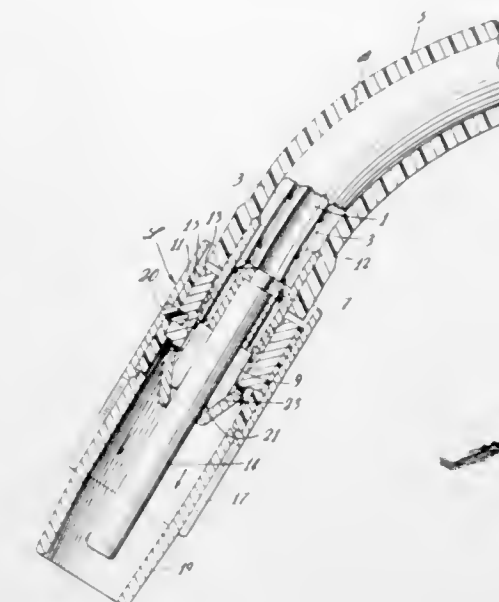
Filed Sept. 12, 1968, Ser. No. 759,330

Int. Cl. B23k 9/00

U.S. Cl. 219—130

3 Claims

A front end assembly for electric arc welding torches featuring a threadless contact tube held in a resilient



by the locking-assembly. The nozzle can be replaced by pulling-off the old nozzle and pushing-in a new nozzle.

3,541,299

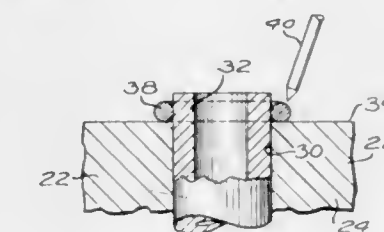
METHOD OF WELDING DISSIMILAR METALS
Carl A. Maxwell, Darien, Conn., and Harold E. Roberts, Shickshinny, Guy A. Leclair, Mountaintop, and Edward Cauda, West Wyoming, Pa., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Filed Sept. 2, 1965, Ser. No. 484,618

Int. Cl. B23k 9/00

U.S. Cl. 219—137

9 Claims



A method of welding a tube of an alloy containing zinc to a steel tube sheet without vaporizing the zinc. A silver alloy ring is placed around the tube and on the sheet, and an arc is struck between the sheet and a non-consumable electrode which is passed around the tube at a speed and over a path which bonds the silver alloy of the ring with the tube and the steel without vaporizing the zinc.

3,541,300

APPARATUS FOR STABILIZING THE MODULATION OF COHERENT RADIATION
Bohumil Stádník and Zdeněk Tröner, Prague, Czechoslovakia, assignors to Československá akademie věd, Prague, Czechoslovakia

Filed Aug. 1, 1968, Ser. No. 749,467

Claims priority, application Czechoslovakia, Dec. 18, 1967, 8,943/67

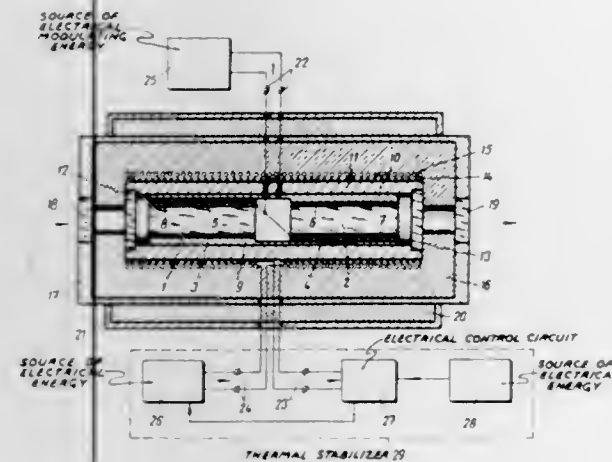
Int. Cl. A01s 3/02; A01u 7/00; A05b 3/00

U.S. Cl. 219—210

9 Claims

The electromagnetically active optical component of a device for modulating coherent radiation over a range from infrared to ultraviolet is encased in a heating casing. A heating winding around the outside of the heating casing is energized under the control of a temperature sensitive winding which is wound on the heating casing between the heating casing and the heating winding to

stabilize the environment of the optical component thereby stabilizing the modulation of the radiation. The optical component is positioned in a metal holder. A heating casing surrounds and is in thermal contact with the metal holder. The sensitive and heating windings are wound around the heating casing. A first layer of thermal insulating material surrounds the heating casing and the



windings. A metal inner cover casing surrounds the first layer and has polished heat-reflecting inside and outside surfaces and bases with axially centered radiation permeable windows therein. A second layer of thermal insulating material surrounds the major part of the cylindrical surface of the inner cover casing. A metal outer cover surrounds the second layer.

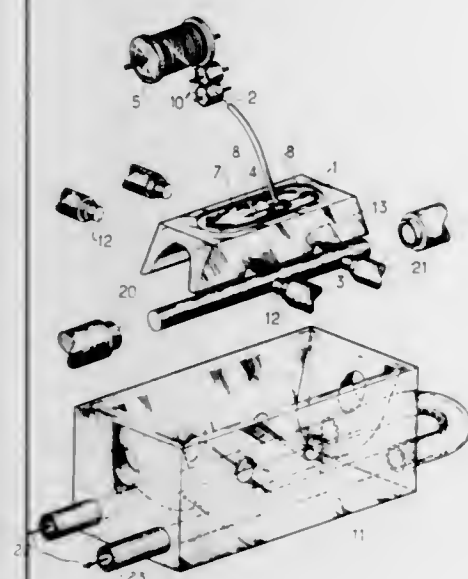
3,541,301

SOURCE FOR EVAPORATION IN A VACUUM
Georges L. Gallet, La Celle-Saint-Cloud, France, assignor to Compagnie Generale d'Electricite, Paris, France, a corporation of France

Filed Oct. 31, 1968, Ser. No. 772,281
Claims priority, application France, Nov. 6, 1967, 127,093; Feb. 14, 1968, 139,874
Int. Cl. C23c 13/00

U.S. Cl. 219—271

6 Claims



A high output vapor source for use in vacuum aluminumizing. An aluminum wire is continuously drawn over the plane, horizontal surface of a body which is composed of boron nitride which is traversed by a heating resistor for melting the wire. Fusion takes place as the metal is

melted into a thin liquid coating and spread over a large area where immediate vaporization occurs.

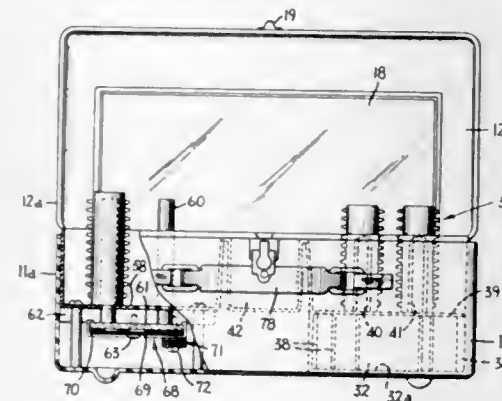
3,541,302

HEAT STORING CURLING BOBBIN AND HEATING DEVICE

Tomio Makino, Tokyo, Japan, assignor to Nichiei Denki Sangyo K.K., a company of Japan
Filed June 19, 1968, Ser. No. 738,340
Int. Cl. A45d 4/06; H05b 1/02

U.S. Cl. 219—222

9 Claims



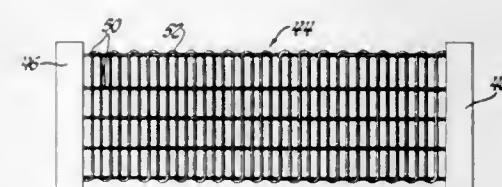
A device for curling hair comprises an electrical heating plate mounted in a case and disposed so as to heat a plurality of thermally conductive rods mounted on the plate. A hollow curling bobbin is removably mounted on each of the rods and each curling bobbin comprises an inner cylinder of thermally conductive material such as aluminum, an intermediate cylinder formed of a heat storing material such as polycarbonate and an outer cylinder formed of a hard synthetic resin. The outer cylinder has a plurality of radial projections adapted for twining hair on the bobbin. The device has a first safety device which regulates the temperature of the heater rods and a second safety device which interrupts electrical power to the heater rods if the first safety device fails.

3,541,303

LINT COLLECTING AND BURNING SCREEN
Thomas J. Brinkman, Dayton, Thomas H. Fogt, West Carrollton, and Charles C. Whistler, Jr., Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 8, 1967, Ser. No. 681,325
Int. Cl. H05b 3/10

U.S. Cl. 219—374

13 Claims



A screen for entrapping and burning lint in which the warp strands of resistance-heatable wire are relatively long and provide parallel current paths and in which the woof comprises a single strand interwoven in a finer mesh with the warp strands. Two embodiments of a useable package are also disclosed. In the first, a long strip of screening is wound around two spaced insulators to provide two sets of parallel rows spaced from and indexed with respect to each other. In the second, the long strip is wound in a double square spiral.

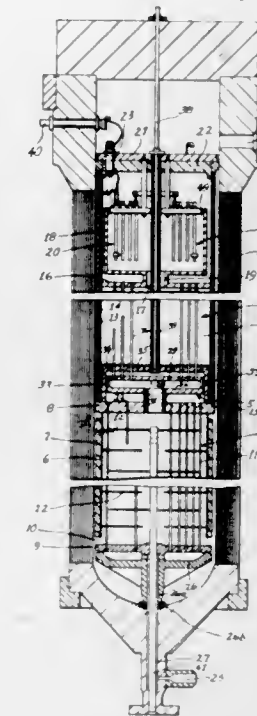
3,541,304

ELECTRIC FLUID HEATER

Diter Cohn, Houston, Tex.
Filed Mar. 18, 1968, Ser. No. 713,767
Int. Cl. H05b 3/00

U.S. Cl. 219—374

7 Claims



An electric heater for heating gases and electrically non-conductive liquids comprising a plurality of slotted cylindrical heating elements suspended in spaced relationship from a support plate by ceramic insulators. Means are provided whereby gas to be heated is passed through and about the cylindrical heating elements. The heating elements are connected in series, and are additionally connected to a suitable source of electrical current.

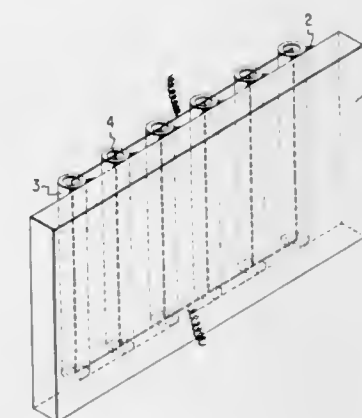
3,541,305

PLATE-TYPE HEATER

Shigeo Kuwayama, Mikiyoko Yagi, and Takayuki Kuriyama, Odawara-shi, Kanagawa, Japan, assignors to Fuji Photo Film Co., Ltd., Kanagawa, Japan
Filed Nov. 12, 1968, Ser. No. 774,752
Claims priority, application Japan, Nov. 15, 1967, 42/96,336
Int. Cl. H05b 3/68

U.S. Cl. 219—464

4 Claims



A plate-type heater of ceramic material has a plurality of ceramic tubes bonded to one surface of the plate by heat resistive adhesive with the tubes carrying individual heater elements, the thermal coefficient of expansion for the plate and tube being similar and less than 25×10^{-7} centimeters per centimeter degree centigrade.

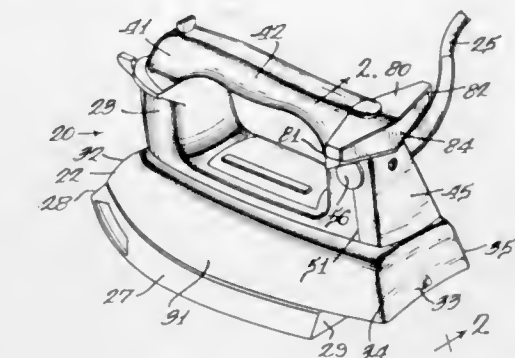
3,541,306

ELECTRIC PRESSING IRON

Louis A. Barnas, Jr., Cary, and Jerry P. Gronwick, Park Ridge, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed May 1, 1968, Ser. No. 725,801
Int. Cl. D06f 75/40

U.S. Cl. 219—245

6 Claims



An electric pressing iron having a handle which improves the stability of the iron in its upended position.

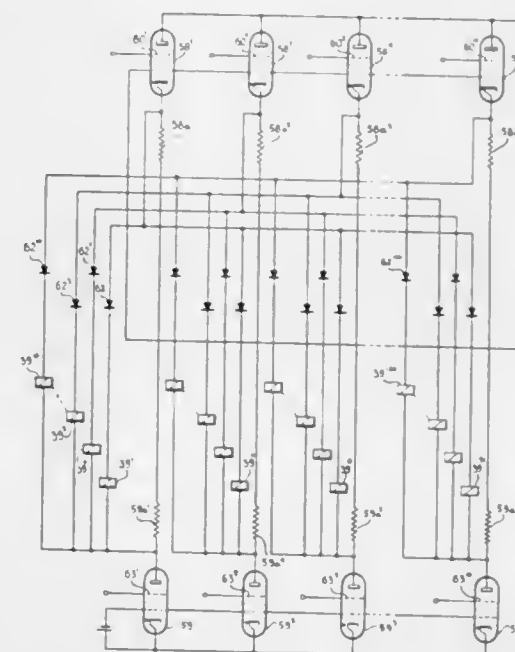
3,541,307

SELECTION CIRCUIT

Gerhard Dirks, 12120 Edgecliff Place, Los Altos Hills, Calif. 94022
Original application Aug. 26, 1957, Ser. No. 680,207, now Patent No. 3,223,979, dated Dec. 14, 1965. Divided and this application Oct. 23, 1965, Ser. No. 503,919
Claims priority, application Great Britain, Aug. 24, 1956, 25,885/56
Int. Cl. B41j 5/38; G06k 3/00, 7/016

U.S. Cl. 235—61.6

3 Claims



The function of the selection circuit is to operate one of a number of, for example, keys, in response to input signals derived, for example, from a tape. It consists of a matrix having a first group of conductors and a second group of conductors and interconnecting circuits, each interconnecting one of the first group of conductors with one of the second group of conductors. Each interconnecting circuit consists of a series connection of a diode and, for example, a relay coil if each key is operable both by such a coil. The input signals are used to activate electronic switches. Each input signal causes the activation of a first electronic switch connecting one of the first group of conductors to a voltage source and a second electronic switch connecting one of the second group of conductors to another terminal causing current to flow through the coil of the interconnecting circuit.

connecting the first selected conductor to the second selected conductor. The current flow through the coil causes activation of the selected key.

3,541,308

AUTOMATED PARKING FACILITY

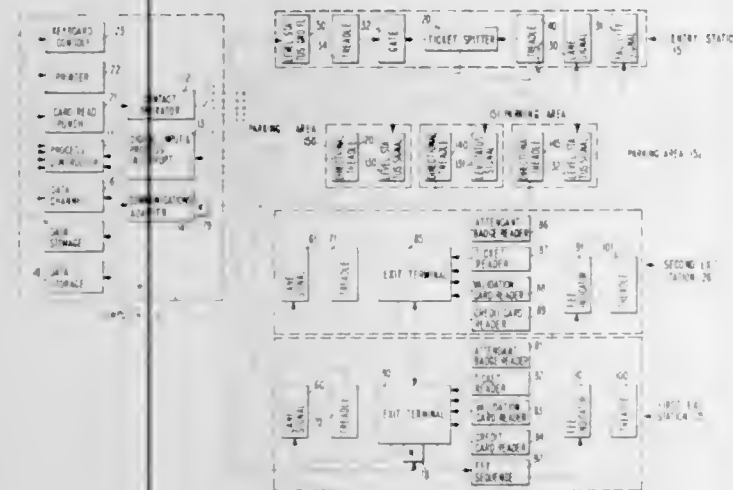
George S. Ruby, Searsdale, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 28, 1968, Ser. No. 716,794

Int. Cl. G06k 17/00

U.S. Cl. 235—61.6

5 Claims



An automated parking garage system using prepunched tickets which are read by a computer on entry of an auto into the facility. The computer stores the time of entry of the particular ticket so that the fee can be computer calculated later when the ticket is presented at the exit point. The computer also controls lane and level status signs which direct autos to available parking areas.

3,541,309

MERCHANDISING SYSTEM

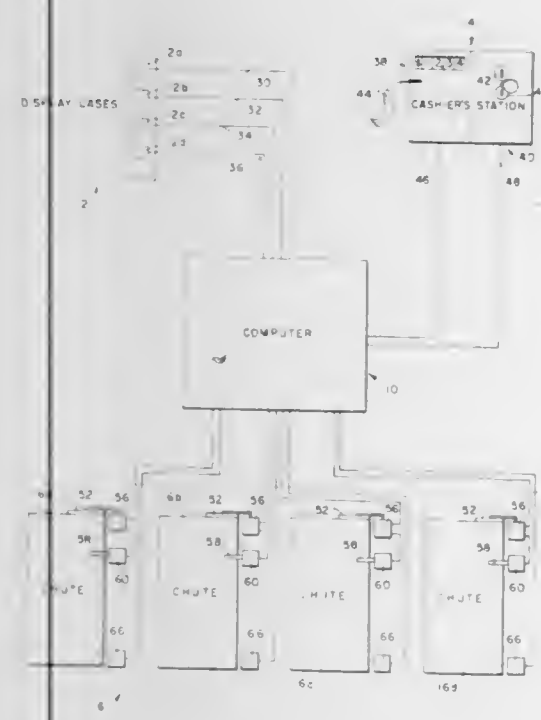
Robert J. Cutter, Fort Wayne, Ind., assignor to Cutter's Inc., Fort Wayne, Ind., a corporation of Indiana

Filed June 26, 1967, Ser. No. 648,550

Int. Cl. G06k 3/08; H04q 3/02

U.S. Cl. 235—61.7

10 Claims



A merchandising system comprising a plurality of display means, each of which represents a certain type of

merchandise, a computer, first switch means associated with each display means and connected to the computer, a readout device, and second switch means connected between the computer and the readout device. A manually actuated coded means is provided for selectively operating each of the first switch means, thereby to register in the computer the identity of a purchaser and the quantity of merchandise ordered by the purchaser. The same coded means is then used to operate the second switch means which operates the computer to sum all of the purchases made by the purchaser using the coded means and to register the sum in the readout device. In preferred embodiments of the invention, the computer operates a material handling system which delivers the selected merchandise to a loading station.

3,541,310

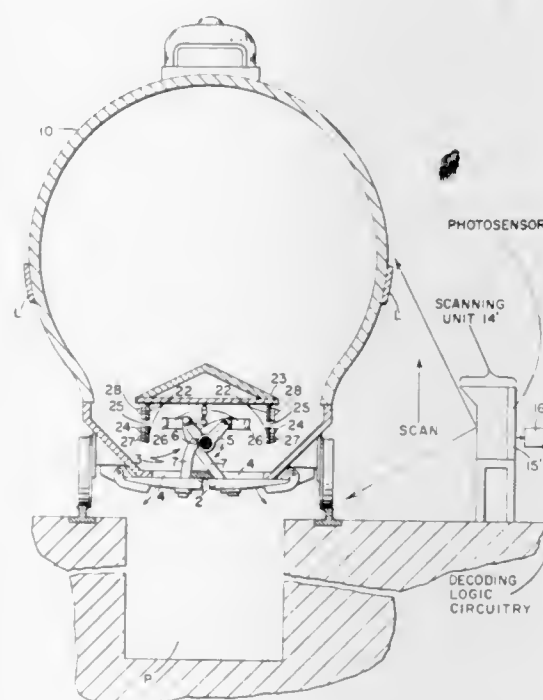
CODING ARRANGEMENT

Francis H. Stites, Wayland, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 491,772, Sept. 30, 1965. This application Apr. 17, 1968, Ser. No. 722,035

Int. Cl. B61 3/06; G06k 7/10, 9/13, 19/04

U.S. Cl. 235—61.11

16 Claims



An electro-optical mark sensing system including in a preferred embodiment a two-stripe coding format for detecting open and closed positions of a hopper car door. A first of two retroreflective stripes is disposed parallel to and adjacent to a horizontally-oriented aperture provided in a mounting plate, and a second retroreflective stripe is disposed parallel to and behind the aperture on a moving member coupled to a mechanism for opening and closing the door. When the door is moved to a closed position, the second stripe appears behind the aperture and a scanner "reads" both stripes and produces a coded signal which is decoded to indicate the closed position. When the door is opened, the moving member moves the second stripe from behind the aperture, and the scanner "reads" only the first stripe, and produces a coded signal, which is decoded to indicate the open position. "START READ" stripes and "STOP READ" stripes are also provided on the mounting plate to prevent extraneous light from being processed and erroneously decoded. A number of modifications and variations of the above-described arrangement are also disclosed.

3,541,311
NUCLEAR RADIATION DIGITAL DOSE MEASURING SYSTEM

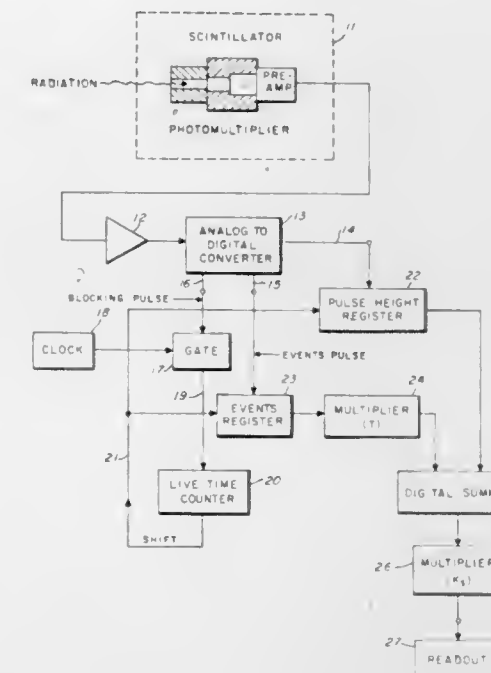
Raymond A. Taylor, San Mateo, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed June 27, 1966, Ser. No. 561,659

Int. Cl. G06m 3/02; G01t 1/02

U.S. Cl. 235—92

8 Claims



A digital measuring system has been provided for determining the amount of energy provided by a nuclear radiation field at a point per unit time. Two registers are used to store information provided by a radiation detector and an analog to digital converter. A timing system, consisting of a predetermined counter and a source of clock pulses, controls the readout of the storage registers.

3,541,312

NON-INTERRUPTABLE DIGITAL COUNTING SYSTEM

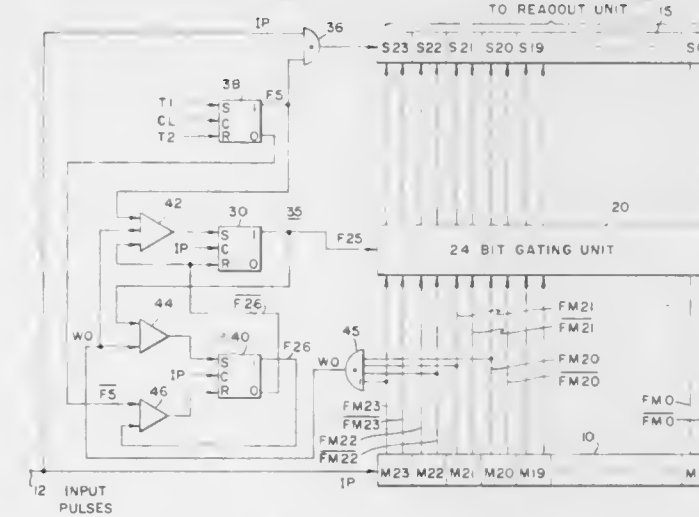
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Robin A. Winkelstein, La Crescenta, Calif.

Filed Dec. 30, 1966, Ser. No. 606,462

Int. Cl. H03k 21/08

U.S. Cl. 235—92

6 Claims



A noninterruptable digital counting system including a master multistage binary counter, whose maximum propagation time is longer than the period between successive input pulses, continuously supplied to the counter. A slave binary counter of equal stage length which is selectively coupled to the master counter and the source

of input pulses, so that both counters have the same nominal count and both respond to the same input pulses. Logic control circuitry, for decoupling the slave from the master counter, preferably when the stages of both are in a quiescent state. The logic control circuitry also includes controls to disrupt the supply of input pulses at a selected time instant, so that the count therein at such instant represents the count also present in the master counter.

3,541,313

FURNITURE FOR SITTING

Angelo Buzzi, Rome, Italy, assignor to Christian Holzapfel KG, Ebhausen, Germany

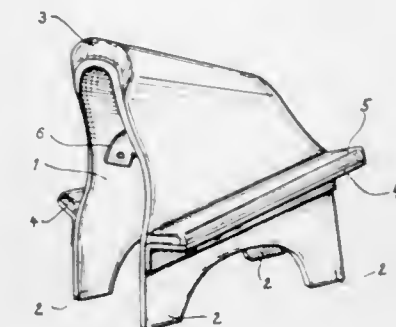
Filed Aug. 23, 1968, Ser. No. 754,849

Claims priority, application Italy, Aug. 31, 1967, 16,217/67

Int. Cl. B62j 1/00

U.S. Cl. 297—195

5 Claims



A piece of furniture to sit on has a saddle-shaped seat which is inclined in one direction and a pair of knee supports located on both sides of the seat which are inclined in the opposite direction.

3,541,314

DECODER SYSTEM

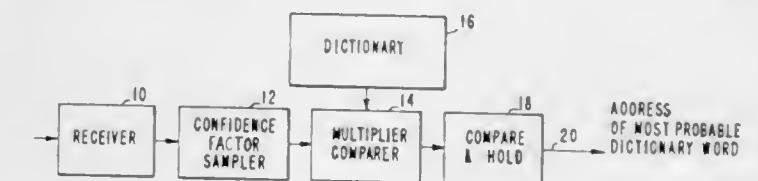
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Tage O. Anderson, Arcadia, Calif.

Filed Feb. 9, 1968, Ser. No. 704,465

Int. Cl. G06f 7/02

U.S. Cl. 235—152

5 Claims



Binary data decoding apparatus for use at the receiving end of a communication channel on which noise may distort discrete binary signal levels applied to the sending end prior to the signals reaching the receiving end. The apparatus ascribes a "confidence factor" to each received binary symbol indicating the ratio between the received signal level representative of the symbol and the signal level which would be received in the absence of noise. A dictionary is provided defining a plurality of words, each comprised of a plurality of bits. Each received word is compared with all of the dictionary words to determine the correlation value therebetween. A received word is compared with a dictionary word by multiplying the confidence factor of each symbol of the received word with the corresponding bit of the dictionary word. The products so developed are then summed to yield a correlation value. The dictionary word yielding the highest correlation value when compared with the received word identifies the received word.

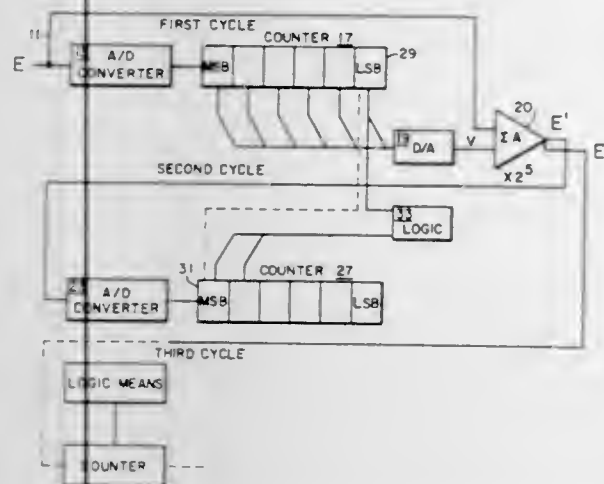
3,541,315

**ANALOG-TO-DIGITAL CYCLIC FORWARD
FEED CONVERSION EQUIPMENT**

Bob N. Naydan, Oakland, and John Brinkman, Pine Brook, N.J., assignors to Singer-General Precision, Inc., Little Falls, N.J., a corporation of Delaware
Filed Apr. 13, 1967, Ser. No. 630,678
Int. Cl. H03k 13/17

U.S. Cl. 235—154

8 Claims



An analog value to be converted to a digital count in an analog-to-digital converter of limited capabilities is first converted into a digital number by applying the analog signal to a converter which converts the signal into digital form and transfers this digital number to a register. The value of the number in the register is reconverted back to analog form by a summing network and subtracted from the original analog signal. The difference between the original and the reconverted values is then amplified by a proper scale factor and converted to obtain a second digital number. The most significant bits of the second digital number are then compared with the corresponding bits of the first number by logic means and the two numbers are then properly consolidated by additional logic means into a final output register in form suitable for use by external equipment.

3,541,316

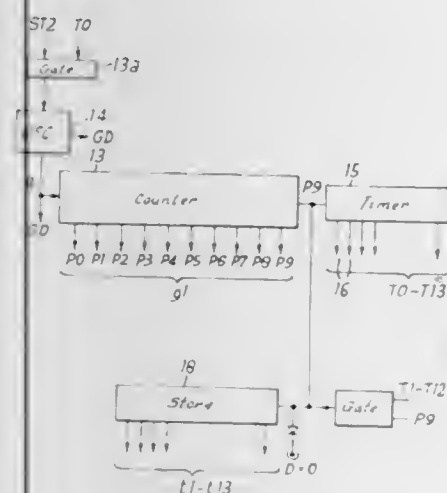
**CALCULATOR WITH DECIMAL POINT
POSITIONING**

James John Drage, Uxbridge, England, assignor to Bell Punch Company Limited, Uxbridge, England, a British company

Filed Apr. 20, 1967, Ser. No. 632,234
Claims priority, application Great Britain, Apr. 22, 1966, 17,641/66
Int. Cl. G06f 7/46

U.S. Cl. 235—160

11 Claims



An electronic calculating machine is provided with a pair of multiple stage registers, a counter for establishing a decimal point at a single position between two stages

of each register and automatic means for positioning the decimal point for various types of calculations either in the registers or in the answer. One of the decimal point counters visually displays the decimal point. The positioning is made responsive to the supplying of pulses into the counters such as by means of electronic gates when appropriate conditions are satisfied during the selected type of calculation.

3,541,317

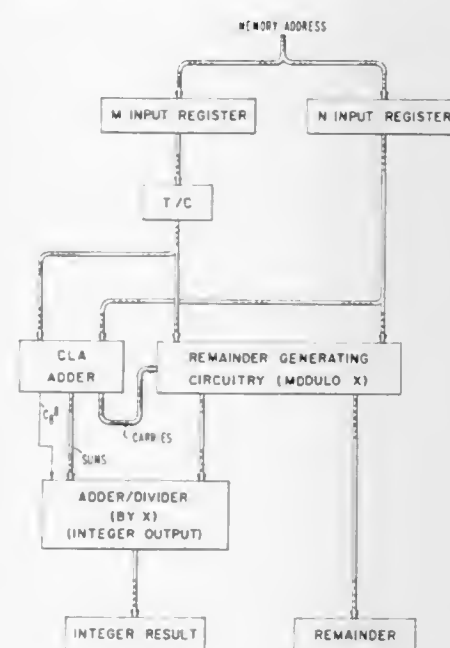
**PARALLEL ADDITION AND DIVISION OF TWO
NUMBERS BY A FIXED DIVISOR**

Charles V. Freiman, Los Altos, and Merle E. Homan, Los Gatos, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 9, 1967, Ser. No. 659,436
Int. Cl. G06f 7/52

U.S. Cl. 235—164

13 Claims



A system for concurrently performing high speed addition and division of two numbers by a fixed divisor. The system includes means for concurrently forming remainders in a highly parallel fashion while the addition is being performed in a highly parallel carry look-ahead adder. Additional means are included for merging the results of the addition and the remainder generation whereby the final quotient digits are obtained substantially concurrently with the generation of the final remainder. Many logic levels and thus time are saved by performing these operations in parallel.

3,541,318

**ANALOG INTEGRATING SYSTEM WITH
VARIABLE TIME SCALE**

Monroe A. Miller, Coral Gables, Fla., assignor to Milgo Electronic Corporation, Miami, Fla., a corporation of Florida

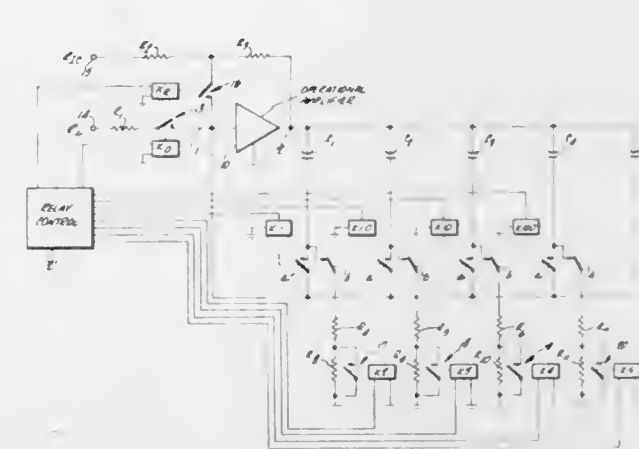
Filed Aug. 3, 1966, Ser. No. 569,855
Int. Cl. G06g 7/18

U.S. Cl. 238—183

9 Claims

Apparatus for selectively varying the time scale of integrator circuits. An integrator circuit is provided with an input terminal for receiving the signal to be integrated, a first resistance, an operational amplifier having an input and an output and a plurality of capacitors. Switching means are provided for selectively connecting and disconnecting the input terminal and the first resistance in series to the amplifier input. Switching means are also provided for selectively connecting at least one of the capacitors between the input and output of the amplifier. Means are further provided for connecting at least one

of the remaining capacitors and an additional resistance in series between the amplifier output and ground to permit the capacitor to assume a charge bearing a predetermined relation to the amplifier output voltage. Additional means are provided for decreasing the resistance of the additional resistance after the input terminal is disconnected from the amplifier input to permit the capacitor connected to the additional resistance to charge to the amplifier output voltage. The additional capacitor may then be connected between the input and the output of the amplifier to thereby change the time scale of the integrator circuit without subjecting the amplifier to a step difference in output voltage.



connected from the amplifier input to permit the capacitor connected to the additional resistance to charge to the amplifier output voltage. The additional capacitor may then be connected between the input and the output of the amplifier to thereby change the time scale of the integrator circuit without subjecting the amplifier to a step difference in output voltage.

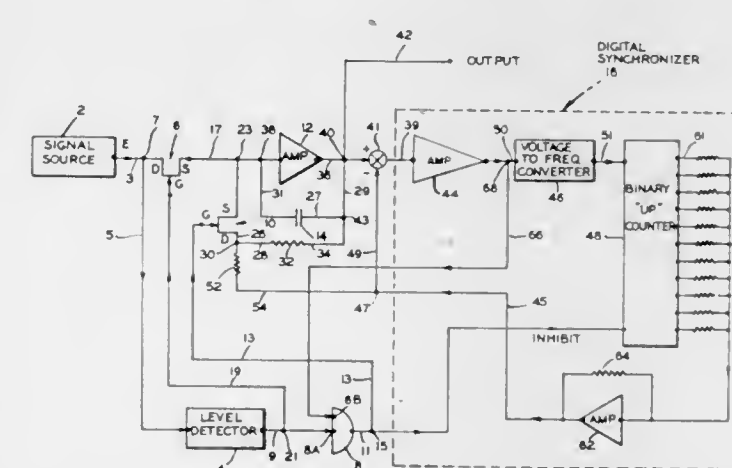
3,541,319

**APPARATUS HAVING INFINITE MEMORY FOR
SYNCHRONIZING AN INPUT SIGNAL TO THE
OUTPUT OF AN ANALOG INTEGRATOR**

Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 21, 1967, Ser. No. 692,340
Int. Cl. G06g 7/18; G06f 7/46

U.S. Cl. 235—183

6 Claims



Apparatus including a digital synchronizer for synchronizing an input signal to the output of an analog integrator. When the input signal is zero, the digital synchronizer causes the analog integrator to hold indefinitely at its last value thus imparting infinite memory to the integrator. When the input signal is other than zero, the output of the integrator is the step free continuous output of a typical analog integrator.

3,541,320

**DRIFT COMPENSATION FOR INTEGRATING
AMPLIFIERS**

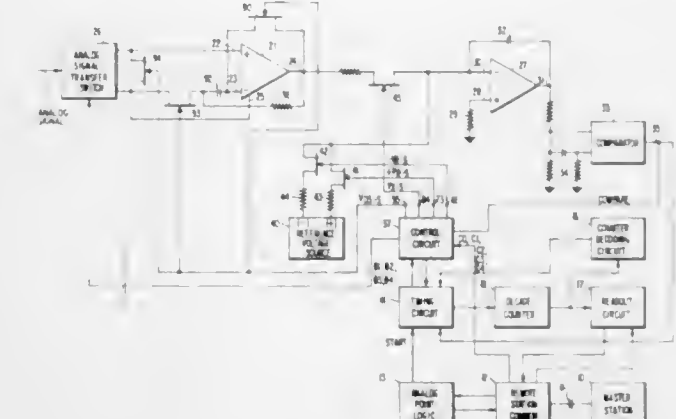
William H. Beall, Palo Alto, Calif., assignor to General Electric Company, a corporation of New York
Filed Aug. 7, 1968, Ser. No. 750,882
Int. Cl. G06g 7/18; H03f 1/02

U.S. Cl. 235—183

5 Claims

Drift compensation means for integrating circuits utilizing input and integrating operational amplifiers. During

standby operation, an input to the integrating amplifier is disconnected. If the integrating amplifier output drifts from a reference voltage, a compensating voltage returns the output to the reference voltage level. The input am-



plifier feedback capacitor is switched to store a second compensating voltage during standby operation. This voltage is applied to the input amplifier during amplification to compensate for any offset voltage.

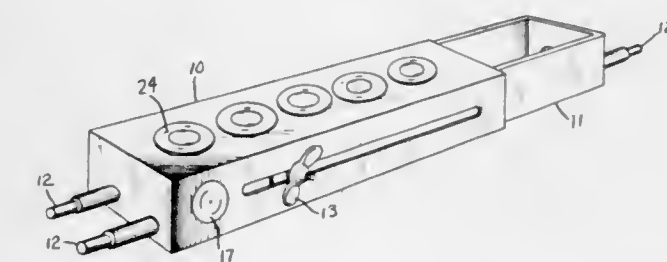
3,541,321

TRAILER LIGHTING FIXTURE

Joseph Spiteri, Erie, Pa., assignor to Morlite Equipment Company, Girard, Pa., a corporation of Pennsylvania
Filed Aug. 13, 1968, Ser. No. 752,237
Int. Cl. B60g 1/32

U.S. Cl. 240—7.1

6 Claims



A light fixture suitable to be supported between two vertical members such as two joists of a building or two frame members of a truck. The fixture is made up of two telescoping frame chassis members that may be extended relative to each other and locked in fixed position. A wing nut and bolt arrangement is supported in one of the telescoping members and it is received in the slot in the other so that they can be locked in extended position. Each of the chassis members has two spaced pins on its end. These pins may be inserted into holes in the sides of joists and the wing nut member can be locked in position to hold the chassis members.

3,541,322

**SUPPORTS FOR LIGHT ARRANGEMENTS AND
THE LIKE**

Roy L. Bennett, 920 Cresswell St.,
Pittsburgh, Pa. 15210

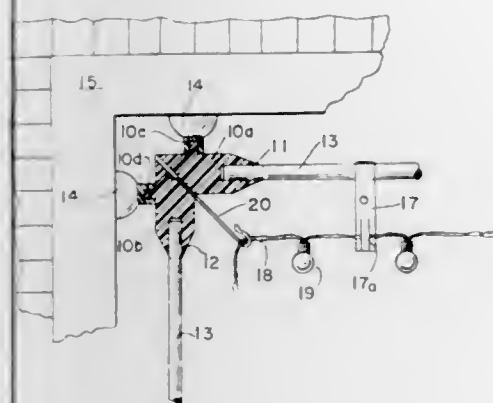
Continuation-in-part of application Ser. No. 642,378,
May 31, 1967. This application Mar. 3, 1969, Ser.
No. 803,811

U.S. Cl. 240—10

9 Claims

A support is provided for light arrangements, tub enclosures, partition panels and the like made up of a plurality of resilient corner members, each having at least two openings at right angles to one another, a plurality of telescoping side member frictionally engaged in said

openings in the corner members and defining a desired support structure, a friction clamping member slidable on the telescoping members to hold them against telescoping.



ing movement in their final position and removable clip means engaging said telescoping members and a part to be supported.

3,541,323

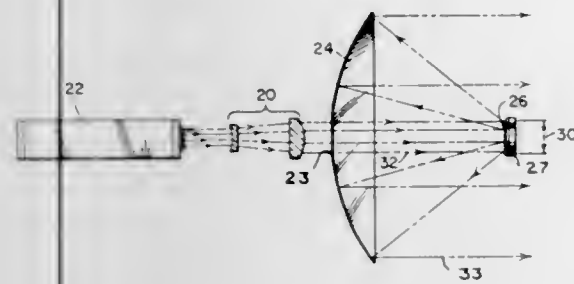
LASER BEAM PROJECTOR

Harold S. Stewart, Santa Monica, and Thomas P. Davis, Woodland Hills, Calif., assignors, by mesne assignments, to EG&G, Inc., Bedford, Mass., a corporation of Massachusetts

Filed May 16, 1968, Ser. No. 729,657
Int. Cl. F21v 11/00; G02b 17/00

U.S. Cl. 240—46.01

14 Claims



A laser beam projector includes a projection mirror or its equivalent, a laser, and beam directing optics for directing the laser beam to a beam scattering surface located at the focal plane of the mirror and adapted to scatter the beam toward the mirror. The scattering surface may be a mosaic of tiny mirrors or lenses each having the same F/number as the projection mirror.

3,541,324

VENTILATED LIGHT UNIT WITH ROLLER CURTAIN SHUTTER

Maksymilian A. Michalski, Woodside, and Peter Promuto, Middle Village, N.Y., assignors to Berkey Photo, Inc., New York, N.Y.

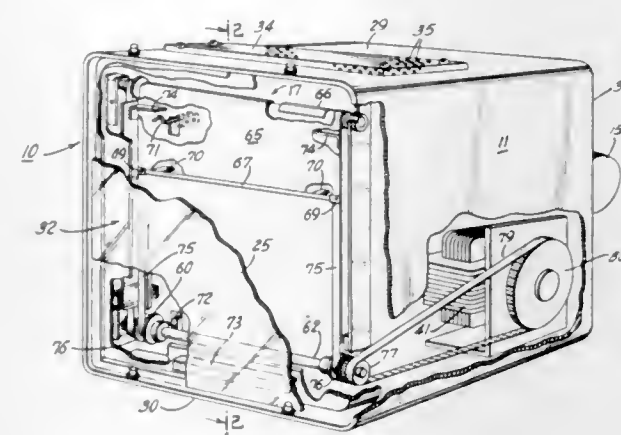
Filed Dec. 18, 1967, Ser. No. 691,357
Int. Cl. F21v 11/18

U.S. Cl. 240—46.17

5 Claims

A light unit assembly includes a housing which supports and encloses the operating parts. A lamp is positioned within the housing in front of the main reflector, air passage means being provided through the reflector behind the lamp. Blower means is supported by the housing and operative to pass cooling air past the lamp. A shutter means is provided including a generally rectangularly shaped frame which supports a pair of

rollers carrying a flexible curtain. Flexible means is provided for the simultaneous rotation of both roller shafts, the curtain being attached at both ends to the rollers so that as either of the rollers are rotated the curtain is moved past the reflector alternatively blocking and passing light from the lamp outwardly. Limit switch means



is provided and operated by means carried for movement with the curtain so that the curtain operating motor is disconnected at both the upper and lower positions of the curtain. The motor for operation of the curtain is supported and enclosed within the housing and positioned outside the main reflector spaced from the curtain.

3,541,325

SUSPENSION GEAR FOR LANTERNS

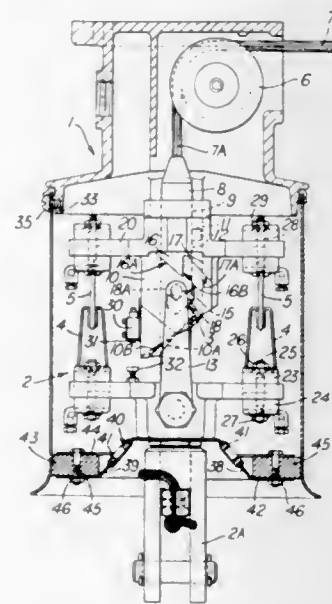
John Hogan and Eric B. Rhead, Glasgow, Scotland, assignors to London Electric Firm Limited, Glasgow, Scotland

Filed June 3, 1968, Ser. No. 733,862
Claims priority, application Great Britain, Mar. 27, 1968, 14,832/68

U.S. Cl. 240—65

Int. Cl. F21v 21/36

1 Claim



Suspension gear for heavy lanterns for electric lamps which are mounted at a considerable height above ground level on a standard. The gear comprises a mounting on the standard, a lantern carrier releasably locked to the mounting and lowerable to ground level by a cable and pulley system. The mounting and carrier have electrical terminal contacts which automatically disengage when the carrier is lowered and engage when it is raised to the locked position, and are arranged in two opposed arcuate series. The lock is such that it can be engaged and disengaged by successive pulls on the cable.

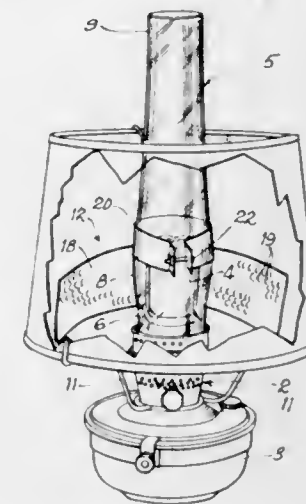
**3,541,326
REFLECTOR FOR HYDROCARBON BURNING LAMPS**

Earl F. Durr, Nashville, Tenn., assignor to Aladdin Industries, Incorporated, Chicago, Ill., a corporation of Illinois

Filed Aug. 19, 1968, Ser. No. 753,432
Int. Cl. F21v 7/04

U.S. Cl. 240—103

4 Claims



A reflector for a hydrocarbon burning lamp of the type having a chimney surrounding a burner. The reflector comprises a sheet metal member having a reflecting surface with a second section of the sheet metal member being formed into a mounting ring. The mounting ring is split and is provided with flanges for holding an adjusting screw. A central connecting portion is provided in the metal sheet between the mounting ring and the reflector member. The reflector member is bent so that its axis of curvature extends at an angle relative to the axis of the mounting ring.

3,541,327

APPARATUS FOR MEASURING THE INTENSITY OF VISIBLE LINES REPRESENTING THE OUTPUT DATA OF AN ION SPECTROMETER

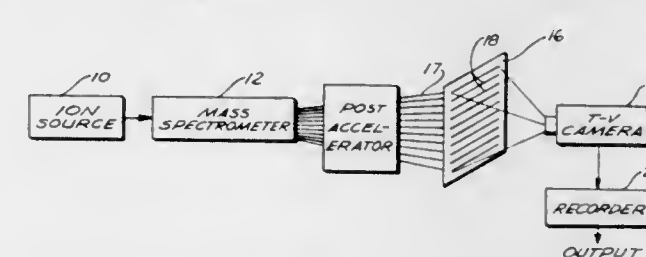
Raymond A. Meyer, Thousand Oaks, Calif., assignor to North American Rockwell Corporation

Filed Oct. 13, 1967, Ser. No. 675,245

Int. Cl. H01j 39/34

U.S. Cl. 250—41.9

5 Claims



A television camera is used to scan a spectral display generated by a plurality of ion beams forming discrete spectral lines. The camera scans each spectral line and generates a signal characteristic of the intensity of ion beam represented by the spectral line.

3,541,328

MAGNETIC SPECTROGRAPH HAVING MEANS FOR CORRECTING FOR ABERRATIONS IN TWO MUTUALLY PERPENDICULAR DIRECTIONS

Harald A. Enge, Winchester, Mass., assignor to Deuteron, Inc., Winchester, Mass., a corporation of Massachusetts

Filed Mar. 12, 1969, Ser. No. 806,536

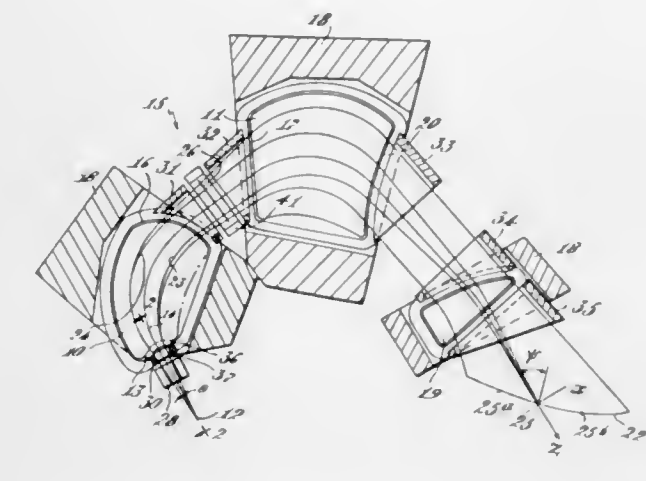
Int. Cl. H01j 39/34

U.S. Cl. 250—41.9

18 Claims

A magnetic spectrograph utilizing at least a first magnetic field region and a second magnetic field region and

further utilizing means for focusing charged particles which enter such spectrograph along an intermediate focal line lying substantially in the median plane of the spectrograph between such first and second magnetic field regions. The exit and entrance boundaries of such magnetic field regions can then be appropriately shaped so as to



3,541,329

NEGATIVE CORONA DEVICE WITH MEANS FOR PRODUCING A REPELLING ELECTROSTATIC FIELD

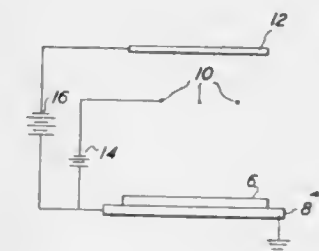
Walter Roth, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 1, 1966, Ser. No. 598,277

Int. Cl. H01j 37/00; G03g 15/02

U.S. Cl. 250—49.5

7 Claims



Apparatus for depositing uniform negative charge on a surface and including an electrode positioned on the opposite side of a corona wire from the surface and operated at a negative potential equal to or higher than that on the corona wire.

3,541,330

PHOTOCHROMIC GLASS IMAGE STORAGE AND DISPLAY APPARATUS

William E. Eichelberger and Gerhard K. Megla, Raleigh, N.C., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed May 31, 1967, Ser. No. 642,419

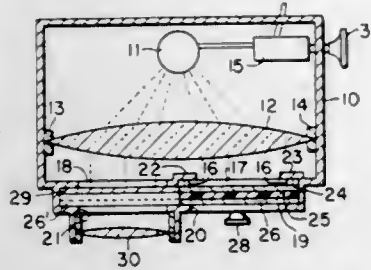
Int. Cl. G03b 41/00

U.S. Cl. 250—65

11 Claims

An apparatus is disclosed which produces an image contrast inversion such as that which occurs in a negative to positive printing process. Light which passes through a photographic negative impinges upon a photochromic

glass plate and exposes an image therein. The plate is then transported to a position where the positive image



exposed therein is viewed. Thereafter, the image may be erased from the photochromic glass plate in preparation for storage of a new image.

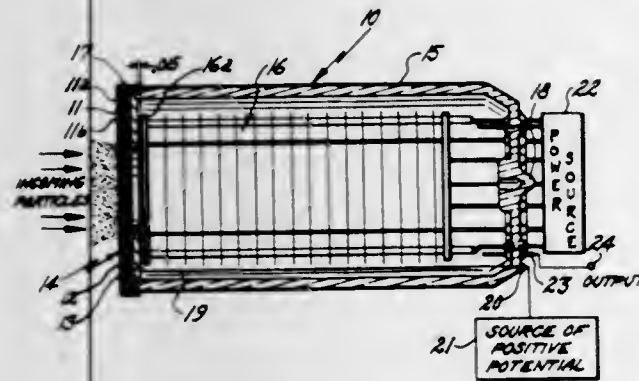
3,541,331 NEUTRAL AND CHARGED PARTICLE DETECTOR

William W. Hunt, Jr., Chelmsford, and Kenneth E. McGee, Sudbury, Mass., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Apr. 10, 1968, Ser. No. 720,252
Int. Cl. G01t 1/17

U.S. Cl. 250-83

1 Claim



Apparatus to detect neutral or charged atomic and molecular particles wherein a transmission type dynode is mounted so that it is the window to a sealed volume which contains a high vacuum and an electron multiplier. The impinging particles on the transmission type dynode results in the emission of electrons in response thereto and the electrons are then received by the electron multiplier for multiplication. The output of the electron multiplier is then representative of the impinging particles.

3,541,332 METHOD AND APPARATUS FOR MEASURING THE WEIGHT OF A LOAD ON A CONVEYOR BELT

Donald C. Brunton, Columbus, Ohio, assignor to Brun Sensor Systems, Inc., Columbus, Ohio, a corporation of Ohio

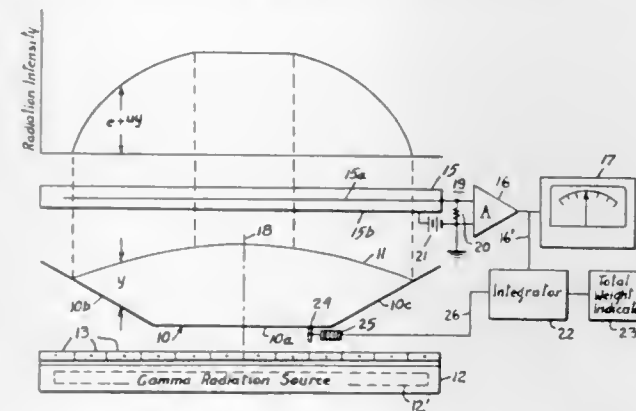
Filed Mar. 1, 1967, Ser. No. 619,865
Int. Cl. G01t 1/16

U.S. Cl. 250-83.3

30 Claims

A method and apparatus for measuring the weight of a load on a moving conveyor belt, including a radiation source for passing a band of radiations through a transverse vertical incremental section of the load, the radiations being of a nature such that they are attenuated as an exponential or similar function of the weight of the load, a detector for detecting the radiation band after it has passed through the load and producing an electrical signal which is proportional to the radiations received, a non-linear device for converting the electrical signal to an electrical output signal which is linearly proportional to the weight of an incremental section of the load, and an integrator for integrating the incremental weights over a predetermined length of the conveyor.

One specific embodiment of the apparatus stated above where the load is distributed on the conveyor so that it has a regular cross sectional form, but varies in depth longitudinally along the length of the conveyor, including the components stated above, but including in addition a sectional radiation attenuator interposed between the radiation source and the radiation detector which is adjusted to provide a radiation field across the load which conforms to the regular transverse vertical cross sectional form of the load in such a manner that the result of the attenuation by the load and the attenuator is a uniform field at the detector.



Another specific embodiment of the apparatus wherein the load is distributed on the conveyor irregularly both transversely and longitudinally, the apparatus including plural parallel radiation sources positioned transversely across the load to transmit narrow radiation bands through incremental portions of transverse, vertical incremental sections of the load, plural parallel detectors positioned on the opposite side of the load from the radiation sources to detect the narrow radiation bands and produce electrical signals proportional to the radiations received, non-linear devices associated with the detectors converting the electric signals from each detector to an electrical output signal which is linearly proportional to the weight of the incremental portion of the load through which radiations received by a particular detector pass, a summing device for electrically summing the output signals from said non-linear devices, and an integrator for integrating the sum from said summing device over a predetermined length of the conveyor.

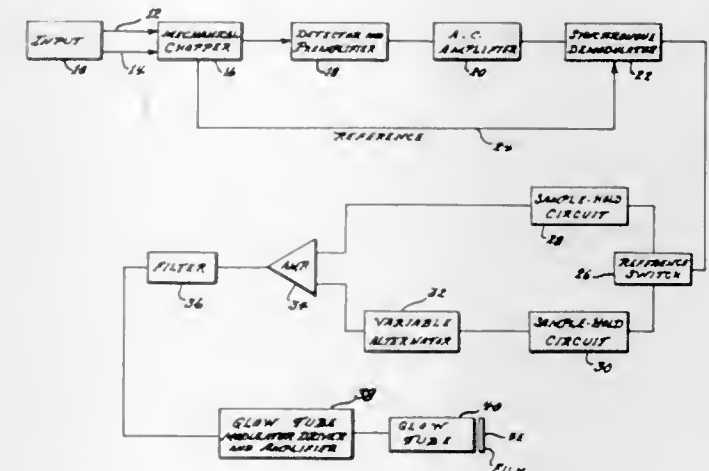
3,541,333 SYSTEM FOR ENHANCING FINE DETAIL IN THERMAL PHOTOGRAPHS

Winser E. Alexander, Bedford, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Dec. 10, 1968, Ser. No. 785,035
Int. Cl. G01t 1/16

U.S. Cl. 250-83.3

3 Claims



A thermal photograph enhancement system including a scanning type detector, a system for converting radiant

energy to electrical energy, and an electrical circuit wherein an input signal is compared with a previous signal and the difference is used for enhancement purposes in a scanning glow tube-film output combination.

3,541,334 DEVICE FOR HANDLING X-RAY APPARATUS FLEXIBLE CONDUCTORS

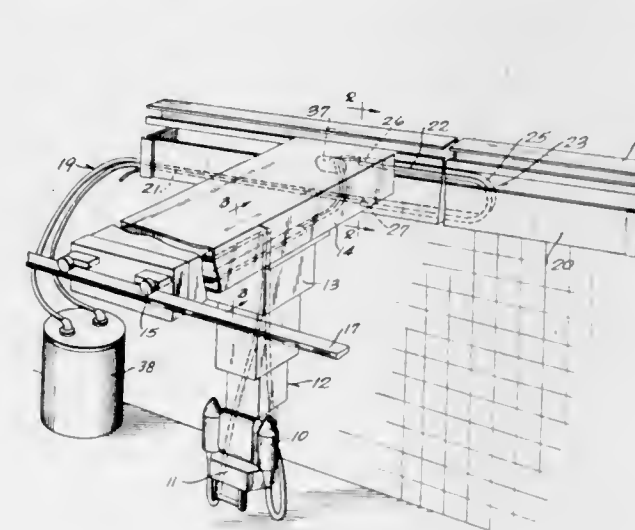
Valentine S. Sobolewski, Muskego, and James R. Spalding, Wauwatosa, Wis., assignors to General Electric Company, a corporation of New York

Filed Mar. 22, 1967, Ser. No. 625,052

Int. Cl. G03b 41/16

U.S. Cl. 250-91

5 Claims



Flexible conductors for a movable X-ray device are folded back on themselves in an open-sided channel with one leg of the conductors above and parallel to the other and joined by a U-bend. A spring metal strip having a curved cross-section parallels the conductors and supports them by means of loose fitting spring clips. One end of the strip is fastened in the channel and the other end to a movable X-ray device so the U-bend shifts when the X-ray device is moved. One leg of the strip changes its length at the expense of the other.

3,541,335 RADIATION STAR DETECTOR WITH CODED OPTICAL SCANNER

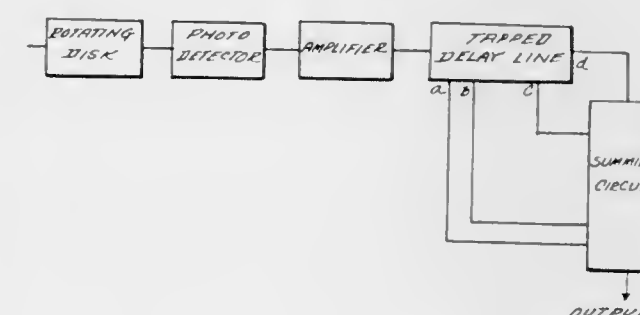
Daniel C. Harrington, Fridley, Robert L. Lillestrand, Edina, and Meredith S. Ulstad, Minneapolis, Minn., assignors to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Nov. 22, 1967, Ser. No. 685,121

Int. Cl. G01d 5/36; G01j 1/20

U.S. Cl. 250-203

15 Claims



A scanning system for the detection of radiation, as from a star source, which includes a scanning disk pro-

3,541,336 PHOTOELECTRIC GAS MONITOR HAVING EITHER REFLECTIVE OR ABSORBING PLATE AT ONE END OF SAMPLE TUBE

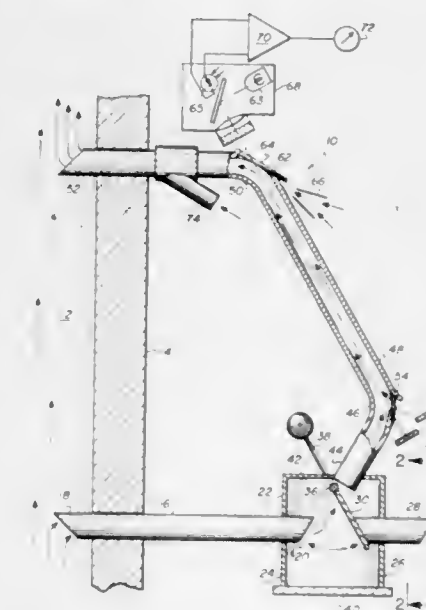
Harry Einstein, 25 Midvale Drive,
Springfield, N.J. 07081

Filed Nov. 8, 1967, Ser. No. 681,517

Int. Cl. G01n 21/12

U.S. Cl. 250-218

15 Claims



Gas monitoring apparatus for detecting the quantity and quality of particles and other contaminants suspended in exhaust gases of the like which operates by shunting off a portion of the gases from a flue, passing them through a sensing tube and photoelectrically sensing the presence of particles in the gas. A photocell detector is placed outside of the sensing tube and senses the full length of the sensing tube. Gas is drawn through the tube by the natural draft aided as necessary by the provision of a separate air source provided at a point after the tested gas has passed through the tube. The source of air can also be placed adjacent to the hole where the photocell detector is positioned so that all the gases in the tube are diverted away from the hole. The photocell detector contains its own light source and when testing for black particles, a reflector is placed at the end of the tube opposite from the photocell so that the photocell measures the amount of reflected light, which of course is diminished by the number of black particles in the gas. If the reflector is removed or covered, then the photocell detector with appropriate changes in the light source and sensitivity will measure the amount of light reflected by white particles in the gas. An ultraviolet light source can also be utilized for testing other contaminants including normally invisible gas in the test gas. The particle detector can be calibrated against the ambient air by means of a valving system at the inlet to the detecting tube operative to cut off test gas and to allow the ambient air to enter the sampling tube so as to provide a zero reference.

This same valving arrangement can be used in conjunction with light filters of known transparencies to set predetermined reference levels.

The inlet to the detector is provided with means for allowing easy cleaning of the tubes and portions of the inlet which would collect the most sediment, and the inlet is further designed to prevent contamination of the test gases with sediment from prior testing. The inlet is further designed to permit easy access to the flue.

3,541,337

PHOTOELECTRIC WIDTH MEASURES USING PULSE PRODUCING SCANNING MEMBERS
Klaus Brandenburg, Hamburg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

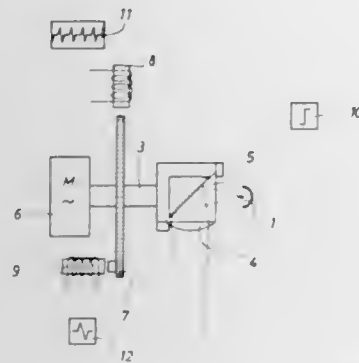
Filed Oct. 21, 1966, Ser. No. 588,402

Claims priority, application Germany, Oct. 31, 1965, P 38,007

Int. Cl. G01b 11/02

U.S. Cl. 250-219

4 Claims



A device for measuring width of a moving object having a dual set of pulse producing scanners with means for selecting pulse sets to accurately give width indications.

3,541,338

POSITIONING SYSTEM

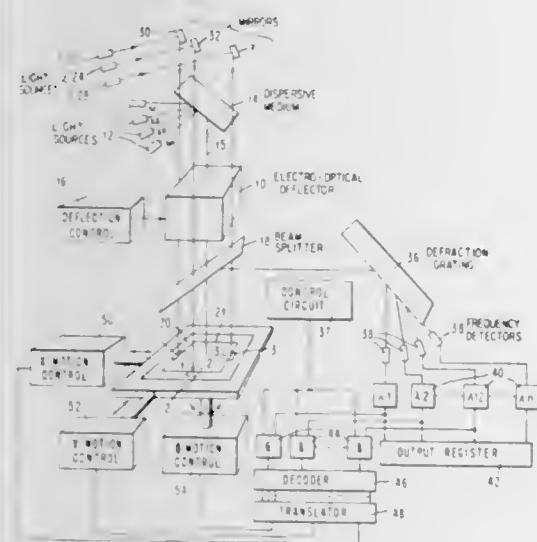
William L. Duda, Wappingers Falls, Harold Fleisher, Poughkeepsie, and Jerry L. Reynolds, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 12, 1967, Ser. No. 608,809

Int. Cl. G08c 9/06

U.S. Cl. 250-219

5 Claims



Apparatus for positioning a Lippmann film type of read-only memory plate, so that the information stored on the plate can be read by an optical reader.

3,541,339

RADIATION SENSITIVE NOTCH PATTERN DETECTION SYSTEM

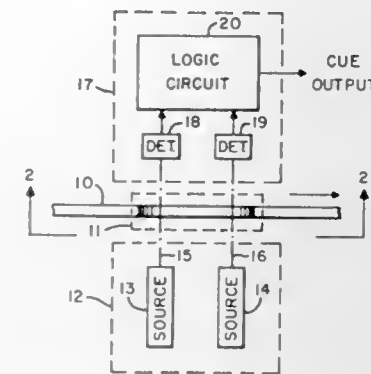
Karl M. St. John, Huntington Station, and Sheldon J. Kerbel, Merrick, N.Y., assignors by mesne assignments, to Hazeltine Corporation

Filed Mar. 28, 1968, Ser. No. 716,930

Int. Cl. G08c 9/06

U.S. Cl. 250-219

10 Claims



Disclosed is apparatus for detecting the presence of a selected notch pattern in a moving ribbon of material as the ribbon moves through an observation position. The apparatus supplies two radiation beams, each along an axis which intersects the observation position and any ribbon moving therethrough. Another portion of the apparatus, namely a pair of radiation detectors coupled to logic circuitry, is responsive to the beams of radiation and to the effect produced thereon by the movement through the observation position of an increment of the ribbon bearing a selected notch pattern, and develops an output indication each time such an increment bearing the selected notch pattern moves through the observation position. Other embodiments are covered.

3,541,340

RADIATION SENSITIVE MACHINE FOR ZONAL SCAN FLAW DETECTION

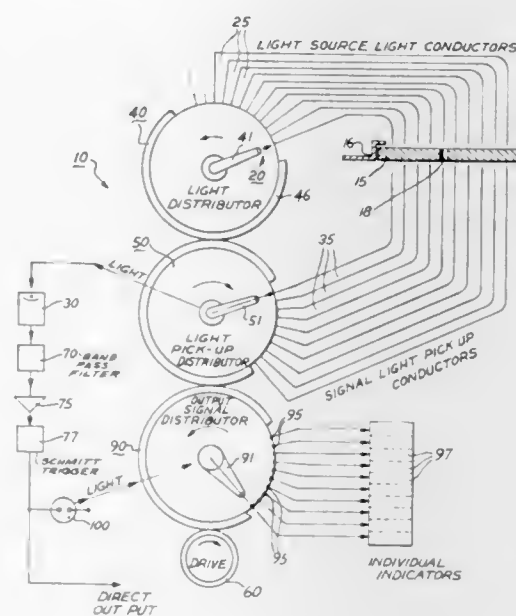
Melvin J. Binks, Barrington, Ill. (% Binks Industries, Inc., 391 E. Potter Ave., Wood Dale, Ill. 60191)

Filed Aug. 30, 1968, Ser. No. 756,689

Int. Cl. G01n 21/32

U.S. Cl. 250-219

3 Claims



Flaw detection by application of a light source and sensor in a scan of repeated sweeps at limited zones successively across sheet material. Scan is through light pipes in a row across the material and in communication with a rotary light source and/or rotary light pick-up synchronized therewith. Signals are distributed corresponding to

3,541,343

CONTROL SYSTEM FOR A TAXIMETER EQUIPPED VEHICLE

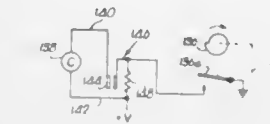
Oscar Butler, 2068 S. Goodall Ave., Duarte, Calif. 91010

Filed Oct. 31, 1968, Ser. No. 772,261

Int. Cl. B60k 27/00

U.S. Cl. 307-10

16 Claims



A vehicle such as a taxicab is equipped with a motor-operated taximeter and has an electrical control system which automatically energizes the motor to render the meter operative in response to the closing of seat or floor switches by a passenger present in the passenger compartment. A backup kill circuit disables the vehicle engine in the event that the automatic turn-on malfunctions, unless the driver operates a manual "on" switch. The starter circuit of the engine is utilized by the system to provide a second backup for the automatic turn-on, repeated attempts to start the vehicle being effective to ultimately render the meter operative. The system responds to tampering by forcing the driver to operate the meter to run the engine. Automatic meter turnoff is effected when the passenger leaves the vehicle unless the meter is set for time recording.

3,541,341

REDUNDANT FIBER-OPTIC LIGHT GUIDE CONSTRUCTION

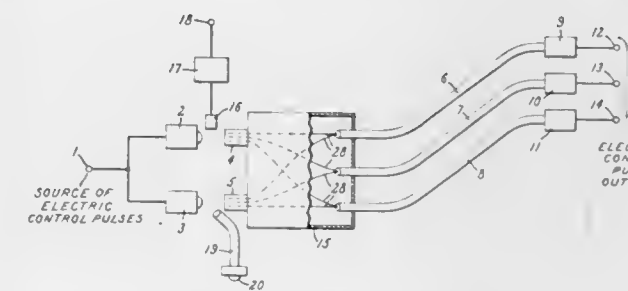
Bernard D. Leete, Newtown Square, Pa., assignor to General Electric Company, a corporation of New York

Filed Feb. 21, 1968, Ser. No. 707,091

Int. Cl. G02b 5/14

U.S. Cl. 250-227

15 Claims



An optical link comprising fiber-optic light guides is used in a signal transmission system. Redundant electricity-to-light converters produce light signals which are transmitted through light guides to a plurality of light-to-electricity converters, and operation of the system is monitored by additional light sensing means. Each light guide is terminated by a connector plug which is adapted to be connected to a receptacle having a light-electricity converter mounted therein.

3,541,342

SUBMERGED ENERGY CONVERTER

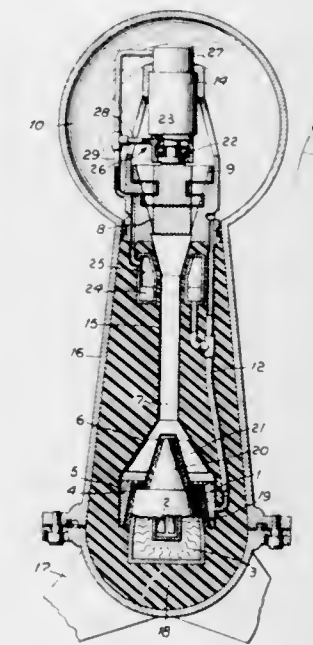
Charles P. Majkrzak, Nutley, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed Dec. 1, 1967, Ser. No. 687,336

Int. Cl. F01d 25/20

U.S. Cl. 290-2

4 Claims



An arrangement is provided for converting the energy of radiation from a radio-isotopic energy source into useful electrical energy using a mercury-vapor turbogenerator system, and means are provided in this system to enhance the heat transfer between the heat source and the boiler and superheater sections.

3,541,344

DIESEL ELECTRIC LOCOMOTIVE

Anton Dolenc, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company

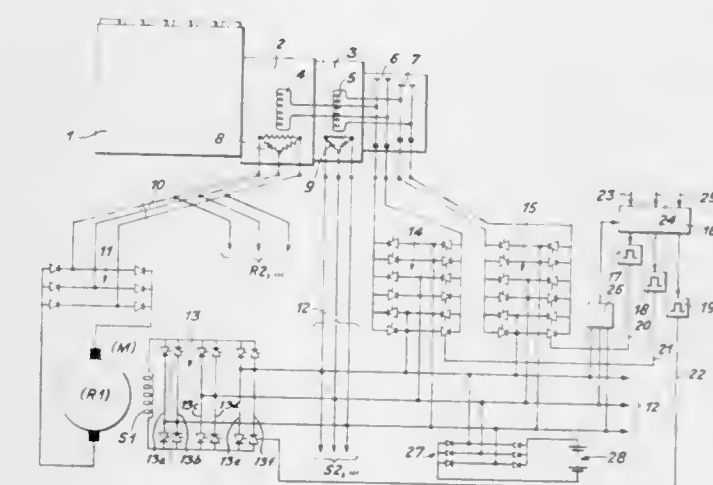
Filed Nov. 4, 1968, Ser. No. 773,182

Claims priority, application Switzerland, Nov. 14, 1967, 15,917/67

Int. Cl. H02p 9/10

U.S. Cl. 307-43

4 Claims



A diesel electric locomotive is provided with a main alternating current (A.C.) generator for energizing the armature winding of at least one traction motor, and with a second A.C. generator the power winding of which is connected, via a rectifier bridge circuit comprising controlled rectifiers with phase control, to the excitation winding of the main A.C. generator. The power winding of the second A.C. generator is also connected via separate rectifier bridge circuits to the excitation

windings of the traction motor and the second A.C. generator, and also to the electrically powered auxiliary equipment of the locomotive.

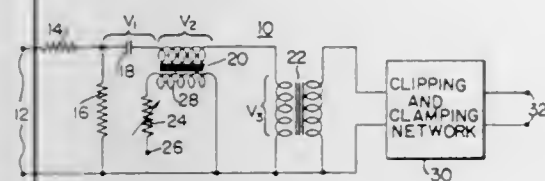
3,541,345 PULSE GENERATING CIRCUIT

Thomas Cavanaugh and William J. Tuten, Richmond, Ind., assignors to Avco Corporation, Richmond, Ind., a corporation of Delaware

Filed Dec. 11, 1967, Ser. No. 689,483
Int. Cl. H03k 3/45

U.S. Cl. 307—88

1 Claim



The disclosure illustrates a relatively simple circuit adapted to generate a single output pulse in response to a steady D.C. or recurrent D.C. pulses. The signal is received by a series-disposed current-limiting device, such as a capacitor and a reactor which are coupled to the primary of an output transformer. The reactor initially offers a high impedance to current flow and after saturation of its core provides a relatively low impedance to current flow. The current-limiting device initially offers a low impedance but after saturation provides a relatively high counter-electromotive force so that a single substantial current transient passes through the transformer primary. This produces a single electrical pulse across the secondary winding of the output transformer. A control winding for the reactor is supplied with a variable D.C. voltage to vary the saturation point of the reactor and vary the amount of electrical energy required to cause a pulse to be generated.

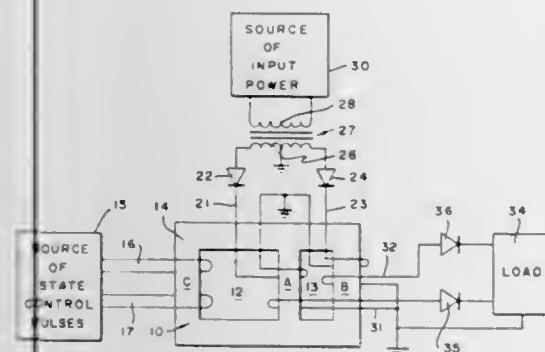
3,541,346 MAGNETIC POWER SWITCH

T. O. Paine, Deputy Administrator of the National Aeronautics and Space Administration, with respect to an invention of Edwin K. van De Riet, Mountain View, Calif.

Filed July 31, 1968, Ser. No. 749,181
Int. Cl. G11c 11/08

U.S. Cl. 307—88

5 Claims



A magnetic power switch is disclosed which comprises a transfluxor-type magnetic core, with a major and a minor aperture. The state of the switch is controlled by controlling the direction of flux about the major aperture. Separate decoupled power sources and power loads are coupled to two core legs, one of which is between the major and minor aperture and the other between the minor aperture and the core periphery. The switch is turned ON by setting the flux in one of these

legs. The leg is cleared when power is transferred from the source to the load coupled thereto, at the same time setting the flux in the other leg, which is cleared when power is transferred from the source, to the load coupled thereto.

3,541,347 VEHICLE DETECTOR AND PULSE GENERATOR THEREFOR

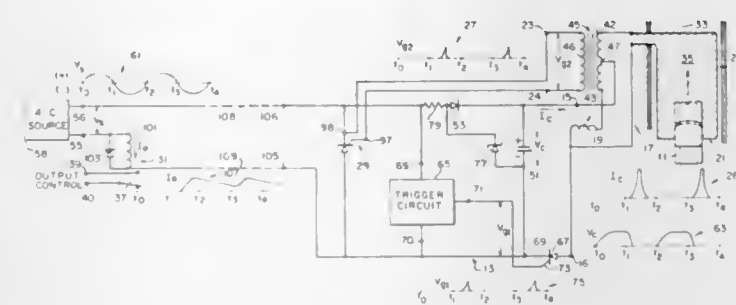
Howard W. Carmack, 17034 Via Margarita, San Lorenzo, Calif. 94580

Filed Aug. 22, 1968, Ser. No. 754,599

Int. Cl. G08b 13/24

U.S. Cl. 307—108

7 Claims



Detection circuitry for sensing the presence of a metallic mass, particularly the metallic body of a vehicle, wherein an inductive bridge having as one of its branches a remote sensing inductor, receives a train of electrical pulses thereacross and issues a pulse signal in response to the proximity of the metallic body to the sensing inductor. An output switching circuit responds to this pulse signal to assume an actuated condition indicating the presence of the vehicle.

To generate the requisite train of pulses received by the detection circuit, a capacitor in combination with electronic switching means is periodically charged and pulse discharged in response to a source of alternating current.

3,541,348 "UP TO M OUT OF N" LOGIC CIRCUIT

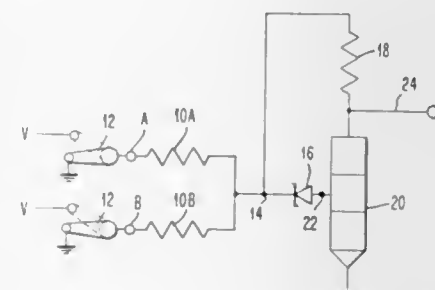
Paul Abramson, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 11, 1968, Ser. No. 758,935

Int. Cl. H03k 19/42

U.S. Cl. 307—211

11 Claims



A circuit is described which provides an output signal upon the presence of one and only one of N possible input signals. The circuit includes two or more input terminals, each connected through a separate input resistor to one side of a Zener diode and to one side of a common load resistor. The other side of the common load resistor is connected to the collector electrode of a transistor and the base electrode of the transistor is connected to the other

side of the Zener diode. The circuit operates such that an output signal is produced on an output lead connected to the collector electrode when an input signal is supplied to one and only one of the input terminals. No output is present on the output lead when there are no input signals on the input terminals or when input signals are present on more than one input terminal. The circuit can also be designed to provide an indication of up to M of N input signals where M can be greater than one and less than N.

3,541,349 VARIABLE FREQUENCY MULTIPLE MODE FUNCTION SIGNAL GENERATOR

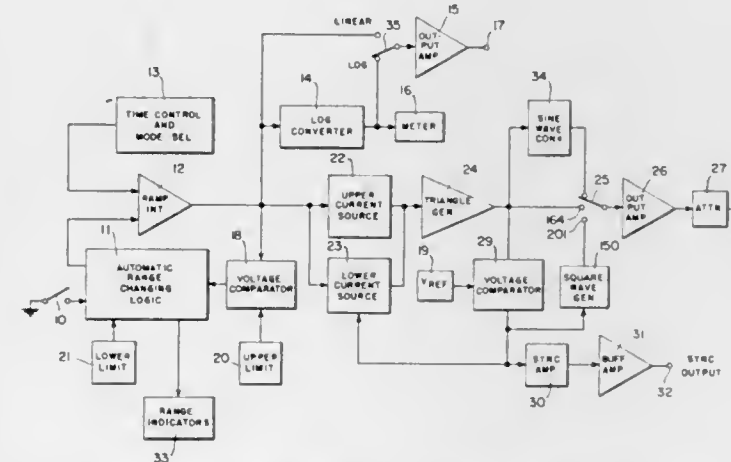
James A. Bright, Denver, and Theodore E. Wolk, Littleton, Colo., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Feb. 5, 1968, Ser. No. 702,885

Int. Cl. H03k 4/08; G06g 7/12

U.S. Cl. 307—229

8 Claims



There is disclosed an auto sweep oscillator which is a stable, wide range, low distortion function generator suitable for use as a laboratory or production test frequency and wave form source. The output wave forms supplied by the function generator are in the form, selectively, of sinewaves, squarewaves or triangular waves. These waveforms have relatively flat frequency characteristics over the range from 0.01 Hz. to 100 kHz. The generator can be operated either manually or automatically. In automatic operation, up to three ranges can be automatically switched, thereby enabling an overall frequency range of one million to one. The sweep ramp is selectively linear or logarithmic with respect to time. The sweep time is selectively variable between 10 and 1000 seconds per range, with a total sweep time range up to 3000 seconds.

3,541,350 SIMULATED DIODE CIRCUIT

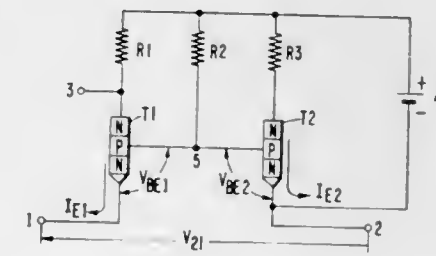
Wilhelm Otto Luetze, Baden-Wurtemberg, Germany, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 28, 1968, Ser. No. 740,909

Int. Cl. G06g 7/12

U.S. Cl. 307—229

5 Claims



A simulated diode circuit comprising first and second semiconductor devices having their respective base terminals interconnected. An emitter of the first semicon-

ductor device, and an emitter of the second semiconductor device constitute cathode and anode terminals, respectively, of the simulated diode circuit. The second semiconductor device is connected to a reference potential so as to be maintained in a conductive state. A predetermined relative voltage differential between the anode and cathode terminals determines the conductive state of the first semiconductor device, and in turn the state of the simulated diode circuit.

3,541,351 QUADRATURE PULSE GENERATOR

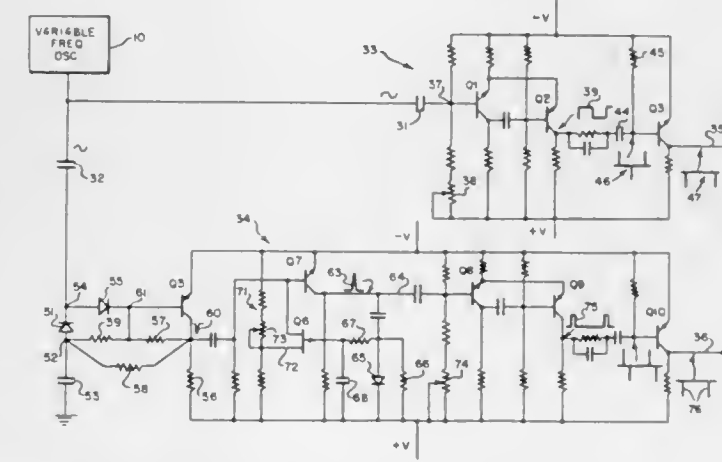
Sven E. Mansson, Kings Point, N.Y., assignor to Magnetic Analysis Corporation, Mount Vernon, N.Y., a corporation of New York

Filed July 3, 1968, Ser. No. 742,326

Int. Cl. H03k 5/20

U.S. Cl. 307—232

8 Claims



Phase-quadrature related series of pulses are produced from the sine wave output of a variable frequency oscillator, one series corresponding to peaks and the other to cross-overs of the sine wave. To enable operation over a wide frequency range, with varying sine wave amplitudes, a series diode supplies peaks of the sine wave to a transistor amplifier, a diode clamping circuit clamps peaks at the input of the series diode to a clamping level, and a bias resistor in the transistor input circuit has a voltage divider thereacross which produces a clamping level predetermined to allow the series diode to conduct during the peaks above a corresponding clamping level. The output pulses are supplied to a second transistor amplifier whose bias is controlled to produce resultant pulses of stable amplitude. These resultant pulses, and the initial sine wave, may be applied to respective channels each containing a bistable multivibrator, a differentiator and a polarity selector to produce respective series of phase-quadrature related pulses.

3,541,352 VARIABLE DELAY PULSE GENERATOR

John F. Merrill, Wappingers Falls, and Hugh R. Stirling, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 28, 1967, Ser. No. 663,590

Int. Cl. H03k 5/08

U.S. Cl. 307—237

16 Claims

A pulse delay generator which has a delay proportionately to a control voltage. The delay is achieved by use of a double ramp technique. An input signal starts a current source to create a first ramp which is used to initiate a second ramp through a switching diode which also isolates the second ramp from any input disturbances. The control voltage sets the starting level of both ramps. The use of the double ramp technique coupled with the

use of only the diode component which is switched by the first ramp, to initiate the second ramp, prevents any



of the input transients from disturbing the second ramp. Thus, linearity between the control voltage and delay is achieved.

3,541,353

MOSFET DIGITAL GATE

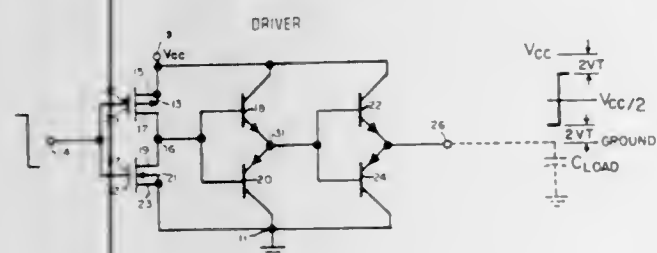
Walter C. Seelbach and Philip B. Foster, Scottsdale, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Sept. 13, 1967, Ser. No. 667,575

Int. Cl. H03k 17/00, 19/08

U.S. Cl. 307—246

11 Claims



A metal-oxide-semiconductor digital logic gate in which complementary insulated gate field effect transistors are cascaded to complementary bipolar transistors to enhance the capacitive load driving capability of the gate. A single common input simultaneously couples an input signal to the insulated gate field effect transistors which are connected at a common output junction to the bipolar transistors.

3,541,354

DIGITAL-TO-ANALOG CONVERTER

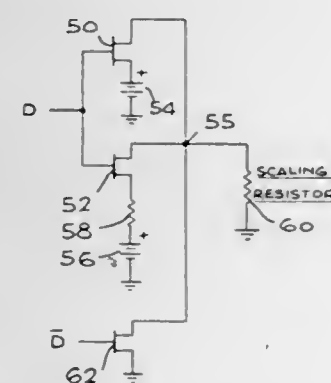
Gary R. Basham, Los Angeles, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Mar. 6, 1967, Ser. No. 620,863

Int. Cl. H03k 17/00

U.S. Cl. 307—251

14 Claims



A digital-to-analog converter using an operational amplifier and a weighted current-voltage ladder, and further comprising a particular, very accurate, controllable current-voltage source in at least a portion of said ladder network.

3,541,355 CIRCUIT FOR SELECTIVELY PRODUCING OUTPUT PULSES OF OPPOSITE POLARITY IN RESPONSE TO INPUT PULSES OF A SIMILAR POLARITY

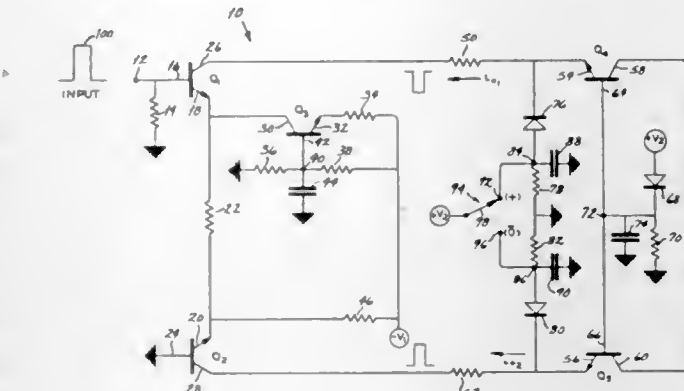
David T. Kan, Fort Lee, N.J., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Dec. 28, 1967, Ser. No. 694,215

Int. Cl. H03k 1/12

U.S. Cl. 307—262

7 Claims



A polarity selection circuit including a differential amplifier whose outputs are coupled to an output terminal by means of a solid state signal translating switching circuit. The switching circuit includes transistors having diodes connected thereto for the purpose of selectively rendering the transistors conductive and nonconductive. This is accomplished by apply a D.C. control voltage to the diodes, which in turn renders the associated switching transistor nonconductive and shunts the output from one side of the differential amplifier from the output terminal of the selection circuitry.

3,541,356

RS, JK FLIP-FLOP BUILDING BLOCK FOR LOGICAL CIRCUITS

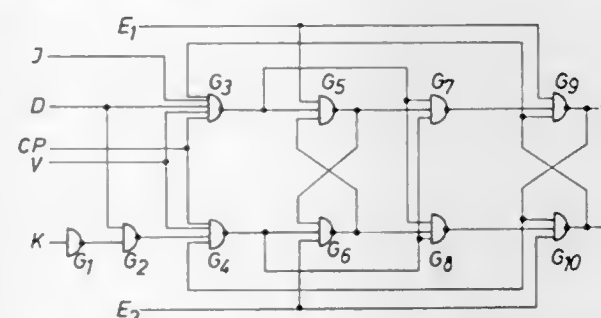
Klaus Lagemann, Garstedt, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 20, 1967, Ser. No. 669,071

Int. Cl. H03k 3/26

U.S. Cl. 307—289

1 Claim



A bistable building block operable in a computer as either a JK or a DV flip-flop and constructed entirely of logical NOR gates.

3,541,357

INTEGRATED CIRCUIT FOR ALTERNATING CURRENT OPERATION

William P. Kram, Fayetteville, N.Y., assignor to General Electric Company, a corporation of New York

Filed Apr. 29, 1968, Ser. No. 724,870

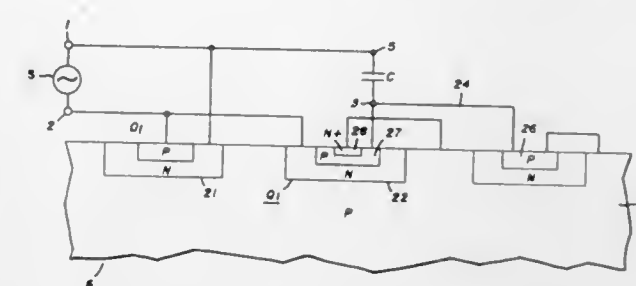
Int. Cl. H03k 3/00

U.S. Cl. 307—303

5 Claims

A semiconductor monolithic integrated circuit is provided having reverse biased PN junction substrate isolation, and the circuit is made capable of working directly from an alternating current power supply without disruption of the substrate isolation by provision of an integral switching circuit. The switching circuit is effective

to prevent sufficient voltage from developing across the substrate isolation PN junction to cause deleterious forward current across the junction during that portion of



the cycle of the alternating current power supply when the substrate isolation PN junction tends to become forward biased.

3,541,358

SOLID STATE POWER CIRCUITS

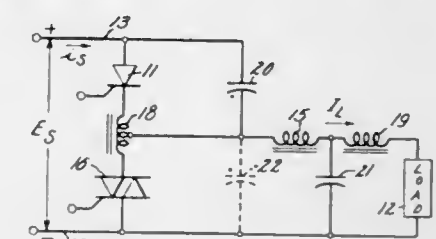
Raymond E. Morgan, deceased, late of Schenectady County, N.Y., by Agnes T. Morgan, administratrix, Schenectady County, N.Y., assignor to General Electric Company, a corporation of New York

Continuation of application Ser. No. 363,792, Apr. 30, 1964. This application May 16, 1968, Ser. No. 731,677

Int. Cl. H03k 17/00

U.S. Cl. 307—305

44 Claims



The invention comprises a family of improved power circuits using turn-on, nongate turn-off, controlled conducting devices. The power circuit is comprised by a pair of controlled conducting devices interconnected with a tapped inductance winding in series circuit relationship across a pair of power supply terminals which are adapted to be connected across a source of relatively constant electric potential with at least one of the pair of devices comprising a solid state, bidirectional conducting device. A commutation circuit is provided which includes the inductance winding and at least one commutation capacitor directly connected between one of the power supply terminals and the tap point of the inductance winding. Upon rendering the controlled conducting devices conductive during selected time intervals a desired value electric current of a desired polarity is supplied to or from a load circuit connected to the inductance winding.

3,541,359

SINGLE AND MULTISTAGE ELECTRONIC SWITCHING CONTROL WITH ADJUSTABLE OPERATING DIFFERENTIAL

Dwight Charles Lewis, Elkhart, Ind., assignor to Penn Controls, Inc., Oak Brook, Ill.

Filed Sept. 29, 1967, Ser. No. 671,690

Int. Cl. H03k 5/08, 17/26

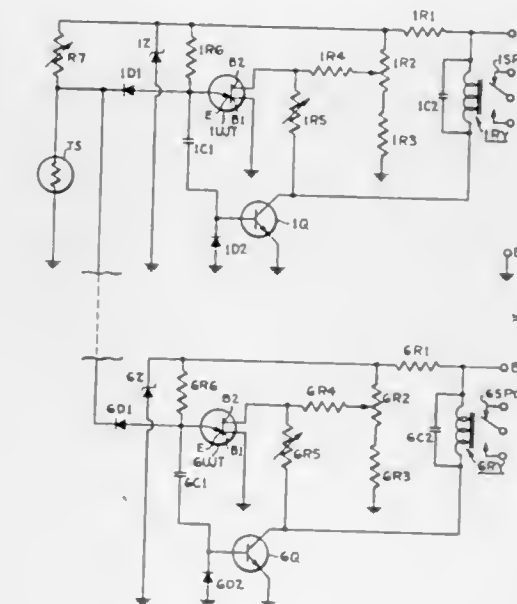
U.S. Cl. 307—310

12 Claims

A unijunction relaxation oscillator is clamped to a non-oscillating condition by a clamping diode connected to a voltage divider circuit, one leg of which comprises a condition responsive resistive element. When the divider junction rises above the firing point of the unijunction transistor, the oscillator is unclamped. A switching transistor is responsive to the oscillator output and is switched from fully "on" condition to fully "off" with each oscillation to control an electrical load. A diode shunts the

base to emitter diode circuit of the switching transistor to provide a discharging path for the firing capacitor of the unijunction transistor, while the charging path of the firing capacitor is through the base-emitter diode circuit of the transistor. This allows a large output signal to be obtained from the oscillator without loading the circuit. Since, the discharge time of the firing capacitor is very small with respect to its charging time. The switching transistor is in the "off" condition a very small time each period of oscillation.

A variable resistor is connected between the switching transistor and the second base of the unijunction transistor to provide positive feedback around the switching



circuit. This positive feedback lowers the base-to-base voltage and, in turn, proportionately lowers the firing point of the unijunction transistor. In order to reclamp the oscillator to non-oscillating condition the input signal at its trigger point must then return to a lower level. This provides an adjustable differential between the "on" and "off" conditions of the control.

An adjustable resistor is also provided in the base circuit of the unijunction transistor to preset the base-to-base voltage and, in turn, the firing point of the oscillator. A multistage controller is arranged by staging a plurality of individual controllers each through associated clamping diodes to a common input signal source and selecting their respective firing points so that the multistage controller operates as a sequencer.

3,541,360

DEVICE FOR IMPORTING MULTIPLE SPACED IMPACTS TO A PIEZOELECTRIC CRYSTAL

Hirohiko Tonari, Osaka, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan

Filed May 20, 1969, Ser. No. 826,201

Claims priority, application Japan, May 21, 1968,

43/35,225, 43/35,226

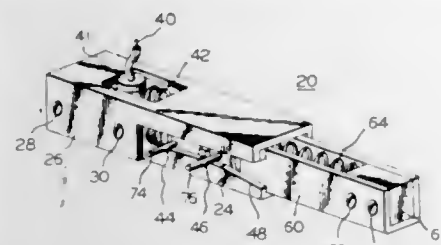
Int. Cl. H01v 7/00; H03k 3/00

U.S. Cl. 310—8.7

8 Claims

A device for subjecting a piezoelectric element to an impact. The device has a piezoelectric element and two hammers for giving an impact to said piezoelectric element. Two springs are engaged with said hammers for driving said hammers. Operating means are engaged with said springs and are movable to a first predetermined position for energizing said springs. Two locking means are engaged with said hammers for temporarily blocking movement of said hammers, and two unlocking means are engageable with the respective locking means and the first of which is operatively associated with said operating means to said first predetermined position, for releasing one of said hammers from one of said locking means, said

one hammer having the other unlocking means operatively associated therewith for releasing another of said hammers from said another of said locking means when said one of hammers is displaced to a second predetermined position. The piezoelectric element is thereby subjected to me-



chanical impacts at least two times at a predetermined time interval. The device also has means coupled to said hammers, said springs, said locking means and said unlocking means to return all of said means to the normal position after said hammers have applied to mechanical impacts to said piezoelectric element.

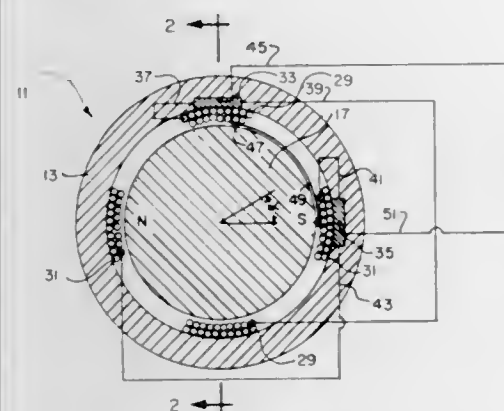
3,541,361

BRUSHLESS DIRECT CURRENT TACHOMETER
Frank J. Nola, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Aug. 28, 1969, Ser. No. 853,716

Int. Cl. H02k

U.S. Cl. 310—10

5 Claims



A DC tachometer is disclosed utilizing Hall effect crystals to achieve brushless commutation. A crystal is placed at the center of a pole defined by each of the armature windings of an alternator having a permanent magnet rotor. The Hall effect crystals are positioned to be responsive along a first axis to the flux generated by the permanent magnet and have a second axis perpendicular to the first axis electrically connected to the armature windings so as to be responsive to the current induced in the armature winding upon rotation of the rotor. The output voltages of the Hall effect crystals appearing on the axis perpendicular to the first and second axes are summed to obtain a voltage proportional to the speed of the rotor that is independent of rotor position.

3,541,362

ELECTROMAGNETIC GENERATORS

Robert Pouit, 3 Rue Auguste Mayet, Asnieres, Hauts-de-Seine, France
Filed Feb. 19, 1969, Ser. No. 800,467
Claims priority, application France, Feb. 23, 1968, 140,982

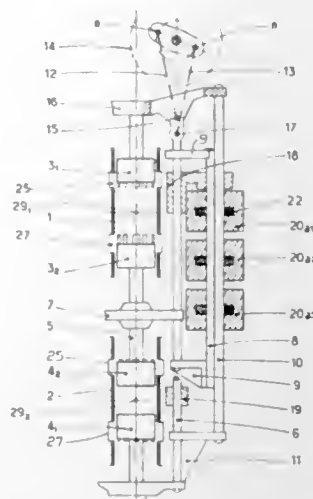
Int. Cl. H02k 35/06

U.S. Cl. 310—15

12 Claims

An internal combustion engine linear alternator apparatus having a field magnet with an air gap containing two magnetic members reciprocable by an engine 180° out of phase with each other in overlapping relationship in said gap to produce reluctance variations in the mag-

net at a frequency which is a multiple of the frequency of reciprocation, and a method of operating such an



3,541,363

STEP MOTOR WITH P-M ROTOR AND SHAPED CLAW TOOTH STATOR POLES

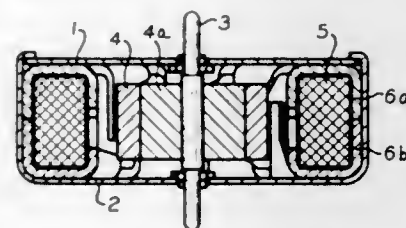
Wolfgang Vettermann and Roland Sudler, Frankfurt am Main, Germany, assignors to VDO Tachometer Werke Adolf Schindling GmbH, Frankfurt am Main, Germany, a corporation of Germany
Filed Oct. 28, 1968, Ser. No. 770,929

Claims priority, application Germany, Oct. 28, 1967, 1,613,479

Int. Cl. H02k 1/12, 21/12, 37/00

U.S. Cl. 310—49

6 Claims



A one-phase stepping motor for electric control by alternating voltages or direct voltages switchable in a cycle with any, particularly small switching frequencies and with a permanent magnetic polarized rotor of uniform individual rotor poles and alternating polarity, as well as a claw tooth stator with two stator poles disposed opposite the rotor poles and toroidal coil windings for excitation of the stator poles, each including a plurality of main poles and a plurality of alternating auxiliary poles. The main poles of one rotor pole and the auxiliary poles of the other rotor pole, oppositely polarized and axially displaced, with a smaller pole face relative to that of the main pole. The auxiliary pole is connected with the main pole and disposed in the direction of rotation of the rotor forming an L-shaped pole face. The auxiliary pole is magnetically separated from the preceding main pole by a pole gap.

3,541,364

ELECTRIC MOTOR STARTING CIRCUIT

Ernst Bosch, Grotzingen, Wurttemberg, Germany, assignor to Metabowerke KG, Closs, Rauch & Schnitzler, Nurtigen, Wurttemberg, Germany
Filed Oct. 4, 1967, Ser. No. 673,560

Claims priority, application Germany, Oct. 15, 1966, M 56,612

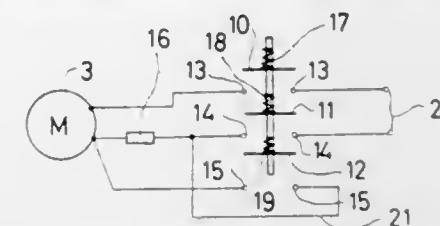
Int. Cl. H02k 11/00

U.S. Cl. 310—68

7 Claims

A switching arrangement for limiting the starting current when operating portable power tools. A manually actuated switching arrangement is provided within the

portable tool so as to connect a resistor into the circuit and in series with the power tool, during the transient period when the tool is being started. The switching arrangement is actuated through the manual movement of a lever between two end positions. This lever located within the gripping area of the handle associated with the portable tool, has also an intermediate position between the two end positions. When moving the lever to start



the power tool, this lever is first moved to the intermediate position at which the current limiting resistor is connected into the circuit. This resistor then serves to attenuate the starting peak current. When the lever is moved further towards the opposite end position or "on" position, the resistor is short-circuited and is effectively out of the power circuit. The resistor protects the power line from large peak currents which may result in the burn-out of fuses or circuit breaker drop-out.

3,541,365

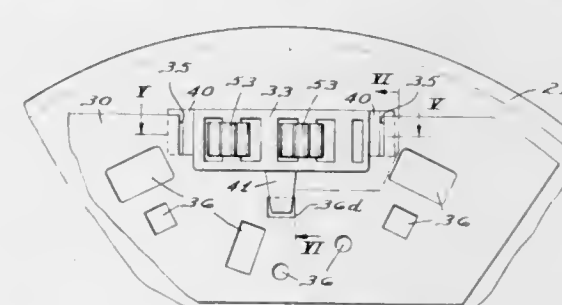
LEAD CHANGING TERMINAL ASSEMBLY FOR A DYNAMOELECTRIC MACHINE

Glenn D. Willits, Auburn, and Richard E. Seely, Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York
Filed Feb. 5, 1969, Ser. No. 796,814

Int. Cl. H02p 1/26

U.S. Cl. 310—71

4 Claims



An electric motor with two running windings enabling low-voltage and high-voltage operation has leads from the running windings connected to female terminals positioned in aligned and spaced pockets in a terminal block which has a pair of feet and a locking tongue, the feet serving to position the block in indentations in a terminal board and the locking tongue serving to snap into locked position in an aperture in the terminal board. Manually removable U-shaped male connector links are selectively positioned in the female terminals within the terminal block pockets to connect the running windings in series relationship for high-voltage operation and in parallel for low-voltage operation.

3,541,366

TEMPERATURE COMPENSATED ELECTRO-MAGNETIC COUPLING

Donald J. Baxter, South Euclid, Robert L. Dangler, Shaker Heights, and William E. Hanrahan, Mentor, Ohio, assignors to The Marquette Metal Products Company, a corporation of Ohio
Original application Sept. 14, 1967, Ser. No. 667,756.

Divided and this application Apr. 24, 1969, Ser. No. 819,037

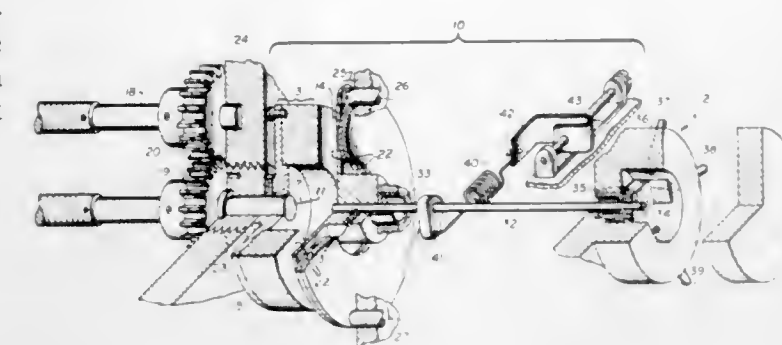
Int. Cl. H02k 49/04

U.S. Cl. 310—97

4 Claims

In an electromagnetic coupling having an output member which is subjected to a torque force induced by a ro-

tating magnetic disc assembly, a temperature responsive means is provided to automatically coact with the mag-



netic disc assembly to provide for magnetically induced torque forces on the output member which are substantially independent of changes in temperature.

3,541,367

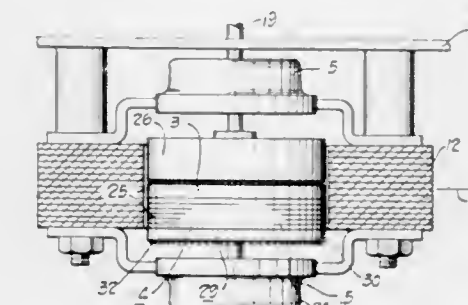
SINGLE PHASE SYNCHRONOUS RUN, SHADED POLE ELECTRIC MOTOR

Andrew F. Deming and Leslie M. Marderwald, Alliance, Ohio, assignors to Alliance Manufacturing Company, Inc., a corporation of Ohio
Filed Feb. 21, 1968, Ser. No. 707,124

Int. Cl. H02k 17/26, 21/00

U.S. Cl. 310—114

19 Claims



A single phase synchronous electric motor of shaded pole-induction start type which has a composite rotor including a permanent magnet section and a laminated permeable section with a squirrel cage. The permanent magnet is in the form of a cylindrical disc secured to one end of the composite rotor and the squirrel cage of the laminated section has a very low resistance to establish starting of the motor as an induction motor and acceleration to a quite high induction motor action running speed from which the motor pulls in to synchronous speed with a high ratio of pull-in torque relative to the pull-out torque.

3,541,368

SENSOR CONSTRUCTION

Malcolm D. Jones, Belleville, and Thomas M. Atkins, Ann Arbor, Mich., assignors to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Aug. 16, 1968, Ser. No. 753,194

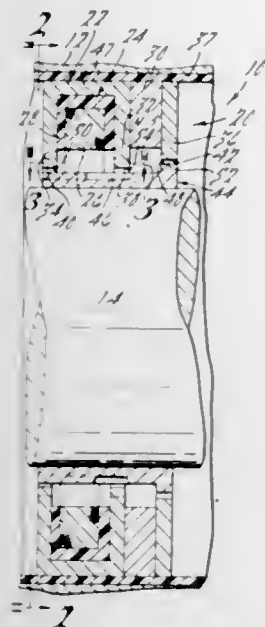
Int. Cl. H02k 19/20

U.S. Cl. 310—168

16 Claims

An electrical sensor for sensing rotational speed between a pair of relatively rotatable members with the sensor including a pair of relatively rotatable poles and a sensing coil and including an arrangement for alter-

nately switching flux from a path in the magnetic circuit of the coil to a path shunting the coil so that the change and is prevented from detection errors caused by the transverse vibrations of the motor shaft.



3,541,369

SPEED DETECTING APPARATUS FOR A ROTATABLE LOUD-SPEAKER

Shinichi Murakami, Hamamatsu-shi, Japan, assignor to Nippon Gakki Seizo Kabushiki Kaisha, Hamamatsu-shi, Japan, a corporation of Japan

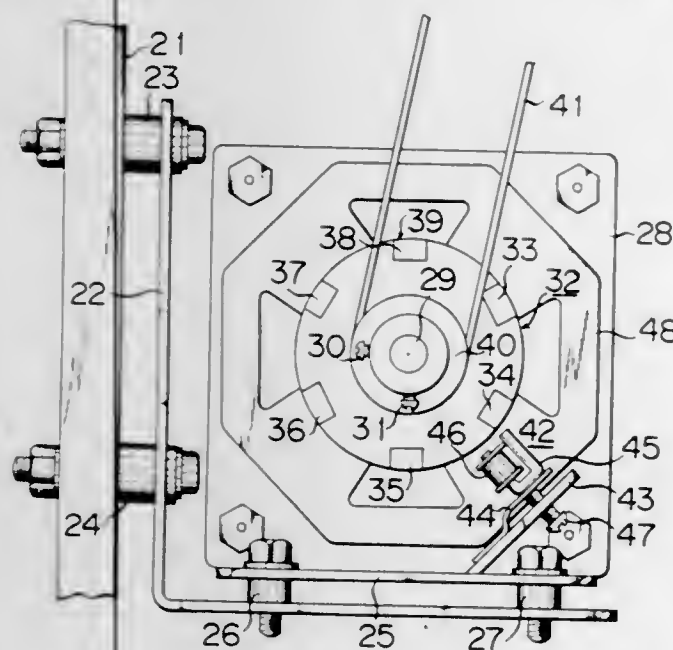
Filed Mar. 13, 1969, Ser. No. 807,059

Claims priority, application Japan, Mar. 15, 1968, 43/20,441

Int. Cl. H02k 19/20

U.S. Cl. 310-168

10 Claims



A speed detecting apparatus for a rotatable loud-speaker comprises a wheel made of non-magnetic material and fitted to the shaft of a motor driving another shaft, to which is attached a rotatable loud-speaker, and a detecting element disposed adjacent to the periphery of said wheel. The clearance between the detecting element and the wheel periphery is adjustable.

The wheel comprises a speed detecting section formed of a plurality of permanent magnets embedded in the peripheral portion thereof and used in speed detection, jointly with the detecting element, and is formed integrally with a motor pulley in adjacent relationship along the motor shaft, said motor pulley having a belt stretched across said pulley and another pulley fitted to the rotary shaft to which is attached the rotatable loud-speaker. The wheel can be fitted close to the bearing of the motor rotor

3,541,370 DC DYNAMOELECTRIC MACHINE HAVING IMPROVED COMPENSATING WINDING CONNECTIONS

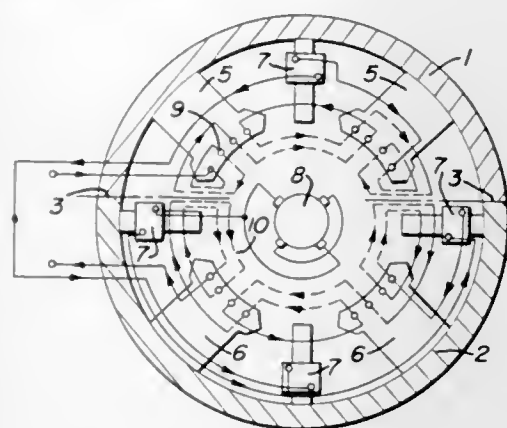
Masahiro Hayashi, Kobe, Japan, assignor to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan

Filed Feb. 25, 1969, Ser. No. 801,984

Int. Cl. H02k 17/28

U.S. Cl. 310-186

5 Claims



A compensating winding on a main field pole disposed on one portion of a split frame is connected to a connection wire running along a split of the frame without traversing the split. Another compensating winding on the adjacent main field pole disposed on the other portion of the frame is connected to another connection wire which runs along the same split, and the connection wires are arranged to carry current in opposite directions from each other. In this way windings are mechanically separated from each other, but perform their function of compensation.

3,541,371

LIQUID ANODE FOR A GAS LASER

Jacques Legros, Massy, and Eugene Henri, Villiers-sur-Orge, France, assignors to Compagnie Generale d'Electricite, Paris, France, a corporation of France

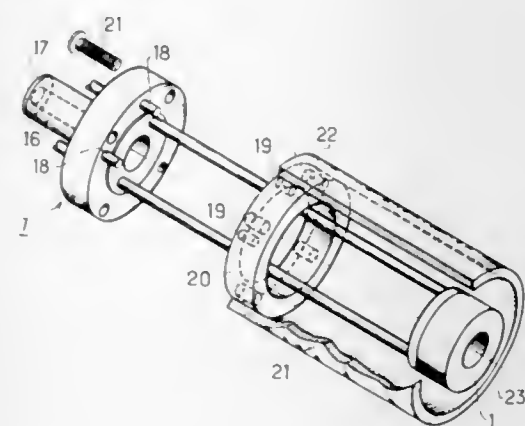
Filed Nov. 26, 1968, Ser. No. 779,023

Claims priority, application France, Nov. 30, 1967, 130,484; Mar. 21, 1968, 144,809; Apr. 3, 1968, 146,907

Int. Cl. H01j 7/26, 19/36; H01s 3/04

U.S. Cl. 313-32

10 Claims



An anode for a gas tube consists essentially of an annular base which supports an annular active anode part by means of two tubes. The active part is hollow and the base incorporates passages connected respectively by the two tubes to the interior of the active part. Furthermore connections are provided on the base for connecting the two passages to a coolant circulatory supply whereby coolant may be circulated through the system formed by the passages, the tubes and the active anode part interior.

3,541,372

MICROWAVE PLASMA LIGHT SOURCE

Itiro Omura, Kodaira-shi, and Hiroshi Doi, Koganei-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

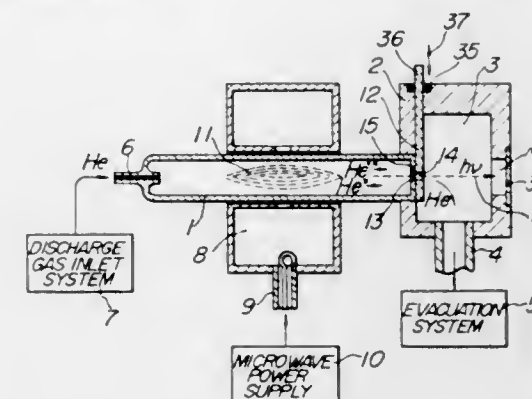
Filed Dec. 21, 1967, Ser. No. 692,356

Claims priority, application Japan, Dec. 28, 1966, 42/85,334

Int. Cl. H01j 7/46, 39/34; H05h 1/00

U.S. Cl. 313-63

4 Claims



A microwave plasma light source, wherein microwave power is fed into a discharge vessel containing discharge gas (rare gas) to form a high frequency electromagnetic field in said vessel, a high frequency electrodeless discharge plasma is generated within said discharge vessel by said electromagnetic field, a microwave reflector is inserted in the propagation path of the electromagnetic wave propagating in said discharge vessel perpendicularly to the direction of propagation to generate an intense standing wave in said discharge vessel and thereby to increase the intensity of the high frequency electromagnetic field in the discharge vessel, the gas atoms in said plasma are excited to high energy levels, said excited gas atoms are made to undergo resonance transitions having large resonance potentials and a resonance line as short as possible is made to be radiated with a relatively small microwave power.

3,541,373

CATHODE RAY TUBE WITH BIFURCATED CONTACT SPRING BETWEEN THE SHADOW MASK FRAME AND THE INTERNAL CONDUCTIVE COATING

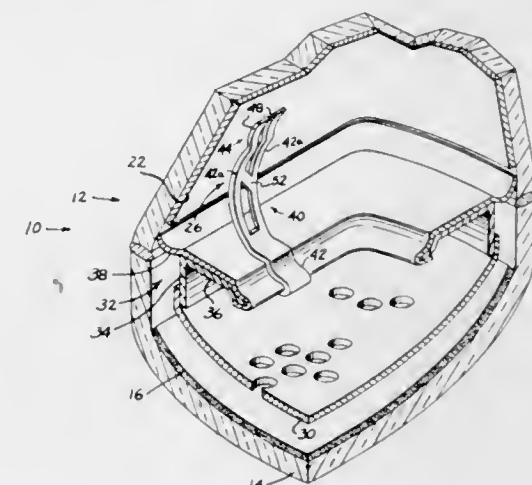
Robert O. Barr, Ottawa, Ohio, assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 16, 1969, Ser. No. 816,502

Int. Cl. H01j 29/46; H01r 9/12

U.S. Cl. 313-85

2 Claims



A contact spring for providing an electrical path from an internal conductive coating to a shadow mask frame in a color cathode ray tube. The spring is bifurcated for the greater part of its length and the tines formed by the bifurcation are free to act independently of each other. In another embodiment the tines are interconnected by

an angled member substantially intermediate their length whereby each tine has a different vibration frequency.

3,541,374

MULTIPLE-UNIT DISPLAY APPARATUS PRODUCING RADIANT ENERGY AT PHENOMENON OF DIELECTRIC TRAPPING

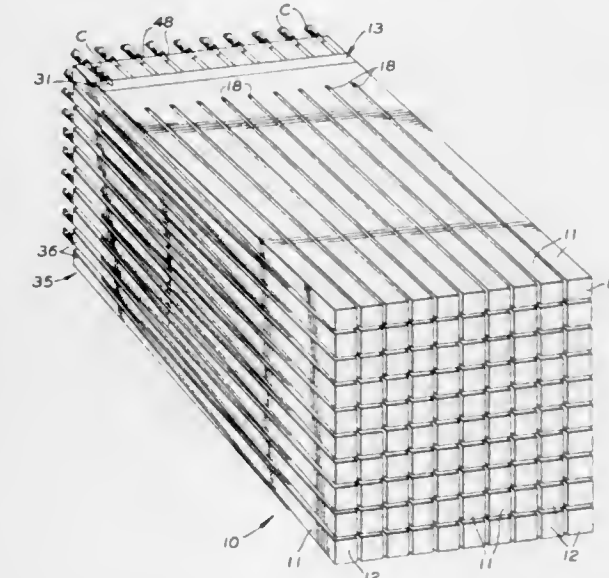
Joseph F. Lidoski, Floral Park, and James V. Masi, Huntington, N.Y., assignors, by mesne assignments, to Hartman Systems Co., Inc., Huntington Station, N.Y., a corporation of Ohio

Filed July 16, 1968, Ser. No. 745,195

Int. Cl. H05b 33/00

U.S. Cl. 313-108

15 Claims



A multiple-element display apparatus is formed from a plurality of elongated, solid-form conduits supported in assembled relationship with respective isotropic, radiant energy sources which induce radiation into the conduits for optical transmission throughout the volume of the conduit. By the subsequent action of dielectric reflection from the bounding conduit surfaces, a selective accumulation of luminous flux is favored along the longitudinal axis of the conduit. At a surface area representing the conduit termination, the accumulated flux is emitted at a flux density which can be substantially higher than that of the causative source. This phenomenon will be subsequently referred to as edge emission. The radiant energy sources stimulate emission from a distributed luminophor which is optically coupled to the conduit as a specular surface film or coating. The luminophor is responsive to excitation from incident energy generated by respective, independently controllable sources also supported in assembled relationship with the conduits. A polychromatic display is obtained by coating each conduit with multiple diverse luminophors having dissimilar radiation emission wavelengths. Selective excitation of the luminophors of each conduit, either singly or in combination, results in emission of radiation at the conduit termination with the radiation thus emitted having a specific chromatic characteristic.

3,541,375

BARRIER LAYER ELECTROLUMINESCENT DEVICES

Manuel Aven, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 518,313, Jan. 3, 1966. This application June 7, 1967, Ser. No. 644,305

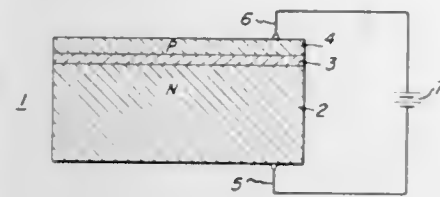
Int. Cl. H01j 1/62, 63/04

U.S. Cl. 313-108

10 Claims

A junction electroluminescent device includes three superposed layers comprising different conductivity regions. A first region includes a host compound of a

Group II-VI material having a rare earth material therein as a donor and exhibits n type conductivity characteristics. A second region adjacent said first region includes the rare earth material and an acceptor material which coats with the rare earth material to form centers of luminescence. A third region superposed upon the second region may be a p-type conductivity compound of the Group I-



VI or Group II-VI materials or may be a simple hole-injecting, high work function metal. Upon the application of a forward bias, holes are injected from the third region into the second region and cause a radiative transition at the rare earth-acceptor activation center, resulting in emission of light, the wavelength of which is characteristics of the rare earth donor impurity.

3,541,376

FLUORESCENT LAMP WITH FILTER COATING OF A MIXTURE OF TiO_2 AND Sb_2O_3
Tadius T. Sadoski, Salem, and Willy P. Schreurs, Danvers, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Nov. 13, 1968, Ser. No. 775,264

Int. Cl. H01j 1/62, 63/04

U.S. Cl. 313-109

3 Claims



A fluorescent lamp with a coating of a mixture of TiO_2 and Sb_2O_3 disposed upon the glass. The TiO_2 layer filters unwanted ultraviolet radiation in the 3000 to 4000 Å. region and reduces the emission of this light from the lamp. The Sb_2O_3 additions reduce the starting voltage of the lamp which is increased due to the TiO_2 coating.

3,541,377

FLUORESCENT LAMP HAVING AN ENVELOPE WITH A THIN TRANSPARENT BUFFER FILM BONDED TO ITS INNER SURFACE, AND METHOD OF TREATING LAMP ENVELOPES TO PROVIDE SUCH A FILM

Rudolph Nagy, Lac du Flambeau, Wis., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 18, 1968, Ser. No. 776,624

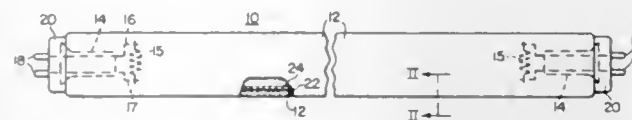
Int. Cl. H01j 1/62, 63/04

U.S. Cl. 313-109

9 Claims

The inner surface of a soda-lime-silicate glass envelope for a fluorescent lamp or similar mercury-discharge device is coated with a film of submicroscopic fibrous crystals of boehmite ($\text{AlO}(\text{OH})$) prior to the phosphor coating operation. When the phosphor-coated envelope is subsequently heated, the boehmite crystals are thermally decomposed in situ and transformed into fibrils and rod-like particles of gamma alumina (Al_2O_3) that are bonded directly to the glass surface. The gamma alumina particles chemically react with the sodium and other alkali constituents of the glass to form inert compounds and thus

provides a transparent film of "buffer" material that inhibits the formation of black alkali-mercury deposits on the inner surface of the envelope during lamp operation and enhances the lumen maintenance of the lamp during its useful life.



Deposition of the boehmite crystals is achieved by coating the envelope interior with a 0.5% to 5% aqueous solution of a colloidal boehmite complex that consists of 85% by weight crystalline boehmite, having 13% by weight of acetic acid and 2% by weight of water attached to the boehmite fibrils. Transformation of the boehmite into rod-shaped gamma alumina is achieved by heating the envelope to a temperature of at least 400° C.

**3,541,378
TUNGSTEN OXYHALIDE INCANDESCENT LAMPS**

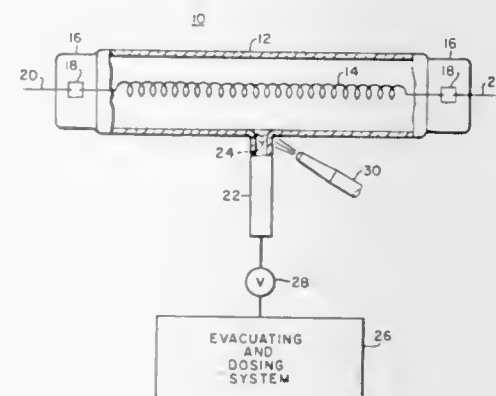
Alfred Pebler, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 8, 1968, Ser. No. 696,418

Int. Cl. H01k 1/50

U.S. Cl. 313-222

2 Claims



An incandescence lamp with a tungsten filament and an atmosphere comprising inert gas, tungsten oxyhalide, halogen and oxygen, with the total halogen to total oxygen contained in the lamp either chemically combined or uncombined being in a relative gram-atom ratio of about 4:1. The halogen and oxygen are added to the lamp either as separate gaseous constituents or as tungsten oxytetrahalide. A preferred range of halogen content is specified. There is no visible blackening of the envelope during lamp lifetime, and the overall lamp operation is improved.

3,541,379

METHOD FOR INITIATING GASEOUS PLASMAS
Calvin B. Holden, Doylestown, Ohio, assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of applications Ser. No. 400,644,

Oct. 1, 1964, and Ser. No. 486,838, Sept. 13, 1965.

This application Sept. 11, 1967, Ser. No. 666,909

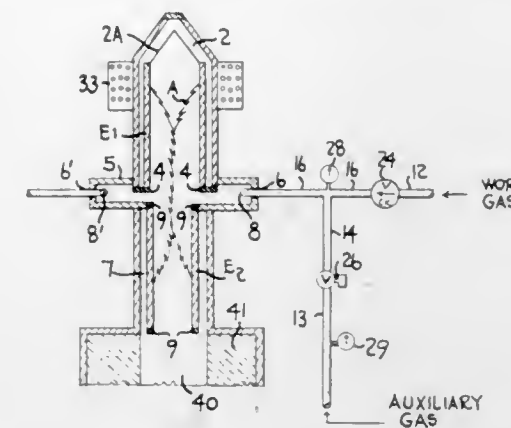
Int. Cl. H01j 17/26

U.S. Cl. 313-231

13 Claims

Gaseous plasma is initiated by introducing auxiliary gas having excitation potential greater than ionization

potential of plasma gas into heating zone of plasma generator along same gas flow path taken by plasma gas,



applying voltage which excites but does not ionize auxiliary gas, and displacing auxiliary gas with plasma gas.

3,541,380

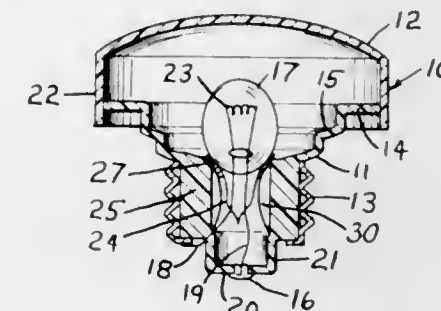
LAMP AND ENVELOPE COMBINATION
Joseph Spiteri, Erie, Pa., assignor to Lake Shore Markers, Inc., Erie, Pa., a corporation of Pennsylvania

Filed June 3, 1968, Ser. No. 733,932

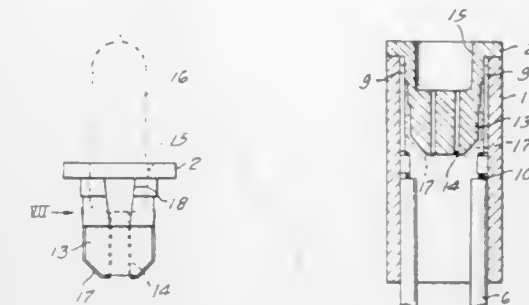
Int. Cl. H01j 5/48, 5/50

U.S. Cl. 313-318

2 Claims



ber carrying a bulb provided with two electrically conductive second terminals comprises a portion which is receivable in the aforementioned other open end of the tubular member. This portion has an outer circumferential surface and the second terminals overlie this outer circum-



3,541,382

DIRECT HEATED CATHODE MEMBER FOR AN ELECTRON TUBE

Yukio Takanashi, Hiratsuka-shi, and Kakuo Mihara and Toshikazu Sakai, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed Dec. 9, 1968, Ser. No. 782,171

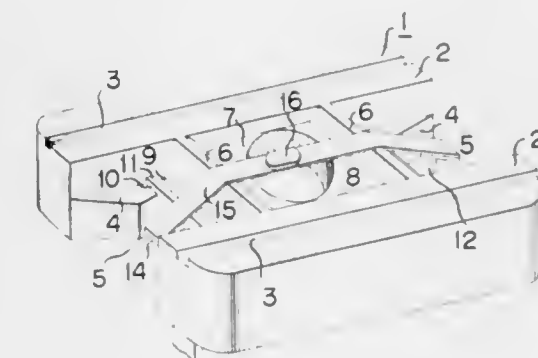
Claims priority, application Japan, Dec. 11, 1967,

42/103,501, 42/103,502

Int. Cl. H01j 1/15, 19/08

U.S. Cl. 313-341

4 Claims



The invention disclosed is an incandescent lamp having a sealed transparent envelope having a filament in it. A bulb rib support which has a hollow cylindrical intermediate part having a radially outwardly extending flange on a first end, received in a cup-shaped lens which has its open end sealed to the outer periphery of the flange. The closed end of the flange has a convex outer surface. A threaded shell is fixed to the outside of the rib support. The end of the rib support remote from the flange is closed and has an electrical terminal on it. The filament is connected between the shell and the terminal. Three circumferentially spaced axial ribs are integrally formed on the inside surface of the hollow cylinder and concave seat is formed on the end of the cylindrical body and on the end of the ribs next to the flanges. The envelope is fixed to the seat. The envelope is transparent and so is the lens.

3,541,381

PLUG-IN LIGHTING ASSEMBLY
Ryosuke Matsuya, Tokyo, Japan, assignor to Tohwa Electric Co., Ltd., Tokyo, Japan

Filed Feb. 8, 1968, Ser. No. 704,136

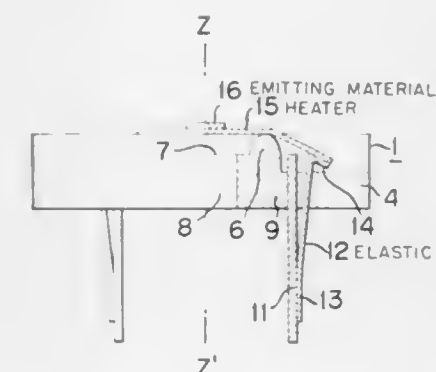
Claims priority, application Japan, July 5, 1967, 42/57,500

Int. Cl. H01j 5/48, 5/50

U.S. Cl. 313-318

8 Claims

A tubular member has opposite open ends. Two electrically conductive first terminals extend into the tubular member from one towards the other of the ends thereof and overlie the inner circumferential surface of the tubular member at angularly spaced locations. A socket mem-



A direct heated cathode member for electron tubes is generally constructed in symmetric relationship. A ribbon-shaped heater is stretched over an insulating substrate with its major surface very close to and parallel to that of the substrate.

3,541,383

SOLID STATE SCAN CONVERTER UTILIZING ELECTRON GUNS

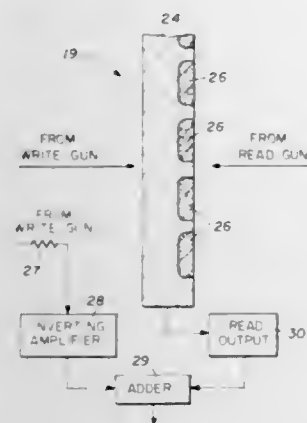
George R. Pruett and Samuel R. Shortes, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 4, 1968, Ser. No. 765,212

Int. Cl. H01j 31/26

U.S. Cl. 315—10

7 Claims



A solid state target is disposed between a pair of opposed electron guns. The target is constructed from a sheet of semiconductor material having a plurality of discrete areas of a different conductivity type disposed on one side of the material. The write electron gun is scanned across the semiconductor sheet in a preselected scan pattern, with the intensity of the electron beam being modulated according to input information. The electrical charge densities of the discrete areas on the target are changed due to the scanning by the write electron beam. The read electron beam then scans across the discrete areas on the target in a different scan pattern to generate electrical signals representative of the input information by recharging the discrete areas to their original electrical charge densities. The energy level of the write electron beam is substantially greater than the energy level of the read electron beam to provide gain to the scan conversion system.

3,541,384

IMAGE STORAGE APPARATUS

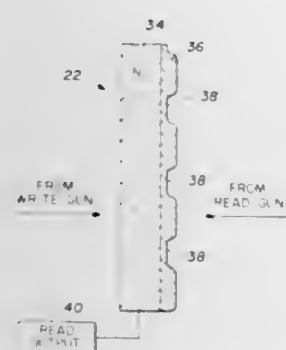
Samuel Roy Shortes, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Sept. 19, 1968, Ser. No. 758,526

Int. Cl. H01j 31/48

U.S. Cl. 315—11

5 Claims



A target is provided for receiving and storing images which includes a body of semiconductor material having opposed surfaces. A layer of insulating material is disposed over one of the surfaces, with a plurality of discrete areas of reduced thickness being formed in the insulating layer. Images are transmitted by a write source to the surface of the body opposite the insulating layer. A read electron source then scans the insulating layer to provide indications of changes in the electrical charge of

areas of the semiconductor material as a result of the transmitted images. Scan conversion is provided by the system by utilizing different scan patterns for the write and read sources.

3,541,385

EFFICIENT PRECISION SWEEP CIRCUIT

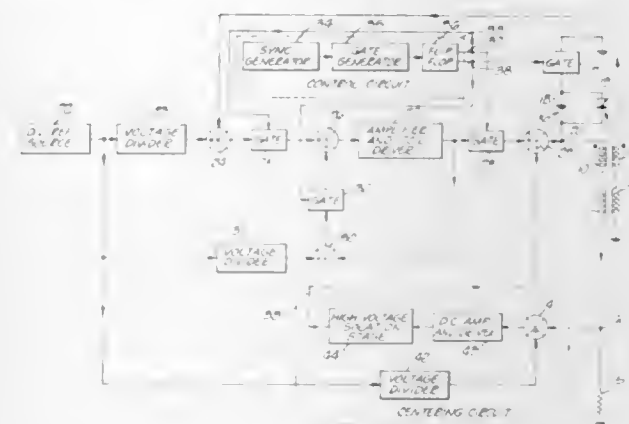
Ronald Richard Rothermel, Granada Hills, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 3, 1969, Ser. No. 803,855

Int. Cl. H01j 29/76

U.S. Cl. 315—27

10 Claims



The invention includes a linear, low-power, horizontal sweep circuit for a television camera tube having a pair of series-connected deflection coils. An electronic servo is employed to maintain the coil current linear with respect to time during the sweep. The servo output is rendered ineffective by switching it off during retrace. A capacitor then stores the energy of the coils and returns it to the coils with a reverse current. When the reverse current is at maximum, the retrace is terminated and the sweep begins again. The re-use of the energy stored in the coils, thus, reduces the power requirements of the circuit.

3,541,386

CONTROL SYSTEM FOR TERMINATING THE DISCHARGE OF A FLASH LAMP

Karl Ackermann, Berlin, Germany, assignor to Robert Bosch Elektronik Gesellschaft mit beschränkter Haftung, Berlin, Germany

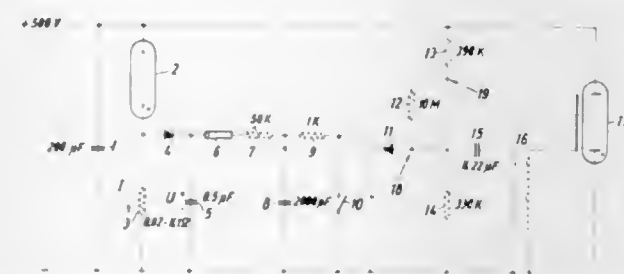
Filed Jan. 27, 1969, Ser. No. 794,253

Claims priority, application Germany, Apr. 3, 1968, 1,772,129

Int. Cl. G01j 1/32; H01j 39/12; H05b 41/38

U.S. Cl. 315—151

10 Claims



An electronic flash arrangement for photographic cameras in which a light measuring device is operated through a D.C. operating voltage. A control circuit includes a photosensitive element upon which impinges light reflected from the object to be photographed. After ignition of the flash bulb, the control circuitry extinguishes the flash bulb when a predetermined amount of light has impinged upon the photosensitive element. The arrangement is such that the D.C. operating voltage for the light measuring device does not appear until discharge of the flash bulb has been commenced.

3,541,387

CONTROL SYSTEM FOR TERMINATING THE DISCHARGE OF A FLASH LAMP

Karl Ackermann, Berlin, Germany, assignor to Robert Bosch Elektronik Gesellschaft mit beschränkter Haftung, Berlin, Germany

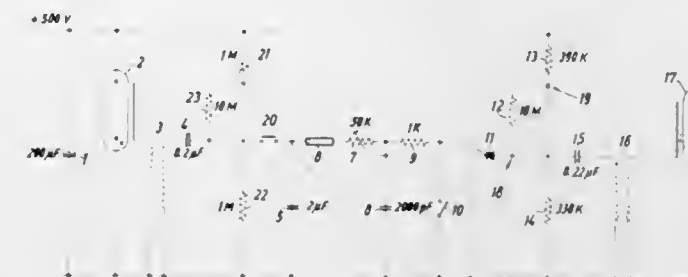
Filed Jan. 27, 1969, Ser. No. 794,254

Claims priority, application Germany, Apr. 23, 1968, 1,764,204

Int. Cl. G01j 1/32; H05b 39/12, H01j 41/38

U.S. Cl. 315—151

11 Claims



An arrangement for controlling the flash duration in photographic cameras. A light-sensitive element within the apparatus responds to light originating from the source for flash bulbs and reflected by the object or scene to be photographed. The flash bulb is ignited by an ignition circuit which also generates the operating voltage for the light-sensitive device. Through the application of a discharge tube which has a considerably lower internal resistance, when ignited, than the flash bulb, the latter becomes extinguished when the light reflected by the object or scene and impinging upon the light-sensitive device, is of a predetermined magnitude.

3,541,388

ENERGY CONTROL FOR FLASHING VISUAL SIGNALS

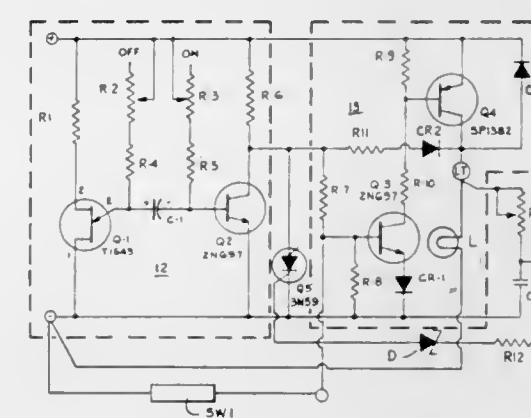
Robert J. Dodge and Ernest R. Tindle, Houston, Tex., assignors to Automatic Power, Inc., Houston, Tex., a corporation of Delaware

Filed Feb. 12, 1968, Ser. No. 704,939

Int. Cl. H05b 37/00

U.S. Cl. 315—238

17 Claims



An energy control is disclosed for maintaining the time-intensity function from a flashing light source, such as a lamp, at a substantially constant effective value. The control includes a multivibrator timer having output signals of predetermined duration corresponding to lamp-on and lamp-off periods, and these output signals control a transistor driver which drives the lamp to turn it on and off. In one form of the invention, a series resistance-capacitance circuit is connected across the lamp and a Zener diode of a predetermined breakdown voltage is connected to the capacitor. When operating voltage is applied to the lamp the capacitor charges according to the R-C time constant to the Zener breakdown voltage. The Zener is connected to the gate electrode of an SCR which is, in

turn, connected through its power electrodes across the input to the transistor driver. The SCR conducts to clamp the driver and the lamp off in response to the breakdown of the Zener diode. In another form of the invention, a photoresistive device is used to generate a voltage in response to light emitted from the lamp and this voltage is used to charge the capacitor.

3,541,389

ELECTRICALLY CONDUCTIVE FOOT WEAR

Joseph M. Van Name, Radnor Township, Delaware County, Pa., assignor to Endicott Johnson Corporation, Endicott, N.Y., a corporation of New York

Filed Dec. 30, 1968, Ser. No. 787,672

Int. Cl. H05f 3/00

U.S. Cl. 317—2

5 Claims



An electrically conductive boot or shoe is described which is suitable for use by electrical linemen, maintenance men and construction men working in the vicinity of high voltage equipment. The boot includes conductive inner and outer soles, liners, a conductive strip extending vertically along the outside of the boot and means for connecting the leg of the wearer with the conductive strip. The boot will substantially prevent the accumulation of induced electrical charge and differences of potential between the wearer and adjacent conductive objects, and dissipate induced charges at a substantially rapid rate to preclude injury and avoid discomfort to the wearer. Moreover, the boot will maintain a predetermined electrical potential or voltage between the wearer and conductive objects with which the boot is in contact. When the uppers are formed entirely of conductive material the boot functions as a Faraday shield and prevents current from being induced in the foot of the wearer when exposed to a cyclic electric field.

3,541,390

STEADY-FIELD GENERATING ARRANGEMENT

Herbert Jahnke, Unterthingau, Germany, assignor to Constantin Graf von Berckheim, Weinheim an der Bergstrasse, Germany

Filed Apr. 29, 1968, Ser. No. 724,934

Claims priority, application Germany, May 2, 1967, B 92,330

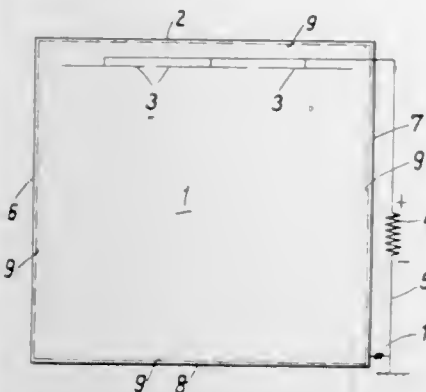
Int. Cl. H02n 1/06

U.S. Cl. 317—4

12 Claims

An arrangement for providing a steady electric field in an enclosed air-containing space bounded by a plurality of wall portions which are connected to ground potential, includes an electrode provided in the space connected with a source of direct current and electrically insulated from the wall portions. The steady electric field developing between the wall portions and the electrode imparts to air ions and aerosols in the air an electric charge. At least

one of the wall portions is provided with an exposed face facing the interior of the enclosed space and having a substantially constant electrical conductivity factor of such



magnitude as to enable dissipation of the electrical charge of the ions and aerosols on contact of the ions and aerosols with the exposed face.

3,541,391

OVERLOAD PROTECTION DEVICE FOR AN ELECTRIC MULTI-RANGE MEASURING INSTRUMENT
Hans Ritscherle, Mannheim, Germany, and Herbert Gartner, Vienna, Austria, assignors to Brown, Boveri & Cie A.G., Mannheim-Kafertal, Germany, a corporation of Germany

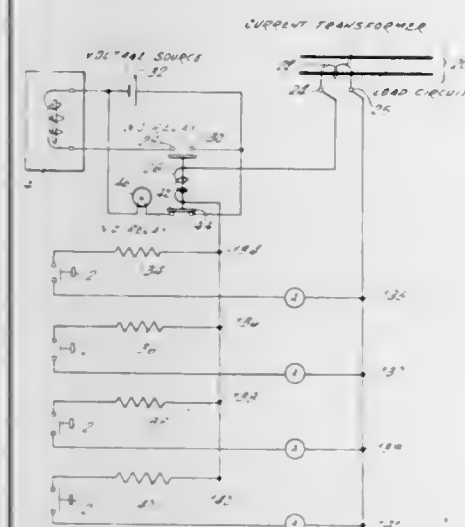
Filed Sept. 20, 1967, Ser. No. 698,995

Claims priority, application Germany, Sept. 23, 1966, B 89,048

Int. Cl. H02h 3/00; G01r 1/36

U.S. Cl. 317-9

10 Claims



Overload protection device for an electrical multi-range measuring instrument having several measuring ranges which are switched on by selector switches. The individual measuring-range switches select the respective measuring range and are graduated and so arranged and connected that cut-off takes place upon overloading of the switch of a respective measuring range. By means of a tripping magnet (4) the respective switch (5) is moved to "off" position when overload occurs. The magnet (4) is supplied with current from a current source and controlled by means of an accessory circuit which utilizes a current-actuated relay locked into the tripping magnet (4). When a response occurs in a particular measuring range the tripping magnet releases an interlock between the switches so that only one range at a time is actuated. A signal is also provided to indicate when a cut-out has taken place.

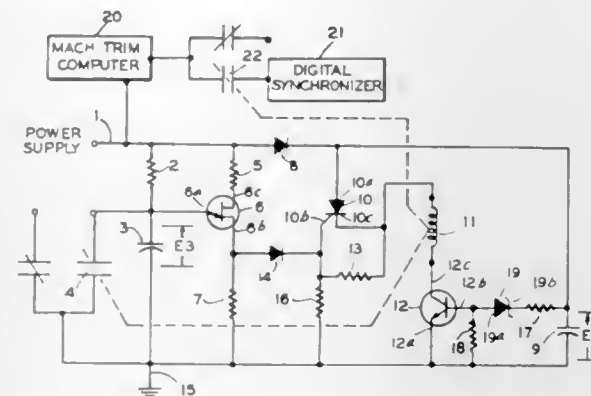
3,541,392
INTERRUPTION MONITOR WITH DELAY DISCONNECTING AND RECONNECTING MEANS
Donald Paul Vargo, Nutley, and Gunter Jerry Gessner, Fairfield, N.J., assignors to The Bendix Corporation, a corporation of Delaware

Filed Sept. 30, 1968, Ser. No. 763,894

Int. Cl. H02h 3/24, 47/18

U.S. Cl. 317-31

8 Claims



A circuit for monitoring a power supply and controlling a relay connecting the power supply to a device energized thereby. The relay is energized by the power supply through a silicon controlled rectifier and a transistor which is maintained conductive by the power supply. A charged capacitor sustains relay energization and transistor conduction during a power supply failure. A Zener diode causes the transistor to cut off when the capacitor discharges to a voltage corresponding to a specified duration after the power failure thereby de-energizing the relay and disconnecting the device from the power supply. Upon return of power an uncharged capacitor is controllably charged through a resistor. A unijunction transistor detects when the capacitor is charged to a voltage corresponding to a specified delay and provides a pulse to trigger the silicon controlled rectifier into conduction thereby re-energizing the relay and reconnecting the device to the power supply after a specified delay.

3,541,393

HIGH ENERGY SOLID STATE BLASTING MACHINE

Larry Robert Diswood, Ulster Park, N.Y., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Filed May 29, 1969, Ser. No. 828,916

Int. Cl. F23g 7/02; F42c 11/06

U.S. Cl. 317-80

4 Claims



A high energy solid state blasting machine is provided for providing current to large numbers of blasting caps. The blasting machine employs a combination of Zener diodes and silicon control rectifiers to achieve a highly reliable and safe blasting machine.

3,541,394

PROXIMITY TRANSDUCER

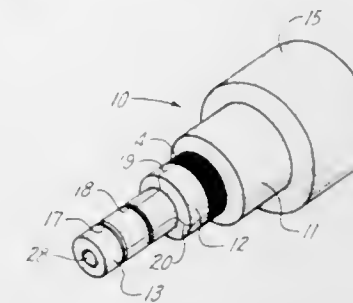
Terrell F. Brenneman, Columbus, Donald F. Hays, Jr., Westerville, and Robert S. Morrow, Columbus, Ohio, assignors to IRD Mechanalysis, Inc., Worthington, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 697,099, Jan. 11, 1968. This application Jan. 10, 1969, Ser. No. 790,231

Int. Cl. H01f 15/04, 27/00

U.S. Cl. 317-99

3 Claims



A proximity transducer having an open-ended cylindrical metal sleeve with a nonmetallic mandrel at the forward open end. The mandrel has an uninterrupted planar forward end which is coplanar with the end of the sleeve. Also, there is a coil of fine wire in a circumferential groove between the forward end and the rearward end. The ends of the wire are connected to conductors within the sleeve extending toward the rear end of the sleeve.

3,541,395

AVIATION RACK WITH COOLING DUCTS

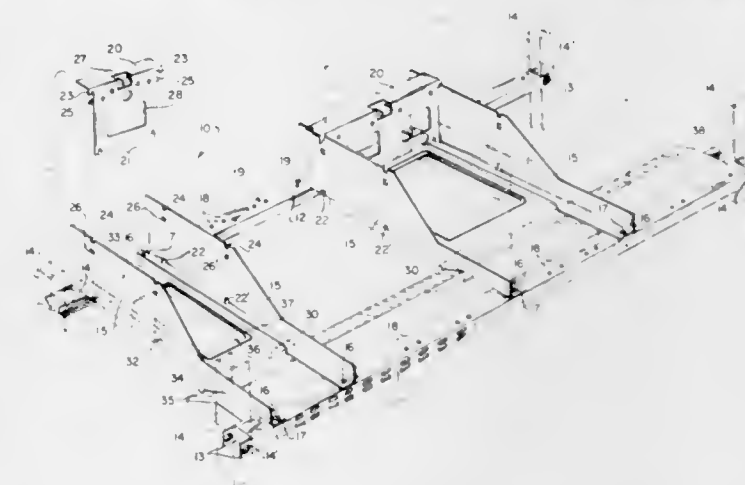
Joseph A. Lucchino, Los Angeles, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Nov. 15, 1968, Ser. No. 776,130

Int. Cl. H02h 1/04

U.S. Cl. 317-100

10 Claims



An aviation rack for supporting and cooling avionic equipment and which includes a pair of guide rails adapted to be adjustably attached to a pair of horizontal members for receiving avionic equipment of various physical dimensions. A cross duct is located between the guide rails in communication with central duct means for providing individual air cooling to the avionic equipment.

3,541,396

SUPPORT FRAMES FOR PLANAR CIRCUIT BOARDS

William R. Cardwell, Lloyd E. Johnson, Denis E. Lowry, Paul L. O'Brien, and David C. Shattuck, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 16, 1969, Ser. No. 791,682

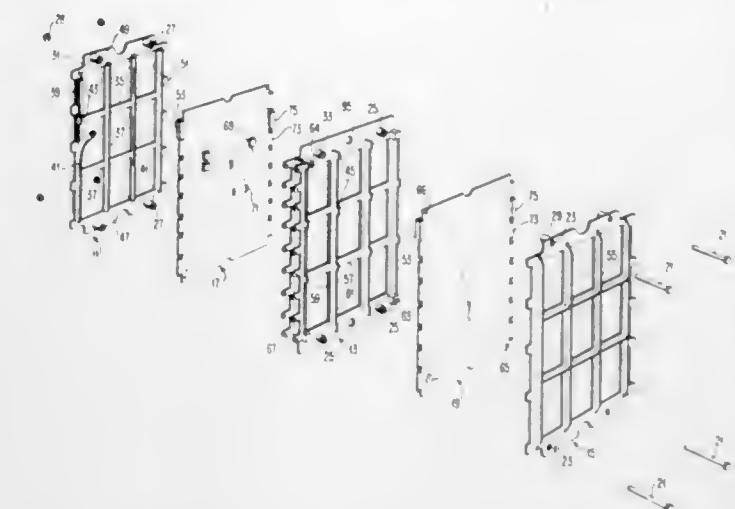
Int. Cl. H05k 1/14, 7/18

U.S. Cl. 317-101

7 Claims

An open support structure for supporting a plurality of planar circuit boards for shipment and for machine

mounting. The support structure resiliently clamps the circuit boards therebetween and provides air channels for convection cooling. A rigid cross-over connector electrically connects the circuit boards to one another to provide common voltage and signal sources. Connector retainers are incorporated into the structure to secure input/output connector cables.



3,541,397

CIRCUIT LIMITED PLUG-IN PANEL BOARDS WITH GEOMETRICALLY CODED APERTURE DISCRIMINATION MEANS

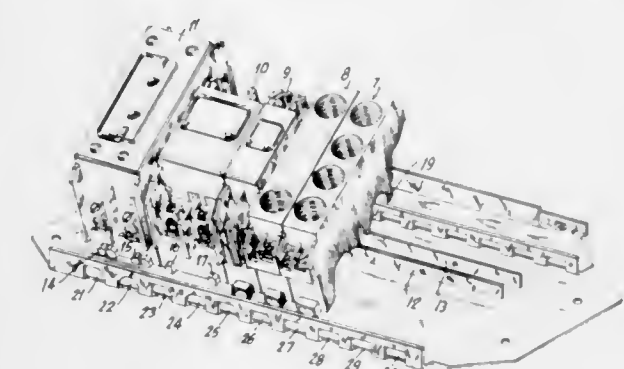
Herman H. Kobryner, Forest Hills, N.Y., assignor, by mesne assignments, to Murray Manufacturing Corporation, Hartford, Conn., a corporation of Connecticut

Continuation of application Ser. No. 702,992, Feb. 5, 1968. This application Nov. 17, 1969, Ser. No. 871,645

Int. Cl. H02b 1/04

U.S. Cl. 317-119

3 Claims



A device for limiting the number of circuits that can be connected to an electrical distribution panel board is described. The side wall of the panel board which supports one end of the circuit protectors attached thereto contains coded apertures for the reception of correspondingly coded feet extending from the circuit protectors. The circuit protectors are provided with configurations of feet coded according to the number of circuits they service. The coded apertures in the side wall of the mounting pan are arranged to control the number of circuits which may be attached to the panel board.

3,541,398

ELECTRICAL SWITCHING SYSTEM AND METHOD
Ralph Wayne Simister, Salt Lake City, Utah, assignor to University of Utah

Filed Mar. 20, 1967, Ser. No. 624,566

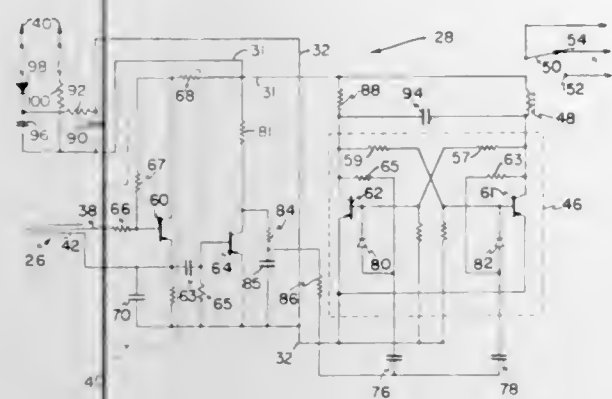
Int. Cl. H01b 47/12

U.S. Cl. 317-146

1 Claim

An electrical switching system and method providing a spark-free activating switch without moving parts that is located at the leading end of a shielded cable of extended length; sensitivity in the switch being preserved by trans-

mitting electrical energy along the cable shield. A method of determining the operational state of an electrically operated device in which a circuit controlling element is



compelled to assume a known operational state in the event power is unexpectedly denied and then restored to the system.

3,541,399

NON-POLAR ELECTROLYTIC CAPACITOR CONTAINING A SALT OF AN OXIDIZING ACID

Johan Christiaan Willem Kruishoop, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

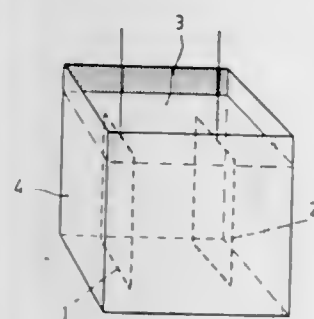
Filed May 19, 1966, Ser. No. 551,261

Claims priority, application Netherlands, May 27, 1965, 6506756; Jan. 25, 1966, 6600908

Int. Cl. H01g 9/00

U.S. Cl. 317—230

4 Claims



In a non-polar electrolytic capacitor the electrolyte contains an organic solvent incapable of liberating free hydrogen ions and an alkaline earth metal or earth metal salt of an inorganic oxidizing acid.

3,541,400

MAGNETIC FIELD CONTROLLED FERROMAGNETIC TUNNELING DEVICE

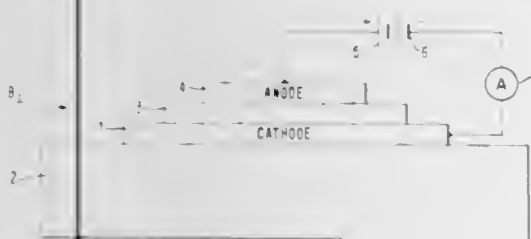
Leo Esaki, Chappaqua, Phillip J. Stiles, Yorktown Heights, and Stephan von Molnar, Ossining, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 4, 1968, Ser. No. 765,124

Int. Cl. H01l 3/10

U.S. Cl. 317—231

15 Claims



A ferromagnetic device is provided wherein the barrier height presented by the ferromagnetic material of the device is reduced upon application of magnetic fields

thereby controlling the current through a thin layer of ferromagnetic material sandwiched between two metallic electrodes. This device is also useful in sensing either the direction or magnitude of a magnetic field applied to the device.

3,541,401

SPACE CHARGE WAVE AMPLIFIERS USING CATHODE DROP TECHNIQUES

John B. Gunn, Mount Kisco, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 15, 1968, Ser. No. 745,008

Int. Cl. H01l 9/00

U.S. Cl. 317—234

18 Claims



A space charge wave amplifier comprises a semiconductor body having a multivalley conduction band system and wherein conduction carriers exhibit a differential negative mobility when the intensity of applied electric fields exceeds a critical value E_T . When the semiconductor is formed on n-type material, the ratio of current density J to net ionized impurity density N , i.e., J/N , of that region of the semiconductor body adjacent the cathode contact is greater than the J/N ratio of the remaining, or active, region of the semiconductor body. Such ratios can be determined by reducing the cross-sectional area, increasing the resistivity, etc., of the cathode region with respect to the active region of the semiconductor body. When a voltage of sufficient magnitude is applied across the semiconductor body, the result is a stationary region of electric fields greater than the critical value E_T which extends beyond the boundary of the cathode region and into the active region of the semiconductor body. The extension of such stationary region of electric fields, or the cathode drop region, is a function of the applied voltage and, also, the geometry and/or structure of the cathode region. A perturbation of electric field within the cathode drop region gives rise to a traveling space charge wave which grows exponentially along the cathode drop region. Various arrangements are described to initiate such space charge region along the cathode drop region and for coupling to an external load.

3,541,402

SEMICONDUCTOR DEVICE WITH MASSIVE ELECTRODES AND INSULATION HOUSING

Franco Romanisio, Pino Torinese, and Carlo Ferrando, Turin, Italy, assignors to International Rectifier Corporation, Los Angeles, Calif., a corporation of California

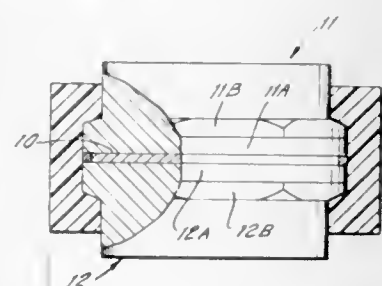
Filed Dec. 6, 1968, Ser. No. 781,800

Claims priority, application Italy, Dec. 12, 1967, 19,973/67

Int. Cl. H01l 5/02

U.S. Cl. 317—234

6 Claims



A semiconductor diode having massive terminal electrodes which have flat parallel surfaces for pressure assembly in a circuit. Polygonal flanges at the opposing

ends of the massive electrodes are surrounded by, and anchor an insulation ring.

3,541,403

GUARD RING FOR SCHOTTKY BARRIER DEVICES

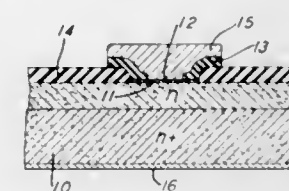
Martin P. Lepselter, New Providence, and Simon M. Sze, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Oct. 19, 1967, Ser. No. 676,509

Int. Cl. H01l 9/00, 15/00

U.S. Cl. 317—234

8 Claims



This application discloses guarding structures adapted for use with Schottky barrier devices to decrease the leakage current and increase the reverse breakdown voltage. In particular, Schottky barrier devices, including diodes and particle detectors, are provided with p-n junction and metal-insulator-semiconductor (MIS) guardrings. In addition, a Schottky barrier device having a closure guardring is also disclosed.

3,541,404

TRANSFERRED ELECTRON OSCILLATORS

Cyril Hilsum, Malvern, England, assignor to National Research Development Corporation, London, England

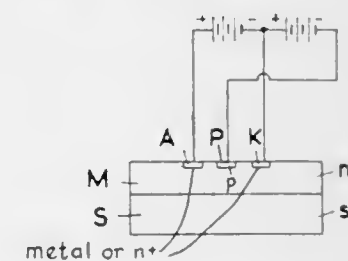
Filed July 21, 1967, Ser. No. 655,121

Claims priority, application Great Britain, July 21, 1966, 32,773/66

Int. Cl. H01l 11/00

U.S. Cl. 317—235

2 Claims



A transferred electron oscillator includes means for creating a depletion layer in the transferred electron effect material. The means comprises an additional electrode adjacent to the conventional electrodes which is connected to a voltage source for reverse biasing it with respect to the conventional electrodes.

3,541,405

HERMETICALLY SEALED VARIABLE CAPACITOR WITH OPTIMUM MOVABLE PLATE SHAFT BEARING STRUCTURE

Joseph Emil Oeschger, Palo Alto, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 30, 1969, Ser. No. 820,451

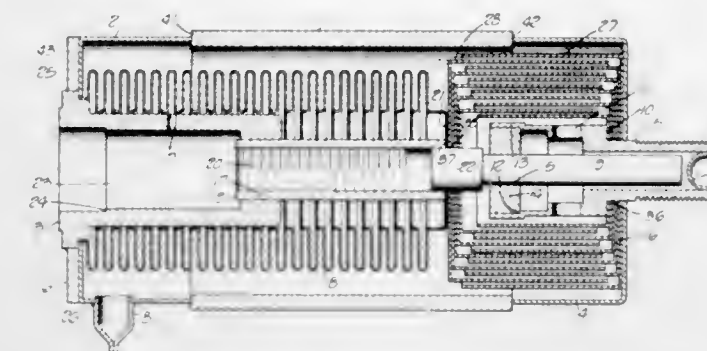
Int. Cl. H01g 5/04

U.S. Cl. 317—245

5 Claims

A variable vacuum capacitor having a ceramic body shell and metal end bells and a plurality of fixed concentric cylindrical plates mounted inside near one end of said body shell and a corresponding plurality of axially interleaving movable plates mounted on a shaft assembly. The shaft assembly is mounted through two thrust bearings; one of said bearings (internal) being located at a position within the axial length of the fixed plates, and the other (external) being mounted within the body shell

between the plates and the opposite end of the body shell at a point where it supports one end of the shaft assembly and allows for shaft overtravel within the end bell at that end. The external bearing and its support are within a metal bellows open to the atmosphere at the same end. The metal bellows is attached (vacuum tight) near the center of the shaft assembly and compresses and



extends axially with movement of the shaft assembly. The volume around the plates (including the internal bearing) is sealed and evacuated. An independent concentric hollow spindle fixed end mount supports the internal bearing and relieves the fixed plates of any structural load therefrom while also providing overtravel space for the internal end of the shaft assembly.

3,541,406

DEVICE FOR DETECTING AND ELIMINATING GENERALIZED WHEEL-SLIPPING IN ELECTRICALLY-PROPELLED VEHICLES

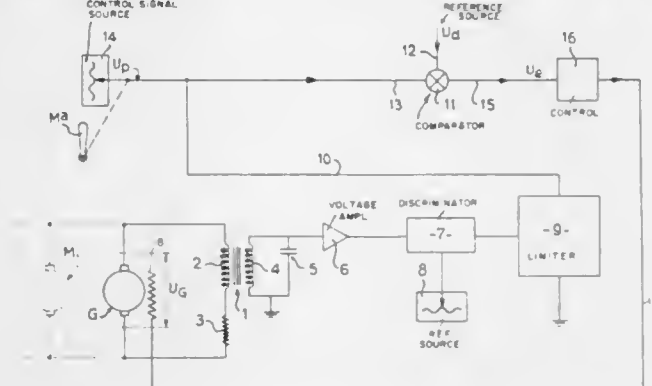
Michel Etienne, Nantes, France, assignor to Etablissements Brissonneau et Lotz, Paris, France, a French body corporate

Filed Mar. 24, 1967, Ser. No. 625,716

Int. Cl. H02p 5/06

U.S. Cl. 318—52

6 Claims



The device comprises a transformer whose primary winding carries a current proportional to the voltage supplied to the traction motors of the vehicle, the secondary winding being connected through an amplifier to a threshold discriminator supplying a signal to a limiter whose output voltage is applied to a control loop in order to cancel out the reference voltage determining the power supplied to the traction motors, when a generalized slip occurs.

3,541,407

DC MOTOR

Reinhard N. Lahde, Tarzana, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Continuation-in-part of application Ser. No. 78,676, Dec. 27, 1960. This application Aug. 12, 1964, Ser. No. 389,118

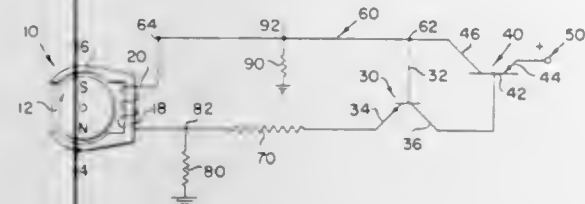
Int. Cl. H02k 29/00

U.S. Cl. 318—138

13 Claims

A simple direct current motor is provided employing a solid-state control circuit incorporating a negative-resistance element which makes it possible to dispense with a

conventional commutator, make-or-break contacts or other electro-mechanical means usually employed in conjunction with the motor armature. The motor has a single two-ter-



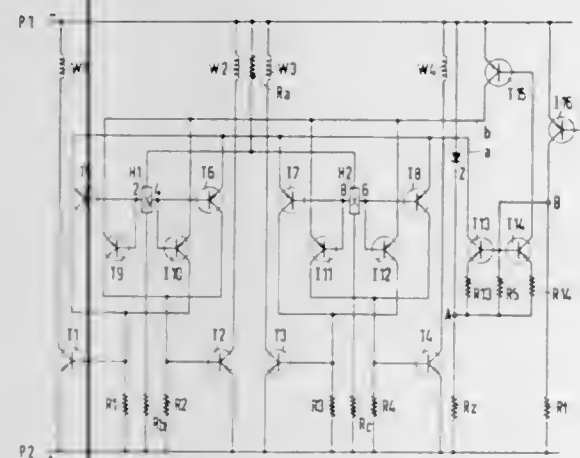
minal field coil which serves both as a pickup to sense the position of the rotor, as well as a power coil to provide the torque for driving the rotor.

3,541,408 SPEED CONTROL CIRCUIT FOR BRUSHLESS DC MOTOR

Manfred Schwendner, Schwarzenbruck, and Jürgen Wenk, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed Dec. 3, 1968, Ser. No. 780,843
Claims priority, application Germany, Dec. 6, 1967, 1,613,438
Int. Cl. H02k 29/00
U.S. Cl. 318-138

9 Claims



The speed of a brushless DC motor is controlled via a speed control circuit and a plurality of transistors and power transistors connected between the speed control circuit and the stator windings of the motor.

3,541,409 SWITCHING ARRANGEMENT FOR FLYWHEEL ENERGIZED ELECTRIC GENERATING UNIT

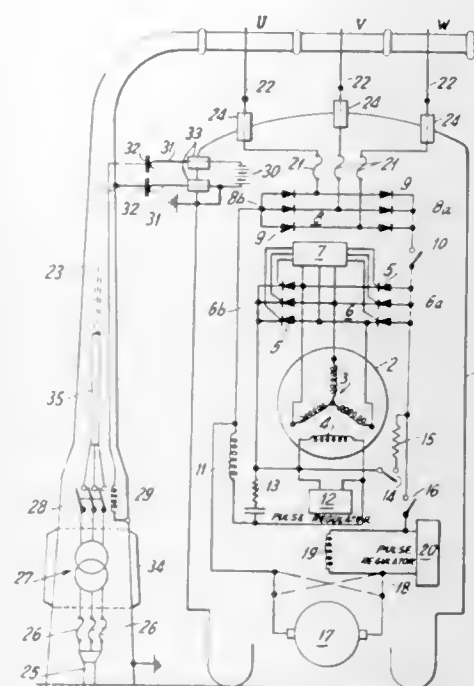
Bjarne Storsand, Watt, Switzerland, assignor to Maschinenfabrik Oerlikon, Zurich, Switzerland

Filed Mar. 20, 1968, Ser. No. 714,565
Claims priority, application Switzerland, Nov. 10, 1967, 15,788/67
Int. Cl. H02k 7/02; H02p 7/34
U.S. Cl. 318-150

3 Claims

A flywheel energized electric generating unit for an electrically driven traction vehicle operating, between fixed charging stations, out of contact with any current supply line, includes a flywheel enclosed, together with associated rotary electric machines, within a gas-tight casing, and has either homopolar or heteropolar synchronous machines of the salient pole type with stationary excited or field windings as the electric machines. These electric machines have coilless rotors. The stator windings of the machines are connected to the A.C. terminals of a first rectifier arrangement constituted by con-

trolled rectifiers. Exciter windings, on the casing of the flywheel unit, are connected to a first D.C. terminal of the rectifier arrangement and, through a smoothing choke to a first D.C. terminal of a second rectifier arrangement constituted by uncontrolled rectifiers fed from the normal



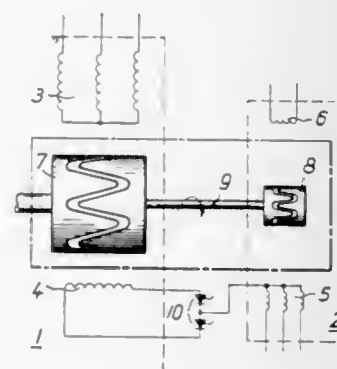
A.C. distributing network. A switch is arranged to connect the second A.C. terminal of the second rectifier arrangement to a second D.C. terminal of the first rectifier arrangement. A second switch is operable to connect at least one traction motor, supplied by the electric machines, to the first rectifier arrangement.

3,541,410 EXCITATION APPARATUS FOR SYNCHRONOUS ROTATING MACHINERY

Hubert Rothert, Berlin, Germany, assignor to Licentia Patent-Verwaltungs G.m.b.H., Frankfurt am Main, Germany

Filed Jan. 2, 1968, Ser. No. 695,258
Claims priority, application Germany, Jan. 2, 1967, L 55,411
Int. Cl. H02p 1/46
U.S. Cl. 318-174

4 Claims



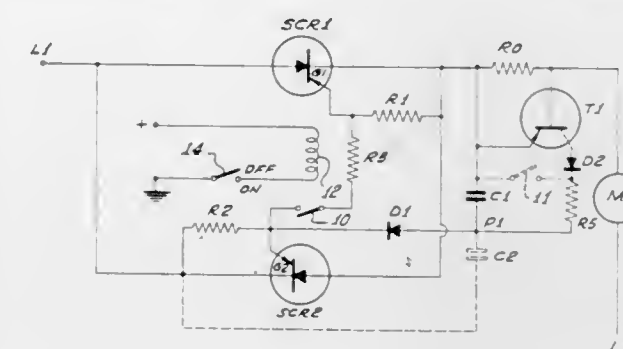
Apparatus for providing excitation for synchronous rotating electrical machinery. The apparatus includes the synchronous rotating machine itself and an exciter rotating machine, each of which has stationary power and field windings and a heteropolar claw-poled rotor. The output or power windings of the exciter machine are electrically coupled to the excitation or field windings of the synchronous machine, for example, by means of controllable rectifiers.

3,541,411 AUTOMATIC PLUGGING CIRCUIT FOR BRAKING AN ALTERNATING-CURRENT MOTOR

Paul H. Sharp, Sierra Madre, Calif., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Filed June 23, 1969, Ser. No. 835,700
Int. Cl. H02p 3/24
U.S. Cl. 318-212

13 Claims



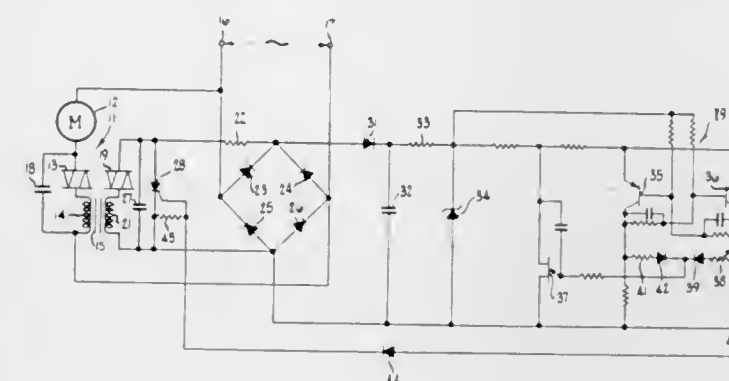
An alternating-current motor is controlled by a simple single-pole switch having an ON position and an OFF position. When the switch is in its ON position, full wave alternating current is applied; when the switch is moved to its OFF position, only a half wave of the alternating current is permitted to be applied to the motor. By virtue of the action of a simple control circuit, half wave conduction commences later and later in the half cycle until current is ultimately cut off.

3,541,412 CONTROL FOR ALTERNATING-CURRENT MOTORS

Lewis R. Worth, Deerfield, Ill., assignor to Cole-Parmer Instrument and Equipment Company, Chicago, Ill., a corporation of Illinois

Filed Sept. 13, 1967, Ser. No. 667,488
Int. Cl. H02p 7/62
U.S. Cl. 318-227

7 Claims



A speed control for an alternating-current motor is described. Power for the motor is interrupted for pre-selected periods in order to vary the average power supplied to the motor. The periods which are selected are of sufficient length to present full rated voltage to the motor during the power period.

3,541,413 CONSTANT-TORQUE ALTERNATING CURRENT SINGLE PHASE MOTOR SYSTEM

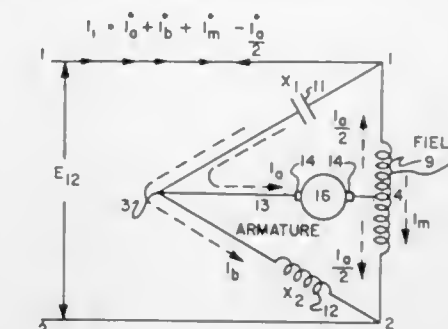
Albert G. Conrad, 4591 Camino del Mirasol, Santa Barbara, Calif. 93105

Filed Aug. 8, 1969, Ser. No. 848,636
Int. Cl. H02p 7/36
U.S. Cl. 318-244

7 Claims

A single-phase alternating-current motor system is provided wherein the motor components form part of a control system to provide a constant developed torque regardless of speed changes. This is accomplished by maintaining

a constant current through the motor armature and by maintaining its field flux constant for all operating speeds and for standstill conditions. A constant armature current is obtained by connecting one side of the armature to a



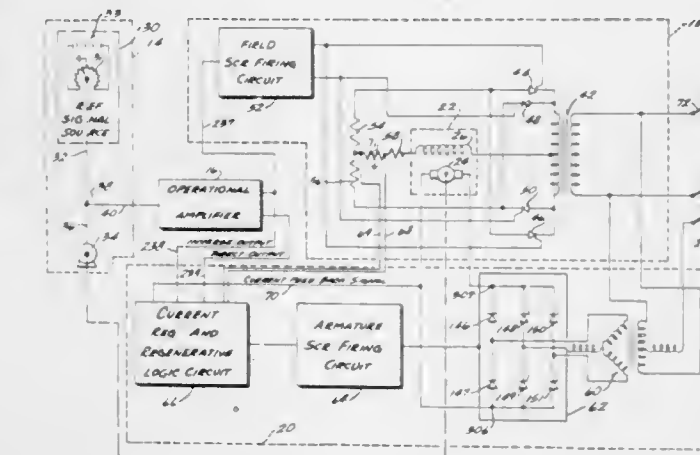
tuned circuit and the other side to a mid tap of the field winding. A constant field flux is obtained by connecting the field directly to the voltage source. The tuned circuit provides an armature current which is fixed in phase relation to the field flux and which is constant in magnitude.

3,541,414 REGENERATIVE DIRECT CURRENT MOTOR BRAKING CONTROL

Alan W. Wilkerson, Thiensville, Wis., assignor, by mesne assignments, to Web Press Engineering, Inc., Addison, Ill., a corporation of Illinois

Original application Oct. 21, 1965, Ser. No. 499,409, now Patent No. 3,435,316, dated Mar. 25, 1969, Divided and this application Oct. 16, 1968, Ser. No. 767,983
Int. Cl. H02p 5/06, 7/06
U.S. Cl. 318-302

8 Claims



A regenerative direct current motor control regenerates power from the motor armature to an alternating current power supply during braking by reversing the direction of current flow through the motor field winding. The control includes a field circuit which provides current flow in either direction through the motor field winding and protection against electrical faults. The field circuit also provides rapid reversal of the motor field current by regeneratively discharging the inductive energy of the motor field winding back to the power supply.

3,541,415 PULSE MODULATING CONTROL ARRANGEMENT

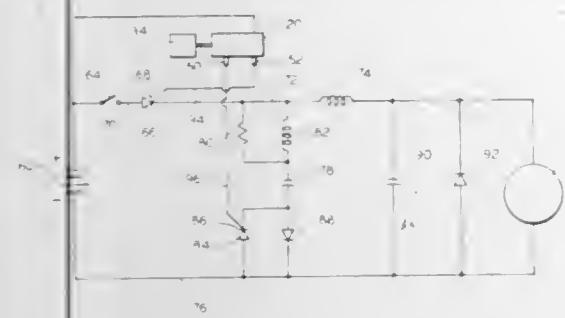
Arthur R. Burch, William B. Walton, Howard C. Hansen, and Richard W. Kreutter, Battle Creek, Mich., assignors to Clark Equipment Company, a corporation of Michigan

Filed Feb. 19, 1968, Ser. No. 706,428
Int. Cl. H02r 7/22
U.S. Cl. 318-330

12 Claims

A pulse control arrangement for modulating the frequency and duration of electrical input pulses from a direct current voltage source to an electrically actuated

device, such as an electric motor. The control arrangement includes a circuit having driven rotary switch with relatively movable sets of contact members adjustable to



selectively establish output pulse signals which energize the gates of silicon controlled rectifiers in a manner to open or close a circuit electrically connecting the voltage source to the electric motor.

3,541,416 MOTOR CONTROL SYSTEM WITH BEMF SAMPLING ONLY WHEN ARMATURE IS COASTING

Joseph T. Woyton, South Bend, Ind., assignor to Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 26, 1967, Ser. No. 693,260

Int. Cl. H02p 5/06, 7/30

U.S. Cl. 318—331

13 Claims



A DC motor control system utilizing a pulsating DC current in conjunction with the silicon controlled rectifier as a switching device, in which armature voltage feedback is used to control the silicon controlled rectifier and regulate the speed of the motor. The silicon controlled rectifier voltage which normally is present in the feedback circuit is removed so that the signal represents only the voltage from the armature while the armature is coasting and hence is a true indication of the motor speed.

3,541,417 PULSING SYSTEM INCLUDING BINARY CODED DECIMAL RATE MULTIPLIER

William J. Frank, Jr., Glendora, Calif., assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 26, 1968, Ser. No. 786,948

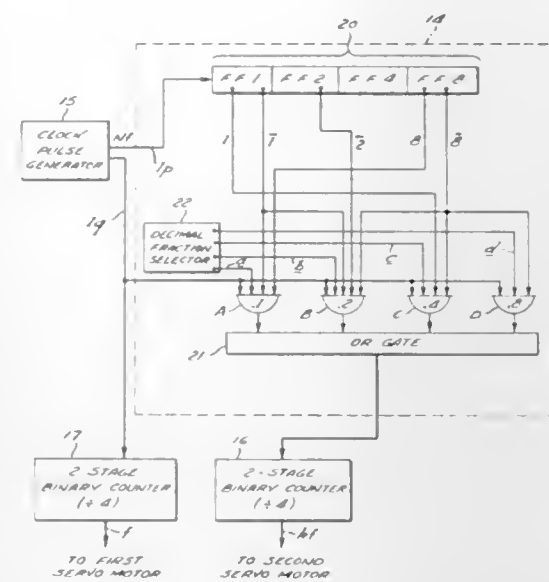
Int. Cl. G05b 19/20

U.S. Cl. 318—571

7 Claims

An input pulse train having a frequency equal to a multiple, N , of a reference frequency, f , is applied to a 1-2-4-8 binary coded decimal counter. AND gates are connected to certain stages of the counter to provide an output pulse train whose frequency may be any selected

decimal fraction of that of the input pulse train. A frequency divider divides this output train by the same multi-



ple, N . For any selected decimal fraction, the successive pulses coming out of the divider are substantially equally spaced.

3,541,418 PROPORTIONAL DAMPING FOR MOTOR DRIVE

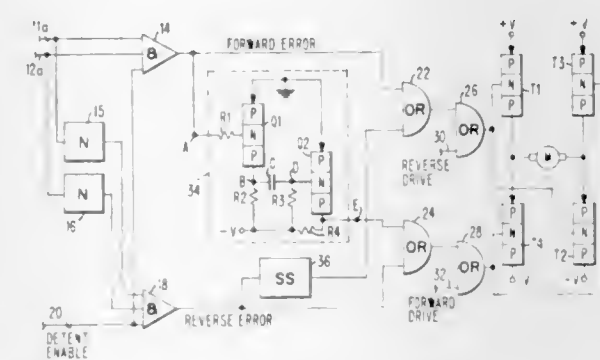
Gerald J. Agin, Owego, and George Melnyk, Endicott, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 5, 1967, Ser. No. 665,539

Int. Cl. G05b 1/00

U.S. Cl. 318—612

6 Claims



A position control circuit for a motor having forward and reverse accelerating circuits which are energized by error signals to provide corrective positioning, is provided with proportional single shots connected to provide an additional corrective pulse of opposite polarity at the termination of an error signal and of a duration proportional to the duration of the error signal.

3,541,419 CONTROL CIRCUIT FOR VIBRATORY ANTENNA

Arnolds Jansons, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy

Filed Feb. 25, 1969, Ser. No. 802,078

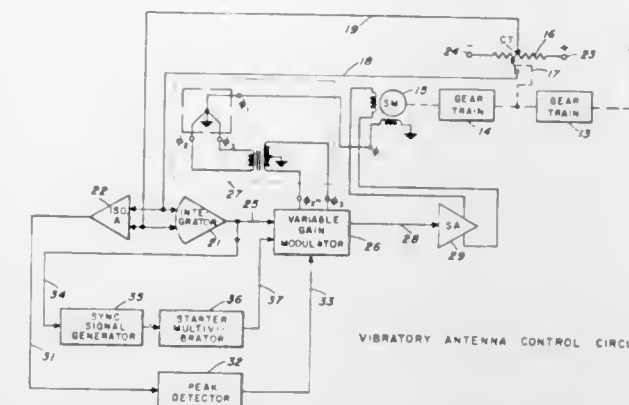
Int. Cl. G05g 5/00; H01q 3/02

U.S. Cl. 318—627

7 Claims

A control circuit for enabling a small, mechanically resonant, torsion bar supported, radar antenna to begin and maintain a high frequency, sinusoidal scanning motion during a radar system "fast scan" mode of operation. The circuit includes self-starting means for initiating the oscillatory scanning motion via a multivibrator

and servomotor, a scan oscillation generating loop to continuously sustain the scanning motion by supplying energy through the controlled servomotor to compensate



for system losses, and a scan amplitude control loop for controlling the amplitude of the scanning motion by regulating the gain of the oscillation generating loop.

3,541,420 VOLTAGE CONVERTER AND REGULATOR

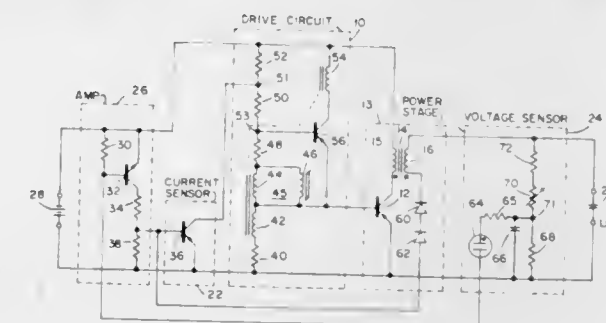
Lynn T. Rees, Mesa, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Mar. 27, 1968, Ser. No. 716,468

Int. Cl. H02m 3/32; H02p 13/20, 13/22

U.S. Cl. 320—1

8 Claims



A DC to DC converter circuit for converting the low voltage of a small storage cell to a high level charging voltage for a capacitive load. The circuit includes a variable duty-cycle drive circuit connected to a low voltage storage cell and provides output pulses for driving a power stage. The power stage interconnects the drive circuit to the capacitive load and provides charging current to the capacitive load. A voltage sensing means is connected between the capacitive load and the drive circuit and senses the voltage across said capacitive load to control the on and off time of the drive circuit to provide output voltage regulation. A current sensing means is connected between the capacitive load and the drive circuit and provides a duty cycle control signal to the drive circuit in response to charging current through the capacitive load.

3,541,421 HIGH POWER FACTOR CIRCUIT FOR REACTIVE LOADS

William W. Buchman, Los Angeles, Calif., assignor to Union Carbide Corporation, a corporation of New York

Filed July 10, 1968, Ser. No. 743,859

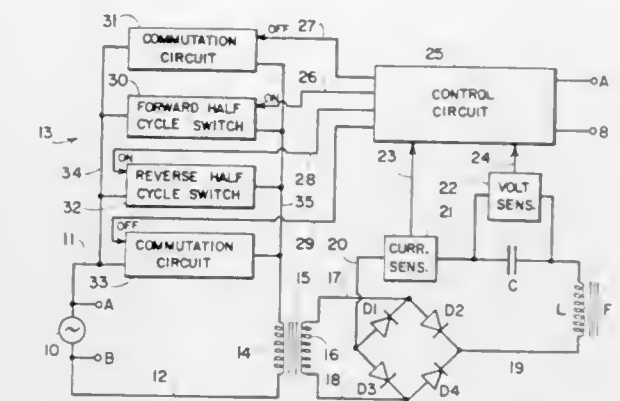
Int. Cl. H02p 13/26; H02m 7/20, 1/08

U.S. Cl. 320—1

7 Claims

A power supply circuit for energizing reactive loads from an initial A-C input signal line. In one embodiment, the load is a capacitor bank and the circuit itself is designed to charge the capacitor bank from the initial A-C line. This circuit includes switch means in the line for passing only given portions of the input A-C signal close to the peak voltage values of the signal. Means are

provided for rectifying alternate half cycles so that the given portions of the original signal are all of one polarity. A series inductor is employed for storing energy from the given portions and transferring this energy to the capacitor. A free wheeling diode in turn is provided to define a return current path between the inductor and capacitor and thereby avoid charging current from passing



back to the line. The switch means may constitute silicon controlled rectifiers and define the given portions at or near the peak of the voltage of the input sine wave so that current builds up in the load circuit near its maximum output voltage. As a result, the circuit operates at a high power factor. Excessive currents are prevented from flowing by opening the switch means before the voltage in the power cycle reverses.

3,541,422 COULOMETER AND THIRD ELECTRODE BATTERY CHARGING CIRCUIT

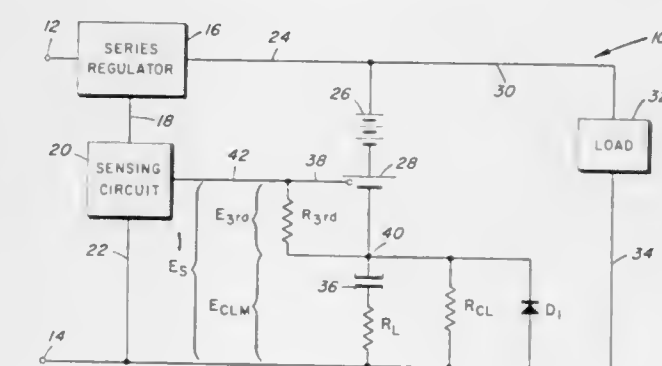
John Paulkovich, Lanham, and Floyd E. Ford, Davidsonville, Md., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed May 29, 1969, Ser. No. 828,983

Int. Cl. H02j 7/04; H01m 45/04

U.S. Cl. 320—39

8 Claims

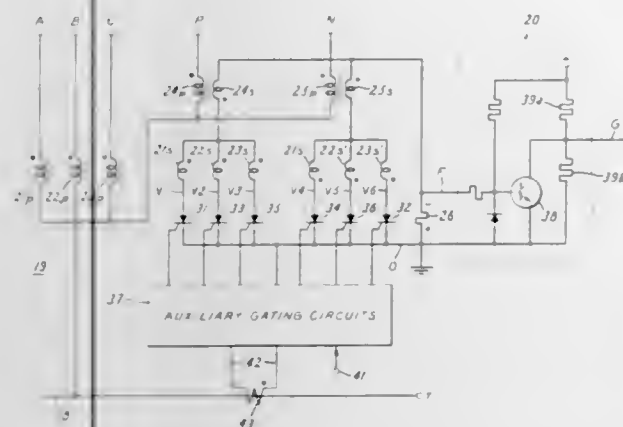


A battery charging circuit wherein all available current to a battery is controlled through the use of a coulometer connected in parallel with a current limiting means such as a trickle resistor. At least one of the battery cells is of the type having a third electrode which is connected to a third electrode resistor in series with the trickle resistor. A voltage sensing circuit detects the sum of voltage across the coulometer and the third electrode. When the sum of the voltages exceeds a predetermined level, the sensing circuit actuates a control means, e.g., dissipating or switching regulator, for preventing further flow of charging current to the battery. Additionally, the device may be further provided with a current limiting resistor connected in series with the coulometer, and either in series with or in parallel with the trickle resistor.

3,541,423

MARGIN ANGLE DETECTOR

Fred W. Kelley, Jr., Media, Pa., and Georges R. E. Lezan, Cherry Hill, N.J., assignors to General Electric Company, a corporation of New York
 Filed Jan. 10, 1969, Ser. No. 790,246
 Int. Cl. H02m 1/02, 1/08, 1/18
 U.S. Cl. 321—5 13 Claims

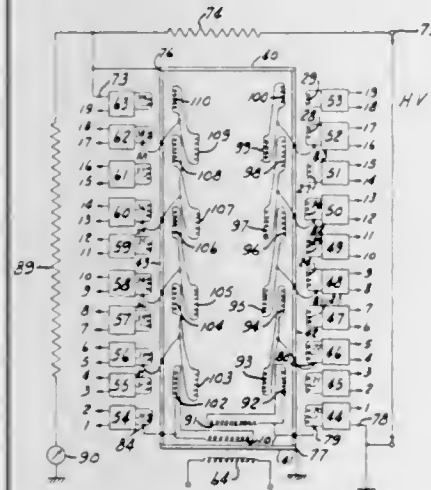


To monitor the intervals of inverse voltage across the electric valves in an electric power converter immediately following their respective periods of forward conduction, samples of the anode-to-neutral and the cathode-to-neutral voltages of each valve are fed to an associated summation circuit including an asymmetrically conductive device which is forward biased by the sampled difference when inverse voltage exists on that valve, and a plurality of similar summation circuits are connected in common to means for producing a train of output signals which coexist with the intervals of inverse voltage on the respective valves of the converter. In one embodiment, the asymmetrically conductive devices are thyristors which are respectively triggered at the ends of the conducting periods of the corresponding valves.

3,541,424

HIGH VOLTAGE GENERATING DEVICE

Hiromitsu Tada and Ryuso Aihara, Hirakata, Japan, assignors to Sumitomo Electric Industries, Ltd., Higashi-ku, Osaka, Japan, a company of Japan
 Continuation of application Ser. No. 542,052, Apr. 12, 1966. This application May 19, 1969, Ser. No. 827,118
 Int. Cl. H02m 7/00; H01f 27/28
 U.S. Cl. 321—8 14 Claims



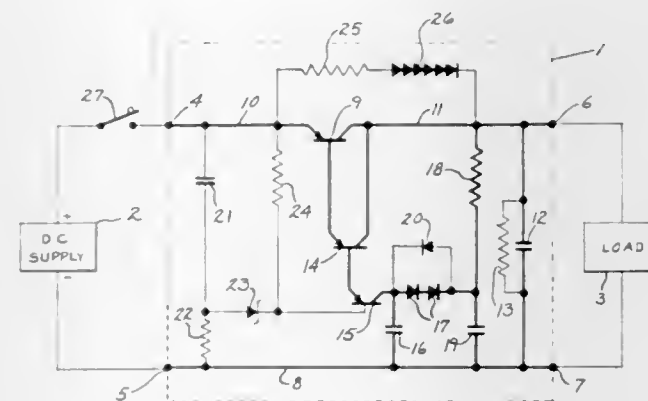
A high voltage generating device having a closed loop magnetic core made of an electric insulating and magnetic permeable material having a specific resistance of 10^9 - 10^{12} Ω cm. A primary coil is wound around a portion of the core and a plurality of secondary coils are wound around different portions of the core and electromagnetically coupled with the primary. The secondary

coils are connected in a sequential series from the grounding point to additively combine their output voltages and the respective portions of the core about which they are wound are potentialized with substantially the same voltage as the output voltage of the corresponding secondary coil with or without rectification.

3,541,425

ACTIVE CURRENT CONTROLLING FILTER

Hans E. Weidmann, Glendale, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
 Filed June 14, 1968, Ser. No. 737,241
 Int. Cl. G05f 1/56
 U.S. Cl. 323—22 6 Claims



An active type of filter for connection between a D.C. power supply and a load drawing a pulsating direct current, such filter functioning to block the pulsating current components at the load from flowing to the direct current power supply. The filter comprises an energy storage capacitor across the filter output which is connected to the direct current load, a current controlling valve in the form of a transistor connected between the filter input and the storage capacitor that monitors the current flow to the capacitor, and control elements associated with the monitoring transistor to provide a substantially constant flow of charging current to the capacitor even though the load is drawing a pulsating current from the capacitor. The control elements include a resistor joined across the base and collector elements of the transistor to establish a base current, a capacitor between the resistor and a common return joined with the storage capacitor that bypasses transient currents due to fluctuations in load current, and diodes in series with the resistor that provide a substantially constant voltage between the transistor base and collector. The circuit also includes additional elements operable during starting in which large transient load currents are delivered without injury to the monitoring transistor.

3,541,426

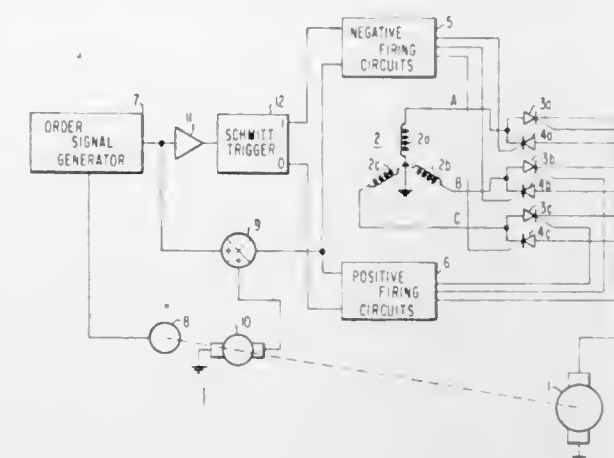
CROSSFIRE PROTECTION TECHNIQUE

John A. Joslyn, Dalton, and Albert F. Koch, Lanesboro, Mass., assignors to General Electric Company, a corporation of New York
 Filed Aug. 1, 1968, Ser. No. 749,438
 Int. Cl. H02m 7/78; H02p 1/22
 U.S. Cl. 321—5 7 Claims

A control system for a DC motor operated via controllable rectifiers from a multiphase AC source. Controllable rectifiers, such as SCR's, are poled in both directions in order to achieve bidirectional operation. The input or "order" signal is monitored by an amplifier and a Schmitt trigger, the Schmitt trigger assuming one state for positive order signals and the other state for negative order signals. The two outputs of the Schmitt trigger are connected to the positive and negative firing circuits which control the SCR's so as to inhibit their operation

and thereby "lock out" one or the other set of firing circuits, preventing crossfire. The technique of "hardening,"

operate in parallel. The function of the composite core transformer is described as part of a common parallel inverter within a D.C. to D.C. conversion system. The

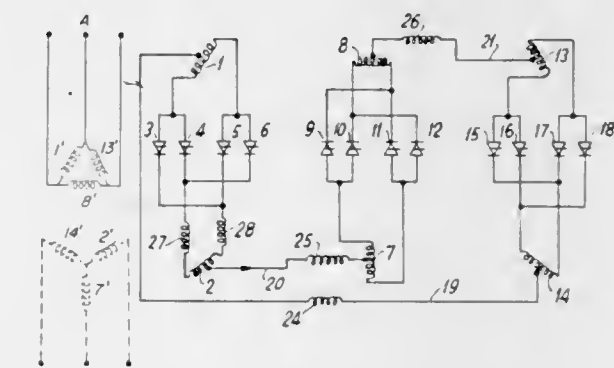


an advance of the firing angle to more nearly linearize system output, is explained and its relation to crossfire, which is obviated by the invention, is shown.

3,541,427

DIRECT FREQUENCY CHANGER

Arthur Peyer, Otelfingen, Switzerland, assignor to Maschinenfabrik Oerlikon, Zurich, Switzerland
 Filed June 24, 1968, Ser. No. 739,361
 Claims priority, application Switzerland, June 27, 1967, 9,278/67
 Int. Cl. H02m 5/30
 U.S. Cl. 321—69 10 Claims



A direct frequency changer arrangement or direct converter arrangement, comprises at least three partial frequency changers or partial converters, having internal windings and controllable valves. The partial frequency changers or converters are connected in series by conductors which are connected with internal windings of the partial frequency changers. The partial frequency changers or converters may be in phase with each other or may be at least partially out of phase with each other.

ERRATUM

For Class 323—22 see:
 Patent No. 3,541,425

3,541,428

UNSATURATING SATURABLE CORE TRANSFORMER

Francise C. Schwarz, Weston, Mass., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
 Filed Nov. 4, 1968, Ser. No. 773,029
 Int. Cl. H02p 13/12; H02m 3/32
 U.S. Cl. 323—56 9 Claims

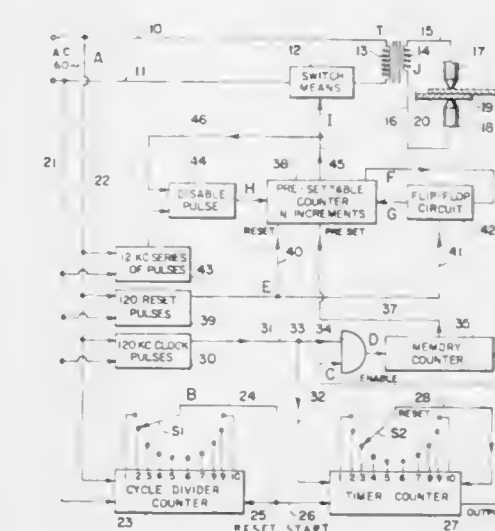
An unsaturating magnetic core is provided for use in transformers in electrical power processing equipment. The unsaturating core comprises two separate cores that

composite core is designed such that impending saturation of the core causes a warning signal to be generated which is then used to terminate current conduction in the primary circuit.

3,541,429

VARIABLE DIGITAL WAVE FORM DIVISION FOR POWER CONTROL

Ricky Martin, North Hollywood, Calif., assignor to Harry Feick Co., Inc., a corporation of California
 Filed Jan. 30, 1969, Ser. No. 795,262
 Int. Cl. G05f 3/04
 U.S. Cl. 323—16 7 Claims



An electrical circuit controls the power delivered to a load from a cyclic wave form by digital division of the wave form. A series of pulses of considerably higher frequency than the frequency of the wave form is passed into a pre-settable counter. Initiation of operation of the pre-settable counter is effected in synchronism with a consistent phase angle of the sine wave and a control pulse is derived from the pre-settable counter after a preselected number of pulses have been counted. A cycle selecting means in the form of a divider counter cooperates with a pre-settable control means to provide a given pre-setting number of pulses during each of preselected given cycles to the pre-settable counter in a manner to pre-set the pre-settable counter at successive higher or lower numerical

values so that the preselected number of pulses counted varies in an up or down direction. The control pulse generated at the completion of the various preselected number of pulses counted operates a switch connected between the wave form and load to pass successively increasing or decreasing fractions of the wave form to the load, the particular fraction being a function of the actual preselected number of pulses counted. The power delivered to the load may thus be digitally varied at a rate determined by the preselected given cycles and the given pre-setting number of pulses.

ERRATUM

For Class 323—17 see:
Patent No. 3,541,433

3,541,430 DIGITAL POTENTIOMETERS MADE WITH FIXED IMPEDANCES

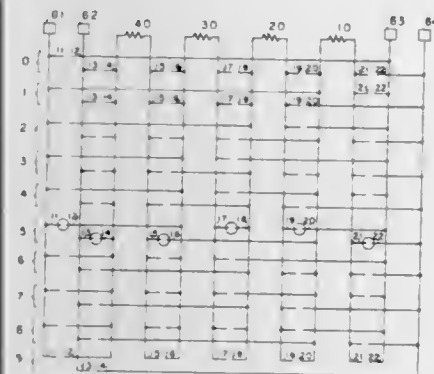
Paul P. Luger, 801 10th Ave.,
Seattle, Wash. 98122

Filed June 13, 1966, Ser. No. 562,996

Int. Cl. G05f 3/00

U.S. Cl. 323—74

55 Claims



Three types of potentiometer circuits, resistive, capacitive and inductive, are described. These devices employ fixed resistances, capacitances, and inductances together with suitable switches to combine the elements into either binary, ternary, decimal or duodecimal, or any other possible base system. The circuits may also be adapted to various types of attenuator applications. Circuits are described for the minimum possible number of reactance elements. For a selected impedance, all reactance elements are included in the working circuit, resulting in a constant, fixed impedance device. For any time of use one may select the total impedance to be employed. The resistive and inductive potentiometers are pure series circuit devices. A digital voltmeter using the novelty of the potentiometer circuits is also described.

3,541,431 LIQUID COOLED ABRASION RESISTANT ELECTROSTATIC PROBE FOR MEASURING THE ELECTRICAL CHARACTERISTICS OF FLAMES, ROCKET EXHAUSTS AND THE LIKE

George Maisel, Princeton, Richard J. Ronco, Jamesburg, and Alberto J. Sabadell, Princeton, N.J., assignors to Ritter Pfandler Corporation, Rochester, N.Y., a corporation of New York

Filed July 31, 1968, Ser. No. 749,030

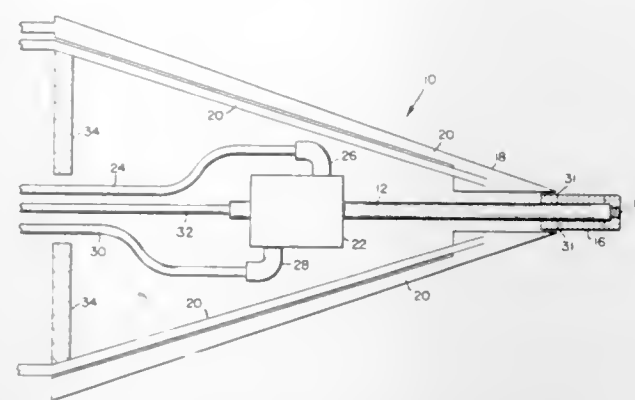
Int. Cl. G01r 5/28, 29/12

U.S. Cl. 324—32

6 Claims

An electrostatic probe for measuring the electrical characteristics of flames, rocket exhausts and plasma jets is disclosed. The probe permits a well defined electrode collector surface to be exposed to the ionized gas in the plasma to be measured. The electrode collector surface

is contained on a water cooled probe tube which is surrounded by an insulator, the rear portion of which is sur-



rounded by a liquid cooled shield which serves also as the second electrode for the electrical circuit for the probe.

3,541,432 MAGNETOMETER CAPABLE OF OPERATING WITH A VERY LOW INPUT POWER

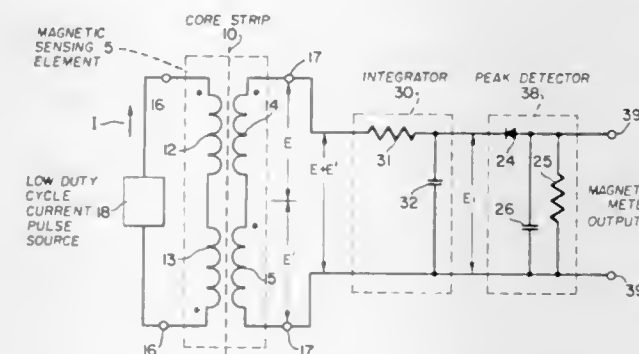
Alfred D. Scarbrough, Northridge, Calif., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware

Filed Oct. 21, 1968, Ser. No. 769,252

Int. Cl. G01r 33/02

U.S. Cl. 324—43

2 Claims



A flux gate magnetometer providing a measure of an applied external magnetic field and capable of operating with very low input power. The magnetometer includes a magnetic sensing element comprising a magnetically saturable, high permeability core strip cooperating with two oppositely wound input windings and two corresponding like wound output windings. A low duty cycle current pulse source is applied to the input windings of the magnetic sensing element, and an integrator is coupled across the output windings. The integrated signal produced at the output of the integrator in response to each current pulse from the source has a peak amplitude which is proportional to the applied external magnetic field. Since this peak amplitude is independent of the frequency of the current pulse source, the frequency and, thus, the duty cycle and input power required of the source can be very greatly reduced.

3,541,433 CURRENT SUPPLY APPARATUS WITH AN INDUCTIVE WINDING AND HEAT SINK FOR SOLID STATE DEVICES

Ariel R. Davis, 3476 Fleetwood Drive,
Salt Lake City, Utah 84109

Filed Nov. 12, 1968, Ser. No. 775,014

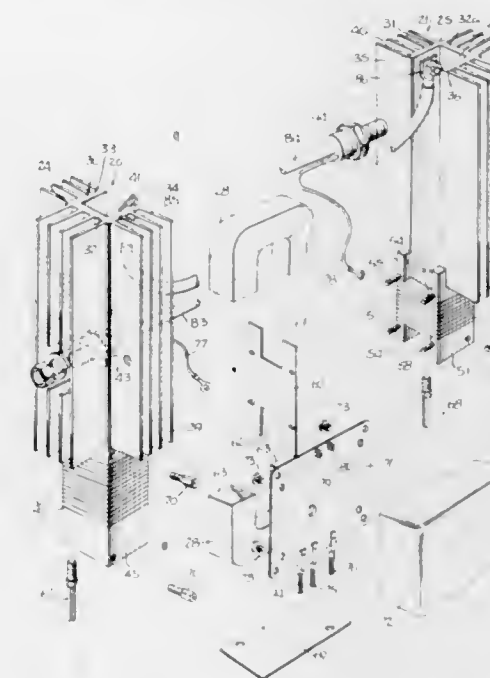
Int. Cl. H01f 27/08

U.S. Cl. 323—17

15 Claims

An aluminum support member is extruded as a single piece with a generally tubular shaped wall having a portion with exterior fins forming a heat sink and a portion forming an inductive winding. Two members are surface

insulated and are, at the windings, fastened side by side in electrical isolation with an air or iron core flux path. Solid state devices, such as rectifiers and controlled rectifiers, may be mounted in the heat sink for conducting current passing through the winding and heat sink. Firing circuits may be mounted on the end terminals of the windings for the phase control or timing of the conduction of controlled rectifiers to vary the amount of current



passed. The support member may be used in inverters, converters and the like. In other embodiments the inductive windings may function as the secondary windings of a transformer. The primary windings are wound around the outside of the inductive windings. Rectifiers are mounted on the heat sinks to provide a direct current output and the primaries may be connected in series with controlled rectifiers to provide a variable direct current output.

3,541,434 APPARATUS FOR THE BROADBAND MICROWAVE DETERMINATION OF CERTAIN CHARACTERISTICS OF SUBSTANCES

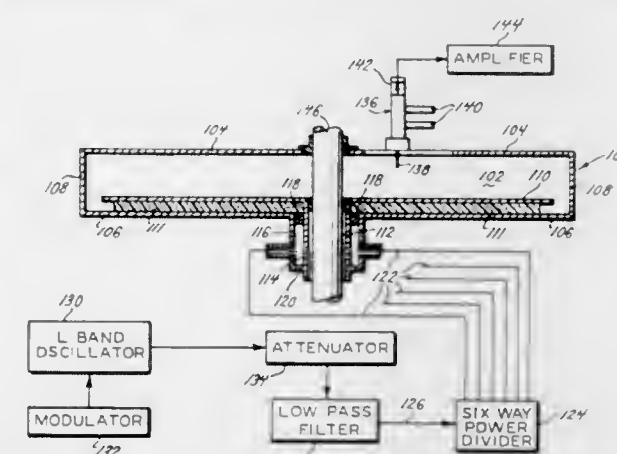
John H. Mullen, Creve Coeur, Mo., assignor, by mesne assignments, to McDonnell Douglas Corporation, St. Louis, Mo., a corporation of Maryland

Filed Aug. 25, 1966, Ser. No. 575,089

Int. Cl. G01r 27/04

U.S. Cl. 324—58

8 Claims



An apparatus for the broadband microwave determination of certain characteristics of objects and substances including a radial transmission line structure having symmetrical characteristics, the object or substance being positioned on the axis of said structure, and means for introducing microwave energy symmetrically into said structure to establish a symmetrical standing wave therein, certain characteristics of said symmetrical standing wave depending upon the characteristics of the object or substance on the axis thereof.

3,541,435 NONCONTACT DIMENSION COMPARATOR EMPLOYING CONSTANT FREQUENCY AND AMPLITUDE PICKUP VIBRATION

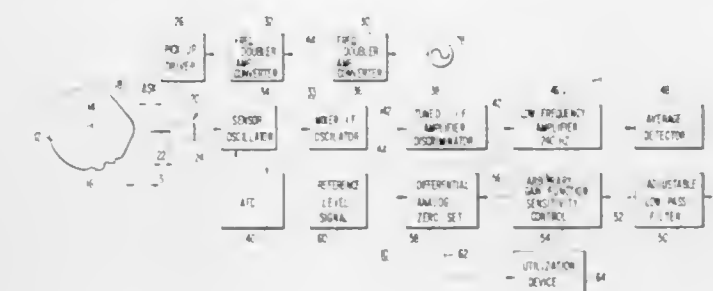
George B. Foster, Worthington, and Eugene R. Lucka, Columbus, Ohio, assignors to Reliance Electric & Engineering Co., Columbus, Ohio, a corporation of Ohio

Filed Apr. 22, 1968, Ser. No. 723,185

Int. Cl. G01r 27/26; H02m 5/00

U.S. Cl. 324—61

20 Claims



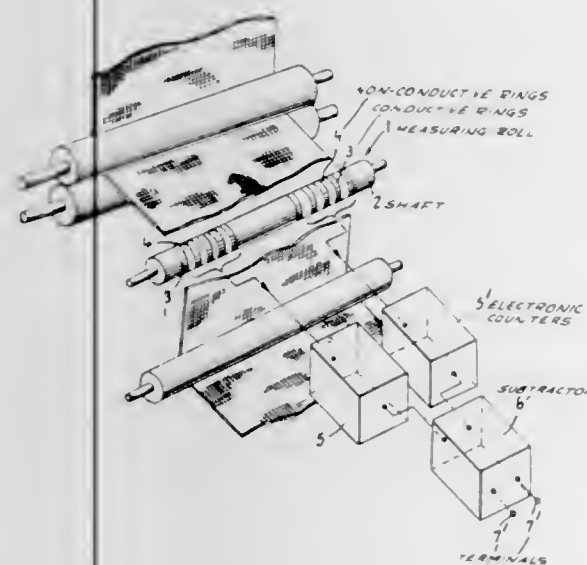
controls an indicator lamp. The circuit combination is particularly useful for testing low value resistances less than one ohm.

3,541,437

APPARATUS FOR DETERMINING THE LATERAL DEVIATION FROM THE CENTER OF A BREADTH PASSING A MACHINE

Karl-Heinz Ahrweiler, Krefeld, Germany, assignor to Maschinenfabrik Eduard Kuesters, Krefeld, Germany
Filed July 11, 1967, Ser. No. 652,541
Claims priority, application Germany, Oct. 31, 1966, K 60,593

Int. Cl. B65h 25/02; G01h 5/00; G01r 27/02
U.S. Cl. 324—65 1 Claim



A damp or wet textile breadth or the like passes over a roll having axially interspaced electrically conductive rings separated by insulation and of which alternate rings are connected to a common conductor and the others are connected to individual conductors on both sides of the roll's center. An electric potential is applied to the common conductor and to each individual conductor so that the passing breadth when bridging and unbridging the rings causes pulse-like opening and closing of the respective circuits. An imbalance of the circuit open and closing pulses on opposite sides of the roll center is used to read-out a breadth deviation signal.

3,541,438

DEVICE INCLUDING A ROTATING MAGNET POSITIONED RELATIVE TO ANOTHER MAGNET FOR INDICATING THE PRESENCE OF MAGNETIZABLE ELEMENTS

Trevor Lloyd Wadley, Kingsburgh, South Coast, Natal, Republic of South Africa, assignor to Racal-S.M.D. Electronics (Proprietary) Limited, Pretoria, Transvaal, Republic of South Africa

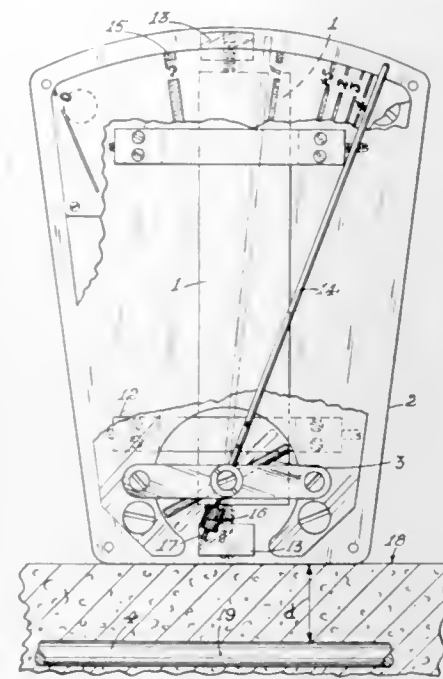
Filed Feb. 6, 1968, Ser. No. 703,293
Claims priority, application Republic of South Africa, Feb. 16, 1967, 67/908
Int. Cl. G01r 33/00

U.S. Cl. 324—67

9 Claims

A magnetic device for determining the presence and location of metallic magnetizable elements behind a wall. The device operates on the principle of a large magnet inducing a magnetic pole in the magnetizable element, and causing this induced pole to react with a pivotally mounted smaller magnet. The position of the smaller magnet will give an indication of the presence and position of the magnetizable element. The second magnet rotates in a plane lying at an angle to the direction of a flux line emanating from the first magnet and passing through the midpoint of the second magnet, which arrange-

ment minimizes interference with the smaller magnet by the field of the larger magnet. A small component of the



field of the larger magnet is intentionally caused to interfere with the smaller magnet so as to provide a restoring force to the smaller magnet.

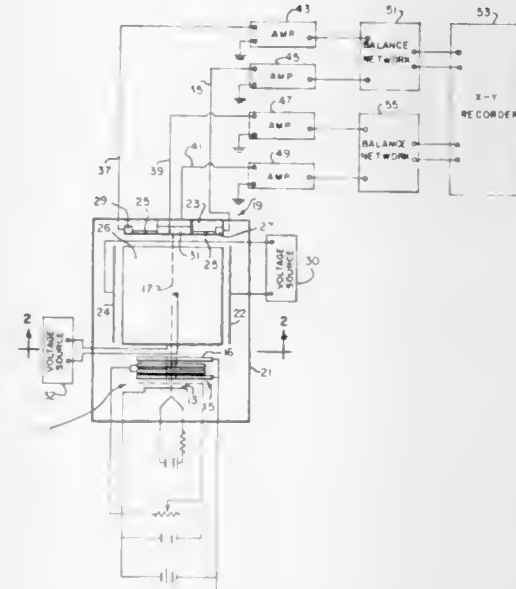
3,541,439

APPARATUS FOR DETERMINING THE DEFLECTION OF AN ELECTRON BEAM IMPINGING ON A TARGET

Edward L. Shriver, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space
Filed July 27, 1967, Ser. No. 656,993
Int. Cl. G01r 27/00

U.S. Cl. 324—71

3 Claims



An apparatus for determining an electric field strength by measuring the deflection of an electron beam passing through the electric field, including a generally cross-shaped target on which a thin conductive layer is placed for dividing the beam current in direct ratio to the point of beam impingement from current tapping connections coupled to the four edges of the conductive layer. A

plurality of amplifiers for amplifying the currents thus obtained and a recorder for measuring the difference between the amplified currents obtained from diametrically opposed current tapping connections.

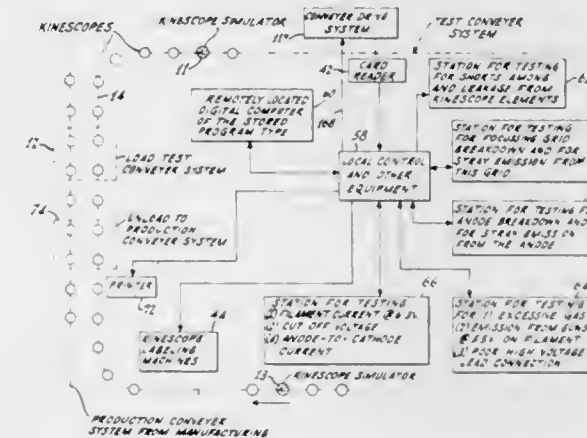
3,541,440

USE IN AN AUTOMATIC TESTING SYSTEM OF A SIMULATOR OF AN ARTICLE BEING TESTED FOR TESTING THE TESTING SYSTEM

Herbert W. Silverman, Watertown, Mass., assignor to RCA Corporation, a corporation of Delaware
Filed Aug. 22, 1967, Ser. No. 662,360
Int. Cl. G01r 15/12

U.S. Cl. 324—73

12 Claims



Apparatus which simulates a mass produced article, such as a color kinescope, and which is employed for the purpose of ascertaining not whether a manufactured article is within manufacturing specifications but instead whether a system which is automatically testing the mass produced articles is itself operating properly.

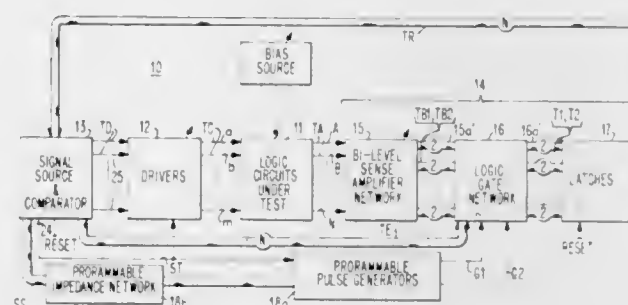
3,541,441

TEST SYSTEM FOR EVALUATING AMPLITUDE AND RESPONSE CHARACTERISTICS OF LOGIC CIRCUITS

John Hrustich, Endicott, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 17, 1969, Ser. No. 799,841
Int. Cl. G01r 31/00

U.S. Cl. 324—73

16 Claims



The tester tests for predetermined and selectable amplitude and response characteristics of the output signal of a circuit in response to a given set of input conditions. In each test cycle, the tester senses the actual level of the output signal of the circuit under test in a first time period which is related to the nominal response time of the circuit under test. If the signal is either above or below two first and second reference levels, respectively, the tester provides a binary test result signal, each of the binary

levels of which is indicative of the actual level of the signal under test with respect to a mutually exclusive one of the reference levels. If the signal is at a level between the two reference levels, the test result signal remains at its previous binary level. In another time period, which is associated with the duty period of the output signal of the circuit under test, the tester senses the actual level of the output signal under test with respect to the first and second reference levels and provides a binary test result signal, one level of which indicates that the output signal is and remains at a level which is expected for the given input conditions. If the level of the output signal is not at the expected level or does not remain at the expected level, the resultant test result signal is in its other binary level which indicates that the output signal under test is not at the expected level. If the output signal of the circuit under test is at and remains at the expected level during the second period, the resultant test signal obtained during the second period is correlated with the test result signal obtained during the first period to determine whether it has responded to the given input conditions within the nominal response time. A universal driver circuit provides variable adjustable driving signal characteristics for standard input signals.

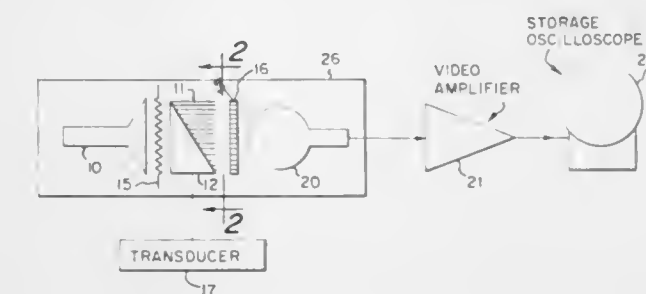
3,541,442

METHOD OF OBTAINING REAL-TIME SPECTRAL ANALYSIS OF COMPLEX WAVEFORMS USING MECHANICALLY RESONANT OPTICAL FIBERS

Charles W. Gaston, Linthicum Heights, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed July 5, 1968, Ser. No. 742,821
Int. Cl. G01r 23/16

U.S. Cl. 324—77

13 Claims



A method of obtaining real-time spectral analysis of complex waveforms using a rake scan cathode ray tube to sequentially, and individually, illuminate a plurality of mechanically resonant optical fibers which are vibrated in unison by the complex waveforms to be analyzed. A group of optical fibers and a high sensitivity photomultiplier are assembled in a light-tight enclosure. A photomultiplier detects the output of the optical fibers which have been illuminated. The components of the input complex waveform are independently displayed and analyzed at the output of the apparatus.

3,541,443

STANDING WAVE SENSING FREQUENCY INDICATING DEVICE

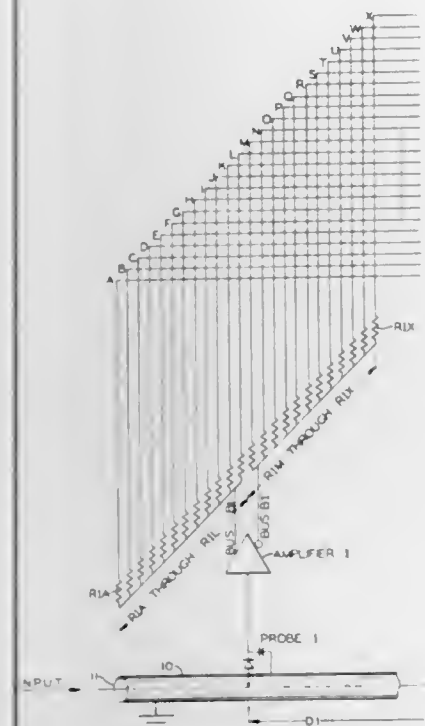
Clifford T. Bartz, Fort Wayne, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed Mar. 27, 1968, Ser. No. 716,559
Int. Cl. G01r 23/02

U.S. Cl. 324—78

6 Claims

The standing wave frequency of a signal is indicated by sensing, at a plurality of locations, the voltages of standing waves produced by the signal. The sensed standing wave voltages are applied to a resistor network

which is designed so that different voltages are produced for each different signal frequency that is present. The



different voltages are applied to logic elements which indicate the signal frequency that is present.

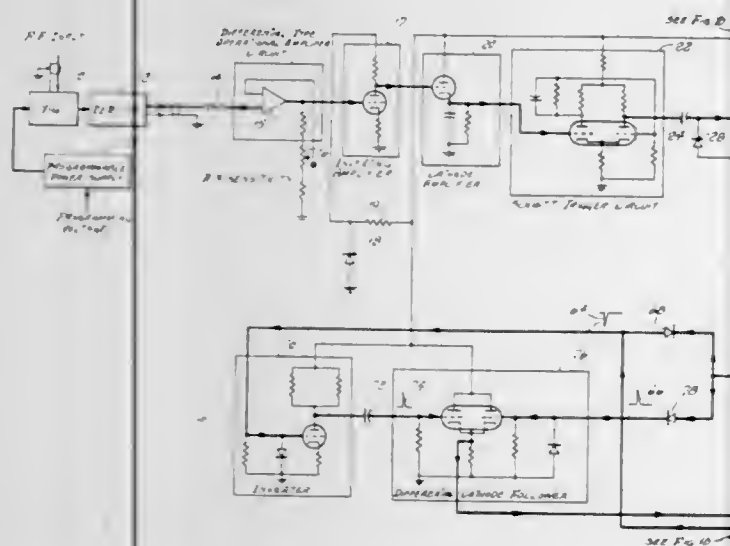
3,541,444 AUTOMATIC MICROWAVE FREQUENCY MEASUREMENT SYSTEM

Louis Mandel, Levittown, N.Y., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 6, 1968, Ser. No. 750,604
Int. Cl. G01r 23/02, 33/08

U.S. Cl. 324—78

3 Claims



An energized RF source delivers its RF output to a YIG filter. Ramp current pulses coupled into the YIG cause the YIG narrow passband to scan its broad frequency band, e.g., from below 1 GHz. to above 13 GHz. commencing at one end of that band. A frequency registering circuit tracks the band scanning by the YIG. If RF energy passes through the very narrow passband of the YIG during the scanning and exceeds a threshold power level, the scan is terminated automatically, the frequency

at which the scan is terminated is registered automatically and the scan is restarted. The scanning is repetitive, re-starting after a predetermined interval. The YIG tuning current is recurrently swept over the operating range of the filter. During each scan, when the level of tuning current is such that the YIG resonates at the operating frequency of the applied RF power, the RF passes through the YIG, is detected, and the detected signal terminates the scan. The tuning current to the YIG between scans is at that level for tuning the YIG to the RF signal frequency. A voltage proportional to this tuning current is applied to a voltmeter indicator which is calibrated to indicate the operating frequency in GHz.

3,541,445 APPARATUS FOR STATISTICALLY CLASSIFYING AN ANALOGUE VOLTAGE

Ronald William Taylor and Adrian Gerald Morris, Hitchin, England, assignors to Datran Limited, Hitchin, Hertfordshire, England, a British company

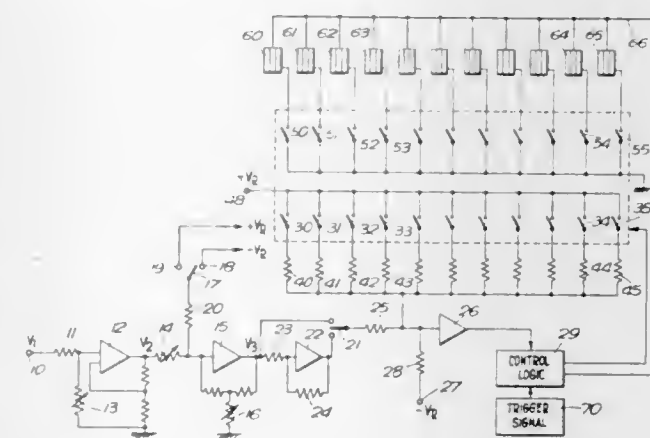
Filed July 10, 1968, Ser. No. 743,891

Claims priority, application Great Britain, July 12, 1967, 32,155/67

Int. Cl. G01r 17/06; H03k 5/20

U.S. Cl. 324—99

13 Claims



Apparatus for classifying an analogue input voltage into one of a number of classes corresponding to different ranges of magnitude of the input voltage comprises a summing amplifier into which is fed an input current proportional to the input voltage, the amplifier having a plurality of input impedances switched sequentially into circuit and through which a reference voltage can provide a comparison current input to the summing amplifier, the change of polarity of the output of the summing amplifier due to the comparison current through the input impedance switched into circuit becoming larger than or becoming smaller than said input current as an input impedance is switched into circuit effecting operation of an appropriate one of a number of output indicator circuits.

3,541,446 SMALL SIGNAL ANALOG TO DIGITAL CONVERTER WITH POSITIVE CANCELLATION OF ERROR VOLTAGES

Paul E. Prozeller, Matawan, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Sept. 30, 1968, Ser. No. 763,777

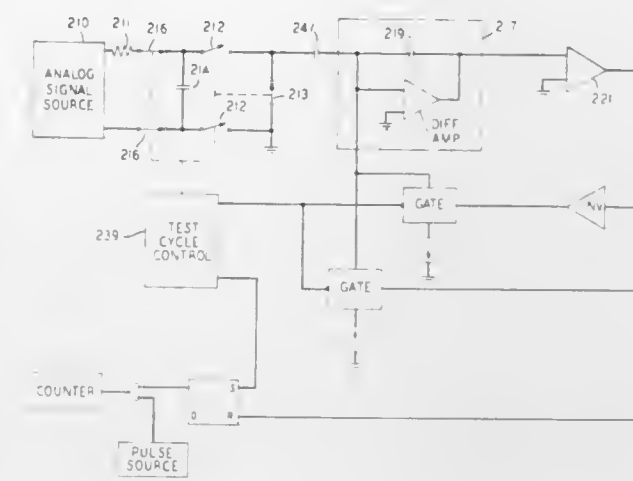
Int. Cl. G01r 17/06, 1/02

U.S. Cl. 324—99

5 Claims

An analog voltage is stored in an energy storage device which is discharged by a constant current source. The time necessary to discharge the energy storage device is

directly proportional to the amplitude of the analog voltage. A reference current feedback system reduces



measurement errors by compensating for residual charge components within the converter.

3,541,447 COMPARATOR AND DIGITAL DELAY SYSTEM FOR DETERMINING THE TIME INTERVAL BETWEEN TWO SELECTED AMPLITUDE LEVELS OF A TEST WAVEFORM

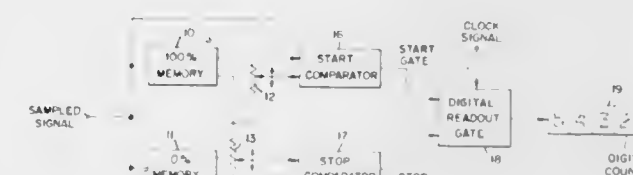
William F. Boggs, Fremont, Calif., assignor to Automated Measurements Corporation, Los Gatos, Calif., a corporation of California

Filed Dec. 12, 1967, Ser. No. 689,991

Int. Cl. G04f 9/06, 11/08

U.S. Cl. 324—186

4 Claims



A comparator and digital delay system determines the time interval between two selected amplitude levels of a test waveform where such waveform is being sampled. A comparator senses when the waveform reaches the predetermined level and feeds this information to a counter; when it receives three true indications the counter produces an output to start a digital readout counter. If a spurious noise pulse is received, the comparator does not produce a count indication and in one embodiment this spurious noise count is actually subtracted from the total of three counts. Thus, an effective noise filter is provided.

3,541,448 DIGITAL TIME INTERVALOMETER WITH ANALOGUE VERNIER TIMING

Ronald Nutt, Knoxville, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed May 7, 1968, Ser. No. 727,178

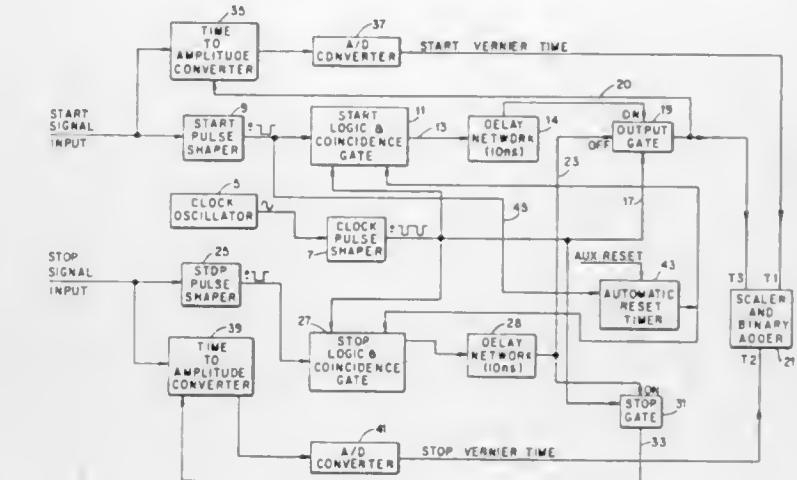
Int. Cl. G04f 9/00

U.S. Cl. 324—186

5 Claims

A digital intervalometer has been provided for determining the exact time interval between a "start" and "stop" signal by counting the number of cycles of a continuously operating oscillator occurring between the application of the signals and measuring the time phase between the oscillator and the "start" and "stop" signals.

Since the beginning and end of an interval occurs randomly with respect to the repetition rate of the oscillator signal, this development makes use of time-to-amplitude converters to derive an analogue signal proportional to



the vernier times between the "start" and "stop" signals and reference points on the repetitive signal. The analogue signal is converted to digital data to be appropriately combined with digital counting of the repetitive signal cycles to provide an accurate time measurement.

3,541,449 FM CHANNEL EVALUATOR WITH AIDED TRACKING AND NULL REJECTION

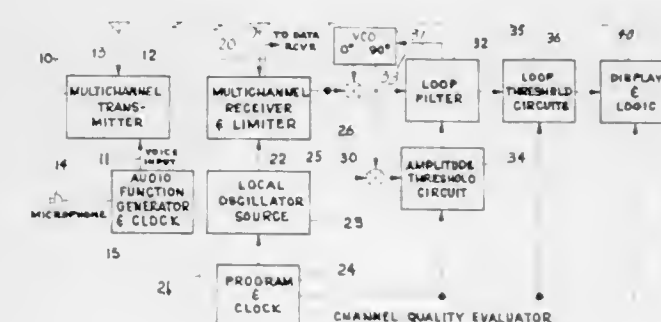
Donald L. Broderick, Arcadia, Garold W. Curl, Pasadena, and Robert A. Hohmann, Walnut, Calif., assignors, by mesne assignments, to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio

Filed Mar. 30, 1967, Ser. No. 627,133

Int. Cl. H04b 7/02

U.S. Cl. 325—65

7 Claims



In a copending application of Donald L. Broderick, Garold W. Curl, and Ray W. Sanders, Ser. No. 605,421, filed Dec. 28, 1966, and now Pat. No. 3,486,118, a system for evaluating the quality of radio transmission channels is disclosed. That system involves the transmission of a particular variable frequency signal interspersed with speech transmission and its detection using a phase-locked loop receiver. The receiver is so arranged that the transient phase locking and tracking capabilities of the phase-lock loop receiver test the signal quality.

This disclosure involves improvements in the phase-lock loop receiver of the above-mentioned system including:

- (1) a tracking aiding circuit which allows the phase-locked loop receiver to follow only valid channel evaluation signals; and,
- (2) a null rejection circuit to prevent the loss of a valid signal due to the random phase relationship of the receiver's reference and the incoming signal at the outset.

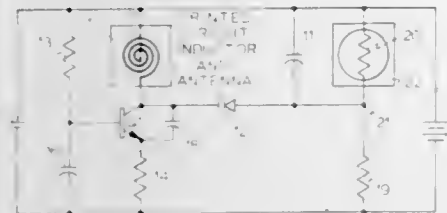
3,541,450

TEMPERATURE TELEMETRIC TRANSMITTER
T. O. Paine, Acting Administrator of the National Aeronautics and Space Administration, with respect to an invention of Royal G. Harrison, La Canada, Calif.
Filed Jan. 30, 1969, Ser. No. 795,182

Int. Cl. H04b 1/02

U.S. Cl. 325—113

9 Claims



A temperature telemetric transmitter is disclosed for short range transmission comprising a resonant feedback oscillator having a frequency determining tank circuit in which a spiral-wound, printed-circuit inductor functions as an antenna. At least one voltage-variable capacitor is included in a branch parallel to the inductor. A thermistor connected in series with a resistor provides a bias that varies as the function of temperature for the voltage-variable capacitor to vary the frequency of the oscillator accordingly. For heat transfer investigation of a given material the thermistor is deposited as a very thin film on a substrate of the material under investigation and thermally insulated except from the substrate. For fast calorimetric response to small changes in environmental temperature, the substrate is also provided as a thin film.

3,541,451

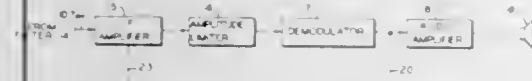
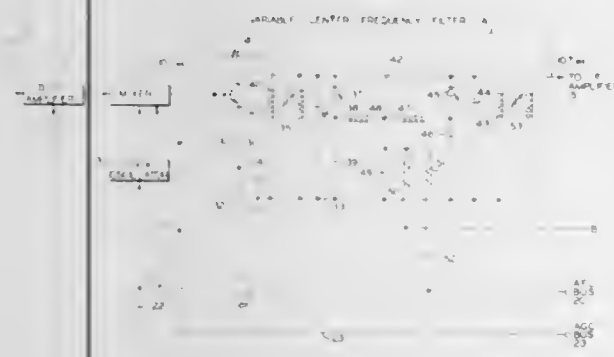
VARIABLE CENTER FREQUENCY FILTER FOR FREQUENCY MODULATION RECEIVER
Laurel R. Lind, Auburn, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

Filed Dec. 26, 1967, Ser. No. 693,448

Int. Cl. H04b 1/10

U.S. Cl. 325—346

9 Claims



A narrow passband, variable center frequency filter is connected in the circuit of a conventional frequency modulation receiver between the receiver mixer and the

amplitude limiter. The center frequency of the filter is varied by a voltage signal derived from the output of the receiver demodulator so that the passband of the filter is centered on the intermediate frequency being received.

3,541,452

PORTABLE RADIO WITH ADJUSTABLE TUBULAR CASING

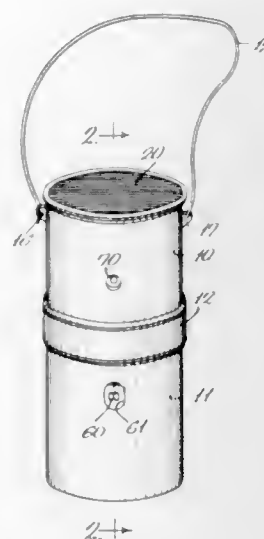
Frank J. Disesa, Lombard, and James H. Secrest, Lake Bluff, Ill., assignors to Warwick Electronics Inc., a corporation of Delaware

Filed Dec. 15, 1967, Ser. No. 690,889

Int. Cl. H04b 1/08; H05k 5/00

U.S. Cl. 325—361

4 Claims



A portable radio having three coaxially rotatable interconnected sections defining a casing with one section housing the primary components of the radio including a speaker, a tuner, a volume control, and a battery, a second section disposed in end-to-end relation thereto, and a third section in the form of a ring member rotatably mounted on said first section with said second and third sections connected to primary components housed in said first section for controlling operation of the radio and with means provided to give a visual indication of the tuning of the radio.

3,541,453

AUTOMATIC SHUT-OFF DEVICE

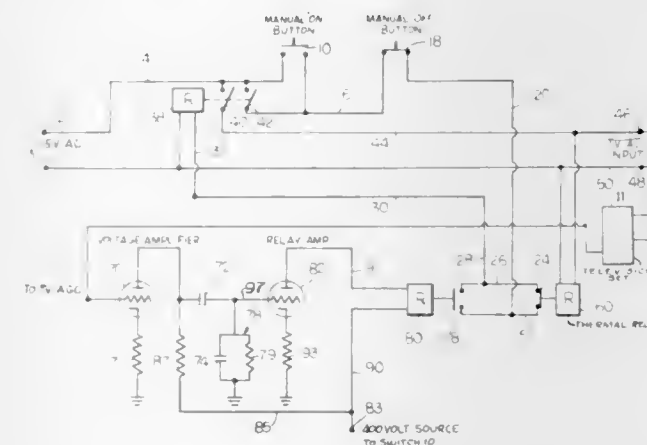
Neil Vanderpoel and Morton Irwin Broad, St. Petersburg, Fla., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

Filed Dec. 15, 1967, Ser. No. 691,002

Int. Cl. H04b 1/16

U.S. Cl. 325—364

4 Claims



This invention relates to a device for receiving an electromagnetic signal and, responsively to a tuned condition of the television set or other equipment with which it is

related, will maintain the equipment in an "on" condition. However, when the television set or other equipment is in an untuned condition either because of a loss of power from the transmitting station, or because of a failure of the set to be properly tuned, a suitable timing mechanism will, after a predetermined interval, effect shut-off of the set.

3,541,454

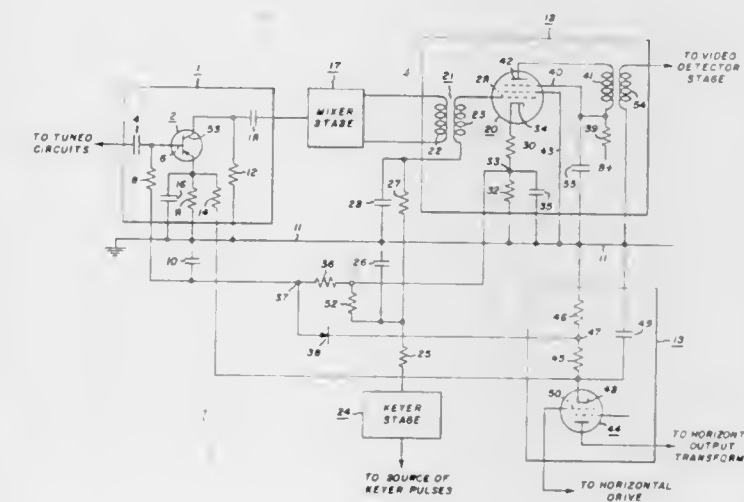
AUTOMATIC GAIN CONTROL FOR HYBRID RECEIVER

Norman Szeremy, Syracuse, N.Y., and Sanjar Ghaem-Maghami, Chesapeake, Va., assignors to General Electric Company, a corporation of New York
Filed Sept. 28, 1967, Ser. No. 671,326

Int. Cl. H04b 1/16

U.S. Cl. 325—408

7 Claims



In a keyed automatic gain control, an AGC chain series resistor combination connects an intermediate terminal on a first cathode series resistor combination of an IF tube amplifier to the base terminal of an RF transistor amplifier. An intermediate terminal of the AGC chain series resistor combination is connected to an intermediate terminal on a second cathode series resistor combination of a horizontal output tube amplifier through a delay diode. Under a weak signal condition at the base terminal of the RF transistor amplifier, the delay diode is forward biased to attain an RF AGC delay.

3,541,455

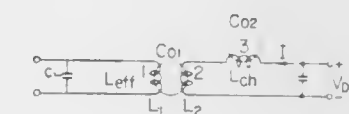
TUNING SYSTEM BY VARIABLE INDUCTANCE

Aisuke Katayama, 6-14 Kawajiri Ueno-cho, Akita-shi, Akita-ken, Japan
Continuation of application Ser. No. 518,235, Jan. 3, 1966. This application May 20, 1969, Ser. No. 827,123
Claims priority, application Japan, Jan. 14, 1965, 40/1,613

Int. Cl. H03j 3/20

U.S. Cl. 325—468

3 Claims



A current-controlled variable inductance tuning system comprises at least one tuning core provided with a high frequency coil and a direct current coil and at least one choke core provided with a direct current coil. A capacitor is connected in parallel with the high frequency coil

to form a resonant circuit and the circuit is tuned to different resonant frequencies by varying the amplitude of the current flowing through the direct current coils on the two cores connected in series. The magnetization curves of the two cores are made different from one another so that the variation of the effective inductance of the high frequency coil is substantially inversely proportional to the square of the direct current thus assuring a variable resonant frequency which is linear throughout a wide range.

3,541,456

FAST REFRAMING CIRCUIT FOR DIGITAL TRANSMISSION SYSTEMS

Herbert S. Feder, Matawan, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Dec. 18, 1967, Ser. No. 691,525

Int. Cl. H03k 5/20

U.S. Cl. 328—56

3 Claims



A fast reframing circuit which operates upon the principle that the probability of receiving a pulse in any given bit of a received pulse train is about one-half and that if any bit, or time slot, in a received pulse signal and the signal transmitted in the same time slot of the succeeding frame are compared, the likelihood that both are pulses in much less than one-half. The circuitry utilizes an AND gate and a delay line having a delay equal to one frame of the transmitted signal. The AND gate is initially enabled to allow storage in the delay line of a number of bits equal to those transmitted in one frame. After such initial storage, the output from the delay line is fed back to the AND gate which is enabled only when pulses simultaneously appear at the output of the delay line and in the received signal. The output of the delay circuit is a pulse occurring during each framing time slot and should a transmission error occur only a time equal to about eight transmitted frames is necessary prior to the reframing circuit again generating an output signal during the framing interval. This is at least an order of magnitude faster than prior art reframing circuits.

3,541,457

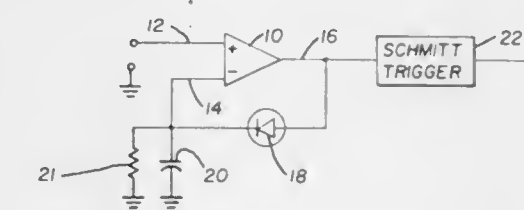
PEAK OCCURRENCE DETECTOR CIRCUIT

Clifford A. Leighty, Penfield, and Bernard J. Sullivan, Rochester, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 14, 1966, Ser. No. 601,764

Int. Cl. H03k 17/00

U.S. Cl. 328—150

4 Claims



A peak occurrence detector circuit, including a differential amplifier circuit with a nonlinear feedback circuit, adapted to receive an input signal of variable amplitude and provide an output pulse in response to a reversal in the slope of the input signal.

3,541,458 FREQUENCY DOMAIN SIGNAL PROCESSOR HAVING ADAPTIVE CAPABILITY

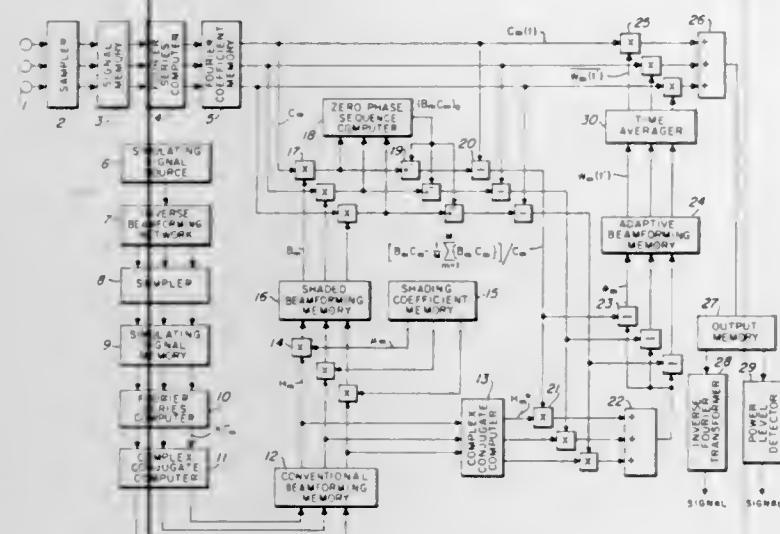
William E. Klund, 1441 Yost Drive,
San Diego, Calif. 92109

Filed Oct. 30, 1968, Ser. No. 771,756

Int. Cl. H03b 1/04

U.S. Cl. 328—165

17 Claims



When a spatially diverse array of sensors is used to detect the presence of a weak signal originating from a localized source in space, the array output is frequently contaminated by noise which originates from many sources at locations different from that of the signal source. By proper adjustment of the amplitude and phase weights applied to the sensor outputs, it is possible to cause the sum of the weighted outputs to be free of the effects of the spatially stationary part of the surrounding noise field and concurrently to respond in a preferential manner to signals which originate from the desired signal location.

3,541,459 NOISE LIMITER

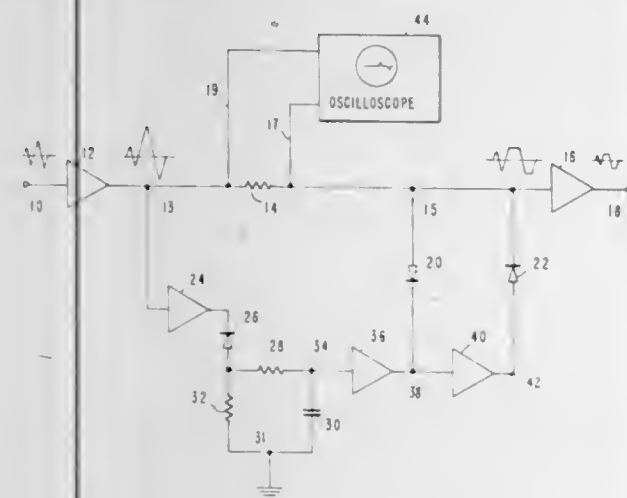
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Raymond C. Woodbury, La Canada, Calif.

Filed Jan. 30, 1968, Ser. No. 701,733

Int. Cl. H03k 5/08

U.S. Cl. 328—171

6 Claims



A circuit for limiting the peak excursions of random noise inputs to a level proportional to the average input. The circuit comprises a pair of diodes for clipping the positive and negative peaks of an input signal, and a capacitor charged by the input signal for back-biasing the diodes to a value proportional to the average input signal. The capacitor voltage is applied to the diodes through operational amplifiers, to provide a low impedance path for currents passing through the diodes.

3,541,460 APPARATUS FOR INSERTING A SEMICONDUCTOR ELEMENT IN A WAVEGUIDE

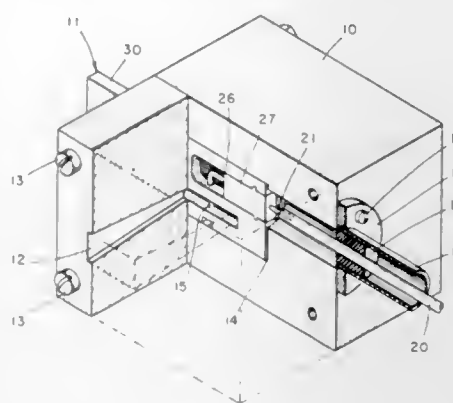
Robert J. Socci, Yonkers, N.Y., assignor to General Telephone & Electronics Laboratories, Incorporated, a corporation of Delaware

Filed Apr. 3, 1967, Ser. No. 627,841

Int. Cl. H03d 9/02; H01p 1/00

U.S. Cl. 329—161

7 Claims



A holder for a semiconductor element which is adapted for insertion into a transverse plane of a waveguide. The semiconductor element is coupled to a section of slab-line formed by the holder and the adjacent waveguide wall thereby enabling the electrical connection for the holder to be impedance matched with the external circuit.

3,541,461 NONSATURATING TRANSFORMER AMPLIFIER

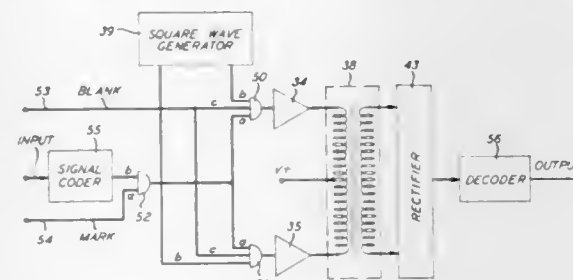
Henry T. Brendzel, Parsippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Feb. 8, 1968, Ser. No. 703,930

Int. Cl. H01k 13/00; H03f 3/38

U.S. Cl. 330—10

8 Claims



In a high voltage modulation-demodulation amplifier, saturation of the output transformer is prevented in the presence of a signal with a variable D.C. mean value by sequentially activating a pair of amplifier circuits feeding opposite sides of the output transformer primary. Pulse coding is provided by an asynchronous delta modulation loop in which the minimum pulse width is controlled to limit power dissipation in active elements. Decoding is accomplished with a low pass filter.

3,541,462 APPARATUS FOR MEASURING LOW VOLTAGES AND CURRENTS WITH AMPLIFIER PROTECTIVE MEANS

Edward Sarkisian, Weston, and Nicholas J. Amdur, Watertown, Mass., assignors to RCA Corporation, a corporation of Delaware

Filed Dec. 28, 1967, Ser. No. 694,169

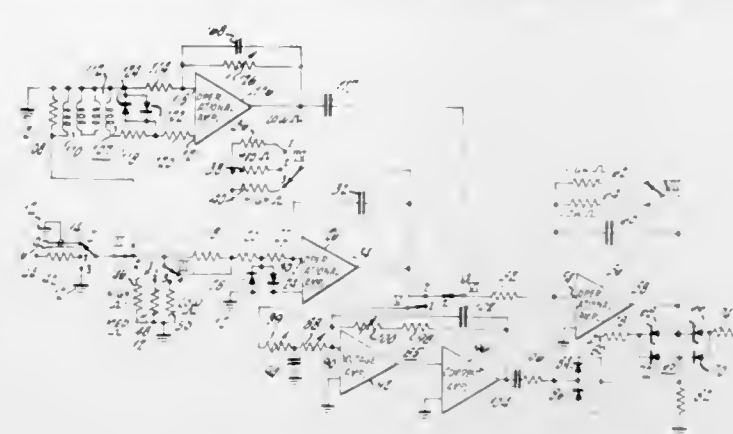
Int. Cl. H03f 1/34, 3/10

U.S. Cl. 330—11

4 Claims

Apparatus including operational amplifiers is disclosed for measuring direct current from about a thousandth of a microampere to about 30 milliamperes and for measuring about one millivolt to about 10 volts D.C. and for

measuring A.C. voltage from about 1 millivolt to 10 millivolts, the disclosed apparatus including means substantially to eliminate the effect of noise voltages on the accuracy



3,541,463 RC ACTIVE FILTER USING UNITY GAIN AMPLIFIER

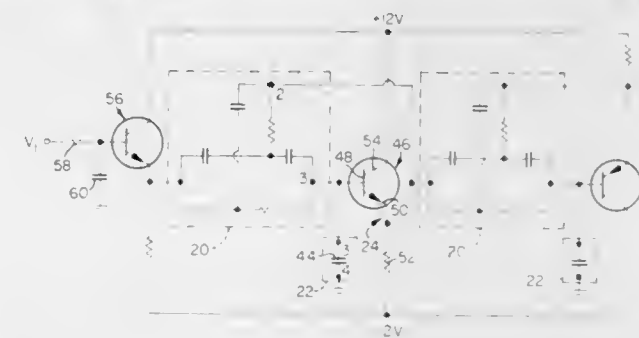
David Y. F. Zai, Mountain View, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Sept. 5, 1967, Ser. No. 665,538

Int. Cl. H03f 3/04

U.S. Cl. 330—21

8 Claims



RC active filter circuits formed by realizing a transfer function using RC elements and a unity-gain amplifier. The filter circuits have but a single input and utilize only one transistor.

3,541,464 DIFFERENTIAL AMPLIFIER HAVING CHARGE STORAGE DIODES IN THE EMITTER CIRCUITS

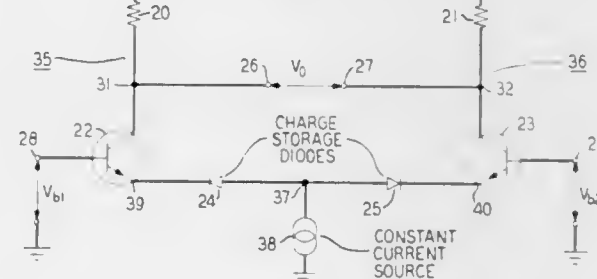
William C. Slemmer, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Dec. 27, 1968, Ser. No. 787,471

Int. Cl. H03f 1/32, 3/04, 3/68

U.S. Cl. 330—22

6 Claims



Respective charge storage diodes are connected into each of the branches of a conventional transistor differential amplifier circuit to increase the input voltage range without sacrificing the alternating current gain or high frequency response.

3,541,465 TRANSISTOR DIFFERENTIAL AMPLIFIER CIRCUIT

Minoru Nagata, Kodaira-shi, and Toshihiro Takagi, Musashino-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

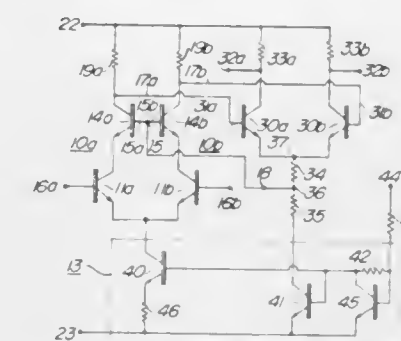
Filed Dec. 27, 1967, Ser. No. 693,901

Claims priority, application Japan, Dec. 28, 1966, 42/85,340

Int. Cl. H03f 1/02; G06f 11/00

U.S. Cl. 330—30

3 Claims



A differential amplifier circuit, wherein an input signal is applied to at least one base of two common-emitter NPN transistors, a constant current circuit is connected to the emitters thereof, common-base NPN transistors are connected to the collectors of said former NPN transistors in cascode configuration respectively, load resistors are connected to the collectors of said common-base transistors respectively and signals differentially amplified from said input signal are derived from said collectors.

3,541,466 GATED DIFFERENTIAL AMPLIFIER

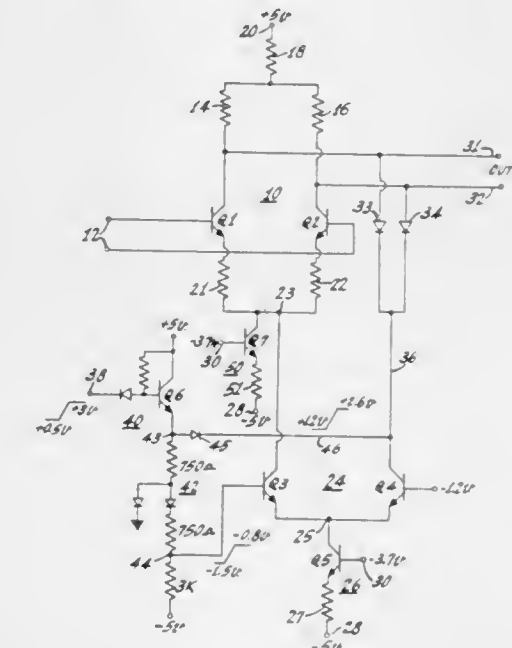
Raymond K. W. Yee, Needham, Mass., assignor to RCA Corporation, a corporation of Delaware

Filed Jan. 7, 1969, Ser. No. 789,470

Int. Cl. H03f 3/68

U.S. Cl. 330—30

6 Claims



A gated amplifier useful, for example, in a memory sense amplifier, includes a differential amplifier having two output impedances. In a standby condition, a first constant current source supplies current through the amplifier output impedances, through a shunting path including two diodes and through one side of a differential switch. A second constant current source supplies current through the amplifier impedances and the amplifier transistors. Input noise occurring during this standby condition causes imbalances in the currents through the two amplifier transistors which are compensated by imbalances

in the currents through the two diodes, so that the currents through the output impedances remain balanced. When a gating or strobe signal is applied to reverse the differential switch, current from the first current source is diverted from the paths including the diodes to the paths including the amplifier transistors, and then an input signal is fully amplified.

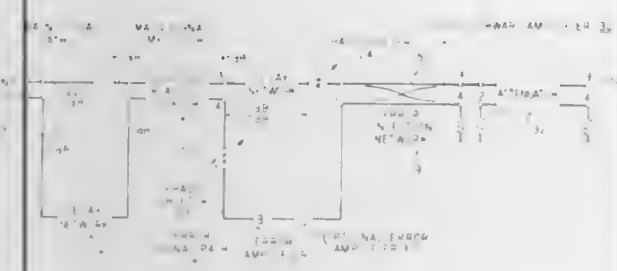
3,541,467 FEED-FORWARD AMPLIFIER WITH FREQUENCY SHAPING

Harold Seidel, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Apr. 25, 1969, Ser. No. 819,247
Int. Cl. H03f 3/68

U.S. Cl. 330-124

7 Claims



Distortion, including intermodulation products and noise are minimized in an amplifier by means of a time-compensated, feed-forward circuit arrangement wherein error components are accumulated in a separate error circuit and injected into the main signal wavepath at a later time and in a manner to cancel the error components in the amplified signal. A single, four-port reactive coupler is employed to couple between the main signal wavepath and the error signal wavepath. The gain characteristics of the main signal amplifier, the error amplifier and the coupler are given in terms of the amplifiers over-all gain characteristics.

3,541,468 PULSED LASER ARRAY

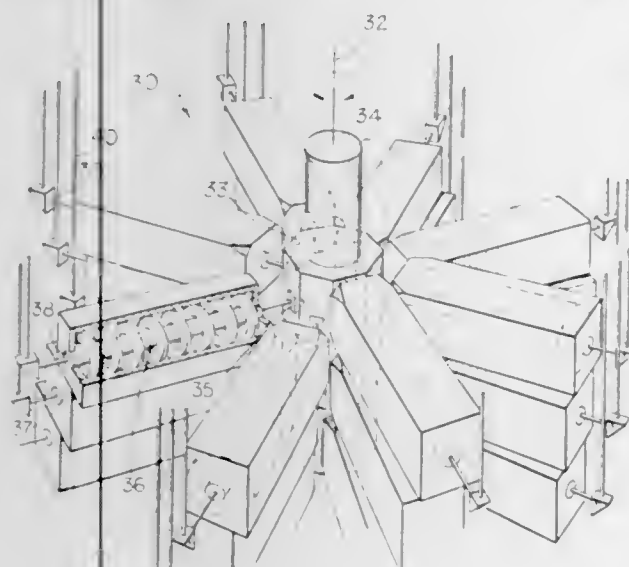
Wardlaw M. Hammond, Jr., Winter Park, and Thomas H. Parker, Jr., Orlando, Fla., assignors to Martin Marietta Corporation, Middle River, (Baltimore Co.), Maryland, a corporation of Maryland

Filed Jan. 3, 1966, Ser. No. 519,828

Int. Cl. H05s 3/02

U.S. Cl. 331-94.5

17 Claims



The present invention involves an array of laser units, radially disposed about a rotating member upon which a plurality of reflecting means are mounted. The reflecting

means are arranged as said member rotates to transiently complete the optically resonant cavities of the laser units substantially simultaneously. A plurality of substantially parallel optical output means for the laser units are disposed about the outer periphery of the array, with this arrangement enabling one or more tiers of lasers to be simultaneously Q-switched without the output of any one laser interfering with the output of any other.

3,541,469 ADJUSTABLE RECIRCULATING LIQUID LENS LASER CELL

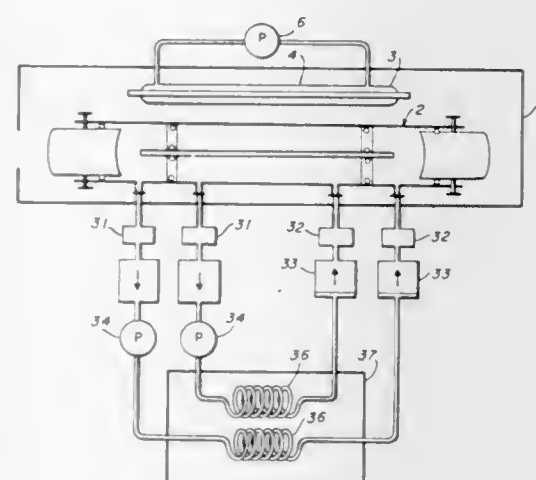
Erhard J. Schimitschek, Richard B. Nehrich, Jr., and Edward R. Schumacher, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed July 25, 1967, Ser. No. 656,628

Int. Cl. H01s 3/00

U.S. Cl. 331-94.5

1 Claim



The present cell is formed of a tubular casing containing an elongate tubular insert and partitioning means mounted on the insert and extending radially into contact with the casing to provide a liquid lens chamber. The tubular insert, which is adapted to contain the liquid laser solution, such as a rare earth chelate solution, projects outwardly through each of the partitioning means into a closed reservoir also containing the liquid laser solution. The liquid lens chamber contains a liquid lens material which can be varied to suit operating conditions. A confocal mirror arrangement reflects the light produced when the laser solution is exposed to an energy source and the entire arrangement including the cell, mirrors and source are mounted in a suitable housing. A feature of the cell is that both the liquid laser solution and the liquid lens material are recirculated through a heat exchanger to maintain the temperature of both materials constant and equal. The circuits for the recirculation of both liquid materials preferably include a small centrifugal pump to provide a relatively constant flow rate, filter means and thermocouples to register and permit control of the temperature of the liquids.

3,541,470 DYE LASER

John R. Lankard, Mahopac, and Peter P. Sorokin, White Plains, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 20, 1967, Ser. No. 624,336

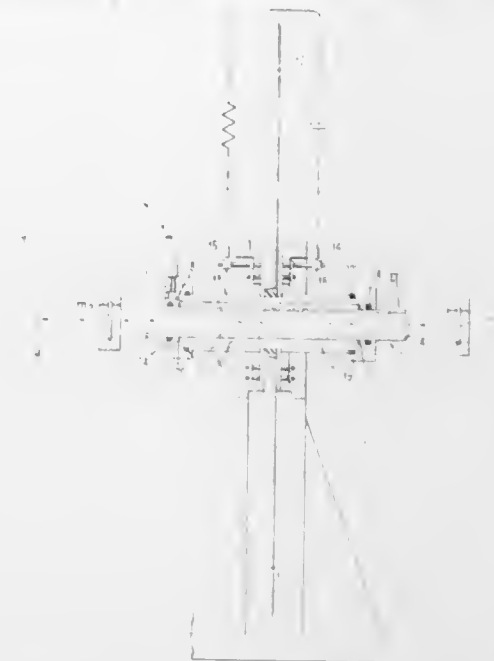
Int. Cl. C09k 1/00; H01s 3/00

U.S. Cl. 331-94.5

9 Claims

A class of dyes known as the xanthene class has been made to lase. Moreover, an inexpensive, low inductance high energy flashlamp, whose output pulses have short

risetimes, is employed to pump such xanthene dyes where- in such flashlamp is compatible with the xanthene dyes, transformer and has its base terminal unconnected. The auxiliary transistor is poled to become conductive when



such compatibility serving to obtain relatively high energy laser outputs with relatively low energy pumping lamps.

3,541,471 TRANSVERSE MODE LOCKING AND BEAM SCANNING IN OPTICAL MASERS

Ivan P. Kaminow, New Shrewsbury, and Peter W. Smith, Little Silver, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed May 13, 1968, Ser. No. 728,499

Int. Cl. H01s 3/00

U.S. Cl. 331-94.5

16 Claims



Transverse mode-locking and beam-scanning is accomplished in an optical maser by either phase or loss modulating the laser beam at a frequency equal to the transverse mode separation frequency. The modulator may be a device comprising an electrooptic crystal such as KDP to which are applied two voltages 180° out of phase with one another providing a field along the c-axis of the KDP crystal. The device operates as a phase modulator when the polarization of the light is oriented along the x' or y' axis of the KDP crystal and the cavity resonator is nearly concentric. It operates as a loss modulator when the polarization is oriented at 45° to the x'-y' axis of KDP and when used in combination with a polarizer. Various other modulators to provide an intracavity transverse perturbation varying in time at the transverse mode separation frequency are also discussed.

3,541,472 BLOCKING OSCILLATOR

Richard J. Waring, Auburn, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

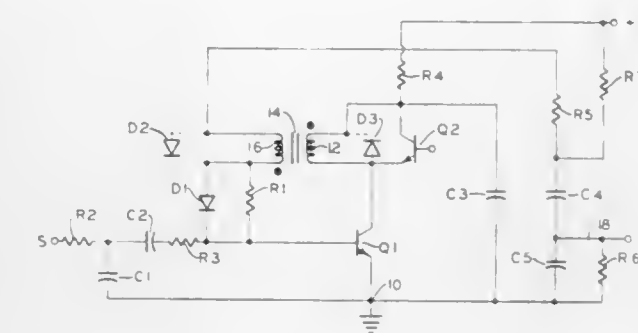
Filed Apr. 8, 1968, Ser. No. 719,468

Int. Cl. H03k 3/30

U.S. Cl. 331-112

5 Claims

A blocking oscillator has a transformer and a control transistor. An auxiliary transistor has its emitter-collector circuit connected in parallel with the primary coil of the



the control transistor turns off and the field in the transformer collapses.

3,541,473 SUPPRESSION OF ELECTRO-MAGNETIC INTERFERENCE IN ELECTRICAL POWER CONDUCTORS

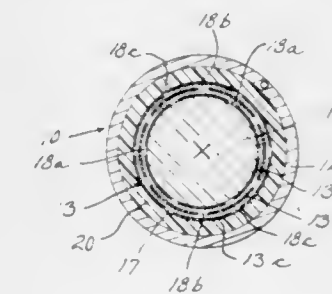
Heinz M. Schlicke, Fox Point, John A. Fillar, Milwaukee, and Dennis P. Henkel, Wauwatosa, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Oct. 2, 1967, Ser. No. 672,244

Int. Cl. H04b 3/28; H01p 3/06, 3/08

U.S. Cl. 333-12

4 Claims



A power transmission line, which may embody one or more conductors. At least one of the conductors having a layer of high permeability, high resistivity lossy material along at least a portion of its length. The lossy layer defining a gap longitudinally thereof to prevent magnetic saturation of the layer. The gap is relatively narrow to provide a "proximity effect" to prevent RFI from entering the conductor.

3,541,474 MICROWAVE TRANSMISSION LINE TERMINATION

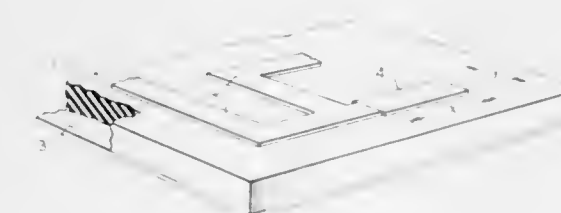
Harold B. Holton, Winston-Salem, N.C., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed July 31, 1969, Ser. No. 846,492

Int. Cl. H01p 1/26, 3/08

U.S. Cl. 333-22

1 Claim



A terminating impedance characterized by a strip of resistive material secured to a substrate, preferably by film deposition techniques. The strip may be an integral

extension of the center conductor of a microwave transmission line and has the distributed parameters of such a line. By properly dimensioning the strip, its reactive component may be made substantially zero over an appreciable frequency band about the desired operating frequency. While the strip is preferably ungrounded, it may be grounded at its receiving end. It is readily applicable to either microstrip, strip transmission line or coaxial transmission line configurations.

3,541,475

LINE TERMINATING CIRCUITS

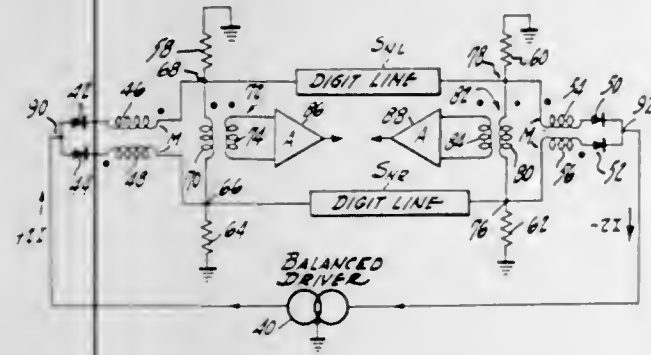
Robert A. Gange, Belle Mead, and Peter Hsieh, Cherry Hill, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed June 12, 1968, Ser. No. 736,341

Int. Cl. H03h 7/42

U.S. Cl. 333—25

6 Claims



A pair of lines, such as digit lines of a cryoelectric memory, are connected at one end to one terminal of a balanced driver and at the opposite end to the other terminal of the balanced driver. The connection, in each case, is through a balun and there is also mutual coupling between the baluns. The balun coils are wound in a sense to insure equal current flow through both lines and also to insure that exactly the same amount of current is drawn from each line as enters each line. Sense amplifiers are coupled to both ends of the pair of lines in such a way as to substantially reduce the effect of common-mode noise. The line termination is such that in-mode noise is also properly terminated.

3,541,476

MAGNETOSTRICTIVE DELAY LINE COMPRISED OF ADHESIVELY JOINED LAMINATIONS

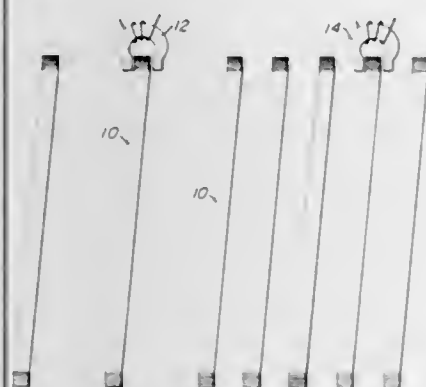
Frank R. Abbot, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 16, 1968, Ser. No. 753,261

Int. Cl. H03h 9/30

U.S. Cl. 333—30

6 Claims



The delay line, here, comprises a rectangular, laminated rod which is made up of ribbons of magnetostrictive

metal, adhesively bonded together. Magnetic pulses are fed into the rod at one point, and are sensed at another, by horseshoe magnetic yokes with pole-faces against the edges of the laminae of the rod. There is a close and efficient coupling of energy from the horseshoes to effect low eddy current losses.

3,541,477

LOW IMPEDANCE HELICAL DELAY LINE

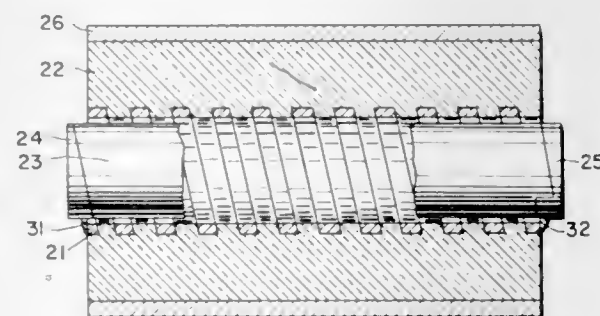
June Singletary, Jr., Raleigh, N.C., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Sept. 20, 1967, Ser. No. 669,076

Int. Cl. H03h 7/30; H01p 9/02

U.S. Cl. 333—31

9 Claims



A low impedance helical delay line is disclosed having an improved delay performance due to the elimination of undesirable air gaps between the hollow high permittivity dielectric cylinder and the helix which it surrounds, and between the outer conductive layer and the high permittivity dielectric cylinder.

3,541,478

ELECTRICAL FILTER BODY CONSTRUCTION HAVING DEPOSITED OUTER SURFACE

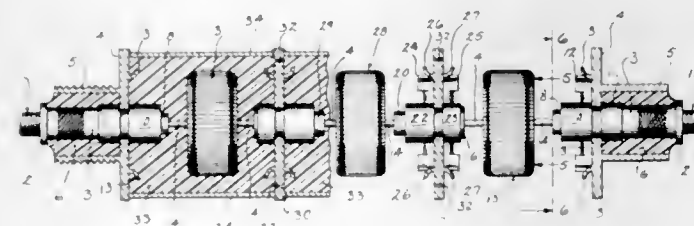
Gerald R. Peterson and John F. Reinke, Wauwatosa, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed May 2, 1968, Ser. No. 725,983

Int. Cl. H01h 7/14; H05k 5/04

U.S. Cl. 333—79

9 Claims



The construction of an electrical filter having a pair of terminals extending from the filter, a plurality of capacitive and inductive components disposed within the filter to form a filter circuit and electrically connected with one another and between the terminals, a plurality of spaced electrically conductive walls that are disposed to both sides of each inductive component to shield same, an insulating resin that encapsulates the capacitive and inductive components and fills the regions between the electrically conductive walls to form a rigid filter body, and a conductive coating upon the exterior surface of said resin that electrically joins with said walls to form a shielding enclosure that isolates each conductive component.

3,541,479

TUNING ARRANGEMENT FOR AN ELECTRON DISCHARGE DEVICE OR THE LIKE

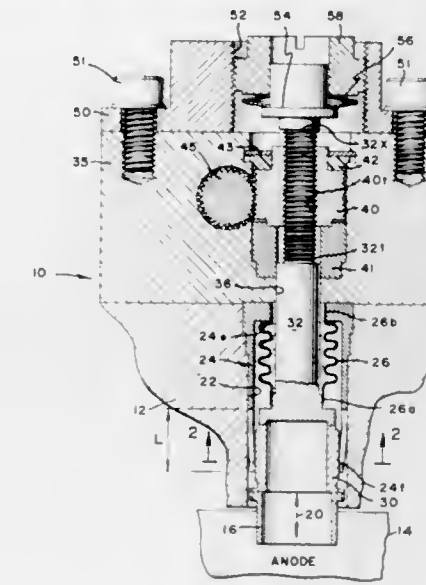
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Vincent J. Martucci, Beverly, Mass.

Filed Jan. 17, 1968, Ser. No. 698,630

Int. Cl. H01p 7/06; H01j 23/20

U.S. Cl. 333—83

10 Claims



A tuning arrangement consisting of a tuning sleeve to which a tuning element is attached. The alignment and rigidity of the sleeve are controlled by a retainer to which a bellows is attached to provide a vacuum seal. Axial motion of the sleeve is provided by a shaft axially movable by a gear assembly. A locking arrangement is provided to eliminate gear backlash and to provide a positive locking force on the shaft after tuning in order to maintain the arrangement locked in place even under severe vibration and shock.

3,541,480

BUTT DIODE CONTACTING

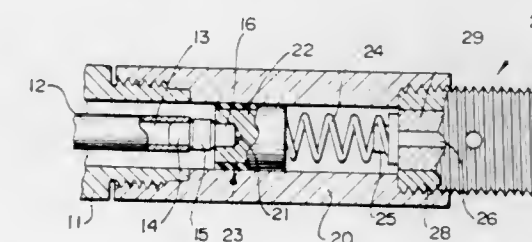
Robert Tenenholtz, Framingham, Mass., assignor to Sage Laboratories, Inc., Natick, Mass., a corporation of Massachusetts

Filed Sept. 30, 1968, Ser. No. 763,576

Int. Cl. H01p 1/00

U.S. Cl. 333—98

7 Claims



A spring loaded butt contact establishes good connection to a microwave diode electrode while comprising an R-F bypass and a connecting link to the inner conductor of a low frequency coaxial output terminal pair.

3,541,481

AUTOMATIC ELECTRIC SWITCH

Karl-Heinz Scheibel, Amberg, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany

Filed Aug. 20, 1968, Ser. No. 754,058

Claims priority, application Germany, Aug. 23, 1967, 1,588,755

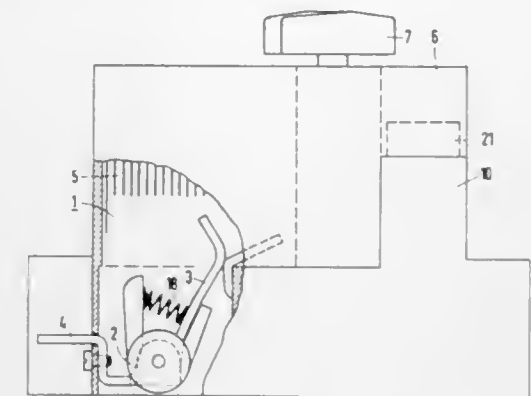
Int. Cl. H01h 73/02

U.S. Cl. 335—11

6 Claims

Automatic switch assembled of modular units includes a switch base portion having a switch shaft carrying mov-

able contact portions, and a modular component including a rapid trip device carrying a fixed contact portion, said



fixed contact portion, in assembled condition of the switch, being engageable with said movable contact portion.

3,541,482

FOLDER REED SWITCHES

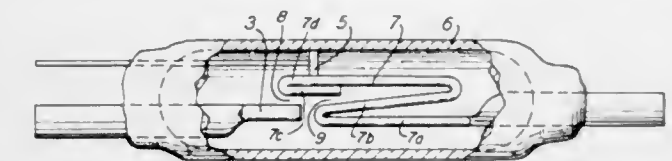
John Thomas L. Brown, Short Hills, N.J., assignor to Gordos Corporation, Bloomfield, N.J.

Filed Dec. 21, 1967, Ser. No. 699,000

Int. Cl. H01h 51/28

U.S. Cl. 335—154

3 Claims



A reed switch wherein at least one blade is disposed in a housing and has a portion folded over longitudinally at least one time to form a free end portion of at least a double thickness which is operable to close a magnetic gap.

3,541,483

REED SWITCH

Toshito Hara, Kawasaki-shi, Japan, assignor to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

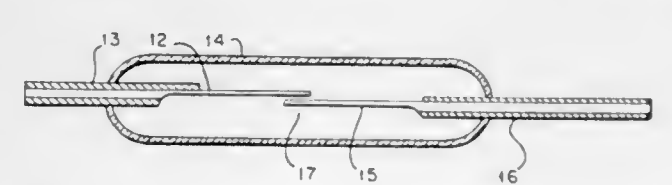
Filed Dec. 27, 1968, Ser. No. 787,503

Claims priority, application Japan, Dec. 27, 1967, 43/84,190

Int. Cl. H01h 51/28

U.S. Cl. 335—154

6 Claims



A reed switch comprising a sealed capsule and contact blades which may be coated with titanium, aluminum or magnesium sealed in the capsule. The atmosphere in said capsule is a contact reducing atmosphere.

3,541,484

VACUUM RELAY

Victor E. De Lucia, Los Angeles, Calif., assignor to Torr Laboratories, Inc., Los Angeles, Calif., a corporation of California

Filed Dec. 23, 1968, Ser. No. 786,211

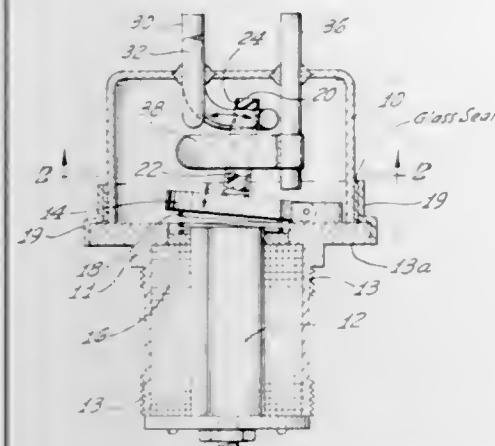
Int. Cl. H01h 1/18

U.S. Cl. 335—196

8 Claims

An improved construction for a miniature vacuum relay is provided. The relay includes an evacuated envelope in which the movable and fixed contacts of the relay

are housed. The movable contact is supported on a magnetic armature within the envelope, in position to make and break selectively with the fixed contacts of the relay. A feature of the relay of the invention is the establishment of a connection from an external terminal to the movable contact by means of a U-shaped resilient spring



whose side members extend along both sides of the path of the movable contact, and whose side members are biased against the movable contact in electrical contact therewith. The design of the relay is such that there is no tendency for the relay to bind or to get into a "hung up" condition.

3,541,485 CONTROL DEVICE FOR ELECTRICAL BODY CARE

Michel A. Moret and Claude R. Rosset, Geneva, Switzerland, assignors to Etablissements AESUP, Vaduz, Liechtenstein, a company

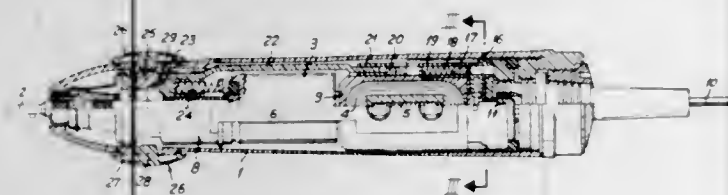
Filed July 8, 1968, Ser. No. 743,081

Claims priority, application Switzerland, July 7, 1967, 9,726/67

Int. Cl. H01h 51/28

U.S. Cl. 335-205

3 Claims



This disclosure concerns a control device for an electrical body care apparatus having a source of magnetic flux formed by a permanent magnet slidably mounted inside the casing of the apparatus, with means provided for bringing said magnet into two positions, one for opening and the other for closing an operating switch. The latter comprises a waterproof housing containing a pair of contact terminals and a bar of magnetizable material having a conductive surface facing the terminals. The bar is actuated by the magnet, and is slidably guided by the walls of the housing between limits determined by the contact terminals and an end wall of the housing.

3,541,486 SEGMENTED SUPERCONDUCTING MAGNET FOR A BROADBAND TRAVELING WAVE MASER

John J. De Luca, Silver Spring, and Larry E. Rouzer, New Carrollton, Md., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Oct. 2, 1968, Ser. No. 764,470

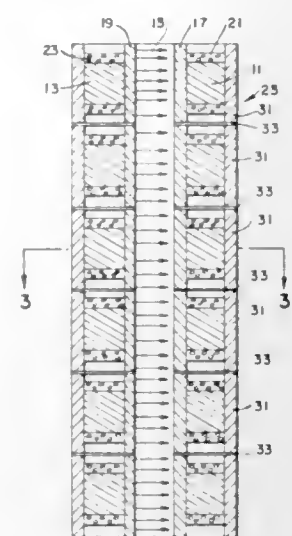
Int. Cl. H01f 7/22

U.S. Cl. 335-216

8 Claims

A superconducting magnet that produces a staggered magnetic field and is suitable for use with a broadband traveling wave maser. A plurality of pole pairs are mounted

along a common axis. The pole pairs are separated or segmented by superconducting shields. In addition, a segmented return path is provided with each segment separated from its adjacent segments by a superconducting shield. The superconducting shields allow the magnets to be controlled so that there is no pulling effect between the magnets.



rated from its adjacent segments by a superconducting shield. The superconducting shields allow the magnets to be controlled so that there is no pulling effect between the magnets.

3,541,487 ELECTRICAL WINDING HAVING HEAT EXCHANGERS BETWEEN LAYERS OF THE WINDING FOR COOLING THE WINDINGS

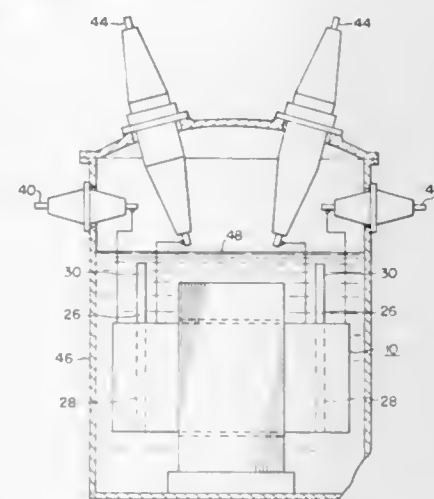
Merrill G. Leonard, Fowler, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 18, 1968, Ser. No. 776,518

Int. Cl. H01f 27/18

U.S. Cl. 336-58

9 Claims



An electrical winding for use in electrical transformers. The winding comprises several sections having a plurality of layers of conducting material in each section. A heat exchanger having a heat input portion and a heat output portion is positioned with the heat input portion in close thermal proximity to layers of the winding and with the heat output portion extending beyond the confines of the windings for dissipating heat generated within the windings.

3,541,488 THERMOSTATICALLY CONTROLLED SYSTEM

Clifford S. Odson, Mansfield, Ohio, assignor to Therm-O-Disc Incorporated, Mansfield, Ohio, a corporation of Ohio

Filed May 22, 1969, Ser. No. 826,797

Int. Cl. H01h 37/04, 37/52

U.S. Cl. 337-13

13 Claims

A thermostatically controlled heater system for gutters or downspouts. This system includes a thermostat which operates the system only when temperatures are reached

which are below normal environmental temperatures. The thermostat is provided with a shorting or testing switch which can be operated to test the system while the thermostatically operated switch remains open. The thermostat is enclosed within a tubular envelope which is closed at its ends. The material of the envelope and the insulation for the leads connected to the thermostat are



thermoplastic and fused together when the ends of the tube are heat sealed. Therefore, the thermostat is hermetically sealed. The shorting or testing switch is operable by pressing inward from the exterior of the envelope. The envelope material is sufficiently transparent to permit the shorting or testing switch to be seen from the exterior of the envelope.

3,541,489 RESISTOR

Herman R. Person, Columbus, Nebr., assignor to Dale Electronics, Inc., Columbus, Nebr., a corporation of Nebraska

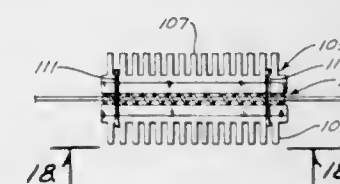
Original application Feb. 9, 1967, Ser. No. 614,833.

Divided and this application Dec. 26, 1968, Ser. No. 787,134

Int. Cl. H01c 1/08

U.S. Cl. 338-51

1 Claim



A resistor including a resistance means having opposite sides and ends. First and second insulative heat conductor elements are secured on opposite sides of the resistance means. First and second lead elements are secured to opposite ends of the resistance means and extend therefrom. The resistance means is comprised of a resistance element which is wound or deposited on a substrate sandwiched between the insulative heat conductor elements.

3,541,490 CONNECTOR BLOCK

Quentin Berg, % Berg Electronics, Inc., York Expressway, New Cumberland, Pa. 17070

Filed Aug. 21, 1967, Ser. No. 662,147

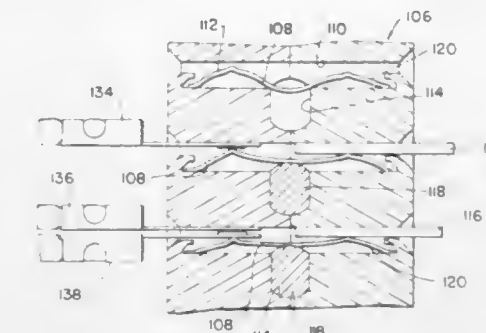
Int. Cl. H01r 13/54

U.S. Cl. 339-75

32 Claims

The disclosure relates to a connector block for establishing electrical connections between pairs of axially opposed male contacts aligned in rows. The male contacts are freely positioned in the block, following which a cam pin is inserted in the block to stress contact springs serially and force them against the pairs of contacts to establish

the electrical connections. As the springs are stressed by the cam pin, the contact portions are wiped across the



male contacts thereby assuring a reliable electrical connection.

3,541,491 ELECTRICAL RESISTORS

Norman George Worster, Elstree, England, assignor to Sangamo Weston Limited, Enfield, England, a British company

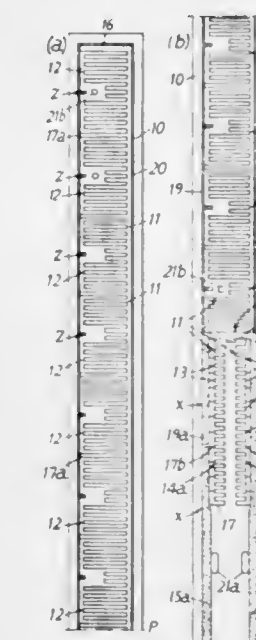
Filed Dec. 19, 1968, Ser. No. 785,202

Claims priority, application Great Britain, Dec. 20, 1967, 57,820/67

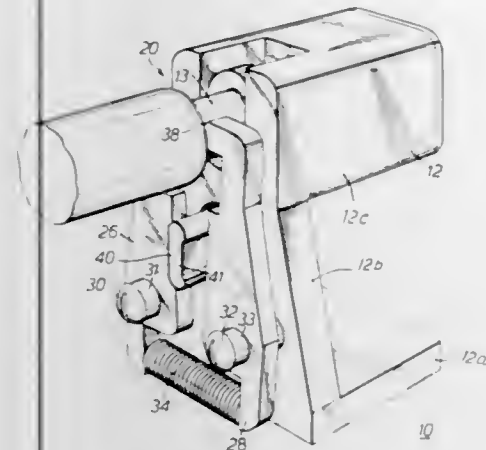
Int. Cl. H01c 7/00

U.S. Cl. 338-211

19 Claims



has a socket for the lamp end cap and two pivoted arms mounted on the body of the holder, the arms being spring-biased to engage the lamp and act as heat sinks. The positions of the arms relative to the holder body are axially



adjustable to allow for tolerance variations in the lamp dimensions. A shorter or longer lamp can be conveniently accommodated by shifting the holder as a whole. The heat sink arms will always engage the lamp near one end, which is where it is required to cool the lamp.

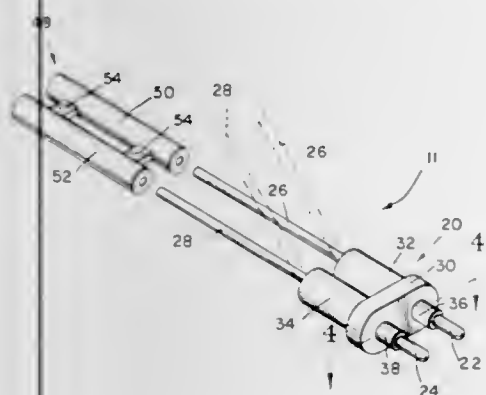
3,541,493

MOLDED PLUG-IN CONNECTOR FOR MOTOR
Wayne J. Morrill, 3448 S. Washington Road,
Fort Wayne, Ind. 46804

Filed Mar. 13, 1968, Ser. No. 712,822
Int. Cl. H01r 9/16

U.S. Cl. 339—62

7 Claims



Connector means for providing external connections to electrical apparatus disposed in a housing, the connector means comprising insulative mounting means, a pair of contact elements carried by the mounting means and held in a spaced apart relationship thereby and means for securing the mounting means to a wall of the housing. The contact elements are proportioned and designed to penetrate the wall and the mounting means provides sleeve portions encasing the portions of the contact elements which penetrate the wall, thereby insulating the contact elements from the housing. Preferably, the mounting means is fabricated from a resilient, rubber-like material whereby each contact element can move slightly relative to the other contact element and relative to the wall. Also, preferably, the securing means comprises adhesive means arranged to provide a water-tight seal between the wall and the mounting means. The structure of the connector means is manifestly compact, but provides ample creepage distances between the contact elements and between each contact element and the housing.

ERRATUM

For Class 339—75 see:
Patent No. 3,541,490

3,541,494

METHOD OF FORMING ELECTRICAL CONNECTIONS

Quentin Berg, % Berg Electronics, Inc., York Expressway, New Cumberland, Pa. 17070

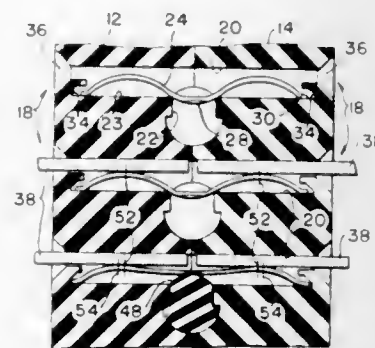
Original application Aug. 21, 1967, Ser. No. 662,147.

Divided and this application Apr. 17, 1969, Ser. No. 817,012

Int. Cl. H01r 13/54

U.S. Cl. 339—75

5 Claims



The disclosure relates to a method of serially establishing electrical connections between pairs of male contacts. The male contacts are freely positioned in a connector block, following which a cam pin is inserted into the block to stress contact springs serially and force them against the pairs of contacts to establish the electrical connections. As the springs are stressed by the cam pin, the contact portions are wiped across the male contacts thereby assuring a reliable electrical connection.

3,541,495

CONNECTOR FOR TERMINATION OF COAXIAL CABLE

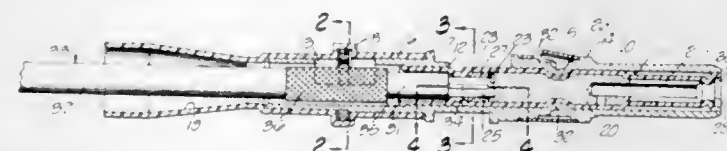
Roger H. Ellis, Atherton, and Frederick M. Grafton, Menlo Park, Calif., assignors to Raychem Corporation, Menlo Park, Calif., a corporation of California

Filed Aug. 12, 1968, Ser. No. 751,824

Int. Cl. H01r 17/18, 5/04

U.S. Cl. 339—177

16 Claims



A coaxial contact for terminating both the center conductor and the braid shield of a coaxial cable with soldered connections. The contact is provided with an internal sleeve of heat recoverable material having a solder insert. This sleeve receives the central conductor of the cable and the solder insert serves, when melted, to make a soldered connection between the conductor and the inner contact while the sleeve provides a continuous insulation between the inner and outer contacts. The outer contact is provided with a window to permit radiant heat energy to be directed onto the internal sleeve and solder insert. A second heat recoverable sleeve and solder insert are positioned around the outside of the outer contact, the solder insert being located over a second window. When the cable is inserted into the contact, the conductor is located under the first window and the braid beneath the second window. Recovery of the external sleeve causes solder to be forced through the second window to make a soldered connection between the braid and the inside of the outer contact which is insulated from the inner contact.

3,541,496

TERMINAL

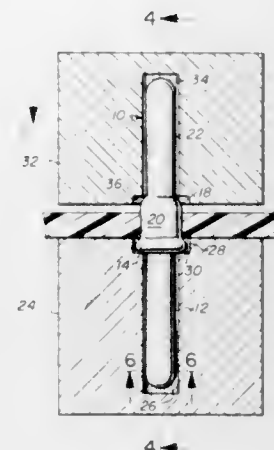
Edward J. Castellani, South Plainfield, N.J., assignor to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey

Filed Dec. 21, 1967, Ser. No. 692,507

Int. Cl. H01r 9/16

U.S. Cl. 339—220

4 Claims



The invention is directed to a feed through contact pin and more particularly to a contact pin adapted to be staked to a terminal board or other supporting surface. The pin is provided with a first contact portion having a shoulder coupled thereto. The shoulder is brought into contact with a first surface of the supporting member. A deformable staking portion coupled to the shoulder, and further coupled to a second contact portion which extends beyond the other surface of the supporting member, is positioned in an aperture in the supporting member. The first contact portion is then placed in a first portion of a staking die set having a nest shaped the same as that of the first contact portion and of the shoulder. The second portion of the die set is then positioned over the second contact portion, said second portion having a shape similar to the second contact portion as well as providing for the desired shape of a shoulder to be formed from the deformable staking portion. The die set is then closed by press means against the deformable staking portion, which staking portion is then deformed to form a shoulder on the opposite side of the supporting member from that provided by the shoulder of the first contact portion. Thus an intimate and positive connection between the supporting member and the contact pin is established.

3,541,497

MULTIPLE LUG TERMINALS

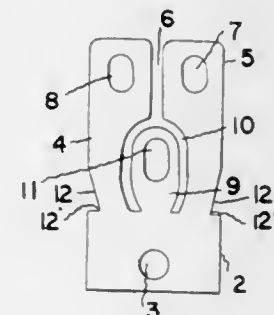
Hisao Kato, 42, 2-chome, Shinmei-cho, Kawasaki-shi, Kanagawa-ken, Japan

Filed July 22, 1968, Ser. No. 746,472

Int. Cl. H01r 11/32

U.S. Cl. 339—242

7 Claims



Multiple lug terminals characterized by forming a rectangular base portion integrally with a terminal portion projecting at least two or more than two terminal lugs

having a hole therethrough from said base portion at a proper distance from each other by means of punching sheets of metal, the joint portion of said base portion with the terminal portion being slenderer than the free end of each terminal lug, and the width between the root portions of the terminal lugs on both sides being made narrower to some extent than the width of the root portion.

3,541,498

COMPLIANT SUSPENSION FOR A SONOBUOY HYDROPHONE

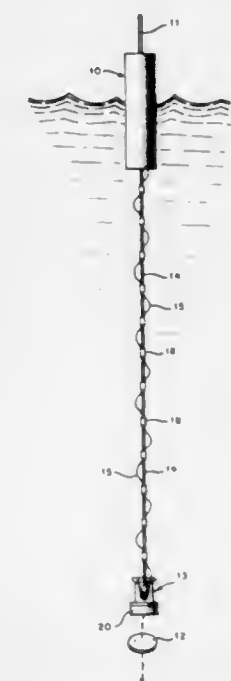
John R. Dale, Willow Grove, and Roger A. Holler, Easton, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Filed June 20, 1969, Ser. No. 834,977

Int. Cl. H04b 1/59; B63b 21/52

U.S. Cl. 340—2

5 Claims



A sonobuoy hydrophone is maintained in an ocean environment substantially at a constant level through the use of a compliant suspension cable between a flotation unit and the hydrophone. A signal cable is helically disposed around the compliant suspension cable and fastened at each convolution at equally-spaced intervals to the suspension cable in order to minimize noise caused by rubbing of the cables and by the sudden impingement, or slapping of the coil of the signal cable on the hydrophone caused by rapid wave or flow induced motion in a vertical direction. A spool attached to the free end of the suspension cable and to the hydrophone is provided for storage and retention of both cables prior to the deployment of the hydrophone. The spool is slotted longitudinally to permit a suspension cable to be stored convolutely inside the spool and the signal cable stored convolutely outside the spool.

3,541,499

ACOUSTIC SPEEDMETER (LOG)

Gösta Lange, 15 Övanskogsliden, Goteborg, Sweden

Filed Feb. 27, 1968, Ser. No. 708,635

Claims priority, application Sweden, Mar. 1, 1967, 2,779/67

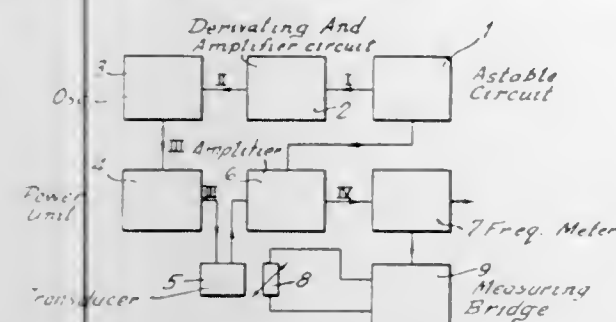
Int. Cl. G01s 9/66

U.S. Cl. 340—3

6 Claims

When measuring the velocity of a craft relative to the sea, by means of a submerged supersonic signal transmitter and a receiver arrangement for continuous operation, utilizing the Doppler effect at echoes reflected from

inhomogeneities naturally present in the water, the measuring result is made erroneous by water movements caused by the moving craft. For eliminating this disadvantage, according to the invention the transmitter is



operated intermittently, and the receiver is blocked during a short interval after every transmitting period, whereby echoes from inhomogeneities nearby are eliminated and, thus, the erroneous indication is avoided. The invention also can be applied to air crafts.

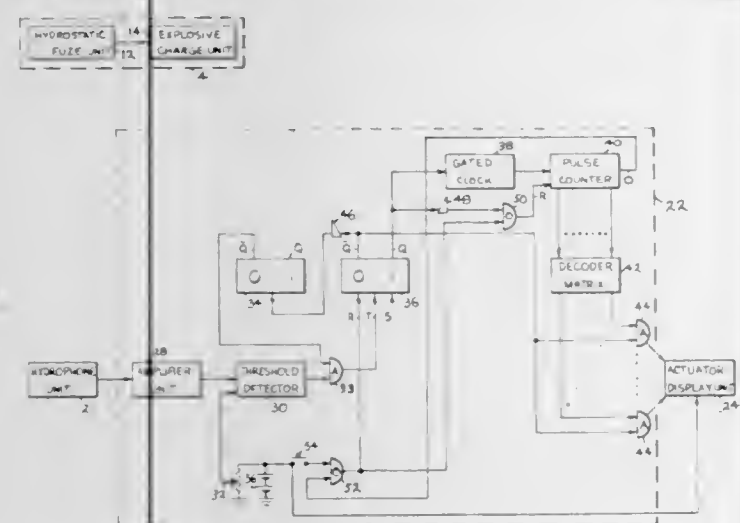
3,541,500 UNDERWATER COMMUNICATION AND CONTROL

Sidney Epstein and David Epstein, Brooklyn, N.Y., assignors to Vadys Associates, Ltd., Brooklyn, N.Y., a corporation of New York

Filed Feb. 12, 1964, Ser. No. 344,491
Int. Cl. H04b 11/00

U.S. Cl. 340-5

3 Claims



2. An underwater intelligence transmitting system wherein desired quanta of intelligence is represented by the time interval intermediate underwater detonation of an explosive charge and the first bubble pulse resulting therefrom comprising an explosive charge of preselected composition and weight, means for displacing said charge from a point of release thereof to a preselected depth beneath the water surface, hydrostatic fuse means responsive to the presence of said charge at said preselected depth for effecting detonation of said charge, sensing means responsive to the receipt of water traversable pressure pulses for converting the same into electrical impulses representative thereof, means for measuring the duration of the time interval between the receipt of the pressure pulse resulting from the detonation of said charge and from the first bubble pulse attendant therewith, and means responsive to the duration of said time interval for converting the same into an indicia of recognizable intelligence.

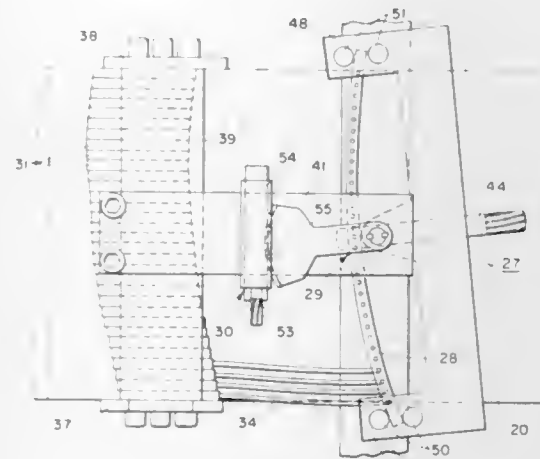
3,541,501 SIGNAL PROCESSING UNIT FOR ANALOG SCANNER

Stanley J. Mikina, Penn Hills, Pittsburgh, and Charles H. Jones, Murrysville, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Mar. 29, 1967, Ser. No. 627,591
Int. Cl. G01s 3/00

U.S. Cl. 340-6

8 Claims



A signal processing unit is provided for individually recording on magnetic tape signals arriving from a plurality of receiving elements such as a vertical array of transducers. A record head is connected to each transducer and is adjustable by wires attached to a catenary-simulating strip for duplicating the attitude of the transducer array. Single and multiple readout heads are provided each capable of being angularly oriented with respect to the magnetic tape to duplicate delay lines representing wave fronts arriving from or departing at selected directions. The multiple heads are skewed with respect to one another to simultaneously process signals corresponding to a respective number of directions. The same device can also be used for forming transmitting beams.

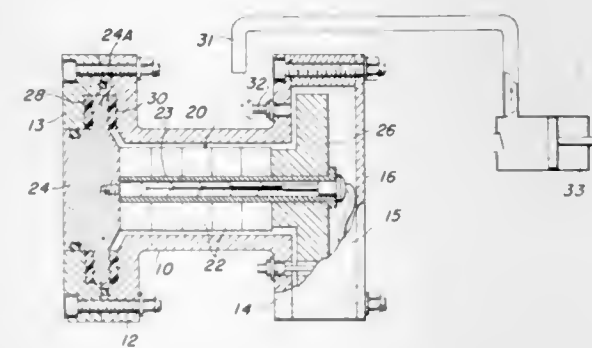
3,541,502 DEEP SUBMERGENCE TRANSDUCER

John W. Behrendt, La Jolla, and Glen L. Hunsaker, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Jan. 3, 1969, Ser. No. 788,817
Int. Cl. H04r 1/44

U.S. Cl. 340-8

3 Claims



All rubber-like pressure release materials for transducers are flattened and made inoperative at moderate depths in the ocean. To increase the operating depth, the interior of the housing of the transducer is placed under air pressure. In one embodiment, a bellows structure is employed to equalize the inside and outside pressure over a wide range of depths of submergence.

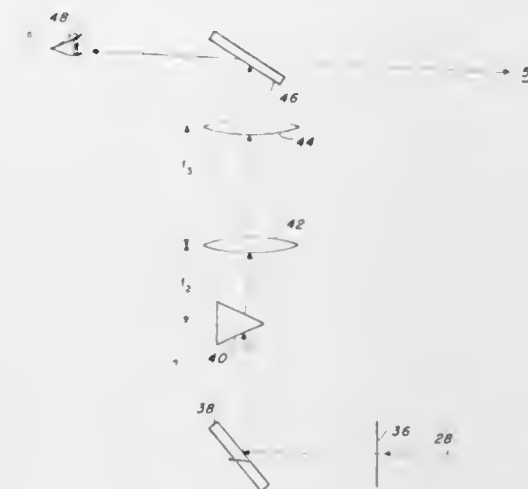
3,541,503 OPTICAL GLIDE SLOPE REFERENCE INDICATOR FOR AIRCRAFT

Hallett R. Stiles, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 27, 1969, Ser. No. 369,523
Int. Cl. G08g 5/00

U.S. Cl. 340-25

3 Claims



An optical glide slope reference indicator simultaneously provides the pilot of an aircraft with elevation and azimuth information relative to the intended point of landing. The indicator presents on a gun-sight type reflector plate positioned in the pilot's line of sight of the landing area, a set of optically generated reference signals by which the pilot can monitor a preferred glide slope. An optical processor in the aircraft projects on the reflector plate two horizontally aligned reference symbols (datum bars) and a third symbol (meatball) which is displaced vertically between the two datum bars as a function of the position of the aircraft from the preferred glide slope. The composite optically processed image is superimposed on the reflector plate and is focused at infinity. In landing, the properly aligned glide slope indicator visual image is superimposed over the actual image of the landing area, and the aircraft is controlled by the pilot with reference to the relative position of the indicator to the desired touchdown point, as seen by the pilot, along a preselected flight path.

3,541,504 VEHICLE LAMP FAILURE INDICATOR

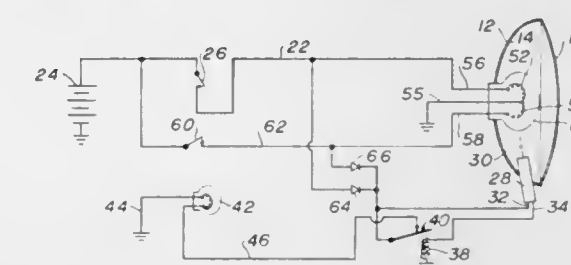
Howard R. Bush, 795 Cuesta Drive, Mountain View, Calif. 94040

Continuation-in-part of application Ser. No. 611,451, Jan. 24, 1967. This application June 1, 1967, Ser. No. 642,823

Int. Cl. B60q 1/04; G08b 5/36

U.S. Cl. 340-52

1 Claim



A circuit including a photocell in light communication with a lamp on a vehicle, which circuit also includes a signal lamp visible to the operator of the vehicle for indicating to the operator a malfunctioning in the vehicle light system.

3,541,505 AUTOMOBILE ALARM SYSTEM

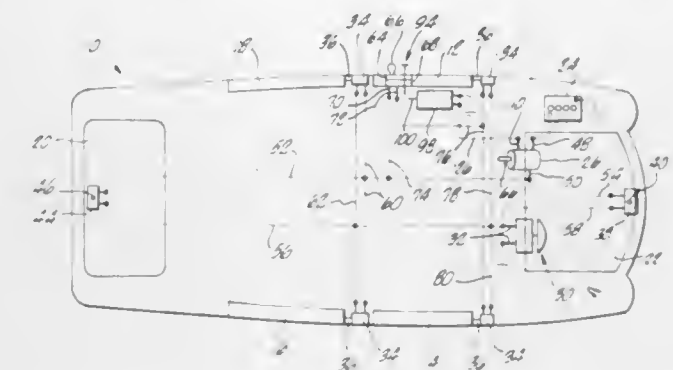
Joseph K. Lee, 10616 Bramblebush Ave., Whittier, Calif. 90604

Continuation-in-part of application Ser. No. 641,332, May 25, 1967. This application Mar. 7, 1968, Ser. No. 711,269

Int. Cl. B60r 25/00; G08b 13/00

U.S. Cl. 340-64

15 Claims



Automobile anti-burglary and anti-theft system having an audible warning device actuated by any one of a plurality of actuator switches in response to the opening of a door, the trunk lid, or the hood of the vehicle. A safety device responsive to the presence of a key in an ignition lock of the automobile prevents the setting of the alarm system as long as the key is in the ignition lock.

3,541,506 AUTOMOTIVE VEHICLE SIGNALING SYSTEM

Hideharu Motoyasu and Hisashi Yonezu, Aichi-ken, Japan, assignors to Nippon Denso Co., Ltd., Kariya-shi, Aichi-ken, Japan

Filed May 22, 1968, Ser. No. 731,148

Claims priority, application Japan, May 29, 1967, 42/34,085

Int. Cl. B60q 1/26

U.S. Cl. 340-80

5 Claims



A set of signal lamps provided on opposite sides of a vehicle body are flashed for different durations in a cycling manner for turn signalling. For this purpose, a plurality of time relays are so arranged that the operation of one time relay is relayed to the following time relay after a delay time. A pilot lamp, which is flashed simultaneously with the signal lamps in turn signalling, remains illuminated upon burn-out of any one of the signal lamps.

The circuit is so arranged that all the signal lamps on both sides of the vehicle body may blink on and off in emergency stop signalling.

3,541,507

ERROR CHECKED SELECTION CIRCUIT

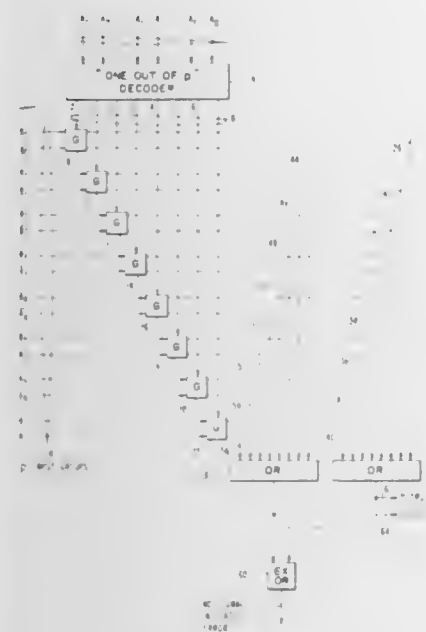
Keith A. Duke, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 6, 1967, Ser. No. 688,521

Int. Cl. G06f 11/00; G08c 25/00

U.S. Cl. 340—146.1

5 Claims



A circuit for indicating an error in a subsystem comprising a transmission cable including a plurality of groups of m -out-of- n coded inputs, a selection matrix for selecting a single m -out-of- n coded input group, a selection address decoder for said selection matrix and an m -out-of- n validity checker connected to the matrix output. An output from said matrix deviating from said m -out-of- n code will produce an error signal.

3,541,508

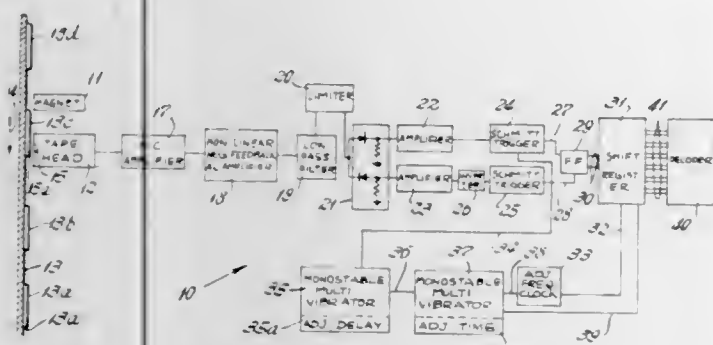
CHARACTER READING SYSTEM

Angelo Varcaro, Port Washington, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 496,333, Oct. 15, 1965. This application Sept. 8, 1966, Ser. No. 577,895

Int. Cl. G06k 9/00

U.S. Cl. 340—146.3

5 Claims



A character reading system for providing an electrical signal for a character read with the signals being different for each different character but with the same character having the same signal in which the character is caused to produce its representative voltage wave having positive and negative conditions, a bistable means is caused to

assume one state with the occurrence of a positive condition and the other state with the occurrence of a negative condition and to maintain its state until a state changing condition occurs and in which the state of the flip-flop is stored at selected intervals during the reading of the character with the stored states providing the electrical signal representative of the character read.

3,541,509

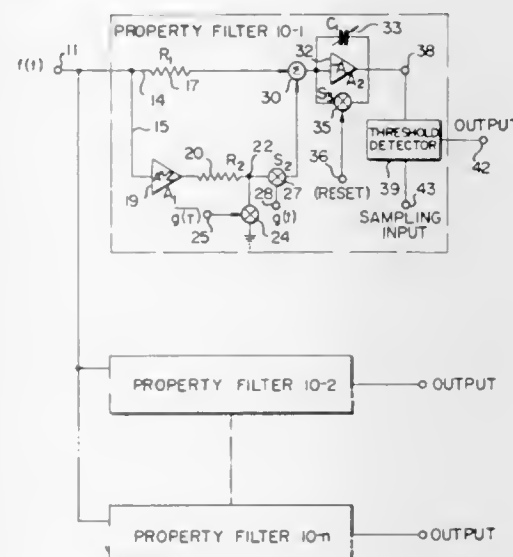
PROPERTY FILTERS

James H. Worthen, Springfield, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 605,377

Int. Cl. G06k 9/06

U.S. Cl. 340—146.3

7 Claims



A system for processing an analog signal, which includes two parallel paths for the signal, terminating in a sum circuit, an integrator which sums the output of the sum circuit for a predetermined time, and a device which provides a digital signal of zero or one according to the level achieved by the integrator, one of the two parallel paths including means for multiplying the analog signal by -2 and the result selectively by $+1$ and -1 .

3,541,510

SCANNING METHOD AND SYSTEM FOR RECOGNIZING LEGIBLE CHARACTERS

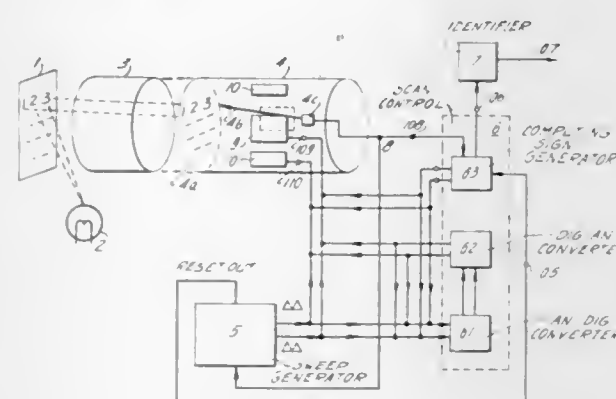
Hideya Nishioka, Kawasaki-shi, Japan, assignor to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Mar. 14, 1966, Ser. No. 533,981

Claims priority, application Japan, Mar. 18, 1965, 40/15,994

Int. Cl. G06k 9/16

U.S. Cl. 340—146.3

1 Claim



A scanner in a recognition system for continuous line characters is controlled to sweep a loop-shaped path

of larger width than the character line element so that each individual sweep passes across opposite edges of such portions and the scanner produces time-spaced black and white output signals. A tracking control circuit responds to the signals from the scanner and in turn shifts the loop-shaped sweep path of the character to track such character.

3,541,511

APPARATUS FOR RECOGNISING A PATTERN

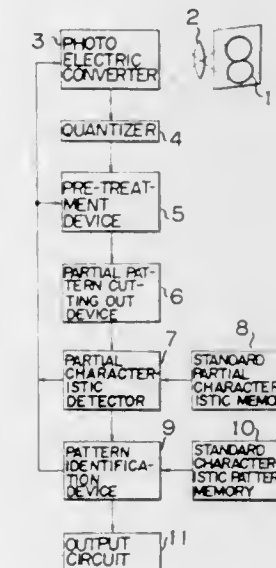
Hiroshi Genchi and Sadakazu Watanabe, Tokyo, and Kenichi Mori and Sumio Katsuragi, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Oct. 26, 1967, Ser. No. 678,427

Claims priority, application Japan, Oct. 31, 1966, 41/71,516, 41/71,517, 41/71,613

Int. Cl. G06k 9/00

U.S. Cl. 340—146.3

12 Claims



A pattern recognising apparatus comprising means including a quantizer for converting an electrical signal corresponding to an original pattern to be recognised into a mesh pattern, means for dividing the mesh pattern into a plurality of channels, means for detecting primary, secondary and tertiary partial characteristics of the mesh pattern, means for determining the channel characteristic of each channel from the combination of the tertiary partial characteristic and secondary partial characteristic, means responsive to the sequential order of the channel characteristics of the channels for identifying the original pattern.

3,541,512

ERROR DETECTING CONTROL ARRANGEMENT

Walter Hilburger, Nürtingen, Württemberg, Germany, assignor to Metabowerke KG Closs, Rauch & Schnitzler, Nürtingen, Württemberg, Germany

Filed July 20, 1967, Ser. No. 654,790

Claims priority, application Germany, Oct. 20, 1966, M 71,344

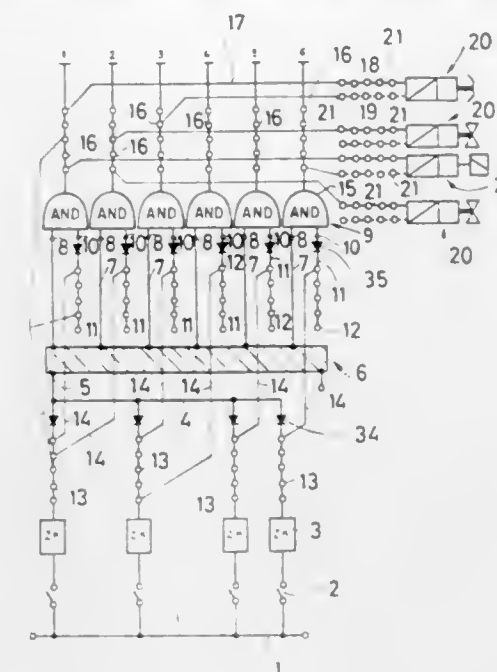
Int. Cl. H04q 9/00

U.S. Cl. 340—147

14 Claims

A control arrangement has a multi-step counter, coincidence gates having one input each connected to the output of a corresponding counter step, and a second input connected to control switches operated by the members of the system to be controlled during different phases of the operating cycle and furnishing control signals. The counter is advanced one step by each control signal.

Activators for activating the corresponding members of the controlled system receive a signal when both inputs



of a corresponding coincidence gate receive signals simultaneously.

3,541,513

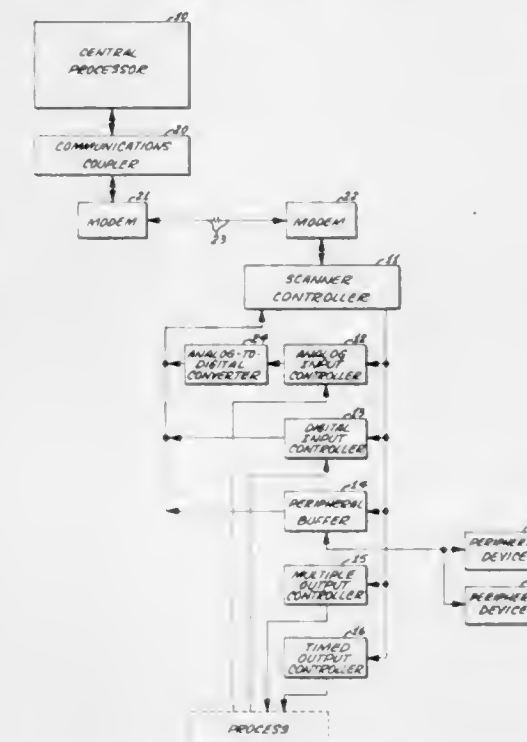
COMMUNICATIONS CONTROL APPARATUS FOR SEQUENCING DIGITAL DATA AND ANALOG DATA FROM REMOTE STATIONS TO A CENTRAL DATA PROCESSOR

Wallace N. Patterson, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York
Filed Sept. 1, 1967, Ser. No. 665,140

Int. Cl. G06f 3/05, 7/00

U.S. Cl. 340—151

9 Claims



Communications control apparatus in a computer system for transmitting information between a plurality of input/output modules and a central processor. In response to an instruction word comprising data and/or control information transmitted from the central processor to the communications control apparatus, the control apparatus transmits data to the appropriate input/output module, if an output operation, or, if an input operation, transmits control information to the appropriate input/output module to initiate transfer of information from the module to the central processor. In response to an instruction requesting information

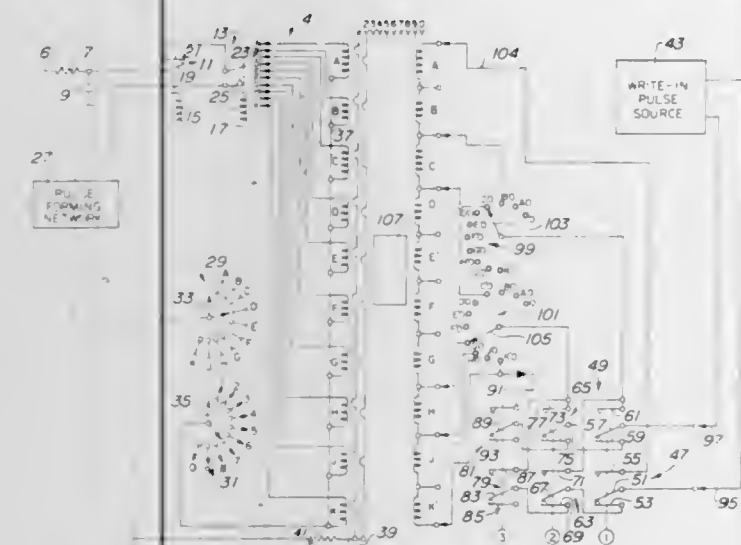
from the analog input control module, the communications control apparatus transmits information from the digital input control module to the central processor while the desired analog information is being selected and converted to digital form and subsequently transmits the converted analog information to the central processor.

3,541,514

AUTOMATIC PHONOGRAPH RECORD SELECTION
Casimer J. Dabrowski, Mount Prospect, Ill., assignor, by mesne assignments, to The Seeburg Corporation of Delaware, Chicago, Ill., a corporation of Delaware
Filed Apr. 8, 1966, Ser. No. 541,192
Int. Cl. H04q 3/00

U.S. Cl. 340—162

17 Claims

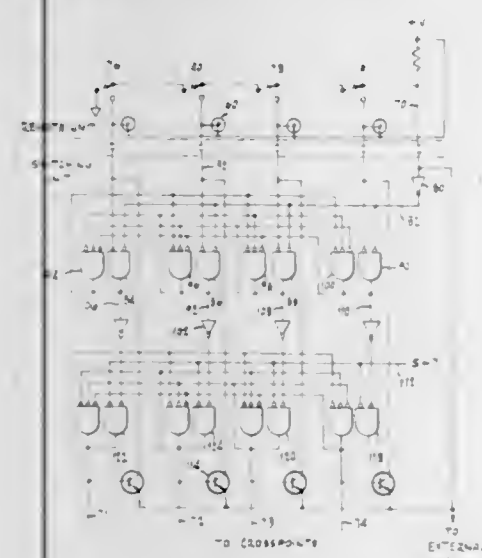


The selection of recordings in a coin-operated phonograph is controlled by two separate selection circuits. One of the selection circuits provides for the choice of individual selections by a customer, while the other selection circuit controls the playing of a chosen preselected program of records when no individual selection choices have been made. Provision is made for insuring that only one selection circuit is controlling selection at any given time and that individual selection choices are given precedence.

3,541,515

SINGLE WIRE CROSSPOINT SWITCHING CIRCUIT WITH EXTERNAL SIGNALING
James M. Walter, Collingswood, and Frederic D. Rando, Cherry Hill, N.J., assignors to RCA Corporation, a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,676
Int. Cl. H04g 9/00; H01h 47/22
U.S. Cl. 340—166

4 Claims



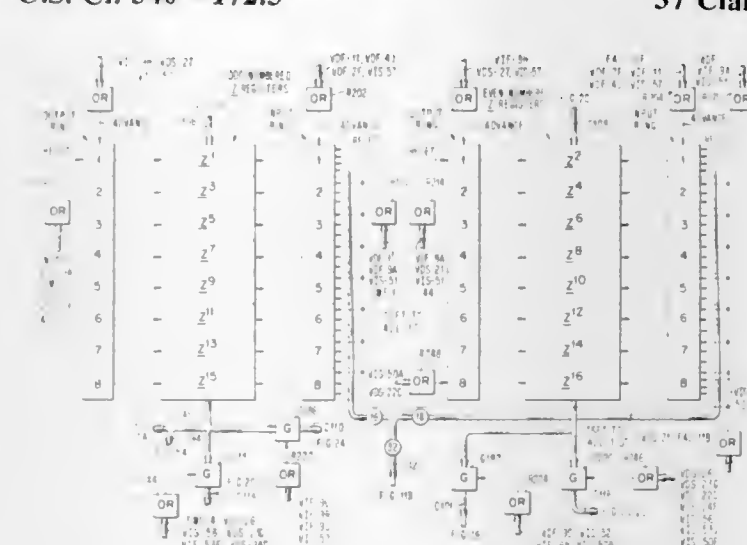
A circuit whereby $m \times n$ switches control the cross-connections between m input lines and n output lines employing only one wire per switch, even when an indicator

is used to give an indication of a cross-connection, the same wire being used to effect the switching and to control the indicator. Also, a signal is provided to an external circuit when any switch is activated even if the switch activated is one associated with a cross-connection already made.

3,541,516

VECTOR ARITHMETIC MULTIPROCESSOR COMPUTING SYSTEM
Donald N. Senzig, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 30, 1965, Ser. No. 468,437
Int. Cl. G06f 15/32
U.S. Cl. 340—172.5

37 Claims



A vector arithmetic multiprocessor computing system especially adapted for the performance of vector arithmetic problems wherein identical operations are to be performed substantially simultaneously upon a plurality of different units of data or operands. The system encompasses special memory and arithmetic unit controls for simultaneously performing such operations. It includes a Data Restructuring Arithmetic Unit Control for restructuring a vector of data, and also for controlling the plurality of arithmetic units for performing a plurality of simultaneous operations; an Index and Address Unit for accessing memory, and a Mill which contains the plurality of arithmetic units and special associated registers. The system controls include means for performing both fixed point and floating point arithmetic operations and for providing both normalized and unnormalized answers.

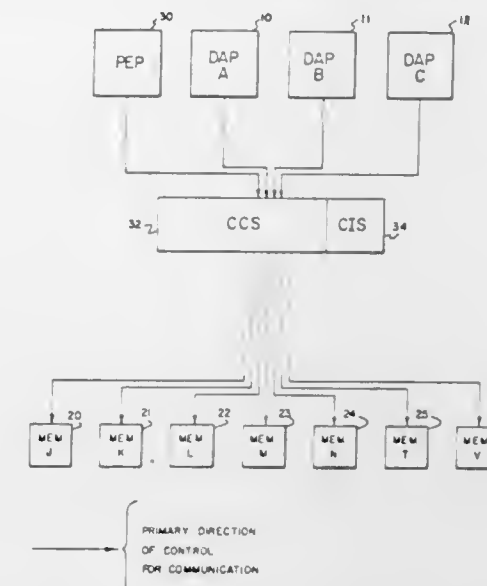
3,541,517

APPARATUS PROVIDING INTER-PROCESSOR COMMUNICATION AND PROGRAM CONTROL IN A MULTICOMPUTER SYSTEM
John Edward Belt and Lorenz A. Hittel, Phoenix, Ariz., George R. Hope, Jr., Largo, Fla., and Ernest J. Porcelli and Laszlo Leslie Rakoczi, Phoenix, Ariz., assignors to General Electric Company, a corporation of New York
Filed May 19, 1966, Ser. No. 551,355
Int. Cl. G06f 9/18, 9/00
U.S. Cl. 340—172.5

11 Claims

A multicomputer system is disclosed in which each of a plurality of processors is capable of executing, independently and simultaneously with other processors of the system, a computer program. In the execution of these programs certain contingencies may occur which require the execution of another or different program by another processor of the system. The processor encountering such a contingency, produces a communication set providing the information with respect to the contingency necessary to permit its resolution. The system's central controller upon receiving such a communication set stores it in the system data storage sub-system. The central controller

then causes one of the data processors to execute the requested program. When such a requested program is assigned to a data processor, the central controller will not cause another data processor to execute the same program even if several processors are requesting that this

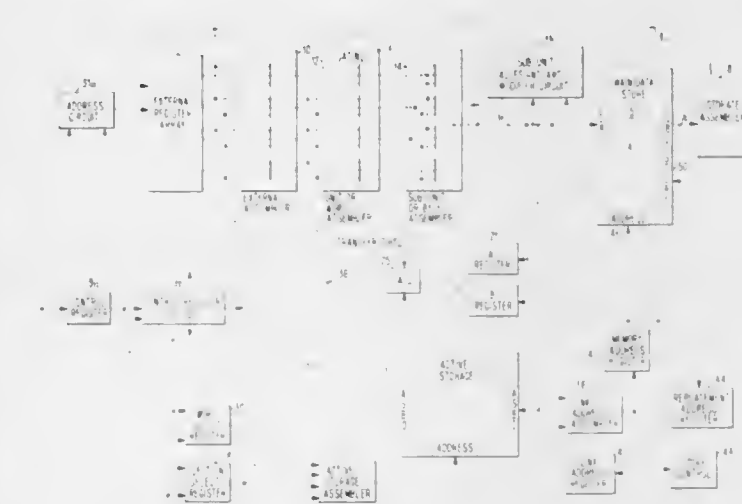


same program be executed. When the assigned processor has completed the execution of the program, the central controller will cause the same processor to perform the same program as long as execution of the program is required.

3,541,518

DATA HANDLING APPARATUS EMPLOYING AN ACTIVE STORAGE DEVICE WITH PLURAL SELECTIVE READ AND WRITE PATHS
Kenneth A. Bell and Raymond J. Klotz, Rochester, Minn., Donald E. Wallis, Marblehead, Mass., and Karl K. Womack, Endicott, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 27, 1967, Ser. No. 670,919
Int. Cl. G06f 13/00; G11c 9/00
U.S. Cl. 340—172.5

5 Claims

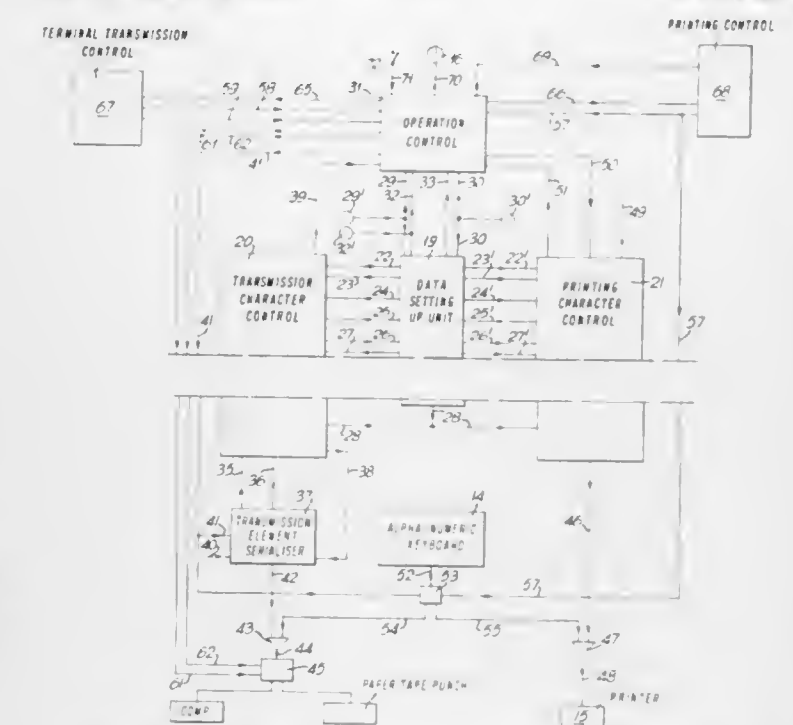


The invention basically comprises a plurality of matrix storage devices, a plurality of addressable external registers, an arithmetic logic unit, and a data assembler and switching mechanism employing a plurality of transfer paths. The data assembler and switching mechanism disclosed responds to address information obtained from a main store, a local store, or external registers all of which can be addressed. Control information from the main store permits the data assembler and switching mechanism to transfer words or portions of words between the various storage devices, and controls the assembling of words of data utilizing portions of words obtained from various external registers, the local store, or the main store.

3,541,519

DATA CAPTURE
Thomas Raymond Thompson, Trevonon, The Clump, Rickmansworth, England
Filed Nov. 7, 1967, Ser. No. 681,216
Claims priority, application Great Britain, Nov. 7, 1966, 49,733/66
Int. Cl. G06f 9/18
U.S. Cl. 340—172.5

9 Claims

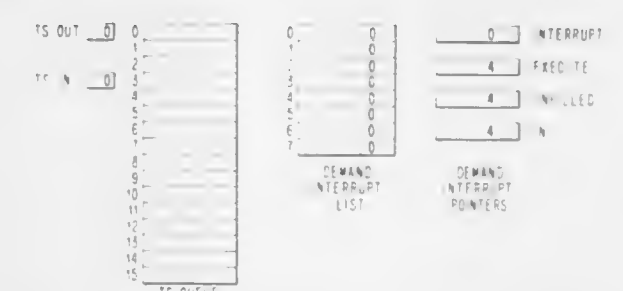


Data collection apparatus comprises a plurality of banks of signal lines, means for applying voltage signals to a selection of the signal lines of each bank whereby a variety of different characters may be formed on each bank representing different data items, and reading and coding means for reading the characters so formed and transmitting coded signals representative thereof and of each of the banks from which the signals originate. Preferably a plurality of characters are grouped together, before or after coding, and transmitted after coding as a single block of information.

3,541,520

TIME-SHARING ARRANGEMENT
Alvin P. Mullery, Chappaqua, and Graham C. Driscoll, Jr., Yorktown Heights, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 18, 1967, Ser. No. 691,534
Int. Cl. G06c 15/22
U.S. Cl. 340—172.5

9 Claims



A time sharing arrangement for a multiprocessing system in which there is provided a time-sharing queue which consists of component tasks from jobs presented to the system for execution and placed on the queue in chronological order. A demand interrupt list is included which comprises a list of time slots. A first pointer, i.e., an "in" pointer is provided to indicate the current time slot in the list. A second pointer, i.e., an "interrupt" pointer is provided to indicate a slot in the list which is a chosen multiple of slots removed from the aforementioned current slot, such chosen multiple of time slots

disclosed mechanism, many load and store operations may be removed from a program loop. The use of a special instruction format and expanded local storage capability allows an execute instruction within a loop to also cause the loading from memory and storing in memory of said local registers essentially concurrently with the execution of said instruction.

3,541,529

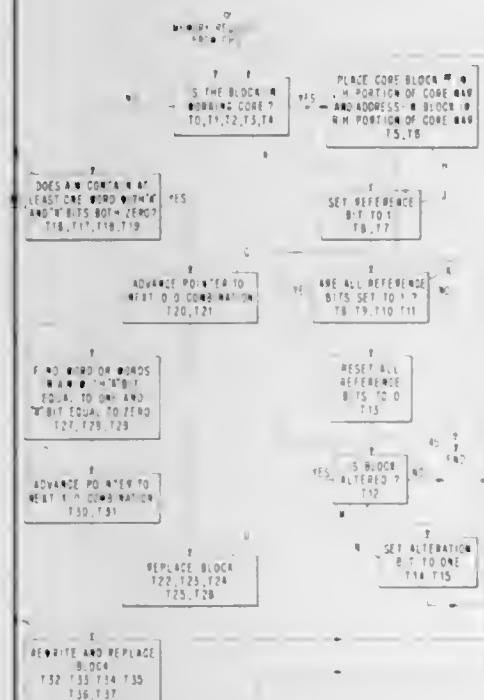
REPLACEMENT SYSTEM

Robert A. Nelson, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 513,479, Dec. 13, 1965. This application Sept. 22, 1969, Ser. No. 859,784

Int. Cl. G11c 9/00

U.S. Cl. 340—172.5

9 Claims



A replacement system for data processing apparatus wherein there is utilized a large-capacity, low-speed, back-up store, a high-speed low-capacity working memory, and an associative memory. The replacement system effects the replacement of blocks in the low-capacity working memory with blocks from the back-up store. In the implementation of the system, blocks in the working memory are marked as they are utilized and only unmarked blocks are selected for replacement by blocks in the back-up store. In the situation where all of the blocks in the working memory momentarily become marked, all of them thereupon are caused to become unmarked. An additional replaceability criterion, such as the fact that a block is altered or unaltered when utilized, also is considered by the system when making replacement decisions.

3,541,530

PULSED POWER FOUR DEVICE MEMORY CELL
Dominic P. Spampinato, Ozone Park, and Lewis M. Terman, South Salem, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 15, 1968, Ser. No. 697,728

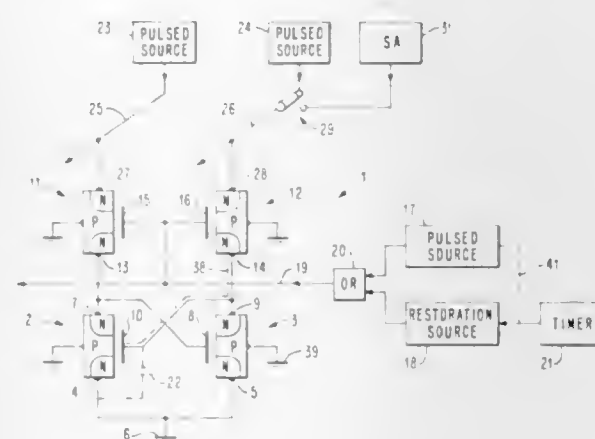
Int. Cl. G11c 11/40; H03k 3/286

U.S. Cl. 340—173

13 Claims

A memory cell consisting of four unipolar FET devices, two of which are connected in a cross-coupled flip-flop configuration and the remaining two of which are connected to the flip-flop devices and to the gate circuits

of the flip-flop as switching devices is disclosed. The cell, in an npn configuration, stores information by simultaneously energizing one of two available bit lines and a word line with an appropriate pulse pattern. The word line is connected to the gates of the switching devices and writing is accomplished by pulsing the word line which turns on the switching devices, and by grounding the appropriate bit line. When the word drive is removed, the switching devices turn off. The state of the flip-flop is retained by charge storage on the gate of the ON portion of the flip-flop. Charge, which slowly leaks



off through the OFF portion of the flip-flop, is periodically restored by pulsing the word line. Reading, also accomplished by pulsing the word line, causes current to flow through the ON portion of the flip-flop which is sensed in a detector coupled to a separate sense line or coupled to a switchable bit-sense line. Charge restoration may be accomplished during a separate time period but each reading cycle also accomplishes charge restoration. A plurality of individual cells in array form to make up a memory arrangement which is read out nondestructively is also disclosed.

3,541,531

SEMICONDUCTIVE MEMORY ARRAY WHEREIN OPERATING POWER IS SUPPLIED VIA INFORMATION PATHS

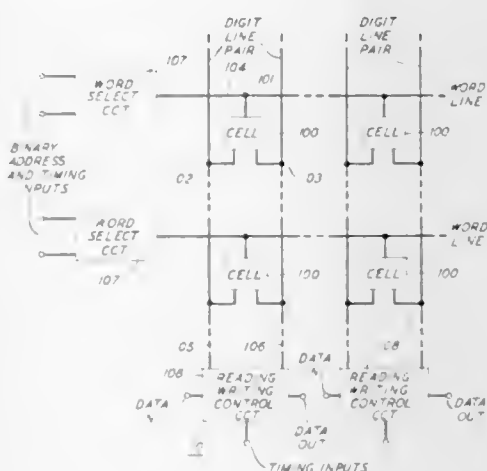
John E. Iwersen, Bernardsville, Bernard T. Murphy, New Providence, and John H. Wuorinen, Jr., Westfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Feb. 7, 1967, Ser. No. 614,489

Int. Cl. G11c 11/40; H03k 3/286

U.S. Cl. 340—173

6 Claims



A semiconductor memory system is organized to permit the word and digit lines to serve for both writing and reading and to provide the operating power. Word

lines in rows and pairs of digit lines in columns are interconnected by semiconductive flip-flops which serve as storage cells. The storage cells are formed as an array in a monolithic semiconductive body.

3,541,532

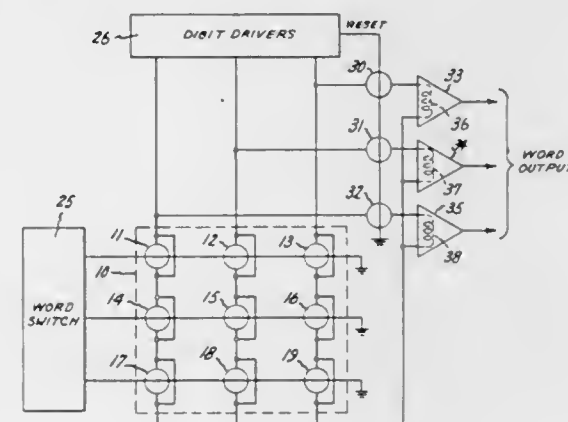
SUPERCONDUCTING MEMORY MATRIX WITH DRIVE LINE READOUT

Vernon L. Newhouse, Scotia, and Harold H. Edwards, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 523,755, Jan. 28, 1966. This application Dec. 12, 1966, Ser. No. 600,895

Int. Cl. G11c 7/00, 11/44; G11b 9/04

U.S. Cl. 340—173.1

15 Claims



Apparatus for achieving interrogation of a superconductive memory matrix and readout of stored data therefrom by sensing either persistent currents circulating within the matrix or output voltages produced by the matrix. Noise produced by input of data to the matrix is prevented from appearing in the output signal by briefly delaying interrogation until the noise has died away. Further noise minimization when voltages are sensed is achieved by gating the output signal to appear only at the desired instants of readout.

3,541,533

GATE CIRCUIT AND SYSTEM

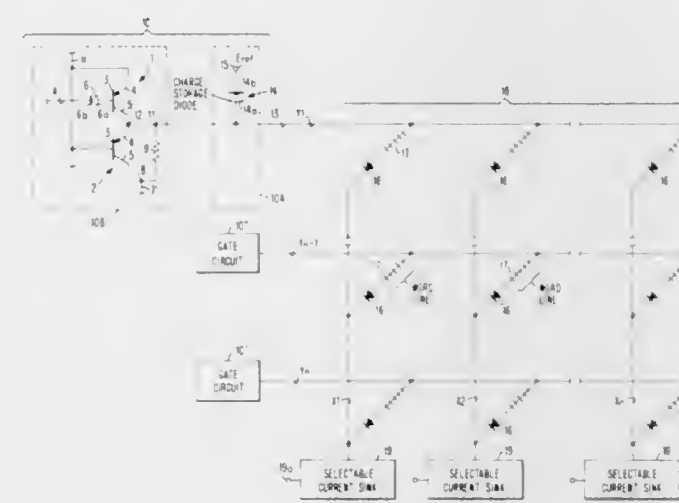
Arden J. Wolterman, Apalachin, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 29, 1967, Ser. No. 686,651

Int. Cl. G11c 7/00, 11/14; H03k 3/33

U.S. Cl. 340—174

47 Claims



A gate circuit which employs two transistor switching elements and a charge storage diode. The diode is connected between the output and a reference source. The

circuit is controlled by two control signals. During their coincident application, the diode is allowed to accumulate charge carriers through one of the transistors. The charge carriers provide a low impedance path between the load, which is connected to the output, and the source. Removal of the charge carriers is through the other transistor and/or load.

3,541,534

MAGNETIC DOMAIN PROPAGATION ARRANGEMENT

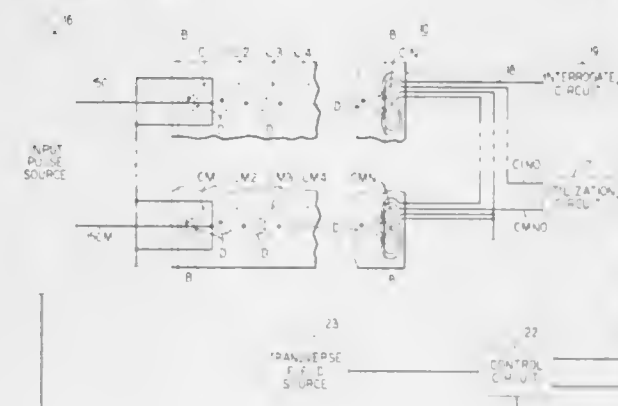
Andrew H. Bobeck, Chatham, and Umberto F. Gnanola, Florham Park, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Oct. 28, 1968, Ser. No. 771,157

Int. Cl. G11c 11/14, 19/00

U.S. Cl. 340—174

5 Claims



A propagation channel for single wall domains is defined in a sheet of magnetic material by aligned chevron-shaped overlay patterns. A domain is propagated between the apex of each chevron and a first or second terminal position of that chevron depending on whether a zero or a one is stored. The position to which a domain in one chevron can be moved is determined by the terminal position occupied by a domain in the next preceding chevron. In this manner, the interaction between neighboring domains is propagated rather than the domain itself.

3,541,535

DOMAIN PROPAGATION ARRANGEMENT HAVING REPETITIVE PATTERNS OF OVERLAY MATERIAL OF DIFFERENT COERCIVE FORCES

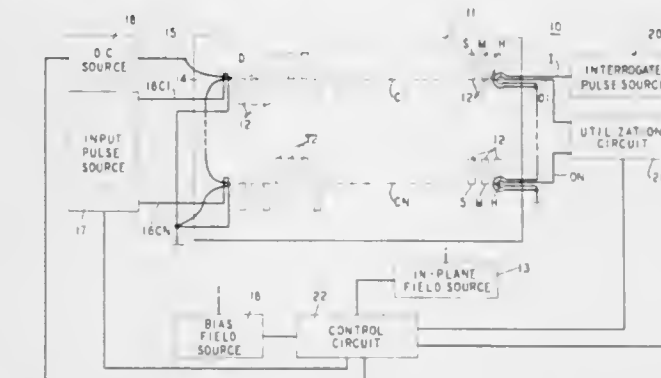
Anthony J. Perneski, Martinsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Dec. 18, 1968, Ser. No. 784,741

Int. Cl. G11c 19/00, 11/14

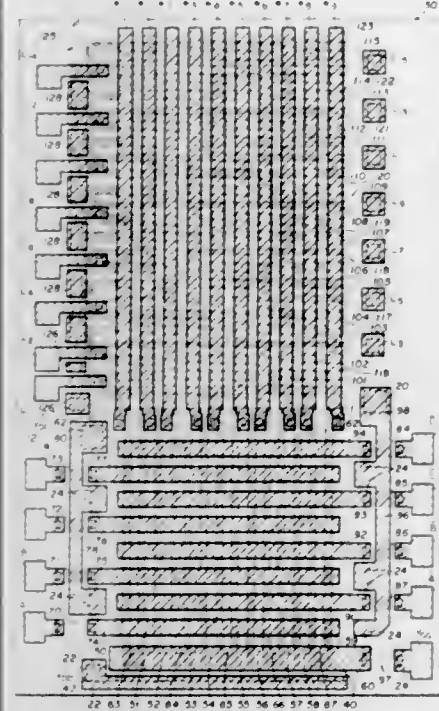
U.S. Cl. 340—174

8 Claims



An arrangement for moving single wall domains in a sheet of magnetic material employs magnetic overlays of different coercive forces. The overlays respond to changing in-plane fields for generating magnetic pole patterns which attract single wall domains to next consecutive positions in a propagation channel defined by the overlays.

alphanumeric output, the sources of all the transistors being common, the transistors in each alphanumeric output row being equal in number to the number of true binary inputs and which are at the input level for turning the transistors "off" when the binary inputs represent that



particular alphanumeric output whereby each alphanumeric output will be at essentially the drain potential when the binary input number represents that particular alphanumeric output and will be essentially at the source potential for all other binary input numbers.

3,541,544 DIGITAL POTENTIOMETER AND CONTROL THEREFOR

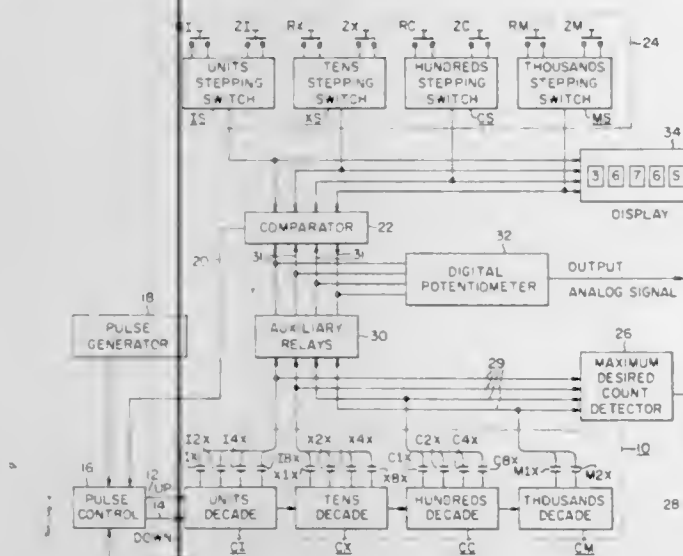
John F. Reuther, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 19, 1966, Ser. No. 573,664

Int. Cl. H03k 13/00

U.S. Cl. 340—347

4 Claims



A steam turbine digital reference system includes a pulse generator and a counter which increases or decreases its count to match the count in a setter circuit. The counter output is converted into an analog output by a digital potentiometer for use as a load or speed reference in a turbine control system. The counter output is also compared to the setter count in a comparator circuit so as to detect a match between the two counts and thereby provide for holding the counter at the matched count value.

3,541,545 DIGITAL VOLTMETER WITH MECHANICAL COUNTING WHEELS

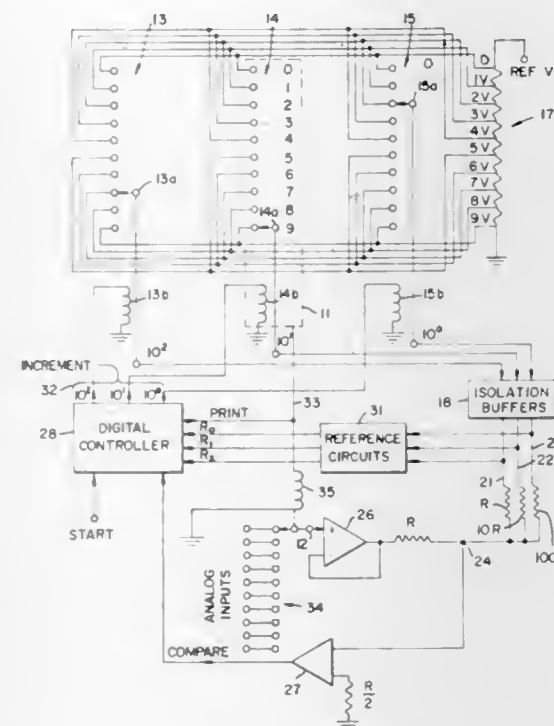
Hector O. Conde, San Pablo, and Prentiss W. Jackson, Oakland, Calif., assignors, by mesne assignments, to Berkeley Scientific Laboratories, Inc., Berkeley, Calif., a corporation of Texas

Filed Aug. 21, 1967, Ser. No. 661,955

Int. Cl. H03k 13/17

U.S. Cl. 340—347

6 Claims



A digital voltmeter having three mechanical decimal counting wheels which provide both visual and hard copy readout of the digital indication. A resistive ladder network is coupled to the 10 terminals of the counter wheels which are in parallel. Each of the counter wheels include a scanner for sensing the terminals and to provide an output voltage which is representative of the wheel position. The voltage outputs of the counter wheels are coupled to a digital to analog converter to convert the output voltage to analog information which is then compared with the analog input to incrementally advance the counters until the voltages are equal. Initially the counters are reset to "099" allowing the mechanical counters to effectively and efficiently count in only one direction.

3,541,546 INTEGRATED CIRCUIT ANALOG-TO-DIGITAL CONVERTER

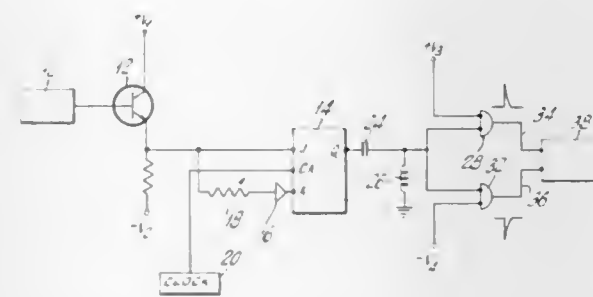
Michael B. French, Blue Point, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Oct. 20, 1967, Ser. No. 676,975

Int. Cl. H03k 13/02

U.S. Cl. 340—347

1 Claim



This analog-to-digital converter is a clock J-K flip-flop whose inputs are fed respectively in phase and in anti-phase with an analog signal.

3,541,547 CODE CONVERTER

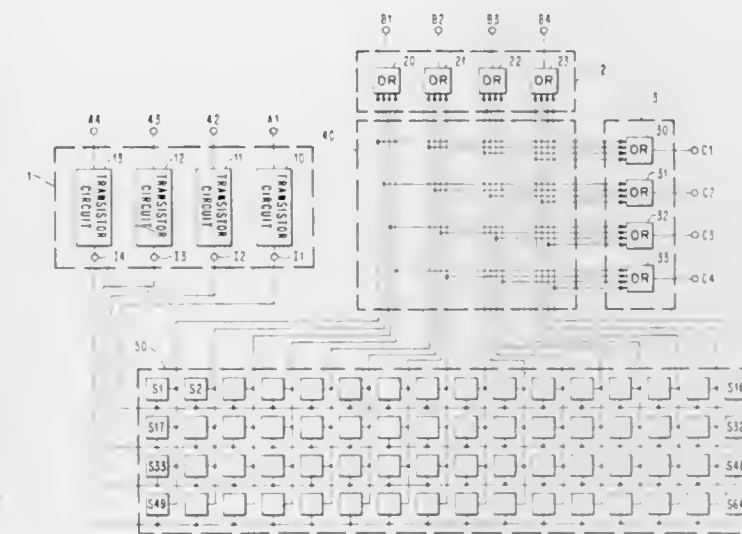
Paul Abramson, Yorktown Heights, and Hans Y. Juliusburger, Putnam Valley, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 15, 1968, Ser. No. 713,528

Int. Cl. H03k 13/25

U.S. Cl. 340—347

4 Claims



A code converter for converting a 1 out of N^3 code to a 3 out of $3N$ code which comprises two sets of OR circuits, a connecting matrix, N transistor circuits and a $N^2 \times N$ switching matrix.

3,541,548 AUDIBLE ACTION AND ALARM CIRCUIT

George R. Cogar, Frankfort, Torkjell Sekse, Marcy, Walter Banziger and Joseph W. Ming, Utica, and Laszlo Horvath, Ilion, N.Y., assignors to Mohawk Data Sciences Corporation, Herkimer, N.Y., a corporation of New York

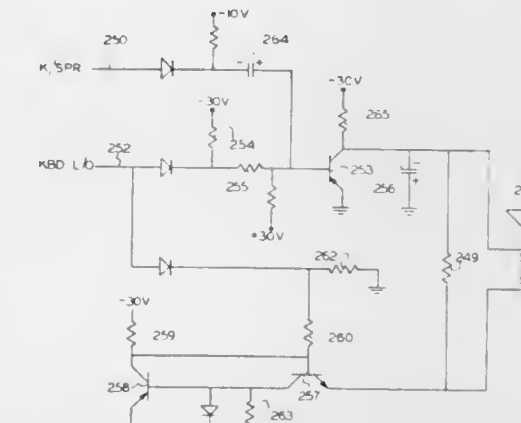
Original application Mar. 30, 1966, Ser. No. 541,450.

Divided and this application Jan. 14, 1969, Ser. No. 792,899

Int. Cl. G08b 3/10

U.S. Cl. 340—384

4 Claims



A circuit for providing audible feedback to the operator of a key-operated device for recording data on, for example, magnetic tape. When each key is depressed, feedback in the form of a "click" sound is provided. An error condition is signalled to the operator by a continuous tone which is not as loud as the above "click." The circuit comprises a driving oscillator connected to an audio speaker. The oscillator is enabled for a short period when a key is depressed and continuously when an error condition occurs.

3,541,549 SELF-CHECKING FLAME DETECTION APPARATUS

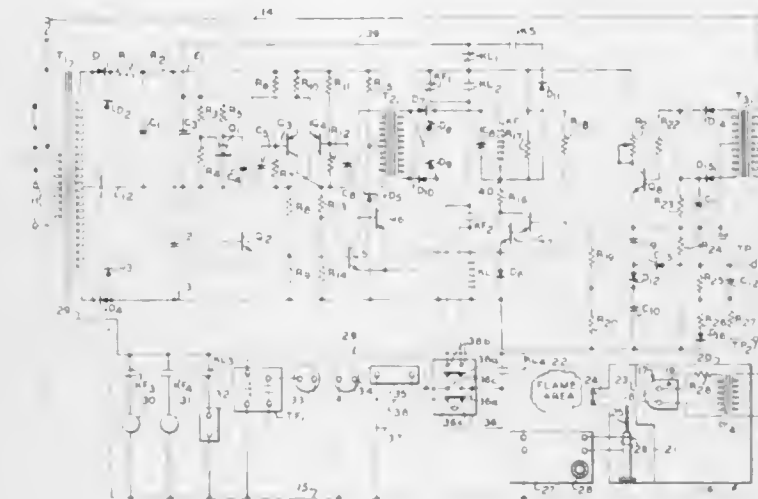
Donald L. Graves, Montville, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Aug. 19, 1968, Ser. No. 753,387

Int. Cl. G08b 29/00; F23q 23/08

U.S. Cl. 340—410

12 Claims



A system responsive to flame characteristics is provided for detecting the flame of a fuel burner and for initiating the closing of the fuel valve if a flame failure occurs for any reason. The system includes means for checking intermittently the operability of the detector and for initiating automatic closing of the fuel valve to stop the burner if either the detector or the checking apparatus is not functioning properly.

3,541,550 WARNING DEVICE

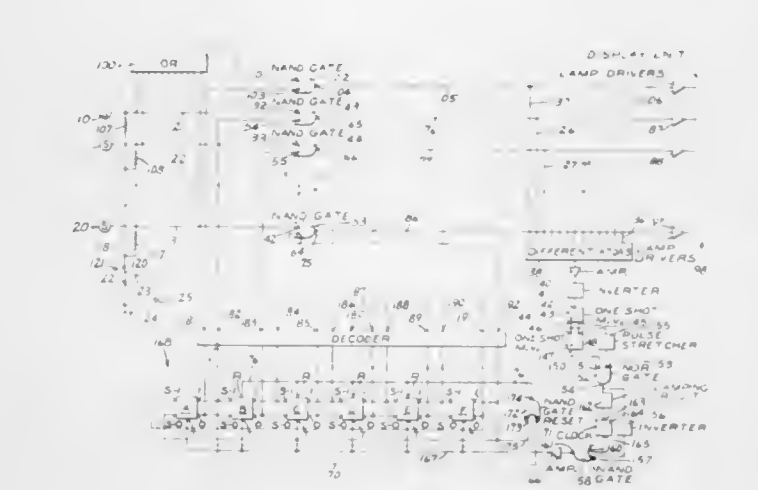
Herman G. Hamre, Coon Rapids, Minn., assignor to Dynacom Corp., St. Paul, Minn., a corporation of Minnesota

Filed May 25, 1967, Ser. No. 641,184

Int. Cl. G08b 19/00; G09f 9/00

U.S. Cl. 340—413

8 Claims



A failure warning device having a plurality of fault sensors each of which produce an output signal upon the occurrence of a particular malfunction. Each of the fault sensors is connected to a first input of a different one of a plurality of gating circuits, the gating circuits producing an output signal only when a second signal is applied to a second input thereof and a malfunction associated with its particular fault indicator is occurring. The second input of each of the gating circuits is connected to a scanning

circuit which continuously and sequentially applies an enabling signal to the second input of the gating circuits. The outputs of each of the gating circuits are connected to indicator means to indicate when a given fault or malfunction has occurred.

3,541,551

INTRUSION DETECTOR RADAR WITH SPACE LINK CONTROL OF SURVEILLANCE AREA LIMITS

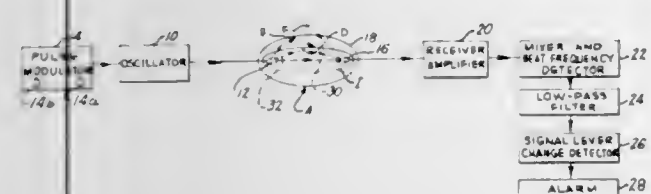
Albin Bystrom, Jr., Seattle, Raymond E. Metter, Bellevue, and Donald B. Spencer, Federal Way, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Oct. 2, 1967, Ser. No. 675,273

Int. Cl. G01s 9/00; G08b 13/00

U.S. Cl. 343—5

5 Claims



The disclosure relates to an intrusion detector system for protecting a limited surveillance area by the use of radar-like techniques and apparatus. In the disclosed system a transmitter operable to emit intermittent wave energy pulses of predetermined duration is placed at one position adjacent to the surveillance area, and a cooperative receiver electrically isolated from the transmitter is positioned substantially on a common line of directivity with the transmitter and facing the transmitter from substantially the opposite side of the surveillance area. The receiver is subjected to wave energy pulses propagated over the direct space path along the common line of directivity between transmitter and receiver and over indirect space paths by reflection from objects located away from the direct space path. However, the receiver includes means rendering it operable only during and in response to reception of pulses transmitted directly from the transmitter and means for detecting changes in the combined energy received during the operative intervals by direct transmission and by reflection from objects within the surveillance area. Thus the actual surveillance area located on both sides of the direct space path between transmitter and receiver normally has a substantially elliptical periphery and is precisely limited by transmitter pulse duration and the spacing between transmitter and receiver. An alarm or other utilization responsive to the detecting means in the system will not respond to the presence of objects outside the surveillance area, since for such objects coincidence does not occur in the receiver for energy traveling along direct and indirect space paths.

3,541,552

SYNCHRONIZATION SYSTEM

Wayland A. Carlson, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Continuation-in-part of application Ser. No. 439,112, Mar. 11, 1965. This application July 26, 1968, Ser. No. 747,971

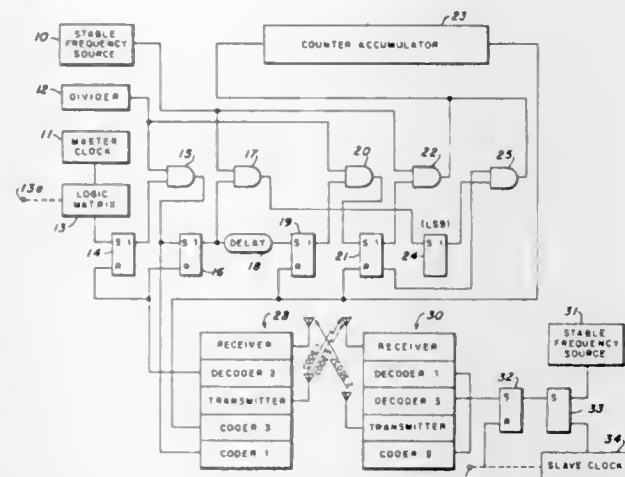
Int. Cl. H04b 7/00; G04c 13/02; H041 7/00

U.S. Cl. 343—225

8 Claims

A synchronization system is disclosed for synchronizing one or more remote slave clocks with a master clock to a high degree of accuracy in terms of real time. A slave clock is set to a future time at which it is desired to have the synchronization take place. By voice or other suitable communication, the selected time is made known to the master clock location and the operator at the master clock

location sets this time into a master clock logic matrix when the real time set into the master clock logic matrix is reached, a first code is generated and sent to the slave station. At the same time, the master station begins counting pulses derived from the same source that drives the master clock. Upon receiving the code, the slave station responds with a second code transmitted back to the master station, thereby stopping the pulse count at the master station. Accordingly, the pulse count is a measure of the two-way propagation time between the master and the slave locations. By one of several means, the pulse count is divided by two to derive the one-way propagation



time. At a fixed increment of time displacement from the initial synchronization cycle, the master station begins to count again until it achieves a cumulative pulse count which is equal to the synchronization time increment, thus effectively counting to a time which is just short of the second light time increment by the amount of time which it takes for one-way propagation from the master to the slave station. Upon reaching this count, the master station is caused to transmit a third code, which when received by the slave station, is decoded and starts the slave clock running in highly accurate synchronization that is precise to one part or less of one cyclic period of the frequency source which drives the master clock.

3,541,553

SATELLITE COMMUNICATIONS SYSTEMS

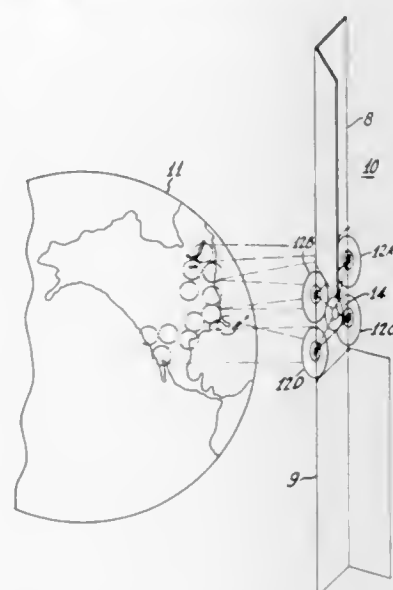
Samuel Gubin, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware

Continuation of application Ser. No. 633,908, Apr. 26, 1967. This application Mar. 27, 1968, Ser. No. 716,668

Int. Cl. H04b 13/00

U.S. Cl. 343—100

4 Claims



A communication system employing a satellite capable of providing full communication coverage of an irregularly shaped area on the surface of the earth or some

other celestial body is described, it being desired to confine radiation only within or substantially within the irregularly shaped area. A satellite is placed in orbit about the body and in view of the desired area. The satellite is preferably placed in a synchronous orbit whereby it will appear to hover in one spot in relation to that area irrespective of the movement of the celestial body but the concept may also be applied to an orbiting satellite. The satellite has associated with it a plurality of antenna elements, each of which or a group of which are designed to transmit a radiation pattern that covers an elementary area of the irregularly shaped area in the manner of a mosaic. An irregularly shaped area can be divided into a number of elementary areas which together comprise the total. Each of the antenna elements or groups of them is then designed to cover one of these smaller areas. There are means aboard the satellite responsive to radiated signals from the earth's surface to cause the plurality of antenna elements to radiate to the surface by forming a composite beam whose radiation pattern substantially conforms to the irregularly shaped area thereby providing full communication coverage.

3,541,554

TUNABLE WHIP ANTENNA

James W. Shirey, Lakeland, Mich., assignor to L-Coil Research, Brighton, Mich., a partnership of Michigan

Filed Oct. 9, 1967, Ser. No. 673,851

Int. Cl. H01q 1/32, 9/00

U.S. Cl. 343—713

6 Claims



A tunable whip antenna for mounting on a metallic body, such as a motor vehicle body, having a tuning element at the base of the radiating element comprising a pair of impedance coils electrically and inductively in series and adjustable means for varying the mutual inductance coupling between the two coils so as to properly tune the antenna to resonate at a predetermined RF frequency.

3,541,555

DIPOLE ANTENNA SYSTEM

Edward N. Willie, Locust Valley, and Daphne Volkers, Sand Point, N.Y., assignors to Volkers Research Inc., Port Washington, N.Y., a corporation of New York

Filed June 21, 1967, Ser. No. 647,881

Claims priority, application Great Britain, June 22, 1966, 27,828/66

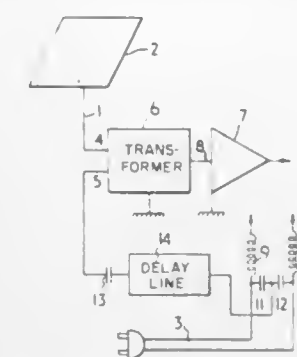
Int. Cl. H01q 9/16

U.S. Cl. 343—720

7 Claims

A dipole antenna system wherein one arm of the dipole is fixed and the other arm may be randomly posi-

tioned and/or of random length including a phase adjustment device associated with one or both arms to



maintain the signals from the two arms in the desired phase relation.

3,541,556

COMPOSITE ANTENNA

Jean Cheillan, Croissy-sur-Seine, France, assignor to C.I.T.-Compagnie Industrielle des Telecommunications, Paris, France

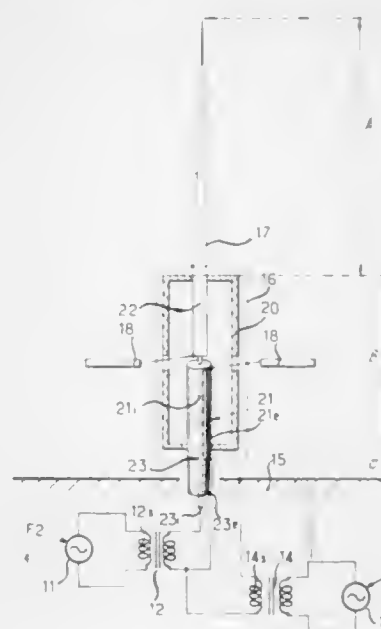
Filed Oct. 31, 1967, Ser. No. 679,378

Claims priority, application France, Nov. 4, 1966, 82,591; Sept. 20, 1967, 121,672

Int. Cl. H01q 21/28, 21/30, 1/48

U.S. Cl. 343—727

12 Claims



Composite antenna comprising in a single structure two units for transmitting two very different wavelengths, $\lambda_1 \gg \lambda_2$, with a beam antenna about $\lambda_1/4$ in length for transmitting the wave of greater wavelength λ_1 , having an end fixed to an antenna set-up dimensioned for transmitting the wave of similar wavelength λ_2 .

3,541,557

MULTIBAND TUNABLE NOTCH ANTENNA

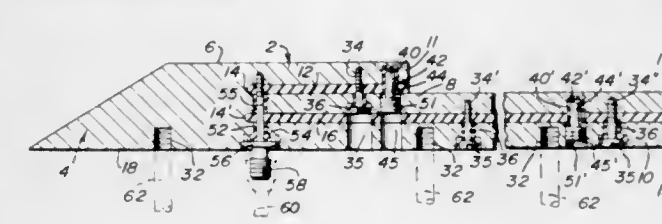
Calvin W. Miley, P.O. Box 599, Fort Walton Beach, Fla. 32548

Filed June 27, 1968, Ser. No. 740,670

Int. Cl. H01q 1/28, 13/10

U.S. Cl. 343—746

7 Claims



First and second antenna blades are retained in vertically aligned spaced relation with dielectric material interposed therebetween. A third or shortened blade

is disposed in spaced overlying relationship to the aforementioned blades and separated therefrom by an interposing layer of dielectric material. Tuning slugs are capacitively connected between the first and second blades and the second and third blades, respectively. A coaxial connector is electrically connected between the first and third blades thereby providing terminal access to the antenna for signals operating at two separate frequencies, each being tunable by an associated tuning slug.

3,541,558

TELESCOPING ROD ANTENNA WITH RADIAL ARM GROUND PLANE

Raymond T. Rhein, 2621 Old Welsh Road,
Willow Grove, Pa. 19090

Filed Sept. 9, 1968, Ser. No. 758,505

Int. Cl. H01q 1/10, 1/32, 9/00

U.S. Cl. 343-749

4 Claims



An antenna comprising a grounded mounting base with an array of horizontals exteriorly disposed thereon and having a multipiece mast extending vertically thereabove. The mast is composed of tubular elements with connecting bushings tightly engaged. The mast is electrically insulated from the base by concentric elements which enclose a coil to which a lead-in is connected intermediate the ends of the coil.

3,541,559

ANTENNA FOR PRODUCING CIRCULAR POLARIZATION OVER WIDE ANGLES

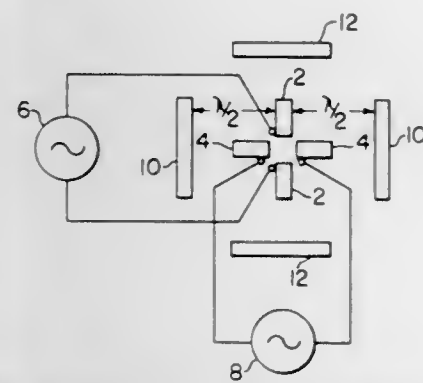
Gary E. Evans, Hanover, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Delaware

Filed Apr. 10, 1968, Ser. No. 720,095

Int. Cl. H01q 9/28, 19/00, 21/26

U.S. Cl. 343-756

8 Claims



An antenna providing circular polarization over wide angles with a very low ellipticity ratio of the polarization over wide angles of the radiation pattern by disposing

crossed dipoles in a square grid of parasitic reflectors. Low ellipticity is obtained by separating the reflectors by substantially an odd number of wavelengths. The parasitic reflectors are disposed about the crossed dipole radiator so as to be reflective to the electric field component disposed along their length and transparent to the electric field component normal to their length. All the metallic parts are in one plane so they may be disposed on a dielectric sheet by means of printed circuit techniques.

3,541,560

ENHANCEMENT OF POLARIZATION ISOLATION IN A DUAL POLARIZED ANTENNA

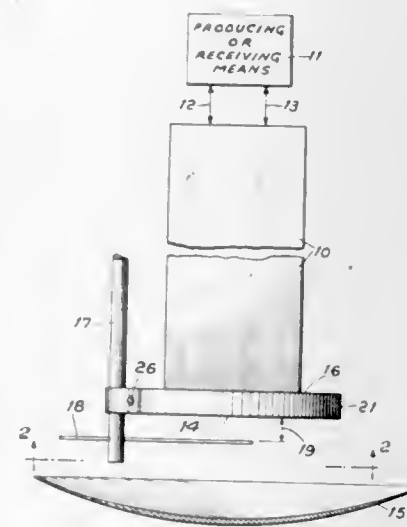
Zeno G. Lyon, Scotch Plains, John Granlund, Short Hills, and Robert J. Merkel, Oakland, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed June 24, 1968, Ser. No. 739,423

Int. Cl. H01q 19/00

U.S. Cl. 343-756

10 Claims



Means is provided for enhancing polarization isolation wherein at least one conductive probe is mounted in front of the mouth of a waveguide horn. The probe's mounting permits selective interception of the orthogonal waves passing through said horn.

3,541,561

HIGH-SPEED SCANNER IN WHICH A FEED ARM IS PIVOTALLY MOUNTED WITH AND ANGULARLY MOVABLE FROM A COMPLEMENTARY COUNTER-BALANCE ARM

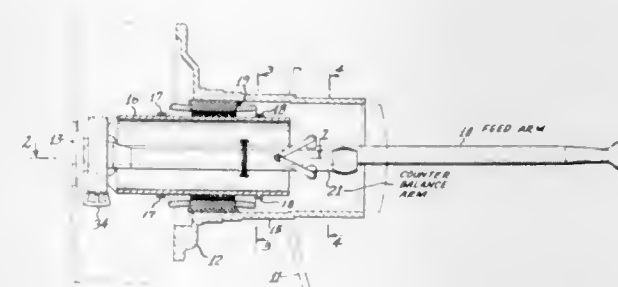
Charles F. Chubb, Jr., Glen Head, N.Y., assignor to Dynell Electronics Corporation, Plainview, N.Y., a corporation of New York

Filed Apr. 17, 1968, Ser. No. 722,005

Int. Cl. H01q 3/00, 3/10, 3/12

U.S. Cl. 343-757

9 Claims



A high-speed scanner for achieving selectively controlled spiral and circular scan patterns in a dynamically

balanced system in which the feed arm for the radiant energy is pivotally mounted with a complementary counter-balance arm and in which the two arms are angularly movable in different directions against a spring force for a distance determined by the speed of rotation of assembly and in which pick-offs which can work through a servo loop measure the position of the antenna feed and control the torque of the rotary device.

3,541,562

MINIATURE ANTENNA FOR BEACONS

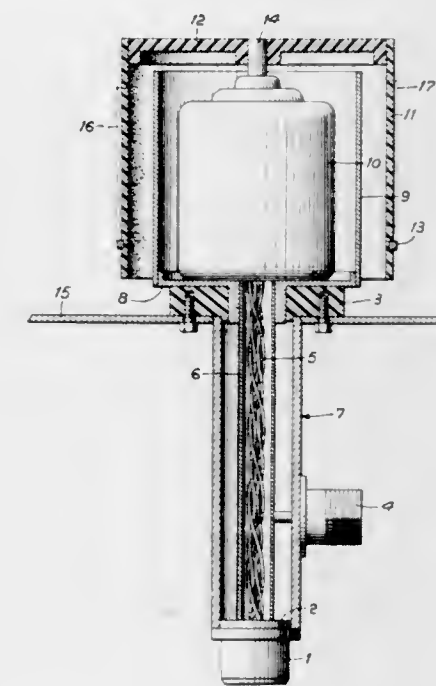
Sven H. Dodington, Mountain Lakes, Etienne C. L. de Faymoreau, Nutley, Ernest G. Parker, Convent Station, and James T. Whitefield, Paramus, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed July 31, 1968, Ser. No. 749,150

Int. Cl. H01q 3/12

U.S. Cl. 343-760

7 Claims



An inverse mode Tacan antenna includes a cylindrical radiator mounted above a ground plane. A coaxial dielectric cylinder which fits over the radiator is driven by the shaft of a motor positioned inside the radiator. The dielectric cylinder has directors and reflectors attached thereto which change the field of the radiator into a cardioid field. R.F. power is coupled to the radiator through a coaxial transmission line whose hollow center conductor is used to carry AC currents to and from the motor. An alternator is assembled within the motor housing and its output is used to provide a phase reference for received signals.

3,541,563

POLARIZATION DEVICE FOR ANTENNA

John H. Staehlin, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 31, 1963, Ser. No. 300,410

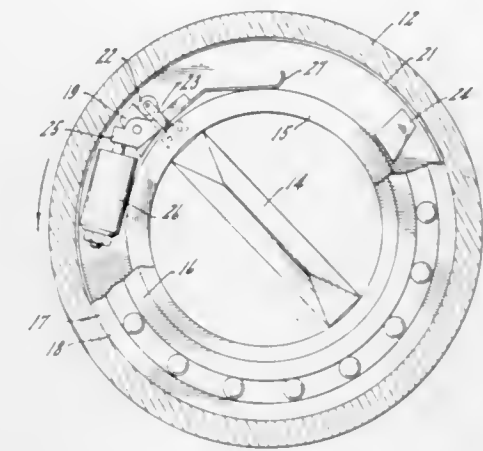
Int. Cl. H01q 15/24, 3/10

U.S. Cl. 343-766

4 Claims

1. In an antenna system having a rotatable feedhorn, a polarization selector comprising:
a quarter-wave plate rotatably mounted in said feedhorn,
a stationary plate mounted within said feedhorn,
first and second stops attached to said stationary plate, said stops being displaced apart approximately ninety degrees,

a third stop pivotally attached to said stationary plate for selectively providing a stop midway between said first and second stops,



means for pivotally actuating said third stop, and means connected to said quarter-wave plate for engaging said stops.

3,541,564

MULTIPLE CHANNEL ZIG-ZAG ANTENNA ARRAY

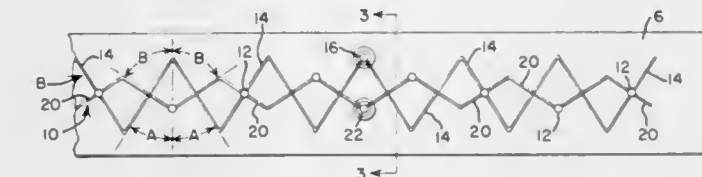
Ronald E. Fisk, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York

Filed Dec. 16, 1968, Ser. No. 784,114

Int. Cl. H01q 9/16, 19/10

U.S. Cl. 343-793

3 Claims



Two interleaved antenna radiators of the zig-zag type are mounted on a common panel and disposed in parallel spaced apart planes, to provide for two frequency bands in the physical space ordinarily required for one frequency band. The antennas are arranged so that they cross each other at approximately 90° in order to minimize coupling effects.

3,541,565

ELECTRONIC-SCANNING ANTENNAS

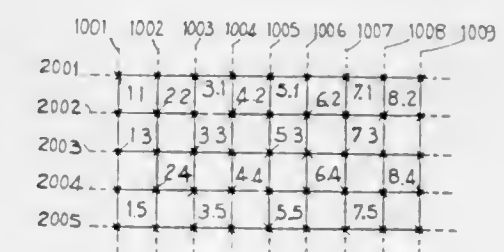
Siegfried Zisler, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Sept. 6, 1967, Ser. No. 665,885

Int. Cl. H01q 3/26, 19/06, 13/00

U.S. Cl. 343-854

4 Claims



An electronic-scanning antenna comprising a network of radiating elements distributed over the surface of a sphere, the radiating elements being connected at the intersections of two groups of lossy feeders; a switching

system is provided for selectively connecting any one of a predetermined group of the radiating elements to the utilization system, whereby the orientation of the radiation diagram is varied.

3,541,566

FOLDABLE ANTENNA STRUCTURE

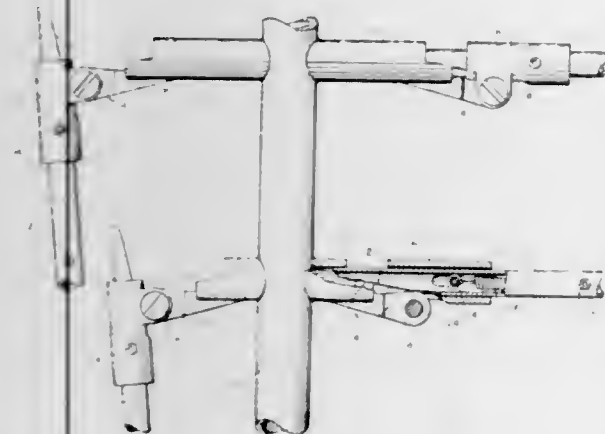
Henry Rebsamen, Manasquan, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Dec. 5, 1967, Ser. No. 688,272

Int. Cl. H01q 15/20; B25g 3/38

U.S. Cl. 343—882

4 Claims



The invention herein relates broadly to a foldable antenna structure and specifically to a novel locking hinged joint that supports the antenna arm or element when in extended use and that permits folding of the element to a position along the mast. The hinge is of tubular configuration which cooperates with a spring loaded antenna element to maintain it in fixed position when in use and further to allow the element to be folded along the side of the mast. The joint of the invention also provides a secure, direct and effective electrically conductive path for the transmission of RF energy.

3,541,567

MULTIELEMENT RADIO-FREQUENCY ANTENNA STRUCTURE HAVING LINEARLY ARRANGED ELEMENTS

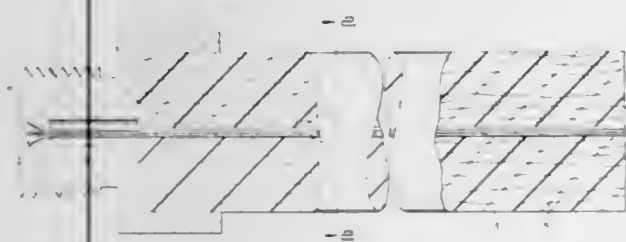
Richard J. Francis and Clara A. Francis, both of 11855 Broad St., Pataskala, Ohio 43062

Filed Sept. 25, 1967, Ser. No. 670,153

Int. Cl. H01q 1/40

U.S. Cl. 343—873

10 Claims



A multielement antenna structure is provided which may be fabricated with a predetermined characteristic impedance for impedance matching purposes. The several elements comprise elongated electrical conductors grouped in parallel, longitudinally extending relationship with the elements being encased in a supporting body formed from a hardenable resin matrix. A broadband frequency response characteristic is obtained through appropriate selection of conductor diameters that will result in resonance of the several conductors at different respective frequencies within the design frequency band.

**3,541,568
STORABLE WAVEGUIDES FOR ELECTRONIC SYSTEMS**

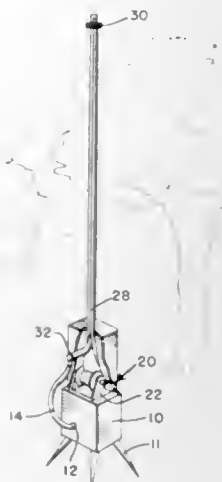
Herman Lowenbar, 422 Hudson St., New York, N.Y. 10014

Filed Feb. 23, 1968, Ser. No. 707,725

Int. Cl. H01q 1/12, 1/08, 1/31

U.S. Cl. 343—877

20 Claims



A waveguide which can be stored on a reel and is easily erected. The storable waveguide is capable of propagating electromagnetic microwave energy to make it useful as part of an electronic system and is self-supporting to enable its use to supply energy to or receive energy from an antenna.

3,541,569

EXPANDABLE PARABOLIC REFLECTOR

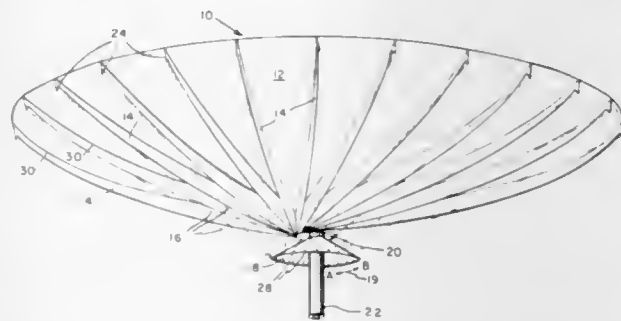
William I. Berks, Manhattan Beach, Roy M. Acker, Los Angeles, and Webster D. Smith, Lomita, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

Filed Mar. 8, 1968, Ser. No. 711,801

Int. Cl. H01q 19/12

U.S. Cl. 343—915

6 Claims



The device of this invention is an expandable parabolic reflector which is comprised of a plurality of rib members radially extending from a relatively fixed central member, with each of the members shaped to form a skeleton structure of a parabolic reflector. A thin collapsible sheet of conductive material attached and stretched between the rib members forms the reflector surface. A spindle member is rotatably mounted to the central member and cables, or wires, are extending from points spaced on the outer surface of the spindle to the outermost tips of the rib members. Means are also provided for rotating the spindle member with respect to the central member to wind the cables and in turn the rib members and reflector around the central member. To expand the reflector, the spindle is rotated in an opposite direction unwinding the cable and allowing the spring action of the ribs to open the reflector material between the ribs. The spindle continues to rotate thus increasing the tension on the cables and stretching the reflector into the desired shape.

3,541,570

CIRCULARLY POLARIZED ANTENNA

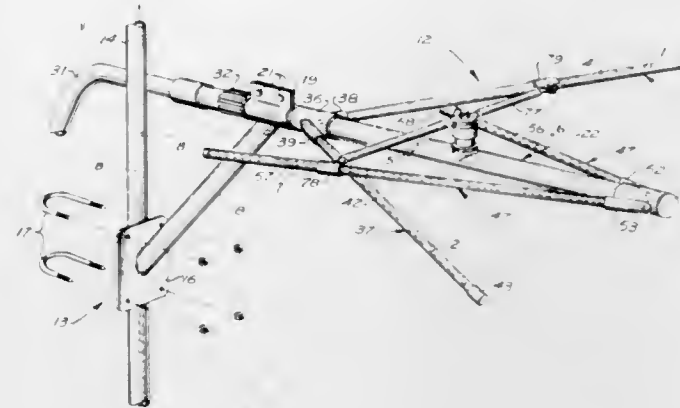
Peter K. Onnigian, Sacramento, Calif., assignor to Jampro Antenna Company, a division of Computer Equipment Corporation

Filed July 26, 1968, Ser. No. 747,949

Int. Cl. H01q 21/20

U.S. Cl. 343—704

9 Claims



A substantially horizontal support tube mounted on an antenna tower carries at each end a V-shaped element, each element including a part of arms each one-fourth wavelength in length. Together, the two V-shaped elements form a substantially square-shaped configuration with the support tube as a diagonal. Electrical signal conducting means connect the center of one of the arms on each of the V-shaped elements to a terminal on the support tube. By providing an appropriate electrical signal at the terminal, the elements serve as radiators of a circularly polarized signal. The elements can also be used as receivers. By angularly inclining the planes formed by the two V-shaped elements, the respective horizontal and vertical field strengths can be selectively regulated.

3,541,571

METHOD FOR VISIBLY RECORDING ELECTROMAGNETIC WAVES

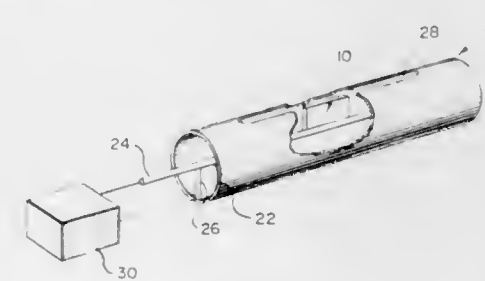
Keigo Iizuka, 109 Warren St., Apt. 7, Watertown, Mass. 02172

Filed Jan. 22, 1968, Ser. No. 699,407

Int. Cl. G11c 11/16; G01d 15/10

U.S. Cl. 346—1

16 Claims



Physical phenomena characterized by, or capable of generating, thermal fields corresponding to the phenomena are recorded by utilizing the thermal fields to control the diffusion rates and reaction rates of one or more recording agents through a diffusion medium to a receiving layer. Either the recording agents, or the diffusion layer, or both, are temperature-sensitive.

The method is particularly applicable to recording the intensity and phase of high frequency electromagnetic waves directly on photographic film. The film is first sensitized by uniformly exposing it to actinic light for a brief time interval and is then coated with a developing agent and immediately inserted in the field while being protected from further exposure to light. The field selectively heats the film in accordance with the local field intensity to thereby selectively develop the film and form a replica of the field intensity variations.

In addition to measuring the fields of devices such as antennas, transmission lines, and waveguides, the method is directly applicable to the construction of microwave holograms by providing a reference field at the film surface to cause the film to record the phase as well as the intensity of a field obtained by reflection from a specimen.

3,541,572

CODING THEODOLITE

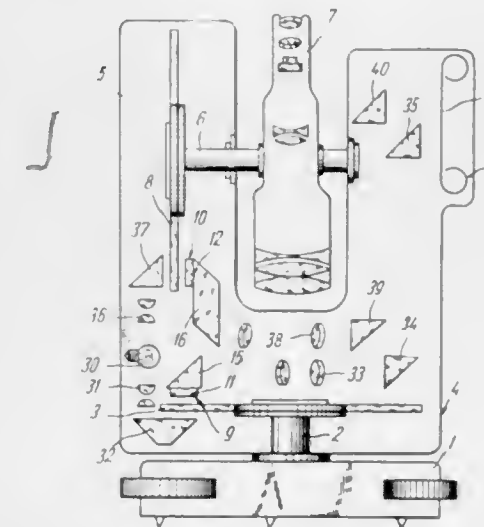
Voldemar Garrievich Shults, Nalichnaya ulitsa 37, korpus 3, kv. 13, Leningrad, U.S.S.R.

Filed Feb. 21, 1968, Ser. No. 707,089

Int. Cl. G01c 1/04; G01d 5/32

U.S. Cl. 346—2

2 Claims



A coding theodolite for automatic recording of the values of measurements of horizontal and vertical angles wherein as horizontal and vertical circles there are employed code discs in the form of round transparent plates having code masks thereon consisting of two concentric graduation line tracks. The graduation lines are arranged radially. The number of the first and second code tracks is in the following relation:

$$\alpha = \beta + \frac{\beta}{n_1} = \beta \left(1 + \frac{1}{n_1} \right)$$

where

α represents the angular interval of the second code track;

β is the angular interval of the first code track;

n_1 is a number of graduation lines on the first code track.

The measurement results are fixed on the frame of the film in the form of two graduation lines whose mutual position with respect to each other and with reference to the readout line for which one of the borders of the film frame may be taken, contains the information about the angular value to be measured. To obtain the angular value to be measured in digital form, the film with the results of measurements is treated additionally in a special film readout apparatus.

3,541,573

SELECTIVE INFORMATION RECORDING AND ERASING CIRCUIT

Cyrus F. Ault, Wheaton, and Richard J. Redner, Glen Ellyn, Ill., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed June 7, 1968, Ser. No. 735,217

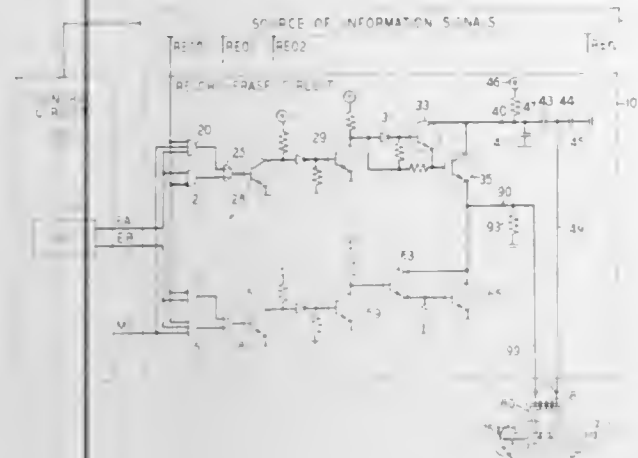
Int. Cl. G11b 5/02

U.S. Cl. 346—74

9 Claims

An alternating current is generated in a record head winding for selectively magnetizing or demagnetizing individual bit magnets on twistor magnet memory cards by

alternately connecting opposite ends of the winding to an initially charged capacitor and then to ground over first and second resonant paths. The magnitude of the current decays as the capacitor discharges, thereby producing a

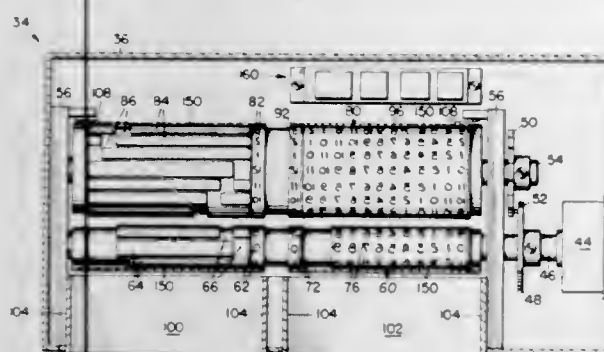


demagnetizing waveform. The magnetizing waveform is produced by terminating the current after several cycles, the last half-cycle of current determining the polarity of magnetization.

3,541,574
COMPUTER AND RECORDER
Hans Weiss, 23 Overbrook Road,
Vernon, Conn. 06086
Filed Oct. 25, 1968, Ser. No. 770,727
Int. Cl. G07c 1/06

U.S. Cl. 346—82

3 Claims



A computing and recording system including a record-receiver physically cooperant with an assemblage of clock-driven instrumentalities for stamping sets of impressions thereupon for delineating both the commencement of a measured time increment upon a first insertion of the record-receiver into the assemblage and the termination of the measured time increment and additionally the total time elapsed or monetary value or any other value of the time increment between time-increment-commencement and time-increment-termination upon a next sequential or second insertion of the record-receiver into the assemblage, with the elapsed time or monetary or other value computation and recordation being in accordance with a blanking out of certain areas of the record-receiver upon the first insertion so as to allow the reading, following the second insertion, of only appropriate impressions, the others being camouflaged.

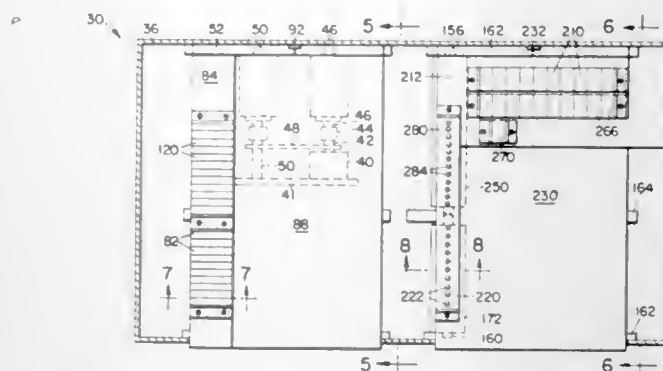
3,541,575
COMPUTER AND RECORDER
Hans Weiss, 23 Overbrook Road,
Vernon, Conn. 06086
Filed Oct. 25, 1968, Ser. No. 770,655
Int. Cl. G07c 1/06

U.S. Cl. 346—82

4 Claims

A computing and recording system including a record receiver physically cooperant with an assemblage of clock-driven instrumentalities for punching sets of perforations

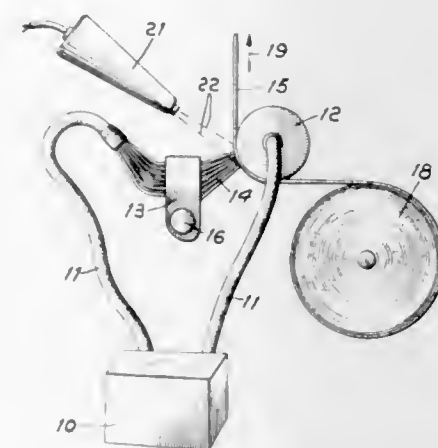
therethrough for showing both the commencement of a measured time increment upon a first insertion of the record-receiver into the assemblage and the total time elapsed or money value of the time increment between such time increment commencement and its termination,



as identified by a next sequential insertion of the record-receiver into the assemblage with the elapsed time or money value computation and recordation being in accordance with a reading by instrumentalities of the assemblage of the first set of perforations upon the second insertion of the record-receiver into the assemblage.

3,541,576
TELLURIUM ELECTRODE PRINTER
Paul R. Adams, Upper Montclair, N.J., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed July 12, 1967, Ser. No. 652,926
Int. Cl. G01d 15/06, 15/34
U.S. Cl. 346—74

2 Claims



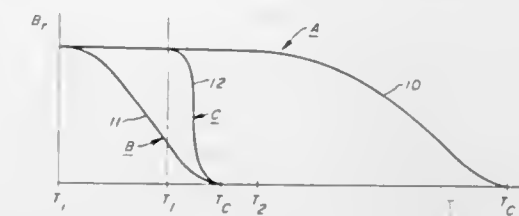
There is provided the apparatus and method to eliminate the wet characteristic of an electrolytic printer by ionizing the gas contained within a paper printing medium, such that tellurium ions are deposited on the paper producing a permanent mark thereon. A paper supporting platen which is a tellurium ion bearing electrode cooperates with a plurality of opposite arranged pins. The electrode and the pin are connected to a mosaic character generator. An ionizing means is provided to ionize the gas contained in the paper in the area between the platen and pins so as to provide the conductivity required between the electrode and pins to deposit ions on the paper according to the energization of the mosaic character generator.

3,541,577
METHOD OF CURIE POINT RECORDING
James U. Lemke, Sierra Madre, Calif., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed June 28, 1967, Ser. No. 649,540
Int. Cl. G01d 15/12; G11b 5/62, 5/86
U.S. Cl. 346—74

13 Claims

Information is magnetically recorded by preparing a magnetizable medium characterized by magnetic particles

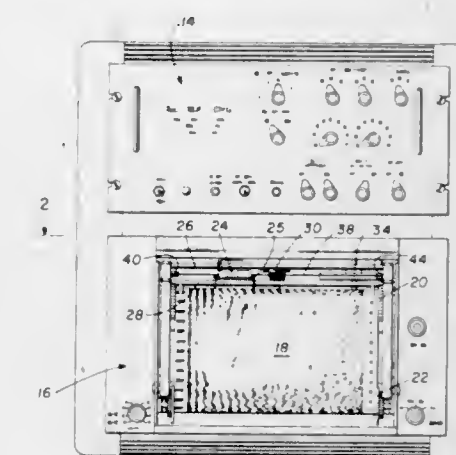
having a shape anisotropy which imparts upon the particles a substantially stable remanence up to a predetermined temperature in the vicinity of the Curie point of said particles, and which dominates other qualities of said particles which tend to cause remanence diminutions in derogation of said substantially stable remanence, and



by subjecting the medium to information-controlled thermal remanent magnetization which includes the steps of heating at least selected ones of said particles to an elevated temperature being at least as high as substantially said Curie point, cooling said selected particles to below said predetermined temperature, and magnetizing said selected particles during said cooling step.

3,541,578
RECIPROCATING STYLUS RECORDER
Leland Tschurr, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Nov. 19, 1968, Ser. No. 776,883
Int. Cl. G01d 9/26; G01v 1/24
U.S. Cl. 346—139

16 Claims



Data is plotted on a record medium by maintaining the record medium stationary while a recording stylus plots a series of linear segments representative of the data across the record medium in a first direction along a linear path. The plotting sweep of the stylus is initiated by a start pulse which causes the generation of a ramp function. A servo motor responsive to the ramp function controls the movement of the stylus. After the completion of a plotting sweep of the stylus across the record medium, the record medium is translated in a direction perpendicular to the linear path for a preselected increment while the recording stylus is moved in a second direction along the linear path in order to position the recording stylus for the plotting of the next series of linear segments.

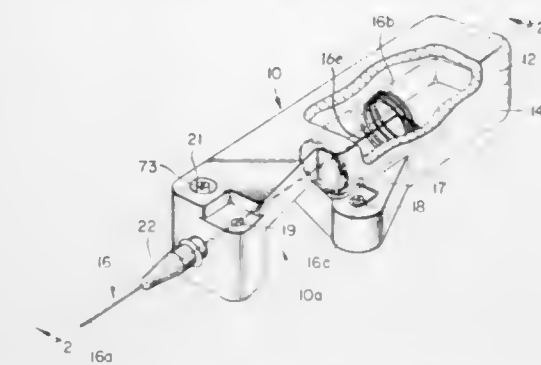
3,541,579
ELECTRONIC STYLUS FEED MECHANISM
Eric A. von Hippel, Weston, Mass., assignor to Graphic Sciences, Inc., Danbury, Conn.
Filed Aug. 26, 1968, Ser. No. 755,097
Int. Cl. G01d 15/10

U.S. Cl. 346—139

13 Claims

A highly compliant pyrographic stylus for a rotary drum facsimile receiver has a long straight portion at one end for bearing against a copy being reproduced and is coiled into a spring at the other end to maintain a

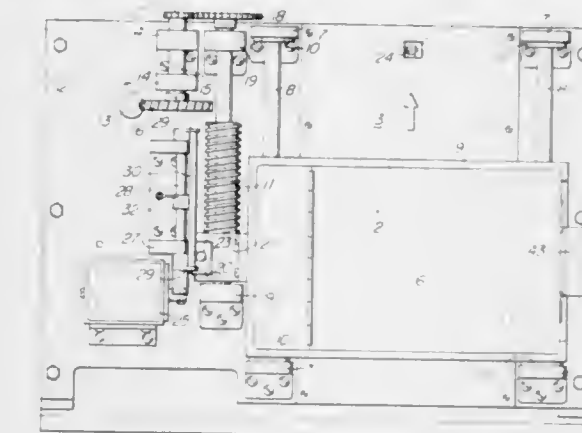
bearing force against the copy. The stylus is mounted in a cartridge which is contoured to provide access to a pair of grippers which grip the stylus and retract it from the copy when the reproduction process is completed. This facilitates loading and unloading of the copy. A bushing in the cartridge provides lateral restraint for



the stylus and allows a greatly increased stylus length with consequent increase in its useful life before replacement is required. A protective boot enclosing the stylus shields that portion of the stylus which is retracted into the bushing during loading and unloading to prevent "fouling" of the bushing.

3,541,580
APPARATUS HAVING A SCANNING DEVICE ON A SLOPED PLANE
Jiro Saito, Kawasaki-shi, Japan, assignor to Toho Denki Co. Ltd., Tokyo, Japan, a corporation of Japan
Filed Nov. 5, 1968, Ser. No. 773,378
Claims priority, application Japan, Nov. 11, 1967, 42/94,888
Int. Cl. G01d 15/24
U.S. Cl. 346—134

3 Claims



In a facsimile receiving system, a scanning device mounted on a sloped plane, in which a sub-scanning unit constructed like a Camera-Back (trade name used by the International Polaroid Corp.) is moved in the scanning upwards along the sloped plane and then, upon the completion of the sub-scanning, said sub-scanning unit is automatically caused to slide down by the gravitational force along the sloped plane to the initial starting position.

3,541,581
PACKAGE CONTAINING A POST-FOAMING GEL
James A. Monson, Racine, Wis., assignor to S. C. Johnson & Son, Inc., Racine, Wis.
Filed Nov. 13, 1967, Ser. No. 682,479
Int. Cl. C11d 17/04

U.S. Cl. 252—90

23 Claims

A package equipped with suitable dispensing means containing a stable post-foaming gel which can be dispensed from the package substantially free from foaming. After being dispensed, the gel will remain substantially free from foaming under static ambient conditions. Under appropriate conditions, the gel will produce a lather having a substantially uniform foam profile suitable for shaving.

ERRATA

For Classes 23—209.1 thru 415—112 see:
Patent Nos. 3,541,582 thru 3,541,607

3,541,582

MANUFACTURE OF CARBON CLOTH FROM POLYMERIC FIBRE MATERIAL

William Johnson, Farnborough, Thomas Lloyd, Farnham, Patrick McMullen, Bentley, Roger Moreton, Crookham, near Aldershot, and William Watt, Farnborough, England, assignors to National Research Development Corporation, London, England
No Drawing. Filed July 5, 1967, Ser. No. 651,118
Claims priority, application Great Britain, July 8, 1966, 30,743/66

Int. Cl. C01b 31/07

U.S. Cl. 23—209.1

6 Claims

According to the invention, polymer fibers, for example polyacrylonitrile fibers, are oxidized by heating them in an oxidizing atmosphere at a temperature within the range of 100°–250° C. while held under tension, the oxidized fibers are woven by a conventional weaving process to provide a woven cloth of oxidized yarns, and, the woven cloth of oxidized yarns is carbonized by heating in a non-oxidizing atmosphere up to a temperature in the region of 1000° C. to provide carbon fiber cloth.

3,541,583

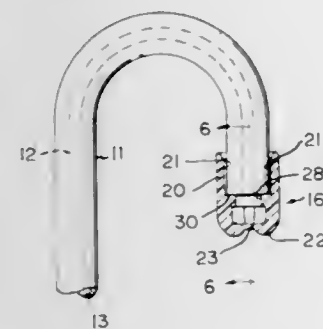
ASPIRATING DEVICE

Fritz Deuschle, St. Augustine, Fla., assignor to Sherwood Medical Industries Inc., a corporation of Delaware
Filed Apr. 27, 1967, Ser. No. 634,239

Int. Cl. A61c 17/04

U.S. Cl. 32—33

6 Claims



An aspirating device including a molded tip which can be telescoped onto tubes of various diameter and a tube having a transversely or circumferentially grooved or serrated wire in the tube wall. The serrations inhibit removal of the wire from the tube wall. The tip has a flexible connected rib structure with internally projecting deformable rib elements which merge centrally to close the distal end of the tip and terminate in a concavity at the mold gate. An internal shoulder is provided in the tip for blocking a tube wall wire from extending beyond the tube end.

3,541,584

CONTROL FOR FOG SIMULATOR EFFECTS

Arthur Simon, Fair Lawn, Wayne R. Gonzalez, Parsippany, and Charles A. Ankenbrock, Paramus, N.J., assignors to The Bendix Corporation, a corporation of Delaware

Filed Aug. 14, 1968, Ser. No. 752,702

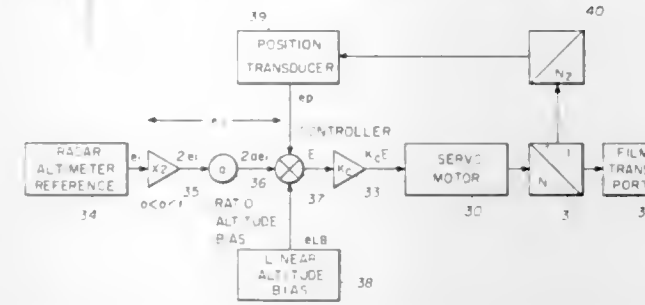
Int. Cl. G09b 9/08

U.S. Cl. 35—12

10 Claims

Means by which visual sequences which are controlled by a fog simulator can be varied. The visual sequence, when plotted as height versus slant visual range, is called a visibility curve. The visibility curve is initially provided

in a number of shapes by the design of individual fog films which are dependent in certain constants of the fog simulator components. By the inclusion of a linear altitude bias control and a ratio altitude bias control in the system, the shape of a visibility curve can be altered to



create variation in a predictable and controlled manner. The linear altitude bias control can be employed to correct errors in the fog simulator system caused by error bias in the pitch servo system or in the height-servo-film transport system.

3,541,585

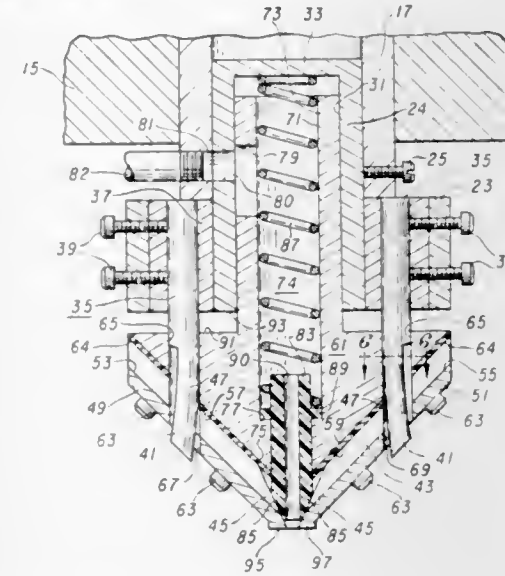
APPARATUS FOR SEVERING CIRCUIT PATTERNS ON A CIRCUIT BOARD

John D. Helms and Herbert L. Brown, Jr., Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Original application Mar. 8, 1967, Ser. No. 621,552.
Divided and this application Jan. 13, 1969, Ser. No. 804,039

Int. Cl. B26d 3/00, 7/06

U.S. Cl. 83—1

11 Claims



A lancing tool is described for removing portions of a circuit pattern on one face of a printed circuit board. A pair of cutter blades are moved simultaneously toward and away from the circuit pattern to remove the desired portion of the circuit pattern. Included is means for picking up and removing from the face of the circuit board, the part of the pattern cut away from the circuit board by the cutting blades.

3,541,586

CUTTING PRESSES

Thomas Benjamin Prew, Coppenhall, Stafford, England, assignor to Stafford Tool and Die Company Limited, a British company

Filed June 3, 1968, Ser. No. 733,837

Claims priority, application Great Britain, June 2, 1967, 25,484/67

Int. Cl. B26d 5/08

U.S. Cl. 83—527

5 Claims

A cutting press having upper and lower relatively movable platens with a cutter assembly therebetween having

at least one cutting knife for cutting sheet workpieces when the platens are moved together and incorporating control means for controlling the movement of the platens. To ensure that the platens are correctly halted when the knife has just cut through the workpiece regardless of

the vessel is disconnected from the underwater well and a second vessel is sunk to receive the liquid while the first vessel is raised and towed or moved to a terminal, the cycle being repeated in a continuous operation.

3,541,589

PROCESS FOR PREPARING SILICON NITRIDE COATED REFRACTORY MATERIAL

Eugenio Lubatti and Salvatore Pappalardo, Novara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy
No Drawing. Filed Nov. 29, 1967, Ser. No. 686,771
Claims priority, application Italy, Nov. 30, 1966, S 30,562/66

Int. Cl. C04b 35/58, 41/32

U.S. Cl. 117—169

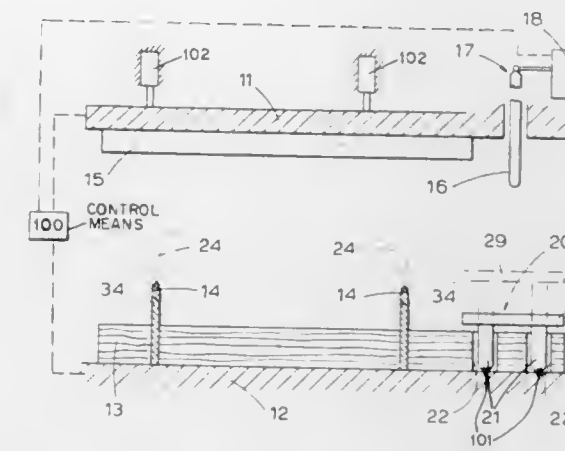
3 Claims

The invention provides a simple method for producing refractory materials and for coating articles which come into contact with corrosive physical and chemical agents at high temperatures.

The process consists essentially in preparing pastes or paints made up of a mixture of powders having a particle size less than 0.075 mm. consisting of:

65–95% of silicon nitride with a purity higher than 90%; 35–5% boron carbide or other boron compounds (boron nitride, calcium borate etc.); and optionally 1–25% of substances such as cryolite, glass, zirconium salts, silicon metal and silicon carbide.

The powders are wetted, in the case of pastes, or suspended, in the case of paints, with solutions containing 0.3–0.8% by weight of dispersing agent. The pastes are shaped or articles painted according to conventional techniques. They are then dried and baked in air or in oxidizing atmosphere at temperatures from 850 to 1250° C., and preferably at 1000° C., for 1 to 8 hours, preferably 6 hours.



the height of the knife there is provided a gauge member having a height corresponding to that of the knife arranged on one of the platens. The gauge member engages a probe arranged on the other of the platens to thereby actuate the control means.

3,541,587

COMPOSITION FOR PRODUCING MOLDED HIGH SUGAR CONTAINERS FOR FROZEN COMESTIBLES

Ernest L. Washburn, Mundelein, Ill., assignor to Keebler Company, a corporation of Delaware
Filed May 23, 1968, Ser. No. 731,430

Int. Cl. A21d 13/08

U.S. Cl. 99—88

11 Claims

A composition of dough for "sugar" cones. Starch having a high amylose content is included in dough formulated for making ice cream cones having 25 to 35% by weight sugar in the final cone product. The high amylose starch permits molding of "sugar" cones thereby avoiding expensive rolling and forming operations heretofore commonly utilized to make such cones.

3,541,588

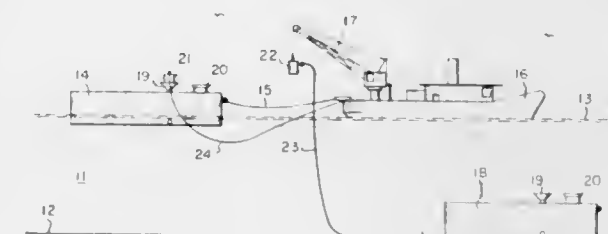
STORAGE AND TRANSPORTATION OF LIQUIDS

Benjamin Douglas Ragland, Houston, Tex., assignor to Esso Production Research Company
Filed Dec. 13, 1968, Ser. No. 783,555

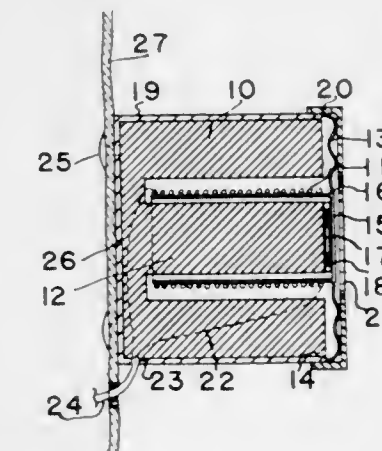
Int. Cl. B63b 21/00, 35/00, 35/28

U.S. Cl. 114—5

13 Claims



Liquids such as oil and the like are obtained from an underwater source such as an underwater well and flowed into a sunken vessel until the vessel is filled. Thereafter,



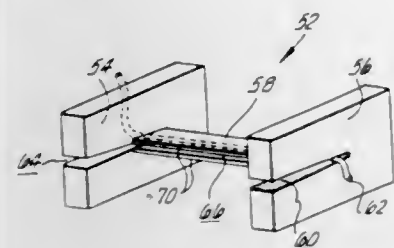
A pulse meter having both aural and visual readouts includes an electromechanical pulse transducer having a magnetic core with an annular recess, a diaphragm-supported voice coil located in the recess and connected to a multistage, capacitive-coupled amplifier and a resilient buffer connected between the outer end of the voice coil the end of core within the coil.

3,541,591 METHOD AND APPARATUS FOR CLOSING WOUNDS

Henry J. Hoegerman, 44 El Arco Drive,
Santa Barbara, Calif. 93105
Filed Apr. 26, 1968, Ser. No. 724,547
Int. Cl. A61b 17/04

U.S. Cl. 128—335

10 Claims



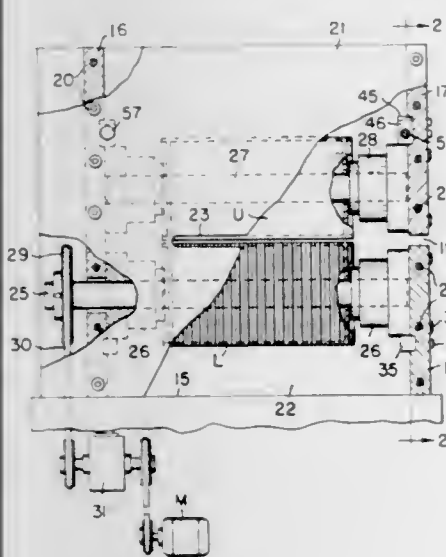
A footplate has a slot extending from an edge towards its center. A wound-closing suture is disposed in the slot for subsequent closure of the slot and the clamping of the suture firmly in place. An alternate embodiment provides a pair of footplates connected together by a slotted neck. The neck is capable of being severed from each footplate while simultaneously clamping the sutures to the footplates. A suture is first anchored in a footplate and then passed through body tissue to the other side of the wound. The suture is drawn sufficiently tight to snugly abut the footplate against the skin. A second footplate is engaged with the suture on the opposite side of the wound, the wound closed, and the suture clamped in the second footplate.

3,541,592 APPLICATION OF WOOD VENEER TO A CONTOURED BASE

Raymond H. Lewis, Fort Lauderdale, Fla., assignor to
Roberts Consolidated Industries, Inc., City of Industry,
Calif., a corporation of California
Filed Oct. 9, 1967, Ser. No. 677,495
Int. Cl. B27d 1/00

U.S. Cl. 144—315

2 Claims



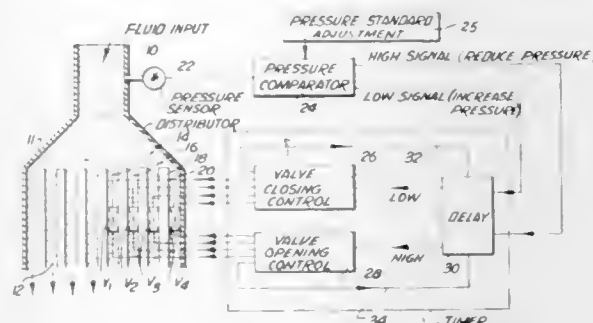
Wood veneer to be bent is subjected initially, along closely spaced lines parallel with its grain, to pressures of many tons p.s.i. which disrupt its fibrous structure. Thereafter vapor heat is applied briefly to the veneer to flexibilize it, and in this condition it is held against a base while pressure is applied to bend it in conformity with irregularities in its faces. Adhesive previously applied bonds the veneer to the base.

3,541,593 CONTROL APPARATUS FOR WET ORE-PROCESSING SYSTEM

David Weston, Toronto, Ontario, Canada, assignor to
Aerofall Mills Limited, Toronto, Ontario, Canada
Filed Feb. 13, 1967, Ser. No. 615,755
Claims priority, application Canada, Nov. 18, 1966,
975,888

Int. Cl. B03b 13/00; B04c 11/00; F15b 5/00
U.S. Cl. 209—211

9 Claims



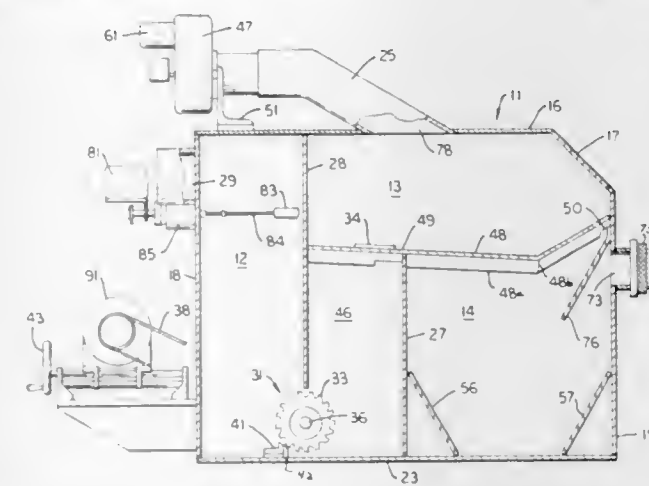
The automatic control of slurry pressure in cyclone classifiers by sequentially opening or closing selected classifiers to flow of slurry therethrough.

**3,541,594
SEWAGE ELIMINATION APPARATUS**
Gordon L. Wallace, Indianapolis, Ind., assignor to Aquapure, Inc., Indianapolis, Ind., a corporation of Indiana
Continuation-in-part of application Ser. No. 599,845,
Dec. 7, 1966. This application Dec. 3, 1968, Ser.
No. 780,641

The portion of the term of the patent subsequent to
Oct. 7, 1986, has been disclaimed
Int. Cl. B01d 43/00

U.S. Cl. 210—121

4 Claims



Disclosed is an apparatus for the combustion of sewage by controlled feeding of the sewage input from a sewage accumulator section to a heating and oxidizing section. The fly ash, carbon dioxide and steam produced by combustion of the sewage is led into a fly ash collector section and the steam is discharged to the atmosphere or may be used for heating, or may be condensed to provide a usable water supply.

3,541,595 MEMBRANE FLUID DIFFUSION EXCHANGE DEVICE

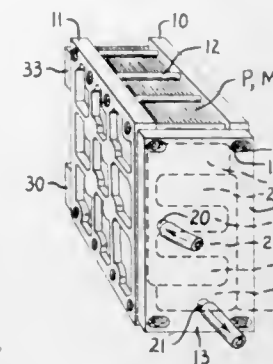
Miles Lowell Edwards, 13191 Sandhurst Place,
Santa Ana, Calif. 92705
Continuation-in-part of applications Ser. No. 631,668,
Apr. 18, 1967, Ser. No. 692,151, Dec. 20, 1967, and
Ser. No. 734,369, June 4, 1968. This application June
9, 1969, Ser. No. 831,296

Int. Cl. B01d 3/00
U.S. Cl. 210—321
A blood oxygenator is disclosed comprising a stack of grooved plastic plates and membranes. Each plate is enclosed in a single membrane sheet which is folded

16 Claims

around one edge of the plate and overlies both faces of the plate whereby the membrane sheet forms substantially an envelope for the plate when the stack is assembled and clamped together. External port members

thereto by suction on the under-surface of said sheet is rotated to incline the plate downwardly and forwardly; the plate is relayed therefrom to a separate, second rotatable support body which also holds the under-surface of the plate by suction; and finally the second rotatable sup-



on opposite sides of the stack circulate oxygen through channels inside the envelopes and circulate blood through channels between the envelopes. The same form of construction may also be used as a dialysis device.

3,541,596 TRUCK CRANE WITH CLUTCH AND TORQUE CONVERTER CONTROLS

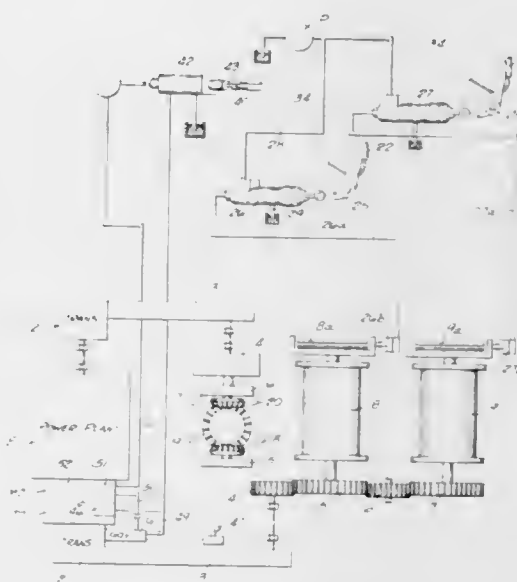
Thomas M. Larson, Milwaukee, Wis., assignor to
Harnischfeger Corporation, Milwaukee, Wis., a corpo-
ration of Wisconsin

Filed Oct. 10, 1968, Ser. No. 766,602

Int. Cl. B66c 23/84

U.S. Cl. 212—69

9 Claims



Manual control means for a truck crane or the like for simultaneous control of the modulatable torque converter and the hydraulically actuated clutches for the main hoist drums.

**3,541,597
PLATE STACKING APPARATUS**
Toyoo Segawa, Higashiosaka-shi, and Hiroaki Zaita,
Ichihara-shi, Japan, assignors to Nippon Sheet Glass
Co., Ltd., Osaka, Japan

Filed Apr. 7, 1969, Ser. No. 813,951

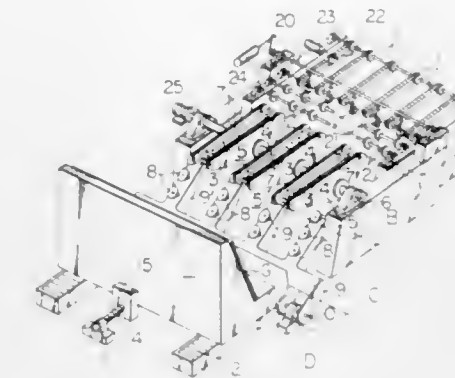
Claims priority, application Japan, Apr. 15, 1968,
43/25,456, 43/25,457, 43/30,981

Int. Cl. B65g 57/00; B65h 9/06

U.S. Cl. 214—7

3 Claims

An apparatus for stacking plates such as of glass, whereby the successive stacking of plates which have been transferred on and along a horizontal plane onto an inclined rack or horizontal base is performed by entirely mechanical operations without manual labor. A first rotatable support body which holds the plate transferred



port body is rotated forwardly to transfer and stack the plate onto an inclined rack or horizontal base positioned ahead of said body, the foregoing series of operations being repeated to successively stack the plates at high speed.

3,541,598 MOBILE AND TRANSPORTABLE APPARATUS FOR LOADING AND UNLOADING CONTAINERS ONTO TRANSPORTERS

Remy Dousset, Lyon, France, assignor to Societe Nouvelle
des Ateliers de Venissieux, Venissieux, Rhone, France

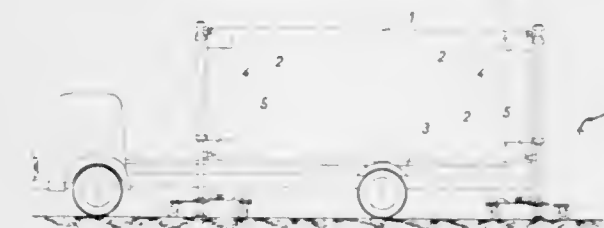
Filed Apr. 2, 1969, Ser. No. 812,783

Claims priority, application France, Apr. 10, 1968,
147,675

Int. Cl. B60p 1/64

U.S. Cl. 214—392

7 Claims



A mobile and transportable apparatus for loading and unloading containers onto transporters, the apparatus including two mobile portals the uprights of each of which are coupled by a telescopic element, each of which is engageable with a container part and each of which carries parallel with it and movable about its axis a jack extensible to engage the gear in which the upright is movable over the ground.

**3,541,599
CONTAINER**
Ronald H. Ramshaw, Rexdale, Ontario, and Douglas
Roberts, Pickering, Ontario, Canada, assignors to
Domtar Limited, Montreal, Quebec, Canada, a com-
pany of Canada

Filed July 7, 1969, Ser. No. 839,282

Claims priority, application Canada, July 11, 1968,
024,923

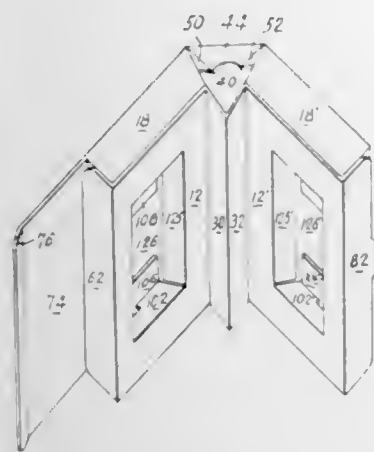
Int. Cl. B65d 5/02, 5/66

U.S. Cl. 229—16

7 Claims

A book-like container formed from a single blank and containing a pair of trays. Each tray has a top panel, a bottom-forming panel, a backing panel and side wall panels, all foldably interconnected. The bottom-forming panel contains a bottom wall panel and an inner end wall panel, foldably interconnected, and a border section connected by a fold line to the inner end wall and extending between said fold line and a pair of spaced slits in the

bottom-forming panel. The two trays are connected into a single container by means of a back cover panel, foldably connected to an end edge of each backing panel, and



a pair of hinge panels each foldably connected along an edge to the top panel of each tray so that the trays can be folded face to face.

3,541,600

CLOTH ROLL FEEDING APPARATUS

Thomas W. Martin, Sr., Nashville, Tenn., assignor to Cutters Machine Company, Inc., Nashville, Tenn., a corporation of Tennessee

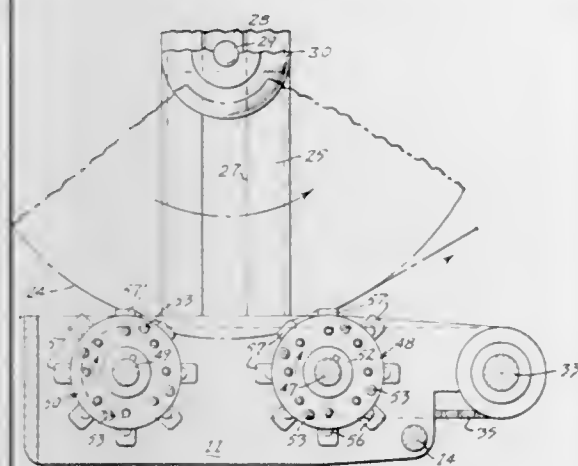
Original application Oct. 24, 1966, Ser. No. 588,983, now Patent No. 3,412,950, dated Nov. 26, 1968. Divided and this application Sept. 17, 1968, Ser. No. 760,165

The portion of the term of the patent subsequent to Nov. 26, 1985, has been disclaimed

Int. Cl. B65h 75/30

U.S. Cl. 242—55

5 Claims



A pair of feed rollers rotatably mounted horizontally and parallel to each other, spaced apart sufficiently to support a cloth roll, each feed roller having a plurality of circumferentially spaced, elongated, rib members disposed axially of each feed roller, and mounted in each feed roller for independent radial movement.

3,541,601

APPARATUS FOR MIXING A GAS OR LIQUID TO ANOTHER GASEOUS OR LIQUID MEDIUM

Johan F. Witte and Nicolaas Cornelis Strijder, Amsterdam, Netherlands, assignors to Continental Engineering Ingenieursbureau voor de Procesindustrie N.V., Amsterdam, Netherlands, a Dutch limited-liability company

Filed Jan. 15, 1969, Ser. No. 791,248

Claims priority, application Netherlands, Jan. 16, 1968, 6800645

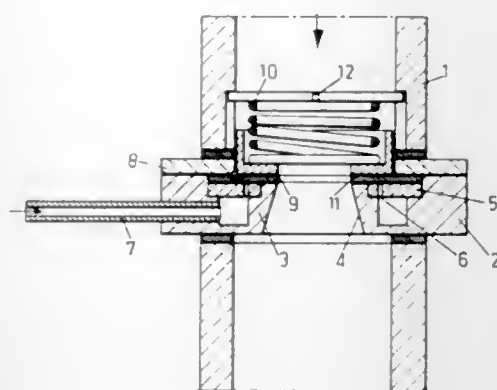
Int. Cl. B05b 1/06; B01f 3/04

U.S. Cl. 261—118

3 Claims

A pipe for mixing a gas or a liquid to another gaseous or liquid medium, with a local constriction formed by a

rim whose lateral surfaces are substantially perpendicular to the pipe wall, at that constriction a radial annular slot being disposed to which the supply pipe for said medium is connected, said medium entering the pipe substantially



perpendicularly to the axis of the liquid flow, the slot receiving a ring made of rubber which can close this connection and opens the connection by the pressure of the medium against the force of a spring.

3,541,602

ACETONIDES OF 9-HALOGENATED 3β,11β,16α,17α, 21-PENTAHYDROXY-PREGNANES

Patrick A. Diassi, Westfield, N.J., assignor to E. R. Squibb & Sons, Inc., New Brunswick, N.J.

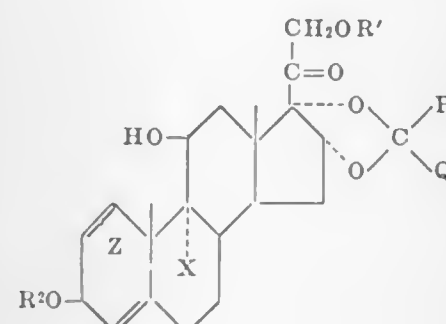
No Drawing. Filed July 29, 1968, Ser. No. 748,194

Int. Cl. C07c 173/00

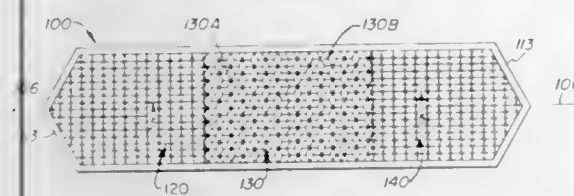
U.S. Cl. 260—239.55

10 Claims

The invention disclosed herein teaches new pharmaceutically active compounds having the formulae



about 60° up to 100° and having two or three different groups of reflector elements thereon with the optical axes thereof disposed at different angles. The reflectors on the



back are colored red, the rearward side reflectors are colored red, the forward side reflectors are colored yellow and the front reflectors are colored yellow or crystal.

3,541,607 CENTRIFUGAL PUMP

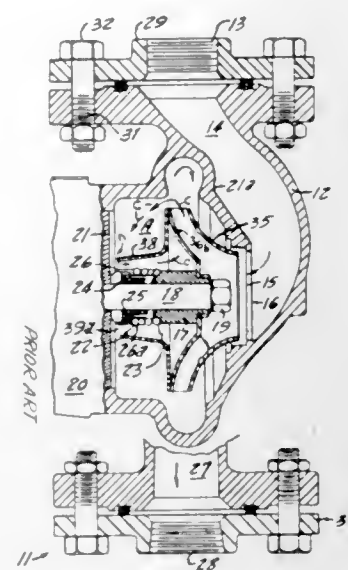
Robert Raymond Greene, Chicago, Ill., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware
Filed May 29, 1968, Ser. No. 732,978
Int. Cl. F04d 1/00, 29/18, 29/00

U.S. Cl. 415-112

7 Claims

The seals of small centrifugal booster pumps tend to be surrounded by the gas entrapped in the liquid being pumped rather than by the liquid. Hence, the seal is neither properly lubricated nor cooled. Applicant uses an impeller having a rear shroud for assuring that the

liquid rather than entrapped gases is pumped over the seal to reduce friction and to conduct away generated heat. According to the invention the cost of the impeller



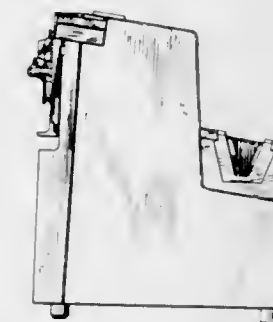
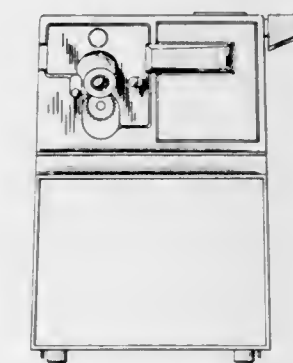
is reduced, its balance and operating speed is improved, and power requirements are lowered by an improved impeller structure.

DESIGNS

NOVEMBER 17, 1970

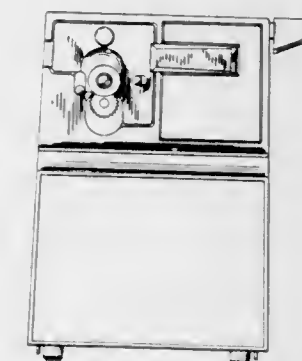
219,200
COMBINED CAN OPENER AND CUTLERY
SHARPENER
Daniel E. McCue, Santa Barbara, Calif., assignor to Rival Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed Nov. 7, 1969, Ser. No. 19,985
Term of patent 14 years
Int. Cl. D8-02

U.S. Cl. D8-35



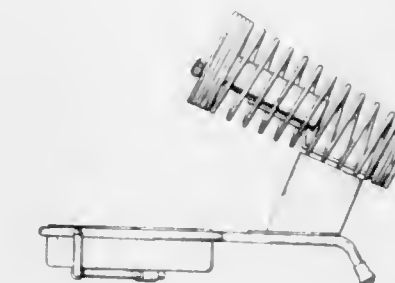
219,201
CAN OPENER
Daniel E. McCue, Santa Barbara, Calif., assignor to Rival Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed Nov. 6, 1969, Ser. No. 19,975
Term of patent 14 years
Int. Cl. D8-02

U.S. Cl. D8-36



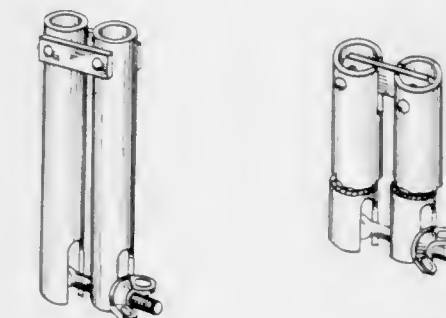
219,202
SOLDERING IRON STAND
Joseph A. Sylvester, Wayne, N.J., assignor to Hexacon Electric Company, a corporation of New Jersey
Filed Sept. 29, 1969, Ser. No. 19,324
Term of patent 14 years
Int. Cl. D8-99

U.S. Cl. D8-71



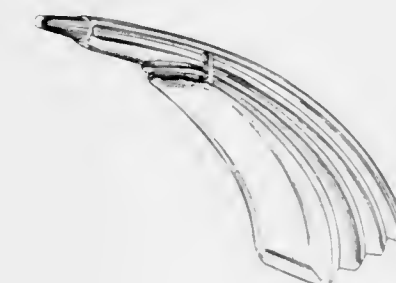
219,203
HOSE CLAMP
David B. Plank, P.O. Box 506, Kalona, Iowa 52247
Filed Mar. 14, 1969, Ser. No. 16,286
Term of patent 7 years
Int. Cl. D8-03

U.S. Cl. D8-229



219,204
SQUEEZE BOTTLE
Benjamin Weiner, Stamford, Conn., assignor to Grow Chemical Corporation, New York, N.Y., a corporation of New York
Filed Aug. 19, 1969, Ser. No. 18,758
Term of patent 14 years
Int. Cl. D9-01

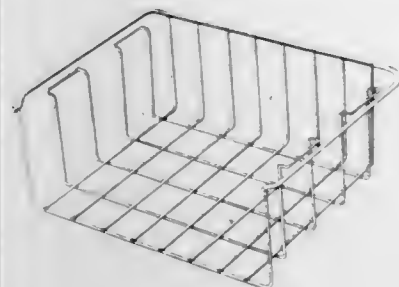
U.S. Cl. D9-2



219,205
LINEN BASKET

Robert L. Propst, Ann Arbor, and Travis M. Randolph, Saugatuck, Mich., assignors to Herman Miller, Inc., Zeeland, Mich., a corporation of Michigan
Filed June 11, 1969, Ser. No. 17,661
Term of patent 14 years
Int. Cl. D9—05

U.S. Cl. D9—247



219,206
MERCHANDISE SUSPENSION HOOK FOR
DISPLAY SHELVES

John P. Cannon, Shawnee Mission, Kans., assignor to Plattner Industries, Inc., Kansas City, Mo., a corporation of Missouri
Filed Jan. 12, 1970, Ser. No. 20,879
Term of patent 14 years
Int. Cl. D8—03

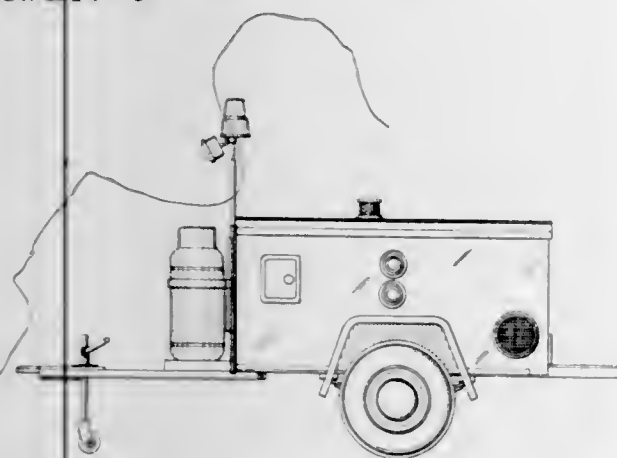
U.S. Cl. D8—259



219,207
MOBILE COMBINATION MOTOR-GENERATOR,
AIR COMPRESSOR, HEATER, BLOWER, AND
WATER PUMP

Stanley A. Holtkamp, Centralia, Ill., assignor to Holtkamp Co., Centralia, Ill., a corporation of Delaware
Filed Dec. 5, 1968, Ser. No. 14,797
Term of patent 14 years
Int. Cl. D12—10

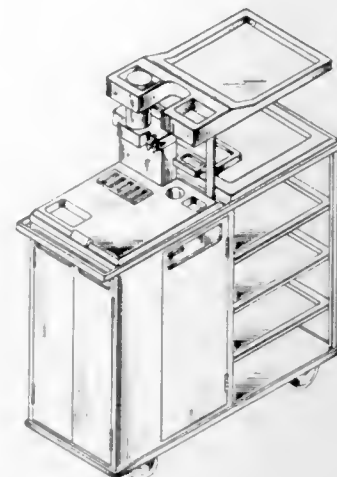
U.S. Cl. D14—3



219,208
FOOD SERVICE CART

Frank Christian Olsson, East Lyme, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Dec. 3, 1968, Ser. No. 14,873
Term of patent 14 years
Int. Cl. D12—14

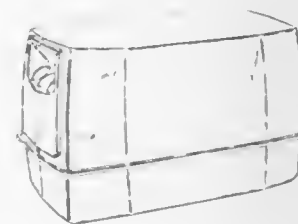
U.S. Cl. D14—3



219,209
BASE FOR A SERVING CART

David M. Switzer, Crystal Lake, and Robert L. Switzer, McHenry, Ill., assignors to Switzercraft, Crystal Lake, Ill., a corporation of Illinois
Filed May 19, 1969, Ser. No. 17,237
Term of patent 14 years
Int. Cl. D12—02

U.S. Cl. D14—3



219,210
CIRCULAR PALLET

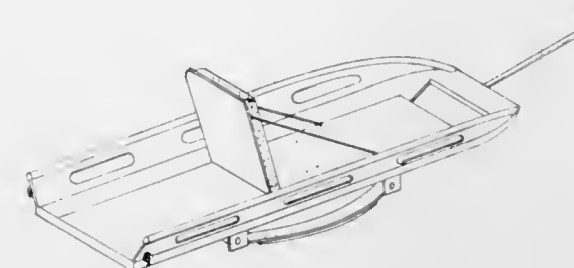
Leonard E. Hall, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 21, 1969, Ser. No. 20,220
Term of patent 3½ years
Int. Cl. D12—99

U.S. Cl. D14—3



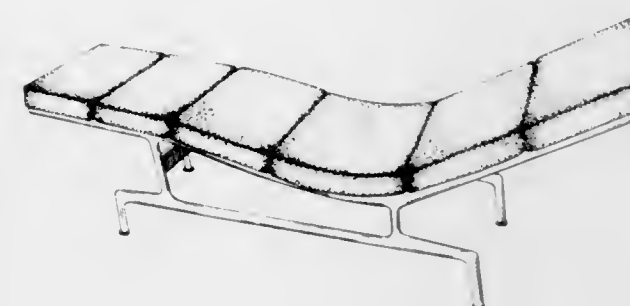
219,211
TOWED VEHICLE BODY
Russell L. Nixon, R.R. 3, Middleton, Annapolis County, Nova Scotia, Canada
Filed Dec. 5, 1968, Ser. No. 14,801
Claims priority, application Canada June 25, 1968
Term of patent 14 years
Int. Cl. D12—13

U.S. Cl. D14—24



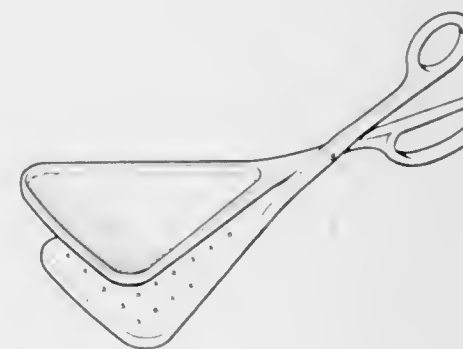
219,212
LOUNGE
Charles Eames, Venice, Calif., assignor to Herman Miller, Inc., Zeeland, Mich., a corporation of Michigan
Filed Mar. 3, 1969, Ser. No. 16,006
Term of patent 14 years
Int. Cl. D6—01

U.S. Cl. D15—11



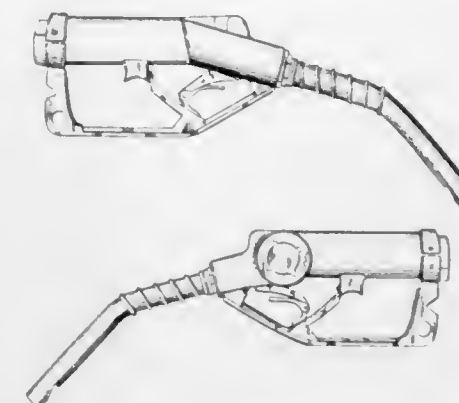
219,213
LIVE FISH HANDLER
Dewitt Taylor, 1509 E. Cold Spring Lane, Baltimore, Md. 21218
Filed July 22, 1969, Ser. No. 18,319
Term of patent 14 years
Int. Cl. D22—08

U.S. Cl. D22—31



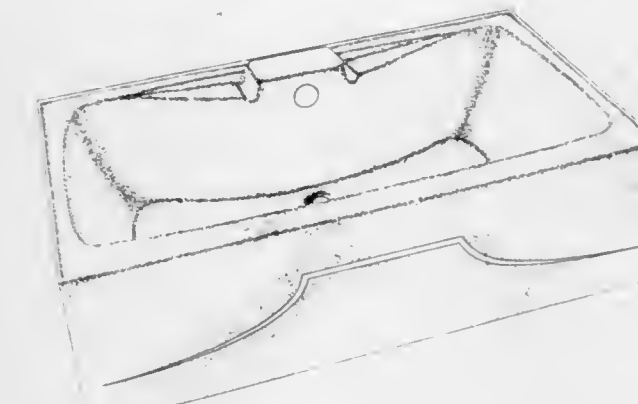
219,214
HOSE NOZZLE AND LIKE ARTICLE
Hans Erik Eklund, Malmö, Sweden, assignor to Aktiebolaget Ljungmans Verkstader, Malmö, Sweden, a corporation of Sweden
Filed Feb. 6, 1969, Ser. No. 15,668
Claims priority, application Sweden Aug. 9, 1968
Term of patent 14 years
Int. Cl. D23—01

U.S. Cl. D23—34



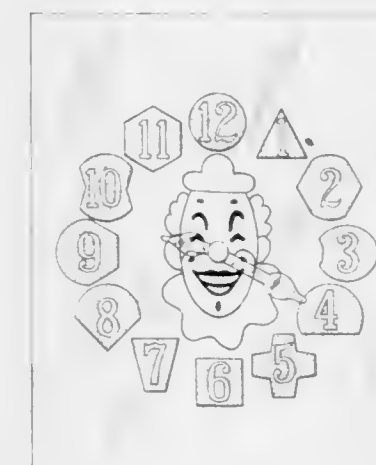
219,215
BATHTUB
Stanley F. Korol, Mansfield, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Continuation-in-part of design applications Ser. No. 17,294, May 3, 1969, and Ser. No. 18,771, Aug. 20, 1969. This application Nov. 24, 1969, Ser. No. 20,253
Term of patent 14 years
Int. Cl. D23—02

U.S. Cl. D23—55



219,216
EDUCATIONAL CLOCK TOY
Samuel F. Speers, North Attleboro, Mass., assignor to Hasbro Industries, Inc., Pawtucket, R.I., a corporation of Rhode Island
Filed Nov. 10, 1969, Ser. No. 20,006
Term of patent 14 years
Int. Cl. D19—08

U.S. Cl. D25—1



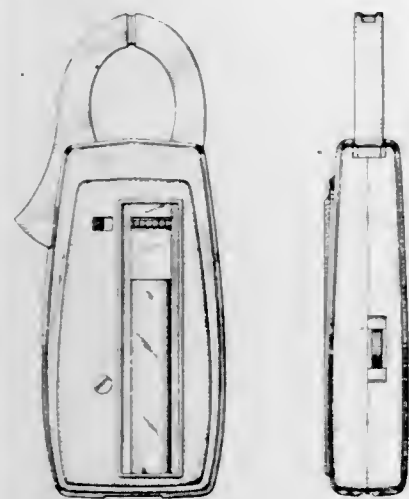
219,217

CLAMP-AROUND AMMETER-VOLTMETER

Toshihiko Sakow, Fort Lee, N.J., assignor to Mail Manufacturing Corporation, Bethpage, N.Y., a corporation of New York

Filed Nov. 13, 1969, Ser. No. 20,060
Term of patent 14 years
Int. Cl. D10—10

U.S. Cl. D26—1



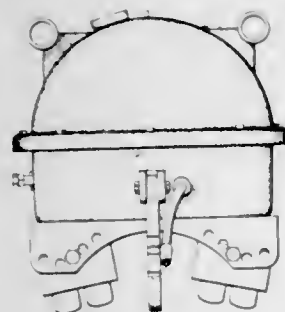
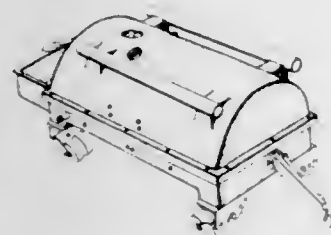
219,218

HOLIDAY DETECTOR

Charles W. Eisele, Warminster, Pa., assignor to H. C. Price Co., Bartlesville, Okla., a corporation of California

Filed Nov. 14, 1969, Ser. No. 20,082
Term of patent 14 years
Int. Cl. D10—11

U.S. Cl. D26—1



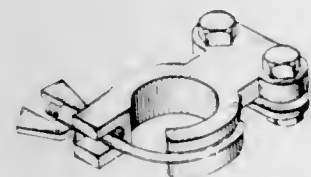
219,219

BATTERY TERMINAL CONNECTOR

Orrin H. Thomas, 2120 W. 4th St., Williamsport, Pa. 17701

Filed Nov. 12, 1969, Ser. No. 20,053
Term of patent 14 years
Int. Cl. D13—03

U.S. Cl. D26—1



219,220

WALL TELEPHONE SET

George L. Payne, Bedford Hills, N.Y., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 22, 1969, Ser. No. 18,817
Term of patent 14 years
Int. Cl. D14—03

U.S. Cl. D26—14



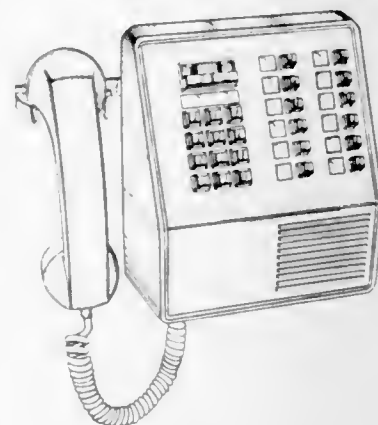
219,221

WALL TELEPHONE SET

George L. Payne, Bedford Hills, N.Y., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 22, 1969, Ser. No. 18,821
Term of patent 14 years
Int. Cl. D14—03

U.S. Cl. D26—14



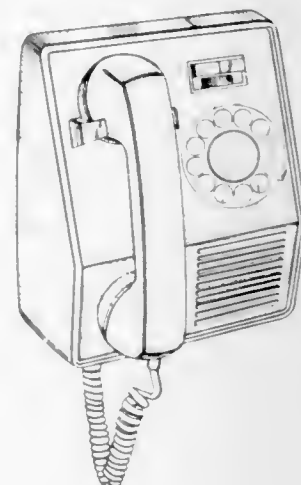
219,222

WALL TELEPHONE SET

George L. Payne, Bedford Hills, N.Y., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 22, 1969, Ser. No. 18,822
Term of patent 14 years
Int. Cl. D14—03

U.S. Cl. D26—14



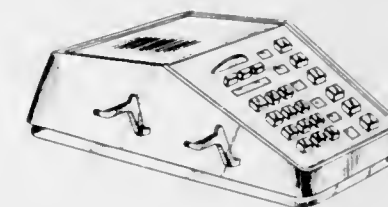
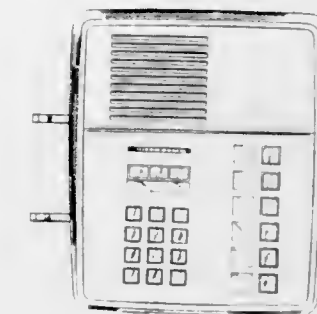
219,223

DESK TELEPHONE BASE

George L. Payne, Bedford Hills, N.Y., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 22, 1969, Ser. No. 18,823
Term of patent 14 years
Int. Cl. D14—03

U.S. Cl. D26—14



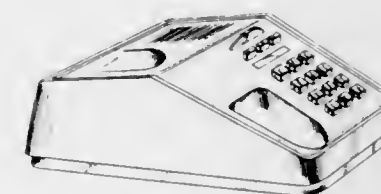
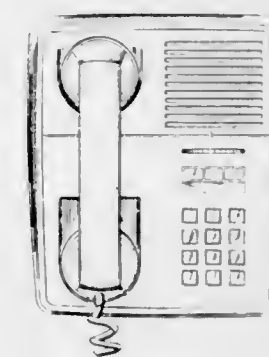
219,224

DESK TELEPHONE SET

George L. Payne, Bedford Hills, N.Y., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware

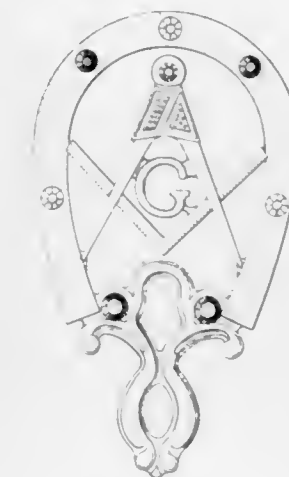
Filed Aug. 22, 1969, Ser. No. 18,824
Term of patent 14 years
Int. Cl. D14—03

U.S. Cl. D26—14

219,225
PLAQUE

Elizabeth Wallace, 64 Clinton St., Paterson, N.J. 07522
Filed Dec. 15, 1969, Ser. No. 20,516
Term of patent 14 years
Int. Cl. D11—99

U.S. Cl. D29—23



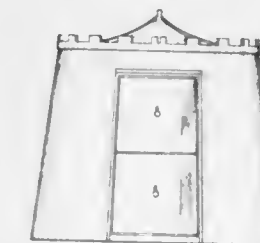
219,226

DOG HOUSE

Roy N. Holton, 3659 E. Cliff Drive, Salt Lake City, Utah 84117

Filed Apr. 25, 1968, Ser. No. 11,626
Term of patent 7 years
Int. Cl. D30—01

U.S. Cl. D30—1



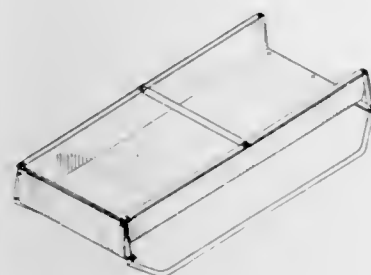
219,227

CATTLE FEED TROUGH

Daniel C. Cusenbary, Cunningham, Kans., assignor to Kingman Manufacturing Co., Incorporated, Cunningham, Kans.

Filed Apr. 24, 1969, Ser. No. 16,883
Term of patent 14 years
Int. Cl. D30—02

U.S. Cl. D30—13



219,228

BIRD FEEDER

Clarence Housekeeper McVey, 54 Holman St., Laconia, N.H. 03246

Filed Oct. 15, 1969, Ser. No. 19,572
Term of patent 14 years
Int. Cl. D30—02

U.S. Cl. D30—13



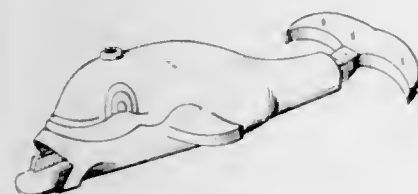
219,229

MARBLE SHOOTING TOY FISH

Sid Noble, West Orange, N.J., assignor to Remco Industries, Incorporated, Harrison, N.J.

Filed Oct. 9, 1969, Ser. No. 19,479
Term of patent 14 years
Int. Cl. D21—02

U.S. Cl. D34—2



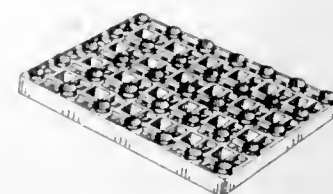
219,230

TOY BUILDING BLOCK

Johannes Martinus Reijnhard, Geldrop, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 10, 1969, Ser. No. 15,304
Term of patent 14 years
Int. Cl. D21—02

U.S. Cl. D34—15



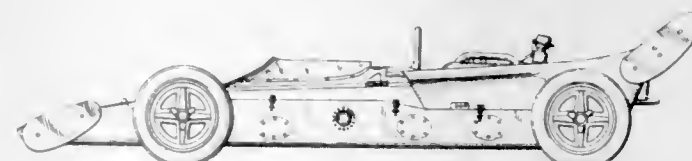
219,231

MODEL RACING CAR

Anthony Colin Bruce Chapman, Norfolk, England, assignor to Lotus Cars Limited, Norwich, Norfolk, England

Filed Dec. 5, 1969, Ser. No. 20,378
Claims priority, application Great Britain June 5, 1969
Term of patent 7 years
Int. Cl. D21—02

U.S. Cl. D34—15



219,232

PUZZLE BOARD

Judy A. Cohen, Cincinnati, Ohio, assignor to Rainbow Crafts, Inc., a corporation of Delaware

Filed May 15, 1969, Ser. No. 17,156
Term of patent 14 years
Int. Cl. D21—01

U.S. Cl. D34—15



219,233

PUZZLE BOARD

Judy A. Cohen, Cincinnati, Ohio, assignor to Rainbow Crafts, Inc., a corporation of Delaware

Filed May 15, 1969, Ser. No. 17,169
Term of patent 14 years
Int. Cl. D21—01

U.S. Cl. D34—15



219,235

RUG CLEANER

James L. Schucker, Royal Oak, Mich., assignor to Clarke Floor Machine Division, Studebaker Corporation, Muskegon, Mich., a corporation of Michigan

Filed Nov. 24, 1969, Ser. No. 20,247
Term of patent 14 years
Int. Cl. D15—06

U.S. Cl. D37—3



219,236

WHEEL CHOCK

Daniel Hudak, Peekskill, and John Kostenko, Hopewell Junction, N.Y., assignors to General Casting Corporation, Jefferson Valley, N.Y., a corporation of New York

Filed July 25, 1969, Ser. No. 18,398
Term of patent 14 years
Int. Cl. D8—09

U.S. Cl. D41—1



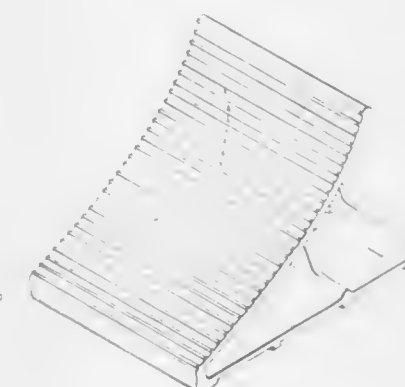
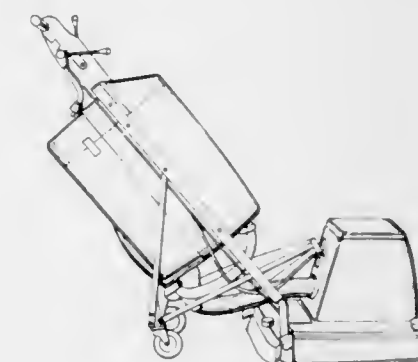
219,234

FLOOR MACHINE

James L. Schucker, Royal Oak, Mich., assignor to Clarke Floor Machine Division, Studebaker Corporation, Muskegon, Mich., a corporation of Michigan

Filed Nov. 24, 1969, Ser. No. 20,246
Term of patent 14 years
Int. Cl. D15—06

U.S. Cl. D37—3

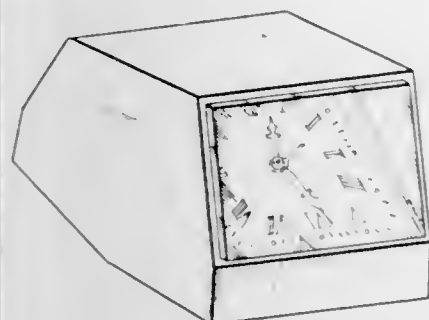


219,237

CLOCK OR THE LIKE

Erich Rittinghaus, Kreis Neu-Ulm, Bavaria, Germany, assignor to Uhrenfabrik Senden GmbH, Ulm (Danube), Germany, a corporation of Germany
 Filed Nov. 25, 1969, Ser. No. 20,274
 Term of patent 7 years
 Int. Cl. D10—01

U.S. Cl. D42—7

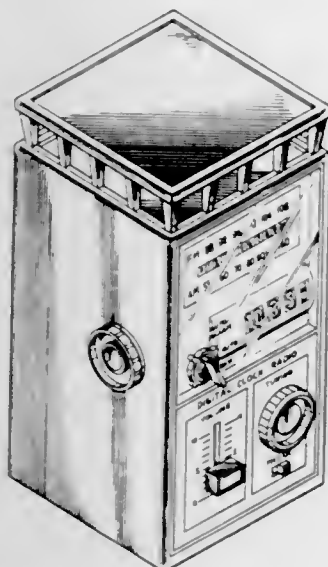


219,238

DIGITAL CLOCK RADIO

Kaoru Eguchi, 70—25 Yellowstone Blvd., Forest Hills, N.Y. 11375
 Filed Dec. 11, 1969, Ser. No. 20,448
 Term of patent 3½ years
 Int. Cl. D10—01

U.S. Cl. D42—7



219,239

CLOCK OR SIMILAR ARTICLE

Carl N. Johnson, Stratford, and William V. Judson, Westport, Conn., assignors to General Electric Company, a corporation of New York
 Filed Feb. 3, 1970, Ser. No. 21,234
 Term of patent 7 years
 Int. Cl. D10—01

U.S. Cl. D42—7

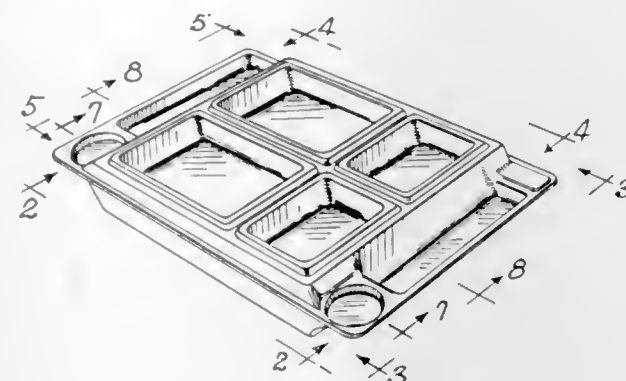


219,240

FOOD SERVICE TRAY

John A. Bridges and Harold W. Storrs, Nashville, Tenn., assignors to Aladdin Industries, Incorporated, Chicago, Ill., a corporation of Delaware
 Filed Nov. 13, 1969, Ser. No. 20,059
 Term of patent 14 years
 Int. Cl. D7—99

U.S. Cl. D44—10

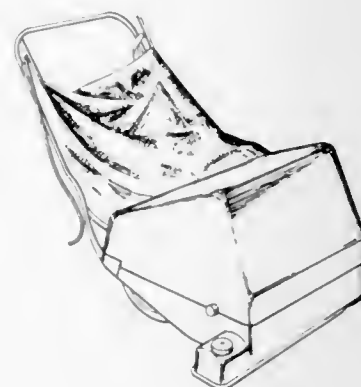


219,241

FLOOR MACHINE

Wilfred C. Nise, Spring Lake, and Warren R. Black and Dale E. Louder, Muskegon, Mich., assignors to Clarke Floor Machine Division, Studebaker Corporation, Muskegon, Mich., a corporation of Michigan
 Filed Nov. 24, 1969, Ser. No. 20,248
 Term of patent 14 years
 Int. Cl. D15—06

U.S. Cl. D49—11

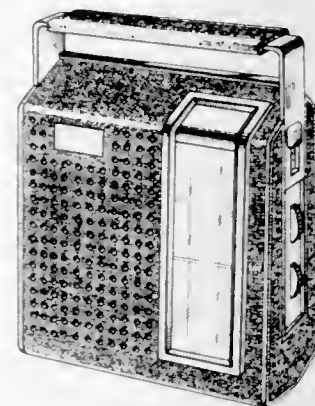


219,242

RADIO RECEIVER

Hironori Yoshikawa, Hirakata, Osaka, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
 Filed Apr. 8, 1969, Ser. No. 16,619
 Claims priority, application Japan Oct. 12, 1968
 Term of patent 14 years
 Int. Cl. D14—03

U.S. Cl. D56—4



219,243

PAIR OF SPECTACLES

Jack Bloch, Leominster, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
 Filed July 7, 1969, Ser. No. 18,101
 Term of patent 14 years
 Int. Cl. D16—08

U.S. Cl. D57—1

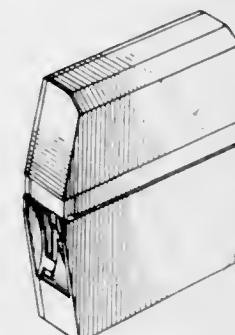


219,244

FILM CARTRIDGE OR THE LIKE

Edward R. Prelletz, Chicago, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
 Filed Dec. 5, 1969, Ser. No. 20,380
 Term of patent 14 years
 Int. Cl. D16—99

U.S. Cl. D61—1

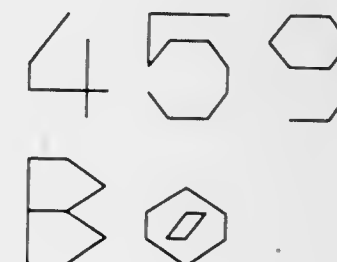


219,245

FONT OF SYMBOLS

Joseph E. McKee, Norristown, and Gilbert Yanishevsky, Philadelphia, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
 Filed Mar. 6, 1969, Ser. No. 16,086
 Term of patent 14 years
 Int. Cl. D18—04

U.S. Cl. D64—12

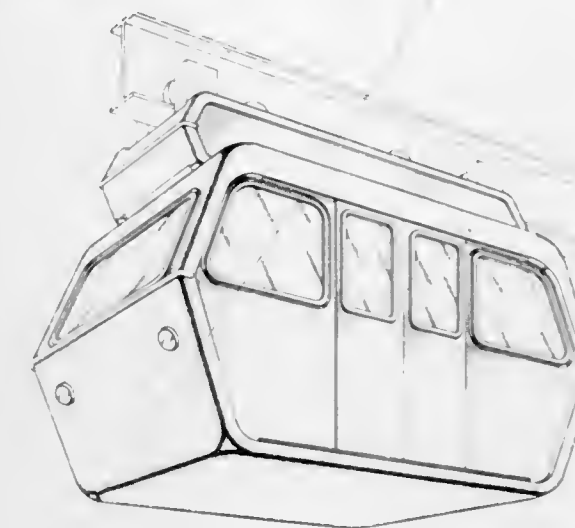


219,246

RAIL CAR BODY

George J. Adams, Santa Monica, and Harry L. Warner, West Covina, Calif., assignors to Stanray Corporation, Chicago, Ill., a corporation of Delaware
 Filed July 30, 1969, Ser. No. 18,472
 Term of patent 14 years
 Int. Cl. D12—03

U.S. Cl. D66—1

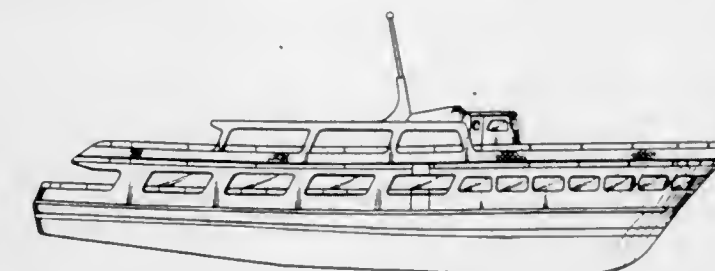


219,247

PASSENGER VESSEL

Luther H. Blount, Bristol, R.I., assignor to Blount Marine Corporation, Warren, R.I., a corporation of Rhode Island
 Filed Apr. 1, 1969, Ser. No. 16,544
 Term of patent 14 years
 Int. Cl. D12—06

U.S. Cl. D71—1



219,248

WRITING INSTRUMENT CLIP

Clarence D. Zierhut, Granada Hills, Calif., assignor to The Gillette Company, Santa Monica, Calif., a corporation of Delaware
 Filed July 14, 1969, Ser. No. 18,200
 Term of patent 14 years
 Int. Cl. D19—99

U.S. Cl. D74—2



219,249

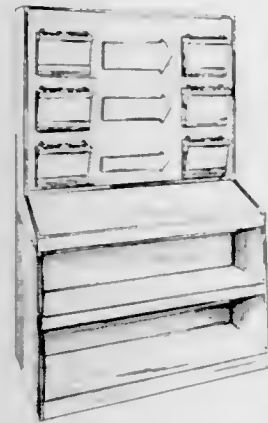
BATTERY DISPLAY MERCHANDISER

Harry M. Channing, Wyomissing, Pa., assignor to General Battery Corporation, Reading, Pa., a corporation of New York

Original design application Dec. 19, 1968, Ser. No. 15,063, now Patent No. 217,941, dated June 30, 1970. Divided and this application Sept. 17, 1969, Ser. No. 19,821

Term of patent 14 years
Int. Cl. D6—01

U.S. Cl. D80—9



219,251

PACIFIER

Anthony Chrones, North Providence, R.I., assignor to Mason Industries, Inc., Woonsocket, R.I., a corporation of Rhode Island

Filed Apr. 14, 1969, Ser. No. 16,717
Term of patent 14 years

Int. Cl. D24—05

U.S. Cl. D83—8



219,250

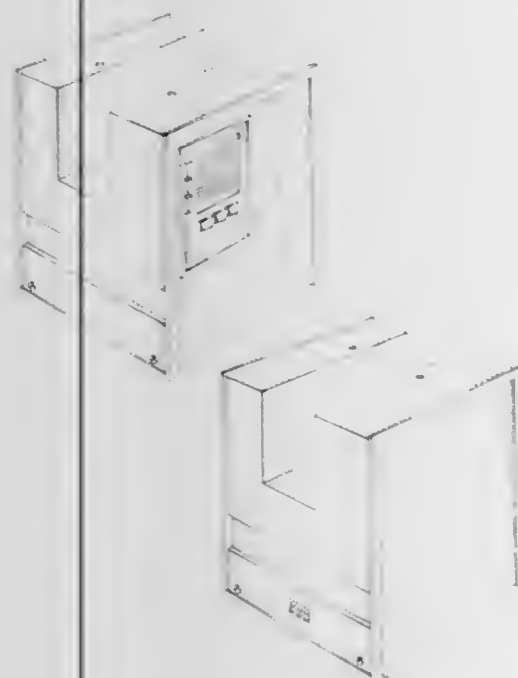
MEDICAL INSTRUMENT FOR MEASURING BONE DENSITY

Robert E. Olson, Glen Ellyn, and Frederick W. Thompson, Wilmette, Ill., assignors to Packard Instrument Company, Inc., Downers Grove, Ill., a corporation of Delaware

Filed Apr. 24, 1969, Ser. No. 16,882
Term of patent 14 years

Int. Cl. D24—02

U.S. Cl. D83—1



219,252

SWIVEL HANDLE CURETTE

Steven Bogoff, New York, N.Y., assignor to Vernitron Corporation, New York, N.Y., a corporation of New York

Filed Mar. 18, 1969, Ser. No. 16,308
Term of patent 14 years

Int. Cl. D24—03

U.S. Cl. D83—12



219,253

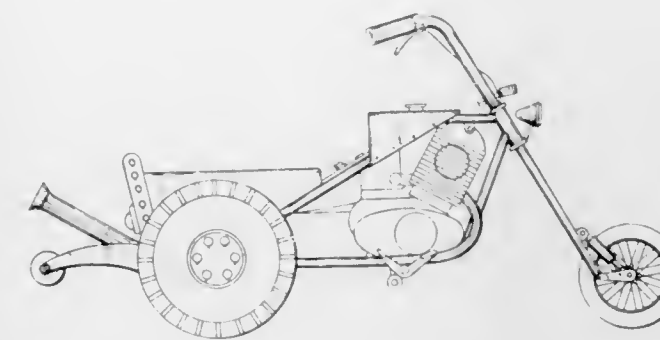
THREE WHEEL MOTORCYCLE

George K. Lavery, 200 N. 8th St.,
Carlisle, Iowa 50047

Filed Sept. 24, 1969, Ser. No. 19,290
Term of patent 14 years

Int. Cl. D12—11

U.S. Cl. D90—8



219,254

TIRE

Charles A. San Giovanni, Huntington Station, N.Y., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Dec. 11, 1969, Ser. No. 20,454
Term of patent 14 years

Int. Cl. D12—14

U.S. Cl. D90—20



LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 17TH DAY OF NOVEMBER, 1970

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- Ackermann, Karl, to Bosch, Robert, Elektronik Gesellschaft mit beschraenkter Haftung. Control system for terminating the discharge of a flash lamp. 3,541,387, Cl. 315-151.
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- Adams, Edward F., to Corhart Refractories Company, mesne. Cooling a sintered refractory containing unstabilized zurconia through a disruptive crystal phase inversion. 3,541,193, Cl. 264-66.
- Adams, Paul R., to International Telephone and Telegraph Corporation. Tellurium electrode printer. 3,541,576, Cl. 346-74.
- Adams, Robert B., to Moore Products Co. Intermittent fluid jet apparatus. 3,542,017, Cl. 128-66.
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- Agulnek, Harry, to Singer Company, The. Knitting machine apparatus employing self-guiding sinkers. 3,540,237, Cl. 66-107.
- Ahrabi, Robert B., to Oil Center Research, Inc. Sintered polytetrafluoroethylene joint sealing ribbon. 3,541,070, Cl. 260-92.1
- Ahrweiler, Karl-Heinz, to Maschinenfabrik Eduard Kuesters. Apparatus for determining the lateral deviation from the center of a breadth passing a machine. 3,541,437, Cl. 324-65.
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- Brink, Joseph A., Jr., to Monsanto Enviro-Chem Systems, Inc., mesne. Liquid mist collection. 3,540,190, Cl. 55-97.
- Brinkman, John: *See—*
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- Brinkman, Thomas J., Fogt, Thomas H., and Whistler, Charles C., Jr., to General Motors Corporation. Lint collecting and burning screen. 3,541,303, Cl. 219-374.
- Bristol, John E., and Inskip, Harold K., to Du Pont de Nemours, E. I., and Company. Preparation of highly alcoholized polyvinyl alcohol. 3,541,069, Cl. 260-91.3.
- Broad, Morton Irwin: *See—*
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- Broadhurst, Jack M., to Uniroyal, Inc. Process for making decorated sheet materials and product. 3,540,974, Cl. 161-64.
- Brockelsby, Norman D., and Evers, William K., to EBKO Industries, Inc. Automatic sprayer apparatus. 3,541,996, Cl. 119-159.
- Brockman, Leonard. Feces strainer for passing liquid constituents and retaining solid constituents comprising physiological specimens. 3,540,433, Cl. 128-2.
- Broderick, Donald L., Curl, Garold W., and Hohmann, Robert A., to Aerojet-General Corporation, mesne. FM channel evaluator with aided tracking and null rejection. 3,541,449, Cl. 325-65.
- Bromley, James E. Synthetic reef ecological system for large bodies of water. 3,540,415, Cl. 119-3.
- Brooke, Arthur W., Jr., and Bean, Robert A., to United Aircraft Corporation. Metal-water fueled reactor for generating steam and hydrogen. 3,540,854, Cl. 23-282.
- Brooks, Holly M., nee Holly Brooks Hice, to Vari-Phase, Inc., mesne. Cooking support for shrimp. 3,540,369, Cl. 99-426.
- Brouwer, Gerardus Johannes, Van Dyken, John, and Oussoren, Klass, said Van Dyken and said Oussoren assors, to said Brouwer. Crosscut mechanism for sod cutting machine. 3,540,535, Cl. 172-20.
- Brown, Allen I.: *See—*
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- Brown, Edward J., and Kloostra, Marvin Leon, to Titus Manufacturing Corporation. Constant volume regulators and air distribution apparatus embodying same. 3,540,484, Cl. 138-43.
- Brown, Ethan Alan. Novel sodium chloride encapsulated injectionable substances. 3,541,201, Cl. 424-7.
- Brown, Grace Wallace. Baby's bib with disposable front. 3,540,060, Cl. 2-49.
- Brown, Harry W., to Longyear, E. J., Company. Slotted core lifter apparatus. 3,540,537, Cl. 175-251.
- Brown, Herbert L., Jr.: *See—*
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Brown, John Thomas L., to Gordos Corporation. Folder reed switches. 3,541,482, Cl. 335-154.

Brown, Lewis E., to Fisher Governor Company. Valve construction. 3,540,690, Cl. 251-28.

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Bryce-Smith, Derek, to Du Pont de Nemours, E. I., and Company. Removing ammonium chlorides from TML production equipment. 3,540,928, Cl. 134-22.

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Burdeska, Kurt E., Bosshard, Hans, and Pugin, Andre, to Geigy, J. R., A.G. Nitro-acridone dyestuffs. 3,541,099, Cl. 260-279.

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Bushman, John Andrew, to Watson, W., & Sons Limited. Fluid flow devices. 3,542,020, Cl. 128-145.8.

Butler, David F., to Olin Mathieson Chemical Corporation. Repeating mechanism for impact ignition pellets. 3,540,141, Cl. 42-17.

Butler, Oscar. Control system for a taximeter equipped vehicle. 3,541,343, Cl. 307-10.

Buttrick, George W., and Hoover, James F., to Union Carbide Corporation. Crystalline ethylene, alpha-beta olefinically unsaturated carboxylic acid copolymer latex paper coating compositions. 3,541,033, Cl. 260-8.

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Carino, Anthony J. Adjustable bulkhead. 3,540,383, Cl. 105-376.

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Carlson, Wayland A., to United States of America, Navy. Synchronization system. 3,541,552, Cl. 343-225.

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Carrier, Louis F., and Skinner, Norton D., to U.S. Industries, Inc. Vertical injection molding machine. 3,540,081, Cl. 18-30.

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Carron, Maurice Claude Ernest, Carron, Claude Louis Clement, Jullien, Alexandra Francine, born Jandot, Bucher, Bernard Philippe,

and Vandergucht, Guy Charles Francois Georges, to Societe Anonyme des Laboratoires Robert et Carriere. 2-(4-Benzylpiperidino)ethylguanidines. 3,541,103, Cl. 260-293.

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Chaplin, Merle P. Method of removing marine growths and roots. 3,540,194, Cl. 56-1.

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Class, Jay B., to Hercules Incorporated. Reaction products of rosin-fumaric acid adducts and alkylene oxides. 3,541,134, Cl. 260-468.5.

Claudio, Santiago, 1/2 to Tropicair Manufacturing Corporation. Jalousie constructions. 3,540,154, Cl. 49-91.

Clay, John A., to Turnbull Marine Design Company, Limited. Propeller tail-shafts of ships. 3,540,405, Cl. 115-34.

Cleff, Peter Herbert. Means for generating internal and external involute and non-involute gears. 3,540,157, Cl. 51-52.

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- Cohn, Diter. Electric fluid heater. 3,541,304, Cl. 219-374.
- Cole, Austin, III, to Olin Corporation, mesne. Portable foaming system. 3,541,023, Cl. 252-359.
- Cole, Paul Morrison, to Du Pont de Nemours, E. I., and Company. Method for reducing fiber density and expanding face dimensions of self-supporting sheet structures. 3,540,958, Cl. 156-164.
- Cole-Parmer Instrument and Equipment Company: *See—*
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- Collier, Robert J., and Pennington, Keith S., to Bell Telephone Laboratories, Incorporated. Holographic method for viewing changes in a scene. 3,541,252, Cl. 178-72.
- Collins, Robert F., to Kendall Company, The. Surgical drape with hand receiving cuff. 3,540,441, Cl. 128-132.
- Collinson, James A., Cook, John S., and Subramanian, Mahadevan, to Bell Telephone Laboratories, Incorporated. Laser detection of clear air turbulence. 3,540,829, Cl. 356-129.
- Columbia Broadcasting System, Inc.: *See—*
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- Columbia Ribbon and Carbon Manufacturing Co., Inc.: *See—*
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- Columbus, Peter Spiros, and Scharfy, Eva Maria, to Borden, Inc. Heat-seal adhesive and package. 3,540,580, Cl. 206-63.2.
- Comey, Kenneth R., Jr., to Texas Instruments, Incorporated. Method of preparing silver base alloys. 3,540,883, Cl. 75-173.
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- Conde, Hector O., and Jackson, Prentiss W., to Berkeley Scientific Laboratories, Inc., mesne. Digital voltmeter with mechanical counting wheels. 3,541,545, Cl. 340-347.
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- Conn, John B.: *See—*
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- Connally, Leslie O.: *See—*
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- Connor, John Houghton, to American Can Company. Method of manufacturing a laminated tubular article having a matte finish surface. 3,540,959, Cl. 156-203.
- Connors, Robert H., and Klopstein, King L., to Triangle Package Machinery Company. Feeding assembly for weighing machines. 3,540,538, Cl. 177-122.
- Conrad, Albert G. Constant-torque alternating current single phase motor system. 3,541,413, Cl. 318-244.
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- Kuhn, Rudolf, to Winkler, Fallert & Co., Ltd. Folding apparatus for rotor reprinting presses. 3,540,722, Cl. 270-72.
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- Kulling, Achim, Steinbach, Hans, and Trueb, Hermann, to Titanengesellschaft mbH. Means for producing titanium dioxide pigment. 3,540,851, Cl. 23-277.
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- Kummins, Juel S., to General Electric Company. Pellet for evolving gas at a uniform rate and an apparatus for its use. 3,540,485, Cl. 136-86.
- Kumnick, Frederick W., and Flynn, Charles T., to Republic Steel Corporation. Insulated cover for steel storage and thermal control. 3,540,171, Cl. 52-17.
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- Kvasnicka, Frank, to Blaw-Knox Company. Lathe toolholders. 3,540,332, Cl. 82-36.
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- Langer, Arthur W., Jr., to Esso Research and Engineering Company. Crystalline organolithium-tertiary chelating polyamine complexes. 3,541,149, Cl. 260-563.
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- Laukaitis, Joseph Francis, Meerdink, Milton Edwin, and Herberger, Robert Joseph, to Eastman Kodak Company. Diverting means for conveyor system. 3,540,584, Cl. 209-73.
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- Levy, Oscar C., and Groth, George A., to American Totalisator Company, Inc. Apparatus for recording sales and the like. 3,541,526, Cl. 340-172.5.
- Levy, Sheldon G., to Dow Chemical Company, The. Solvent compositions for natural and synthetic rubber base adhesives. 3,541,042, Cl. 260-33.8.
- Lewis, Beverley W., and Progar, Donald J., to United States of America, National Aeronautics and Space Administration. Process for applying black coating to metals. 3,540,942, Cl. 148-6.11.
- Lewis, Dwight Charles, to Penn. Controls, Inc. Single and multi-stage electronic switching control with adjustable operating differential. 3,541,359, Cl. 307-310.
- Lewis, Raymond H., to Roberts Consolidated Industries, Inc. Application of wood veneer to a contoured base. 3,541,592, Cl. 144-315.
- Lezan, Georges R. E.: *See—*
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- Lhoste, Jean, to Procidia. Novel herbicide mixture. 3,540,876, Cl. 71-94.
- Li, Pei Ching, to United States of America, Air Force. Apparatus for drawing and coating quartz glass fibers. 3,540,870, Cl. 65-11.
- Libackyj, Anfir, to Du Pont de Nemours, E. I., and Company. Polyamic acid polymer dispersion. 3,541,036, Cl. 260-29.2.
- Licencie Talalmanyakat Ertekesito Vallalat: *See—*
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- Licentia Patent-Verwaltungs G.m.b.H.: *See—*
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- Licitis, Gunars: *See—*
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- Lidoski, Joseph F., and Mast, James V., to Hartman Systems Co., Inc., mesne. Multiple-unit display apparatus producing radiant energy at phenomenon of dielectric trapping. 3,541,374, Cl. 313-108.
- Lightsey, Raymond: *See—*
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- Lildal, Jakob Jakobsen. Maneuvering mechanism for the outlet cover of a dry-melter. 3,540,618, Cl. 229-36.
- Lillestrand, Robert L.: *See—*
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- Lilly, Eli, and Company: *See—*
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- Marshall, Frederick J., and Mills, Jack, 3,541,218.
- Lin, Chao-Han. Pressure sensitive recording sheets employing 3,3-bis(phenylinoil-3-yl) phthalide. 3,540,909, Cl. 117-36.2.
- Lin, Chao-Han, to National Cash Register Company, The. Pressure sensitive record sheets employing indole- and carbazole-substituted phthalides. 3,540,910, Cl. 117-36.2.
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- Lind, Charles J., to Allied Chemical Corporation. Process for preparing dialkyl terephthalates. 3,541,135, Cl. 260-475.
- Lind, Laurel R., to Magnavox Company, The. Variable center frequency filter for frequency modulation receiver. 3,541,451, Cl. 325-346.
- Linde Aktiengesellschaft: *See—*
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- Lindow, Donald F.: *See—*
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- List, Gerald D., to Eaton Yale & Towne Inc. Hydraulic lifter with lash compensator. 3,542,001, Cl. 123-90.
- Linton, John Herbert: *See—*
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- Lippl, Wilhelm Konrad: *See—*
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- List, Hans: *See—*
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- List, Harold A.: *See—*
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- Lloyd, Thomas: *See—*
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- Lloyd, William A., to Varian Associates. Electrographic liquid ink employing a vacuum head and means for rapidly valving off the. 3,540,409, Cl. 118-6.

Lloyd, William A., to Varian Associates. Electrographic apparatus having an ink slot bearing against web pulling roller. 3,540,412, Cl. 118-410.

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Logan, William R., to Laporte Chemicals Limited. Hydrogen peroxide. 3,540,847, Cl. 23-207.

LoGiudice, Roberto C. Welder mask. 3,540,058, Cl. 2-8.

Lohr, Raymond J., Hauck, Robert F., and Hirsch, Mahlon E., to Marx, Louis, & Co., Inc. Air gun. 3,540,426, Cl. 124-15.

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Lorenzen, Cory, to University of California, The Regents of the. Row crop production and harvesting. 3,541,979, Cl. 111-2.

LoRusso, Frank S., to Eastman Kodak Company. Spacer for pre-insulated pipe. 3,540,487, Cl. 138-112

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Loukowsky, Serge A., to Battery Development Corporation. Production of positive nickel electrodes for nickel-cadmium batteries. 3,540,931, Cl. 136-29

Love, Robert B., to Amsted Industries, Incorporated. Railroad couplers. 3,540,602, Cl. 213-64.

Love, Winston A. Surface contacting electrode assembly having electrically conductive pile forming contact surface. 3,542,010, Cl. 128-2.1

Lovering, Howard B., to GCA Corporation. Indicum locating apparatus. 3,540,831, Cl. 356-162.

Low, Lewis G., to Nut Tree. Toy aircraft having weighted and reinforced structure. 3,540,149, Cl. 46-79.

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Luger, Paul P. Digital potentiometers made with fixed impedances. 3,541,430, Cl. 323-74.

Lundberg, Robert D., Whitworth, Clyde J., Jr., and Garrett, William F., to Union Carbide Corporation. Impact resistant vinyl chloride polymer compositions. 3,541,184, Cl. 260-876.

Lundgren, Gunnar Arne Leonard, to Komprimator Aktiebolag. Plant for collecting rubbish from rubbish chutes into open containers. 3,540,495, Cl. 141-80.

Lundquist, Ray A. Utility cabinet for sewing machines. 3,540,788, Cl. 312-237.

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Lynnworth, Lawrence C., to Panametrics, Inc. Dual ultrasonic sensors employing differing modes of ultrasonic transmission. 3,540,265, Cl. 73-67.7

Lyon, Charles E., Jr., Huber, William B., and Wolf, Robert A., to Motorola, Inc. Magnetic tape reproducing device. 3,541,273, Cl. 179-100.2

Lyon, Zeno G., Granlund, John, and Merkel, Robert J., to International Telephone and Telegraph Corporation. Enhancement of polarization isolation in a dual polarized antenna. 3,541,560, Cl. 343-756.

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Macher, Karl, to Schneider, Jos., & Co., Optische Werke. Four-component varifocal objective with five fixed and two movable lens members. 3,540,799, Cl. 350-184.

Macon, George S., and Napolitano, Michael A., to Singer-General Precision, Inc. Means for minimizing gyroscope trending. 3,540,294, Cl. 74-5.5

Macone, Frederick W., to Avant Incorporated. Camera masking device particularly useful in identification card cameras. 3,540,362, Cl. 95-36.

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Marosy, Andre. Coupling. 3,540,091, Cl. 24-221.

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- McGlumphy, James H., Pfaff, James Orville, Quinn, Alton De Witt, and Wellner, Georges, to National Cash Register Company, The. Processes for incorporating encapsulated flavors and the like in reconstituted tobacco sheet. 3,540,456, Cl. 131-144.
- McGonagle, Francis L., and Fulford, Earle H., to Fram Corporation. Monitoring positive crankcase ventilating systems in internal combustion engines. 3,540,407, Cl. 116-70.
- McGraw-Edison Company: See—
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- McGuire, William, to Welders, A. I., Limited. Welding together of railway track rails and like elongated metal sections. 3,541,295, Cl. 219-101.
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Pennther, Hermann Joseph. Fluid operated continuously actuated reciprocating piston drive. 3,540,349, Cl. 91-306.

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Rose, Michael James, Carosella, Jerry Michael, Corrick, John Douglas, and Sutton, Joseph Augustine, to United States of America, Interior. Method for producing protein by growth of microorganisms on a water extract of coal. 3,540,983. Cl. 195-28.
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Rosen, Lowell, to United States of America, National Aeronautics and Space Administration. Method and means for recording and reconstructing holograms without use of a reference beam. 3,540,790. Cl. 350-3.5.
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Ross, Alexander, to Alco Products, Inc. Bolster stabilized locomotive truck. 3,541,970. Cl. 105-136.
Rosser, Gerald E. Automatic hand held snare. 3,540,769. Cl. 294-19.
Rosset, Claude R.: *See*—
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Roth, Hermann, and Walz, Heinz, to Siemens Aktiengesellschaft. Evaporimeter utilizing variation in capacitance to indicate liquid level. 3,540,277. Cl. 73-335.
Roth, Walter, to Xerox Corporation. Negative corona device with means for producing a repelling electrostatic field. 3,541,329. Cl. 250-49.5.
Rothermel, Ronald Richard, to International Telephone and Telegraph Corporation. Efficient precision sweep circuit. 3,541,385. Cl. 315-27.
Rothert, Hubert, to Licentia Patent-Verwaltungs G.m.b.H. Excitation apparatus for synchronous rotating machinery. 3,541,410. Cl. 318-174.
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Rozek, Thomas F., to Dow Chemical Company, The. Method for treating textile materials with a fluorocarbon resin. 3,540,923. Cl. 117-161.
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Rudd, Wallace C., to American Machine & Foundry Company. Welding of low thermal mass parts. 3,541,296. Cl. 219-117.
Rudnick, Donald P. Snow disposal apparatus. 3,540,430. Cl. 126-343.5.

Rudolph, R. R., Strutz, Carl, Jr., and Strutz, Frank C., to Strutz, Carl, & Co., Inc. Apparatus for trimming and decorating plastic workpieces. 3,540,371, Cl. 101-38.

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Saito, Toshiaki, and Futami, Yoshinori, to Kabushiki Kaisha Suwa Seikosha, Regulator adjusting device for watch. 3,540,210, Cl. 58-109.

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Scarborough, Alfred D., to Bunker-Ramo Corporation. Magnetometer capable of operating with a very low input power. 3,541,432, Cl. 324-43.

Scarnato, Thomas J., Gordon, Paul C., and Brunker, Robert H., to International Harvester Company. Cutter bar gag limiting device. 3,540,197, Cl. 56-286.

Schaafl, Bodo, and Winter, Heinz, to Elektrochemische Werke Munchen A.G. Peroxidic catalysts for polymerization of ethylenically unsaturated compounds. 3,541,026, Cl. 252-426.

Schaper, Raymond J., to Calgon Corporation, mesne. Novel reaction products of glycidyl esters and alkali metal sulfite or bisulfite, and polymers thereof. 3,541,059, Cl. 260-79.3

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Scheidler, Herwig, Petzold, Jurgen, and Sack, Werner, to JENaer Glaswerk Schott & Gen. Process for the manufacture of a devitrified glass. 3,540,895, Cl. 106-39.

Scheiterlein, Andreas, and Skatsche, Othmar, to List, Hans. Internal combustion engine with soundproofing cowling. 3,540,425, Cl. 123-195.

Schell, Friedrich. Tumbling gear planetary transmission. 3,540,307, Cl. 74-675

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Schindler, Othmar, to Wonder, A., Dr., S.A. Carbazole derivatives. 3,541,088, Cl. 260-240.

Schira, John C., to RCA Corporation. Optical field correction devices for an electronic photocomposition system. 3,540,361, Cl. 95-4.5

Schleifenbaum, Karl, to Meteor-Siegen Apparatebau Paul Schmeck G.m.b.H. Apparatus for measuring lengths of material. 3,540,644, Cl. 226-136.

Schleifman, Neil, and Graubert, Seth, to Harris-Intertype Corporation. Assembler control for typesetting machine. 3,540,574, Cl. 199-18.

Schlicke, Heinz M., Fillar, John A., and Henkel, Dennis P., to Allen-Bradley Company. Suppression of electro-magnetic interference in electrical power conductors. 3,541,473, Cl. 333-12.

Schluter, Wilhelm, to Eisenwerk Rothe Erde GmbH. Rotary mount. 3,540,299, Cl. 74-129.

Schmalzer, Peter, and Ruegg, Rudolf, to Hoffmann-La Roche Inc. Isoprenoid amines. 3,541,154, Cl. 260-583.

Schmid, Charles, and Grant, Whitney I., to Vilter Manufacturing Corporation. Diaphragm valve for compressors. 3,540,470, Cl. 137-516.17

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Schmidt, Karl Gunther, Mohr, Gunther, Lust, Sigmund, and Wirtz, Walter, to Merck, E., A.G. Isothiazole derivatives. 3,541,108, Cl. 260-306.8

Schmidt, Philipp, to NSU Motorenwerke Aktiengesellschaft. Motor vehicle steering mechanism. 3,540,754, Cl. 280-96.

Schmidt, Uwe, to U.S. Philips Corporation, mesne. Reflector for digital light deflectors. 3,540,801, Cl. 350-286.

Schmidt, Willi J., Korneli, Wolfgang, and Werber, Eberhard, to Kalle Aktiengesellschaft. Process and apparatus for stacking or storing delicate thin webs of material. 3,540,669, Cl. 242-64.

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Schultz, Herman S., Katzenstein, William, and Williams, Earl P., to GAF Corporation. Lubricating oil containing methyl vinyl ether copolymers. 3,541,015, Cl. 252-52.

Schultz, John F., to Du Pont de Nemours, E. I., and Company, mesne. Pressure balanced annular extrusion die. 3,540,078, Cl. 18-12.

Schulze, Roy E., and Rydland, Paul H., to Monsanto Company. Blasting compositions containing ammonium nitrate prills, fuel, and a carbonaceous black. 3,540,953, Cl. 149-2.

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Schwendtner, Manfred, and Wenk, Jurgen, to Siemens Aktiengesellschaft. Speed control circuit for brushless DC motor. 3,541,408, Cl. 318-138.

Schwinghamer, Robert J., and Bennight, J. D., to United States of America, National Aeronautics and Space Administration. Method and apparatus for precision sizing and joining of large diameter tubes. 3,540,250, Cl. 72-56.

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Sears, James Kern, to Monsanto Company. Resins plasticized with N-substituted esters of hippuric acid. 3,540,903, Cl. 106-178.

Sears, James Kern, to Monsanto Company. Resins plasticized with esters of hippuric acid. 3,540,904, Cl. 106-178.

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Sederberg, George W., to Cincinnati Milacron Inc. Material cutting machine having reciprocating cutting blade with a nonreciprocating guide. 3,540,341, Cl. 83-563.

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Segawa, Toyoo, and Zaita, Hiroaki, to Nippon Sheet Glass Co., Ltd. Plate stacking apparatus. 3,541,597, Cl. 214-7.

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Sepall, Ola. Laboratory apparatus for experimental work in pulping, bleaching and chemical treatments of celluloses. 3,540,982, Cl. 162-253.

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Settler, Morris, and Settler, Bert, to Mantola Development Fund, mesne. Physiological pulse meter. 3,541,590, Cl. 128-2.05

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Shaffer, John W., to Sylvania Electric Products, Inc. Photoflash lamp. 3,540,820, Cl. 431-93.

Shaffer, John W., and Brown, Stephen V., to Sylvania Electric Products, Inc. Photoflash lamp. 3,540,819, Cl. 431-93.

Shah, Harshavadan C., Stein, Reinhardt P., and Smith, Herchel, to American Home Products Corporation. 3-Alkoxyalkoxy-13-alkyl-gona-1,3,5(10)-trienes unsaturated at the delta-6-, delta-7-, delta-8(9)-, delta 9(11)-and delta-6,8(9)-positions and 8- isogona analogs thereof. 3,541,118, Cl. 260-397.4

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Sharp, Paul H., to Columbia Broadcasting System, Inc. Automatic plugging circuit for braking an alternating current motor. 3,541,411, Cl. 318-212.

Sharpe, Edward L., to Falkenberg, Douglass, R. Therapeutic agents for controlling unwanted aquatic protozoal life and method of use. 3,541,207, Cl. 424-127.

Sharpe, Ned K., to Burlington Industries, Inc. Warp knit fabric and method and apparatus for making the same. 3,540,238, Cl. 66-192.

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- Shelton, Stephen M., and Poole, Henry Gordon, to Oregon Metallurgical Corporation. Apparatus for the reduction and purification of reactive metals. 3,540,711, Cl. 266-19.
- Sheps, Martin I., and Rosenthal, Francis J., Jr., to Black and Decker Manufacturing Company. The. Radial arm saw construction. 3,540,499, Cl. 143-6.
- Sherrod, Buddy L. Method of towing a vessel on a body of water. 3,540,224, Cl. 61-72.4
- Sherwin-Williams Company, The: See—
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- Sherwood Medical Industries Inc.: See—
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- Shetty, Bola Vithal, to Pennwalt Corporation. 2-Aryl-substituted-tetrahydro-halo-sulfamyl-quinazolinones. 3,541,096, Cl. 260-256.5
- Shigeizumi, Hidetaka: See—
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- Shinn, Jeffrey N., and Ringwall, Carl G., to General Electric Company. Closed-loop fluidic analog accelerometer. 3,540,290, Cl. 73-515.
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Wilson Seat Company: *See—*
Wilson, Minor E., 3,540,776.

Wilt, Charles Robert, Jr., to Salem-Brosius, Inc. Heating furnace with skid rails. 3,540,706, Cl. 263-6.

Winkelstein, Robin A.: *See—*
United States of America, National Aeronautics and Space Administration, Administrator, 3,541,312.

Winkin, Justin P., and Stevens, William D., to Foster Wheeler Corporation. Apparatus and process for slag deposit removal. 3,541,999, Cl. 122-392.

Winkler, Fallert & Co., Ltd.: *See—*
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Winter, Heinz: *See—*
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Winterbottom, Robert, and Ziegler, William M., to American Cyanamid Company. Resolution of racemic α -hydroxy- β , β -dimethyl- γ -butyrolactone. 3,541,139, Cl. 260-501.1

Wiremold Company, The: *See—*
Murphy, Robert H., and Gordon, Julian, 3,541,985.

Wirtz, Walter: *See—*
Schmidt, Karl Gunther, Mohr, Gunther, Lust, Sigmund, and Wirtz, Walter, 3,541,108.

Wise, Eugene H., to R. & G. Sloane Manufacturing Company, Inc. Ball valve. 3,540,693, Cl. 251-151.

Wise, Joseph Agusta: *See—*
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Witte, Johan F., and Strijder, Nicolaas Cornelis, to Continental Engineering Ingenieursbureau voor de Procesindustrie N.V. Apparatus for mixing a gas or liquid to another gaseous or liquid medium. 3,541,601, Cl. 261-118

Witte, Josef: *See—*
Pampus, Gottfried, Vohwinkel, Kurt, Schon, Nikolaus, and Witte, Josef, 3,541,032

Wittenbecher, Rudolf, to Standard Elektrik Lorenz Aktiengesellschaft. Implosion-protecting frame for television picture tubes and process for its installation. 3,541,251, Cl. 178-782

Wittke, John M., Simons, Joseph F., and Pereira, Joseph, to Aerosol Devices and Systems, Inc., mesne. Multi-product dispenser with co-dispensing valving means. 3,540,623, Cl. 222-94

Wojcik, Witold M., and Mizikar, Eugene A., to Jones & Laughlin Steel Corporation. Method of direct strip casting on a coated drum. 3,540,517, Cl. 164-72

Wolf, Milton, to American Home Products Corporation. 2,3-Dihydro-1,4-ethanobenzob[1,5] naphthyridine derivatives. 3,541,066, Cl. 260-288.

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Lyon, Charles E., Jr., Huber, William B., and Wolf, Robert A., 3,541,273.

Wolfe, Baron C. Ammunition feed for a machine gun. 3,540,345, Cl. 89-13.

Wolfer, Ernst P., to Westvaco Corporation. Reel hardness tester. 3,540,270, Cl. 73-78.

Wolk, Ronald H., and Johanson, Edwin S., to United States of America, Interior and Hydrocarbon Research, Inc. H-coal process slurry oil system. 3,540,995, Cl. 208-10.

Wolk, Theodore E.: *See—*
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Woloveke, Eugene L., and Thompson, Marvin M., to Idaco Engineering and Equipment Co. Multiple-cut sawing device. 3,540,498, Cl. 143-6.

Wolski, Karlheinz: *See—*
Becker, Klaus, Wolski, Karlheinz, and Heptner, Klaus, 3,540,561.

Wolter, Gilbert R., Ernstberger, Alfred F., and Ritter, Frederick J., to Sunbeam Corporation. Floor conditioner. 3,540,072, Cl. 15-320.

Wolterman, Arden J., to International Business Machines Corporation. Gate circuit and system. 3,541,533, Cl. 340-174.

Womack, Karl K.: *See—*
Bell, Kenneth A., Klotz, Raymond J., Wallis, Donald E., and Womack, Karl K., 3,541,518.

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Wong, Robert Y.: *See—*
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Wood, Fenton M., to American Machine & Foundry. Ultrasonic testing of drill pipe and the like. 3,540,267, Cl. 73-67.8

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Wood, Peter W. K., Coffey, George L., Dion, Henry W., Fusari, Salvatore A., and Senos, Georgia D., to Parke, Davis & Company. Amine compounds and methods for their production. 3,541,078, Cl. 260-210.

Wood, Prentice J., and Funkhouser, James B., to Mead Corporation. The. Wrapper for tubular open-ended secondary packages. 3,540,582, Cl. 206-65.

Woodbury, Raymond C.: *See—*
United States of America, National Aeronautics and Space Administration, Administrator, 3,541,459.

Worm, Hans. Ball bearing. 3,540,782, Cl. 308-6.

Worster, Norman George, to Sangamo Weston Limited. Electrical resistors. 3,541,491, Cl. 338-211.

Worth, Lewis R., to Cole-Parmer Instrument and Equipment Company. Control for alternating current motors. 3,541,412, Cl. 318-227.

Worthen, James H., to Melpar, Inc. Property filters. 3,541,509, Cl. 340-146.3

Worthington Corporation: *See—*
Allerton, Robert W., 3,540,834.

Peterson, Henry W., and Bucci, Savino A., 3,540,473.

Wostl, Wolfgang J., and Heintz, Joseph A., to Sinclair Research, Inc. Knock and rumble detector for internal combustion engines. 3,540,262, Cl. 73-35.

Woyton, Joseph T., to Reliance Electric and Engineering Company. Motor control system with BEMF sampling only when armature is coasting. 3,541,416, Cl. 318-331.

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Wurlitzer Company, The: *See—*
Herleman, William N., and Myrland, Richard G., 3,540,545.

Wurm, Joseph Gerard, Beucherie, Pierre, and Block, Michel, to European Atomic Energy Community (Euratom). Sputtering apparatus. 3,540,993, Cl. 204-298.

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Yachabach, Ronald L., to Teltronics, Inc. Post pay telephone control unit. 3,541,262, Cl. 179-6.3

Yachabach, Ronald L., to Teltronics, Inc. Post pay telephone control unit. 3,541,263, Cl. 179-6.3

Yagi, Mikihiro: *See—*
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Yamada, Keisho, Umemura, Sumio, and Odan, Kyoji, to Ube Industries, Ltd. Process for the preparation of acrylonitrile. 3,541,129, Cl. 260-465.3

Yamada, Kunimi. Mowing machine. 3,540,123, Cl. 30-167.

Yamada, Minoru: *See—*
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Yamada Yuki Seizo Co. Ltd.: *See—*
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Yamagishi, Kazuo, and Nakagawa, Yasuaki, to Tokyo Gas Company Limited. Gas annealing furnace. 3,540,710, Cl. 263-41.

Yamamoto, Hisao, Nakamura, Yasushi, Atsumi, Toshio, Nakao, Masaru, Kobayashi, Tsuyoshi, Saito, Chiharu, and Awata, Hiroshi, to Sumitomo Chemical Company, Ltd. 1-(Alcyclic substituted carbon-yl)-3-indolyl aliphatic and derivatives. 3,541,112, Cl. 260-326.13

Yamamoto, Kozo, and Naito, Morihisa, to Matsushita Electric Industrial Co., Ltd. Magnetic tape recorder of magazine type. 3,540,738, Cl. 274-4.

Yamasaki, Hiroshi: *See—*
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Yamashita, Koji: *See—*
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Yamazaki, Makoto, to Isuzu Kogyo Kabushiki Kaisha. Filtering device for water tanks, particularly aquariums. 3,540,591, Cl. 210-169.

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Yates, Paul Clifford, to Du Pont de Nemours, E. I., and Company. Process for producing self-destroying silica molds. 3,540,519, Cl. 164-128.

Yazigi, George M. TV screen alignment device. 3,541,255, Cl. 178-7.8

Yee, Alfred A. Splice sleeve for reinforcing bars. 3,540,763, Cl. 287-108.

Yee, Raymond K. W., to RCA Corporation. Gated differential amplifier. 3,541,466, Cl. 330-30.

Yerkins, Stephen J., to Goss Gas, Inc. Torch tips. 3,540,656, Cl. 239-424.5

Yogus, William, and Sullivan, Jack O., to Valeron Corporation, The. Positive rake insert holder. 3,540,102, Cl. 29-96.

Yonezu, Hisashi: *See—*
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Yoshida Kogyo Kabushiki Kaisha: *See—*
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Yoshii, Hiroshi: *See—*
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Yoshikawa, Shinsuke, and Makita, Hiromitsu, to Kureha Kagaku Kogyo Kabushiki Kaisha. Method for continuously molding hollow articles of thermoplastic resins. 3,541,189, Cl. 264-25.

Yoshimoto, Toshio, Kaneko, Seiya, Narumiya, Tsuneaki, and Yoshii, Hiroshi, to Bridgestone Tire Company Limited. Hydrogenation catalysts and a process for hydrogenating polymers by the use of them. 3,541,064, Cl. 260-85.1

Young, James E., to Xerox Corporation. Document abstractor with hand-held optical scanner with constant resolution scanning. 3,541,248, Cl. 178-6.6

Zai, David Y. F., to Ampex Corporation. RC active filter using unity gain amplifier. 3,541,463, Cl. 330-21.

Zaita, Hiroaki: *See—*
Segawa, Toyoo, and Zaita, Hiroaki, 3,541,597.

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Zanolini, Donald A.: *See—*
Maziuk, John, and Zanolini, Donald A., 3,540,996.

Zaromb, Solomon. Method of supplying gas in liquid electrolyte to electrochemical cell. 3,540,932, Cl. 136-86.

Zatsky, Norman C., and Keeler, Eugene R., to Timex Corporation. Horological time display. 3,540,209, Cl. 58-50.

Zebley, Donald D., and White, Ralph, to United Merchants and Manufacturers, Inc. Hoisting and transporting apparatus, especially for loom warp beams. 3,540,097, Cl. 28-41.

Zecher, Wilfried, Tarnow, Horst, and Holtschmidt, Hans, to Farbenfabriken Bayer Aktiengesellschaft. Process for producing imidochloride containing compounds by two stage chlorination of secondary amines. 3,541,091, Cl. 260-243.

Zechnowitz, Alvin L., and Chang, Nai-Chong, to Sperry Rand Corporation. Pneumatic distance meter and velocimeter. 3,540,288, Cl. 73-490.

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Zeman, William V. Drainage cannula with tissue connecting assemblies on both ends. 3,540,451, Cl. 128-334.

Zemba, Michael. Hook-equipped leader storing device. 3,540,143, Cl. 43-57.5

Ziegler, Norman G., and Martin, Clair J. Strain gage balance. 3,540,273, Cl. 73-147.

Ziegler, William M.: *See—*
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Zimmer, David E.: *See—*
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Zimmer, David E., to Zimmer, David E. Body massager and/or cosmetic applicator. 3,542,016, Cl. 128-57.

Zisler, Siegfried, to CSF-Compagnie Generale de Telegraphie Sans Fil. Electronic-scanning antennas. 3,541,565, Cl. 343-854.

Zoda, Keiichi: *See—*
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Zorn, Georg: *See—*
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Zucker, Daniel, to Telrad Telecommunication & Electronic Industries Limited. Electronic telephone calling system. 3,541,268, Cl. 179-18.

Zuech, Ernest A., to Phillips Petroleum Company. Polymerization. 3,541,176, Cl. 260-677.

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NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Hawko, Lubomir O. Accessory drive mechanism. Re. 26,978. 11-17-70, Cl. 74-798.
Krock, Richard H.: See—
Zdanuk, Edward J., and Krock. Re. 26,980.
Long, Ray S., and E. C. Tveter. Hydrochlorination process for recovery of metal values. Re. 26,982. 11-17-70, Cl. 23-16.
Pellegrini, Frank L. Stenographic apparatus providing punched tape record. Re. 26,981. 11-17-70, Cl. 234-1.

Petroff, Robert J. Intermittent mechanism and method of making the same. Re. 26,979. 11-17-70, Cl. 74-817.
Tveter, Elmer C.: See—
Long, Ray S., and Tveter. Re. 26,982.
Zdanuk, Edward J., and R. H. Krock. Vacuum infiltrating of tungsten powder bodies with copper-titanium alloys. Re. 26,980. 11-17-70, Cl. 75-208.

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Anderson, Frederic W., to Reedley Nursery, Inc. Nectarine tree. 3,000. 11-17-70, Cl. 41.
Barry, David, Jr.: See—
Raymundo, Marietta H. 3,003.
Pancheo, Juan V. 3,004.
California Jungle Gardens: See—
Pancheo, Juan V. 3,004.
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Driscoll Strawberry Associates, Inc.: See—
Johnson, Harold A., Jr., and Thomas. 3,001.
Johnson, Harold A., Jr., and H. E. Thomas, to Driscoll Strawberry Associates, Inc. Strawberry plant. 3,001. 11-17-70, Cl. 49.

Merrill, Grant. Peach. 3,002. 11-17-70, Cl. 43.
Pancheo, Juan V., ½ to D. Barry, Jr., d.b.a. California Jungle Gardens. Bougainvillea plant. 3,004. 11-17-70, Cl. 54.
Raymundo, Marietta H., ½ to D. Barry, Jr., d.b.a. California Jungle Gardens. Bougainvillea plant. 3,003. 11-17-70, Cl. 54.
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Thomas, Harold E.: See—
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Adams, George J., and H. L. Warner, to Stanray Corp. Rail car body. 219,246. 11-17-70, Cl. D66-1.
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Bloch, Jack, to Foster Grant Co., Inc. Pair of spectacles. 219,243. 11-17-70, Cl. D51-1.
Blount, Luther H., to Blount Marine Corp. Passenger vessel. 219,247. 11-17-70, Cl. D71-1.
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Borg-Warner Corp.: See—
Korol, Stanley F. 219,215.
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Burrroughs Corp.: See—
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Cannon, John P., to Plattner Industries, Inc. Merchandise suspension hook for display shelves. 219,206. 11-17-70, Cl. D8-23.
Chapman, Anthony C. B., to Lotus Cars Ltd. Model racing car. 219,231. 11-17-70, Cl. D34-15.
Channing, Harry M., to General Battery Corp. Battery display merchandiser. 219,249. 11-17-70, Cl. D80-9.
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Cohen, Judy A. Puzzle board. 219,233. 11-17-70, Cl. D34-15.
Cusenbary, Daniel C., to Kingman Mfg. Co., Inc. Cattle feed trough. 219,227. 11-17-70, Cl. D30-13.
Eames, Charles, to Herman Miller, Inc. Lounge. 219,212. 11-17-70, Cl. D15-11.
Eastman Kodak Co.: See—
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Eguchi, Kaoru. Digital clock radio. 219,238. 11-17-70, Cl. D42-7.
Eisele, Charles W., to H. C. Price Co. Holiday detector. 219,218. 11-17-70, Cl. D26-1.
Eklund, Hans E., to Aktiebolaget Ljungmans Verkstad. Hose nozzle and like article. 219,214. 11-17-70, Cl. D23-34.
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Miller, Herman, Inc.: See—
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Nise, Wilfred C., W. R. Black, and D. E. Louder, to Clarke Floor Machine Division, Studebaker Corp. Floor machine. 219,241. 11-17-70, Cl. D49-11.
Nixon, Russell L. Towed vehicle body. 219,211. 11-17-70, Cl. D14-24.
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Olson, Robert E., and F. W. Thompson, to Packard Instrument Co., Inc. Medical instrument for measuring bone density. 219,250. 11-17-70, Cl. D83-1.
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Payne, George L., to International Telephone and Telegraph Corp. Wall telephone set. 219,222. 11-17-70, Cl. D26-14.
Payne, George L., to International Telephone and Telegraph Corp. Desk telephone base. 219,223. 11-17-70, Cl. D26-14.
Payne, George L., to International Telephone and Telegraph Corp. Desk telephone set. 219,224. 11-17-70, Cl. D26-14.
Plank, David B. Hose clamp. 219,203. 11-17-70, Cl. D8-229.
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Olson, Robert E., and Thompson. 219,250.
Uhrenfabrik Sonden GmbH: See—
Rittinghaus, Erich. 219,237.
U.S. Philips Corp.: See—
Reijnhard, Johannes M. 219,230.
Vornitron Corp.: See—
Bogoff, Steven. 219,252.
Wallace, Elizabeth. Plaque. 219,225. 11-17-70, Cl. D29-23.
Warner, Harry L.: See—
Adams, George J., and Warner. 219,246.
Weiner, Benjamin, to Grow Chemical Corp. Squeeze bottle. 219,204. 11-17-70, Cl. D9-2.
Yanishevsky, Gilbert: See—
McKee, Joseph E., and Yanishevsky. 219,245.
Yoshikawa, Hironori, to Matsushita Electric Industrial Co., Ltd. Radio receiver. 219,242. 11-17-70, Cl. D56-4.
Zierhut, Clarence D., to The Gillette Co. Writing instrument clip. 219,248. 11-17-70, Cl. D74-2.

CLASSIFICATION OF PATENTS

ISSUED NOVEMBER 17, 1970

NOTE.—First number, class; second number, subclass; third number, patent number

2— 8	3,540,058	29— 421	3,540,115	56— 295	3,540,198	73— 351	3,540,281	94— 39	3,540,358	117— 161	3,540,923
18	3,540,059	430	3,540,116	364	3,540,199	356	3,540,282	46	3,540,359		3,540,924
49	3,540,060	450	3,540,118	57— 34	3,540,200	362	3,540,283	16	3,540,360	169	3,541,589
130	3,540,061	527.7	3,540,117	80	3,540,201	8	3,540,284	95— 4.5	3,540,361	217	3,540,925
4— 10	3,540,062	600	3,540,119	106	3,540,202	392	3,540,285	36	3,540,362		3,540,926
172	3,540,063	609	3,540,120	149	3,540,203	398	3,540,286	42	3,540,363	118— 6	3,540,409
	3,540,274	626	3,540,121	163	3,540,204		3,540,287		3,540,364	249	3,540,410
252	3,540,064	30— 123	3,540,122	58— 23	3,540,205	190	3,540,288		3,540,365	311	3,540,411
	3,540,065	167	3,540,123		3,540,206	505	3,540,289	44	3,540,366	110	3,540,412
5— 141	3,540,066	346.5	3,540,124		3,540,207	515	3,540,290	53	3,540,367	119— 1	3,540,413
8— 115.6	3,540,835		3,540,125	42	3,540,208	517	3,540,291	94	3,540,368	2	3,540,414
120	3,540,836	32— 15	3,540,126	50	3,540,209	74— 5	3,540,293	96— 1	3,540,385	3	3,540,415
9— 342	3,540,067	33— 33	3,541,583	109	3,540,210		3,540,295	8	3,540,386	14.37	3,540,416
14— 1	3,540,068	33— 1	3,540,127		3,540,211	5	3,540,294		3,540,387	106	3,540,417
15— 21	3,540,069	143	3,540,129	59— 75	3,540,212	15.4	3,540,296	139	3,540,388	122— 6.6	3,540,418
83	3,540,070	174	3,540,128	60— 1	3,540,213	86	3,540,297	99— 71	3,540,389	123— 27	3,540,419
105	3,540,071		3,540,130	19	3,540,220	89.17	3,540,298	83	3,540,390	56	3,540,420
320	3,540,072	34— 45	3,540,131	39.28	3,540,214	129	3,540,299	88	3,540,391	65	3,540,421
340	3,540,073	35— 8	3,540,132		3,540,217	200	3,540,300	126	3,540,399	117	3,540,422
17— 11	3,540,074	9	3,540,133	41	3,540,215	231	3,540,301	101— 1	3,540,370	136	3,540,423
34	3,540,075	11	3,540,134	72	3,540,216	253	3,540,302	38	3,540,371	182	3,540,424
45	3,540,076	12	3,541,584	52	3,540,218	477	3,540,303	92	3,540,372	195	3,540,425
18— 8	3,540,077	19	3,540,135	54.5	3,540,219	492	3,540,304	96	3,540,373	124— 15	3,540,426
	3,540,080	25	3,540,136	244	3,540,221	526	3,540,305	269	3,540,374	125— 21	3,540,427
12	3,540,078	47	3,540,137	61— 1	3,540,222	576	3,540,306	292	3,540,375	126— 39	3,540,428
19	3,540,079	48	3,540,138	12	3,540,223	675	3,540,307	115.1	3,540,376	92	3,540,429
30	3,540,081	37— 87	3,540,139	46	3,540,224	751	3,540,308	102	3,540,377	343.5	3,540,430
21— 61	3,540,082	40— 23	3,540,140	53.52	3,540,225	752	3,540,309	104— 23	3,540,378	127— 30	3,540,431
23— 2	3,540,837	152.1	3,540,146	72.4	3,540,226		3,540,310	202	3,540,379	128— 1	3,540,432
16	3,540,838	42— 16	3,540,147	62— 137	3,540,227	797	3,540,311	246	3,540,380	2	3,540,433
51	Re. 26,982	17	3,540,141	140	3,540,228	798	Re. 26,978	105— 75	3,540,381		3,540,434
53	3,540,839	22	3,540,142	240	3,540,229	813	3,540,312	240	3,540,382	05	3,541,590
91	3,540,840	13— 42.33	3,540,144	471	3,540,230	817	Re. 26,979	376	3,540,383	1	3,540,434
102	3,540,841	37.5	3,540,143	495	3,540,231	850	3,540,313	418	3,540,384	25	3,540,435
165	3,540,842	113	3,540,145	64— 8	3,540,232	75— 5	3,540,877	106— 3	3,540,891		3,540,436
182	3,540,843	44— 38	3,540,865	14	3,540,233		3,540,878	15	3,540,892	66	3,540,437
202	3,540,844	51	3,540,866	21	3,540,234	60	3,540,879	39	3,540,893		3,540,438
207	3,540,845	46— 1	3,540,148	65— 11	3,540,235	109	3,540,880		3,540,894	75	3,540,439
209.1	3,541,582	79	3,540,149	31	3,540,871	124	3,540,881	19	3,540,895	76	3,540,440
3	3,540,848	202	3,540,151	65	3,540,872	134	3,540,882	56	3,540,896	132	3,540,441
230	3,540,849	206	3,540,152	184	3,540,873	173	3,540,883	58	3,540,897	141	3,540,442
	3,540,850	243	3,540,153	66— 50	3,540,236	208	Re. 26,980	58	3,540,898	146	3,540,443
232	3,540,851	48— 197	3,540,867	107	3,540,237	211	3,540,884	59	3,540,899	173	3,540,444
259	3,540,852	214	3,540,868	192	3,540,238	76— 107	3,540,314	60	3,540,900	188	3,540,445
277	3,540,853	19— 91	3,540,154	192	3,540,239		3,540,315	60	3,540,901	191	3,540,446
282	3,540,854	51— 9	3,540,155	68— 5	3,540,240		3,540,316	66	3,540,902	221	3,540,447
283	3,540,855	13	3,540,156	12	3,540,239	112	3,540,317	178	3,540,903	261	3,540,448
292	3,540,856	52	3,540,157		3,540,241	77— 1	3,540,318		3,540,904	272	3,540,449
	3,540,857	133	3,540,158	175	3,540,242		3,540,319	213	3,540,905	287	3,540,450
315	3,540,858	141	3,540,159	69— 9.5	3,540,243	13	3,540,320	278	3,540,906	334	3,540,451
338	3,540,859	144	3,540,159	70— 231	3,540,244	22	3,540,321	108— 51	3,540,385	335	3,541,591
366	3,540,860	170	3,540,160	71— 29	3,540,245	55	3,540,322	150	3,540,386	5	3,540,452
77	3,540,861	206	3,540,162	66	3,540,874	67	3,540,323	110— 1	3,540,387	422	3,540,453
123	3,540,862	209	3,540,163	72— 2	3,540,875	73.5	3,540,324	8	3,540,388	130— 27	3,540,454
201	3,540,863	236	3,540,164	94	3,540,876		3,540,325	112— 158	3,540,389	131— 17	3,540,455
205	3,540,864	237	3,540,165	72— 2	3,540,246	81— 57.18	3,540,326	168	3,540,390	144	3,540,456
1	3,540,865	237	3,540,166	8	3,540,247	82— 2	3,540,327	212	3,540,391	132— 33	3,540,457
211	3,540,866	247	3,540,166		3,540,248	4	3,540,328	225	3,540,392	134— 22	3,540,458
216	3,540,867	281	3,540,167	22	3,540,249		3,540,329	265	3,540,393	135— 4	3,540,459
221	3,540,868	298	3,540,869	56	3,540,250	14	3,540,330	113— 80	3,540,394	136— 6	3,540,460
	3,540,869	317	3,540,168	99	3,540,251	17	3,540,331	116	3,540,395	24	3,540,461
274	3,540,870	335	3,540,169	166	3,540,252	36	3,540,332	114— 5	3,540,396	29	3,540,462
25— 2	3,540,871	52— 2	3,540,170	239	3,540,253	53.1	3,540,333		3,540,397	86	3,540,463
17	3,540,872	17	3,540,171		3,540,254	83— 1	3,541,585		3,540,398		3,540,932
29	3,540,873	19	3,540,172	256	3,540,255	13	3,540,334	16	3,540,399		3,540,933
41	3,540,874	79	3,540,173	299	3,540,256	140	3,540,335	27	3,540,400		3,540,934
72	3,540,875	80	3,540,174	302	3,540,257	167	3,540,336	56	3,540,401		3,540,935
105	3,540,876	126	3,540,175	324	3,540,258	171	3,540,337	90	3,540,402	137	3,540,936
155	3,540,877	224	3,540,176	465	3,540,259	451	3,540,338	219	3,540,403		3,540,937
199.2	3,540,878	261	3,540,177		3,540,260	490	3,540,339	229	3,540,404	155	3,540,938
160.6	3,540,879	669	3,540,178	73— 28	3,540,261	499	3,540,340	115— 34	3,540,405	162	3,540,939
182.5	3,540,880	53— 3	3,540,181	35	3,540,262	527	3,541,586	116— 28	3,540,406	208	3,540,940
191.2	3,540,881		3,540,182	37.5	3,540,263	563	3,540,341	70	3,540,407	137— 74	3,540,459
195	3,540,882	14	3,540,183	55	3,540,264	84— 1.15	3,541,219	114	3,540,408	81.5	3,540,460
200	3,540,883		3,540,184	64.2	3,540,265	464	3,540,343	117— 6	3,540,409		3,540,461
268	3,540,884	30	3,540,185	67	3,540,266	484	3,540,344	33.5	3,540,410	85	3,540,462
401	3,540,885	48	3,540,186		3,540,267	85— 45	3,540,342	36.2	3,540,411	219	3,540,463
414	3,540,886	51	3,540,187	7	3,540,268	89— 13	3,540,345		3,540,412	221	3,540,464
415	3,540,887	59	3,540,188	71	3,540,269	90— 11	3,540,346		3,540,413	263	3,540,465
419	3,540,888	74	3,540,189	78	3,540,270	15	3,540,347		3,540,414	327	3,540,466
	3,540,889	55— 20	3,540,190		3,540,271	91— 306	3,540,348		3,540,415	340	3,540,467
	3,540,890	97	3,540,191	116	3,540,272		3,540,349		3,540,416	383	3,540,468
	3,540,891	121	3,540,192	143	3,540,273	360	3,540,350	47	3,540,417	512.1	3,540,469
	3,540,892	192	3,540,193	147	3,540,274	501	3,540,351	63	3,540,418	513.3	3,540,470
	3,540,893	192	3,540,194	290	3,540,275	506	3,540,352	76	3,540,419	516.17	3,540,471
	3,540,894	273	3,540,195	328	3,540,276	92— 34	3,540,353	102	3,540,420	29	3,540,472
	3,540,895	56— 1	3,540,196	335	3,540,277	93— 1	3,540,354		3,540,421	543.15	3,540,473
	3,540,896	23	3,540,197	336.5	3,540,278	20	3,540,355	106	3,540,422	559	3,540,474
	3,540,897	50	3,540,198	339	3,540,279	35	3,540,356	122	3,540,423	594	3,540,475
	3,540,898	286	3,540,199	341	3,540						

CLASSIFICATION OF PATENTS

13	608	340.17	174-72	3541.221	202-187	3540.986	222-181	3540.631	252-51.5	3541.012	260-389	3541.116
62	5	340.178	74	3541.225	261-77	3540.987	181	3540.632	52	3541.015	267-1	3541.117
12	6	340.179	84	3541.226	201-31	3540.988	195	3540.633	62.50	3541.016	270-1	3541.118
79	6	340.180	91	3541.227	168	3540.989	402.21	3540.634	69	3541.017	315	3541.067
12	6	340.181	120	3541.228	181	3540.990	501	3540.635	90	3541.018	36	3541.119
30	6	340.182	135	3541.229	221	3541.093	501	3540.636	140	3541.051	161	3541.120
12	6	340.183	138	3541.230	275	3540.991	221-7	3540.637	301.1	3541.018	119	3541.121
71	6	340.184	152	3541.231	297	3540.992	225-96	3540.638		3541.020	128.5	3541.122
109	6	340.185	175-63	3540.936	298	3540.993	97	3540.639		3541.021	130	3541.121
112	6	340.187	251	3540.937	302	3540.994	103	3540.640		3541.022	118	3541.125
21	6	340.188	177-122	3540.938	296-16	3540.935	226-1	3540.641		3541.019	8	3541.126
159	6	340.189	256	3540.939		3540.936	99	3540.642	359	3541.023	153	3541.128
30	6	340.190	178-52	3541.233		3540.937	97	3540.643	364	3541.024	105	3541.130
16	6	340.192	1	3541.234		3540.938	136	3540.644	421	3541.025	109	3541.131
125	6	340.193		3541.235		3540.939	227-7	3540.645	426	3541.026	157	3541.132
140	1	340.194		3541.236	63.2	3540.980	229-16	3541.599	453	3541.027	181	3541.133
87	6	340.195		3541.237	65	3540.981	72	3541.636	501	3541.028	183	3541.134
141	80	340.196		3541.238		3540.982	241-1	3540.697	519	3541.029	271-1	3541.135
198	6	340.197		3541.239		3541.052	128	3540.649	544	3541.132	4	3540.738
225	6	340.198		3541.240		3541.053	235-50	3540.650	550	3541.133	10	3540.739
144	6	340.199		3541.241		3541.054	61.11	3541.310	556	3541.134	28	3540.740
163	6	340.200		3541.242		3541.055	6	3541.307	559	3541.135	88	3540.741
32	6	340.201		3541.243		3541.056	7	3541.308	560	3541.136	92	3540.742
141	6	340.202		3541.244		3541.057	89	3541.309	561	3541.137	99	3540.743
30	6	340.203		3541.245		3541.058	92	3541.310	562	3541.138	108	3540.744
155	6	340.204		3541.246		3541.059	132	3541.311	563	3541.139	188	3540.745
146	6	340.205		3541.247		3541.060	151	3541.312	564	3541.140	193	3540.746
14	6	340.206		3541.248		3541.061	160	3541.313	565	3541.141	211	3540.747
67	6	340.207		3541.249		3541.062	164	3541.314	566	3541.142	279-1	3540.748
70.1	6	340.208		3541.250		3541.063	183	3541.315	567	3541.143	280-1	3540.749
247	6	340.209		3541.251		3541.064	210-19	3541.316	568	3541.144	327	3540.750
133	6	340.210		3541.252		3541.065	236-12	3541.317	569	3541.145	371	3540.751
6.11	6	340.211		3541.253		3541.066	237-8	3541.318	570	3541.146	402	3540.752
11	6	340.212		3541.254		3541.067	238	3541.319	571	3541.147	415	3540.753
21	6	340.213		3541.255		3541.068	239	3541.320	572	3541.148	425	3540.754
31.5	6	340.214		3541.256		3541.069	240	3541.321	573	3541.149	434	3540.755
42.5	6	340.215		3541.257		3541.070	241	3541.322	574	3541.150	443	3540.756
103	6	340.216		3541.258		3541.071	242	3541.323	575	3541.151	452	3540.757
111	6	340.217		3541.259		3541.072	243	3541.324	576	3541.152	461	3540.758
131	6	340.218		3541.260		3541.073	244	3541.325	577	3541.153	470	3540.759
149	6	340.219		3541.261		3541.074	245	3541.326	578	3541.154	479	3540.760
189	6	340.220		3541.262		3541.075	246	3541.327	579	3541.155	488	3540.761
199	6	340.221		3541.263		3541.076	247	3541.328	580	3541.156	497	3540.762
19	6	340.222		3541.264		3541.077	248	3541.329	581	3541.157	506	3540.763
40	6	340.223		3541.265		3541.078	249	3541.330	582	3541.158	515	3540.764
47	6	340.224		3541.266		3541.079	250	3541.331	583	3541.159	524	3540.765
152	6	340.225		3541.267		3541.080	251	3541.332	584	3541.160	533	3540.766
53	6	340.226		3541.268		3541.081	252	3541.333	585	3541.161	542	3540.767
59	6	340.227		3541.269		3541.082	253	3541.334	586	3541.162	551	3540.768
89	6	340.228		3541.270		3541.083	254	3541.335	587	3541.163	560	3540.769
17	6	340.229		3541.271		3541.084	255	3541.336	588	3541.164	569	3540.770
54	6	340.230		3541.272		3541.085	256	3541.337	589	3541.165	578	3540.771
89	6	340.231		3541.273		3541.086	257	3541.338	590	3541.166	587	3540.772
164	6	340.232		3541.274		3541.087	258	3541.339	591	3541.167	596	3540.773
203	6	340.233		3541.275		3541.088	259	3541.340	592	3541.168	605	3540.774
219	6	340.234		3541.276		3541.089	260	3541.341	593	3541.169	614	3540.775
244	6	340.235		3541.277		3541.090	261	3541.342	594	3541.170	623	3540.776
306	6	340.236		3541.278		3541.091	262	3541.343	595	3541.171	632	3540.777
307	6	340.237		3541.279		3541.092	263	3541.344	596	3541.172	641	3540.778
308	6	340.238		3541.280		3541.093	264	3541.345	597	3541.173	650	3540.779
309	6	340.239		3541.281		3541.094	265	3541.346	598	3541.174	659	3540.780
310	6	340.240		3541.282		3541.095	266	3541.347	599	3541.175	668	3540.781
311	6	340.241		3541.283		3541.096	267	3541.348	600	3541.176	677	3540.782
312	6	340.242		3541.284		3541.097	268	3541.349	601	3541.177	686	3540.783
313	6	340.243		3541.285		3541.098	269	3541.350	602	3541.178	695	3540.784
314	6	340.244		3541.286		3541.099	270	3541.351	603	3541.179	704	3540.785
315	6	340.245		3541.287		3541.100	271	3541.352	604	3541.180	713	3540.786
316	6	340.246		3541.288		3541.101	272	3541.353	605	3541.181	722	3540.787
317	6	340.247		3541.289		3541.102	273	3541.354	606	3541.182	731	3540.788
318	6	340.248		3541.290		3541.103	274	3541.355	607	3541.183	740	3540.789
319	6	340.249		3541.291		3541.104	275	3541.356	608	3541.184	749	3540.790
320	6	340.250		3541.292		3541.105	276	3541.357	609	3541.185	758	3540.791
321	6	340.251		3541.293		3541.106	277	3541.358	610	3541.186	767	3540.792
322	6	340.252		3541.294		3541.107	278	3541.359	611	3541.187	776	3540.793
323	6	340.253		3541.295		3541.108	279	3541.360	612	3541.188	785	3540.794
324	6	340.254		3541.296		3541.109	280	3541.361	613	3541.189	794	3540.795
325	6	340.255		3541.297		3541.110	281	3541.362	614	3541.190	803	3540.796
326	6	340.256		3541.298		3541.111	282	3541.363	615	3541.191	812	3540.797
327	6	340.257		3541.299		3541.112	283	3541.364	616	3541.192	821	3540.798
328	6	340.258		3541.300		3541.113	284	3541.365	617	3541.193	830	3540.799
329	6	340.259		3541.301		3541.114	285	3541.366	618	3541.194	839	3540.800
330	6	340.260		3541.302		3541.115	286	3541.367	619	3541.195	848	3540.801
331	6	340.261		3541.303		3541.116	287	3541.368	620	3541.196	857	3540.802
332	6	340.262		3541.304		3541.117	288	3541.369	621	3541.197	866	3540.803
333	6	340.263		3541.305		3541.118	289	3541.370	622	3541.198	875	3540.804
334	6	340.264		3541.306		3541.119	290	3541.371	623	3541.199	884	3540.805
335	6	340.265		3541.307		3541.120	291	3541.372	624	3541.200	893	3540.806
336	6	340.266		3541.308		3541.121	292	3541.373	625	3541.201	902	3540.807
337	6	340.267		3541.309		3541.122	293	3541.374	626	3541.202	911	3540.808
338	6	340.268		3541.310		3541.123	294	3541.375	627	3541.203	920	3540.809
339	6	340.269		3541.311		3541.124	295	3541.376	628	3541.204	929	3540.810
340	6	340.270		3541.312		3541.125	296	3541.377	629	3541.205	938	3540.811
341	6	340.271		3541.313		3541.126	297	3541.378	630	3541.206	947	3540.812
342	6	340.272		3541.314		3541.127	298	3541.379	631	3541.207	956	3540.813
343	6	340.273		3541.315		3541.128	299	3541.380	632	3541.208	965	3540.814

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PATENTS

1 : 3,540,250	6 : 3,540,329	6 : 3,540,944	6 : 3,541,495	9 : 3,541,575	12 : 3,541,262
3,540,303	3,540,338	3,540,973	3,541,499	10 : 3,540,074	3,541,263
3,540,774	3,540,342	3,540,984	3,541,502		3,541,318
3,540,813	3,540,345	3,540,988	3,541,503		3,541,453
3,540,874	3,540,358	3,541,023	3,541,504		3,541,468
3,540,980	3,540,380	3,541,083	3,541,505		3,541,557
3,541,195	3,540,396	3,541,086	3,541,521		3,541,583
3,541,361	3,540,400	3,541,124	3,541,537		3,541,592
3,541,439	3,540,409	3,541,150	3,541,541		3,540,958
3,541,536	3,540,412	3,541,158	3,541,545		3,541,035
3,540,458	3,540,433	3,541,159	3,541,552		3,541,045
3,540,718	3,540,437	3,541,192	3,541,569		3,541,047
3,540,955	3,540,438	3,541,222	3,541,570		3,541,053
3,541,353	3,540,443	3,541,230	3,541,577		3,541,071
3,541,120	3,540,474	3,541,244	3,541,591		3,541,109
3,541,513	3,540,498	3,541,249	3,541,595		3,541,111
3,541,517	3,540,507	3,541,254	3,541,132		3,540,727
Re. 26,982	3,540,563	3,541,255	3,540,452		3,540,763
3,540,063	3,540,576	3,541,258	3,540,532		3,541,164
3,540,064	3,540,578	3,541,260	3,540,647		3,541,175
3,540,066	3,540,594	3,541,266	3,540,940		3,541,213
3,540,089	3,540,595	3,541,272	3,541,349	11 : Re. 26,979	3,540,103
3,540,093	3,540,610	3,541,292	3,540,124		3,540,113
3,540,096	3,540,619	3,541,293	3,540,125		3,540,122
3,540,101	3,540,629	3,541,307	3,540,141		3,540,131
3,540,105	3,540,635	3,541,311	3,540,142		3,540,132
3,540,119	3,540,636	3,541,317	3,540,211		3,540,161
3,540,121	3,540,649	3,541,320	3,540,234		3,540,163
3,540,127	3,540,675	3,541,323	3,540,261		3,540,168
3,540,128	3,540,680	3,541,327	3,541,312		3,540,172
3,540,138	3,540,683	3,541,343	3,541,314		3,541,346
3,540,143	3,540,685	3,541,347	3,541,346		3,540,215
3,540,149	3,540,687	3,541,354	3,541,359		3,540,262
3,540,152	3,540,693	3,541,385	3,540,455		3,540,283
3,540,160	3,540,704	3,541,395	3,540,462		3,540,308
3,540,169	3,540,742	3,541,405	3,540,464		3,540,310
3,540,170	3,540,758	3,541,407	3,540,468		3,541,462
3,540,175	3,540,762	3,541,411	3,540,600		3,540,136
3,540,177	3,540,772	3,541,413	3,540,677		3,540,327
3,540,208	3,540,792	3,541,417	3,540,744		3,541,480
3,540,218	3,540,804	3,541,421	3,540,761		3,540,343
3,540,223	3,540,805	3,541,429	3,540,797		3,540,351
3,540,245	3,540,817	3,541,432	3,540,809		3,540,375
3,540,259	3,540,838	3,541,447	3,540,964		3,540,381
3,540,260	3,540,849	3,541,449	3,541,034		3,540,417
3,540,271	3,540,852	3,541,458	3,541,052		3,540,391
3,540,305	3,540,856	3,541,463	3,541,120		3,540,416
3,540,314	3,540,857	3,541,469	3,541,271		3,540,419
3,540,325	3,540,858	3,541,476	3,541,299		3,540,430
3,540,326	3,540,897	3,541,484	3,541,455		3,540,441
			3,541,574		3,540,460
					3,540,896
					3,540,465

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

17	: 3,540,476	20	: 3,540,843	26	: 3,540,321	34	: 3,540,821	36	: 3,540,432	36	: 3,541,530
	3,540,477	21	: 3,540,133		3,540,350		3,540,829		3,540,440		3,541,532
	3,540,480		3,540,341		3,540,352		3,540,834		3,540,442		3,541,533
	3,540,503		3,540,565		3,540,422		3,540,851		3,540,483		3,541,546
	3,540,509		3,540,838		3,540,425		3,540,859		3,540,487		3,541,547
	3,540,515		3,541,396		3,540,444		3,540,860		3,540,490		3,541,548
	3,540,530	22	: 3,540,111		3,540,485		3,540,868		3,540,517		3,541,555
	3,540,538		3,541,070		3,540,521		3,540,925		3,540,534		3,541,561
	3,540,539		3,541,125		3,540,606		3,540,932		3,540,544		3,541,564
	3,540,545		3,541,167		3,540,625		3,540,936		3,540,564		3,541,568
	3,540,556		3,541,171		3,540,717		3,540,945	37	: 3,540,569		3,540,146
	3,540,557	24	: 3,540,061		3,540,748		3,540,959		3,540,571		3,540,238
	3,540,559		3,540,273		3,540,783		3,540,961		3,540,574		3,540,439
	3,540,602		3,540,287		3,540,872		3,540,963		3,540,580		3,540,737
	3,540,607		3,540,357		3,540,923		3,540,995		3,540,581		3,540,966
	3,540,624		3,540,495		3,540,924		3,540,996		3,540,583		3,541,330
	3,540,648		3,540,499		3,540,972		3,541,000		3,540,584		3,541,474
	3,540,696		3,540,641		3,540,978		3,541,002		3,540,631		3,541,477
	3,540,743		3,540,646		3,541,042		3,541,056	39	: Re. 26,978		3,540,073
	3,540,745		3,540,676		3,541,058		3,541,061		3,540,670		3,540,171
	3,540,766		3,540,715		3,541,071		3,541,087		3,540,695		3,540,179
	3,540,833		3,540,736		3,541,078		3,541,093		3,540,720		3,540,214
	3,540,845		3,540,892		3,541,082		3,541,117		3,540,721		3,540,227
	3,540,870		3,540,983		3,541,101		3,541,137		3,540,733		3,540,235
	3,540,875		3,541,019		3,541,168		3,541,141		3,540,786		3,540,241
	3,540,886		3,541,147		3,541,172		3,541,144		3,540,787		3,540,255
	3,540,969		3,541,148		3,541,205		3,541,149		3,540,788		3,540,280
	3,540,981		3,541,215		3,541,282		3,541,151		3,540,793		3,540,403
	3,540,992		3,541,422		3,541,368		3,541,152		3,540,800		3,540,423
	3,540,999		3,541,442		3,541,415		3,541,184		3,540,806		3,540,446
	3,541,009		3,541,486	27	: 3,540,070		3,541,199		3,540,808		3,540,463
	3,541,013		3,541,524		3,540,126		3,541,208		3,540,830		3,540,496
	3,541,030		3,541,526		3,540,193		3,541,210		3,540,836		3,540,497
	3,541,067		3,541,559		3,540,402		3,541,233		3,540,837		3,540,510
	3,541,077	25	: Re. 26,980		3,540,489		3,541,234		3,540,839		3,540,512
	3,541,092		3,540,101		3,540,603		3,541,238		3,540,861		3,540,520
	3,541,106		3,540,106		3,540,616		3,541,247		3,540,863		3,540,528
	3,541,273		3,540,114		3,540,694		3,541,252		3,540,888		3,540,553
	3,541,275		3,540,162		3,540,840		3,541,269		3,540,889		3,540,566
	3,541,279		3,540,183		3,540,890		3,541,274		3,540,894		3,540,608
	3,541,280		3,540,242		3,541,068		3,541,283		3,540,899		3,540,622
	3,541,306		3,540,265		3,541,128		3,541,286		3,540,900		3,540,638
	3,541,340		3,540,269		3,541,335		3,541,291		3,540,926		3,540,640
	3,541,412		3,540,279		3,541,518		3,541,298		3,540,929		3,540,642
	3,541,452		3,540,289		3,541,550		3,541,315		3,540,930		3,540,654
	3,541,514		3,540,291	28	: 3,540,196		3,541,319		3,540,931		3,540,658
	3,541,573		3,540,347		3,540,543		3,541,336		3,540,941		3,540,682
	3,541,587		3,540,362		3,540,613		3,541,342		3,540,952		3,540,692
	3,541,606		3,540,370	29	: Re. 26,981		3,541,355		3,540,967		3,540,709
	3,541,607		3,540,407		3,540,115		3,541,392		3,540,985		3,540,725
18	: 3,540,088		3,540,486		3,540,184		3,541,403		3,540,986		3,540,728
	3,540,156		3,540,577		3,540,190		3,541,431		3,540,991		3,540,731
	3,540,164		3,540,593		3,540,243		3,541,436		3,541,031		3,540,740
	3,540,217		3,540,790		3,540,384		3,541,446		3,541,044		3,540,755
	3,540,395		3,540,791		3,540,448		3,541,456		3,541,054		3,540,760
	3,540,406		3,540,795		3,540,562		3,541,461		3,541,057		3,540,764
	3,540,461		3,540,802		3,540,620		3,541,464		3,541,069		3,540,771
	3,540,472		3,540,825		3,540,707		3,541,467		3,541,089		3,540,776
	3,540,482		3,540,826		3,540,903		3,541,471		3,541,096		3,540,810
	3,540,550		3,540,831		3,540,904		3,541,475		3,541,100		3,540,811
	3,540,554		3,540,883		3,540,953		3,541,482		3,541,116		3,540,828
	3,540,555		3,540,933		3,541,046		3,541,496		3,541,136		3,540,866
	3,540,605		3,540,934		3,541,434		3,541,515		3,541,139		3,540,878
	3,540,612		3,540,968	30	: 3,540,750		3,541,522		3,541,162		3,540,893
	3,540,651		3,540,975	31	: 3,540,546		3,541,523		3,541,190		3,540,909
	3,540,655		3,540,976		3,541,489		3,541,525		3,541,193		3,540,910
	3,540,657		3,541,004	33	: 3,540,082		3,541,531		3,541,194		3,540,911
	3,540,668		3,541,006		3,540,493		3,541,534		3,541,206		3,540,912
	3,540,701		3,541,037		3,540,965		3,541,535		3,541,216		3,540,913
	3,540,756		3,541,133	34	: 3,540,110		3,541,542		3,541,246		3,540,914
	3,540,891		3,541,186		3,540,112		3,541,549		3,541,248		3,540,939
	3,540,905		3,541,187		3,540,144		3,541,553		3,541,253		3,540,949
	3,540,906		3,541,201		3,540,186		3,541,560		3,541,257		3,540,970
	3,540,974		3,541,225		3,540,187		3,541,562		3,541,276		3,541,012
	3,541,017		3,541,264		3,540,293		3,541,566		3,541,296		3,541,014
	3,541,095		3,541,284		3,540,294		3,541,576		3,541,308		3,541,018
	3,541,098		3,541,310		3,540,311		3,541,584		3,541,324		3,541,022
	3,541,217		3,541,328		3,540,361		3,541,602		3,541,329		3,541,043
	3,541,218		3,541,331	36	: 3,540,369		3,540,059		3,541,338		3,541,063
	3,541,235		3,541,333		3,540,377		3,540,060		3,541,339		3,541,065
	3,541,240		3,541,376		3,540,389		3,540,062		3,541,348		3,541,107
	3,541,241		3,541,426		3,540,392		3,540,069		3,541,351		3,541,170
	3,541,261		3,541,428		3,540,401		3,540,079		3,541,352		3,541,188
	3,541,277		3,541,440		3,540,411		3,540,090		3,541,357		3,541,203
	3,541,288		3,541,462		3,540,436		3,540,135		3,541,358		3,541,207
	3,541,309		3,541,466		3,540,447		3,540,147		3,541,374		3,541,219
	3,541,345		3,541,480		3,540,451		3,540,173		3,541,375		3,541,256
	3,541,359		3,541,571		3,540,456		3,540,180		3,541,393		3,541,294
	3,541,365		3,541,579		3,540,457		3,540,207		3,541,397		3,541,303
	3,541,416	26	: 3,540,071		3,540,471		3,540,209		3,541,400		3,541,332
	3,541,419		3,540,087		3,540,473		3,540,237		3,541,401		3,541,366
	3,541,443		3,540,091		3,540,491		3,540,246		3,541,418		3,541,367
	3,541,451		3,540,102		3,540,547		3,540,252		3,541,441		3,541,373
	3,541,472		3,540,108		3,540,572		3,540,268		3,541,444		3,541,379
	3,541,493		3,540,158		3,540,575		3,540,274		3,541,454		3,541,394
	3,541,594		3,540,220		3,540,601		3,540,288		3,541,457		3,541,435
19	: 3,540,139		3,540,222		3,540,623		3,540,290		3,541,460	40	: 3,540,130
	3,540,275		3,540,239		3,540,633		3,540,295		3,541,470		3,540,188
	3,540,454		3,540,278		3,540,634		3,540,344		3,541,500		3,540,328
	3,540,484		3,540,297		3,540,673		3,540,368		3,541,507		3,540,359
	3,540,549		3,540,301		3,540,684		3,540,374		3,541,508		3,540,130
	3,540,690		3,540,312		3,540,700		3,540,397		3,541,516		3,540,171
20	: 3,540,435		3,540,315		3,540,741		3,540,398		3,541,520		3,540,179
	3,540,548		3,540,318		3,540,789		3,540,408		3,541,528		3,540,214
	3,540,726		3,540,319		3,540,796		3,540,427		3,541,529		3,540,235

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

40 : 3,540,979	42 : 3,540,426	42 : 3,541,011	43 : 3,541,105	48 : 3,540,778	51 : 3,541,202
3,541,072	3,540,434	3,541,015	44 : 3,540,479	3,540,814	3,541,509
3,541,176	3,540,467	3,541,027	45 : 3,540,617	3,540,871	53 : 3,540,627
3,541,196	3,540,481	3,541,029	3,540,097	3,540,907	3,540,769
3,541,197	3,540,516	3,541,036	3,540,150	3,540,908	3,540,770
3,540,174	3,540,518	3,541,039	3,540,337	3,540,919	3,541,430
3,540,450	3,540,522	3,541,059	3,540,835	3,540,920	3,541,551
3,540,500	3,540,526	3,541,066	3,541,024	3,540,954	54 : 3,540,662
3,540,506	3,540,573	3,541,085	3,541,040	3,540,957	3,541,033
3,540,540	3,540,579	3,541,102	46 : 3,540,320	3,540,994	3,541,049
3,540,664	3,540,656	3,541,110	47 : 3,540,166	3,540,997	3,541,121
3,540,667	3,540,689	3,541,115	3,540,475	3,540,998	3,541,153
3,540,711	3,540,698	3,541,118	3,540,494	3,541,010	3,541,155
3,540,751	3,540,705	3,541,138	3,540,508	3,541,114	3,541,169
3,540,065	3,540,706	3,541,140	3,541,122	3,541,181	55 : 3,540,075
3,540,083	3,540,713	3,541,142	3,541,163	3,541,223	3,540,198
3,540,116	3,540,730	3,541,157	3,541,326	3,541,236	3,540,213
3,540,117	3,540,746	3,541,180	3,541,448	3,541,304	3,540,231
3,540,118	3,540,752	3,541,226	3,541,600	3,541,383	3,540,276
3,540,120	3,540,767	3,541,227	48 : 3,540,224	3,541,384	3,540,292
3,540,159	3,540,768	3,541,231	3,540,226	3,541,388	3,540,333
3,540,229	3,540,812	3,541,243	3,540,256	3,541,538	3,540,346
3,540,230	3,540,818	3,541,321	3,540,267	3,541,543	3,540,470
3,540,248	3,540,819	3,541,322	3,540,272	3,541,578	3,540,525
3,540,251	3,540,820	3,541,341	3,540,296	3,541,585	3,540,971
3,540,253	3,540,824	3,541,378	3,540,388	3,541,588	3,541,229
3,540,254	3,540,842	3,541,380	3,540,421	49 : 3,540,679	3,541,281
3,540,258	3,540,879	3,541,389	3,540,469	3,540,719	3,541,334
3,540,316	3,540,898	3,541,423	3,540,533	3,540,724	3,541,377
3,540,322	3,540,915	3,541,490	3,540,626	3,540,880	3,541,414
3,540,331	3,540,917	3,541,494	3,540,632	3,541,398	3,541,425
3,540,332	3,540,943	3,541,498	3,540,659	3,541,433	3,541,473
3,540,339	3,540,948	3,541,501	3,540,672	50 : 3,540,864	3,541,478
3,540,371	3,541,001	3,541,544	3,540,691	51 : 3,540,284	3,541,581
3,540,383	3,541,003	3,541,558	3,540,734	3,540,855	3,541,596
3,540,410	3,541,007	43 : 3,540,154	3,540,757	3,540,942	57 : 3,540,587
3,540,420	3,541,008	3,540,822			

Design Patents

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6 : 219,200	219,209	25 : 219,216	219,217	219,224	42 : 219,218
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219,212	219,250	26 : 219,205	219,229	219,238	219,249
219,246	19 : 219,203	219,234	36 : 219,210	219,252	44 : 219,247
219,248	219,253	219,235	219,220	219,251	219,251
219,204	20 : 219,206	219,241	39 : 219,215	47 : 219,240	
219,208	219,227	33 : 219,228	219,221	49 : 219,226	
219,239			219,222		

Plant Patents

6 : 3,000	6 : 3,001	6 : 3,002
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TRADEMARKS
NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 421,496 (FORMICA), Formica Corporation, Laminated sheets of wood, fabric, or paper impregnated with synthetic resin and consolidated under heat and pressure, for use on table tops, furniture and wall panelling, filed Sept. 16, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70-C-518, *Formica Corporation v. Menard Construction, Inc.*

Reg. No. 427,307 (ALSCO), Alasco, Inc., Storm windows and storm doors; **Reg. No. 837,761**, same, Aluminum siding, storm windows, storm doors, gutters, downspouts, fascia and soffits; **Reg. No. 737,409 (PREMIUM 30 AND DESIGN)**, same, Coated aluminum siding, filed Aug. 6, 1970, D.C., E.D. Wis. (Milwaukee) Doc. 70-C-446, *Harvard Industries, Inc. v. Wisconsin Aluminum Supply Co., Inc., doing business as Walasco.*

Reg. No. 442,723 (MATERNALLY YOURS), Maternally Yours, Inc. Maternity apparel consisting of dresses, slips, bloomers, toppers, lounging robes, housecoats, girdles, brasieres and nightgowns, filed July 17, 1970, D.C., S.D. Fla. (Miami), Doc. 70-1067-JE, *Maternally Yours, Inc. v. Josephine Devore, doing business as Maternalie*. Consent judgment, trademark property of plaintiff and is valid. Defendant enjoined, Aug. 21, 1970.

Reg. No. 513,305 (LESLIE-FAY), Leslie Fay, Inc., Ladies' misses', junior misses', and teen age girls' dresses, filed Sept. 14, 1970, D.C., S.D. Fla. (Miami), Doc. 70-1342-C-CF, *Leslie Fay, Inc. v. Lisa Fay of Miami, Inc.*

Reg. No. 538,256 (DRYGESTER), Smith Brothers, Dry cleaning substance which may be used in dry or moist condition for removing spots or discolorations from textile fabrics, including garments of rayon, wool, silk, nylon, and cotton, filed Sept. 1, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-1962-DWW, *Smith Brothers Co., Inc. v. Pacific Drycleaners Laboratories et al.*

Reg. No. 563,688 (VISA), Deering, Milliken & Co., Inc., Textile fabrics made of wool and synthetic fibers and combinations thereof, filed Aug. 20, 1970, D.C., S.D.N.Y., Doc. 70C-3609, *Deering Milliken, Inc. v. Lintex Co., Inc.*

Reg. No. 633,072 (CONTINENTAL), Continental Oil Company, Petroleum products—namely, gasoline, lubricating oils, and greases, filed Aug. 7, 1970, D.C., N.D. Tex. (Dallas), Doc. CA-3-4074, *Continental Oil Co. (Delaware corporation) and Continental Oil Company (Texas corporation) v. Texas Continental Oil Co., Inc.*

Reg. No. 638,620 (KODEL), Eastman Kodak Company, Synthetic staple fiber, filed Aug. 4, 1970, D.C., S.D. Fla. (Miami), Doc. 70-1144-C-WM, *Eastman Kodak Co. v. Expressway Carpet Sales, Inc. et al.* Final judgment, defendants perpetually enjoined and restrained, Sept. 10, 1970.

Reg. No. 657,279 (IGA AND DESIGN), Independent Grocers' Alliance Distributing Co., Indicating membership in the organization, filed Aug. 21, 1970, D.C. N.H. (Concord), Doc. 3192-C, *Independent Grocers' Alliance Distributing Co. v. William Maynard.*

CONDITION OF TRADEMARK APPLICATIONS AS OF SEPTEMBER 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]..... 21,999
Date of oldest new application..... July 2, 1969
Date of oldest amended application (filing date)..... January 28, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISION, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B.....	12-9-69	1-9-68
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200.....	11-13-69	1-28-66
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36, 44.....	2-2-70	1-18-68
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107.....	7-2-69	5-12-66
Renewals (All Classes).....	7-27-70	
Sec. 12(c) Publications (All Classes).....	7-27-70	

Applications filed during the month of September 1970—2,586

Registrations Issued 415—No. 902,417 to No. 902,831
Renewals Issued 120

THE TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Reg. No. 682,093 (JOSE L. PIEDRA), Estela Nodarse Leaird, formerly known as Concepcion Nodarse et al., Cigars, filed Aug. 4, 1970, D.C., S.D. Fla. (Miami), Doc. 70-1143-C-CA, *Estela Nodarse Leaird, formerly known as Concepcion Nodarse et al. v. Carlos Heria et al.*

Reg. No. 737,409. (See Reg. No. 427,307.)

Reg. No. 739,176 (SHAMPUFF), Helene Curtis Industries, Inc. Hair Shampoo, filed July 20, 1970, D.C., E.D. Mo. (St.

Louis), Doc. 70C-360(3), *Helene Curtis Industries, Inc. v. Williams Cosmetics, Inc. and Howard G. Williams.*

Reg. No. 837,761. (See Reg. No. 427,307.)

Reg. No. 893,883 (JAPANESE STEAK HOUSE), Miami Springs Villas, Inc., Restaurant services, filed Sept. 8, 1970, D.C., S.D. Fla. (Miami), Doc. 70-1311-C-TC, *Miami Springs Villas, Inc. v. Holiday Inns, Inc.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 259,303. Colonial Broach & Machine Company, Warren, Mich. Filed Nov. 23, 1966.

FUSE-ALLOY

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Ways for Machine Tools, Rolls for Corrugating Machines and Steel Mills, and Broaches for Broaching Machines (Int. Cl. 7).

Class 106—Material Treatment

For Welding and Applying Special Metal Layers to the Goods of Others (Int. Cl. 40).

First use July 28, 1966.

SN 279,018. Midland Silicones Limited, Reading, England. Filed Aug. 25, 1967.

SILASTOMER

Priority claimed under Sec. 44(d) on British Reg. No. 911,707, dated July 7, 1967. Owner of British Reg. No. 702,693, dated Nov. 15, 1951.

Class 1—Raw or Partly Prepared Materials

For Silicones for Use in the General Arts (Int. Cl. 1).

Class 5—Adhesives

For Silicone Based Adhesive (Int. Cl. 1).

Class 6—Chemicals and Chemical Compositions

For Unvulcanized Organopolysiloxane Compositions (Int. Cl. 1).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Silicone Rubber Used as a Packing and Sealing Material for Machinery (Int. Cl. 17).

SN 285,457. Pensick & Gordon, Inc., Los Angeles, Calif. Filed Nov. 22, 1967.

PENGO

Class 21—Electrical Apparatus, Machines, and Supplies

For Walkie-Talkies (Int. Cl. 9).

First use July 1967.

Class 22—Games, Toys, and Sporting Goods

For Mechanical Musical Toys, Flipover Cars, Dolls, Doll Clothing, ABC Blocks, Baby Rattles, Toy Planes, Pop Guns, and Children's Toy Mechanical Sewing Machines (Int. Cl. 28). First use on or about June 1, 1948.

SN 312,540. The Hammer Company, Cleveland, Ohio. Filed Nov. 19, 1968.

BOUVET

Class 47—Wines

For Wines (Int. Cl. 33).

First use May 22, 1959.

Class 49—Distilled Alcoholic Liquors

For Liqueurs (Int. Cl. 33).

First use July 31, 1961.

SN 313,853. The Sinclair Manufacturing Company, Toledo, Ohio. Filed Dec. 9, 1968.

SUNRAE

Owner of Reg. No. 505,694.

Class 6—Chemicals and Chemical Compositions

For Liquid Chemical Deodorizer, Bleach, Disinfectant, and Sanitizer (Int. Cls. 3 and 5).

First use Oct. 15, 1929.

Class 52—Detergents and Soaps

For Liquid Detergent for General Household Use (Int. Cl. 3).

First use June 9, 1967.

SN 314,113. Programming Methods Incorporated, New York, N.Y. Filed Dec. 10, 1968.

PMI

Class 101—Advertising and Business

For Computer Programming Services; Advice and Consultation in Analyzing of Information Processing Problems and the Availability of Computer and Support Equipment for Solving the Same; and Computer Facilities Management, Including Staffing of Customers' Computer Facilities on a Temporary or Continuing Basis (Int. Cl. 35).

Class 107—Education and Entertainment

For Education and Training Services—Namely, Indoctrination Training of Customers' Personnel in the Use and Application of Computer Systems and Equipment (Int. Cl. 41).

First use Oct. 25, 1967.

SN 314,949. Blue Fox Industries, Inc., Brooklyn, N.Y. Filed Dec. 20, 1968.

Blue Fox

Class 19—Vehicles

For Chrome Accessories for Use on Automobile Doors, Bumper Guards and Hub Caps, and Rear View Mirrors (Int. Cl. 12).

Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Aerials for Automobiles (Int. Cl. 9).
First use Oct. 8, 1968.

SN 315,870. Anthony Pools, Inc., South Gate, Calif. Filed Jan. 6, 1969.



The drawing is lined for the color blue, but no claim is made to color.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Swimming Pool Lights (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Swimming Pool Heaters (Int. Cl. 11).
First use February 1967.

SN 319,310. The Huffman Manufacturing Company, Miamisburg, Ohio. Filed Feb. 17, 1969.

EDCAN

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Metal Funnels, Container Opener/Funnel Combinations, Funnel/Spout Combinations, Container Opener/Pouring Spout Combinations, and Metal Drain Pans (Int. Cl. 21).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Grouse Guns (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Liquid Measuring and Dispensing Containers (Int. Cl. 9).

First use at least as early as Dec. 30, 1968.

SN 327,450. Fuller Company, Catasauqua, Pa. Filed May 16, 1969.

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Pneumatic Pumps and Parts Thereof for Use in Loading Barges and Ships; Water Sewage Treatment Plants; Pneumatic Conveying Systems for Conveying Bulk Materials; Motion Safety Switch for Belt, Chain and Screw Conveyors; Rotary Air Compressors for Use in the Pulp and Paper Industry; Pneumatic Blowers and Vacuum Pumps for Use in the Pulp and Paper Industry; Gravity Blenders for Mixing Dry Solids; Mechanical Air Separators for Adjusting Cement Fineness; Rock and Mineral Crushers (Int. Cl. 7).

First use at least May 13, 1969.

Class 31—Filters and Refrigerators

For Portable Air Filters for Use With Railway Car Unloaders; Package Water Purification Treatment Plants (Int. Cl. 11).

First use at least May 8, 1969.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Industrial Fans and Blowers; Rotary Kilns and Parts Thereof; Grate Coolers Designed To Receive Nodules and Pellets for a Kiln or a Furnace Affecting Rapid Cooling With Effective Heating Recuperation; Fluidized Heat Exchanger for Use in the Cement Industry; Fluid Bed Reactors and Drying and Cooling Materials for Industrial Use (Int. Cl. 11).

First use at least May 12, 1969.

SN 327,801. Cumberland Corporation, Chattanooga, Tenn. Filed May 21, 1969.



Owner of Reg. Nos. 785,779 and 792,682.

Class 2—Receptacles

For Poultry Equipment—Namely, Poultry Feeders and Bulk Feed Bins, and Parts Thereof; and Doorstep Dairy Boxes and Dairy Delivery Cases (Int. Cls. 6 and 21).

First use at least as early as June 16, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Mechanical Conveying Systems for Delivering Feed to Livestock, and Parts Thereof (Int. Cl. 7).

First use at least as early as Jan. 3, 1968.

Class 50—Merchandise Not Otherwise Classified

For Poultry Brooders and Livestock Waterers, and Parts Thereof (Int. Cls. 7 and 21).

First use at least as early as Sept. 5, 1967.

SN 328,384. The Pizza Inn, Inc., Arlington, Tex. Filed May 27, 1969.



Applicant disclaims the representation of tacos apart from the mark as shown.

Class 46—Foods and Ingredients of Foods

For Hot Sauce and Canned Tamales (Int. Cl. 30).
First use during April 1968.

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).
First use Dec. 1, 1967.

SN 328,685. Executive Chef, Inc., Westport, Conn. Filed May 29, 1969.

EXECUTIVE CHEF CUISINE**Class 31—Filters and Refrigerators**

For Freezers and Refrigerators (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Microwave Ovens (Int. Cl. 11).

First use Mar. 15, 1969.

SN 328,756. Fabrik van Cosmetische Producten "Andrélon Cosmetics" N.V., d.b.a. Andrélon, Bodegraven, Netherlands. Filed June 2, 1969.

ANDRÉLON
SHOWER FRESH

Owner of Dutch Reg. No. 166,367, dated Feb. 5, 1968; and U.S. Reg. No. 859,801.

Class 51—Cosmetics and Toilet Preparations

For Body Lotions and Body Powders (Int. Cl. 3).

Class 52—Detergents and Soaps

For Liquid Cleansing Agent for the Human Body To Be Used When Taking Shower Baths (Int. Cl. 3).

First use May 18, 1965; in commerce May 1, 1969.

SN 329,024. A-T-O Inc., Cleveland, Ohio, by change of name from "Automatic" Sprinkler Corporation of America, Cleveland, Ohio. Filed June 4, 1969.

SCOTT

Owner of Reg. Nos. 757,642, 837,090, and others.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Hydraulic and Fuel Line Valves, and Pneumatic Pressure Control Valves (Int. Cl. 7).

Class 19—Vehicles

For Aircraft Tailwheel, Stabilizer Yoke and Aileron Assemblies, and Brake Cylinders and Valves (Int. Cl. 12).

Class 26—Measuring and Scientific Appliances

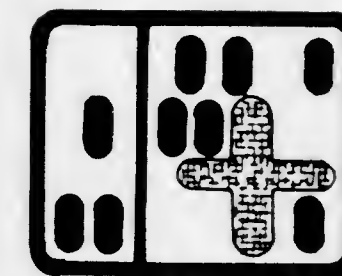
For Aircraft Instruments and Gauges—Namely, Air Temperature and Oil Pressure Gauges, and Ammeters, Measuring and Testing Apparatus for Breathing Equipment and Components Thereof, Portable Direct-Reading Toxic Gas Detectors of the Type for Use in Conjunction With Breathing Equipment With a Hand Operated Bellows Pump and Interchangeable Glass Detector Tubes Calibrated To Show the Amount of Toxic Gas Present in the Air Being Tested, and Electrical Instruments of the Wheatstone Bridge Type for Detecting and Measuring Explosive and Toxic Gases (Int. Cl. 9).

Class 44—Dental, Medical, and Surgical Appliances

For Breathing Equipment—Namely, Portable and Fixed Air and Oxygen Breathing Systems and Self-Contained Underwater Breathing Systems, and Seat Back Portable Oxygen Holders, Mask Hose Connections, Demand Regulators, Pressure Regulators, Audible Low Pressure Alarms, Therapeutic Plug-Ins, Oxygen Outlets, Filler and Charging Couplings, Plug-In Couplings, Manifold Assemblies, Cylinder Valves and Turn-On Valves, Masks and Mask Assemblies, Flow Indicators, Oxygen Flow Control Units, Oxygen Cylinder and Valve Assemblies, External Recharging Valve Assemblies, Harness Assemblies, Connectors, Breathing Tubes, Filter and Control Assemblies and Oxygen Drop-Out Compartment Latches for Such Systems and First Aid Kits, Inhalation and Inhalation-Resuscitation Equipment, and Chemical Oxygen Generators (Int. Cls. 5 and 10).

First use on or about Nov. 29, 1968.

SN 329,253. Medical Computer Systems, Inc., Dallas, Tex. Filed June 5, 1969.

**Class 100—Miscellaneous**

For Computer Time Sharing Services (Int. Cl. 42).

Class 101—Advertising and Business

For Computer Programming Services (Int. Cl. 35).

First use Mar. 15, 1969.

SN 329,789. Belzona Molecular Metals Limited, York, England. Filed June 12, 1969.

BELZONA

Owner of U.S. Reg. No. 747,137.

Class 6—Chemicals and Chemical Compositions

For Thinners for Use With Resin-bonded Ceramic or Metallic Preparations and for Use With Polymeric Bonded Fibrous Preparations (Int. Cl. 1).

Class 12—Construction Materials

For Resin-Bonded Ceramic and Metallic Preparations and Polymeric Bonded Fibrous Preparations for Use in the Repair, Preservation and Renovation of Metal Surfaces and Building Surfaces (Int. Cl. 19).

Class 16—Protective and Decorative Coatings

For Resin-Bonded Ceramic and Metallic Preparations in the Nature of Paints for Use in the Preservation and Renovation of Metal Surfaces and Building Surfaces (Int. Cl. 2).

Class 52—Detergents and Soaps

For Cleaning and Degreasing Preparations for Use on Metals and Building surfaces, and Paint Strippers (Int. Cl. 3).

First use Nov. 29, 1968; in commerce Nov. 29, 1968.

SN 330,041. Mobile America Corporation, Jacksonville, Fla. Filed June 16, 1969.

MOBILE AMERICA

Class 101—Advertising and Business

For Rendering Business Assistance to Others in Operating Mobile Home Distributorship Outlets (Int. Cl. 35).

Class 102—Insurance and Financial

For Procuring Consumer Financing and Physical Damage Insurance and Credit Life Insurance in Connection With Mobile Home Sales (Int. Cl. 36).

First use Aug. 31, 1968.

SN 330,073. International Telephone and Telegraph Corporation, New York, N.Y. Filed June 23, 1969.

BLACKBURN

Owner of Reg. Nos. 503,882 and 518,296.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Earth Anchors, Staples and Ground Plates (Int. Cl. 6). First use Nov. 18, 1963.

Class 15—Oils and Greases

For Wire Pulling Lubricant (Int. Cl. 4). First use Aug. 12, 1964.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Contact Paste, Ground Rods, Armor Rods, and Insulating Splice Covers (Int. Cls. 9 and 17). First use Dec. 13, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Crimping Tools for Industrial Terminals (Int. Cl. 8). First use May 15, 1964.

SN 331,142. Andid Corporation, Pittsburgh, Pa. Filed June 27, 1969.



The drawing is lined for the color red, but color is not claimed as a feature of the mark.

Class 100—Miscellaneous

For Design of Coke Ovens and Coke Oven By-Product Plants (Int. Cl. 42).

Class 103—Construction and Repair

For Construction of Coke Ovens and Coke Oven By-Product Plants (Int. Cl. 37).

First use on or about Apr. 4, 1969.

SN 333,581. Lenco, Incorporated, Jackson, Mo. Filed July 25, 1969.



Owner of Reg. No. 656,365.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Weld Cleaning Chipping Hammers and Hammer and Brush Combinations (Int. Cl. 8).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Arc Welding Accessories—Namely, Electrode Holders and Parts Thereof; Ground Clamps, Cable Lugs and Splacers; Cable Connectors; and Connector Terminals (Int. Cl. 9).

First use Apr. 28, 1969; Sept. 4, 1956, as to the mark "Lenco."

SN 334,906. American Carbon Paper Corporation, Chicago, Ill. Filed Aug. 8, 1969.



Class 11—Inks and Inking Materials

For Carbon Paper and Carbonizing Ink (Int. Cl. 16).

Class 37—Paper and Stationery

For Carbonized Paper and Binders for Business Forms (Int. Cl. 16).

First use as early as July 1969.

SN 335,093. VWR United Corporation, Seattle, Wash. Filed Aug. 11, 1969.

VAN-LAB

Class 26—Measuring and Scientific Appliances

For Laboratory Accessories—Namely, Pipets, Ammeters, Voltmeters, Galvanometers and Strip Chart Recorders (Int. Cl. 9).

Class 32—Furniture and Upholstery

For Laboratory Furniture—Namely, Base Cabinets, Wall Cabinets, Stools, Tables; Components and Accessories for Laboratory Furniture, Namely, Counter Tops, Filler Panels for Use With Cabinets, and Shelves (Int. Cl. 20).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Laboratory Furniture—Namely, Fume Hoods (Int. Cl. 11).

First use October 1967.

SN 335,610. Ro Be T Mfg. Co., Inc., Union City, Ind. Filed Aug. 18, 1969.

FLY-HI-WASH

Class 4—Abrasives and Polishing Materials

For Polishing Waxes for Use on Airplanes (Int. Cl. 3).

Class 52—Detergents and Soaps

For Detergents for Cleaning Airplanes, and Degreasing Compounds for Use on Airplanes (Int. Cl. 3).

First use May 23, 1969.

SN 340,983. Bruning Company, Lincoln, Nebr. Filed Oct. 17, 1969.

FULLBACK

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Check Valves and Quick Disconnect Couplings (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hydraulic and Pneumatic Cylinders (Int. Cl. 7).

First use Oct. 1, 1969.

SN 343,800. Flow Laboratories, Inc., Rockville, Md. Filed Nov. 18, 1969.



Owner of Reg. No. 781,589.

Class 100—Miscellaneous

For Consulting Services and Research and Development in the Biological and Biomedical Fields; Testing, Screening, Boarding, Maintaining, Breeding and Furnishing Offspring of Laboratory Research Animals (Int. Cl. 42).

Class 105—Transportation and Storage

For Storage and Distribution of Viral Reagents, Sera, Antisera, Antigen and Tissue Culture Specimens, and the Special Handling and Shipment of Laboratory Research Animals (Int. Cl. 39).

First use February 1962.

SN 346,427. Tesco Chemicals, Inc., Atlanta, Ga. Filed Dec. 17, 1969.

TESCO

Owner of Reg. Nos. 732,021, 733,617, and 737,696.

Class 6—Chemicals and Chemical Compositions

For Solid and Liquid Preparations for Use as a Bactericide, Algaecide, Disinfectant and Sanitizer for Water in Swimming Pools, Cooling Towers and Waste Stream (Int. Cl. 5). First use March 1946.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Water Chlorinators (Int. Cl. 7).

First use October 1962.

SN 346,538. Wahlson Products Company, Inc., Brooklyn, N.Y. Filed Dec. 17, 1969.



Class 51—Cosmetics and Toilet Preparations

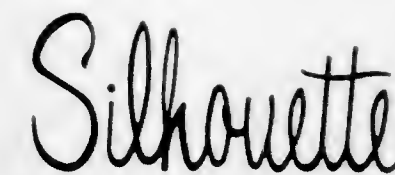
For Permanent Wave Lotion and Neutralizer, Creme Rinse, Setting Lotion, and Hair Conditioner (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Apr. 4, 1968.

SN 346,539. Wahlson Products Company, Inc., Brooklyn, N.Y. Filed Dec. 17, 1969.



Class 51—Cosmetics and Toilet Preparations

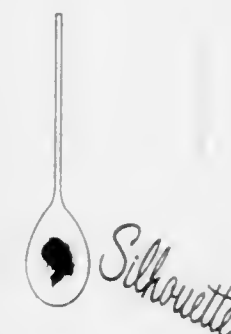
For Permanent Wave Lotion and Neutralizer, Creme Rinse, Setting Lotion, and Hair Conditioner (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Apr. 4, 1968.

SN 346,540. Wahlson Products Company, Inc., Brooklyn, N.Y. Filed Dec. 17, 1969.



Class 51—Cosmetics and Toilet Preparations

For Permanent Wave Lotion and Neutralizer, Creme Rinse, Setting Lotion, and Hair Conditioner (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Apr. 4, 1968.

SN 348,710. The Bristol Brass Corporation, East Hartford, Conn. Filed Jan. 16, 1970.

NOBLEWEST

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Marking Machines and Marking Tools for Hand Stamping, Roll Marking, Press Marking, Numbering, Graduating, Embossing, Color Marking, and Application of Preprinted Transfers, and for Automatic Feeder-Indexers for Transfers in Web Form (Int. Cls. 7 and 8).

First use at least as early as 1906.

Class 106—Material Treatment

For Custom Marking, Numbering, Precision Graduating, Knurling, Grooving and Special Engraving Services (Int. Cl. 37).

First use at least as early as 1946.

SN 348,711. Computer Entry Systems Corporation, Silver Spring, Md. Filed Jan. 16, 1970.



Class 26—Measuring and Scientific Appliances

For Data Processing Equipment Consisting of Computer Keyboards, Control Units and Tape Transports (Int. Cl. 9).
First use Sept. 23, 1969.

Class 101—Advertising and Business

For Consultation and Advice in Computer Programming and Data Processing (Int. Cl. 35).
First use June 30, 1969.

SN 350,656. Fashion Two Twenty, Inc., Aurora, Ohio. Filed Feb. 6, 1970.



The word "Aubree" is a fanciful version of a woman's given name "Aubrey."

Class 51—Cosmetics and Toilet Preparations

For Perfume, Cologne, Body Dusting Powder, Personal Milk Bath and Body Sachet Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Bath Soap (Int. Cl. 3).
First use Oct. 20, 1969.

SN 350,991. Sign Corporation of America, Chicago, Ill. Filed Feb. 11, 1970.

SIGNCOR

Class 50—Merchandise Not Otherwise Classified

For Indoor and Outdoor Advertising Signs (Int. Cl. 20).
First use on or about Dec. 12, 1969.

Class 100—Miscellaneous

For Designing and Leasing Signs and Consulting Services Relating Thereto (Int. Cl. 42).
First use on or about Nov. 18, 1969.

Class 103—Construction and Repair

For Installing and Maintaining Signs (Int. Cl. 37).
First use on or about Nov. 18, 1969.

SN 351,251. J. C. Penney Company, Inc., New York, N.Y. Filed Feb. 13, 1970.

PARTYCARD

Class 37—Paper and Stationery

For Pencils (Int. Cl. 16).

Class 38—Prints and Publications

For Greeting Cards (Int. Cl. 16).
First use at least as early as Sept. 9, 1969.

SN 355,832. Avon Products, Inc., New York, N.Y. Filed Apr. 3, 1970.

PERSPECTIVE

Class 51—Cosmetics and Toilet Preparations

For Cologne and Dusting Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).
First use Jan. 21, 1970.

SN 355,833. Avon Products, Inc., New York, N.Y. Filed Apr. 3, 1970.

MONKEY BUSINESS

Class 51—Cosmetics and Toilet Preparations

For Bubble Bath (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).
First use Jan. 21, 1970.

SN 355,834. Avon Products, Inc., New York, N.Y. Filed Apr. 3, 1970.

CHIMPY

Class 51—Cosmetics and Toilet Preparations

For Bubble Bath (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).
First use Jan. 21, 1970.

SN 357,779. Charvoz-Carsen Corporation, Fairfield, N.J. Filed Apr. 24, 1970.



Owner of Reg. No. 734,151.

Class 26—Measuring and Scientific Appliances

For Drafting Instruments (Int. Cl. 16).

Class 37—Paper and Stationery

For Tracing Paper and Drawing Paper (Int. Cl. 16).
First use Mar. 11, 1970.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 301,440. Mitsubishi Chemical Industries Limited, Chiyoda-ku, Tokyo, Japan. Filed June 26, 1968.

NOVATEC

Owner of Japanese Reg. No. 853,853, dated Apr. 21, 1970.
For Polyethylene and Other Synthetic Resins as Raw Materials (Int. Cl. 1).

SN 329,057. Carl Freudenberg Kommanditgesellschaft, Weinheim, Bergstrasse, Germany. Filed June 4, 1969.

CEEF

Owner of U.S. Reg. Nos. 804,056, 804,057, and 837,359.
For Artificial Leather Sheet Material (Int. Cl. 18).
First use February 1967; in commerce February 1967.

SN 332,617. Fothergill and Harvey Limited, Summit Littleborough, England. Filed July 15, 1969.

CARBOFORM

For Plastic Moulding Material in Sheet Form Made From Resin Impregnated Carbon Fibres (Int. Cl. 17).
First use May 27, 1969; in commerce July 1, 1969.

SN 333,200. S. S. Steiner, Inc., New York, N.Y. Filed July 22, 1969.

ECONOHOP

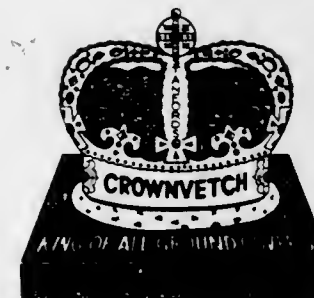
For Hop Products—Namely, Hops and Hop Powders (Int. Cl. 31).
First use July 7, 1969.

SN 336,686. Flores de Puerto Rico, Inc., Old San Juan, Puerto Rico. Filed Aug. 29, 1969.

DIANA ENGLERT

"Diana Englert" is not the name of a living individual.
For Natural Flowers (Int. Cl. 31).
First use in or about January 1967.

SN 337,837. Stanford Seed Company, Buffalo, N.Y. Filed Sept. 12, 1969.



The words "Crownvetch" and "Ground Covers" are disclaimed apart from the mark as shown.
For Crownvetch Seed (Int. Cl. 31).
First use Apr. 19, 1968.

SN 344,190. S. C. Johnson & Son, Inc., Racine, Wis. Filed Nov. 21, 1969.

JONCRYL

For Acrylic Polymers and Acrylic Resins (Int. Cl. 1).
First use on or about Apr. 27, 1967.

SN 346,750. International Paper Company (Long-Bell Division), New York, N.Y. Filed Dec. 19, 1969.

FILCOTE

For Flakeboard (Int. Cl. 19).
First use Dec. 1, 1969.

SN 346,857. Cabot Corporation, Boston, Mass. Filed Dec. 22, 1969.

STERLING

Owner of Reg. No. 524,310.
For Carbon Black for General Use in the Industrial Arts (Int. Cl. 1).
First use Oct. 8, 1931.

SN 346,883. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Dec. 22, 1969.

RESISTHERM

Owner of German Reg. No. 858,035, dated Apr. 19, 1969.
For Resins for Use in the Manufacture of High Heat Resistant Lacquers (Int. Cl. 1).

Class 2—Receptacles

SN 335,375. Joseph Harry Seguin, Toronto, Ontario, Canada. Filed Aug. 14, 1969.



The drawing is lined for the colors red and gray.
For Card Holder (Int. Cl. 16).
First use December 1967; in commerce December 1967.

SN 336,035. U.S. Metal Container Co., Miami, Okla. Filed Aug. 22, 1969.



The term "Blitz" is disclaimed apart from the mark as shown.
For Metal Cans, Can Spouts, and Can Carriers (Int. Cl. 6).
First use Mar. 20, 1969.

SN 338,094. Poly-Genic, Inc., New York, N.Y. Filed Sept. 17, 1969.

SILVER-CROSS

For Plastic Film Garbage Bags (Int. Cl. 21).
First use Sept. 8, 1969.

SN 338,095. Poly-Genic, Inc., New York, N.Y. Filed Sept. 17, 1969.

WHITE-CROSS

For Plastic Film Garbage Bags (Int. Cl. 21).
First use Sept. 8, 1969.

SN 345,684. Skydyne, Inc., Port Jervis, N.Y. Filed Dec. 8, 1969.

SKYDYNE

Owner of Reg. No. 443,543.
For Environment-Protecting Boxes, Cases and Containers for Delicate Instruments, Control Mechanisms and Devices (Int. Cl. 20).
First use 1938.

SN 348,673. New York Packaging Corporation, Brooklyn, N.Y. Filed Jan. 15, 1970.

**Sad
Bags**

The words "Bags" and the representation of the goods are disclaimed.
For Plastic Garbage Bags (Int. Cl. 21).
First use on or before Aug. 15, 1969.

SN 354,710. Boise Cascade Corporation, Boise, Idaho. Filed Mar. 20, 1970.

PAL-BIN

For Corrugated Shipping and Storage Containers (Int. Cl. 16).
First use Mar. 12, 1970.

SN 366,106. Lincoln Metal Products Corporation, Brooklyn, N.Y. Filed July 24, 1970.

ESPAGRILLE

For Pantyware—Namely, Canister Sets, and Bread Boxes (Int. Cl. 21).
First use July 7, 1970.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 333,210. The Vacuum Cleaner Corporation of America, Philadelphia, Pa. Filed July 22, 1969.

DOG TENDA

Owner of Reg. No. 868,859.
For Cord Reels for Tethering Pets (Int. Cl. 18).
First use December 1961.

SN 348,186. Seward Luggage Manufacturing Company, Inc., Petersburg, Va. Filed Jan. 9, 1970.

MUTUAL

For Luggage (Int. Cl. 18).
First use on or about 1928.

SN 348,742. Stalker-Nafey Corporation, Oceanside, N.Y. Filed Jan. 16, 1970.

ZAMADA

For Leather Saddlery and Tack—Namely, Bits, Stirrups, and Spurs (Int. Cl. 18).
First use Apr. 23, 1969.

SN 350,040. American Luggage Works, Inc., Warren, R.I. Filed Jan. 30, 1970.

MY HANG-UP

For Travel Luggage—Namely, Compact Two-Suit and Travel-Accessories Bags Resigned for Plane and Car Travel (Int. Cl. 18).
First use Oct. 1, 1969.

SN 355,798. Samsonite Corporation, doing business as Shwayder Bros., Inc., Denver, Colo. Filed Apr. 2, 1970.

AURORA

For Luggage (Int. Cl. 18).
First use Dec. 31, 1969.

SN 356,056. Enger-Kress Company, West Bend, Wis. Filed Apr. 6, 1970.

TUCKAWAY

For Men's Billfolds (Int. Cl. 18).
First use May 1969.

Class 4—Abrasives and Polishing Materials

SN 346,743. Imoco-Gateway Corporation, Chicago, Ill. Filed Dec. 19, 1969.

LAB-COTE

For Floor Wax (Int. Cl. 3).
First use at least as early as Apr. 30, 1959.

SN 358,163. Arkansas Abrasives, Inc., Hot Springs, Ark. Filed Apr. 28, 1970.

HANDI-STONE

For Sharpening Stones (Int. Cl. 8).
First use Apr. 10, 1970.

Class 5—Adhesives

SN 353,647. Devcon Corporation, Danvers, Mass. Filed Mar. 10, 1970.

"5 MINUTE"

For Quick-Setting Epoxy Resin Adhesive for Bonding Porous and Non-Porous Substances (Int. Cl. 1).
First use at least as early as Jan. 10, 1968.

Class 6—Chemicals and Chemical Compositions

SN 288,973. Nitro Nobel Aktiebolag, Nora, Sweden. Filed Jan. 16, 1968.



Owner of Swedish Reg. No. 118,579, dated Jan. 13, 1967.
For Organic Solvents and Combustible Compositions Which do not Explode, Such as Black Powder (Int. Cl. 1).

SN 301,062. Glyco Chemicals, Inc., New York, N.Y. Filed June 21, 1968.

GLYCONOL

Owner of Reg. Nos. 337,822, 878,460, and others.
For Melt Viscosity Modifier, Flow, Spread, Penetration, Barrier and Gloss Improver, Plasticizer, Stabilizer, and Toughener of Hot-Melt Coatings, of Solid Wax and Resin Blends; (b) Anti-Block and Internal and External Flow and Movement and Pigment and Filler Dispersion Enhancing Additive for Admixture Into Plastics; (c) Gellation Promoter After Agricultural Spray Solvent Evaporation and Surface Adhesion Extender, (d) Temperature Drop Anti-Flocculent, Anti-Precipitant, and Film Toughener and Adhesion Enhancing as Well as an Extreme Pressure Lubrication Service Range and Life Extending Additive for Mineral, Vegetable, and Silicone Oil Lubricants (Int. Cl. 1).
First use Nov. 2, 1966.

SN 313,567. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Dec. 4, 1968.

EUSIN

Owner of German Reg. No. 773,149, dated Aug. 2, 1961.
For Pigment Dyestuffs for Use on Leather (Int. Cl. 2).

SN 328,162. Dresser Industries, Inc., Dallas, Tex. Filed May 23, 1969.

VERTOIL

For Emulsifier for Drilling Fluids (Int. Cl. 1).
First use Mar. 4, 1969.

SN 332,997. Schering Aktiengesellschaft, Berlin, Germany. Filed July 18, 1969.

CUPRACID

Owner of German Reg. No. 767,263, dated Oct. 7, 1961.
For Plating Solutions For Deposition of Metals (Int. Cl. 1).

SN 332,999. Schering Aktiengesellschaft, Berlin, Germany. Filed July 18, 1969.

LUXELYT

Owner of German Reg. No. 801,644, dated Jan. 31, 1964.
For Electrolytic Baths and Additives to Such Electrolytic Baths for Metal Deposition (Int. Cl. 1).

SN 336,342. Milwaukee Solvents & Chemicals Corporation, Butler, Wis. Filed Aug. 26, 1969.

MILSOLV

For Chemicals for Industrial Uses—Namely, Alcohols, Acetates, Ketones, Chlorinated Solvents, Glycols and Glycol Ethers, Aromatic Solvents, Aliphatic Solvents, Amines, Peroxides, Plasticizers, and Acids (Int. Cl. 1).
First use Aug. 25, 1959.

SN 339,221. Procidia, Marseille, France. Filed Sept. 29, 1969.

PROSAN

Owner of French Reg. No. 45,208, dated May 19, 1961 (Marseille); Natl. Inst. No. 172,676.
For Chemical Products, Particularly Fungicides Used To Prevent Slime in the Paper Making Process (Int. Cl. 5).

SN 341,797. The Diversey Corporation (Delaware corporation), Chicago, Ill., by merger and change of name from The Diversey Corporation (Illinois corporation), Chicago, Ill. Filed Oct. 27, 1969.

BAC-STOP

For Low-Foaming Iodophor Rinse, Bactericide and Sanitizer for Use in the Beverage, Brewing, and Canning Industries (Int. Cl. 1).
First use Jan. 21, 1969.

SN 343,266. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Nov. 12, 1969.

BAYTHION

Owner of German Reg. No. 775,212, dated Sept. 6, 1961; and U.S. Reg. No. 781,916.
For Animal and Plant Destroying Agents (Int. Cl. 5).

SN 345,056. Barker Chemical Company, d.b.a. Brown Solvents Corp., Chicago, Ill. Filed Dec. 2, 1969.

ACRYLIC CONTROL

For Solvent for Addition to Acrylics and Lacquers To Slow the Drying Time Thereof and Increase Tolerance Thereof to Moisture (Int. Cl. 1).
First use Sept. 23, 1969.

SN 346,858. Cabot Corporation, Boston, Mass. Filed Dec. 22, 1969.

STERLING-L

Owner of Reg. No. 524,310.
For Carbon Black for Use in the Manufacturing of Inks (Int. Cl. 1).
First use May 21, 1948.

SN 349,081. Lyon Chemicals, Inc., St. Paul, Minn. Filed Jan. 20, 1970.

Roof-Gard

For Porous Bags Containing a Snow Melting Chemical (Int. Cl. 1).
First use Dec. 10, 1969.

SN 349,749. Coulter Diagnostics, Inc., Hialeah, Fla. Filed Jan. 27, 1970.

LYSE S

For Laboratory Lysing and Hemoglobin Reagent for White Blood Cell Counts Made With Electronic Particle Analysis Apparatus (Int. Cl. 1).
First use Mar. 27, 1969.

SN 352,274. Vaporette Chemical Corporation, Dallas, Tex. Filed Feb. 24, 1970.

VAPORETTE

Owner of Reg. No. 574,399.
For Chemicals in Strip Form for Use in Odor Elimination (Int. Cl. 5).
First use Oct. 14, 1969.

SN 359,982. The Upjohn Company, Kalamazoo, Mich. Filed May 18, 1970.

ASGUARD

For Fungicide-Protectant for Seeds (Int. Cl. 5).
First use Mar. 18, 1970.

Class 7 — Cordage

SN 329,740. Pacific Fibre and Rope Co., Inc., Wilmington, Calif. Filed June 11, 1969.

STAR

For Ropes and Cordage (Int. Cl. 22).
First use May 1, 1958.

SN 329,750. Pacific Fibre and Rope Co., Inc., Wilmington, Calif. Filed June 11, 1969.

WES-PORT

For Ropes and Cordage (Int. Cl. 22).
First use May 1, 1958.

SN 355,776. S. S. Kresge Company, Detroit, Mich. Filed Apr. 2, 1970.



For Sisal Rope, Synthetic Rope and Wire Cable (Int. Cls. 6 and 22).
First use on or before Sept. 10, 1969.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 306,277. Bernard J. Semel, Washington, D.C. Filed Aug. 29, 1968.



For Fireworks of Various Kinds Usually Prepared in Packaged Form (Int. Cl. 13).
First use Mar. 5, 1962.

SN 345,456. The Eastern Company, Naugatuck, Conn. Filed Dec. 5, 1969.

STARFIRE

For Signal Flares (Int. Cl. 13).
First use January 1967.

SN 357,395. Paul C. Moomaw, doing business as Wayne Products Company, Harrisburg, Pa. Filed Apr. 20, 1970.

KWIKFIRE

For Gun Slings (Int. Cl. 13).
First use Apr. 9, 1970.

SN 359,534. United Fireworks Co., Inc., Dayton, Ohio. Filed May 12, 1970.

STARS & BOMBS

For Fireworks (Int. Cl. 13).
First use Sept. 18, 1969.

SN 365,643. Hercules Incorporated, Wilmington, Del. Filed July 20, 1970.

VIBRODET

For Electric Blasting Caps (Int. Cl. 13).
First use June 15, 1970.

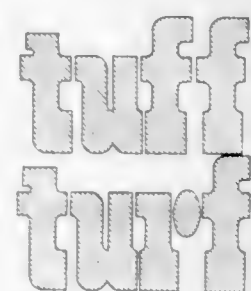
Class 10 — Fertilizers

SN 349,998. Robert B. Peters, Allentown, Pa. Filed Jan. 29, 1970.

PEAT-LITE

For Fertilizers of the Soil (Int. Cl. 1).
First use Jan. 14, 1970.

SN 350,002. Richway Products Inc., Janesville, Iowa. Filed Jan. 29, 1970.



The drawing is lined for the color green, but no claim is made for color.
For Lawn Fertilizer (Int. Cl. 1).
First use about Apr. 2, 1969.

SN 353,076. The Natural Development Company, Bainbridge, Pa. Filed Mar. 4, 1970.

NITRELL

For Fertilizer Especially Blended From Organic Materials for Use on Golf Courses, Lawns, Recreation Fields, and Landscaping (Int. Cl. 1).
First use Jan. 1, 1964.

Class 11 — Inks and Inking Materials

SN 297,538. Richardson Ink Co., Philadelphia, Pa., by change of name from Crescent Ink and Color Company, Philadelphia, Pa. Filed May 7, 1968.



The drawing is lined for the color orange, but color is not claimed as an integral part of the mark.
For Printing Inks, and Duplicating Inks (Int. Cls. 2 and 16).
First use on or about Jan. 20, 1958.

Class 12 — Construction Materials

SN 300,835. Miami Stone, Inc., Miami, Okla. Filed June 19, 1968.

RUS-TIQUE

For Brick (Int. Cl. 19).
First use May 13, 1968.

SN 328,299. House Clinic Store, Inc., Minneapolis, Minn. Filed May 26, 1969.

PATIO VILLAGE

For Aluminum Screened or Glass Enclosures (Int. Cl. 19).
First use Aug. 23, 1968.

SN 336,030. The Tremco Manufacturing Company, Cleveland, Ohio. Filed Aug. 22, 1969.

POLYTREMIDYNE

Owner of Reg. No. 764,898.
For Synthetic Resin Polymer Sold as an Ingredient of a Sealant for Building Joints (Int. Cl. 17).
First use at least as early as June 13, 1969.

SN 336,778. The Dolphin Paint & Chemical Company, Toledo, Ohio. Filed Sept. 2, 1969.



For Two-Part Epoxy Filler (Int. Cl. 19).
First use Sept. 1, 1960.

SN 341,959. Variel A.G., Auw, Switzerland. Filed Oct. 28, 1969.



Owner of Swiss Reg. No. 217,566, dated Mar. 31, 1966.
For Prefabricated Buildings and Transportable Prefabricated Components Thereof (Int. Cl. 19).

SN 345,944. Harsco Corporation, Camp Hill, Pa. Filed Dec. 11, 1969.

MOD-U-FORM

For Forms for Pouring Concrete (Int. Cl. 19).
First use Nov. 18, 1969.

SN 350,771. George A. Risolo Paving Co., Inc., Westport, Conn. Filed Feb. 6, 1970.



For Asphaltic and Bituminous Paving Material for Driveways and Roadways (Int. Cl. 19).
First use Mar. 22, 1968.

SN 358,369. Controlled Acoustics Corporation, New York, N.Y. Filed Apr. 30, 1970.

QUIETMAT

For Acoustical Sheet Material (Int. Cl. 17).
First use Apr. 24, 1970.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 347,498. Expandet Screw Anchors A/S, Birkerød, Denmark. Filed Dec. 31, 1969.

TOP-HAT

For Wall Plugs of Resilient Substances, for Affixing Screws in Walls (Int. Cl. 17).
First use Dec. 15, 1969; in commerce Dec. 15, 1969.

SN 351,918. David Douglas Co., Inc., Manitowoc, Wis. Filed Feb. 20, 1970.



Owner of Reg. Nos. 877,408, 877,605, and 892,463.
For Coffee Makers (Int. Cl. 21).
First use Jan. 25, 1955.

SN 354,610. Florestone Products Co., Hayward, Calif. Filed Mar. 19, 1970.

SAFLOR

For Shower Receptors (Int. Cl. 11).
First use Dec. 1, 1969.

Class 14—Metals and Metal Castings and Class 15—Oils and Greases Forgings

SN 326,134. Salzgitter Hüttenwerk A.G., Salzgitter-Drütte, Germany. Filed May 1, 1969.

FOLASTAL

Priority claimed under Sec. 44(d) on German application filed Dec. 14, 1968; Reg. No. 857,462, dated May 13, 1969.
For Metal Sheets With Protective and Decorative Layers of Synthetic, Resinous or Metallic Character (Int. Cl. 6).

SN 344,474. United Aircraft Corporation, East Hartford, Conn. Filed Nov. 24, 1969.

WASPALLOY

Owner of Reg. Nos. 220,868, 529,820, and others.
For Nickel-Base Superalloys (Int. Cl. 6).
First use Sept. 13, 1969.

SN 352,350. Les Fabriques de Balanciers Réunies, Bienne, Switzerland. Filed Feb. 25, 1970.



GLUCYDUR

Owner of U.S. Reg. No. 867,539.
For Aluminum, Copper, Iron and Alloys Thereof or With Chromium Vanadium and Nickel All in Sheet, Wire, Rod or Tube Form (Int. Cl. 6).
First use January 1969; in commerce January 1969.

SN 356,559. J. P. Dwyer Co., Inc., Miami Shores, Fla. Filed Apr. 13, 1970.

LAMBENTFOIL

For Foil Indicia for Books, Plastics, Greeting Cards, Packaging Leather and Vinyl; Hot Stamping Foil (Rolled Leaf); and Imitation Gold Foil (Int. Cl. 2).
First use Jan. 26, 1970.

SN 356,560. J. P. Dwyer Co., Inc., Miami Shores, Fla. Filed Apr. 13, 1970.

LUMINFOIL

For Foil Indicia for Books, Plastics, Greeting Cards, Packaging Leather and Vinyl; Hot Stamping Foil (Rolled Leaf); and Imitation Gold Foil (Int. Cl. 2).
First use Jan. 26, 1970.

SN 363,374. California Fine Wire Company, Grover City, Calif. Filed July 15, 1970.

STABLOHM

For Wire (Int. Cl. 6).
First use June 21, 1961.

SN 346,633. Harry C. Marlow, Jr., d.b.a. Marlow's Industries, Warren, Ohio. Filed Dec. 18, 1969.

VALVE LIFE

Applicant disclaims the word "Valve" apart from the mark as shown.
For Gasoline Additive for Internal Combustion Engines (Int. Cl. 1).
First use on or about Aug. 16, 1961.

Class 16—Protective and Decorative Coatings

SN 323,104. Illinois Bronze Powder & Paint Co., Lake Zurich, Ill. Filed Mar. 28, 1969.

FOAMSTAIN

For Stains for Tinting Untreated Wood Surfaces (Int. Cl. 2).
First use May 21, 1968.

SN 325,579. Carboline Company, St. Louis, Mo. Filed Apr. 25, 1969.

CUTTY SARK

"Cutty Sark" is the name of a famous late nineteenth century American clipper ship.
For Marine Paints (Int. Cl. 2).
First use July 23, 1964.

SN 326,631. Corro-Ban Products Co., Compton, Calif. Filed May 7, 1969.

TAREP

For Corrosion Resistant Protective Coating in the Nature of a Paint (Int. Cl. 2).
First use Sept. 12, 1958.

SN 341,885. Hempel's Marine Paints Company Limited, London, England. Filed Oct. 27, 1969.

SQUADRON

Owner of British Reg. No. 924,867, dated May 8, 1968.
For Paints, Varnishes (Other Than Insulating Varnish), Lacquers, Enamels (In the Nature of Paint), and Preservatives Against Rust (Int. Cl. 2).

SN 346,849. Boysen Paint Company, Oakland, Calif. Filed Dec. 22, 1969.



For Paints, Both Paste and Liquid, Varnishes, Colors for Paints and Enamels for Painting and Baking (Int. Cl. 2).
First use May 1932.

SN 347,187. American Lava Corporation, Chattanooga, Tenn. Filed Dec. 29, 1969.

ALSICOAT

Owner of Reg. No. 825,618.
For Wear Resistant Coatings Applied to Articles Made of Metal, Glass, Ceramics, and Plastics (Int. Cl. 2).
First use Dec. 3, 1969.

SN 352,034. PPG Industries, Inc., Pittsburgh, Pa. Filed Feb. 24, 1970.

RAYCRON

For Coating Compositions in the Nature of Paints Which Are Hardenable by Ionizing, Ultra Violet or Similar Radiation (Int. Cl. 2).
First use at least as early as Jan. 9, 1970.

SN 354,168. Grow Chemical Corporation, New York, N.Y. Filed Mar. 16, 1970.

PLAY-GLO

For Luminescent Paint (Int. Cl. 2).
First use Jan. 30, 1970.

Class 17—Tobacco Products

SN 298,178. Mendez Enterprises, Inc., Miami, Fla. Filed May 15, 1968.



"El Cuno" translated from Spanish to English means "seal, stamp or die." The drawing is lined for the color red.
For Tobacco and Particularly That Used in the Production of Cigars (Int. Cl. 34).
First use Jan. 23, 1965.

Class 18—Medicines and Pharmaceutical Preparations

SN 315,535. Bristol-Myers Company, New York, N.Y. Filed Jan. 2, 1969.

AMMENS BODY AND SOLE

Owner of Reg. No. 656,715.
For Medicated and Antiseptic Powders Used for Treatment and Alleviation of Discomfort Caused by Sunburn, Chafing, Itching, and Minor Skin Irritations (Int. Cl. 5).
First use Nov. 14, 1968.

SN 329,003. Paul Eggimann Aktiengesellschaft, Thalwil, Zurich, Switzerland. Filed June 3, 1969.

PHLEBOLAN

Owner of Swiss Reg. No. 228,667, dated Nov. 1, 1967.
For Pharmaceutical Preparations for the Treatment of Arterial and Venous Vasopathias and Their General Disorders (Int. Cl. 5).

SN 329,004. Paul Eggimann Aktiengesellschaft, Thalwil, Zurich, Switzerland. Filed June 3, 1969.

VULNUSOL

Owner of Swiss Reg. No. 228,797, dated Oct. 23, 1967.
For Sprayform Dressing for Wounds (Int. Cl. 5).

SN 330,222. The Upjohn Company, Kalamazoo, Mich. Filed June 16, 1969.

DEPO-PROVERA C-150

Owner of Reg. Nos. 717,429, 738,935, and others.
For Medicinal Progestational Preparation (Int. Cl. 5).
First use Feb. 18, 1969.

SN 334,124. S & O Products, Inc., Marshalltown, Iowa. Filed July 31, 1969.



The drawing is lined for the color gold.
For Livestock Mineral and Vitamin Feed Supplement (Int. Cl. 5).
First use on or about Feb. 1, 1966.

SN 340,216. Beecham Inc., Clifton, N.J. Filed Oct. 9, 1969.

REVIVE

For Analgesics (Int. Cl. 5).
First use Sept. 3, 1969.

SN 340,245. Bristol-Myers Company, New York, N.Y. Filed Oct. 9, 1969.



Owner of Reg. No. 837,463.
For Vitamin Tablets (Int. Cl. 5).
First use at least as early as January 1968.

SN 342,826. Bristol-Myers Company, New York, N.Y. Filed Nov. 6, 1969.

BUFFERIN

Owner of Reg. No. 566,190.
For Cold Tablets (Int. Cl. 5).
First use Oct. 27, 1969.

SN 345,323. Federal Employees' Distributing Company, doing business as Fedco Professional Pharmacies, A Division of Fedco Inc., Los Angeles, Calif. Filed Dec. 4, 1969.

FER-O-CAPS

For Preparation for Treatment of Iron Deficiency Anemia (Int. Cl. 5).
First use March 1968.

SN 345,324. Federal Employees' Distributing Company, doing business as Fedco Professional Pharmacies, A Division of Fedco Inc., Los Angeles, Calif. Filed Dec. 4, 1969.

FEDRA-LAC

For Antacid Tablets for Relief of Gastric Hyperacidity (Int. Cl. 5).
First use June 1969.

SN 345,326. Federal Employees' Distributing Company, doing business as Fedco Professional Pharmacies, A Division of Fedco Inc., Los Angeles, Calif. Filed Dec. 4, 1969.

FED-PAC

For Preparation in Prepackaged Unit Dose Form for Relief of Nasal Congestion (Int. Cl. 5).
First use March 1968.

SN 348,870. American Cyanamid Company, Wayne, N.J. Filed Jan. 19, 1970.

FORTAFEED

Owner of Reg. No. 521,738.
For Vitamin and Mineral Feed Supplement for Cattle (Int. Cl. 31).
First use October 1951.

SN 349,326. Burton, Parsons Chemicals, Inc., Washington, D.C. Filed Jan. 22, 1970.

ADSORBOBASE

For Ophthalmic Preparations (Int. Cl. 5).
First use at least as early as Nov. 5, 1969.

SN 357,046. The Upjohn Company, Kalamazoo, Mich. Filed Apr. 16, 1970.

TENSODREL

For Hypotensive Agent (Int. Cl. 5).
First use Dec. 22, 1969.

SN 359,293. International Minerals & Chemical Corporation, Skokie, Ill. Filed May 11, 1970.

MONOFOS

For Animal Feed Grade Ammonium Phosphate (Int. Cl. 5).
First use Jan. 27, 1970.

SN 363,842. Reid-Provident Laboratories, Inc., Atlanta, Ga. Filed June 29, 1970.

PROAQUA

For Diuretic and Antihypertensive Preparation (Int. Cl. 5).
First use June 12, 1970.

Class 19—Vehicles

SN 316,601. Brown Enterprises, Inc., Joplin, Mo. Filed Jan. 15, 1969.

HOMESTEAD

For Mobile Homes—Namely, House Trailers (Int. Cl. 12).
First use Oct. 24, 1968.

SN 319,296. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed Feb. 17, 1969.



For Inflatable Occupant Safety Restraints, Including Components Thereof for Use in Transportation Vehicles Such as Automobiles, Buses, Motor Trucks, Tractors and Airplanes for the Purpose of Reducing or Preventing Injury to the Occupants of Such Automobiles, Buses, Motor Trucks, Tractors and Airplanes During a Collision (Int. Cl. 12).
First use Feb. 6, 1969.

SN 333,907. Daybrook-Ottawa Corporation, Detroit, Mich. Filed July 30, 1969.

DAYBROOK

Owner of Reg. No. 420,101.
For Trucks and Trailers Equipped With Truck Bodies, Dump Body Mechanisms, Hoists, Powered Lifting Gates and Platforms, Loader Cranes, Hydraulic Hammers, Back-Hoe Mounts, Snow Plows, Aerial Personnel and Tool Lifts, and Truck Bodies (Int. Cl. 12).
First use Dec. 18, 1939.

SN 334,659. Winnebago Industries, Inc., Forest City, Iowa. Filed Aug. 6, 1969.

WINNEBAGO

Owner of Reg. Nos. 777,541 and 884,919.
For Vehicles and Components of Completed Vehicles—Namely, Motor Homes, Travel Trailers, House Trailers, Camper Coaches, Pick-Up Coaches, Pick-Up Campers, Pick-Up Covers, Mobile Offices, Tent Trailers, Houseboats, Pontoon Boats, Tent Camper Vehicles, and Vehicle Component Panels (Int. Cl. 12).
First use April 1959.

SN 340,042. Pioneer Parachute Company, Inc., Manchester, Conn. Filed Oct. 7, 1969.

VOLPLANE

For Parachutes (Int. Cl. 12).
First use Feb. 22, 1968.

SN 342,270. Hydrosift Corporation, Salt Lake City, Utah. Filed Oct. 31, 1969.



For Vehicles for Boats (Int. Cl. 12).
First use Feb. 15, 1957.

SN 343,109. General Motors Corporation, Detroit, Mich. Filed Nov. 10, 1969.

FORMULA 400

For Automobiles (Int. Cl. 12).
First use Oct. 16, 1969.

SN 347,745. Heald, Inc., Benton Harbor, Mich. Filed Jan. 5, 1970.



Applicant Disclaims the word "Kits" apart from the mark as shown.
For Kits Containing Parts to Assemble Complete Powered Bikes and Motorcycles (Int. Cl. 12).
First use Oct. 4, 1969.

SN 349,025. Wheel Mate Corporation, East Petersburg, Pa. Filed Jan. 19, 1970.



For Camping Trailers (Int. Cl. 12).
First use Nov. 4, 1969.

SN 356,275. General Motors Corporation, Detroit, Mich. Filed Apr. 8, 1970.

GRAND VILLE

For Automobiles (Int. Cl. 12).
First use Feb. 19, 1970.

SN 366,160. Hltco, Gardena, Calif. Filed July 24, 1970.

EXECUTIVE

For Snowmobiles (Int. Cl. 12).
First use Nov. 21, 1969.

SN 366,201. J. C. Penney Company, Inc., New York, N.Y. Filed July 24, 1970.

STOP ACTION

For Brake Shoes (Int. Cl. 12).
First use Apr. 15, 1970.

SN 366,203. J. C. Penney Company, Inc., New York, N.Y. Filed July 24, 1970.

MANHANDLER

For Snowmobiles (Int. Cl. 12).
First use Apr. 30, 1970.

SN 366,562. Gulf Oil Corporation, Pittsburgh, Pa. Filed July 29, 1970.

GULF

For Shock Absorbers and Parts Therefor for Motor Vehicles (Int. Cl. 12).
First use on or about Feb. 2, 1970.

SN 366,873. Advance Outboard, Inc., Seattle, Wash. Filed Aug. 3, 1970.

BAYLINER

For Boats (Int. Cl. 12).
First use April 1956.

SN 366,946. Lonergan Corporation, Elkhart, Ind. Filed Aug. 3, 1970.

ESTATE HOMES

Applicant disclaims the word "Homes" apart from the mark as shown.
For Mobile Homes (Int. Cl. 12).
First use Aug. 13, 1962.

Class 20—Linoleum and Oiled Cloth

SN 332,311. L. E. Carpenter & Company, Wharton, N.J. Filed July 11, 1969.



For Wall Coverings (Int. Cl. 27).
First use on or about Jan. 31, 1969.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 296,058. P.E.D., Inc., Tulsa, Okla., by merger from Vericom, Inc., Amarillo, Tex. Filed Apr. 19, 1968.

VERILARM

For Electronic Communications Equipment—Namely, Radio Transmitters at Remote Stations Which Originate Alarm Signals, and Equipment to Which Such Signals are Transmitted and Converted Into Printed Copy by Use of Teleprinter (Int. Cl. 9).
First use Oct. 3, 1967.

SN 322,488. Lighting Corporation of America, Culver City, Calif. Filed Mar. 21, 1969.



For Transistorized Ballast Batteries; Transfer Relays; Auxiliary Fluorescent Power Supplies; Self-Contained Auxiliary Power Supplies; Incandescent Power Supplies; and Radio Operated Lighting Controls (Int. Cl. 9).
First use September 1967.

SN 322,810. Astro Enterprises, Inc., Jacksonville, N.C. Filed Mar. 26, 1969.

ASTRO

For Electrically Driven Industrial Polishers (Int. Cl. 7).
First use May 15, 1968.

SN 330,422. Sanders Associates, Inc., Nashua, N.H. Filed June 18, 1969.

MEMCARD

For Electronic Data Memory System Containing Memory Elements and/or Associated Electronics to Provide Storage and Random Access Control of Digital Information.
First use Feb. 6, 1969.

SN 330,845. North American Phillips Corporation, New York, N.Y. Filed June 24, 1969.

MASTERCOM

For Electronic Internal Intercommunication System Consisting of a Central Control Unit, Receiving and Sending Units, and Installation Cables (Int. Cl. 9).
First use at least as early as June 17, 1969.

SN 331,144. Basler Electric Company, Highland, Ill. Filed June 27, 1969.

BASLER  *Electric Company*

Applicant disclaims the words "Electric Company" apart from the mark as shown.

For Magnetic Components Including Transformers, Reactors, Chokes, Filters and Coils; Load Banks, Power Supplies; Generator Set control Devices including Generator Voltage Regulators, Generator Exciter Regulators, Series Boost operation Assemblies, Manual Voltage Control Assemblies and Underfrequency Overvoltage Assemblies; Electric Relays Including Reverse Power Relays, Synchronous Motor Pullout Relays and Overcurrent Protective Relays; Automatic Synchronizers; Electric Motor Speed Controls for Constant and Variable Speed Motors; Battery Chargers; Electric Generator Control Systems, Static Power Systems and Uninterrupted Power Systems; and Electrical Assemblies and Sub-assemblies including Circuit Board Assemblies, Transformer Rectifier Assemblies, Control Assemblies, Sensing Assemblies, Power Amplifier Assemblies, Heat Sink Assemblies and Static Variable Voltage Devices (Int. Cl. 9).
First use October 1961.

SN 339,373. U.S. Controls Corp., Milwaukee, Wis. Filed Sept. 30, 1969.



For Electrical Switches for Home Appliances (Int. Cl. 9).
First use May 7, 1969.

SN 344,353. Educasting Systems, Inc., New York, N.Y. Filed Nov. 24, 1969.

EDUCASSETTE

Owner of Reg. No. 807,915.
For Teaching Machine Using Portable Cassette Tape Recorders (Int. Cl. 9).
First use on or about Dec. 6, 1968.

SN 344,651. Allied Computer Systems, Inc., Madison, Conn. Filed Nov. 26, 1969.

OPENDOC

For Data Processing Machine Comprising a Character Reader (Int. Cl. 9).
First use on or about Nov. 12, 1969.

SN 346,392. Murata Manufacturing Company, Limited, Nagaoka-cho, Otokuni-gun, Kyoto-fu, Japan. Filed Dec. 16, 1969.

Silvaint

For Electrically Conductive Paints (Int. Cl. 2).
First use Nov. 8, 1968; in commerce Nov. 8, 1968.

SN 346,508. Radiant Lamp Corporation, Hightstown, N.J. Filed Dec. 17, 1969.

MERCO DELUXE WHITE

Applicant disclaims any rights to the term "Deluxe White" apart from the mark as a whole.
Owner of Reg. Nos. 757,650, 757,651, and 788,422.
For Mercury Lamps (Int. Cl. 11).
First use at least as early as Jan. 3, 1969.

SN 347,016. Cox Corporation, Jacksonville, N.C. Filed Dec. 23, 1969.

JOHNNY GEM

For Electrically Powered Bathroom Odor Eliminators (Int. Cl. 7).
First use Nov. 12, 1969.

SN 352,585. Abco Quality Products Co., Philadelphia, Pa. Filed Feb. 27, 1970.

gran lancia

For Decorative Light Bulbs (Int. Cl. 11).
First use on or about June 1, 1966.

SN 355,453. W. B. Snook Mfg. Co., Inc., Palo Alto, Calif. Filed Mar. 30, 1970.

AG-GET

For Electronic Silver Recovery Units (Int. Cl. 9).
First use Oct. 24, 1969.

SN 357,419. Record-O-Fone, Division of Electrospace Corp., Bronx, N.Y. Filed Apr. 20, 1970.

ROBO-ALERT

For Telephone Operated Alarm Systems (Int. Cl. 9).
First use Mar. 20, 1970.

SN 358,115. Tyee Aircraft, Inc., Everett, Wash. Filed Apr. 27, 1970.

TYEE

For Electronic Signal Alarms (Int. Cl. 9).
First use Apr. 17, 1970.

SN 358,117. Tyee Aircraft, Inc., Everett, Wash. Filed Apr. 27, 1970.



For Electronic Signal Alarms (Int. Cl. 9).
First use Apr. 17, 1970.

SN 358,345. Ultrasonic Systems, Inc., Farmingdale, N.Y. Filed Apr. 29, 1970.

SONOHORN

For Mechanical Impedance Transformer for Transmitting Sonic and Ultrasonic Mechanical Vibrations (Int. Cl. 9).
First use on or about Apr. 21, 1970.

SN 358,347. Ultrasonic Systems, Inc., Farmingdale, N.Y. Filed Apr. 29, 1970.

SONORATOR

For Electrical Generators of Ultrasonic Energy, Ultrasonic Energy Transducers and Electrically Powered Processing Systems for the Same (Int. Cl. 9).
First use on or about Apr. 21, 1970.

SN 358,350. Ultrasonic Systems, Inc., Farmingdale, N.Y. Filed Apr. 29, 1970.

SONOVERTOR

For Electrical Sonic and Ultrasonic Frequency Generator (Int. Cl. 9).
First use on or about Apr. 21, 1970.

SN 367,087. The Adams & Westlake Company, Elkhart, Ind. Filed Aug. 5, 1970.

LOVELL

For Marine Lighting Fixtures and Appliances and Parts Thereof—Namely, Switches and Switch Mechanisms, Receptacles, Indicators, Lighting Fixtures, Navigation Lights, Connection Boxes, Junction Boxes, Alarm Distribution Panels, Light Guards, Reflector Fixtures and Parts Thereof, Replacement Globes for Lighting Fixtures, Lamp Sockets, Interior Fittings, and Attachment Plug and Receptacle Units (Int. Cl. 11).
First use 1920.

BELLEMERGENCY

For Electronic Burglar and Fire Alarms (Int. Cl. 9).
First use June 1969.

SN 367,091. Ballistics Control Corporation, Long Island City, N.Y. Filed Aug. 5, 1970.

AURALARM

For Electronic Burglar and Fire Alarms (Int. Cl. 9).
First use June 1969.

Class 22—Games, Toys, and Sporting Goods

SN 318,131. Carron Net Company, Inc., Two Rivers, Wis. Filed Feb. 3, 1969.



No claim of exclusive right is made to the representation of the net portion of the design apart from the mark as shown.
For Sports and Fish Nets (Int. Cls. 22 and 28).
First use on or about Jan. 3, 1945.

SN 327,128. Cypress Gardens Skis, Inc., Cypress Gardens, Fla. Filed May 13, 1969.

"OUT-PERFORMERS"

For Water Skis and Parts Thereof (Int. Cl. 28).
First use Dec. 15, 1968.

SN 336,170. Polyform Products Company, Inc., Schiller Park, Ill. Filed Aug. 25, 1969.

ELASTICLAY

For Modeling Plastic Compound for Use by Children (Int. Cl. 28).
First use May 15, 1969.

SN 337,799. Hasbro Industries, Inc., Pawtucket, R.I. Filed Sept. 12, 1969.

MAGIC LITE

The word "Lite" is disclaimed separate and apart from the mark as shown.
For Toy Device for Creating Varied Multi-Colored Designs and Scenes (Int. Cl. 28).
First use on or about Feb. 24, 1969.

SN 340,681. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed Oct. 14, 1969.

PLAY-DOH PLAY SET

Applicant disclaims the exclusive right to the words "Play Set" apart from the mark as shown. Owner of Reg. No. 650,035.
For Toy Type Kits Consisting of Plastic Type Modeling Compound and Utensils To Work With Said Modeling Compound Sold as a Unit (Int. Cl. 28).
First use on or prior to Sept. 9, 1969.

SN 340,707. GAF Corporation, New York, N.Y. Filed Oct. 15, 1969.

GAF

Owner of Reg. No. 744,454.
For Toy Viewers, Projectors, Stereoscopes and Picture Guns and Picture Cards, Reels, Film Strips and Transparencies for Use Therewith (Int. Cl. 28).
First use on or before Jan. 1, 1969.

SN 343,764. Sports Technology, Inc., Edina, Minn. Filed Nov. 17, 1969.

LOTORK

For Low Friction Sole Plates for Skis and Ski Boots (Int. Cl. 28).
First use at least as early as June 1969.

SN 352,300. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed Feb. 25, 1970.

THE COLOR MACHINE

Applicant disclaims the word "Color" apart from the mark as shown.
For Play or Toy Art Paint (Int. Cl. 28).
First use on or about Jan. 30, 1970.

SN 365,647. Mattel, Inc., Hawthorne, Calif. Filed July 20, 1970.

ONTARIO

For Toy Automobile (Int. Cl. 28).
First use June 4, 1970.

SN 365,868. Parker Brothers, Inc., Salem, Mass. Filed July 22, 1970.

OABI

For Apparatus for Playing a Chain Letter Game (Int. Cl. 28).
First use May 4, 1970.

SN 365,990. Mattel, Inc., Hawthorne, Calif. Filed July 23, 1970.

DARLENE

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use June 1, 1970.

SN 366,002. Mattel, Inc., Hawthorne, Calif. Filed July 23, 1970.

DOIN' MY THING

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use June 4, 1970.

SN 366,003. Mattel, Inc., Hawthorne, Calif. Filed July 23, 1970.

CLOUD HOPPER

For Toy Helicopter (Int. Cl. 28).
First use June 9, 1970.

SN 366,107. Monogram Models, Inc., Morton Grove, Ill. Filed July 24, 1970.

BOOT HILL EXPRESS

For Toy Automobile and a Hobby Kit for Making the Same (Int. Cl. 28).
First use Nov. 24, 1967.

SN 366,113. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

SHOOFLY PIE

For Equipment Sold as a Unit for Playing a Three Dimensional Game (Int. Cl. 28).
First use Feb. 17, 1970.

SN 366,116. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

WHOPPER-CHOPPER

For Toy Helicopter (Int. Cl. 28).
First use June 1, 1970.

SN 366,118. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

THE TORCH

For Toy Top (Int. Cl. 28).
First use June 9, 1970.

SN 366,119. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

WANGLER

For Toy Automobile (Int. Cl. 28).
First use June 26, 1970.

SN 366,120. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

WIND STORM

For Toy Automobile (Int. Cl. 28).
First use June 26, 1970.

SN 366,121. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

FUELIN' FOOL

For Toy Automobile (Int. Cl. 28).
First use June 26, 1970.

SN 366,122. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

ATLANTIC-OVAL

For Toy Automobile Kit Comprising an Electrically Driven Toy Automobile, a Battery Charger, Track and an Annual Magazine (Int. Cl. 28).
First use Feb. 17, 1970.

SN 366,123. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

WING KING

For Toy Automobile (Int. Cl. 28).
First use June 26, 1970.

SN 366,124. Mattel, Inc., Hawthorne, Calif. Filed July 24, 1970.

WALK IN SPACE

For Space Toy Kit Comprising a Space Doll, a Programmed Vehicle for Operating on a Flat Surface, Life Support Cables and Toy Planets (Int. Cl. 28).
First use Feb. 17, 1970.

SN 366,262. Mattel, Inc., Hawthorne, Calif. Filed July 27, 1970.

GINGER

For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).
First use June 29, 1970.

SN 366,460. Mattel, Inc., Hawthorne, Calif. Filed July 28, 1970.

DOUBLE BOILER

For Toy Automobile (Int. Cl. 28).
First use June 26, 1970.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 313,831. Baker Perkins Inc., Saginaw, Mich. Filed Dec. 6, 1968.

ROTOFEED

For Continuous Mixer and Reactor for Liquids, Semi-Liquids and Dry Blending (Int. Cl. 7).
First use Nov. 11, 1968.

SN 329,719. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed June 11, 1969.

PARCO

Owner of Reg. Nos. 598,070, 793,790, and others.
For Continuous Strip Metal Treatment Tanks Wherein the Strip Metal Passes Through a Solution by Means of Rollers to Effect the formation of a decorative or protective Coating Thereon (Int. Cl. 7).
First use May 12, 1969.

SN 329,746. Omsteel Industries, Inc., Omaha, Nebr., by merger of Omsteel Industries, Inc., Omaha, Nebr. Filed June 11, 1969.



For Trenchers, Utility Tractors, Backhoes, Dozer Blades, Augers, Tampers, Blade Gates, Push Plates for Pushing Vehicles, Snow Loader-Blowers, Earth and Snow Loaders, Snow Wings, Bulldozers, and Snow Plows (Int. Cl. 7).
First use July 27, 1968, on trenchers.

SN 332,369. Select Sales, Inc., Moultrie, Ga. Filed July 11, 1969.

CLOUD-BURST

For Sprinklers for Agricultural Irrigation and Home Lawns and Sprinkler Components (Int. Cl. 11).
First use Feb. 12, 1969.

SN 333,686. Lear Siegler, Inc., Santa Monica, Calif., assignee of Dixie Tool Industries, Inc., Bridgeport, Mich. Filed July 28, 1969.

MIL-EZE

For Rotary Cutters for Machine Tools (Int. Cl. 7).
First use May 13, 1969.

SN 333,720. LSB Industries, Inc., Oklahoma City, Okla. Filed July 28, 1969.

ROCKLAND

For Machine Tools—Namely, Lathes, Milling Machines, Drilling Machines, Grinding Machines, Punch Presses, Press Brakes, Shearing Machines, Iron Workers, Saws, and Rolls (Int. Cl. 7).
First use July 22, 1969.

SN 333,730. M & W Gear Company, Gibson City, Ill. Filed July 28, 1969.

PERFECT KERN'L

For Gas Fired Grain Dryer (Int. Cl. 11).
First use July 8, 1969.

SN 333,905. Daybrook-Ottawa Corporation, Detroit, Mich. Filed July 30, 1969.

DAYBROOK

Owner of Reg. No. 420,101.
For Yard Tractors, Dump Body Mechanisms, Powered Lifting Gates and Platforms for Trucks, Hoists, Hydraulic Hammers, Loader Cranes, Backhoe Mounts, Aerial Personnel and Tool Lifts Sold Separately From and for Installation on a Customer's Truck or Vehicle or Other Installation; and Parts and Controls for the same (Int. Cl. 7).
First use Dec. 18, 1939.

SN 334,860. North American Rockwell Corporation, Reading, Pa. Filed Aug. 8, 1969.

ARROW

Owner of Reg. No. 511,635.
For Knitting Machine Parts—Namely, Needles, Yarn Guides, Sinkers, Tricks, Flat Parts and Points, and for Felting Needles (Int. Cl. 7).
First use June 20, 1927, on knitting machine needles.

SN 335,425. Bumzee, Inc., Cincinnati, Ohio. Filed Aug. 15, 1969.

BUMZEE BASKET

Applicant disclaims the word "Basket" apart from the mark as shown.
For Stable Tool Useful as a Sifter, Shoveler, Spreader and Smoothing Device in the Performance of Chores (Int. Cl. 8).
First use Mar. 8, 1969.

SN 339,438. Homestead Industries, Inc., Coraopolis, Pa. Filed Oct. 1, 1969.

JENNY

Owner of Reg. Nos. 566,005, 817,563, and others.
For Automatic Vehicle Washing Apparatus (Int. Cl. 7).
First use June 4, 1969.

SN 341,274. J. J. Finnigan Company, Inc., Atlanta, Ga. Filed Oct. 21, 1969.

B-M AIR SEPARATOR

No claim is made to the words "Air Separator" apart from the mark as shown.
For Air Separation Apparatus for Use in Water Circulation System (Int. Cl. 7).
First use Dec. 29, 1967.

SN 343,565. Kanarek Industries, Inc., Chicago, Ill. Filed Nov. 14, 1969.

PRODUCT SAVER

For Machine for Separating and/or Removing Granular, Flake or Liquid Materials From Packages (Int. Cl. 7).
First use Apr. 26, 1965.

SN 346,284. One Way Tableware Corporation, Meriden, Conn. Filed Dec. 15, 1969.



For Flatware Made of Plastic (Int. Cl. 8).
First use at least as early as January 1969.

SN 346,835. American Regitel Corporation, San Carlos, Calif. Filed Dec. 22, 1969.

888 **REGITEL**

The drawing is lined for the color red.
For Printer Capable of Printing on Plain Paper and Making Multiple Copies on Pressure Sensitive Paper or Plain Paper With Carbon (Int. Cl. 7).
First use Oct. 30, 1969.

SN 347,421. Oberg Manufacturing Co., Inc., Freeport, Pa. Filed Dec. 30, 1969.



For Carbide Dies (Int. Cl. 7).
First use Sept. 30, 1966.

SN 349,149. Action Magnetic Sign Co., Inc., Houston, Tex. Filed Jan. 21, 1970.

action signs

Applicant disclaims the word "Signs" apart from the mark as shown.

For Plastic Molding Machinery for Manufacturing Magnetically Held Plastic Signs To Be Sold to the Public for Attachment to Automobiles, Vehicles and the Like (Int. Cl. 7).
First use Apr. 10, 1969.

SN 349,396. Springwater Mfg. Co., Inc., Springwater, N.Y. Filed Jan. 22, 1970.

IRON CRAFTER

Applicant disclaims the exclusive right to the word "Iron" apart from the mark.

For Combination Punching, Pressing, Shearing, and Bending Machines (Int. Cl. 7).
First use on or about Sept. 11, 1969.

SN 349,609. Elliott Business Machines, Inc., Randolph, Mass. Filed Jan. 26, 1970.

1640

For Transfer Printer Use With an Optical Addressing Machine (Int. Cl. 9).
First use Jan. 11, 1969.

SN 350,962. Sears, Roebuck and Co., Chicago, Ill. Filed Feb. 9, 1970.

HEADLINER

For Hand Hammers (Int. Cl. 8).
First use on or about Dec. 14, 1962.

SN 352,020. Davis and Furber Machine Company, North Andover, Mass. Filed Feb. 24, 1970.

DAVIS AND FURBER

For Textile Machines—Namely, Fiber Preparation Machines, Carding Machines, Spinning and Yarn Machines and Cloth Finishing Machines (Int. Cl. 7).
First use prior to 1850.

SN 352,385. Swenson Corporation, Redgranite, Wis. Filed Feb. 25, 1970.

SWENCRAFT

For Swivel Mountings for Rotating Parts (Int. Cl. 7).
First use Jan. 9, 1970.

SN 357,765. United Engineering and Foundry Company, Pittsburgh, Pa. Filed Apr. 23, 1970.

T.K.

For Metal Rolls for Use in Rolling Mills for Metal, Paper, Plastic and Rubber (Int. Cl. 7).
First use Mar. 13, 1970.

SN 357,979. FMC Corporation, Chicago, Ill. Filed Apr. 27, 1970.

BULK-FLO

Owner of Reg. Nos. 63,503, 843,658, and others.
For Material Conveyor Consisting of a Chain and Spaced Flights in a Closed Endless Casing (Int. Cl. 7).
First use Aug. 14, 1969.

SN 357,995. The Gates Rubber Company, Denver, Colo. Filed Apr. 27, 1970.

PolyDrive

For Drive Wheels for Vehicle Endless Tracks (Int. Cl. 7).
First use Oct. 1, 1968.

SN 358,021. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Apr. 27, 1970.

BRIDAL REGISTRY

For Stainless Steel Knives, Forks, and Spoons (Int. Cl. 8).
First use Apr. 8, 1970.

SN 358,022. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Apr. 27, 1970.

LA CUISINE

For Stainless Steel Knives, Forks and Spoons (Int. Cl. 8).
First use Apr. 8, 1970.

SN 358,080. Pittler Maschinenfabrik Aktiengesellschaft, Langen/Hessen, Germany. Filed Apr. 27, 1970.



For Machine Tools—Namely, Lathes, Shapers, Screw Machines, Cutting Tools for the Same, Die Heads for the Same and Tool Grinding Machines (Int. Cl. 7).
First use Nov. 5, 1918; in commerce January 1952.

SN 358,174. Channellock, Inc., Meadville, Pa. Filed Apr. 28, 1970.

TOG-L-LOK

For Pillers (Int. Cl. 8).
First use Apr. 20, 1970.

SN 367,114. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Aug. 5, 1970.

3M

For Apparatus for Rolling on Artificial Athletic Turf to Remove Accumulated Water Therefrom (Int. Cl. 7).
First use Sept. 3, 1969.

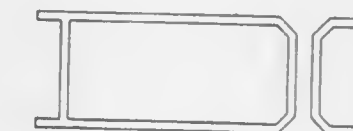
SN 367,116. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Aug. 5, 1970.

GAMESAVER

For Apparatus for Rolling on Artificial Athletic Turf to Remove Accumulated Water Therefrom (Int. Cl. 7).
First use Sept. 3, 1969.

Class 26—Measuring and Scientific Appliances

SN 315,651. Quindar Electronics, Inc., Springfield, N.J. Filed Dec. 20, 1968.



For Telemetering and Communications Systems and Components—Namely, Voice Frequency Line Amplifiers (Int. Cl. 9).
First use June 1, 1968.

SN 321,833. Sun Electric Corporation, Chicago, Ill. Filed Mar. 14, 1969.

ACTION-TRACK

For Supports for Testing Equipment (Int. Cl. 9).
First use Feb. 8, 1969.

SN 343,524. Computer Terminal Corporation, San Antonio, Tex. Filed Nov. 14, 1969.

DATAPoint 3300

For Computer Terminal Equipment (Int. Cl. 9).
First use at least as early as June 1, 1969.

SN 347,608. Inventory Management Systems, Inc., Los Angeles, Calif. Filed Jan. 2, 1970.



For Merchandise Sales and Inventory Control Systems, Comprising Clerks' Sales Register, Managers' Monitor Registers, Computer, Data Storage, and Interconnecting Equipment (Int. Cl. 9).
First use Mar. 26, 1968.

SN 352,114. Fairchild Camera and Instrument Corporation, Mountain View, Calif. Filed Feb. 24, 1970.

ELECTRO/SET

For Keyboard for Entering Data Into Electrical Apparatus, Such as Computers, Electrically Controlled Typesetting Apparatus, Perforators, Reperforators, and Parts of Such Apparatus (Int. Cl. 9).
First use Dec. 19, 1969.

Class 28 — Jewelry and Precious-Metal Ware

SN 366,124. Towle Manufacturing Company, Newburyport, Mass. Filed July 24, 1970.

DANISH BAROQUE

For Sterling Silver Flatware (Int. Cl. 8).
First use June 29, 1970.

Class 29 — Brooms, Brushes, and Dusters

SN 366,270. The Wooster Brush Company, Wooster, Ohio. Filed July 27, 1970.

SOFTREL

For Paintbrushes (Int. Cl. 16).
First use Nov. 20, 1969.

Class 30 — Crockery, Earthenware, and Porcelain

SN 348,961. Lipper International Inc., New York, N.Y. Filed Jan. 19, 1970.

FLAME-CHEF

For Flameware, Ovenware and Cookware Made of Ceramic Material (Int. Cl. 21).
First use on or about June 30, 1969.

SN 358,882. Ridgway Potteries Limited, Stoke-on-Trent, England. Filed May 5, 1970.

STEELITE

Owner of British Reg. No. B747,232, dated Oct. 24, 1955.
For Tableware Made of Ceramic Materials (Int. Cl. 21).

Class 31 — Filters and Refrigerators

SN 328,324. The Marley Company, Kansas City, Mo. Filed May 26, 1969.

NC

For Liquid Cooling Towers and Parts Thereof (Int. Cl. 11).
First use May 16, 1969.

SN 330,420. Robbins Aviation, Inc., Vernon, Calif. Filed June 18, 1969.

"RAF"

For Systems for Air and Gas Purification, Dehydration, and Contaminant Removal, and Components Thereof Comprised of Mechanical Filters, and Drier and Purification Chambers, and Cartridges Therefor (Int. Cl. 11).
First use May 6, 1956.

SN 363,857. Aqua-Chem, Inc., Waukesha, Wis. Filed June 29, 1970.

ACRO PAC

For Apparatus and Parts Therefor for the Separation, Concentration or Purification of Fluids Through Reverse Osmosis (Int. Cl. 11).
First use Apr. 17, 1968.

Class 32 — Furniture and Upholstery

SN 316,844. The Telescope Folding Furniture Co., Inc., Granville, N.Y. Filed Jan. 16, 1969.

TELESCOPE

Owner of Reg. No. 379,451.
For Folding All Wood or Aluminum and Wood Summer and Casual, Marine-Camping and Public Seating Folding Chairs and Rockers, Beach Chairs, Yacht Chairs, Director Chairs, Deck Chairs, Reclining Chairs, Arm Chairs, Sun Chairs, Single-Double and Triple Gliders, Beach Rests, Back Rests, Folding Camp Chairs and Stools, Double Decker Cots, Folding Cots, Army Style Folding Cots, Compact Cots, Camp Cots, Canvas Cots, Slope Cots, Child's Cots, Padded Cots, High Back Arm Chairs, Ottoman, Lounge Chaise, High Back Rocker, End Table (KD), Pedestal Table (KD), Snack Table (KD), Tables and Folding Tables, Public Seating Chairs, Chaises, Chaise Lounges and Chaise Loungers, Contoured Chaise Lounges, Contoured Chaise Loungers, Lay Flat Chaises, Lay Flat Wheeled Chaise, Stack Arm Chairs and Dining Stack Chairs, Ice Cream Chairs, and Stack Chaises (Int. Cl. 20).
First use in 1921.

SN 337,981. Sealy, Incorporated, Chicago, Ill. Filed Sept. 15, 1969.

GOLDEN GUARD

For Mattresses and Box Springs (Int. Cl. 20).
First use Sept. 13, 1968.

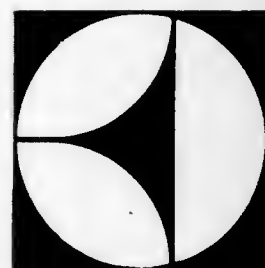
Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 304,077. Fedders Corporation, Edison, N.J. Filed Aug. 1, 1968.

WALL-FIT

For Air Conditioning Equipment—Namely, Heating, Cooling, Humidifying, and Dehumidifying Units for Home, Commercial, and Industrial Use (Int. Cl. 11).
First use at least as early as 1960.

SN 323,425. Aktiebolaget Electrolux, Stockholm, Sweden. Filed Apr. 2, 1969.



The mark consists of a special stylized design of the letter "E." Owner of Swedish Reg. No. 102,930, dated June 1, 1962; and U.S. Reg. Nos. 774,977 and 792,508.
For Stationary Ventilators for Exhausting Air From Enclosures With Circulating Atmospheric Air (Int. Cl. 11).

SN 329,067. Emplre Stove Company, Belleville, Ill. Filed June 4, 1969.

SNORKEL

For Vents for Gas Fired Appliances (Int. Cl. 11).
First use Oct. 31, 1968.

SN 346,394. C. Colden Neely, New York, N.Y. Filed Dec. 16, 1969.

BEACH-BOY

For Fabricated and Disposable Cook-Out Kits Consisting of Stove, Adjustable Grill, Charcoal and Ignitors (Int. Cl. 11).
First use Oct. 23, 1969.

SN 358,374. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Apr. 30, 1970.

FORMON

For Printable Solder and Braze Compositions (Int. Cl. 6).
First use Apr. 20, 1970.

SN 358,902. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 6, 1970.



Owner of Reg. Nos. 281,330, 635,782, and others.
For Printable Solder and Braze Compositions (Int. Cl. 6).
First use Apr. 20, 1970.

Class 36 — Musical Instruments and Supplies

SN 340,710. GAF Corporation, New York, N.Y. Filed Oct. 15, 1969.

TALKING VIEW-MASTER

Owner of Reg. No. 529,224.
For Stereoscopic Sound Viewers and Transparencies With Sound Disc Attached for Use Therewith (Int. Cl. 9).
First use May 28, 1969.

SN 346,587. Audio Fidelity Records, Inc., New York, N.Y. Filed Dec. 18, 1969.



The word "Records" is disclaimed as part of the mark.
For Phonograph Records and Pre-Recorded Magnetic Tapes (Int. Cl. 9).
First use Sept. 1, 1969.

DURAMIL TV

Applicant disclaims the term "TV" separate and apart from the mark as used.
For Magnetic Recording Tape (Int. Cl. 9).
First use Dec. 5, 1969.

SN 354,666. Research Solina AG, Flamatt, Freiburg, Switzerland. Filed Mar. 19, 1970.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 243,061, dated Sept. 16, 1969.
For Electronic Organs (Int. Cl. 15).
First use August 1965; in commerce Apr. 20, 1966.

SN 354,716. Gordon Thomas Crown, Chicago, Ill. Filed Mar. 20, 1970.

TOM CROWN

"Tom Crown" is not the name of any particular living individual, but the mark does constitute a part of applicant's name, Gordon Thomas Crown, whose consent is of record.
For Accessories for Musical Wind Instruments—Namely, Mutes (Int. Cl. 15).
First use June 1969.

Class 37 — Paper and Stationery

SN 324,480. Mosinee Paper Mills Company, Mosinee, Wis. Filed Apr. 14, 1969.

KING BILL

Owner of Reg. No. 88,026.
For Meat Wrapping Paper (Int. Cl. 16).
First use Oct. 11, 1966.

SN 353,751. Georgia-Pacific Corporation, Portland, Oreg. Filed Mar. 11, 1970.

CAPITAN

For Bathroom Tissue (Int. Cl. 16).
First use Jan. 10, 1967.

SN 365,993. Kimberly-Clark Corporation, Neenah, Wis. Filed July 23, 1970.

DELISOFT

Owner of Reg. Nos. 354,948, 869,871, and others.
For Toilet Tissue, Facial Tissue, Paper Towels, and Paper Table Napkins (Int. Cl. 16).
First use Oct. 30, 1969, on toilet tissue.

SN 365,995. Kimberly-Clark Corporation, Neenah, Wis. Filed July 23, 1970.

KLEENEX AMERICANA

Owner of Reg. Nos. 297,536, 891,292, and Others
For Toilet Tissue, Facial Tissue, Paper Towels, and Paper Table Napkins (Int. Cl. 16).
First use July 2, 1970.

Class 38—Prints and Publications

SN 320,292. Paul E. Ruch, Denver, Colo. Filed Feb. 27, 1969.

"DRYDAY"

For Section, Dealing With Weather Forecasting, of a Booklet Published Monthly (Int. Cl. 16).
First use Nov. 25, 1968.

SN 341,350. American Express Company, New York, N.Y. Filed Oct. 22, 1969.

GOING CONTINENTAL

Owner of Reg. No. 888,462.
For Publications—Namely, Newsletters Periodically Issued and Distributed to Customers (Int. Cl. 16).
First use at least as early as Dec. 7, 1968.

SN 341,651. William Glasser & Douglas H. Naylor & Associates, Inc., San Pedro, Calif. Filed Oct. 24, 1969.



A RELEVANT READER

Applicant disclaims the terminology "A Relevant Reader" apart from the mark as shown.

For Books To Be Used in the Reading Programs of Schools (Int. Cl. 16).
First use July 1, 1969.

SN 347,520. Charles A. Mills, Johnson, Ark. Filed Dec. 31, 1969.



For Iron on Transfers for Clothing and Fabrics (Int. Cl. 16).
First use Oct. 15, 1969.

SN 359,676. Looart Press, Inc., Colorado Springs, Colo. Filed May 14, 1970.

WHITE LACE

Owner of Reg. No. 893,318.
For Fully Printed Anniversary and Bar Mitzvah Announcements (Int. Cl. 16).
First use Feb. 1, 1969.

SN 362,163. National Lampoon, Inc., New York, N.Y. Filed June 9, 1970.

NATIONAL LAMPOON

For Magazine (Int. Cl. 16).
First use Mar. 5, 1970.

Class 39—Clothing

SN 287,832. Renoir Knitting Mills, Limited, Montreal, Quebec, Canada. Filed Dec. 29, 1967.

NORVYK

Owner of Canadian Reg. No. 137,115, dated Aug. 28, 1964.
For Men's, Women's and Children's Sweaters, Pull-Overs, Cardigans, Vests, Jackets, Shirts, Slacks, Underwear, Socks, and Hats (Int. Cl. 25).

SN 311,573. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Nov. 7, 1968.

DUBL-WEAR

Owner of Reg. No. 199,805.
For Ladies' Hosiery (Int. Cl. 25).
First use 1913.

SN 311,653. On Gard Industrial Footwear, Inc., Cicero, Ill. Filed Nov. 8, 1968.



For Men's Industrial Safety Shoes (Int. Cl. 9).
First use May 10, 1965.

SN 314,787. Good Luck Glove Company, Carbondale, Ill. Filed Dec. 18, 1968.



For Sport Gloves and Mittens (Int. Cl. 25).
First use Feb. 9, 1968.

SN 318,714. Higgins Company, Lineville, Ala. Filed Feb. 10, 1969.

HILTON CLUB

For Men's Slacks and Trousers (Int. Cl. 25).
First use July 1966.

SN 319,747. Volkl & Co. KG., Allershausen, Germany. Filed Feb. 20, 1969.



Owner of German Appl. No. V 12,028/25.
For Shoes and Boots, Sport Shoes, After Sport Shoes, and Fur Boots (Int. Cl. 25).
First use Sept. 1, 1959; in commerce Oct. 18, 1968.

SN 323,250. Calzaturificio Magli S.A.S. di Bruno Magli & C., Bologna, Italy. Filed Apr. 1, 1969.

BRUNO MAGLI

"Bruno Magli" is the president of applicant corporation and his consent to register is of record.

For Shoes (Int. Cl. 25).
First use Feb. 13, 1969; in commerce Feb. 13, 1969.

SN 323,251. Calzaturificio Magli S.A.S. di Bruno Magli & C., Bologna, Italy. Filed Apr. 1, 1969.

MICAELA

"Micaela" is a fanciful word.
For Shoes (Int. Cl. 25).
First use Feb. 13, 1969; in commerce Feb. 13, 1969.

SN 323,252. Calzaturificio Magli S.A.S. di Bruno Magli & C., Bologna, Italy. Filed Apr. 1, 1969.

2M

For Shoes (Int. Cl. 25).
First use Feb. 13, 1969; in commerce Feb. 13, 1969.

SN 323,253. Calzaturificio Magli S.A.S. di Bruno Magli & C., Bologna, Italy. Filed Apr. 1, 1969.

MAB STUDIO

For Shoes (Int. Cl. 25).
First use Feb. 13, 1969; in commerce Feb. 13, 1969.

SN 323,255. Calzaturificio Magli S.A.S. di Bruno Magli & C., Bologna, Italy. Filed Apr. 1, 1969.

B. MAGLI STUDIO

For Shoes (Int. Cl. 25).
First use Feb. 13, 1969; in commerce Feb. 13, 1969.

SN 328,729. Rene, Inc., d.b.a. Roffe-Rene, Inc. and Roffe, Seattle, Wash. Filed May 29, 1969.

ROGUE

For Ski and After-Ski Stretch Pants (Int. Cl. 25).
First use in or about April 1959.

SN 330,691. Barbour Welting Company, Inc., Brockton, Mass. Filed June 23, 1969.

BARBOUR STYLEDGE

For Shoe Welting (Int. Cl. 25).
First use on or about May 1, 1969.

SN 334,847. Kayser-Roth Corporation, New York, N.Y. Filed Aug. 8, 1969.

CARMOLON

For Ladies' Hosiery and Panty Hose (Int. Cl. 25).
First use July 8, 1969.

SN 346,378. Audrey Frazier Enterprises, Inc., New York, N.Y. Filed Dec. 16, 1969.



Applicant disclaims the words "An Original" and the representation of the goods apart from the mark. The mark consists of the letters "AF" and "E", design and wording.

For Ladies' and Girls' Dresses and Skirts, and Men's and Boys' Shirts and Suits, and Ladies' and Men's Vests (Int. Cl. 25).
First use Dec. 3, 1969.

SN 347,921. Sally Gee, Inc., New York, N.Y. Filed Jan. 7, 1970.

KEY OF G

For Women's and Juniors' Knitted Sportswear—Namely, Sweaters, Scarfs, and Stoles (Int. Cl. 25).
First use Dec. 4, 1968.

SN 348,462. Wembley Industries, Inc., New Orleans, La. Filed Jan. 13, 1970.

CHAMPAGNE AND CAVIAR

For Men's Neckwear (Int. Cl. 25).
First use Oct. 29, 1969.

SN 348,464. Wembley Industries, Inc., New Orleans, La. Filed Jan. 13, 1970.



The word "Soirée" means "evening party" in the French language. The lining shown is a part of the mark and does not represent color.

For Men's Neckwear (Int. Cl. 25).
First use Oct. 29, 1969.

SN 348,466. Wembley Industries, Inc., New Orleans, La. Filed Jan. 13, 1970.



The words "Vieux Carre" mean "old quarter" in the French language.

For Men's Neckwear (Int. Cl. 25).
First use Oct. 29, 1969.

SN 348,740. Parke, Davls & Company, Detroit, Mich. Filed Jan. 16, 1970.

PROFLEX

For Hosiery for Men (Int. Cl. 25).
First use on or before Jan. 9, 1970.

SN 349,628. Gold Medal Hosiery Co., Inc., New York, N.Y. Filed Jan. 26, 1970.

D'JAY

For Ladies' Hosiery (Int. Cl. 25).
First use 1936.

SN 350,135. Penny Sparling Sportswear Ltd., Scarborough, Ontario, Canada. Filed Jan. 30, 1970.



"Penny Sparling" identifies a living individual whose consent is of record. Applicant disclaims the use of the term "Designs" when used apart from the mark.

For Tennis and Badminton Apparel and Physical Education and Team Uniforms (Int. Cl. 25).
First use July 1965; in commerce August 1966.

SN 350,465. Donlin Sportswear, Inc., New York, N.Y. Filed Feb. 4, 1970.

LONCRAFT

For Men's and Boys' Shirts (Int. Cl. 25).
First use Jan. 26, 1970.

SN 350,621. Reginald Simon, Armonk, N.Y. Filed Feb. 5, 1970.

REGI SIMON

For Shoes (Int. Cl. 25).
First use Jan. 15, 1970.

SN 350,722. Concordia Leg Apparel, Inc., New York, N.Y. Filed Feb. 6, 1970.

SANDRILON

For Panty Hose (Int. Cl. 25).
First use on or about Nov. 15, 1969.

SN 350,830. Sea Fashions, Inc., Los Angeles, Calif. Filed Feb. 9, 1970.

CHANNEL 2

For Ladies' Swimsuits (Int. Cl. 25).
First use Nov. 6, 1969.

SN 366,253. Jantzen Inc., Portland, Oreg. Filed July 27, 1970.

CENTER COURT

Owner of Reg. No. 878,713.
For Articles of Clothing for Men, Women, and Children—Namely, Shorts, Sweaters, Blouses, Outer Shirts, Jackets, Dresses, Slacks, and Shoes (Int. Cl. 25).
First use October 1966.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 350,895. Fieldcrest Mills, Inc., Eden, N.C. Filed Feb. 9, 1970.



For Textile Rugs and Carpeting (Int. Cl. 27).
First use Jan. 19, 1970.

SN 350,896. Fieldcrest Mills, Inc., Eden, N.C. Filed Feb. 9, 1970.



For Textile Rugs and Carpeting (Int. Cl. 27).
First use Jan. 2, 1970.

SN 351,146. Scandinavian Marketing Associates, Incorporated, New York, N.Y. Filed Feb. 11, 1970.

SCANMARK

For Rugs (Int. Cl. 27).
First use September 1961.

SN 351,405. Allied Chemical Corporation, New York, N.Y. Filed Feb. 16, 1970.

NYBAC

For Backing and Lining for Textiles, Particularly Non-Woven Lining and Backing Useful for Carpeting and Other Home, Office, Industrial Furnishings, and the Like (Int. Cl. 24).
First use Jan. 8, 1970.

Class 43—Thread and Yarn

SN 334,848. Kayser-Roth Corporation, New York, N.Y. Filed Aug. 8, 1969.

CARMOLON

For Yarn To Be Made Into Ladies' Apparel (Int. Cl. 23).
First use July 8, 1969.

Class 44—Dental, Medical, and Surgical Appliances

SN 337,379. Fred Wesemann, d.b.a. P.H.D.'s Laboratory, Colorado Springs, Colo. Filed Sept. 8, 1969.



P.H.D.'s PRESCRIPTION HEARING DEPRESSORS

Applicant disclaims the words "Prescription Hearing Depressors" and the representation of the human ear apart from the mark.

For Hearing Depressors Resilient Ear Mold and Protector Inserts (Int. Cl. 10).
First use May 5, 1969.

SN 353,707. Propper Manufacturing Co., Inc., Long Island City, N.Y. Filed Mar. 11, 1970.

PROPPER POWER

Owner of Reg. Nos. 605,851 and 868,379.
For Illuminated Medical Diagnostic Instruments—Namely, Oscopes, Ophthalmoscopes, and Retinoscopes (Int. Cl. 10).
First use June 1969.

SN 354,777. Polytap Corporation, Slatersville, R.I. Filed Mar. 23, 1970.

SWIFT

For Syringes (Int. Cl. 10).
First use in or about December 1962.

SN 357,561. Grieks, Inc., Hollis, N.Y. Filed Apr. 22, 1970.

"K-G"

For Karaya Gum Washers for the Application and Attachment of Surgical Appliances and Urinary and Fecal Devices to Human Beings (Int. Cl. 10).
First use Apr. 8, 1970.

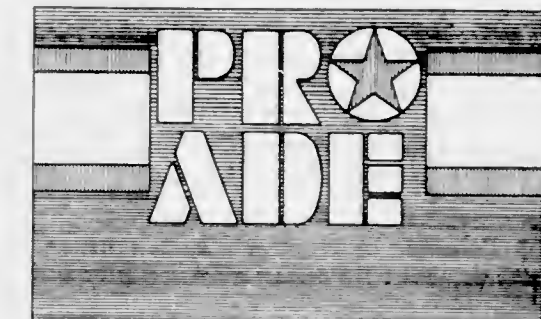
SN 360,846. Abbott Laboratories, North Chicago, Ill. Filed May 26, 1970.

SAIF

For Filters for Use With Intravenous Administration Equipment (Int. Cl. 10).
First use Mar. 11, 1970.

Class 45—Soft Drinks and Carbonated Waters

SN 334,710. The Hawe Corp., Atlanta, Ga. Filed Aug. 7, 1969.



The word "Ade" is disclaimed apart from the mark as shown. The drawing is lined for the colors red and blue.
For Soft Drink Containing Orange Juice, Water, Calcium Chloride, Glucose, and Sodium Chloride (Int. Cl. 32).
First use May 30, 1969.

SN 349,616. General Foods Corporation, White Plains, N.Y. Filed Jan. 26, 1970.

INSTANT REPLAY

For Powdered Mix To Be Combined With Water for Making Flavored Beverages (Int. Cl. 32).
First use Jan. 5, 1970.

SN 355,519. Elberta Packing Company, Inc., Frankfort, Mich. Filed Mar. 31, 1970.

FRUIT-KEG

Owner of Reg. No. 391,684.
For Fruit Drinks Which Contain Water (Int. Cl. 32).
First use Feb. 21, 1970.

Class 46—Foods and Ingredients of Foods

SN 140,195. Steer Inn Systems, Inc., Jenkintown, Pa. Filed Mar. 19, 1962.

STEER INN

Applicant claims use for the area comprising the states of the United States excluding the State of Indiana.
For Sandwiches, Freshly Prepared French Fried Potatoes, and Freshly Prepared Milk Shakes (Int. Cl. 29).
First use Sept. 18, 1961.
Subj. to Con. Use Proc. with Laughner's Drive-In, Inc.

SN 140,593. Steer Inn Systems, Inc., Jenkintown, Pa. Filed Mar. 23, 1962.



Applicant claims use for the area comprising the states of the United States excluding the State of Indiana. The drawing is not lined for color.

For Sandwiches, Freshly Prepared French Fried Potatoes, and Freshly Prepared Milk Shakes (Int. Cl. 29).

First use Sept. 18, 1961.

Subj. to Con. Use Proc. with Laughner's Drive-In, Inc.

SN 271,432. A. Bertolla & Sons, Loxley, Ala. Filed May 15, 1967.

ANDES

For Fresh Potatoes in Wholesale Lots (Int. Cl. 31).
First use on or about May 8, 1937.

SN 299,265. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed May 28, 1968.

21 TATTOOS

Owner of Reg. Nos. 303,195 and 563,527.

For Combination Package Consisting of Chewing Gum and Adhesively Backed Stickers (Int. Cl. 30).

First use Apr. 8, 1968.

SN 307,431. Consumer Guild Foods, Inc., Toledo, Ohio. Filed Sept. 16, 1968.



The word "Supreme" is disclaimed except in use in combination with the initials "CG" as shown.

For Salad Dressing, Thousand Island Dressing, French Dressing, Shaw Dressing, Horseradish Sauce, Russian Dressing, Fruit Salad Dressing, Mayonnaise, Barbecue Sauce, and Related Dressings (Int. Cls. 29 and 30).

First use Oct. 1, 1966.

SN 314,218. Clyde A. Harbin, Whitehaven, Tenn. Filed Dec. 11, 1968.



The words "Cream" and "Ice Milk Mix" are disclaimed apart from the mark as shown. Owner of Reg. No. 857,585.

For Ice Milk Mix (Int. Cl. 30).

First use Aug. 30, 1966.

SN 337,301. W. R. Grace & Co., New York, N.Y. Filed Sept. 8, 1969.

STRING-A-ZINGS

Owner of Reg. No. 828,284.

For Candy (Int. Cl. 30).

First use June 7, 1967.

SN 339,088. Vita Food Products, Inc., New York, N.Y., by merger from Betty Lee Food Products, Inc., New York, N.Y. Filed Sept. 29, 1969.

BETTY LEE'S

"Betty Lee" is a fanciful name and does not represent any living individual.

For Bottled Food Products—Namely, Herring (Int. Cl. 29).

First use during 1934.

SN 343,511. Burger Chef Systems, Inc., Indianapolis, Ind. Filed Nov. 14, 1969.

JUMBO SHEF

Owner of Reg. No. 868,449.

For Ready-To-Eat Hamburger Sandwiches (Int. Cl. 29).

First use May 21, 1969.

SN 343,716. Jackson Cookie Co., Inc., North Little Rock, Ark. Filed Nov. 17, 1969.



For Cakes, Cookies and Cookie Wafers (Int. Cl. 30).

First use 1933.

SN 344,139. SCM Corporation, d.b.a. Durkee Famous Foods, Cleveland, Ohio. Filed Nov. 20, 1969.

KOOKY KUTS

Applicant disclaims the term "Kuts" apart from the mark as shown.

For Pickles (Int. Cl. 29).

First use Oct. 21, 1969.

SN 344,318. Beatrice Foods Co., Chicago, Ill. Filed Nov. 24, 1969.

MARIO'S

Owner of Reg. Nos. 616,943, 727,285, and others.

For Frozen Pizza (Int. Cl. 30).

First use Nov. 15, 1968.

SN 344,475. United Fruit Company, Boston, Mass. Filed Nov. 24, 1969.

TOSS 'N TREAT

For Pre-Prepared Salad Containing Chopped Lettuce, Chopped Endive, Chopped Celery, Sliced Radishes, and Chopped Tomatoes and Chopped Green Peppers (Int. Cl. 29).

First use Aug. 12, 1969.

SN 344,476. United Fruit Company, Boston, Mass. Filed Nov. 24, 1969.

SERVE 'N SMILE

For Pre-Prepared Salad Containing Chopped Lettuce, Chopped Endive, Chopped Celery, Sliced Radishes, and Chopped Tomatoes and Chopped Green Peppers (Int. Cl. 29).

First use Aug. 12, 1969.

SN 344,477. United Fruit Company, Boston, Mass. Filed Nov. 24, 1969.

TOSS 'N TUMBLE

For Pre-Prepared Salad Containing Chopped Lettuce, Chopped Endive, Chopped Celery, Sliced Radishes, and Chopped Tomatoes and Chopped Green Peppers (Int. Cl. 29).
First use Aug. 12, 1969.

SN 344,851. Gus Glaser Meats, Inc., Fort Dodge, Iowa. Filed Nov. 28, 1969.

GUS GLASER

"Gus Glaser" is the name of the president of the applicant whose consent is of record.

For Prepared Meat Products—Namely, Sausage, Wieners, Meat Loaf, Cooked Ham, Roast Beef, Barbeque Loaf, and Bacon (Int. Cl. 29).

First use Sept. 30, 1946.

SN 346,213. Roy A. Brog, d.b.a. Dairy Monitoring of America, North Logan, Utah. Filed Dec. 15, 1969.

"LIFE-IZED"

For Dairy Products Comprising Fluid Milk (Int. Cl. 29).
First use Aug. 29, 1969.

SN 347,534. Sunkist Growers, Inc., Los Angeles, Calif. Filed Dec. 31, 1969.

CALIFORNIA PROFIT-PAK

Exclusive right to the word "California," apart from the mark, is not claimed.

For Frozen Concentrated Orange Juice (Int. Cl. 32).

First use Nov. 4, 1969.

SN 347,998. Merle Litherland, St. Francisville, Ill. Filed Jan. 8, 1970.

BLACK JEWELL

For Unpopped Popcorn (Int. Cl. 30).

First use Jan. 25, 1969.

SN 351,366. Chalet 21, Inc., San Francisco, Calif. Filed Feb. 16, 1970.

CHALET 21

For Refrigerated and Frozen Cheesecake (Int. Cl. 30).

First use Dec. 15, 1962.

SN 366,264. Mattel, Inc., Hawthorne, Calif. Filed July 27, 1970.

HOT WHEELS

Owner of Reg. Nos. 843,156, 884,563, and 888,727.

For Candy (Int. Cl. 30).

First use June 19, 1970.

SN 367,123. Ralston Purina Company, St. Louis, Mo. Filed Aug. 5, 1970.

CAPTAIN'S CHOICE

For Canned Cat Food (Int. Cl. 31).

First use Jan. 6, 1970.

SN 367,125. Ralston Purina Company, St. Louis, Mo. Filed Aug. 5, 1970.

FIRST MATE'S FARE

For Canned Cat Food (Int. Cl. 31).

First use Jan. 6, 1970.

Class 47—Wines

SN 307,551. Bodegas Bilbainas, S.A., Bilbao, Spain. Filed Sept. 17, 1968.

BRILLANTE

For Wine (Int. Cl. 33).

First use Dec. 3, 1929; in commerce at least as early as April 1956.

SN 365,008. National Distillers and Chemical Corporation, d.b.a. Munson Shaw Co., New York, N.Y. Filed July 13, 1970.

NAVIP

For Wines (Int. Cl. 33).

First use Apr. 2, 1970.

SN 365,009. National Distillers and Chemical Corporation, d.b.a. Munson Shaw Co., New York, N.Y. Filed July 13, 1970.

SLOVIN

For Wines (Int. Cl. 33).

First use Mar. 20, 1970.

Class 49—Distilled Alcoholic Liquors

SN 326,464. J. Zwack & Company, New York, N.Y. Filed May 5, 1969.



Owner of Reg. Nos. 373,622 and 373,624.

For Vodka (Int. Cl. 33).

First use on or before Dec. 31, 1890.

SN 350,453. James Burrough Limited, London, England. Filed Feb. 4, 1970.



The word "Borzoi" may be translated as "wolfhound." Owner of U.S. Reg. Nos. 633,759 and 885,152.

For Vodka (Int. Cl. 33).

First use July 6, 1955; in commerce July 6, 1955.

Class 50—Merchandise Not Otherwise Classified

SN 351,147. Scent-Sation, Inc., New York, N.Y. Filed Feb. 11, 1970.

DRYBAR

For Hanger for Hosiery (Int. Cl. 26).
First use September 1969.

SN 352,001. U.S. Plywood-Champion Papers Inc., Hamilton, Ohio. Filed Feb. 20, 1970.

PAK-SEAL

For Closures for Containers—Namely, Bottle Caps Made From Metallic Foil (Int. Cl. 6).
First use Jan. 8, 1967.

Class 51—Cosmetics and Toilet Preparations

SN 308,437. Summit Laboratories, Inc., Indianapolis, Ind. Filed Sept. 30, 1968.

ENDURALIZER

For Hair Neutralizer and Setting Lotion (Int. Cl. 3).
First use Sept. 20, 1968.

SN 310,754. Calvin O. Blasdel, d.b.a. Jacuzzi Whirlpool Bath Distributors, Dallas, Tex. Filed Oct. 29, 1968.

REFRESH!

For Bubble Bath (Int. Cl. 3).
First use July 1, 1968.

SN 318,037. Jacques Leonard, Neuilly-sur-Seine, Hauts de Seine, France. Filed Jan. 31, 1969.

FASHION DE LEONARD

Priority claimed under Sec. 44(d) on French Reg. No. 760,788, dated Nov. 28, 1968.

For Perfumery, Toilet Water, Dentifrices, Face and Skin Lotions, Lipsticks, Nail Varnishes, Bath Salts, Hair Lotions, Facial Creams, Body Creams, Hand Creams, Personal Deodorants, Body Powders, Facial Powders, Foundation Lotions, Eye Shadow, Mascara, and Hair Dyes (Int. Cls. 3 and 5).

SN 323,679. Colomer Ltda., Barcelona, Spain. Filed Apr. 4, 1969.

TIAZOLIN

Owner of Spanish Reg. No. 423,003, dated Mar. 4, 1965.
For Hair Setting and Conditioning Lotions (Int. Cl. 3).

SN 341,639. Dart Industries Inc., d.b.a. Vanda Beauty Counselor, Los Angeles, Calif. Filed Oct. 24, 1969.

TENDER TRAP

For Colognes, Perfumes, Dusting Powder, and Bath Oil (Int. Cl. 3).
First use 1958.

SN 342,654. Michel Cosmetics, Inc., Long Island City, N.Y. Filed Nov. 4, 1969.

EXDEMODIN

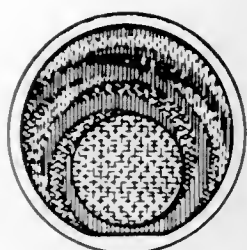
For Eyelash Cleansing Lotion (Int. Cl. 3).
First use Sept. 4, 1969.

SN 342,825. Biofarma, Societe Anonyme, Neuilly-sur-Seine, France. Filed Nov. 6, 1969.

ORMARIN

Owner of French Reg. No. 736,744, dated July 4, 1967.
For Bubble Bath, Body Lotions, and Body Tonics (Int. Cl. 3).

SN 365,500. Miles Laboratories, Inc., Elkhart, Ind. Filed July 13, 1970.



The drawing is lined for the colors red and yellow. Applicant disclaims exclusive rights to an image of the sun apart from the mark as shown.

For Lotions for Protection Against Solar Radiation (Int. Cl. 3).
First use on or before Nov. 23, 1968.

Class 52—Detergents and Soaps

SN 320,117. Advance Chemical Company, San Francisco, Calif. Filed Feb. 26, 1969.



The letters displayed in the mark comprise the monogram "AC."

For Liquid Cleaners and Detergents for Janitorial and Industrial Use, and Combined Cleaning, Sanitizing, Disinfecting and Deodorizing Composition for Use on Toilets and Urinals (Int. Cls. 3 and 5).
First use April 1958.

SN 334,633. Stauffer Chemical Company, New York, N.Y. Filed Aug. 6, 1969.

ESCOFOS

Owner of Reg. No. 151,746.
For Cleansing Preparation Acting as a Water Hardness Repressant and Soap Regenerator in the Laundering of Fabrics and Which Is Intended for Industrial and Commercial Use (Int. Cl. 3).
First use at least as early as February 1946.

SN 334,634. Stauffer Chemical Company, New York, N.Y. Filed Aug. 6, 1969.

SOL-ESCO

Owner of Reg. No. 151,746.
For Soluble Chemical Compounds for Use as Detergents, With and Without the Addition of Soap, and Intended for Industrial and Commercial Use (Int. Cl. 3).
First use at least as early as May 2, 1927.

SN 337,368. Sudbury Laboratory, Inc., Sudbury, Mass. Filed Sept. 8, 1969.

THE ROLL OF THE BOAT CLEANS THE BILGE!

For Bilge Cleaner for Boats (Int. Cl. 3).
First use 1948.

SN 341,435. United States Borax & Chemical Corporation, Los Angeles, Calif. Filed Oct. 22, 1969.

ENZTAIN

For Stain Removal Additive Incorporated as an Ingredient of a Borax Cleaner (Int. Cl. 3).
First use Oct. 1, 1969.

SN 342,586. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 3, 1969.

HAS

For Laundry Detergent for Household Use (Int. Cl. 3).
First use Sept. 17, 1969.

SN 342,872. Jonhop Inc., Beaverton, Oreg. Filed Nov. 6, 1969.

THERMA-COL

For Windshield Cleaner Preparation (Int. Cl. 3).
First use Oct. 25, 1969.

SN 343,731. Metropolitan Refining Co., Inc., Long Island City, N.Y. Filed Nov. 17, 1969.

DUBOTH

For Composition for Preventing and Removing Boiler Incrustations (Int. Cl. 1).
First use March 1920.

SERVICE MARKS

Class 100—Miscellaneous

SN 140,594. Steer Inn Systems, Inc., Jenkintown, Pa. Filed Mar. 23, 1962.



Applicant claims use for the area comprising the states of the United States excluding the State of Indiana. Applicant disclaims the word "Inn" apart from the mark as shown.
For Drive-In Restaurant Services (Int. Cl. 42).
First use Sept. 18, 1961.
Subj. to Con. Use Proc. with Laughner's Drive-In, Inc.

TM 880 O.G.—8

ICKYPIC CLEAN

The word "Clean" is disclaimed apart from the mark as a whole.

For Cleaners and Degreasers for Use on Burled Surface Wire and Cable (Int. Cl. 3).
First use Sept. 9, 1969.

SN 348,385. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 13, 1970.

MORNING BREEZE

For Hair Shampoo (Int. Cl. 3).
First use Nov. 19, 1969.

SN 350,688. Certified Laboratories, Inc., Fort Worth, Tex. Filed Feb. 6, 1970.

IMSOL

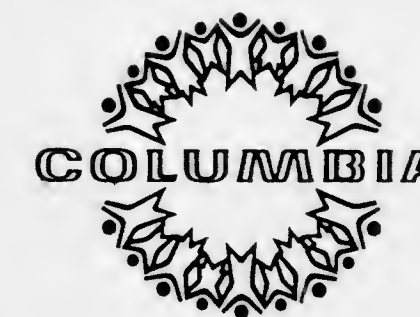
For Degreaser and Cleaner for Removing Dirt, Carbon, and Grease (Int. Cl. 3).
First use Apr. 1, 1959.

SN 355,972. J. H. Lewis, Inc., St. Paul, Minn. Filed Apr. 6, 1970.



For Pads Impregnated With a Cleaning Preparation for Removing Dirt, Stains, Greases, Shoe Polish, Chalk, and Dyes From the hands, Surfaces of Typewriters, Countertops, and Other Hard Surfaces (Int. Cl. 21).
First use Feb. 12, 1970.

SN 291,395. The Howard Research and Development Corporation, Columbia, Md. Filed Feb. 19, 1968.



For Land and Community Development Services for Others (Int. Cl. 42).
First use Aug. 5, 1966.

SN 395,644. Dunkin' Donuts of America, Inc., d.b.a. Dunkin' Donuts, Quincy, Mass. Filed Aug. 21, 1968.



The word "Donuts" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 692,491, 755,690, and others.
For Restaurant Services (Int. Cl. 42).
First use Jan. 9, 1967.

SN 329,419. The O. Hodgkins Sales Corporation, d.b.a. O.H.S. Inc., Cambridge, Mass. Filed June 9, 1969.



For Car Rental Services (Int. Cl. 39).
First use on or about Jan. 8, 1962.

331,969. Zapata International, Inc., Bloomington, Minn. Filed July 7, 1969.

ZAPATA

For Conducting Restaurant Services (Int. Cl. 42).
First use Apr. 29, 1969.

SN 334,101. Little Red Pagodas, Inc., Detroit, Mich. Filed July 31, 1969.



The drawing is lined for the color red.
For Restaurant Services (Int. Cl. 42).
First use June 25, 1969.

SN 334,447. Castlewood International Corporation, Miami, Fla., assignee of A Trysting Place, Inc., Miami Springs, Fla. Filed Aug. 5, 1969.

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place

For Cocktail Lounge Services (Int. Cl. 42).
First use Feb. 1, 1966.

SN 334,449. Castlewood International Corporation, Miami, Fla., assignee of A Trysting Place, Inc., Miami Springs, Fla. Filed Aug. 5, 1969.

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place

For Cocktail Lounge Services (Int. Cl. 42).
First use June 19, 1967.

SN 350,105. Warren H. Manor, d.b.a. Hank's Tanks, La Puente, Calif. Filed Jan. 30, 1970.

HANK'S TANKS

For Truck Rental Services (Int. Cl. 39).
First use June 1967.

SN 354,323. Petty Geophysical Engineering Company, San Antonio, Tex. Filed Mar. 17, 1970.

UNI-PULSE

For Seismic Survey Services (Int. Cl. 42).
First use Mar. 2, 1970.

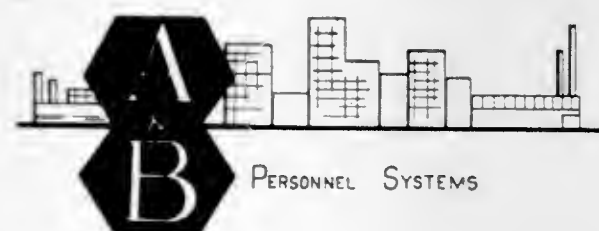
SN 358,393. Restaurant Associates Industries, Inc., New York, N.Y. Filed Apr. 30, 1970.

HUNGRY CHARLEY'S

For Restaurant Services (Int. Cl. 42).
First use May 12, 1967.
Subj. to Intf. with SN 323,659, SN 330,353, SN 330,354, and SN 331,574.

Class 101 — Advertising and Business

SN 309,000. A & B Personnel Systems, Ltd., Denver, Colo. Filed Oct. 7, 1968.



The words "Personnel Systems" are disclaimed apart from the mark.
For Employment Agency Services (Int. Cl. 35).
First use on or about July 19, 1967.

SN 322,579. First National Stores Inc., d.b.a. Big Buy Food Centers, Somerville, Mass. Filed Mar. 24, 1969.



Applicant disclaims the term "Food Center" apart from the mark as shown.
For Retail Food Store Services (Int. Cl. 35).
First use Nov. 19, 1968.

SN 325,330. Autocopiserv, Inc., Norristown, Pa. Filed Apr. 23, 1969.



No claim is made to the words "America's Fastest Growing Monthly Billing Service" apart from the mark as shown.
For Providing Monthly Billing for Business, Industry, and the Professions (Int. Cl. 35).
First use October 1968.

SN 327,903. Jr. Food Stores, Inc., Panama City, Fla. Filed May 21, 1969.



The drawing is lined for the colors red, blue and yellow. Applicant disclaims the term "Food Stores" separate and apart from the mark as shown, reserving unto itself all common law rights which it may have in said term.
For Grocery Store Services (Int. Cl. 35).
First use Aug. 1, 1961.

SN 330,272. Federated Department Stores, Inc., Cincinnati, Ohio. Filed June 17, 1969.



Owner of Reg. Nos. 549,755, 551,437, and 551,438.
For Retail Department Store Services (Int. Cl. 35).
First use 1830.

SN 330,906. Check Accounting Inc., Freeport, Ill. Filed June 25, 1969.



For Accounting Service to Farmers, Businesses, and Individuals, in Which Bank Checks and Deposit Slips Are Numbered According to Types of Expenses and Income (Int. Cl. 35).
First use Apr. 3, 1968.

SN 331,844. Michael Alexander, d.b.a. The Aquarian Age, Cambridge, Mass. Filed July 7, 1969.

THE AQUARIAN AGE

For Retail Store Services Specializing in Books and Pamphlets Relating to the Occult Sciences, and Articles Used in the Practice of the Same (Int. Cl. 35).
First use in or about December 1967.

SN 332,851. Petty Geophysical Engineering Company, San Antonio, Tex. Filed July 17, 1969.

SAVE

For Compilation and Analysis of Data in the Field of Seismic Exploration for Others (Int. Cl. 35).
First use Nov. 10, 1966.

SN 333,299. Salesmen Unlimited Agency Corp., New York, N.Y. Filed July 23, 1969.

SALESMEN UNLIMITED

Applicant disclaims the term "Salesmen" apart from the mark as shown, reserving all common law rights therein.
For Employment Agency Services (Int. Cl. 35).
First use Mar. 1, 1963.

SN 335,358. Laverdiere's Drug Store, Winslow, Maine. Filed Aug. 14, 1969.



No claim is made to the word "Store."
For Retail Gift Store Services (Int. Cl. 35).
First use Oct. 28, 1968.

SN 335,552. Computer Associates, Inc., Oak Park, Mich. Filed Aug. 18, 1969.



The mark consists of a fanciful representation of the letters "mbs."
For Computerized Billing Services (Int. Cl. 35).
First use Apr. 30, 1969.

SN 339,159. Diversified Temporaries, Inc., New York, N.Y. Filed Sept. 29, 1969.



For Supplying Temporary Office Personnel (Int. Cl. 35).
First use Aug. 26, 1969.

SN 339,178. Glendinning Companies, Inc., Westport, Conn. Filed Sept. 29, 1969.

PLACE THE FACE

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designs for Promotional Games (Int. Cl. 35).
First use Aug. 3, 1966.

SN 342,260. Hammer Graphics, Inc., Piqua, Ohio. Filed Oct. 31, 1969.



For Printing Services (Int. Cl. 35).
First use July 1, 1968.

SN 343,857. R. H. Macy & Co., Inc., New York, N.Y. Filed Nov. 18, 1969.

LOOK IN

For Retail Department Store Selling Services for Men's and Women's Apparel and Accessories (Int. Cl. 35).
First use Nov. 4, 1968.

SN 343,859. R. H. Macy & Co., Inc., New York, N.Y. Filed Nov. 18, 1969.

SCENE-TOGETHER

For Retail Department Store Selling Services for Men's and Women's Apparel and Accessories (Int. Cl. 35).
First use Mar. 27, 1969.

SN 344,016. Premium Corporation of America, Inc., Minneapolis, Minn. Filed Nov. 19, 1969.

AMERI-COINS

For Promoting the Sales of Goods and Services of Others Through the Use, Collection and Redemption of Trading Tokens or Devices Such as Trading Stamps or Coupons (Int. Cl. 35).
First use Aug. 27, 1969.

SN 344,674. Cambridge Computer Associates, Inc., Cambridge, Mass. Filed Nov. 26, 1969.

CCA

For Computer Software Consulting Services and Computer Programming and Documentation Services (Int. Cl. 35).
First use on or before Oct. 19, 1965.

SN 359,851. Glendinning Companies, Inc., Westport, Conn. Filed May 15, 1970.

CABINET MAKER

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designs for Promotional Games (Int. Cl. 35).
First use Mar. 1, 1970.

SN 359,852. Glendinning Companies, Inc., Westport, Conn. Filed May 15, 1970.

HANDCRAFT

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designs for Promotional Games (Int. Cl. 35).
First use Mar. 1, 1970.

SN 359,855. Glendinning Companies, Inc., Westport, Conn. Filed May 15, 1970.

WALLMATE

For Promoting the Sale of Goods and/or Services of Others Through the Distribution of Printed Materials and Advertising Designs for Promotional Games (Int. Cl. 35).
First use Mar. 1, 1970.

SN 365,811. Community Health Computing, Inc., Houston, Tex. Filed July 21, 1970.

ANSUR

For Furnishing of Data Processing Services for Medical and Paramedical Industries (Int. Cl. 35).
First use December 1969.

SN 366,541. ManPower, Inc., Milwaukee, Wis. Filed July 29, 1970.

WAGEMASTER

For Specialized Temporary Help Services—Namely, Supplying Temporary Personnel Employed by Applicant, but Specifically Selected or Approved by Customers for the Positions Involved (Int. Cl. 35).
First use July 13, 1970.

Class 102 — Insurance and Financial

SN 333,208. Union Mutual Life Insurance Company, Portland, Maine. Filed July 22, 1969.



For Underwriting of Individual and Group Life, Accident and Health and Disability Insurance (Int. Cl. 36).
First use Sept. 4, 1968.

Class 104 — Communication

SN 320,856. Radio WSNY/1240, Inc., Schenectady, N.Y. Filed Mar. 5, 1969.

RADIO HOME OF THE YOUNG AMERICANS

For Radio Broadcasting Services (Int. Cl. 38).
First use June 17, 1968.

SN 320,857. Radio WSNY/1240, Inc., Schenectady, N.Y. Filed Mar. 5, 1969. SN 328,993. Lear Siegler, Incorporated, Santa Monica, Calif. Filed June 3, 1969.

TOMORROW'S RADIO TODAY

For Radio Broadcasting Services (Int. Cl. 38).
First use June 17, 1968.

Class 105 — Transportation and Storage

SN 342,564. Westours, Inc., Seattle, Wash. Filed Nov. 3, 1969.

WEST LINE

For Arranging and Providing Cruises by Ship for Tourists and Travelers (Int. Cl. 39).
First use on or about Aug. 15, 1969.

Class 106 — Material Treatment

SN 322,466. Precision Hole Drilling Corp., Farmingdale, N.Y. Filed Mar. 21, 1969.

WHERE PRECISION IS MORE THAN A NAME

For Drilling Precision Holes in Space Technology Materials (Int. Cl. 40).
First use Sept. 15, 1968.

Class 107 — Education and Entertainment

SN 326,916. Kenneth R. Sanders, South Bend, Ind. Filed May 9, 1969.



For Religious Educational Services—Namely, Distribution of Bible Study Guides, Presentation of Group Lectures, and Organization of Religious-Social Functions, Retreats, Campouts, and Singouts (Int. Cl. 41).
First use in or before August 1964.

VIM

For Instruction in Modelling, Fashion, Grooming, and Poise (Int. Cl. 41).
First use Mar. 26, 1969.

SN 329,904. United Syndicated Radio Productions, Morton, Tex. Filed June 12, 1969.

Songs of Faith

For Providing Religious Music Through the Medium of Radio (Int. Cl. 41).
First use Feb. 28, 1962.

SN 335,048. New Dimensions, Ltd., Portland, Oreg. Filed Aug. 11, 1969.

NU DIMENSIONS

For Health Club Services—Namely, Providing Facilities for Exercise (Int. Cl. 41).
First use Mar. 2, 1969.

SN 340,219. Management Games Institute, Inc., Larchmont, N.Y. Filed Oct. 9, 1969.

MANAGEMENT GAMES INSTITUTE

For Correspondence School Services in the Field of Business Management (Int. Cl. 41).
First use at least as early as Dec. 26, 1968.

SN 343,801. Show Biz, Inc., Nashville, Tenn. Filed Nov. 18, 1969.

MUSIC CITY U.S.A.

Owner of Reg. No. 839,327.
For Entertainment Services Rendered Through the Medium of Radio—Namely, a Disc Jockey Variety Talk Show (Int. Cl. 41).
First use Nov. 12, 1969.

SN 355,269. Show Biz, Inc., Nashville, Tenn. Filed Mar. 27, 1970.

PRIZE COUNTRY

For Entertainment Services Rendered Through the Medium of Television in the Form of a Game Show Featuring Audience Participation and Country and Western and Popular Entertainers (Int. Cl. 41).
First use Feb. 18, 1970.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

- 902,417. TEXTURECONE. Gladen Enterprises, Inc. MULTIPLE CLASS (Classes 1 and 23). SN 297,556. Pub. 9-1-70. Filed 5-7-68.
- 902,418. CYTAME. American Cyanamid Company. SN 310,830. Pub. 9-1-70. Filed 10-30-68.
- 902,419. SKEGA. Skega Aktiebolag. MULTIPLE CLASS (Classes 1 and 23). SN 312,913. Pub. 9-1-70. Filed 11-22-68.
- 902,420. LEXAN. General Electric Company. SN 323,698. Pub. 9-1-70. Filed 4-4-69.
- 902,421. SOLARFILM. Canadian Solarfilm Distributors. SN 326,618. Pub. 9-1-70. Filed 5-7-69.
- 902,422. TOWER SOP. Tower Products, Inc., by change of name from Tower Packaging Company. SN 333,007. Pub. 9-1-70. Filed 7-18-69.

Class 2—Receptacles

- 902,423. DETEXOMAT. Detexomat Limited. MULTIPLE CLASS (Classes 2, 21, 23, and 26). SN 257,170. Pub. 9-1-70. Filed 10-25-66.
- 902,424. ROYAL LONDON. Royal London, Ltd. MULTIPLE CLASS (Classes 2, 13, 21, 23, 30, 32, and 33). SN 305,246. Pub. 9-1-70. Filed 8-15-68.
- 902,425. SAVOIR FLAIR. Lincoln Metal Products Corporation. MULTIPLE CLASS (Classes 2 and 13). SN 348,842. Pub. 9-1-70. Filed 1-19-70.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 902,426. MILLIE'S OF HONG KONG AND DESIGN. Alan Lau of California, Incorporated. MULTIPLE CLASS (Classes 3 and 41). SN 296,999. Pub. 9-1-70. Filed 5-1-68.
- 902,427. HORSE DESIGN. Horse of a Different Color, Ltd. MULTIPLE CLASS (Classes 3, 26, 28, and 39). SN 314,285. Pub. 9-1-70. Filed 12-12-68.
- 902,428. PEARSE AT BLUBBER HOLLOW AND DESIGN. Pearse Leather Products Co., Inc. MULTIPLE CLASS (Classes 3 and 39). SN 331,260. Pub. 9-1-70. Filed 6-30-69.

Class 4—Abrasives and Polishing Materials

- 902,429. SHOOT 'N SHINE. Magid Corporation. MULTIPLE CLASS (Classes 4, 6, and 52). SN 341,299. Pub. 9-1-70. Filed 10-22-69.
- 902,430. ALL NU. R. M. Hollingshead Corporation. SN 342,454. Pub. 9-1-70. Filed 11-3-69.

Class 5—Adhesives

- 902,431. DUOLOCK. The B. F. Goodrich Company. SN 351,452. Pub. 9-1-70. Filed 2-16-70.

Class 6—Chemicals and Chemical Compositions

- 902,429. (See Class 4 for this trademark.)
- 902,432. HARRIS COPPER-CURE AND DESIGN. Harris Paint Company. SN 291,155. Pub. 9-1-70. Filed 2-15-68.
- 902,433. HALVOPON. Albright & Wilson Limited, assignee of Marchon Products Limited. SN 294,109. Pub. 9-1-70. Filed 3-26-68.
- 902,434. HOOKER TF 300 LINE. Hooker Chemical Corporation. SN 301,531. Pub. 9-1-70. Filed 6-27-68.
- 902,435. DASCO BOND. D. A. Stuart Oil Co., Limited. SN 314,828. Pub. 9-1-70. Filed 12-18-68.
- 902,436. NUSOL. Sonoco Products Company. SN 316,840. Pub. 9-1-70. Filed 1-16-69.
- 902,437. TEXCRYL. R.A. Chemical Corp. SN 317,278. Pub. 9-1-70. Filed 1-23-69.
- 902,438. RIDZLIK. Ashland Oil, Inc., by change of name from Ashland Oil & Refining Company. SN 318,739. Pub. 9-1-70. Filed 2-10-69.
- 902,439. SUNPRO. Sun Chemical Corporation. SN 322,630. Pub. 9-1-70. Filed 3-24-69.
- 902,440. ESTASORB. Trylon Chemicals, Inc. (Ohio corporation), assignee of Trylon Chemicals, Inc. (Pennsylvania corporation). SN 327,973. Pub. 9-1-70. Filed 5-21-69.
- 902,441. SORHINOX. Trylon Chemicals, Inc. (Ohio corporation), assignee of Trylon Chemicals, Inc. (Pennsylvania corporation). SN 327,975. Pub. 9-1-70. Filed 5-21-69.
- 902,442. TRYCOL. Trylon Chemicals, Inc. (Ohio corporation), assignee of Trylon Chemicals, Inc. (Pennsylvania corporation). MULTIPLE CLASS (Classes 6 and 52). SN 327,976. Pub. 9-1-70. Filed 5-21-69.
- 902,443. TRYDET. Trylon Chemicals, Inc. (Ohio corporation), assignee of Trylon Chemicals, Inc. (Pennsylvania corporation). MULTIPLE CLASS (Classes 6 and 52). SN 327,977. Pub. 9-1-70. Filed 5-21-69.
- 902,444. TRYFAC. Trylon Chemicals, Inc. (Ohio corporation), assignee of Trylon Chemicals, Inc. (Pennsylvania corporation). SN 327,978. Pub. 9-1-70. Filed 5-21-69.
- 902,445. TRYLUBE. Trylon Chemicals, Inc. (Ohio corporation), assignee of Trylon Chemicals, Inc. (Pennsylvania corporation). SN 327,979. Pub. 9-1-70. Filed 5-21-69.
- 902,446. TRYLOX. Trylon Chemicals, Inc. (Ohio corporation), assignee of Trylon Chemicals, Inc. (Pennsylvania corporation). SN 327,980. Pub. 9-1-70. Filed 5-21-69.
- 902,447. TRYMEEN. Trylon Chemicals, Inc. (Ohio corporation), assignee of Trylon Chemicals, Inc. (Pennsylvania corporation). SN 327,981. Pub. 9-1-70. Filed 5-21-69.
- 902,448. AQUAZE. Hercules Incorporated. SN 331,749. Pub. 9-1-70. Filed 7-3-69.
- 902,449. THIPPITY DIP AND DESIGN. Schuyler Development Corporation. SN 332,149. Pub. 9-1-70. Filed 7-9-69.
- 902,450. THIPPITY DIP. Schuyler Development Corporation. SN 332,150. Pub. 9-1-70. Filed 7-9-69.
- 902,451. TRAVEL-BRITE. Chapman Chemical Company. SN 332,803. Pub. 9-1-70. Filed 7-17-69.
- 902,452. GAF-TAC. GAF Corporation. SN 334,171. Pub. 9-1-70. Filed 8-1-69.
- 902,453. RCI AND DESIGN. Reichhold Chemicals, Inc. SN 349,804. Pub. 9-1-70. Filed 1-28-70.
- 902,454. MOTHINE. Colgate-Palmolive Company. SN 352,014. Pub. 9-1-70. Filed 2-24-70.
- 902,455. GULFSpray. Gulf Oil Corporation. SN 352,134. Pub. 9-1-70. Filed 2-24-70.

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- 902,456. URIFIRST. First Mississippi Corporation. SN 354,831. Pub. 9-1-70. Filed 3-23-70.
- 902,457. CRONASCAN. E. I. du Pont de Nemours and Company. SN 357,905. Pub. 9-1-70. Filed 4-27-70.
- 902,458. NO. 5. Universal Oil Products Company. SN 358,394. Pub. 9-1-70. Filed 4-30-70.
- 902,459. DROP'S DESIGN. Minnesota Mining and Manufacturing Company. SN 359,302. Pub. 9-1-70. Filed 5-11-70.
- 902,460. LIEN AND DESIGN. Lien Chemical Company. SN 359,374. Pub. 9-1-70. Filed 5-11-70.
- 902,461. A Q U A B O N. International Dioxide, Inc. SN 359,788. Pub. 9-1-70. Filed 5-15-70.
- 902,462. VERSATRYME. General Mills, Inc. SN 359,956. Pub. 9-1-70. Filed 5-18-70.
- 902,463. UOP. Universal Oil Products Company. SN 360,527. Pub. 9-1-70. Filed 5-22-70.
- 902,464. LANCURE. Purex Corporation, Ltd., d.b.a. Lanson Chemical Corporation. SN 360,938. Pub. 9-1-70. Filed 5-27-70.

Class 7—Cordage

- 902,465. FIBRA-SATIN. Berwick Industries Incorporated, by change of name from Berwick Textile Products Co., Inc. SN 337,256. Pub. 9-1-70. Filed 9-8-69.

Class 10—Fertilizers

- 902,466. DESIGN OF RAM'S HEAD. Wyo-Ben Products, Inc. SN 312,626. Pub. 9-1-70. Filed 11-19-68.

Class 12—Construction Materials

- 902,467. EPI-TOP. Celanese Coatings Company. SN 324,797. Pub. 9-1-70. Filed 4-17-69.
- 902,468. CEDARFRESH. Westvaco Corporation. SN 336,358. Pub. 9-1-70. Filed 8-26-69.
- 902,469. DEROL SEAL. Conklin Company, Inc. SN 339,500. Pub. 9-1-70. Filed 10-2-69.
- 902,470. VYNASOL SATINWOOD. Alside, Inc. SN 343,067. Pub. 9-1-70. Filed 11-10-69.
- 902,471. BLUE HAVEN. Blue Haven Pools. MULTIPLE CLASS (Classes 12 and 31). SN 348,605. Pub. 9-1-70. Filed 1-15-70.
- 902,472. WEARON. Magnolia Industries, Inc. SN 348,738. Pub. 9-1-70. Filed 1-16-70.
- 902,473. ZIRCLASE. Basie Incorporated. SN 351,302. Pub. 9-1-70. Filed 2-13-70.
- 902,474. FLEXBESTOS. Johns-Manville Corporation. SN 353,504. Pub. 9-1-70. Filed 3-9-70.
- 902,475. PIROUETTE. Johns-Manville Corporation. SN 353,505. Pub. 9-1-70. Filed 3-9-70.
- 902,476. RIDGEFIELD. Johns-Manville Corporation. SN 353,507. Pub. 9-1-70. Filed 3-9-70.
- 902,477. CERA FORM. Johns-Manville Corporation. SN 353,510. Pub. 9-1-70. Filed 3-9-70.
- 902,478. ASPENITE. MacMillan Bloedel Limited. SN 353,522. Pub. 9-1-70. Filed 3-9-70.
- 902,479. DURA-STEEL. Mastec Corporation. SN 353,525. Pub. 9-1-70. Filed 3-9-70.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 902,424. (See Class 2 for this trademark.)
- 902,425. (See Class 2 for this trademark.)

- 902,480. MUELLERPAK. Mueller Co. SN 324,262. Pub. 9-1-70. Filed 4-11-69.
- 902,481. RIVET-SEAL. Alside, Inc. SN 327,790. Pub. 9-1-70. Filed 5-20-69.
- 902,482. VALLEY. United States Brass Corporation. SN 329,294. Pub. 9-1-70. Filed 6-5-69.
- 902,483. SNOW-TRIK. Sno-Trik Company. SN 333,448. Pub. 9-1-70. Filed 7-24-69.
- 902,484. WELDBEND AND DESIGN. Weldbend Corporation. SN 336,200. Pub. 9-1-70. Filed 8-25-69.
- 902,485. PRECIOUS STONES. Stephen A. Young Corporation. SN 336,626. Pub. 9-1-70. Filed 8-28-69.
- 902,486. ULTRA BATH. American Standard Inc. SN 336,995. Pub. 9-1-70. Filed 9-4-69.
- 902,487. PERMAHOLD. McCoy-Gold Merchandising, Inc. SN 337,567. Pub. 9-1-70. Filed 9-10-69.
- 902,488. SELFIX. Selfix, Inc. SN 339,458. Pub. 9-1-70. Filed 10-1-69.
- 902,489. GROTE. The Grote Manufacturing Company. SN 353,482. Pub. 9-1-70. Filed 3-9-70.
- 902,490. M A G N O L I A W O O D. Beneke Corporation. SN 353,721. Pub. 9-1-70. Filed 3-11-70.
- 902,491. KORODENSE. Universal Oil Products Company. SN 362,793. Pub. 9-1-70. Filed 6-16-70.

Class 14—Metals and Metal Castings and Forgings

- 902,492. REVERE 1801 AND DESIGN. Revere Copper and Brass Incorporated. SN 336,173. Pub. 9-1-70. Filed 8-25-69.
- 902,493. INDIAN DESIGN. The Mapes Plano String Co. SN 340,668. Pub. 9-1-70. Filed 10-14-69.

Class 15—Oils and Greases

- 902,494. SOOT-GARD. The Standard Oil Company. SN 328,454. Pub. 9-1-70. Filed 5-27-69.
- 902,495. AZTEC. Aztec Oil & Gas Company. SN 338,988. Pub. 9-1-70. Filed 9-26-69.
- 902,496. AVITAT. Standard Oil Company. SN 359,981. Pub. 9-1-70. Filed 5-18-70.
- 902,497. MPG. Sure Oil and Chemical Corporation. SN 360,595. Pub. 9-1-70. Filed 5-22-70.
- 902,498. SSK AND DESIGN. S. S. Kresge Company. SN 360,766. Pub. 9-1-70. Filed 5-25-70.

Class 16—Protective and Decorative Coatings

- 902,499. CENTURION. Zummach Paint Corp. SN 314,007. Pub. 9-1-70. Filed 12-9-68.
- 902,500. F I X. Forest Interiors Corporation. SN 341,515. Pub. 9-1-70. Filed 10-23-69.
- 902,501. TEERAGLOS. The Flintkote Company, assignee of Johns-Manville Corporation. SN 343,310. Pub. 9-1-70. Filed 11-12-69.
- 902,502. FIRE PLUG. Iowa Paint Manufacturing Company, Incorporated. SN 343,562. Pub. 9-1-70. Filed 11-14-69.
- 902,503. CHEM-POWER. Evr-Gard Coatings Corporation. SN 346,376. Pub. 9-1-70. Filed 12-16-69.

Class 17—Tobacco Products

- 902,504. CORDOBA. Loew's Theatres, Inc. SN 350,153. Pub. 9-1-70. Filed 1-29-70.

- 902,505. CIMARRON. R. J. Reynolds Tobacco Company. SN 358,669. Pub. 9-1-70. Filed 5-4-70.
- 902,506. MAX-O-S. Consolidated Cigar Corporation. SN 359,469. Pub. 9-1-70. Filed 5-12-70.

Class 18—Medicines and Pharmaceutical Preparations

- 902,507. REMIRON. The J. B. Williams Company, Inc. SN 286,394. Pub. 9-1-70. Filed 12-6-67.
- 902,508. IMPOSTABLE. A. Nattermann & Cie. G.m.b.H. SN 321,530. Pub. 9-1-70. Filed 3-12-69.
- 902,509. DEPO-PROVERA CONJECTABLE. The Upjohn Company. SN 332,384. Pub. 9-1-70. Filed 7-11-69.
- 902,510. GRADERM. Robert I. Schattner, d.b.a. The R. Schattner Company. SN 358,672. Pub. 9-1-70. Filed 5-4-70.

Class 19—Vehicles

- 902,511. MOONEY AND DESIGN. Mooney Aircraft Corporation. SN 336,649. Pub. 9-1-70. Filed 8-29-69.
- 902,512. HUNTER'S DREAM. W. Howard Wright, d.b.a. Hunter's Dream Mfg. Co. SN 346,419. Pub. 9-1-70. Filed 12-16-69.
- 902,513. CANNON BALL AND DESIGN. Starline, Inc. SN 360,941. Pub. 9-1-70. Filed 5-27-70.
- 902,514. CITATION. Cessna Aircraft Company. SN 360,958. Pub. 9-1-70. Filed 5-27-70.
- 902,515. MAGIC TILT. Magic Tilt Trailer Manufacturing Company, Inc. SN 360,987. Pub. 9-1-70. Filed 5-27-70.

Class 20—Linoleum and Oiled Cloth

- 902,516. PARCLAY SQUARE. Congoleum Industries, Inc. SN 328,958. Pub. 9-1-70. Filed 6-3-69.
- 902,517. FLEXI-WALL. Liberty Products, Inc. SN 340,567. Pub. 9-1-70. Filed 10-13-69.

Class 21—Electrical Apparatus, Machines, and Supplies

- 902,423. (See Class 2 for this trademark.)
- 902,424. (See Class 2 for this trademark.)
- 902,518. MINO. Mixo, S.A. SN 318,665. Pub. 9-1-70. Filed 2-7-69.
- 902,519. QUENCHOTRON. Impulsphysik G.m.b.H. SN 325,962. Pub. 9-1-70. Filed 4-23-69.
- 902,520. HI-LINE-LITER. A. B. Chance Company. SN 326,195. Pub. 9-1-70. Filed 5-2-69.
- 902,521. RIKER. Riker-Maxson Corporation, assignee of Riker Video Industries, Inc. SN 326,792. Pub. 9-1-70. Filed 5-8-69.
- 902,522. RIKER VIDEO. Riker-Maxson Corporation, assignee of Riker Video Industries, Inc. SN 326,793. Pub. 9-1-70. Filed 5-8-69.
- 902,523. RIKER VIDEO. Riker-Maxson Corporation, assignee of Riker Video Industries, Inc. SN 326,794. Pub. 9-1-70. Filed 5-8-69.
- 902,524. RIKER. Riker-Maxson Corporation, assignee of Riker Video Industries, Inc. SN 328,589. Pub. 9-1-70. Filed 5-28-69.

- 902,525. TELEGUARD. Thomas S. Kulka, d.b.a. Protex Products Company. SN 330,058. Pub. 9-1-70. Filed 6-16-69.
- 902,526. HUGGER. Robroy Industries. SN 333,182. Pub. 9-1-70. Filed 7-22-69.
- 902,527. CTE AND DESIGN. Continental Telephone Corporation. SN 336,423. Pub. 9-1-70. Filed 8-27-69.
- 902,528. PROCTOR-SILEX. Proctor-Silex Incorporated. MULTIPLE CLASS (Classes 21, 23, and 31). SN 338,005. Pub. 9-1-70. Filed 9-16-69.
- 902,529. DIAX. Mitsubishi Electric Corporation. SN 339,964. Pub. 9-1-70. Filed 10-7-69.
- 902,530. PROXIMATIC. American Standard Inc. SN 340,492. Pub. 9-1-70. Filed 10-13-69.
- 902,531. RFM DESIGN. RFM Industries Corporation. MULTIPLE CLASS (Classes 21 and 26). SN 340,867. Pub. 9-1-70. Filed 10-16-69.
- 902,532. ECONOFIRE. Electro Materials Corp. of America. SN 346,346. Pub. 9-1-70. Filed 12-16-69.
- 902,533. A DESIGN. Alarmtronics Engineering, Inc. SN 347,052. Pub. 9-1-70. Filed 12-24-69.
- 902,534. ARMORWEAVE. Allen Electric and Equipment Company. SN 353,149. Pub. 9-1-70. Filed 3-5-70.
- 902,535. BLUE JACKET. Sprague Electric Company. SN 353,790. Pub. 9-1-70. Filed 3-11-70.
- 902,536. S AND DESIGN. Sony Corporation of America. SN 354,527. Pub. 9-1-70. Filed 3-18-70.

Class 22—Games, Toys, and Sporting Goods

- 902,537. HOBBY-IN-A-BOX. Graphics Publishing Company, assignee of Esquire, Inc. SN 297,279. Pub. 9-1-70. Filed 5-3-68.
- 902,538. FLIPREEL. Feurer Bros., Inc. SN 317,024. Pub. 9-1-70. Filed 1-21-69.
- 902,539. TUNING FORKS DESIGN. Nippon Gakki Selzo Kabushiki Kaisha. MULTIPLE CLASS (Classes 22 and 32). SN 318,355. Pub. 9-1-70. Filed 2-5-69.
- 902,540. GOLD EAGLE. U.S. Net & Twine Company, Inc. SN 319,418. Pub. 7-1-69. Filed 2-18-69.
- 902,541. ARRCO. Regensteiner Publishing Enterprises, Inc. SN 321,327. Pub. 12-30-69. Filed 3-3-69.
- 902,542. STRIP-TAC-TOE. Diplomat Sales Company, Incorporated. SN 324,053. Pub. 9-1-70. Filed 4-9-69.
- 902,543. HAPPY. Felice Berlin. SN 327,580. Pub. 9-1-70. Filed 5-19-69.
- 902,544. TARGETLAND. Louis Marx & Co., Inc. SN 331,408. Pub. 9-1-70. Filed 6-30-69.
- 902,545. "ANCHOR RIVER SPECIAL." Shakespeare Company. SN 333,305. Pub. 9-1-70. Filed 7-23-69.
- 902,546. KOOKY COOKS AND DESIGN. Empire Plastic Corp. SN 333,546. Pub. 9-1-70. Filed 7-25-69.
- 902,547. NERF. Parker Brothers, Inc. SN 347,458. Pub. 9-1-70. Filed 12-31-69.
- 902,548. PUZZLEPAPER. Donald K. MacDonald, d.b.a. MacDonald Controls. SN 351,590. Pub. 9-1-70. Filed 2-17-70.
- 902,549. DAVIS CLASSIC AND DESIGN. Victor Sports, Inc. SN 352,583. Pub. 9-1-70. Filed 2-27-70.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 902,417. (See Class 1 for this trademark.)
- 902,419. (See Class 1 for this trademark.)
- 902,423. (See Class 2 for this trademark.)
- 902,424. (See Class 2 for this trademark.)
- 902,528. (See Class 21 for this trademark.)

- 902,550. OVER/UNDER HYDRAUL SHIFT. White Farm Equipment Company, by merger and change of name from Oliver Corporation. SN 306,504. Pub. 9-1-70. Filed 9-3-68.
- 902,551. SPIREC. Sphinxworks Muller & Co. Ltd. SN 313,351. Pub. 9-1-70. Filed 11-29-68.
- 902,552. TORQUE-O-MAGIC. Fastener Control Corporation. MULTIPLE CLASS (Classes 23 and 26). SN 318,411. Pub. 9-1-70. Filed 2-5-69.
- 902,553. CINTIVERSAL. Cincinnati Millacron Inc., by change of name from The Cincinnati Milling Machine Co. SN 320,706. Pub. 9-1-70. Filed 3-4-69.
- 902,554. LE AND DESIGN. Lift Engineering, Inc. SN 323,713. Pub. 9-1-70. Filed 4-4-69.
- 902,555. SKATEVEYOR. J. Collis & Sons Limited. SN 329,338. Pub. 9-1-70. Filed 6-6-69.
- 902,556. POWER FULL. W.D. Electric Installation, Inc. SN 338,384. Pub. 9-1-70. Filed 9-19-69.
- 902,557. LEKTRO BLADE. Sperry Rand Corporation. SN 339,948. Pub. 9-1-70. Filed 10-6-69.
- 902,558. MISCELLANEOUS DESIGN. Sports Jet Industries, Inc. SN 345,688. Pub. 9-1-70. Filed 12-8-69.
- 902,559. U AND DESIGN. UTD Corporation. SN 350,785. Pub. 9-1-70. Filed 2-6-70.
- 902,560. PERFECT DOT. Cole Industries Incorporated. SN 351,682. Pub. 9-1-70. Filed 2-18-70.
- 902,561. THE LITTLE DOKTOR. Joe H. Blackburn, d.b.a. J & B Distributing Company. SN 352,075. Pub. 9-1-70. Filed 2-24-70.
- 902,562. LUSTRE-GOLD. North American Rockwell Corporation. SN 352,848. Pub. 9-1-70. Filed 3-2-70.
- 902,563. TREDLOC. Deering Milliken Research Corporation. SN 361,064. Pub. 9-1-70. Filed 5-28-70.
- 902,564. DESIGN OF MAN WITH CLOCK. Timesavers, Inc., d.b.a. Timesavers Sanders, Inc. SN 361,661. Pub. 9-1-70. Filed 6-4-70.
- 902,565. TIMESAVERS. Timesavers, Inc., d.b.a. Timesavers Sanders, Inc. SN 361,663. Pub. 9-1-70. Filed 6-4-70.
- 902,566. AQUANOX. Water Pollution Controls, Inc. SN 361,800. Pub. 9-1-70. Filed 6-5-70.
- 902,575. RCA. RCA Corporation, by change of name from Radio Corporation of America. SN 325,140. Pub. 9-1-70. Filed 4-22-69.
- 902,576. RCA (LOGO). RCA Corporation, by change of name from Radio Corporation of America. SN 325,141. Pub. 9-1-70. Filed 4-22-69.
- 902,577. DYCOME. Sperry Rand Corporation. SN 325,627. Pub. 9-1-70. Filed 4-25-69.
- 902,578. FIRE-HYDRA. Lewis Engineering Company. SN 329,624. Pub. 9-1-70. Filed 6-10-69.
- 902,579. T DESIGN. Master Chemical Corporation. SN 331,216. Pub. 9-1-70. Filed 6-27-69.
- 902,580. T AND DESIGN. Master Chemical Corporation. SN 331,217. Pub. 9-1-70. Filed 6-27-69.
- 902,581. T MASTER CHEMICAL AND DESIGN. Master Chemical Corporation. SN 331,218. Pub. 9-1-70. Filed 6-27-69.
- 902,582. TRIANGULAR DESIGN. Lambda Electronics Corporation. SN 335,142. Pub. 9-1-70. Filed 8-12-69.
- 902,583. RED I-FIX. Aerojet-General Corporation. SN 336,728. Pub. 9-1-70. Filed 9-2-69.
- 902,584. SENSIMETER. Hy-Cal Engineering. SN 337,310. Pub. 9-1-70. Filed 9-8-69.
- 902,585. (See Class 42 for this trademark.)
- 902,586. SEW LOVELY AND DESIGN. Sew Easy Lingerie, Inc. SN 341,210. Pub. 9-1-70. Filed 10-20-69.
- 902,587. DONALDSON. Donaldson Company, Inc. SN 341,311. Pub. 9-1-70. Filed 10-22-69.
- 902,588. PULSAFEEDER. Interpace Corporation. SN 342,471. Pub. 9-1-70. Filed 11-3-69.
- 902,589. PTS. Block Engineering, Inc. SN 345,592. Pub. 9-1-70. Filed 12-8-69.
- 902,590. PETROLITE. Petrolite Corporation. SN 347,119. Pub. 9-1-70. Filed 12-24-69.
- 902,591. TRIMEDIA AND DESIGN. Harry McCune Sound Service, Inc. SN 347,299. Pub. 9-1-70. Filed 12-29-69.
- 902,592. DIAL-O-MATIC. Fedtro, Inc. SN 350,357. Pub. 9-1-70. Filed 2-3-70.
- 902,593. FUJILITH. Fuji Photo Film Co., Ltd. SN 351,651. Pub. 9-1-70. Filed 2-18-70.
- 902,594. TORR VACUUM PRODUCTS. Torr Laboratories, Inc. SN 352,582. Pub. 9-1-70. Filed 2-27-70.
- 902,595. TRUTRAC. Barber-Colman Company. SN 353,409. Pub. 9-1-70. Filed 3-9-70.
- 902,596. DETECTO-PAK. Heath Consultants, Inc. SN 354,003. Pub. 9-1-70. Filed 3-13-70.
- 902,597. FLATE-A-CATOR. Kallnco, Inc. SN 354,853. Pub. 9-1-70. Filed 3-23-70.
- 902,598. HERMES. Pallhard Incorporated. SN 358,665. Pub. 9-1-70. Filed 5-4-70.

Class 25—Locks and Safes

- 902,567. LEK-TROLOK. The Alarm Lock Company, Inc. SN 333,647. Pub. 9-1-70. Filed 7-28-69.

Class 26—Measuring and Scientific Appliances

- 902,423. (See Class 2 for this trademark.)
- 902,427. (See Class 3 for this trademark.)
- 902,531. (See Class 21 for this trademark.)
- 902,552. (See Class 23 for this trademark.)
- 902,568. PRAXIS AND DESIGN. Praxis S.p.A. SN 311,057. Pub. 9-1-70. Filed 10-31-68.
- 902,569. LEVELDATA. The Bin-Dicator Company, assignee, by mesne assignment, of Fluid Data Inc. SN 316,424. Pub. 9-1-70. Filed 1-13-69.
- 902,570. HELMSMAN. Helm Instrument Company. SN 318,780. Pub. 9-1-70. Filed 2-10-69.
- 902,571. BABY-TEMP. Permanent Sign and Display Company, Inc., d.b.a. Rodan Creations. SN 320,853. Pub. 9-1-70. Filed 3-5-69.
- 902,572. BRUN AND CLOCK DESIGN. Brun Sensor Systems, Inc. SN 321,900. Pub. 9-1-70. Filed 3-17-69.
- 902,573. GFC AND DESIGN. General Fabrication Corporation. SN 323,193. Pub. 9-1-70. Filed 4-1-69.
- 902,574. DEKTAK. Sloan Instruments Corporation. SN 325,085. Pub. 9-1-70. Filed 4-21-69.

Class 27—Horological Instruments

- 902,599. TIME READER. The Pan-American Barter Co., Inc. SN 349,379. Pub. 9-1-70. Filed 1-22-70.

Class 28—Jewelry and Precious-Metal Ware

- 902,427. (See Class 3 for this trademark.)
- 902,600. RINGS OF ROYALTY AND DESIGN. O. M. Resen. SN 347,965. Pub. 9-1-70. Filed 1-7-70.

Class 29—Brooms, Brushes, and Dusters

- 902,601. QUIKPIK. Randall Fajehney Corporation. SN 348,990. Pub. 9-1-70. Filed 1-19-70.
- 902,602. PARADE. Federated Foods, Inc., d.b.a. Leadway Foods. SN 358,290. Pub. 9-1-70. Filed 4-29-70.

Class 30—Crockery, Earthenware, and Porcelain

902,421. (See Class 2 for this trademark.)

Class 31—Filters and Refrigerators

902,471. (See Class 12 for this trademark.)

902,528. (See Class 21 for this trademark.)

902,603. FILTERCOLD FC AND DESIGN. Filtercold Corporation. SN 334,226. Pub. 9-1-70. Filed 8-1-69.

902,604. SICCOPIER. Kiechler-Humboldt-Dentz Aktiengesellschaft. SN 349,187. Pub. 9-1-70. Filed 1-21-70.

Class 32—Furniture and Upholstery

902,424. (See Class 2 for this trademark.)

902,539. (See Class 22 for this trademark.)

902,605. POLY-LITE. Heritage Quilts, Inc. MULTIPLE CLASS (Classes 32 and 42). SN 289,678. Pub. 9-23-69. Filed 1-26-68.

Class 33—Glassware

902,424. (See Class 2 for this trademark.)

Class 34—Heating, Lighting, and Ventilating Apparatus

902,606. COPPER-MATE. M. C. Canfield Sons. SN 333,364. Pub. 9-1-70. Filed 7-24-69.

902,607. TINSIL. Bow Solder Products Co. Inc. SN 334,300. Pub. 9-1-70. Filed 8-4-69.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

902,608. BONDED R. The Fitzgerald Manufacturing Company. SN 349,735. Pub. 9-1-70. Filed 1-27-70.

902,609. DURAFITE. Durametallic Corporation. SN 333,171. Pub. 9-1-70. Filed 3-5-70.

902,610. AUTOPAK. The Texaco Company. SN 334,239. Pub. 9-1-70. Filed 3-16-70.

902,611. RAJA RUNNER. The Firestone Tire & Rubber Company. SN 334,828. Pub. 9-1-70. Filed 3-23-70.

902,612. ALTO. Tire Warehouse, Inc. SN 361,078. Pub. 9-1-70. Filed 5-28-70.

Class 36—Musical Instruments and Supplies

902,613. DUO GRAVIS. The Seeburg Corporation of Delaware. SN 328,077. Pub. 9-1-70. Filed 5-22-69.

902,614. NEW BEAT. Avedis Zildjian Company. SN 355,478. Pub. 9-1-70. Filed 3-30-70.

902,615. NO-CARB. Systems & Methods Business Forms. SN 323,152. Pub. 9-1-70. Filed 3-28-69.

902,616. RELY A VEL. Wilmington Blue Print Shop. SN 343,349. Pub. 9-1-70. Filed 11-12-69.

902,617. DELA VEL. Wilmington Blue Print Service. SN 343,350. Pub. 9-1-70. Filed 11-12-69.

Class 38—Prints and Publications

902,618. CAPITAL INTERNATIONAL PERSPECTIVE. Capital International S.A. SN 320,242. Pub. 9-1-70. Filed 2-27-69.

902,619. LIFETIME CODE COMPANION. Robert A. Scallie. SN 334,381. Pub. 8-25-70. Filed 8-4-69.

902,620. BA DESIGN. Bank of America National Trust & Savings Association. SN 335,532. Pub. 9-1-70. Filed 8-18-69.

902,621. THE WHAT'S NEW MAGAZINE. Popular Science Publishing Company, Inc. SN 340,334. Pub. 9-1-70. Filed 10-10-69.

902,622. GLOBE DESIGN. Globe Universal Sciences, Inc. SN 343,910. Pub. 9-1-70. Filed 11-19-69.

902,623. JEAN'S AND DESIGN. Lois Jean Wortham. SN 357,652. Pub. 9-1-70. Filed 4-22-70.

902,624. SLIDAVerb. Zondervan Publishing House. SN 358,639. Pub. 9-1-70. Filed 5-1-70.

902,625. AD EAST. Griffin Publishing Company, Inc. SN 360,512. Pub. 9-1-70. Filed 5-22-70.

Class 39—Clothing

902,427. (See Class 3 for this trademark.)

902,428. (See Class 3 for this trademark.)

902,626. CABANA FASHIONS. Teen-Age Beachwear Corporation. SN 279,758. Pub. 9-1-70. Filed 9-6-67.

902,627. MISS TIPPY. Sox Unlimited, Inc. SN 311,943. Pub. 9-1-70. Filed 11-12-68.

902,628. CAMP VIKING AND DESIGN. Paul F. De Lary. SN 313,164. Pub. 9-1-70. Filed 11-27-68.

902,629. MAGEE. Magee & Company, Limited. MULTIPLE CLASS (Classes 39 and 42). SN 320,672. Pub. 9-1-70. Filed 3-4-69.

902,630. RENOMA. Shimon Krepleki. SN 326,105. Pub. 9-1-70. Filed 5-1-69.

902,631. TEDDY TINLING. English Calico Limited. SN 333,387. Pub. 9-1-70. Filed 7-24-69.

902,632. III! AND DESIGN. Ideal Products Inc. SN 336,935. Pub. 9-1-70. Filed 9-3-69.

902,633. FROSTEX. Select Beauty Brands, Inc. SN 337,361. Pub. 9-1-70. Filed 9-8-69.

902,634. GUN BOOT. Joseph M. Herman Shoe Co. SN 338,566. Pub. 9-1-70. Filed 9-22-69.

902,635. LUC DE BEVERE AND DESIGN. Societe Industrielle des Etablissements B.V.R. (Blais-Mousseron-L. Villenot-A. Rondeau). SN 339,361. Pub. 9-1-70. Filed 9-30-69.

902,636. DIMENSION WELD. Pilgrim Industries Inc. SN 339,744. Pub. 9-1-70. Filed 10-3-69.

902,637. ROBERTINA AND DESIGN. H. Lubovsky, Inc. SN 340,274. Pub. 9-1-70. Filed 10-9-69.

902,638. SAUL VILLA. Galerie Imports Corporation. SN 341,744. Pub. 9-1-70. Filed 10-27-69.

902,639. MARTE. Berkley Shirt Co., Inc. SN 343,036. Pub. 9-1-70. Filed 11-10-69.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

902,605. (See Class 32 for this trademark.)

902,629. (See Class 39 for this trademark.)

902,643. (See Class 39 for this trademark.)

902,585. MELLO-O-PAQUE. DHJ Industries Inc. SN 338,761. Pub. 9-1-70. Filed 9-24-69.

902,667. ESKIMO DESIGN. Henry Pollak Inc. SN 330,300. Pub. 9-1-70. Filed 6-17-69.

902,668. DRISITE. Johnson & Johnson. SN 337,174. Pub. 9-1-70. Filed 9-5-69.

902,669. SAN-CHU. Klopman Mills, Inc. SN 342,288. Pub. 9-1-70. Filed 10-31-69.

902,670. FLEXEEN. Deering Milliken, Inc. SN 359,951. Pub. 9-1-70. Filed 5-18-70.

902,671. JAQANA. Deering Milliken, Inc. SN 359,952. Pub. 9-1-70. Filed 5-18-70.

902,672. LAWN PLAY. E. T. Barwick Industries, Inc. SN 360,625. Pub. 9-1-70. Filed 5-25-70.

902,673. PL-7. Herculite Protective Fabrics Corporation. SN 360,835. Pub. 9-1-70. Filed 5-26-70.

902,674. WIND LAKE. Deering Milliken, Inc. SN 361,065. Pub. 9-1-70. Filed 5-28-70.

902,675. WEST HAVEN. Deering Milliken, Inc. SN 361,066. Pub. 9-1-70. Filed 5-28-70.

902,676. ATHENA. Deering Milliken, Inc. SN 361,067. Pub. 9-1-70. Filed 5-28-70.

902,677. MARAUDER. E. T. Barwick Industries, Inc. SN 361,645. Pub. 9-1-70. Filed 6-4-70.

902,678. SUMMER MORN. E. T. Barwick Industries, Inc. SN 361,646. Pub. 9-1-70. Filed 6-4-70.

902,679. COMMANDER 43. E. T. Barwick Industries, Inc. SN 361,647. Pub. 9-1-70. Filed 6-4-70.

902,680. MILESTONE. E. T. Barwick Industries, Inc. SN 361,648. Pub. 9-1-70. Filed 6-4-70.

902,681. STUDIO ONE. E. T. Barwick Industries, Inc. SN 361,649. Pub. 9-1-70. Filed 6-4-70.

902,682. FOREVERMORE. Deering Milliken, Inc. SN 362,442. Pub. 9-1-70. Filed 6-12-70.

902,683. FOREFRONT. Deering Milliken, Inc. SN 362,443. Pub. 9-1-70. Filed 6-12-70.

902,684. FORESIGHT. Deering Milliken, Inc. SN 362,444. Pub. 9-1-70. Filed 6-12-70.

Class 43—Thread and Yarn

902,643. (See Class 39 for this trademark.)

902,685. SWEATERSET. Glen Raven Mills, Inc. SN 331,472. Pub. 9-1-70. Filed 6-30-69.

Class 45—Soft Drinks and Carbonated Waters

902,686. RJR AND DESIGN. R. J. Reynolds Tobacco Company. MULTIPLE CLASS (Classes 45 and 46). SN 322,023. Pub. 9-1-70. Filed 3-18-69.

902,687. MISCELLANEOUS DESIGN. Pet Incorporated. SN 332,293. Pub. 9-1-70. Filed 7-11-69.

902,688. THE GREAT IMPOSTERS. Meister Brau, Inc. MULTIPLE CLASS (Classes 45 and 46). SN 343,897. Pub. 9-1-70. Filed 11-19-69.

902,689. CONTO. The Coca-Cola Company. SN 346,792. Pub. 9-1-70. Filed 12-22-69.

902,690. GOLDEN AGE GA AND DESIGN. Holiday General Corporation, d.b.a. Golden Age Beverage Co. SN 349,135. Pub. 9-1-70. Filed 1-21-70.

902,640. WRANGLER. Blue Bell, Inc. SN 343,463. Pub. 9-1-70. Filed 11-14-69.

902,641. HELP-MATE. Maldenform, Inc. SN 345,549. Pub. 9-1-70. Filed 12-8-69.

902,642. PLUPERFECT. Maidenform, Inc. SN 345,551. Pub. 9-1-70. Filed 12-8-69.

902,643. POLYSET. "Isranyl" Company Limited. MULTIPLE CLASS (Classes 39, 42, and 43). SN 345,888. Pub. 9-1-70. Filed 12-11-69.

902,644. BATA. Bata Shoe Company, Inc. SN 345,913. Pub. 9-1-70. Filed 12-11-69.

902,645. R AND WOMAN DESIGN. Blanca Louise McCroy, d.b.a. Mae-A-Bea Creations. SN 346,269. Pub. 9-1-70. Filed 12-15-69.

902,646. JUS-MY-SIZE. Chadbourn Inc. SN 346,719. Pub. 9-1-70. Filed 12-19-69.

902,647. SNOWBELLES. Welco Enterprises, Inc. SN 347,130. Pub. 9-1-70. Filed 12-24-69.

902,648. PETER BLAIR. William B. Kessler, Inc. SN 347,411. Pub. 9-1-70. Filed 12-30-69.

902,649. BODY BITS. The Ball Company, Inc. SN 347,580. Pub. 9-1-70. Filed 1-2-70.

902,650. GLIDAFRON. Glidafrox, Inc. SN 347,736. SN 347,736. Pub. 9-1-70. Filed 1-5-70.

902,651. CAL MATES. Cal-Made Manufacturing Co. SN 348,013. Pub. 9-1-70. Filed 1-8-70.

902,652. LOVE-IN-BLOOM (DESIGN). Jack Krelss Hosiery, Inc. SN 350,277. Pub. 9-1-70. Filed 2-2-70.

902,653. DEBUTOGS. Debutogs, Inc. SN 351,604. Pub. 9-1-70. Filed 2-17-70.

902,654. UNI KINI. Calne's Mutiny, Inc. SN 350,051. Pub. 9-1-70. Filed 1-30-70.

901,655. KEDS. Uniroyal, Inc. SN 355,468. Pub. 9-1-70. Filed 3-30-70.

902,656. CUDDLE SOFT. Food Fair Stores, Inc. SN 359,955. Pub. 9-1-70. Filed 5-18-70.

902,657. NO-SHOW. Maidenform, Inc. SN 360,202. Pub. 9-1-70. Filed 5-19-70.

902,658. TRIC-O-WIRE. Maldenform, Inc. SN 360,203. Pub. 9-1-70. Filed 5-19-70.

902,659. TRIC-O-CHIC. Maldenform, Inc. SN 360,204. Pub. 9-1-70. Filed 5-19-70.

902,660. MINI-WIRE. Maldenform, Inc. SN 360,205. Pub. 9-1-70. Filed 5-19-70.

902,661. SEEN-LESS. Maldenform, Inc. SN 360,206. Pub. 9-1-70. Filed 5-19-70.

902,662. TRIC-O-SLEEKO. Maldenform, Inc. SN 360,207. Pub. 9-1-70. Filed 5-19-70.

902,663. LUSTRE-WIRE. Maldenform, Inc. SN 360,208. Pub. 9-1-70. Filed 5-19-70.

902,664. THE WOODEN INDIAN. Lawrence A. Silver. SN 360,657. Pub. 9-1-70. Filed 5-25-70.

Class 40—Fancy Goods, Furnishings, and Notions

902,665. GLAMOUR LASH. Mickle Steiger, Inc. SN 300,540. Pub. 5-27-69. Filed 6-17-68.

902,666. MOONSTAR. Maybelline Co. SN 359,968. Pub. 9-1-70. Filed 5-18-70.

Class 41—Canes, Parasols, and Umbrellas

902,426. (See Class 3 for this trademark.)

- 902,691. SWAT. The Coca-Cola Company. SN 349,266. Pub. 9-1-70. Filed 1-22-70.
 902,692. PLASTASTIC. PepsiCo, Inc. SN 351,663. Pub. 9-1-70. Filed 2-18-70.

Class 46 — Foods and Ingredients of Foods

- 902,686. (See Class 45 for this trademark.)
 902,688. (See Class 45 for this trademark.)
 902,693. MELLO-ZERT. Borden, Inc. SN 306,330. Pub. 9-1-70. Filed 8-30-68.
 902,694. NITADEER AND DESIGN. Donaghys Industries Limited. SN 311,578. Pub. 9-1-70. Filed 11-7-68.
 902,695. SR. PELLEGRINO. Prince Macaroni Manufacturing Company, d.b.a. Sr. Pellegrino Macaroni Co. SN 314,253. Pub. 9-1-70. Filed 12-11-68.
 902,696. STOP. Wilman Bros. & Elliott, Inc. SN 324,552. Pub. 9-1-70. Filed 4-14-69.
 902,697. CABANA. Standard Fruit and Steamship Company. SN 324,762. Pub. 9-1-70. Filed 4-16-69.
 902,698. SILO-KING. Agri-King Incorporated. SN 325,320. Pub. 9-1-70. Filed 4-23-69.
 902,699. BOUND BROOK. Joseph E. Shafran, d.b.a. Joseph Shafran. SN 326,555. Pub. 9-1-70. Filed 5-6-69.
 902,700. CASA DE FRUTA AND FRUIT TREE DESIGN. Casa de Fruta. SN 327,360. Pub. 9-1-70. Filed 5-15-69.
 902,701. GLICO AND STAR DESIGN. Ezaki Glico Company, Limited. SN 327,718. Pub. 9-1-70. Filed 4-3-69.
 902,702. RED MILL AND MILL DESIGN. Interstate Bakeries Corporation. SN 328,551. Pub. 9-1-70. Filed 5-28-69.
 902,703. APOLLO. Apollo Freeze-Dried Products, Inc. SN 329,426. Pub. 9-1-70. Filed 6-9-69.
 902,704. FISH DESIGN. Consolidated Foods Corporation, d.b.a. Booth Fisheries. SN 329,439. Pub. 9-1-70. Filed 6-9-69.
 902,705. SOYONARA. Heublein, Inc. SN 330,133. Pub. 9-1-70. Filed 6-16-69.
 902,706. DALMATIA. M. H. Greenebaum, Inc. SN 330,597. Pub. 9-1-70. Filed 6-20-69.
 902,707. THE ROYAL GREENLAND TRADE DEPARTMENT AND DESIGN. Den Kongelige Gronlandske Handel. SN 331,170. Pub. 9-1-70. Filed 6-27-69.
 902,708. TRI-PRO. General Mills, Inc. SN 335,514. Pub. 9-1-70. Filed 8-18-69.
 902,709. THRIFTY. Lauhoff Grain Company. SN 336,578. Pub. 9-1-70. Filed 8-28-69.
 902,710. JAMIN. C. Jamin N.V. SN 336,807. Pub. 9-1-70. Filed 9-2-69.
 902,711. MUS TANGS AND DESIGN. Helme Products, Inc. SN 337,745. Pub. 9-1-70. Filed 9-10-69.
 902,712. LIVELONG-VP. Nisslin Flour Milling Co., Ltd. SN 334,108. Pub. 9-1-70. Filed 7-31-69.
 902,713. PREM-MEL. Ezaki Glico Company, Limited. SN 338,237. Pub. 9-1-70. Filed 9-18-69.
 902,714. GURIA. Rabani Trading Company Pty. Limited. SN 340,401. Pub. 9-1-70. Filed 10-8-69.
 902,715. BEE-LIFE. Suerest Corporation. SN 344,197. Pub. 9-1-70. Filed 11-21-69.
 902,716. YEOMAN AND DESIGN. CMI Research & Development Company. SN 345,943. Pub. 9-1-70. Filed 12-2-69.
 902,717. SUN-SOFT. Borden, Inc. SN 345,713. Pub. 9-1-70. Filed 12-9-69.
 902,718. CHIQUITA. United Fruit Company. SN 346,131. Pub. 9-1-70. Filed 12-12-69.
 902,719. PERTEN. The Procter & Gamble Company. SN 347,867. Pub. 9-1-70. Filed 1-7-70.
 902,720. MOONSTAR. The Procter & Gamble Company. SN 347,868. Pub. 9-1-70. Filed 1-7-70.
 902,721. NUTEX. The Procter & Gamble Company. SN 347,869. Pub. 9-1-70. Filed 1-7-70.
 902,722. SUPERCOA. Van Den Berghs and Jurgens Limited. SN 348,233. Pub. 9-1-70. Filed 1-12-70.

- 902,723. BEEFSTEAK. ITT Continental Baking Company. SN 348,734. Pub. 9-1-70. Filed 1-16-70.
 902,724. EMILIO'S. California Cannery and Growers. SN 349,913. Pub. 9-1-70. Filed 1-29-70.
 902,725. KITCHEN KORNER. Deer Park Baking Co. SN 350,817. Pub. 9-1-70. Filed 2-9-70.
 902,726. CHIP CHIP. Federal Sweets & Biscuit Co., Inc. SN 351,023. Pub. 9-1-70. Filed 2-10-70.
 902,727. COCOA PUFFS. General Mills, Inc. SN 351,699. Pub. 9-1-70. Filed 2-18-70.
 902,728. SAFEGUARD. Philip Morris Incorporated. SN 351,828. Pub. 9-1-70. Filed 2-19-70.
 902,729. SURE. Philip Morris Incorporated. SN 351,829. Pub. 9-1-70. Filed 2-19-70.
 902,730. CONFIDENT. Philip Morris Incorporated. SN 351,830. Pub. 9-1-70. Filed 2-19-70.
 902,731. LEANIES. Worthington Foods, Inc. SN 352,277. Pub. 9-1-70. Filed 2-24-70.
 902,732. NUNETE. Worthington Foods, Inc. SN 352,278. Pub. 9-1-70. Filed 2-24-70.
 902,733. CHIEF'S IDEAL AND DESIGN. Early California Industries, Inc., d.b.a. Early California Foods. SN 353,366. Pub. 9-1-70. Filed 3-9-70.
 902,734. BIG TOP. Domain Industries, Inc., by change of name from Doughboy Industries, Inc. SN 360,197. Pub. 9-1-70. Filed 5-19-70.
 902,735. HIDDEN PERSUADERS. Ralston Purina Company. SN 361,659. Pub. 9-1-70. Filed 6-4-70.
 902,736. NATURAL SQUEEZE. General Mills, Inc. SN 362,195. Pub. 9-1-70. Filed 6-10-70.
 902,737. SUN SQUEEZE. General Mills, Inc. SN 362,197. Pub. 9-1-70. Filed 6-10-70.

Class 47 — Wines

- 902,738. LES COUBERSANS. Cruse & Fils Freres. SN 335,432. Pub. 9-1-70. Filed 8-15-69.
 902,739. SPANOLA AND DESIGN. E. & J. Gallo Winery, d.b.a. Ernest & Julio Gallo. SN 355,081. Pub. 9-1-70. Filed 3-26-70.

Class 48 — Malt Beverages and Liquors

- 902,740. GUINNESS EXPORT STOUT ETC. AND DESIGN. Arthur Guinness Son & Company Limited. SN 309,676. Pub. 9-1-70. Filed 10-15-68.
 902,741. LA RUBITA. Miller Brewing Company. SN 312,484. Pub. 9-1-70. Filed 11-18-68.
 902,742. SIMON PURE AND DESIGN. The William Simon Brewery. SN 314,627. Pub. 9-1-70. Filed 12-16-68.
 902,743. MANUA AND DESIGN. Cerveceria de Mexico, S.A. SN 317,710. Pub. 9-1-70. Filed 1-28-69.

Class 49 — Distilled Alcoholic Liquors

- 902,744. MAINSTAY ETC. AND LABEL DESIGN. Henry Taylor & Ries Limited. SN 314,883. Pub. 9-1-70. Filed 12-19-68.
 902,745. POTT. H. H. Pott Nfgr. Rumbandelshaus. SN 351,640. Pub. 9-1-70. Filed 2-17-70.
 902,746. POTT AND DESIGN. H. H. Pott Nfgr. Rumbandelshaus. SN 355,489. Pub. 9-1-70. Filed 3-16-70.

Class 50 — Merchandise Not Otherwise Classified

- 902,747. HEROES OF THE AMERICAN FRONTIER. The Franklin Mint, Inc. SN 308,689. Pub. 9-1-70. Filed 10-2-68.

- 902,748. SQUIRM WINDOW. The B. F. Goodrich Company. SN 329,851. Pub. 9-1-70. Filed 6-12-69.
 902,749. MERRY MOTIONS. Pictorial Productions, Inc. SN 336,469. Pub. 9-1-70. Filed 8-27-69.
 902,750. THE FRANKLIN MINT THE WORLD MINT. The Franklin Mint, Inc. SN 337,650. Pub. 9-1-70. Filed 9-11-69.
 902,751. THE WORLD MINT. The Franklin Mint, Inc. SN 337,652. Pub. 9-1-70. Filed 9-11-69.
 902,752. THE WORLD'S MINT. The Franklin Mint, Inc. SN 337,653. Pub. 9-1-70. Filed 9-11-69.
 902,753. THE WORLD'S LARGEST PRIVATE MINT. The Franklin Mint, Inc. SN 337,654. Pub. 9-1-70. Filed 9-11-69.
 902,754. THE WORLD'S FOREMOST PRIVATE MINT. The Franklin Mint, Inc. SN 337,655. Pub. 9-1-70. Filed 9-11-69.
 902,755. THE FRANKLIN MINT THE WORLD'S LARGEST PRIVATE MINT. The Franklin Mint, Inc. SN 337,656. Pub. 9-1-70. Filed 9-11-69.

Class 51 — Cosmetics and Toilet Preparations

- 902,756. DENKLEEN. Sam Michael George. SN 244,861. Pub. 10-17-67. Filed 5-3-66.
 902,757. HIGHLAND LILAC OF ROCHESTER. Lilac Time of Rochester. SN 267,436. Pub. 12-12-67. Filed 3-23-67.
 902,758. GREAT SHAPE. The Realistic Company. SN 268,764. Pub. 3-26-68. Filed 4-10-67.
 902,759. LADY HILTON. Hilton Hotels Corporation. SN 293,384. Pub. 9-1-70. Filed 3-15-68.
 902,760. ECCO. The Princess Marcella Borghese, Inc. SN 322,815. Pub. 9-1-70. Filed 3-26-69.
 902,761. MISCELLANEOUS DESIGN. Owen Laboratories, Inc., assignee of Unique Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 324,766. Pub. 9-1-70. Filed 4-16-69.
 902,762. BETA BATH. Tsumura Juntendo, Limited. SN 326,807. Pub. 9-1-70. Filed 5-8-69.
 902,763. TANKEEPER. Shepard Laboratories, Inc. SN 328,356. Pub. 9-1-70. Filed 5-26-69.
 902,764. SOIR DE PARIS ETC. AND CARTON DESIGN. Bourjois, Inc. SN 331,104. Pub. 9-1-70. Filed 5-25-70.
 902,765. LEON'S U.S.A. Joseph A. Leon, d.b.a. Leon's U.S.A. SN 333,148. Pub. 9-1-70. Filed 7-22-69.
 902,766. POLYLADY. Therachemie Chemisch Therapeutische GmbH. SN 333,457. Pub. 9-1-70. Filed 7-24-69.
 902,767. LEMON BABY. Hawaiian Perfumers, Inc., d.b.a. Liana of Walkiki. SN 336,231. Pub. 9-1-70. Filed 8-20-69.
 902,768. S M O K E R I N G S. Chesebrough-Pond's Inc. SN 349,587. Pub. 9-1-70. Filed 1-26-70.
 902,769. BRISK. Colgate-Palmolive Company. SN 350,356. Pub. 7-14-70. Filed 2-3-70.
 902,770. PRESOL. Redken Laboratories, Inc. SN 352,572. Pub. 9-1-70. Filed 2-27-70.
 902,771. BRITISH AMERICAN COSMETICS. Germaine Monteil Cosmetics Corporation. SN 357,166. Pub. 9-1-70. Filed 4-17-70.
 902,772. SWEDISH GIRL. Carter-Wallace, Inc. SN 358,144. Pub. 9-1-70. Filed 4-28-70.
 902,773. ANATOME. British-American Tobacco Company Limited. SN 358,898. Pub. 9-1-70. Filed 5-6-70.
 902,774. EARTH. La Bottega, Ltd. SN 359,791. Pub. 9-1-70. Filed 5-15-70.
 902,775. BUILD UP. Lever Brothers Company. SN 360,277. Pub. 9-1-70. Filed 5-20-70.
 902,776. EARLY BEAUTY. Lever Brothers Company. SN 360,279. Pub. 9-1-70. Filed 5-20-70.

Class 52 — Detergents and Soaps

- 902,429. (See Class 4 for this trademark.)
 902,442. (See Class 6 for this trademark.)

- 902,443. (See Class 6 for this trademark.)
 902,761. (See Class 51 for this trademark.)
 902,777. AQUALACRIMA. Maurice Selderman, d.b.a. Physiological Polymers. SN 330,423. Pub. 9-1-70. Filed 6-18-69.
 902,778. JAZZ-UP. Horizon Industries Corporation, d.b.a. Horizon Industries. SN 332,880. Pub. 9-1-70. Filed 7-18-69.
 902,779. SOOTRACIDE. Metropolitan Refining Co., Inc. SN 343,730. Pub. 9-1-70. Filed 11-17-69.
 902,780. 1 STOP AND DESIGN. One Stop, Incorporated. SN 346,107. Pub. 9-1-70. Filed 12-12-69.
 902,781. SE STERLING AND DESIGN. Sterling Electronics Corporation. SN 347,004. Pub. 9-1-70. Filed 12-23-69.
 902,782. GLAZCOTE. Allergan Pharmaceuticals. SN 350,445. Pub. 9-1-70. Filed 2-4-70.
 902,783. UOP. Universal Oil Products Company. SN 353,391. Pub. 9-1-70. Filed 3-9-70.
 902,784. PUREX. Purex Corporation, Ltd. SN 359,305. Pub. 9-1-70. Filed 5-11-70.

Service Marks

Class 100 — Miscellaneous

- 902,785. DESIGN OF BOY AND CRACKER BARREL. The Biscuit and Cracker Manufacturers' Association. SN 305,308. Pub. 9-1-70. Filed 8-16-68.
 902,786. SNOWMASS-AT-ASPEN. Snowmass American Corporation, assignee of Snowmass-At-Aspen. MULTIPLE CLASS (Classes 100, 102, and 107). SN 307,797. Pub. 9-1-70. Filed 8-12-68.
 902,787. REMBRANDT. Heritage Rembrandt Corporation, by merger and change of name from Field Financial Corporation. SN 315,672. Pub. 3-17-70. Filed 12-26-68.
 902,788. CRUISE AWAY. Cruise Away Yacht Rentals, Inc. SN 334,053. Pub. 9-1-70. Filed 7-31-69.
 902,789. "YOUR DESTINATION FOR A HAPPY VACATION." Travel Towne Parks of America, Inc. SN 348,231. Pub. 9-1-70. Filed 1-12-70.

Class 101 — Advertising and Business

- 902,790. VIBRACOLOR. Consolidated Foods Corporation, assignee of Normandle Press, Inc. SN 311,616. Pub. 9-23-69. Filed 11-7-68.
 902,791. IA (DESIGN). InterAccess Corp. SN 320,607. Pub. 9-1-70. Filed 3-3-69.
 902,792. GIMBEL BROTHERS. Gimbel Brothers, Inc. SN 325,971. Pub. 9-1-70. Filed 4-30-69.
 902,793. DATA CORPORATION AND DESIGN. The Mead Corporation, assignee of Data Corporation. SN 326,633. Pub. 9-1-70. Filed 5-7-69.
 902,794. UNI 10 AND DESIGN. Colonial Investment Corporation. SN 328,820. Pub. 9-1-70. Filed 6-2-69.
 902,795. DIAL-A-BAKLAVA. Greek Orthodox Church of Saint George, Incorporated (Ladies Auxiliary Philoptchos). SN 329,854. Pub. 9-1-70. Filed 6-12-69.
 902,796. DIAL-DIARY. Listfax Corporation. SN 338,057. Pub. 9-1-70. Filed 9-16-69.
 902,797. THE KITCHEN PARLOR KP AND HAT AND POT DESIGN. The Kitchen Parlor, Inc. SN 338,312. Pub. 9-1-70. Filed 9-19-69.
 902,798. TAX-PAK. The North Central Company, assignee of Fiscal Systems, Inc. SN 346,433. Pub. 9-1-70. Filed 12-17-69.

- 902,799. ICD AND DESIGN. Intemark Communications, Inc. SN 347,161. Pub. 9-1-70. Filed 12-29-69.
- 902,800. TAX-PAK AND DESIGN. The North Central Company, assignee of Fiscal Systems, Inc. SN 348,479. Pub. 9-1-70. Filed 1-14-70.
- 901,801. RANDIAL. Farm Journal, Inc., d.b.a. Consumer/Industrial Research Service and/or Farm Journal Research Service. SN 349,340. Pub. 9-1-70. Filed 1-22-70.
- 902,802. SPORTS-ARAMA. International Productions, Inc. SN 352,027. Pub. 9-1-70. Filed 2-24-70.
- 902,803. COPY SERVICE AND DESIGN. Copy Service, Inc., d.b.a. Copy Service of Miami Beach. SN 355,181. Pub. 9-1-70. Filed 3-27-70.
- 902,804. MR. PRINT. Graphco, Inc. SN 355,183. Pub. 9-1-70. Filed 3-27-70.
- 902,805. GARMATE. Diversified Computer Services, Inc. SN 356,333. Pub. 9-1-70. Filed 4-9-70.

Class 102 — Insurance and Financial

- 902,786. (See Class 100 for this trademark.)
- 902,806. LINCOLN HERITAGE LIFE AND DESIGN. Lincoln Heritage Life Insurance Company. SN 220,520. Pub. 9-17-68. Filed 6-7-65.
- 902,807. BP. The British Petroleum Company Limited, d.b.a. BP Oil Corporation. SN 323,246. Pub. 9-1-70. Filed 4-1-69.

Class 103 — Construction and Repair

- 902,808. TOPS. Tops Petroleum Corporation. SN 239,831. Pub. 1-28-69. Filed 2-28-66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

- 902,819. Fischer Lime & Cement Co., Inc., Memphis, Tenn. SN 332,818. Filed P.R. 7-17-69; Am. S.R. 8-10-70.

BET-R-BLOK

For Concrete Masonry Blocks (Int. Cl. 19).
First use Jan. 23, 1969.

- 902,820. Eckel Industries, Inc., Cambridge, Mass. SN 335,333. Filed P.R. 8-14-69; Am. S.R. 9-4-70.

VU-THRU

For Doors Made of Flexible Material and Having a Window Therein (Int. Cl. 19).
First use Apr. 21, 1969.

- 902,809. INNOVATOR. Bird Corporation, assignee of Bird Space Technology, Inc. SN 262,122. Pub. 9-1-70. Filed 1-9-67.
- 902,810. E EXTERMITAL CHEMICALS AND DESIGN. Extermital Chemicals, Inc. SN 320,258. Pub. 9-1-70. Filed 2-27-69.
- 902,811. SOS AND DESIGN. Brammal, Inc. SN 330,473. Pub. 9-1-70. Filed 6-19-69.
- 902,812. CUYAHOGA WRECKING CORPORATION AND EAGLE DESIGN. Diversified Industries, Inc. SN 353,363. Pub. 9-1-70. Filed 3-9-70.

Class 105 — Transportation and Storage

- 902,813. DISCOVER AMERICA AND DESIGN. Discover America Travel Organizations, Inc., assignee of Discover America, Inc. SN 240,718. Pub. 7-11-67. Filed 3-11-66.
- 902,814. TSI AND GLOBE DESIGN. Travel Systems/International, Ltd. SN 349,055. Pub. 9-1-70. Filed 1-20-70.

Class 107 — Education and Entertainment

- 902,786. (See Class 100 for this trademark.)
- 902,815. CONTRACT MANAGEMENT INSTITUTE AND DESIGN. Arthur J. Nolan, d.b.a. Contract Management Institute. SN 259,334. Pub. 9-1-70. Filed 11-23-66.
- 902,816. BARBIZON. Barbizon School of Fashion Modeling, Inc. SN 312,176. Pub. 9-1-70. Filed 11-14-68.
- 902,817. SC DESIGN. Sound/City Recording Corporation. SN 329,283. Pub. 9-1-70. Filed 6-5-69.
- 902,818. CONTINENTAL. The Walter Reade Organization, Inc. SN 337,616. Pub. 9-1-70. Filed 9-11-69.

Class 22 — Games, Toys, and Sporting Goods

- 902,821. Irene Carter Minor, d.b.a. Irene Carter, Kansas City, Mo. SN 315,159. Filed P.R. 12-24-68; Am. S.R. 7-24-70.

BLACK
PEOPLE'S
SLANG

For Bingo-Type Game Cards and Pieces Sold as a Unit for Playing a Game (Int. Cl. 28).
First use Dec. 2, 1968.

- 902,822. Sifo Company, Minneapolis, Minn. SN 322,099. Filed P.R. 3-18-69; Am. S.R. 8-27-70.

MATCH-PEGS

For Counting and Stacking Toy (Int. Cl. 28).
First use in or about March 1967.

- 902,823. A. Freed Novelty, Inc., New York, N.Y. SN 334,170. Filed P.R. 8-1-69; Am. S.R. 8-14-70.

THE CROOKED DECK

For Playing Cards (Int. Cl. 16).
First use July 21, 1969.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 902,824. Boise Cascade Corporation, Boise, Idaho. SN 302,217. Filed P.R. 7-8-68; Am. S.R. 7-27-70.

CLAMP MAT

For Pressure-Sensitive Resilient Layer Attachment for Protecting Clamped Paper Stock During Cutting by a Guillotine Blade Cutter (Int. Cl. 7).
First use Feb. 16, 1968.

- 902,825. Frank P. Alduk, d.b.a. Newcastle Company, New Castle, Pa. SN 346,825. Filed P.R. 12-22-69; Am. S.R. 7-20-70.

FLOOR LEVEL

For Palletizer Apparatus With Indexing Table Platform for Stacking a Layer at a Time of Cartons, Jars, Cans, Barrels, Sacks, Paper, Trays, Cement Blocks, and Steel Bars on Pallets (Int. Cl. 7).
First use Jan. 20, 1969.

- 902,826. Newcastle Company, Inc., New Castle, Pa. SN 348,977. Filed P.R. 1-19-70; Am. S.R. 7-30-70.

STACK - N - DISPENSE

For Pallet Stacking and Dispensing Apparatus With a Raising and Lowering Table Platform for Stacking or Dispensing Wood, Plastic, or Metal Pallets (Int. Cl. 7).
First use Mar. 17, 1969.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 902,827. The Firestone Tire & Rubber Company, Akron, Ohio. SN 326,220. Filed P.R. 5-2-69; Am. S.R. 7-27-70.

Number 1

For Resilient Vehicle Tires (Int. Cl. 12).
First use Apr. 21, 1969.

Class 43 — Thread and Yarn

- 902,828. Roberts Company, Sanford, N.C. SN 295,054. Filed P.R. 4-5-68; Am. S.R. 7-29-70.

LOFTSPUN

For Textile Yarns (Int. Cl. 23).
First use January 1968.

Class 44 — Dental, Medical, and Surgical Appliances

- 902,829. National Disposables Inc., Plainview, N.Y. SN 319,343. Filed P.R. 2-17-69; Am. S.R. 7-31-70.

STER-L-UNIT

For Sterilized, Disposable Obstetrical and Surgical Packs, Sheets, Drapes, Towels, and Covers for Operating Room Use (Int. Cl. 5).
First use May, 1967.

Class 46 — Foods and Ingredients of Foods

- 902,830. Robert Morton Cullison, Jr., d.b.a. Cully's, Havre De Grace, Md. SN 334,054. Filed P.R. 7-31-69; Am. S.R. 8-3-70.

CULLY'S

For Cole Slaw Dressing (Int. Cl. 29).
First use July 14, 1969.

Class 50 — Merchandise Not Otherwise Classified

- 902,831. Artistic Plastering, Inc., Fort Lauderdale, Fla. SN 337,478. Filed P.R. 9-10-69; Am. S.R. 8-27-70.

ARTISTIC

For Statuary Made of Concrete and Plaster (Int. Cl. 19).
First use Nov. 1, 1959.

TRADEMARK REGISTRATIONS RENEWED

35,498.	ILLAWATHA. Cl. 46 (Int. Cl. 29). 11-27-1900.	531,982.	TRIANGLE DESIGN. Cl. 23 (Int. Cl. 7). 10-17-50.
80,298.	"BEAR BRAND" AND DESIGN. Cl. 9 (Int. Cl. 34). 12-6-10.	532,003.	CORDON BLEU. Cl. 46 (Int. Cl. 29). 10-17-50.
89,673.	REPRESENTATION OF LAMB. Cl. 52 (Int. Cl. 3). 1-17-11.	532,006.	KANOA. Cl. 46 (Int. Cl. 30). 10-17-50.
271,260.	FOOT-JOY. Cl. 39 (Int. Cl. 25). 5-27-30.	532,086.	CARNATION. Cl. 18 (Int. Cl. 5). 10-17-50.
273,311.	"BEE BRAND" AND REPRESENTATION OF BEE AND DESIGN (Int. Cl. 30). 7-29-30.	532,311.	ROBERT SURREY. Cl. 39 (Int. Cl. 25). 10-24-50.
274,110.	"MUSTAD-PERFECT VIKING HOOKS" ETC. AND DESIGN (Int. Cl. 28). 8-19-30.	532,418.	PLAID DESIGN. Cl. 5 (Int. Cls. 16 and 17). 10-24-50.
274,528.	GABRIELLE. Cl. 39 (Int. Cl. 25). 9-2-30.	533,014.	"AMERICAN BEAUTY." Cl. 46 (Int. Cls. 29 and 31). 11-7-50.
274,548.	REGAL. Cl. 23 (Int. Cl. 16). 9-2-30.	533,180.	SOLUMATIC. Cl. 18 (Int. Cl. 5). 11-7-50.
274,723.	"TRACEAWAY" AND DESIGN. Cl. 23 (Int. Cl. 7). 9-2-30.	533,209.	WEEDEN. Cl. 6 (Int. Cl. 5). 11-7-50.
275,456.	WARCOLITE. Cl. 12 (Int. Cl. 19). 9-23-30.	533,512.	SUPERSEAL. Cl. 12 (Int. Cl. 17). 11-14-50.
275,540.	BOSTIK. Cl. 5 (Int. Cl. 1). 9-23-30.	533,847.	RAINCHECK. Cl. 12 (Int. Cl. 1). 11-28-50.
277,066.	PIRG. Cl. 14 (Int. Cl. 6). 11-4-30.	534,537.	"PLACERVILLE PONY EXPRESS." Cl. 46 (Int. Cl. 31). 12-12-50.
277,130.	"FOR LARRANAGA" ETC. AND REPRESENTATION OF LIONS, ETC. Cl. 17 (Int. Cl. 34). 11-4-30.	534,551.	LESS WORK FOR MOTHER AND DESIGN. Cl. 46 (Int. Cl. 29). 12-12-50.
277,131.	"FOR LARRANAGA" ETC. AND REPRESENTATION OF COINS. Cl. 17 (Int. Cl. 34). 11-4-30.	534,564.	TOOTAL. Cl. 42 (Int. Cl. 24). 12-12-50.
278,056.	MYELADOL. Cl. 18 (Int. Cl. 5). 12-2-30.	534,664.	SERRATED RED. Cl. 46 (Int. Cl. 30). 12-12-50.
278,293.	"JESCO" ETC. AND DESIGN. Cl. 15 (Int. Cl. 4). 12-16-30.	534,570.	VETERAN. Cl. 17 (Int. Cl. 34). 12-12-50.
278,526.	KEN-L-BISKIT. Cl. 46 (Int. Cl. 31). 12-23-30.	534,821.	PLANT ENGINEERING. Cl. 38 (Int. Cl. 16). 12-12-50.
280,384.	SALON-ETTE. Cl. 39 (Int. Cl. 25). 2-17-31.	535,020.	SPOT-PAD. Cl. 44 (Int. Cl. 10). 12-19-50.
444,027.	SYN-LUX. Cl. 16 (Int. Cl. 2). 6-13-50.	535,047.	DIAMOND. Cl. 44 (Int. Cl. 21). 12-19-50.
444,324.	HI-POP. Cl. 46 (Int. Cl. 30). 11-21-50.	535,163.	NASHUA. Cl. 37 (Int. Cl. 16). 12-26-50.
444,328.	SPEED-PAK. Cl. 23 (Int. Cl. 8). 11-21-50.	535,164.	TRIANGLE DESIGN. Cl. 37 (Int. Cl. 16). 12-26-50.
525,804.	GEOTECH. Cl. 100 (Int. Cl. 42). 5-30-50.	535,188.	TOOTAL. Cl. 39 (Int. Cl. 25). 12-26-50.
525,805.	GEOTECH AND DESIGN. Cl. 100 (Int. Cl. 42). 5-30-50.	535,461.	KLEENETTES. Cl. 25 (Int. Cl. 25). 12-26-50.
525,995.	SLIMAKER. Cl. 39 (Int. Cl. 25). 6-6-50.	535,596.	GILBERT. Cl. 22 (Int. Cl. 28). 1-2-51.
526,718.	CANDILAX. Cl. 18 (Int. Cl. 5). 6-20-50.	535,716.	DULL-ORA. Cl. 42 (Int. Cl. 24). 1-2-51.
527,128.	VITA SEAL SYSTEM AND DESIGN. Cl. 13 (Int. Cl. 21). 7-4-50.	535,757.	HAMICOTE. Cl. 6 (Int. Cls. 1 and 2). 1-2-51.
527,453.	COLDSTREAM. Cl. 39 (Int. Cl. 25). 7-11-50.	535,897.	THE FIRST AIDER. Cl. 38 (Int. Cl. 16). 1-2-51.
527,588.	CALL THE ROSE MAN AND DESIGN. Cl. 103 (Int. Cl. 37). 7-11-50.	536,173.	BREW-MOLASS. Cl. 46 (Int. Cl. 31). 1-9-51.
527,894.	ZEBCO. Cl. 22 (Int. Cl. 28). 7-18-50.	536,329.	SAFETY IN ATHLETICS. Cl. 38 (Int. Cl. 16). 1-9-51.
528,067.	BRUNSWICK. Cl. 16 (Int. Cl. 2). 8-8-50.	536,337.	TOMATO BOWL. Cl. 46 (Int. Cl. 31). 1-16-51.
528,714.	BLUE DIAMOND. Cl. 22 (Int. Cl. 25). 8-8-50.	536,427.	SAXOLIN. Cl. 2 (Int. Cl. 16). 1-16-51.
528,800.	CHERTNEY. Cl. 39 (Int. Cl. 25). 8-8-50.	536,450.	2 SOLDIER DESIGN. Cl. 42 (Int. Cl. 25). 1-16-51.
528,850.	RAND. Cl. 42 (Int. Cl. 24). 8-8-50.	536,534.	SUBWAY. Cl. 35 (Int. Cl. 17). 1-16-51.
528,873.	NRI. Cl. 101 (Int. Cl. 35). 8-8-50.	536,557.	DICAN. Cl. 52 (Int. Cl. 3). 1-16-51.
529,462.	SWITZER'S. Cl. 46 (Int. Cl. 30). 8-22-50.	536,591.	SUCARYL. Cl. 46 (Int. Cl. 1). 1-16-51.
529,835.	J. B. SEDBERRY-MIRACLE AND DESIGN. Cl. 23 (Int. Cl. 7). 8-29-50.	536,633.	DONOPAK. Cl. 44 (Int. Cl. 10). 1-16-51.
529,845.	TORO. Cl. 23 (Int. Cl. 7). 8-29-50.	536,652.	TOWNWAY. Cl. 39 (Int. Cl. 25). 1-16-51.
529,981.	PRE-VIEW. Cl. 38 (Int. Cl. 16). 8-29-50.	536,656.	NAPLITE. Cl. 42 (Int. Cl. 24). 1-16-51.
530,064.	PHILLIPS AND LION DESIGN ETC. Cl. 19 (Int. Cl. 12). 9-5-50.	536,711.	T & C'S. Cl. 39 (Int. Cl. 25). 1-16-51.
530,145.	SUPER SPEED. Cl. 9 (Int. Cl. 13). 9-5-50.	536,733.	TIMKEN. Cl. 26 (Int. Cl. 9). 1-16-51.
530,310.	INT-TRITION. Cl. 18 (Int. Cl. 5). 9-5-50.	536,858.	BUBBLE KING. Cl. 46 (Int. Cl. 30). 1-23-51.
530,534.	RICHMOND TIRES ETC. AND DESIGN. Cl. 35 (Int. Cl. 12). 9-12-50.	536,929.	RED BUD. Cl. 46 (Int. Cl. 29). 1-23-51.
530,535.	VICTORITE. Cl. 35 (Int. Cl. 17). 9-12-50.	537,056.	NAGON AND DESIGN. Cl. 51 (Int. Cl. 3). 1-30-51.
530,541.	"GENOVA." Cl. 46 (Int. Cl. 29). 9-12-50.	537,058.	GRENFELL CLOTH AND DESIGN. Cl. 39 (Int. Cl. 25). 1-30-51.
530,588.	MOUNTAIN-MASTER. Cl. 35 (Int. Cl. 12). 9-12-50.	537,121.	V-4. Cl. 32 (Int. Cl. 19). 1-30-51.
530,943.	SHU-GLO. Cl. 4 (Int. Cl. 3). 9-19-50.	537,204.	MUELLER. Cl. 13 (Int. Cls. 6 and 11). 2-6-51.
530,977.	COLOUVRED. Cl. 21 (Int. Cl. 11). 9-19-50.	537,223.	DEWITT'S LITTLE EARLY RISERS. Cl. 18 (Int. Cl. 5). 2-6-51.
530,995.	VISIRITER AND DESIGN. Cl. 23 (Int. Cl. 37). 9-19-50.	537,238.	CHEMICALS OZARK MAHONING AND DESIGN. Cl. 1 (Int. Cl. 1). 2-6-51.
531,024.	"BRUTE." Cl. 21 (Int. Cl. 9). 9-19-50.	537,373.	RICH'S FINE SHOES AND DESIGN. Cl. 39 (Int. Cl. 25). 2-6-51.
531,549.	SOLUTINIC-B. Cl. 18 (Int. Cl. 5). 10-3-50.	537,401.	TIMKEN. Cl. 13 (Int. Cl. 6). 2-6-51.
531,638.	GULF WEIGHT. Cl. 39 (Int. Cl. 25). 10-10-50.	537,404.	VENOPAK. Cl. 44 (Int. Cl. 10). 2-6-51.
531,639.	HEATHLAND. Cl. 39 (Int. Cl. 25). 10-10-50.	537,554.	LENOX. Cl. 23 (Int. Cl. 8). 2-13-51.
531,789.	GOLD TRUMPETER. Cl. 39 (Int. Cl. 25). 10-10-50.	537,655.	HALLMARK. Cl. 1 (Int. Cl. 1). 2-13-51.
531,790.	SILVER TRUMPETER. Cl. 39 (Int. Cl. 25). 10-10-50.	537,753.	TYLON. Cl. 35 (Int. Cl. 17). 2-13-51.
531,947.	MAINSTAY. Cl. 18 (Int. Cl. 5). 10-17-50.	537,781.	FIRM-GRIP. Cl. 6 (Int. Cl. 1). 2-13-51.
531,971.	BOWEN B AND DESIGN. Cl. 23 (Int. Cls. 7 and 11). 10-17-50.	537,887.	FEATHER WEIGHT AND DESIGN. Cl. 3 (Int. Cl. 18). 2-13-51.
531,979.	TOMLINSON NO-D RIP. Cl. 13 (Int. Cl. 11). 10-17-50.	537,996.	SIMEON L. & GEORGE H. ROGERS CO. Cl. 28 (Int. Cls. 8 and 14). 2-20-51.
		538,007.	MARVELOUS. Cl. 46 (Int. Cl. 29). 2-20-51.
		538,148.	E.L.M. Cl. 46 (Int. Cl. 31). 2-20-51.
		538,155.	BEVIDOX. Cl. 18 (Int. Cl. 5). 2-20-51.
		538,346.	GLENROSE. Cl. 28 (Int. Cl. 8). 2-20-51.
		538,350.	OCL AND DESIGN. Cl. 28 (Int. Cl. 14). 2-20-51.
		538,686.	BI-DIGIN. Cl. 18 (Int. Cl. 5). 2-27-51.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

392,356.	LIQUISILK. Cl. 51. 12-23-41.
647,977.	MAGNA CUM LAUDE. Cl. 51. 7-2-57.
664,181.	RIGHT FACE. Cl. 51. 7-8-58.

Section 8

741,834.	MILK-O-SELTZER. Cl. 18. 12-11-62.
750,781.	RAHNOUS. Cl. 18. 6-11-63.
751,811.	OSTEOCIZOR. Cl. 44. 6-25-63.
752,747.	MITI-MITE. Cl. 12. 7-16-63.
753,529.	STERON. Cl. 1. 7-30-63.
753,613.	DESIGN OF HUMAN MALE COUGHING. Cl. 18. 7-30-63.
754,318.	GOODY. Cl. 51. 8-6-63.
754,324.	GOODY. Cl. 52. 8-6-63.
757,676.	KNICKINS. Cl. 22. 10-1-63.
757,969.	DSB AND DESIGN. Cl. 1. 10-8-63.
761,174.	HANDY-HANK. Cl. 2. 12-10-63.
762,954.	HYDROQUIET. Cl. 13. 1-14-64.

The following registrations issued Sept. 29, 1964

777,617.	BLUE VELVET. Cl. 1.
777,618.	OROBLEND. Cl. 1.
777,621.	LADY MENDA. Cl. 2.
777,629.	BIG MIDGET. Cl. 3.
777,630.	PELANOVA. Cl. 3.
777,634.	STICKUM-STIX. Cl. 5.
777,636.	DOO DAB AND DESIGN. Cl. 5.
777,641.	GRID. Cl. 6.
777,642.	SUR-TEN. Cl. 6.
777,647.	FLEXIBLE. Cl. 6.
777,649.	SOL-AQUA-SET. Cl. 6.
777,656.	COUGHIN' NAILS AND DESIGN. Cl. 9.
777,657.	METEORITE. Cl. 10.
777,661.	KING TEAK. Cl. 12.
777,662.	COREX. Cls. 12 and 32.
777,665.	NU-GRID. Cl. 12.
777,666.	RAILCRAFT. Cl. 12.
777,669.	HOT SHOT. Cl. 12.
777,679.	BUJITWALL. Cl. 12.
777,681.	MONSANTO M. Cl. 12.
777,682.	MONSANTO. Cl. 12.
777,683.	BIG YANK AND DESIGN. Cl. 13.
777,684.	AMBLER AND DESIGN. Cl. 13.
777,696.	ULTRAWELD. Cl. 13.
777,699.	THOMPSON. Cl. 14.
777,700.	MONALCELL. Cl. 14.
777,706.	BUDGET. Cl. 15.
777,709.	TONE-N-TIQUE. Cl. 16.
777,710.	MUBLAK. Cl. 16.
777,715.	TRANQUIL-EYES. Cl. 18.
777,716.	MATHEW'S MATZUNI. Cl. 18.
777,717.	LEOTIC. Cl. 18.
777,721.	CIS POLY F. Cl. 18.
777,722.	CIS POLY F. TABS. Cl. 18.
777,723.	NEO-FLAGYL. Cl. 18.
777,724.	EUPRACTONE. Cl. 18.
777,731.	ADJUSTARIDE. Cl. 19.
777,732.	AMERICANA. Cl. 19.
777,733.	R.N.U.R. Cl. 19.
777,734.	FLEEP. Cl. 19.
777,735.	VIP. Cl. 19.
777,748.	TRANS-NITION. Cl. 21.
777,753.	BLUE LINE. Cl. 21.
777,755.	KEL-O-RAD. Cl. 21.
777,757.	UILLEMIN NETWORKS AND DESIGN. Cl. 21.
777,764.	SMASHEROO LINE. Cl. 21.
777,765.	JET CONTROL. Cl. 21.
777,766.	CHLORIVOLT. Cl. 21.
777,767.	NEORAMA. Cl. 21.
777,770.	CATECHISM. Cl. 22.
777,771.	ENLARG-A-GRAH. Cl. 22.
777,776.	PENRO SCORER AND DESIGN. Cl. 22.
777,778.	COMBAT. Cl. 22.
777,782.	LETTERITER. Cl. 23.
777,784.	POP-A-WEED AND DESIGN. Cl. 23.
777,794.	DURA PUNCH. Cl. 23.
777,795.	PURE-SPOUT. Cl. 23.
777,796.	HAN-D-GUARD. Cl. 23.
777,797.	JUMBO. Cl. 23.
777,805.	TYPE-A-MATIC. Cl. 23.
777,810.	FUEL-O-MATIC. Cl. 23.
777,820.	HM AND DESIGN. Cl. 23.
777,827.	ENVO-PAK. Cl. 23.
777,828.	KRAKMASTER. Cl. 23.
777,832.	MARGAY AND DESIGN. Cl. 23.
777,836.	SELECTOMAT. Cl. 26.
777,840.	TRIMLINE. Cl. 26.
777,843.	VACRAC. Cl. 26.
777,846.	OED. Cl. 26.
777,847.	R REEVES DRY COPY AND DESIGN. Cl. 26.
777,848.	LAZYPROBE. Cl. 26.
777,850.	PLANTORIUM AND DESIGN. Cl. 26.
777,851.	SAHARA. Cl. 26.
777,852.	SEA & SKI. Cl. 26.
777,853.	MAGIC LANTERN. Cl. 26.
777,858.	TEEN STARS. Cl. 26.
777,866.	LK & S. Cl. 28.
777,869.	PETITE LOOK. Cl. 28.
777,877.	GOLDEN LINE. Cl. 32.
777,878.	BEAUTY BRIGHT. Cl. 32.
777,880.	SILVER HERITAGE AND DESIGN. Cl. 33.
777,891.	PEEL 'N STIC. Cl. 37.
777,892.	TIMBER-TAC. Cl. 37.
777,896.	INTERLAKE. Cl. 37.
777,897.	COMP-CHECS. Cl. 37.
777,898.	THE NATIONAL SENTINEL. Cl. 38.
777,902.	SCOTCHWEEVE AND DESIGN. Cl. 39.
777,916.	FLAX-LON. Cl. 42.
777,918.	TERYCOT. Cl. 42.
777,925.	SEA & SKI. Cl. 44.
777,928.	P AND DESIGN. Cl. 44.
777,931.	IRON HEART. Cl. 44.
777,932.	PRINCESS. Cl. 44.
777,933.	TIARA. Cl. 44.
777,934.	HYDRO-MAT. Cl. 44.
777,938.	MUSICAL BAR. Cl. 46.
777,941.	BETTY BAKER. Cl. 46.
777,945.	COSTA RICA GOLD. Cl. 46.
777,949.	MCP AND DESIGN. Cl. 46.
777,952.	MICHAEL'S FARM AND DESIGN. Cl. 46.
777,953.	SKOKIE. Cl. 46.
777,954.	SUPREME. Cl. 46.
777,957.	CAMERON BAY. Cl. 46.
777,959.	HOPULEXAN. Cl. 48.
777,960.	E-Z-ART. Cl. 50.
777,961.	EASY-WAY. Cl. 50.
777,962.	TOOTH FAIRY. Cl. 50.
777,963.	TRUCK MATE. Cl. 50.
777,964.	PORTACONE. Cl. 50.
777,965.	FLIGHT CONTROL. Cl. 50.
777,966.	FLIGHT DOME. Cl. 50.
777,979.	SHOO. Cl. 52.
777,980.	RETENTOL. Cl. 52.
777,986.	MICRO-PAT. Cl. 100.
777,987.	PLASTECHNICS AND DESIGN. Cl. 100.
777,988.	HERITAGE. Cl. 100.
777,990.	TREASURE CARD. Cl. 101.
777,999.	TP AND DESIGN. Cl. 105.
777,992.	CMC AND DESIGN. Cl. 102.
777,994.	WE GUARANTEE DREAMS. Cl. 102.
777,998.	THRU-PAC. Cl. 105.

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327,934.	WOOD'S WINTER-GREEN ETC. Cl. 1. 9-10-35.
341,573.	BATHIT AND DESIGN. Cl. 18. 12-15-36.
547,105.	DANDY BOY TOWN & COUNTRY AND DESIGN. Cl. 23. 8-28-51.
556,047.	EKON-O-PAK. Cl. 46. 3-11-52.
774,715.	KEM-KLEEN. Cl. 52. 8-4-64.
789,119.	STAR X-RAY AND DESIGN. Cl. 44. 5-4-65.
803,551.	MARCA FARINI FRESHETTE. Cl. 51. 2-8-66.
810,908.	SAN-O-VAN. Cl. 6. 7-12-66.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

- 223,907. SELCO. Cl. 52. 2-15-27. The Sellg Company, Inc. The Sellg Chemical Industries, Inc., Atlanta, Ga. Corrected: In the heading, signature and in the statement, column 1, line 1, "Co." should be deleted and *Company, Inc.* should be inserted.
- 245,851. GOLDEN GIRL. Cl. 45. 8-21-28. J. F. Lazler Manufacturing Company, Sun Drop Sales Corporation of America, St. Louis, Mo. Corrected: In the heading, signature and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company* should be inserted.
- 269,655. SUN DROP. Cl. 45. 4-15-30. J. F. Lazler Manufacturing Company, Sun Drop Sales Corporation of America, St. Louis, Mo. Corrected: In the heading, signature and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company* should be inserted.
- 273,191. SCRUBZOL. Cl. 52. 7-22-30. The Sellg Company, Inc. National Service Industries, Inc., Atlanta, Ga. Corrected: In the certificate, lines 4 and 18, in the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.
- 273,573. OLE-SOL. Cl. 4. 8-5-30. The Sellg Company, Inc. National Service Industries, Inc., Atlanta, Ga. Corrected: In the certificate, lines 4 and 18, in the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.
- 298,062. OBRITE-O. Cl. 4. 10-11-32. The Sellg Company, Inc., Atlanta, Ga. Corrected: In the certificate, lines 4 and 18, in the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.
- 341,558. NATURAL SET UP. Cl. 45. 12-15-36. J. F. Lazler Manufacturing Company, Ma Cherle Sales Corporation of America, St. Louis, Mo. Corrected: In the heading, signature and in the statement, column 1, line 1, "Co., Inc." should be deleted and *Company* should be inserted.
- 371,271. WEEVI-KIL. Cl. 6. 9-19-39. The Sellg Company, Inc., Atlanta, Ga. Corrected: In the certificate, lines 4 and 18, in the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.
- 371,492. SELCOFUME. Cl. 6. 9-26-39. The Sellg Company, Inc., Atlanta, Ga. Corrected: In the certificate, lines 4 and 18, in the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.
- 379,408. VAPODOR. Cl. 51. 7-9-40. The Sellg Company, Inc., Atlanta, Ga. Corrected: In the certificate, lines 4 and 18, in the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.
- 505,359. FLAMEX. Cl. 6. 1-4-49. The Sellg Company, Inc. National Service Industries, Inc., Atlanta, Ga. Corrected: In the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.
- 537,268. WAXOLINE. Cl. 52. 2-6-51. The Sellg Company, Inc., Atlanta, Ga. Corrected: In the certificate, lines 4 and 15, in the heading, signature and in the statement, column 1, line 1, after "Company", *Inc.* should be inserted.
- 792,333. POLO AND DESIGN. Cl. 46. 7-6-65. Polo Food Products Company, Chicago, Ill. Corrected: In the statement, column 1, line 1, "Co." should be deleted and *Company* should be inserted.
- 852,349. EMILY DARE. Cl. 39. 7-9-68. Popular Merchandise Co., Inc., Passaic, N.J. Corrected: In the statement, column 1, line 1, "New Jersey" should be deleted and *New York* should be inserted.
- 890,982. BAR TWIST. Cl. 46. 5-12-70. General Foods Corporation, assignee of North American Dynamics Corporation, White Plains, N.Y. Corrected: In the statement, column 1, before line 1, *General Foods Corporation (Delaware corporation) 250 North St., White Plains, N.Y. 10602 assignee of* should be inserted.
- 311,136. ADJUSTA-NET. Cl. 42. Patchogue-Plymouth Mills Corporation, 3-13-34. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 373,928. CHARLIE BOY. Cl. 46. Romeo Packing Co. 5-5-53. New Cert. Sec. 7(c) to Star-Kist Foods, Inc., Terminal Island, Calif.
- 634,899. TUFF-BACK. Cl. 42. Patchogue-Plymouth Mills Corporation, 9-25-56. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 669,648. CARICATURE OF BUFFOON. Cl. 103. Red-E-Gas Company, 4-15-58. New Cert. Sec. 7(c) to The American Oil Company, Chicago, Ill.
- 666,940. PLASTI-KRAFT. Cl. 43. Patchogue-Plymouth Corporation, 9-9-58. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 669,340. PLASTI-KRAFT. Cl. 42. Patchogue-Plymouth Corporation, 11-4-58. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 671,340. RED-E-FREDDY. Cl. 103. Red-E-Gas Company, 12-16-58. New Cert. Sec. 7(c) to The American Oil Company, Chicago, Ill.
- 763,036. MR. MARKO. Cl. 22. Joel David Abrams, 1-14-64. New Cert. Sec. 7(c) to The Gillette Company, Boston, Mass.
- 793,425. POLY BAC. Cl. 42. Patchogue-Plymouth Company, assignee of Patchogue-Plymouth Corporation, 7-27-65. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 799,592. POLY DOUBL-BAC. Cl. 42. Parker, Pace Corporation, by change of name from Patchogue-Plymouth Corporation, 11-30-65. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 831,970. NEW FREEDOM. Cl. 51. Bell Products, Inc., 7-11-67. New Cert. Sec. 7(c) to The Gillette Company, Boston, Mass.
- 837,570. POLY BAC. Cl. 42. Patchogue-Plymouth Company, 10-24-67. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 838,456. PP AND DESIGN. Cls. 42 and 43. Patchogue-Plymouth Company, assignee of Patchogue-Plymouth Corporation, 11-7-67. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 846,751. PROPEX AND DESIGN. Cl. 42. Patchogue-Plymouth Company, 3-26-68. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 847,075. PATLON. Cl. 43. Patchogue-Plymouth Company, 4-2-68. New Cert. Sec. 7(c) to Amoco Fabrics Company, Chicago, Ill.
- 889,184. HANNAH'S OLD TIME PIES AND DESIGN. Cl. 101. Hannah's Old Time Pie Shoppes, Inc., 4-7-70. New Cert. Sec. 7(c) to Alfie's Fish & Chips, Inc., Houston, Tex.

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(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- Abbott Laboratories, North Chicago, Ill. 536,591, ren. 11-17-70. Cl. 46.
- Abbott Laboratories, North Chicago, Ill. 536,633, ren. 11-17-70. Cl. 44.
- Abbott Laboratories, North Chicago, Ill. 537,404, ren. 11-17-70. Cl. 44.
- Abbott Laboratories, North Chicago, Ill. 538,155, ren. 11-17-70. Cl. 18.
- Abrams, Joel David, to The Gillette Co., Boston, Mass. 763,036, new cert. Cl. 22.
- Aerojet-General Corp., El Monte, Calif. 902,583, pub. 11-17-70. Cl. 26.
- Agri-King Inc., Fulton, Ill. 902,698, pub. 9-1-70. Cl. 46.
- Alzer, Samuel A., New York, N.Y. 777,891-2, can. Cl. 37.
- Alarm Lock Co., Inc., The, Los Angeles, Calif. 902,567, pub. 9-1-70. Cl. 25.
- Alarmtronics Engineering, Inc., Newton, Mass. 902,533, pub. 9-1-70. Cl. 21.
- Albright & Wilson Ltd., Oldbury, from Marchon Products Ltd., London, England, 902,435, pub. 9-1-70. Cl. 6.
- Alduk, Frank P., d.b.a. Newcastle Co., New Castle, Pa. 902,825, Cl. 23.
- Allen Electric & Equipment Co., Cleveland, Ohio. 902,534, pub. 9-1-70. Cl. 21.
- Allergan Pharmaceuticals, Santa Ana, Calif. 902,782, pub. 9-1-70. Cl. 52.
- Alsde, Inc., Akron, Ohio. 902,470, pub. 9-1-70. Cl. 12.
- Alsde, Inc., Akron, Ohio. 902,481, pub. 9-1-70. Cl. 13.
- American Brake Shoe Co., New York, N.Y. 777,735, can. Cl. 19.
- American Brands, Inc., New York, N.Y. 534,570, ren. 11-17-70. Cl. 17.
- American Cyanamid Co., Wayne, N.J. 777,642, can. Cl. 6.
- American Cyanamid Co., Wayne, N.J. 902,418, pub. 9-1-70. Cl. 5.
- American Heritage Industries, Waterloo, Iowa. 777,880, can. Cl. 33.
- American Metal Climax, Inc., New York, N.Y. 777,666, can. Cl. 12.
- American Photograph Corp., Great Neck, N.Y. 529,981, ren. 11-17-70. Cl. 38.
- American Radiator & Standard Sanitary Corp., New York, N.Y. 777,662, can. Multiple Class (Classes 12 and 32).
- American Saw & Mfg. Co., East Longmeadow, Mass. 537,554, ren. 11-17-70. Cl. 23.
- American Standard Inc., New York, N.Y. 902,486, pub. 9-1-70. Cl. 13.
- American Standard Inc., New York, N.Y. 902,530, pub. 9-1-70. Cl. 21.
- Apollo Freeze-Dried Products, Inc., Hawthorne, Calif. 902,703, pub. 9-1-70. Cl. 46.
- Aristo Manufacturing Co., Chicago, Ill. 777,932-3, can. Cl. 44.
- Armstrong Hydraulics, Inc., Chicago, Ill. 777,731, can. Cl. 19.
- Artistic Plastering, Inc., Fort Lauderdale, Fla. 902,831, Cl. 50.
- Ashland Oil, Inc., Ashland, Ky. 275,456, ren. 11-17-70. Cl. 12.
- Ashland Oil, Inc., from Ashland Oil & Refining Co., Ashland, Ky. 902,438, pub. 9-1-70. Cl. 6.
- Ashland Oil & Refining Co.: See—
Ashland Oil, Inc.
- Auto-Transcript Institute, Inc., Gainesville, Fla. 777,805, can. Cl. 23.
- Avedis Zildjian Co., North Quincy, Mass. 902,614, pub. 9-1-70. Cl. 36.
- Aztec Oil & Gas Co., Dallas, Tex. 902,495, pub. 9-1-70. Cl. 15.
- Baker, Betty, Frozen Foods Co., Inc., Los Angeles, Calif. 777,941, can. Cl. 46.
- Ball Co., Inc., The, New York, N.Y. 902,649, pub. 9-1-70. Cl. 39.
- Bank of America National Trust & Savings Association, San Francisco, Calif. 902,620, pub. 9-1-70. Cl. 38.
- Barber-Colman Co., Rockford, Ill. 902,595, pub. 9-1-70. Cl. 26.
- Barblzon School of Fashion Modelling Inc., New York, N.Y. 902,816, pub. 9-1-70. Cl. 107.
- Barwick, E. T., Industries, Inc., Chamblee, Ga. 902,672, pub. 9-1-70. Cl. 42.
- Barwick, E. T., Industries, Inc., Chamblee, Ga. 902,677-81, pub. 9-1-70. Cl. 42.
- Basic Inc., Cleveland, Ohio. 777,669, can. Cl. 12.
- Basic Inc., Cleveland, Ohio. 902,473, pub. 9-1-70. Cl. 12.
- Bata Shoe Co., Inc., Belcamp, Md. 902,644, pub. 9-1-70. Cl. 39.
- Bates Manufacturing Co., Inc., Lewiston, Maine. 536,656, ren. 11-17-70. Cl. 42.
- Baxter Laboratories, Inc., Morton Grove, Ill. 777,724, can. Cl. 18.
- Beauty Bright Products, Inc., New York, N.Y. 777,878, can. Cl. 32.
- Bohn, Jack, d.b.a. Skokle Produce Co., Chicago, Ill. 777,953, can. Cl. 46.
- Bell Products, Inc., to The Gillette Co., Boston, Mass. 831,970, new cert. Cl. 51.
- Benckiser, Joh. A., G.m.b.H. Chemische Fabrik, Ludwigshafen (Rhine), Germany. 777,836, can. Cl. 26.
- Beneke Corp., Columbus, Miss. 902,490, pub. 9-1-70. Cl. 13.
- Berg Lacquer Co., Los Angeles, Calif. 444,027, ren. 11-17-70. Cl. 16.
- Berkley Shirt Co., Inc., New York, N.Y. 902,639, pub. 9-1-70. Cl. 39.
- Berles Carton Co., Inc., New York, N.Y. 777,827, can. Cl. 23.
- Berlin, Fellee, Teaneck, N.J. 902,543, pub. 9-1-70. Cl. 22.
- Berwick Industries Inc., from Berwick Textile Products Co., Inc., Paramus, N.J. 902,465, pub. 9-1-70. Cl. 7.
- Berwick Textile Products Co., Inc.: See—
Berwick Industries Inc.
- Bin-Dicator Co., The, Detroit, Mich., from Fluid Data Inc., Hauppauge, N.Y. 902,569, pub. 9-1-70. Cl. 26.
- Bird Space Technology, Inc., Palm Springs, Calif. 902,809, pub. 9-1-70. Cl. 103.
- Biscuit & Cracker Manufacturers' Association, The, Chicago, Ill. 902,785, pub. 9-1-70. Cl. 100.
- Blackburn, Joe H., d.b.a. J & B Distributing Co., Knoxville, Tenn. 902,561, pub. 9-1-70. Cl. 23.
- Block Engineering, Inc., Cambridge, Mass. 902,589, pub. 9-1-70. Cl. 26.
- Blue Bell, Inc., Greensboro, N.C. 902,640, pub. 9-1-70. Cl. 39.
- Blue Goose Growers, Inc., Fullerton, Calif. 777,957, can. Cl. 46.
- Blue Haven Pools, North Hollywood, Calif. 902,471, pub. 9-1-70. Multiple Class (Classes 12 and 31).
- Bogaus, Geoffrey F., d.b.a. Stickum Tape Co., Los Angeles, Calif. 777,634, can. Cl. 5.
- Boise Cascade Corp., Boise, Idaho. 902,824, Cl. 23.
- Borden, Inc., New York, N.Y. 902,693, pub. 9-1-70. Cl. 46.
- Borden, Inc., New York, N.Y. 902,717, pub. 9-1-70. Cl. 46.
- Botany Industries, Inc., d.b.a. Sea & Ski Co., Reno, Nev. 777,852-3, can. Cl. 26.
- Botany Industries, Inc., Reno, Nev. 777,925, can. Cl. 44.
- Bourjois, Inc., New York, N.Y. 902,764, pub. 9-1-70. Cl. 51.
- Bow Solder Products Co., Inc., Newark, N.J. 902,607, pub. 9-1-70. Cl. 34.
- Bowen Engineering, Inc., North Branch, N.J. 531,971, ren. 11-17-70. Cl. 23.
- Bowers, Elder B., d.b.a. Elder B. Bowers Candles, Bldg. In Hand, Pa. 777,938, can. Cl. 46.
- Bradute Corp., Eastchester, N.Y. 777,990, can. Cl. 101.
- Brammal, Inc., Angola, Ind. 902,811, pub. 9-1-70. Cl. 103.
- Breneman, Inc., Cincinnati, Ohio. 537,121, ren. 11-17-70. Cl. 32.
- British Petroleum Co., Ltd., The, d.b.a. BP Oil Corp., London, England. 902,807, pub. 9-1-70. Cl. 102.
- British-American Tobacco Co., Ltd., London, England. 902,773, pub. 9-1-70. Cl. 51.
- Broekton Footwear, Inc., Brockton, Mass. 271,260, ren. 11-17-70. Cl. 39.
- Brown, D. S., Co., The, North Baltimore, Ohio. 753,529, can. Cl. 1.
- Brown, D. S., Co., The, North Baltimore, Ohio. 757,969, can. Cl. 1.
- Brun Sensor Systems, Inc., Columbus, Ohio. 902,572, pub. 9-1-70. Cl. 26.
- Bruno Minerals Co., Phoenix, Ariz. 777,657, can. Cl. 10.
- Brunswick Corp., Chicago, Ill. 527,894, ren. 11-17-70. Cl. 22.
- Brunswick Corp., Chicago, Ill. 528,667, ren. 11-17-70. Cl. 16.
- Brunswick Corp., Chicago, Ill. 528,714, ren. 11-17-70. Cl. 22.
- Bryn & Halden Taendstikfabrikker Aktieselskab, Bryn, Norway. 80,298, ren. 11-17-70. Cl. 9.
- Burcham, Gouley N., d.b.a. Gouley Burcham Co., Los Angeles, Calif. 556,047, can. Cl. 46.
- CAI Research & Development Co., San Francisco, Calif. 902,716, pub. 9-1-70. Cl. 46.
- Calne's Mutiny, Inc., New York, N.Y. 902,654, pub. 9-1-70. Cl. 39.
- California Cannery & Growers, San Francisco, Calif. 902,724, pub. 9-1-70. Cl. 46.
- California Institutional Supply Co., Inc., Hollywood, Calif. 777,721-2, can. Cl. 18.
- Cal-Made Mfg. Co., Los Angeles, Calif. 902,651, pub. 9-1-70. Cl. 39.
- Canadian Solarfilm Distributors, Hamilton, Ontario, Canada. 902,421, pub. 9-1-70. Cl. 1.
- Canale Chemical Corp., Glen Cove, N.Y. 777,979, can. Cl. 52.
- Cannfield, M. C., Sons, Newark, N.J. 902,606, pub. 9-1-70. Cl. 34.
- Capital International S.A., Geneva, Switzerland. 902,618, pub. 9-1-70. Cl. 38.
- Carter-Wallace, Inc., New York, N.Y. 902,772, pub. 9-1-70. Cl. 51.
- Casa de Fruta, Hollister, Calif. 902,700, pub. 9-1-70. Cl. 46.
- Celanese Contings Co., New York, N.Y. 902,467, pub. 9-1-70. Cl. 12.
- Cerzecerla de Mexicali, S.A., Baja California, Mexico. 902,743, pub. 9-1-70. Cl. 48.
- Cessna Aircraft Co., Wichita, Kans. 902,514, pub. 9-1-70. Cl. 19.
- Chadbourne Inc., Charlotte, N.C. 902,646, pub. 9-1-70. Cl. 39.
- Chance, A. B., Co., Centralia, Mo. 902,520, pub. 9-1-70. Cl. 21.
- Chapman Chemical Co., Memphis, Tenn. 902,451, pub. 9-1-70. Cl. 6.

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- Chase Bag Co., Greenwich, Conn. 536,427, ren. 11-17-70. Cl. 2.
 Chemical Cleaning Products Co., The, Brentwood, Md. 774,715, cane. Cl. 52.
 Chesebrough-Pond's Inc., New York, N.Y. 902,768, pub. 9-1-70. Cl. 51.
 Cincinnati Milacron Inc., from The Cincinnati Milling Machine Co., Cincinnati, Ohio, 902,553, pub. 9-1-70. Cl. 23.
 Cincinnati Milling Machine Co., The: See—Cincinnati Milacron Inc.
 Citizens Mortgage Corp., Detroit, Mich. 777,992, cane. Cl. 102.
 Coca-Cola Co., The, Atlanta, Ga. 902,689, pub. 9-1-70. Cl. 45.
 Coca-Cola Co., The, Atlanta, Ga. 902,691, pub. 9-1-70. Cl. 45.
 Cole Industries Inc., Seattle, Wash. 902,560, pub. 9-1-70. Cl. 23.
 Colgate-Palmolive Co., New York, N.Y. 902,454, pub. 9-1-70. Cl. 6.
 Colgate-Palmolive Co., New York, N.Y. 902,769, pub. 7-14-70. Cl. 51.
 Collins, J., & Sons Ltd., London, England. 902,555, pub. 9-1-70. Cl. 23.
 Colonial Investment Corp., Salt Lake City, Utah. 902,794, pub. 9-1-70. Cl. 101.
 Comptone Co., Ltd., New York, N.Y. 777,858, cane. Cl. 26.
 Concoleum Industries, Inc., Kearny, N.J. 902,516, pub. 9-1-70. Cl. 39.
 Conklin Co., Inc., Minneapolis, Minn. 902,469, pub. 9-1-70. Cl. 12.
 Consolidated Cigar Corp., New York, N.Y. 902,506, pub. 9-1-70. Cl. 47.
 Consolidated Foods Corp., d.b.a. Booth Fisheries, Chicago, Ill. 902,704, pub. 9-1-70. Cl. 46.
 Continental Oil Co., Ponca City, Okla. 777,960, cane. Cl. 50.
 Continental Telephone Corp., St. Louis, Mo. 902,527, pub. 9-1-70. Cl. 21.
 Copy Service, Inc., d.b.a. Copy Service of Miami Beach, Miami Beach, Fla. 902,803, pub. 9-1-70. Cl. 101.
 Cordon Bleu Ltee, Quebec, Canada. 532,003, ren. 11-17-70. Cl. 46.
 Corn Products Co., New York, N.Y. 777,647, cane. Cl. 6.
 Cramer Products, Inc., Gardner, Kans. 535,897, ren. 11-17-70. Cl. 38.
 Cramer Products, Inc., Gardner, Kans. 536,329, ren. 11-17-70. Cl. 38.
 Cramer Products, Inc., Gardner, Kans. 537,781, ren. 11-17-70. Cl. 6.
 Crompton & Knowles Corp., Worcester, Mass. 777,649, cane. Cl. 6.
 Cruise Away Yacht Rentals, Inc., South Freeport, Maine. 902,788, pub. 9-1-70. Cl. 100.
 Cruise & His Freres, Glronde, France. 902,738, pub. 9-1-70. Cl. 47.
 Culligan Soft Water Service of Pittsburgh, Pittsburgh, Pa. 777,784, cane. Cl. 23.
 Cullison, Robert Morton, Jr., d.b.a. Cully's, Havre De Grace, Md. 902,830, Cl. 46.
 Curtis, Helene, Industries, Inc., Chicago, Ill. 777,980, cane. Cl. 52.
 Cyclo Floor Machine Corp., Newark, N.J. 777,820, cane. Cl. 23.
 D&H Industries Inc., New York, N.Y. 902,585, pub. 9-1-70. Cl. 42.
 Dana Corp., Toledo, Ohio. 530,535, ren. 11-17-70. Cl. 35.
 Data Corp., Dayton, Ohio. 902,793, pub. 9-1-70. Cl. 101.
 Debutogs, Inc., New York, N.Y. 902,653, pub. 9-1-70. Cl. 39.
 Deer Park Baking Co., Hammoncton, N.J. 902,725, pub. 9-1-70. Cl. 46.
 Deering, Milliken, Inc., New York, N.Y. 902,670-1, pub. 9-1-70. Cl. 42.
 Deering, Milliken, Inc., New York, N.Y. 902,674-5, pub. 9-1-70. Cl. 42.
 Deering, Milliken, Inc., New York, N.Y. 902,682-4, pub. 9-1-70. Cl. 42.
 Deering Milliken Research Corp., Spartanburg, S.C. 902,563, pub. 9-1-70. Cl. 23.
 Delargy, Paul F., Hinesville, Ga. 902,628, pub. 9-1-70. Cl. 39.
 Den Kongelige Gronlandske Handel, Copenhagen, Denmark. 902,707, pub. 9-1-70. Cl. 46.
 Desmond's Inc., Los Angeles, Calif. 536,652, ren. 11-17-70. Cl. 39.
 Detexomat Ltd., High Wycombe, England. 902,423, pub. 9-1-70. Multiple Class (Classes 2, 21, 23, and 26).
 De Witt Drug & Beauty Products, Inc., Chicago, Ill. 537,223, ren. 11-17-70. Cl. 18.
 Diamond International Corp., New York, N.Y. 535,047, ren. 11-17-70. Cl. 44.
 Diebold, Inc., Baltimore, Md. 777,897, cane. Cl. 37.
 Diplomat Sales Co., Inc., Los Angeles, Calif. 902,542, pub. 9-1-70. Cl. 22.
 Discover America, Inc., Minneapolis, Minn. 902,813, pub. 7-11-67. Cl. 105.
 Diversy Corp., The, Chicago, Ill. 536,557, ren. 11-17-70. Cl. 52.
 Diversified Computer Services, Inc., New York, N.Y. 902,805, pub. 9-1-70. Cl. 101.
 Diversified Industries, Inc., St. Louis, Mo. 902,812, pub. 9-1-70. Cl. 103.
 Donaghy Industries Ltd., Dunedin, New Zealand. 902,694, pub. 9-1-70. Cl. 46.
 Donaldson Co., Inc., Minneapolis, Minn. 902,587, pub. 9-1-70. Cl. 26.
 Donghboy Industries, Inc., New Richmond, Wis. 902,734, pub. 9-1-70. Cl. 46.
 Dunn, Gilbert M., Penacook, N.H. 777,965-6, cane. Cl. 50.
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 902,457, pub. 9-1-70. Cl. 6.
 Dura Corp., Oak Park, Mich. 777,794, cane. Cl. 23.
 Durametallic Corp., Kalamazoo, Mich. 902,609, pub. 9-1-70. Cl. 35.
 E.L.M. Feeds, Inc., Greencastle, Pa. 538,148, ren. 11-17-70. Cl. 46.
 Early California Industries, Inc., Los Angeles, Calif. 902,733, pub. 9-1-70. Cl. 46.
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 Eckel Industries, Inc., Cambridge, Mass. 902,820, Cl. 12.
 Electric Storage Battery Co., The, Philadelphia, Pa. 777,766, cane. Cl. 21.
 Electro Materials Corp. of America, Mamaroneck, N.Y. 902,532, pub. 9-1-70. Cl. 21.
 Emence Industries, Inc., New York, N.Y. 777,771, cane. Cl. 22.
 Empire Plastic Corp., New York, N.Y. 902,546, pub. 9-1-70. Cl. 22.
 England, Robert, Philadelphia, Pa. 533,209, ren. 11-17-70. Cl. 6.
 English Calico Ltd., Manchester, England. 534,564, ren. 11-17-70. Cl. 42.
 English Calico Ltd., Manchester, England. 535,188, ren. 11-17-70. Cl. 39.
 English Calico Ltd., Manchester, England. 902,631, pub. 9-1-70. Cl. 39.
 Esquire, Inc.: See—Graphics Publishing Co.
 Evans, John, Sons, Inc., Philadelphia, Pa. 777,964, cane. Cl. 50.
 Evr-Gard Coatings Corp., Los Angeles, Calif. 902,503, pub. 9-1-70. Cl. 16.
 Extermital Chemicals, Inc., Dayton, Ohio. 902,810, pub. 9-1-70. Cl. 103.
 Ezaki Glico Co., Ltd., Osaka, Japan. 902,701, pub. 9-1-70. Cl. 46.
 Ezaki Glico Co., Ltd., Osaka, Japan. 902,713, pub. 9-1-70. Cl. 46.
 Fancies Unlimited, Troy, Mich. 777,962, cane. Cl. 50.
 Farini, Joseph D., d.b.a. Freshette Co. and Parini Cosmetics, San Francisco, Calif. 803,551, cane. Cl. 51.
 Farm Journal, Inc., d.b.a. Consumer/Industrial Research Service and/or Farm Journal Research Service, Philadelphia, Pa. 902,801, pub. 9-1-70. Cl. 101.
 Fastener Control Corp., Rockford, Ill. 902,552, pub. 9-1-70. Multiple Class (Classes 23 and 26).
 Federal Sweets & Biscuit Co., Inc., Clifton, N.J. 902,726, pub. 9-1-70. Cl. 46.
 Federated Foods, Inc., d.b.a. Leadway Foods, Chicago, Ill. 902,602, pub. 9-1-70. Cl. 29.
 Fedtro, Inc., Rockville Centre, N.Y. 902,592, pub. 9-1-70. Cl. 26.
 Fenro Scorer Co., Amarillo, Tex. 777,776, cane. Cl. 22.
 Feurer Bros., Inc., North White Plains, N.Y. 902,538, pub. 9-1-70. Cl. 22.
 Field Financial Corp., Minneapolis, Minn. 777,988, cane. Cl. 100.
 Field Financial Corp., New Brighton, Minn. 902,787, pub. 3-17-70. Cl. 100.
 Filtercold Corp., Phoenix, Ariz. 902,603, pub. 9-1-70. Cl. 31.
 Firestone Tire & Rubber Co., The, Akron, Ohio. 902,611, pub. 9-1-70. Cl. 35.
 Firestone Tire & Rubber Co., The, Akron, Ohio. 902,827, Cl. 35.
 First Mississippi Corp., Jackson, Miss. 902,456, pub. 9-1-70. Cl. 6.
 Fiscal Systems, Inc., Minneapolis, Minn. 902,798, pub. 9-1-70. Cl. 101.
 Fiscal Systems, Inc., Minneapolis, Minn. 902,800, pub. 9-1-70. Cl. 101.
 Fischer Lime & Cement Co., Inc., Memphis, Tenn. 902,819, Cl. 12.
 Fitzgerald Mfg. Co., The, Torrington, Conn. 902,608, pub. 9-1-70. Cl. 35.
 Flintkote Co., The, White Plains, from Johns-Manville Corp., New York, N.Y. 902,501, pub. 9-1-70. Cl. 16.
 Fluid Data Inc.: See—Bin-Dicator Co., The.
 Food Fair Stores, Inc., Philadelphia, Pa. 902,656, pub. 9-1-70. Cl. 39.
 Forest Interiors Corp., Seattle, Wash. 902,500, pub. 9-1-70. Cl. 16.
 Franklin Mint, Inc., The, Yeadon, Pa. 902,747, pub. 9-1-70. Cl. 50.
 Franklin Mint, Inc., The, Yeadon, Pa. 902,750-5, pub. 9-1-70. Cl. 50.
 Freed, A., Novelty, Inc., New York, N.Y. 902,823, Cl. 22.
 Frolich, Henry J., d.b.a. Encino Chemicals, Encino, Calif. 741,834, cane. Cl. 18.
 Fuji Photo Film Co., Ltd., Tokyo, Japan. 902,593, pub. 9-1-70. Cl. 26.
 GAF Corp., New York, N.Y. 902,452, pub. 9-1-70. Cl. 6.
 Gabriel Industries, Inc., New York, N.Y. 535,596, ren. 11-17-70. Cl. 22.
 Galerie Imports Corp., Chicago, Ill. 902,638, pub. 9-1-70. Cl. 39.
 Gallo, E. & J., Winery, Modesto, Calif. 902,739, pub. 9-1-70. Cl. 47.
 Gedney, M. A., Co., Chaska, Minn. 35,498, ren. 11-17-70. Cl. 46.
 General Electric Co., Schenectady, N.Y. 902,420, pub. 9-1-70. Cl. 1.
 General Fabrication Corp., Forest Lake, Minn. 902,573, pub. 9-1-70. Cl. 26.
 General Foods Corp., from North American Dynamics Corp., White Plains, N.Y. 890,982, cor. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 902,462, pub. 9-1-70. Cl. 6.
 General Mills, Inc., Minneapolis, Minn. 902,708, pub. 9-1-70. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 902,727, pub. 9-1-70. Cl. 46.

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- General Mills, Inc., Minneapolis, Minn. 902,736-7, pub. 9-1-70. Cl. 46.
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 George, Sam M., Washington, D.C. 902,756, pub. 10-17-67. Cl. 51.
 Geotechnical Corp., The, Dallas, Tex. 525,804-5, ren. 11-17-70. Cl. 100.
 Gladding Co., The, Cincinnati, Ohio. 528,800, ren. 11-17-70. Cl. 39.
 Gilbert & Barker Mfg. Co., West Springfield, Mass. 777,840, cane. Cl. 26.
 Gildatrox, Inc., Asheville, N.C. 902,650, pub. 9-1-70. Cl. 39.
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 Gimbel Bros., Inc., New York, N.Y. 902,792, pub. 9-1-70. Cl. 101.
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 Goodrich, B. F., Co., The, Akron, Ohio. 902,748, pub. 9-1-70. Cl. 50.
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 Graphics, Inc., Crystal, Minn. 902,804, pub. 9-1-70. Cl. 101.
 Graphics Publishing Co., Omaha, Neb. from Esquire, Inc., New York, N.Y. 902,537, pub. 9-1-70. Cl. 22.
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 Greene Datatape, Inc., Richmond, Calif. 777,782, cane. Cl. 23.
 Griffin Publishing Co., Inc., Boston, Mass. 902,625, pub. 9-1-70. Cl. 38.
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 Harris Paint Co., Tampa, Fla. 902,432, pub. 9-1-70. Cl. 6.
 Hart Schaffner & Marx, Chicago, Ill. 527,453, ren. 11-17-70. Cl. 39.
 Hart Schaffner & Marx, Chicago, Ill. 531,638-9, ren. 11-17-70. Cl. 39.
 Hart Schaffner & Marx, Chicago, Ill. 531,789-90, ren. 11-17-70. Cl. 39.
 Hart Schaffner & Marx, Chicago, Ill. 532,311, ren. 11-17-70. Cl. 39.
 Hawaiian Perfumers, Inc., d.b.a. Lianna of Walkiki, Honolulu, Hawaii. 902,767, pub. 9-1-70. Cl. 51.
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 Helm Instrument Co., Toledo, Ohio. 902,570, pub. 9-1-70. Cl. 26.
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 Hercules Inc., Wilmington, Del. 902,448, pub. 9-1-70. Cl. 6.
 Herculte Protective Fabrics Corp., New York, N.Y. 902,673, pub. 9-1-70. Cl. 42.
 Heritage Quilts, Inc., Chattanooga, Tenn. 902,605, pub. 9-23-70. Multiple Class (Classes 32 and 42).
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 Hendershott, Bryan, d.b.a. Hende Co., Washington, D.C. 751,811, cane. Cl. 44.
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 Ideal Products Inc., Sykesville, Pa. 902,632, pub. 9-1-70. Cl. 39.
 Impulsphysik G.m.b.H., Hamburg-Rissen, Germany. 902,519, pub. 9-1-70. Cl. 21.
 Intemark Communications, Inc., Rochester, N.Y. 902,739, pub. 9-1-70. Cl. 101.
 Interaccess Corp., Palo Alto, Calif. 902,791, pub. 9-1-70. Cl. 101.
 International Diocde, Inc., New York, N.Y. 902,461, pub. 9-1-70. Cl. 6.
 International Productions, Inc., Jacksonville, Fla. 902,502, pub. 9-1-70. Cl. 101.
 International Telephone & Telegraph Corp., Chicago, Ill. 777,755, cane. Cl. 21.
 Interpace Corp., Parsippany, N.J. 902,588, pub. 9-1-70. Cl. 26.
 Interstate Bakeries Corp., Kansas City, Mo. 902,702, pub. 9-1-70. Cl. 46.
 Iowa Paint Mfg. Co., Inc., Des Moines, Iowa. 902,502, pub. 9-1-70. Cl. 16.
 Jamin, C., N.V., Rotterdam, Netherlands. 902,710, pub. 9-1-70. Cl. 46.
 Jefferson Electric Co., Bellwood, Ill. 777,767, cane. Cl. 21.
 Jesco Lubricants Co., North Kansas City, Mo. 278,293, ren. 11-17-70. Cl. 15.
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 Johns-Manville Corp., New York, N.Y. 902,474-7, pub. 9-1-70. Cl. 12.
 Johnson & Johnson, New Brunswick, N.J. 902,668, pub. 9-1-70. Cl. 42.
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 Kallneo, Inc., Lexington, Ky. 902,597, pub. 9-1-70. Cl. 26.
 Kelly-Springfield Tire Co., The, Cumberland, Md. 530,534, ren. 11-17-70. Cl. 35.
 Kessler, William B., Inc., Hammoncton, N.J. 902,648, pub. 9-1-70. Cl. 39.
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 Klopman Mills, Inc., Rockleigh, N.J. 902,669, pub. 9-1-70. Cl. 42.
 Knickerbocker Toy Co., Inc., Brooklyn, N.Y. 757,676, cane. Cl. 22.
 Krakmaster, Inc., St. Paul, Minn. 777,828, cane. Cl. 23.
 Krass, Jack, Hostery, Inc., New York, N.Y. 902,652, pub. 9-1-70. Cl. 39.
 Krepleki, Simon, Paris, France. 902,630, pub. 9-1-70. Cl. 39.
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 Krower, Leonard, & Son, Inc., New Orleans, La. 777,866, cane. Cl. 28.
 Kulka, Thomas S., d.b.a. Protex Products Co., Cleveland, Ohio. 902,525, pub. 9-1-70. Cl. 21.
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 La Bottega, Ltd., New York, N.Y. 902,774, pub. 9-1-70. Cl. 51.
 Laher Spring & Electric Car Corp., Oakland, Calif. 530,588, ren. 11-17-70. Cl. 35.
 Lambda Electronics Corp., Huntington, N.Y. 902,582, pub. 9-1-70. Cl. 26.
 Lau, Alan, of California, Inc., Los Angeles, Calif. 902,426, pub. 9-1-70. Multiple Class (Classes 3 and 41).
 Lauhoff Grain Co., Danville, Ill. 902,709, pub. 9-1-70. Cl. 46.
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 Lazier, J. F., Mfg. Co. Sun Drop Sales Corp. of America, St. Louis, Mo. 269,655, cor. Cl. 45.
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 Leather Products, Inc., Sheboygan, Wis. 537,887, ren. 11-17-70. Cl. 3.
 Lerner, Alfred D., Jamaica, N.Y. 777,770, cane. Cl. 22.
 Leonl, Joseph A., d.b.a. Leonl's U.S.A., Gilbert, Minn. 902,765, pub. 9-1-70. Cl. 51.
 Lever Bros. Co., New York, N.Y. 902,775-6, pub. 9-1-70. Cl. 51.
 Lewis Engineering Co., Naugatuck, Conn. 902,578, pub. 9-1-70. Cl. 26.
 Liberty Products, Inc., Essey, S.C. 902,517, pub. 9-1-70. Cl. 20.

Lien Chemical Co., Franklin Park, Ill. 902,460, pub. 9-1-70. Cl. 6.
 Lift Engineering, Inc., Olympic Valley, Calif. 902,554, pub. 9-1-70. Cl. 23.
 Lightoller Inc., Jersey City, N.J. 530,977, ren. 11-17-70. Cl. 21.
 Life Time of Rochester, Rochester, N.Y. 902,757, pub. 12-12-67. Cl. 51.
 Lincoln Heritage Life Insurance Co., Mount Vernon, Ill. 902,804, pub. 9-1-70. Cl. 102.
 Lincoln Metal Products Corp., Brooklyn, N.Y. 902,425, pub. 9-1-70. Multiple Class (Classes 2 and 13).
 Listfax Corp., New York, N.Y. 902,796, pub. 9-1-70. Cl. 101.
 Live Food Products Co., Burbank, Calif. 530,310, ren. 11-17-70. Cl. 18.
 Loew's Theatres, Inc., New York, N.Y. 902,504, pub. 9-1-70. Cl. 17.
 Loubovsky, H., Inc., Boston, Mass. 902,637, pub. 9-1-70. Cl. 39.
 MacDonald, Donald K., d.b.a. MacDonald Controls, Pizzart Co. Division, Cupertino, Calif. 902,548, pub. 9-1-70. Cl. 22.
 MacMillan, Bioedel Ltd., Vancouver, British Columbia, Canada. 902,478, pub. 9-1-70. Cl. 12.
 Magee & Co., Ltd., Donegal, Ireland. 902,629, pub. 9-1-70. Multiple Class (Classes 39 and 42).
 Magle Tilt Trailer Mfg. Co., Inc., Clearwater, Fla. 902,515, pub. 9-1-70. Cl. 19.
 Magid Corp., Linden, N.J. 902,429, pub. 9-1-70. Multiple Class (Classes 4, 6, and 52).
 Magnolia Industries, Inc., Spartanburg, S.C. 902,472, pub. 9-1-70. Cl. 12.
 Maldenform, Inc., New York, N.Y. 902,642, pub. 9-1-70. Cl. 39.
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 Manley, Inc., Kansas City, Mo. 444,324, ren. 11-17-70. Cl. 46.
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 Marfleet Refining Co., Ltd., Hull, England. 531,947, ren. 11-17-70. Cl. 18.
 Marquette Tool & Die Co., St. Louis, Mo. 777,832, can. Cl. 23.
 Marx, Louis, & Co., Inc., New York, N.Y. 902,544, pub. 9-1-70. Cl. 22.
 Master Chemical Corp., Perrysburg, Ohio. 902,579-81, pub. 9-1-70. Cl. 26.
 Mastle Corp., South Bend, Ind. 902,479, pub. 9-1-70. Cl. 12.
 Mattress Specialists, Inc., New York, N.Y. 777,877, can. Cl. 32.
 Maybelline Co., Chicago, Ill. 902,666, pub. 9-1-70. Cl. 40.
 McCormick & Co., Inc., Cockeysville, Md. 273,311, ren. 11-17-70. Cl. 46.
 McCoy-Gibson Merchandising, Inc., New York, N.Y. 902,487, pub. 9-1-70. Cl. 13.
 McCray, Blanca Louise, d.b.a. Mac-A-Bea Creations, Anaheim, Calif. 902,645, pub. 9-1-70. Cl. 39.
 McCune, Harry, Sound Service, Inc., San Francisco, Calif. 902,591, pub. 9-1-70. Cl. 26.
 McNulty, Michael F., d.b.a. Michael's Farm, Montclair, N.J. 777,954, can. Cl. 46.
 Melster Brau, Inc., Chicago, Ill. 902,688, pub. 9-1-70. Multiple Class (Classes 45 and 46).
 Menda Co., City of Industry, Calif. 777,621, can. Cl. 2.
 Merced Tomato Growers Co-operative Association, Merced, California. 536,337, ren. 11-17-70. Cl. 46.
 Metropolitan Refining Co., Inc., Long Island City, N.Y. 902,779, pub. 9-1-70. Cl. 52.
 Micro-Pat, Inc., Marblehead, Mass. 777,986, can. Cl. 100.
 Midland Co., The, South Milwaukee, Wis. 547,105, can. Cl. 23.
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 Miller, Harry, Corp., Philadelphia, Pa. 535,757, ren. 11-17-70. Cl. 6.
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 Minnesota Mining & Mfg. Co., St. Paul, Minn. 532,418, ren. 11-17-70. Cl. 5.
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 Monticello Drug Co., Jacksonville, Fla. 526,718, ren. 11-17-70. Cl. 18.
 Mooney Aircraft Corp., Keerville, Tex. 902,511, pub. 9-1-70. Cl. 19.
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 Mutual Citrus Products Co., Anaheim, Calif. 777,949, can. Cl. 46.

Nagon Sales Corp., Los Angeles, Calif. 537,056, ren. 11-17-70. Cl. 51.
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 Nattermann, A., & Cie G.m.b.H., Cologne-Brannsfeld, Germany. 902,508, pub. 9-1-70. Cl. 18.
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 Norcal Products Co., Oakland, Calif. 532,006, ren. 11-17-70. Cl. 46.
 Normandle Press, Inc., Long Island City, N.Y. 902,790, pub. 9-23-69. Cl. 101.
 North American Rockwell Corp., Pittsburgh, Pa. 902,562, pub. 9-1-70. Cl. 23.
 Nuclear Electronic Laboratories Inc., Walnut Creek, Calif. 777,748, can. Cl. 21.
 Oakite Products, Inc., Berkeley Heights, N.J. 89,673, ren. 11-17-70. Cl. 52.
 Ohio National Life Insurance Co., The, Cincinnati, Ohio. 777,994, can. Cl. 102.
 Oil Corp., New Haven, Conn. 530,145, ren. 11-17-70. Cl. 9.
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 One Stop, Inc., Los Angeles, Calif. 902,780, pub. 9-1-70. Cl. 52.
 Onelda Ltd., Onelda, N.Y. 537,996, ren. 11-17-70. Cl. 28.
 Onelda Ltd., Onelda, N.Y. 538,346, ren. 11-17-70. Cl. 28.
 Onelda Ltd., Onelda, N.Y. 538,350, ren. 11-17-70. Cl. 28.
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 Pafoda Textile Mills, Inc., New York, N.Y. 777,918, can. Cl. 42.
 Pallard Inc., Linden, N.J. 902,598, pub. 9-1-70. Cl. 26.
 Pan-American Barber Co., Inc., The, New York, N.Y. 902,599, pub. 9-1-70. Cl. 27.
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 Patchogue-Plymouth Co., from Patchogue-Plymouth Corp., to Amoco Fabrics Co., Chicago, Ill. 793,425, new cert. Cl. 42.
 Patchogue-Plymouth Co., to Amoco Fabrics Co., Chicago, Ill. 837,570, new cert. Cl. 42.
 Patchogue-Plymouth Co., from Patchogue-Plymouth Corp., to Amoco Fabrics Co., Chicago, Ill. 838,456, new cert. Multiple Class (Classes 42 and 43).
 Patchogue-Plymouth Co., to Amoco Fabrics Co., Chicago, Ill. 846,751, new cert. Cl. 42.
 Patchogue-Plymouth Co., to Amoco Fabrics Co., Chicago, Ill. 847,075, new cert. Cl. 43.
 Patchogue-Plymouth Corp., to Amoco Fabrics Co., Chicago, Ill. 666,940, new cert. Cl. 43.
 Patchogue-Plymouth Corp., to Amoco Fabrics Co., Chicago, Ill. 669,340, new cert. Cl. 42.
 Patchogue-Plymouth Mills Corp., to Amoco Fabrics Co., Chicago, Ill. 311,136, new cert. Cl. 42.
 Patchogue-Plymouth Mills Corp., to Amoco Fabrics Co., Chicago, Ill. 634,899, new cert. Cl. 42.
 Patten, Lee, Seed Co., Moonachie, N.J. 777,617, can. Cl. 1.
 Pearse Leather Products Co., Inc., Salem, Mass. 902,428, pub. 9-1-70. Multiple Class (Classes 3 and 39).
 PepsiCo, Inc., New York, N.Y. 902,692, pub. 9-1-70. Cl. 45.
 Permanent Sign & Display Co., Inc., d.b.a. Rodan Creations, Reading, Pa. 902,571, pub. 9-1-70. Cl. 26.
 Pet Inc., St. Louis, Mo. 902,687, pub. 9-1-70. Cl. 45.
 Petrolite Corp., St. Louis, Mo. 902,590, pub. 9-1-70. Cl. 26.
 Phelps Dodge Copper Products Corp., New York, N.Y. 277,066, ren. 11-17-70. Cl. 14.
 Phillips, J. A., & Co. Ltd., Nottingham, England. 530,064, ren. 11-17-70. Cl. 19.
 Pictorial Productions, Inc., Mount Vernon, N.Y. 902,749, pub. 9-1-70. Cl. 50.
 Pilegrim Industries Inc., New York, N.Y. 902,636, pub. 9-1-70. Cl. 39.
 Pillsbury Co., The, Minneapolis, Minn. 777,641, can. Cl. 6.
 Pipeco Steel Corp., West Caldwell, N.J. 777,696, can. Cl. 13.
 Placerville Fruit Growers Association, Placerville, Calif. 534,537, ren. 11-17-70. Cl. 46.
 Pollak, Henry, Inc., New York, N.Y. 902,667, pub. 9-1-70. Cl. 42.
 Polo Food Products Co., Chicago, Ill. 792,333, cor. Cl. 46.
 Popular Merchandise Co., Inc., Passaic, N.J. 852,349, cor. Cl. 39.
 Popular Science Publishing Co., Inc., New York, N.Y. 902,621, pub. 9-1-70. Cl. 38.
 Por Larranaga Fabbrica de Tabacos, New York, N.Y. 277,130-1, ren. 11-17-70. Cl. 17.

Pott, H. H., Nfgr. Rumhandelshaus, Flensburg, Germany 902,745-6, pub. 9-1-70. Cl. 49.
 Praxis S.p.A., Milan, Italy. 902,568, pub. 9-1-70. Cl. 26.
 Prince Macaroni Mfg. Co., Lowell, Mass. 902,695, pub. 9-1-70. Cl. 46.
 Princess Marcella Borghese, The, New York, N.Y. 902,760, pub. 9-1-70. Cl. 51.
 Procter & Gamble Co., The, Cincinnati, Ohio. 902,719-21, pub. 9-1-70. Cl. 46.
 Procter-Silex Inc., Philadelphia, Pa. 902,528, pub. 9-1-70. Multiple Class (Classes 21, 23, and 31).
 Purex Corp., Ltd., d.b.a. Lanson Chemical Corp., Lakewood, Calif. 902,464, pub. 9-1-70. Cl. 6.
 Purex Corp., Ltd., Lakewood, Calif. 902,784, pub. 9-1-70. Cl. 52.
 Quaker Oats Co., The, Chicago, Ill. 278,526, ren. 11-17-70. Cl. 46.
 R.A. Chemical Corp., Brooklyn, N.Y. 902,437, pub. 9-1-70. Cl. 6.
 RCA Corp., from Radio Corp. of America, New York, N.Y. 902,575-6, pub. 9-1-70. Cl. 26.
 RFM Industries Corp., Farmingdale, N.J. 902,531, pub. 9-1-70. Multiple Class (Classes 21 and 26).
 Rabaul Trading Co. Pty. Ltd., Rabaul, Territory of Papua and New Guinea. 902,714, pub. 9-1-70. Cl. 46.
 Radeo, Inc., Dubuque, Iowa. 777,934, can. Cl. 44.
 Radio Corp. of America: See—
 RCA Corp.
 Rahn, Earl W., d.b.a. E. W. Rahn, Cleveland, Ohio. 750,781, can. Cl. 15.
 Rahn, Earl W., d.b.a. E. W. Rahn, Cleveland, Ohio. 753,613, can. Cl. 15.
 Ralston Purina Co., St. Louis, Mo. 530,541, ren. 11-17-70. Cl. 46.
 Ralston Purina Co., St. Louis, Mo. 902,735, pub. 9-1-70. Cl. 46.
 Randall Patchney Corp., Avon, Mass. 902,601, pub. 9-1-70. Cl. 29.
 Rand Rubber Co., Inc., Brooklyn, N.Y. 528,850, ren. 11-17-70. Cl. 42.
 Reade, Walter, Organization, Inc., The, Oakhurst, N.J. 902,818, pub. 9-1-70. Cl. 107.
 Realistic Co., The, Cincinnati, Ohio. 902,758, pub. 3-26-68. Cl. 51.
 Red-E-Gas Co., to The American Oil Co., Chicago, Ill. 660,648, new cert. Cl. 103.
 Red-E-Gas Co., to The American Oil Co., Chicago, Ill. 671,340, new cert. Cl. 103.
 Redken Laboratories, Inc., Van Nuys, Calif. 902,770, pub. 9-1-70. Cl. 51.
 Reeves Industries, Inc., New York, N.Y. 777,847, can. Cl. 26.
 Regal Typewriter Co., Inc., New York, N.Y. 274,548, ren. 11-17-70. Cl. 23.
 Regensteler Publishing Enterprises, Inc., Chicago, Ill. 902,541, pub. 12-30-69. Cl. 22.
 Regie Nationale des Usines Renault, Billancourt, France. 777,733, can. Cl. 19.
 Reichhold Chemicals, Inc., White Plains, N.Y. 902,453, pub. 9-1-70. Cl. 6.
 Reliance Mfg. Co., New York, N.Y. 777,683-4, can. Cl. 13.
 Resen, O. M., New York, N.Y. 902,600, pub. 9-1-70. Cl. 28.
 Reuther's Sea Food Co., Inc., New Orleans, La. 538,007, ren. 11-17-70. Cl. 46.
 Revere Copper & Brass Inc., New York, N.Y. 902,492, pub. 9-1-70. Cl. 14.
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 902,505, pub. 9-1-70. Cl. 17.
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 902,686, pub. 9-1-70. Multiple Class (Classes 45 and 46).
 Rich's B. Sons, Inc., Washington, D.C. 537,373, ren. 11-17-70. Cl. 39.
 Riker-Maxson Corp., New York, N.Y. 902,521-4, pub. 9-1-70. Cl. 21.
 Riker Video Industries, Inc.: See—
 Riker-Maxson Corp.
 Roberts Co., Sanford, N.C. 902,828, Cl. 43.
 Robroy Industries, Verona, Pa. 902,526, pub. 9-1-70. Cl. 21.
 Rodder, Jerome A., d.b.a. Microtech Services Co., Los Altos, Calif. 777,843, can. Cl. 26.
 Rohm & Haas Co., Philadelphia, Pa. 777,618, can. Cl. 1.
 Roman Tissue Mills, Inc., Hardwick, Mass. 761,174, can. Cl. 2.
 Romeo Packing Co., to Star-Kist Foods, Inc., Terminal Island, Calif. 573,928, new cert. Cl. 46.
 Rose Exterminator Co., Chicago, Ill. 527,588, ren. 11-17-70. Cl. 103.
 Routed Thru-Pac, Inc., New York, N.Y. 777,998-9, can. Cl. 103.
 Royal London Ltd., New York, N.Y. 902,424, pub. 9-1-70. Multiple Class (Classes 2, 13, 21, 23, 30, 32, and 33).
 Ryan Aeronautical Co., The, San Diego, Calif. 777,734, can. Cl. 19.
 Saginaw Products Corp., Saginaw, Mich. 274,723, ren. 11-17-70. Cl. 23.
 Savin Business Machines Corp., New York, N.Y. 777,851, can. Cl. 26.
 Seilise, Robert A., San Luis Obispo, Calif. 902,619, pub. 8-25-70. Cl. 38.
 Schattner, Robert I., d.b.a. The R. Schattner Co., Washington, D.C. 902,510, pub. 9-1-70. Cl. 18.
 Schlesinger Bros., Philadelphia, Pa. 777,630, can. Cl. 3.
 Schuyler Development Corp., Reading, Pa. 902,449-50, pub. 9-1-70. Cl. 6.
 Scott-Lee Laboratories, Inc., New Orleans, La. 777,717, can. Cl. 18.
 Seamon, A & L, Inc., Brooklyn, N.Y. 777,629, can. Cl. 3.
 Sedberry, J. B., Inc., Tyler, Tex. 529,835, ren. 11-17-70. Cl. 23.
 Seeburg Corp. of Delaware, The, Chicago, Ill. 902,613, pub. 9-1-70. Cl. 36.
 Sega Aktiebolag, Ersmark, Sweden. 902,419, pub. 9-1-70. Multiple Class (Classes 1 and 23).
 Seiderman, Maurice, d.b.a. Physiologieal, Hollywood, Calif. 902,777, pub. 9-1-70. Cl. 52.
 Select Beauty Brands, Inc., Great Neck, N.Y. 902,633, pub. 9-1-70. Cl. 39.
 Selfix, Inc., Chicago, Ill. 902,488, pub. 9-1-70. Cl. 13.
 Selig Co., Inc., The, to The Selig Chemical Industries, Inc., Atlanta, Ga. 223,907, cor. Cl. 52.
 Selig Co., Inc., to The National Service Industries, Inc., Atlanta, Ga. 273,191, cor. Cl. 52.
 Selig Co., Inc., to The National Service Industries, Inc., Atlanta, Ga. 273,573, cor. Cl. 4.
 Selig Co., Inc., The, Atlanta, Ga. 298,062, cor. Cl. 4.
 Selig Co., Inc., The, Atlanta, Ga. 371,271, cor. Cl. 6.
 Selig Co., Inc., The, Atlanta, Ga. 371,492, cor. Cl. 6.
 Selig Co., Inc., The, Atlanta, Ga. 379,408, cor. Cl. 51.
 Selig Co., Inc., to The National Service Industries, Inc., Atlanta, Ga. 505,359, cor. Cl. 6.
 Selig Co., Inc., The, Atlanta, Ga. 537,268, cor. Cl. 52.
 Sew Easy Linerie, Inc., New York, N.Y. 902,586, pub. 9-1-70. Cl. 26.
 Shafran, Joseph E., d.b.a. Joseph Shafran, Philadelphia, Pa. 902,699, pub. 9-1-70. Cl. 46.
 Shakespeare Co., Kalamazoo, Mich. 902,545, pub. 9-1-70. Cl. 22.
 Shell Oil Co., New York, N.Y. 777,706, can. Cl. 15.
 Shepard Laboratories, Inc., Fort Washington, Pa. 902,763, pub. 9-1-70. Cl. 51.
 Shoecraft, Inc., New York, N.Y. 280,384, ren. 11-17-70. Cl. 39.
 Sio Co., Minneapolis, Minn. 902,822, Cl. 22.
 Sigma Chemical Co., St. Louis, Mo. 530,943, ren. 11-17-70. Cl. 4.
 Silver, Lawrence A., Miami, Fla. 902,664, pub. 9-1-70. Cl. 39.
 Simon, William, Brewery, The, Buffalo, N.Y. 902,742, pub. 9-1-70. Cl. 48.
 Skinner Macaroni Co., Omaha, Nebr. 534,664, ren. 11-17-70. Cl. 46.
 Sllmaker-Compton, Inc., Kansas City, Mo. 525,995, ren. 11-17-70. Cl. 39.
 Sloan Instruments Corp., Santa Barbara, Calif. 902,574, pub. 9-1-70. Cl. 26.
 Smith, Sears S., d.b.a. Unique Products, Chicago, Ill. 752,747, can. Cl. 12.
 Sno-Trik Co., Solon, Ohio. 902,483, pub. 9-1-70. Cl. 13.
 Snowmass-At-Aspen, Aspen, Colo. 902,786, pub. 9-1-70. Multiple Class (Classes 100, 102, and 107).
 Societe des Usines Chimiques Rhone-Poulenc, Paris, France. 777,723, can. Cl. 18.
 Societe Industrielle des Etablissements B.V.R., Paris, France. 902,635, pub. 9-1-70. Cl. 39.
 Sonoco Products Co., Hartsville, S.C. 902,436, pub. 9-1-70. Cl. 6.
 Sony Corp. of America, Long Island City, N.Y. 902,536, pub. 9-1-70. Cl. 21.
 Sound/City Recording Corp., Shreveport, La. 902,817, Cl. 107.
 Sox Unlimited, Inc., New York, N.Y. 902,627, pub. 9-1-70. Cl. 39.
 Sperry Rand Corp., New York, N.Y. 902,557, pub. 9-1-70. Cl. 23.
 Sperry Rand Corp., New York, N.Y. 902,577, pub. 9-1-70. Cl. 26.
 Spex Industries, Inc., Metuchen, N.J. 777,848, can. Cl. 26.
 Sphinxworks Muller & Co. Ltd., Soleure, Switzerland. 902,551, pub. 9-1-70. Cl. 23.
 Sports Jet Industries, Inc., Minneapolis, Minn. 902,558, pub. 9-1-70. Cl. 23.
 Sprague Electric Co., North Adams, Mass. 902,535, pub. 9-1-70. Cl. 21.
 Standard Fruit & Steamship Co., New Orleans, La. 902,697, pub. 9-1-70. Cl. 46.
 Standard Oil Co., The, Cleveland, Ohio. 902,494, pub. 9-1-70. Cl. 15.
 Standard Oil Co., Flemington, N.J. 902,496, pub. 9-1-70. Cl. 15.
 Standex Laboratories, Inc., Columbus, Ohio. 538,686, ren. 11-17-70. Cl. 18.
 Star X-Ray Co., Inc., New York, N.Y. 789,119, can. Cl. 44.
 Starline, Inc., Harvard, Ill. 902,513, pub. 9-1-70. Cl. 19.
 Steiger, Miekie, Inc., Chicago, Ill. 902,665, pub. 9-1-70. Cl. 40.
 Stein, Hall & Co., Inc., New York, N.Y. 537,655, ren. 11-17-70. Cl. 1.
 Sterling Electronics Corp., Houston, Tex. 902,781, pub. 9-1-70. Cl. 52.
 Stuart, D. A., Oil Co., Ltd., Chicago, Ill. 902,435, pub. 9-1-70. Cl. 6.
 Suerest Corp., New York, N.Y. 902,715, pub. 9-1-70. Cl. 46.
 Sun Chemical Corp., New York, N.Y. 902,439, pub. 9-1-70. Cl. 6.
 Sure Oil & Chemical Corp., Worcester, Mass. 902,497, pub. 9-1-70. Cl. 15.
 Surgical Appliance Industries Inc., Cincinnati, Ohio. 535,020, ren. 11-17-70. Cl. 44.
 Sutton Cosmetics, Inc., New York, N.Y. 392,356, can. Cl. 51.
 Sutton Cosmetics, Inc., New York, N.Y. 647,977, can. Cl. 51.
 Sutton Cosmetics, Inc., New York, N.Y. 664,181, can. Cl. 51.
 Switzer Licorlee Co., St. Louis, Mo. 529,462, ren. 11-17-70. Cl. 46.
 Systems & Methods Business Forms, Los Angeles, Calif. 902,615, pub. 9-1-70. Cl. 37.
 Tarrson, Sidney A., Co., Chicago, Ill. 777,778, can. Cl. 22.

- Taylor, Henry, & Rics Ltd., Surban, Natal, Republic of South Africa, 902,644, pub. 9-1-70. Cl. 19.
- Technical Publishing Co., Barrington, Ill. 534,821, ren. 11-17-70. Cl. 38.
- Teen-Age Beachwear Corp., New York, N.Y. 902,626, pub. 9-1-70. Cl. 39.
- Texacone Co., The, Dallas, Tex. 902,610, pub. 9-1-70. Cl. 35.
- Therachemie Chemischen Therapeutische G.m.b.H., Dusseldorf, Germany, 902,766, pub. 9-1-70. Cl. 51.
- Thompson Wire Co., Mattapan, Mass. 777,699, can. Cl. 14.
- Timesavers, Inc., d.b.a. Timesavers Sanders, Inc., Minneapolis, Minn. 902,564-5, pub. 9-1-70. Cl. 23.
- Timken Co., The, Canton, Ohio. 536,733, ren. 11-17-70. Cl. 26.
- Timken Co., The, Canton, Ohio. 537,401, ren. 11-17-70. Cl. 13.
- Tire Warehouse, Inc., Waco, Tex. 902,612, pub. 9-1-70. Cl. 35.
- Tomlinson Industries, Inc., Cleveland, Ohio. 531,979, ren. 11-17-70. Cl. 13.
- Tops Petroleum Corp., Durham, N.C. 902,808, pub. 1-28-69. Cl. 103.
- Toro Mfg. Corp., Minneapolis, Minn. 529,845, ren. 11-17-70. Cl. 23.
- Torr Laboratories, Inc., Los Angeles, Calif. 902,594, pub. 9-1-70. Cl. 46.
- Tower Co. See—
- Tower Products, Inc.
- Tower Products, Inc., from Tower Co., Wheeling, Ill. 902,422, pub. 9-1-70. Cl. 1.
- Town & Country Shoes, Inc., St. Louis, Mo. 536,711, ren. 11-17-70. Cl. 39.
- Travel Systems/International, Ltd., Oak Brook, Ill. 902,814, pub. 9-1-70. Cl. 105.
- Travel Towne Parks of America, Inc., Clearwater, Fla. 902,789, pub. 9-1-70. Cl. 100.
- Tripp, Carver H., d.b.a. C. H. Tripp Finishing Co., La Jolla, Calif. 777,709, can. Cl. 16.
- Trylon Chemicals, Inc., from Trylon Chemicals, Inc., Lock Haven, Pa. 902,440-7, pub. 9-1-70. Cl. 6.
- Tsumura Juntendo, Ltd., Tokyo, Japan. 902,762, pub. 9-1-70. Cl. 51.
- USM Corp., Boston, Mass. 275,540, ren. 11-17-70. Cl. 5.
- UTD Corp., Athol, Mass. 902,559, pub. 9-1-70. Cl. 23.
- Unarco Industries, Inc., Chicago, Ill. 777,963, can. Cl. 50.
- Unique Products, Inc., Nashville, Tenn. 902,761, pub. 9-1-70. Multiple Class (Classes 51 and 52).
- Uniroyal, Inc., New York, N.Y. 902,655, pub. 9-1-70. Cl. 39.
- United Biscuit Co. of America, Melrose Park, Ill. 777,954, can. Cl. 46.
- United Fruit Co., Boston, Mass. 902,718, pub. 9-1-70. Cl. 46.
- United States Brass Corp., Plano, Tex. 902,482, pub. 9-1-70. Cl. 13.
- U.S. Net & Twine Co., Inc., Long Beach, Calif. 902,540, pub. 7-1-69. Cl. 22.
- U.S. Plywood-Champlon Papers Inc., New York, N.Y. 533,847, ren. 11-17-70. Cl. 12.
- Universal Oil Products Co., Des Plaines, Ill. 902,458, pub. 9-1-70. Cl. 6.
- Universal Oil Products Co., Des Plaines, Ill. 902,463, pub. 9-1-70. Cl. 6.
- Universal Oil Products Co., Des Plaines, Ill. 902,491, pub. 9-1-70. Cl. 13.
- Universal Oil Products Co., Des Plaines, Ill. 902,783, pub. 9-1-70. Cl. 52.
- Upjohn Co., The, Kalamazoo, Mich. 278,056, ren. 11-17-70. Cl. 18.
- Upjohn Co., The, Kalamazoo, Mich. 531,549, ren. 11-17-70. Cl. 18.
- Upjohn Co., The, Kalamazoo, Mich. 533,180, ren. 11-17-70. Cl. 18.
- Upjohn Co., The, Kalamazoo, Mich. 902,509, pub. 9-1-70. Cl. 18.
- Van Den Berghs & Jurgens Ltd., London, England. 902,722, pub. 9-1-70. Cl. 46.
- Vereinigte Leichtmetall-Werke Gesellschaft mit Beschränkter Haftung, Bonn, Germany. 777,700, can. Cl. 14.
- Victor Sports, Inc., Chicago, Ill. 902,549, pub. 9-1-70. Cl. 22.
- Vita Craft Corp., Shawnee, Kans. 527,128, ren. 11-17-70. Cl. 13.
- W. D. Electric Installation, Inc., Wood Dale, Ill. 902,556, pub. 9-1-70. Cl. 23.
- Water Pollution Controls, Inc., Englewood Cliffs, N.J. 902,566, pub. 9-1-70. Cl. 23.
- Weinschel Engineering Co., Inc., Gaithersburg, Md. 777,753, can. Cl. 21.
- Welabond Corp., Chicago, Ill. 902,484, pub. 9-1-70. Cl. 13.
- Welleo Enterprises, Inc., Waynesville, N.C. 902,647, pub. 9-1-70. Cl. 39.
- Westinghouse Electric Corp., Baltimore, Md. 777,931, can. Cl. 44.
- Westvaco Corp., New York, N.Y. 902,468, pub. 9-1-70. Cl. 12.
- Whitaker, Wm., & Sons, Inc., Philadelphia, Pa. 777,916, can. Cl. 42.
- White Farm Equipment Co., from Oliver Corp., Chicago, Ill. 902,550, pub. 9-1-70. Cl. 23.
- Wilbert, Inc., Broadview, Ill. 533,512, ren. 11-17-70. Cl. 12.
- Wilman Bros. & Elliott, Inc., Cutler, Calif. 902,696, pub. 9-1-70. Cl. 46.
- Williams, J. B., Co., Inc., The, New York, N.Y. 902,507, pub. 9-1-70. Cl. 18.
- Wilmington Blue Print Shop, Wilmington, Del. 902,616-17, pub. 9-1-70. Cl. 37.
- Witco Chemical Corp., New York, N.Y. 532,086, ren. 11-17-70. Cl. 18.
- Wonderland Creations, Los Angeles, Calif. 777,764, can. Cl. 21.
- Wood Conversion Co., St. Paul, Minn. 777,665, can. Cl. 12.
- Wood, T. W., & Sons, Richmond, Va. 327,934, can. Cl. 1.
- Wortham, Lois Jean, Oklahoma City, Okla. 902,623, pub. 9-1-70. Cl. 38.
- Worthington Foods, Inc., Worthington, Ohio. 902,731-2, pub. 9-1-70. Cl. 46.
- Wright, Barry, Corp., Watertown, Mass. 530,995, ren. 11-17-70. Cl. 23.
- Wright, W. Howard, d.b.a. Hunter's Dream Mfg., Verona, Miss. 902,512, pub. 9-1-70. Cl. 19.
- Wyo-Ben Products, Inc., Billings, Mont. 902,466, pub. 9-1-70. Cl. 10.
- Xtrium Laboratories, Inc., d.b.a. Blue Ridge Vitamin Co., Chicago, Ill. 777,715, can. Cl. 18.
- Young, Stephen A., Corp., Flora, Ind. 902,485, pub. 9-1-70. Cl. 13.
- Zaloom, Jos. A., & Co., Inc., New York, N.Y. 533,014, ren. 11-17-70. Cl. 46.
- Zondervan Publishing House, Grand Rapids, Mich. 902,624, pub. 9-1-70. Cl. 38.
- Zummach Paint Corp., Milwaukee, Wis. 902,499, pub. 9-1-70. Cl. 16.

U.S. GOVERNMENT PRINTING OFFICE: 0-1970



U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

November 24, 1970 Volume 880 Number 4

PATENTS NOTICES

Board of Appeals Decisions Rendered in the Month of October 1970

Examiner affirmed	119
Examiner affirmed in part	9
Examiner reversed	21
Total	149

Disclaimers

3,218,589.—William G. Delp, Pasadena, Calif. FINE TUNING MECHANISM FOR TELEVISION TUNERS. Patent dated Nov. 16, 1965. Disclaimer filed July 7, 1969, by the assignee, Standard Kollsman Industries, Inc. Hereby enters this disclaimer to claim 16 of said patent.

3,453,267.—Michel Vignau, Neuilly-sur-Seine, Robert Bucourt, Clichy-sous-Bois, Jean Tessier, Vincennes, Germain Costerousse, Montrouge, Lucien Nedelec, Clichy-sous-Bois, Jean-Claude Gase, Bondy, Robert Joly, Montmorency, Julien Warrant, Neuilly-sur-Seine, and Bernard Goffinet, Paris, France. NOVEL PROCESS FOR THE PREPARATION OF 3-OXO-Δ^{4,5}-TRIENIC STEROIDS. Patent dated July 1, 1969. Disclaimer filed Sept. 21, 1970, by the inventors and the assignee, Roussel UCLAF. Hereby enters this disclaimer to claim 16 of said patent.

Patents Available for Licensing or Sale

D. 215,183. FLEXIBLE TRANSMISSION COUPLING FOR THREE-WHEELED VEHICLE. James H. Mayland, 173 Southwood Drive, Old Bridge, N.J., 08857.

D. 217,800. BATTERY CABLE TIGHTNER AND REMOVER. Boykin Kirkland, 4212 S. 87th St., Philadelphia, Pa., 19153.

3,318,628. COMBINED GOLF CLUB AND BALL RETRIEVER. Retriever Industries, Inc., P.O. Box 1152, Manchester, Conn., 06040.

3,384,084. COLOSTOMY DEVICE. Fred Jeschawitz, Chadwicks, N.Y. Correspondence to: Cushman, Darny & Cushman, 730 15th St., NW., Washington, D.C., 20005.

3,449,974. TOGGLE DRIVE ACTUATOR. Billy P. Compton, Kaeton Engineering Co., 1000 W. 55th St. South, Wichita, Kans., 67217.

3,467,781. APPARATUS FOR THE RECORDING AND REPRODUCTION OF MESSAGES. Crouzet, 18 Rue Jean Jacques Rousseau, Valence, Drome, France.

3,530,591. PICTURE OR MIRROR HANGING AID. Wayne V. Moffitt, 520 NE. Ione, Camas, Wash., 98607.

3,532,012. CHUCK WRENCH. Henry L. Pryor, 5867 Auburn Blvd., Sacramento, Calif., 95841.

The following 3 patents are offered by John W. Barnd, 32 Hollybrook Road, Paramus, N.J.

3,351,128. MULTI-ZONE TEMPERATURE CONTROL.

New Applications Received During August 1970

Patents	8337
Designs	532
Plant Patents	5
Reissues	33
Total	8907

Issue—November 24, 1970

Patents	1700—No. 3,541,608 to No. 3,543,307, incl.
Designs	73—No. 219,255 to No. 219,327, incl.
Plant Patents	3—No. 3,005 to No. 3,007, incl.
Reissues	11—No. 26,983 to No. 26,993, incl.
Def. Pub.	11—No. TSS0,001 to No. TSS0,011, incl.
Total	1798

- 3,496,991. FLUID TEMPERATURE REGULATING METHOD AND APPARATUS.
- 3,515,345. MULTI-ZONE TEMPERATURE CONTROL.

Otto Wehr of Stuttgart, Germany, is prepared to grant exclusive or non-exclusive license on reasonable terms and conditions under the following patent.

Inquiries should be addressed to: George V. Caldwell & Associates, 236 Adelaide Drive, Santa Monica, Calif., 90402.

- 3,437,217. DOUBLE-TIER GARAGE.

Marathon Oil Company is prepared to grant licenses on reasonable terms and conditions under the following 7 patents.

Inquiries respecting licenses under these patents should be addressed to: Marathon Oil Company, Commercial Development Division, 539 S. Main St., Findlay, Ohio, 45840.

- 3,404,019. COKE GROUND IN A NON-OXIDIZING ATMOSPHERE.
- 3,493,532. CONTROLLING MODULES OF ELASTOMERS WITH PARTIALLY CALCINED COKE.
- 3,404,120. GROUND COAL IN ELASTOMERIC COMPOSITIONS.
- 3,360,583. PREPARATION OF POLYENES.
- 3,479,397. PREPARATION OF SULFONATES FROM ALPHA-OLEFINS USING ALKALI METAL CATALYST.
- 3,511,513. UNSATURATED URETHANE PREPOLYMERS FROM POLYEPICHLOROHYDRINS.
- 3,458,448. ISOCYANURATE-CONTAINING ISOCYANATES.

Devices Department, General Electric Company, Waynesboro, Va., 22980.

- 3,405,728. ELECTRO-VISCOUS FLUID VALVE.

Applications for license under the following patent may be addressed to: General Electric Company, Patent Counsel, Housewares Division, 1285 Boston Ave., Bridgeport, Conn., 06602.

- 3,259,268. COVER AND LATCH ARRANGEMENT FOR PORTABLE VACUUM CLEANER.

Applications for license under the following patent may be addressed to: Patent Counsel, Mobile Radio Department, General Electric Company, Lynchburg, Va., 24502.

- 3,518,498. HIGH-Q HIGH-FREQUENCY SILICON/SILICON-DIOXIDE CAPACITOR.

Applications for license under the following 2 patents may be addressed to: General Electric Company, Patent Counsel, Insulating Materials Department, Building 33, Room 209, One River Road, Schenectady, N.Y., 12305.

- 3,509,067. POLYMERIZATION OF MONOMERS WITH GROUP II-A METAL COMPLEXES.

- 3,527,662. IMPREGNATION OF ELECTRICAL COILS USING RESISTANCE HEATING AND TEMPERATURE SENSING MEANS.

Applications for license under the following 8 patents may be addressed to: General Electric Company, Large Motor & Generator Dept., 1 River Road, Building 41, Room 106, Schenectady, N.Y., 12309.

- 2,996,632. STATOR CAN SUPPORT.
- 3,049,969. ARRANGEMENT FOR COOLING COIL END TURNS.
- 3,062,598. THRUST BEARING.
- 3,075,107. CANNED MOTOR.
- 3,101,423. DYNAMOELECTRIC MACHINE.
- 3,218,490. LIQUID COOLED MOTOR.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF NOVEMBER 3, 1970

PATENT EXAMINING GROUPS

	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	2-03-69
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	10-31-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins. Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-02-69
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director. Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesives; Special Industrial Manufactures; Special Utility Compositions; Bleaching; Dyeing; Photography.	4-09-70

- 3,496,991. FLUID TEMPERATURE REGULATING METHOD AND APPARATUS.
 3,515,345. MULTI-ZONE TEMPERATURE CONTROL.

Otto Wöhr of Stuttgart, Germany, is prepared to grant exclusive or non-exclusive license on reasonable terms and conditions under the following patent.
 Inquiries should be addressed to: George V. Caldwell & Associates, 230 Adelaide Drive, Santa Monica, Calif., 90402.
 3,437,217. DOUBLE-TIER GARAGE.

Marathon Oil Company is prepared to grant licenses on reasonable terms and conditions under the following 7 patents.
 Inquiries respecting licenses under these patents should be addressed to: Marathon Oil Company, Commercial Development Division, 539 S. Main St., Findlay, Ohio, 45840.

- 3,404,019. COKE GROUND IN A NON-OXIDIZING ATMOSPHERE.
 3,493,532. CONTROLLING MODULES OF ELASTOMERS WITH PARTIALLY CALCINED COKE.
 3,404,120. GROUND COAL IN ELASTOMERIC COMPOSITIONS.
 3,360,583. PREPARATION OF POLYENES.
 3,479,397. PREPARATION OF SULFONATES FROM ALPHA-OLEFINS USING ALKALI METAL CATALYST.
 3,511,813. UNSATURATED URETHANE PREPOLYMERS FROM POLYEPICHLOROHYDRINS.
 3,458,448. ISOCYANURATE-CONTAINING ISOCYANATES.

General Electric Company is prepared to grant non-exclusive licenses under the following 12 patents upon reasonable terms to domestic manufacturers.
 Applications for license under the following patent may be addressed to: Patent Counsel, Communication and Control

Devices Department, General Electric Company, Waynesboro, Va., 22980.

- 3,405,728. ELECTRO-VISCOUS FLUID VALVE.

Applications for license under the following patent may be addressed to: General Electric Company, Patent Counsel, Housewares Division, 1285 Boston Ave., Bridgeport, Conn., 06602.

- 3,259,268. COVER AND LATCH ARRANGEMENT FOR PORTABLE VACUUM CLEANER.

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 3,043,969. ARRANGEMENT FOR COOLING COIL END TURNS.
 3,062,598. THRUST BEARING.
 3,075,107. CANNED MOTOR.
 3,101,423. DYNAMOELECTRIC MACHINE.
 3,218,490. LIQUID COOLED MOTOR.
 3,274,332. ELECTRICAL LEAD SEAL FOR PRESSURE VESSEL.
 3,437,047. CENTRIFUGAL PUMP WITH SPHERICAL-SHAPED CASING.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
 F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF NOVEMBER 3, 1970

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
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GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	10-31-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING, GROUP 140—L. J. BERCOVITZ, Director..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-02-69
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director..... Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	4-09-70
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director..... Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-31-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	12-02-69
SECURITY, GROUP 220—R. L. CAMPBELL, Director..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	4-09-69
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director..... Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	6-05-69
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	6-30-69
PHYSICS, GROUP 280—R. L. EVANS, Director..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-13-69
DESIGNS, GROUP 290—R. L. CAMPBELL, Director..... Industrial Arts; Household, Personal and Fine Arts.	2-02-70
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director..... Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	7-30-69
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	5-22-69
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletary; Printing; Typewriters; Stationery; Information Dissemination.	6-02-69
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	10-27-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director..... Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	9-15-69
Total number of pending applications (excluding Designs).....	183,364
Total number of Design applications pending.....	3,050

Expiration of patents: The patents within the range of numbers indicated below expire during November 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents..... Numbers 2,657,382 to 2,660,722, inclusive
 Plant Patents..... Numbers 1,226 to 1,231, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE MYER FREED

No. 8215. Decided May 14, 1970

[57 CCPA —; 425 F.2d 785; 165 USPQ 570]

1. PATENTABILITY—PROCESS—ONE STEP REACTION.

Upon considering the rejection of claims involving a process for producing calcium pantothenate by reacting three starting materials in a single reaction step, over a reference disclosing two reaction stages employing the same materials to produce the same product, *Held* that “* * * one skilled in the art who reads the [reference] teaching would have to presume that if the reactants were not combined in the manner shown, some adverse side reaction or no reaction at all would occur;” and that “* * * we must hold that, on the record before us, the Patent Office has failed to present enough evidence to support a prima facie case and the conclusion of obviousness must fall.”

2. PATENTABILITY—EVIDENCE—COMPARATIVE TESTS.

“The position we have taken makes it unnecessary to consider appellant’s assertion of unexpected results. We will, however, note that the Solicitor has pointed out enough discrepancies between the technique employed by appellant and that shown in the reference as to warrant our not relying on the comparative figures shown.”

3. SAME—PARTICULAR SUBJECT MATTER—METHOD INVOLVING PRODUCTION OF CALCIUM PANTOTHENATE.

The refusal of certain claims involving a method for producing calcium pantothenate, as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 237,339.

REVERSED.

Herman Hersch, George A. Degnan, McDougall, Hersch, Scott & Ladd, for appellant.

Joseph Schimmel (Leroy B. Randall, Joseph F. Nakamura, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and RAO, *Chief Judge*, United States Customs Court, sitting by designation

BALDWIN, *J.*, delivered the opinion of the court.

Freed appeals from the decision of the Patent Office Board of Appeals which sustained the Examiner’s rejection of the claims in his application ¹ as unpatentable under 35 U.S.C. 103.

THE INVENTION

Three of the four claims on appeal define the invention as a method for producing calcium pantothenate “consisting of reacting in a single reaction step and under substantially anhydrous conditions, beta alanine, pantoyl lactone and calcium carbide.” Calcium pantothenate, according to appellant is old and well known to the art. It is usually prepared as an intermediate in the pathway for the preparation of pantothenic acid, although calcium pantothenate in and of itself has widespread use as a vitamin supplement in animal feed or in human foods.

The fourth claim, claim 19, recites the preparation of the chloride double salt of calcium pantothenate by adding calcium chloride, in

¹ Serial No. 237,339, filed November 13, 1962.

NOVEMBER 24, 1970

U. S. PATENT OFFICE

1139

a subsequent reaction, to the product prepared by the single step reaction of claims 15–17. Appellant concedes that “there is no real invention in the preparation of the double salt,” since the reaction of pantothenate with calcium chloride “is a well known procedure.” Thus, claim 19 depends for patentability on the patentability of the single step process described in the other claims.

THE REJECTION

The claims were rejected as obvious in view of the disclosure of an Italian patent ² which teaches the preparation of calcium pantothenate by *first* reacting calcium carbide with beta alanine under anhydrous conditions to produce calcium beta alanate and, *subsequently*, adding pantoyl lactone to the first reaction product. Claim 19 was rejected over the cited Italian patent in combination with a German patent ³ disclosing the treatment of calcium pantothenate with calcium chloride to produce the double chloride salt. It was the Examiner’s position, adhered to by the Board, that the performance of the reaction in one step, as claimed, was made obvious by the prior performance of the same reaction in two steps in the Italian patent. The German patent was relied on to show that, once the calcium pantothenate had been produced, it would be obvious to produce the calcium chloride double salt. This court’s decision in *In re Tatincloxx*, ⁴³ CCPA 722, 228 F.2d 238, 108 USPQ 125 (1956), was cited apparently as authority to support the position that it would be obvious to simultaneously perform a process which had previously been conducted in a step-wise manner.

OPINION

On appeal, appellant has attacked the validity of the broad general proposition that a teaching of a two-step process makes performing that process in a single step obvious. He also alleges error in the specific finding that the claimed process is obvious over the process taught in the Italian patent. He asserts that the process there disclosed follows the accepted practices of the prior art in necessarily making use of a two phase reaction which includes the reaction of calcium carbide and beta alanine to produce calcium beta alanate as a first phase reaction and then reacting the calcium beta alanate with pantoyl lactone to produce calcium pantothenate as a second phase reaction, and thus cannot suggest that the specific reaction process taught may be performed simultaneously. Finally, appellant urges that he has shown evidence proving unexpectedly higher yields with his process as compared to that of the Italian patent.

We agree with appellant that reliance on the *Tatincloxx* opinion adds nothing to the Patent Office position. In that case, the process involved was for the production of a porous refractory material and included the steps of (1) making an aqueous colloidal suspension of a refractory material, (2) filling the suspension with gas bubbles, and (3) flocculating the suspension about the bubbles to disperse them uniformly throughout the suspension. Steps (2) and (3) were performed simultaneously in the claimed process whereas the prior art had disclosed performing them in separate steps. This court sustained a holding of unpatentability. As can be seen, however, the process steps involved were entirely physical in nature. What was said there

² Italian Patent 420,229, granted April 18, 1947.

³ German Auslegeschrift 1,041,967, published October 30, 1958.

regarding the obviousness "of performing simultaneously operations which have previously been performed in sequence," might have been correct for the facts of that case. We are not prepared, however, to draw from that opinion the broad proposition which the Patent Office has ascribed to it. In this, as in any case, a determination of obviousness must be based on facts and not on unsupported generalities.

Regarding the interpretation of the disclosure in the Italian patent, appellant has convinced us that the teaching therein neither contemplated nor suggested the single stage production of calcium pantothenate. Initially the patent contains the statement:

"According to the present invention it has been discovered that many of the difficulties encountered in the older technique are remedied by preparing calcium pantothenate by a process which includes reacting a totally anhydrous calcium beta alanate with alpha-hydroxy-beta, beta-dimethyl-gamma-butyrolactone (pantoyl lactone) in a rigorously anhydrous alcoholic medium."

Further highlighting appellant's position is the concluding paragraph of the patent wherein it is stated:

The process of the present invention is not particularly concerned with the method by which the beta alanate of anhydrous calcium is prepared. Any appropriate method can be used. * * *

In addition, each and every example relied upon by the Examiner specifically discloses separate production of the calcium beta alanate before the pantoyl lactone is added. It seems incontrovertible that the teaching of the Italian patent disclosure is of an improvement in the two stage reaction of calcium beta alanate with pantoyl lactone.⁴

The Patent Office position with regard to the teaching of the Italian patent may be summarized as follows: to one skilled in this art, reading the Italian patent disclosure, it would be obvious to conclude that the reaction process there disclosed could be accomplished by mixing the three recited compounds and allowing them to react simultaneously. Appellant responds:

It would appear that the Italian patent reflects the teachings and recognition of an expert in the field. If it were so obvious to carry out the reaction of calcium carbide, beta alanine and pantoyl lactone in a single stage reaction, it would have been obvious as well to the inventor whose invention is described in the Italian patent and the Italian patent would at least have suggested such possibilities. Yet, the Italian patent is not only completely silent on this point, the Italian patent clearly supports the belief of the prior art that it was necessary first to produce calcium beta alanate before reaction with pantoyl lactone to produce calcium pantothenate.

Since the reference disclosure is clear and specific in teaching the separate two-stage reaction, the Patent Office position has to be based at least in part on the assumption that looking at the disclosure as a whole, there would be no reason *not* to conclude that the process could be performed in a single stage.

This is, in effect, a conclusion, which must have some support, either in logic or in cold, hard facts. No evidence has been submitted to support it, and to us it seems more logical and reasonable to infer that one teaching a chemical reaction process would set out the *least* number of reactions thought necessary to accomplish the desired objective. [1] Thus, one skilled in the art who reads the teaching would have to pre-

⁴ We note that the following statement appears in the later-published German reference:

It is known to prepare calcium pantothenate by condensation of [pantoyl lactone] with calcium beta alanate in alcohol * * *

This is an apparent reference to the teaching of the Italian patent and is worth considering as a more contemporaneous indication of what the art felt was necessary to produce calcium pantothenate. It appears to lend support to appellant's argument that the art thought it necessary to first prepare the calcium beta alanate.

sume that if the reactants were not combined in the manner shown, some adverse side reaction or no reaction at all would occur.

With these considerations in mind we must hold that, on the record before us, the Patent Office has failed to present enough evidence to support a *prima facie* case and the conclusion of obviousness must fall.⁵

[3] The decision of the Board of Appeals must, therefore, be reversed. REVERSED.

[2]⁵ The position we have taken makes it unnecessary to consider appellant's assertion of unexpected results. We will, however, note that the Solicitor has pointed out enough discrepancies between the technique employed by appellant and that shown in the reference as to warrant our not relying on the comparative figures shown.

U.S. Court of Customs and Patent Appeals

IN RE JEROME G. KUDERNA, JR., AND DONALD D. PHILLIPS

No. 8222. Decided May 14, 1970

[57 CCPA —; 425 F.2d 385; 165 USPQ 575]

1. PATENTABILITY—OBVIOUSNESS.

"We must approach the issue of patentability in terms of what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the *sum* of all the relevant teachings in the art, not in view of first one and then another of the isolated teachings in the art."

2. SAME—PARTICULAR SUBJECT MATTER—"NITROGEN-CONTAINING INSECTICIDES."

The decision of the Board of Appeals, refusing a claim to the compound 3,4-dimethyl-5-ethylphenyl methylcarbamate as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 346,997.

REVERSED.

Frank R. LaFontaine (Marion W. Western, of counsel) for appellant.

Joseph Schimmel (Raymond E. Martin, of counsel) for the Commissioner of Patents.

Before RICH, Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and RAO, Chief Judge, United States Customs Court, sitting by designation

RICH, Acting Chief Judge, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claim 1, the only remaining claim, of application Serial No. 346,997, filed February 24, 1964, and entitled "Nitrogen-Containing Insecticides." We reverse.

The Invention

The appealed claim is directed to a single compound, 3,4-dimethyl-5-ethylphenyl methylcarbamate, the structural formula of which is provided hereinafter. This compound is an insecticide and according to appellants' specification "has been found to effectively control soil-dwelling insects for extended periods of time * * *."

The Rejection

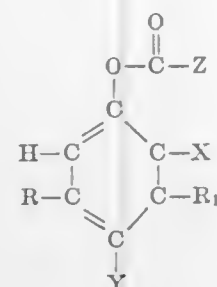
Claim 1 has been rejected for obviousness, under 35 U.S.C. 103, in view of the following references:

Lemin, 3,131,215, Apr. 28, 1964 (filed Oct. 6, 1960).

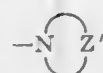
Kohn et al., 3,062,707, Nov. 6, 1962.

Kolbezen et al., Journal of Agricultural and Food Chemistry, vol., 2 pp. 864-70 (1954).

Lemin, the primary reference, discloses a large class of 2-halo- and 2,4-dihalo-alkylphenyl carbamates represented in the reference by the structural formula:



wherein Z contains a total of not more than 10 carbon atoms and is selected from the group consisting of monoalkylamino, monoalkenylamino, dialkylamino, dialkenylamino, and a saturated heterocyclic amino radical



of from 5 to 9 nuclear atoms, inclusive, wherein Z' represents a saturated bi-valent radical selected from the group consisting of alkylene, oxadialkylene, and thiadialkylene; X is halogen; R is alkyl of from 1 to 4 carbon atoms, inclusive; R₁ is selected from the group consisting of hydrogen and alkyl of from 1 to 4 carbon atoms, inclusive; and Y is selected from the group consisting of halogen and alkyl of from 1 to 4 carbon atoms, inclusive.

These compounds are said to be useful "for preventing and arresting infestations of insect pests." Of the many specific carbamates named in Lemin, the one most similar in structure to appellants' compound is 2-chloro-3-ethyl-4,5-dimethylphenyl ethylcarbamate.

Kohn discloses 3-t-amyl-6-chlorophenyl methylcarbamate, and compares it with its nonchlorinated analog, m-t-amylphenyl methylcarbamate, and with m-t-butylphenyl methylcarbamate, showing the non-chlorinated compounds to be significantly poorer inhibitors of the cholinesterase enzyme system of certain animal parasites.

Kolbezen¹ reports the results of an investigation of a wide variety of phenyl- and substituted-phenyl alkylcarbamates for insecticidal activity and activity as inhibitors of the cholinesterase enzyme system of insects. Several of Kolbezen's conclusions and generalizations are particularly noteworthy (bracketed numerals are added for subsequent reference to individual paragraphs quoted):

[1] It is apparent that the phenyl esters of N-methylcarbamic acid are considerably more toxic than the corresponding N-ethylcarbamates. * * * These results are in good agreement with those of Haworth et al., Gysin, and Stevens and Beutel, who found maximum toxicity to be associated with N-methyl substitution.

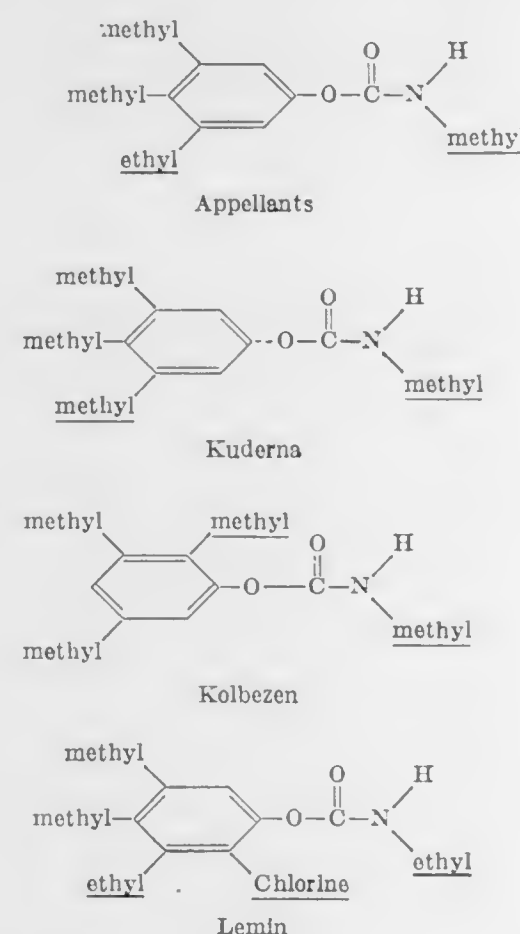
[2] The nature and extent of substitution of the phenyl rings of the N-methylcarbamates exert a remarkable influence on toxicity. The order of effectiveness of single ring substituents upon cholinesterase inhibition was NO₂ < [is less than] Cl < CH₃ < C₂H₅ < iso-C₃H₇; * * * and the contact toxicity was roughly on the same order * * *. The order of effectiveness of ring position was p < o < m, both for cholinesterase inhibition and for toxicity. * * *

[3] Where multiple substituents in the ring are concerned, reinforcement of the toxicity of meta-alkylates results from additional alkylation in the ortho- or meta-positions, as in the 3,5-dimethylphenyl, 2,3,5-trimethylphenyl, 2-methyl-5-isopropylphenyl, and 5-methyl-2-isopropylphenyl N-methylcarbamates. * * * [Emphasis added.]

Of the more than 50 carbamates tested and mentioned specifically in Kolbezen, the one most closely resembling appellants' compound is 2,3,5-trimethylphenyl methylcarbamate.

¹ This reference was also the subject of extensive discussion in *In re Kilsheimer*, 52 CCPA 1702, 349 F.2d 441, 146 USPQ 491 (1965).

At one point in the prosecution of appellants' application there were two other rejections which have since been withdrawn, namely, a rejection of claim 1 over the claims of appellants' commonly assigned Patent 3,130,122, issued April 21, 1964 (hereinafter "Kuderna"), "on grounds of double patenting" and a rejection as unpatentable over Kolbezen alone, presumably under § 103. Appellants overcame these two rejections by affidavits² which established to the Examiner's satisfaction that the compound of claim 1 possesses "unexpected insecticidal superiority" in comparison to the 3,4,5-trimethylphenyl methylcarbamate of Kuderna and in comparison with the 2,3,5-trimethylphenyl methylcarbamate of Kolbezen. The following are the structural formulae of the claimed compounds of appellants and Kuderna and the compounds of Kolbezen and Lemin most structurally similar to that of appellants (moieties of particular interest are underscored):



Referring to the compound of Lemin, the Examiner, in his answer before the Board, stated:

This compound differs from the claimed compound in two respects—it has a chlorine atom in the 2 position of the phenyl moiety and the acid substituent is ethyl, instead of methyl. However, at claim 1 * * * the reference clearly suggests the corresponding methyl compound and Kolbezen et al. disclose that the methyl carbamate is known to have superior toxic properties to the ethyl carbamate * * *. Regarding the chloro substituent, Kohn et al. disclose that a chlorine substituent in the ortho position enhances the insecticidal properties of the phenyl carbamate. Accordingly, one skilled in this art and familiar with the references of record would expect that the 2-chloro-3-ethyl-4,5-dimethylphenyl N-methyl carbamate would be a superior insecticide. However, the skilled worker would also expect the non-chlorinated compound, that claimed herein, to be a good insecticide, although not as toxic as the chloro analog.

The Board was of the opinion that the Examiner had made out a prima facie case of obviousness and that it was "incumbent upon appellants to offer evidence directly comparing the claimed compound with that disclosed by Lemin."

² Not of record here.

Appellants' Contentions

Appellants take the position that " * * * having established the claimed compound to be unobvious from the art *homolog* and *isomer/homolog*, they have a *fortiori* established it to be unobvious over all other compounds of *lesser structural similarity*, and it is not necessary that they also compare the claimed compound to any of the compounds of *less structural similarity*." [31] [Emphasis added.]

Appellants also urge that even if it were shown that, in comparison to Lemin's compound, their compound is less effective, the unobviousness of their compound would not have been negated. On this point, appellants contend:

The Lemin disclosure runs directly contrary to appellants' stated objective, namely, the provision of a non-halogenated insecticide. Halogenated insecticides have been used for so many years that many classes of insects have developed a resistance to the halogenated compounds and appellants desired to avoid halogen compounds. The very crux of the present invention was to find an insecticide which was highly effective yet one which did not contain halogen. Thus, even if it were shown that the compound of the present invention when tested against some particular organisms was not as effective as the halogenated Lemin compound, nevertheless appellants have made a very substantial advance in this highly complicated art since they have provided a replacement or supplemental insecticide for use in those cases where the insects have become resistant to the halogenated compounds. Appellants' advance is not necessarily in providing the best insecticide in the world but rather in providing a highly effective insecticide which does not contain a halogen.

Opinion

We agree with appellants that it was unnecessary for them to compare their compound with that of Lemin. We agree *not merely* because appellants have shown their compound to be unobvious in view of the structurally more similar compounds of Kolbezen and Kuderna; rather, we agree because the evidence which has been submitted demonstrates that their compound possesses an unexpected degree of effectiveness and would not have been obvious in view of *all* the cited prior art.

[1] We must approach the issue of patentability in terms of what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the *sum* of all the relevant teachings in the art, not in view of first one and then another of the isolated teachings in the art. Here, for example, if one singles out the Lemin patent and the compound therein found to be most structurally similar to that of appellants, the Examiner and Board's position seems plausible. But where is the reason for one skilled in the art to so emphasize that one isolated teaching? Kolbezen is the only reference that teaches or suggests anything about the structure-activity relationship of nonhalogenated trialkylphenyl alkylcarbamates.

² As support for this proposition appellants refer to the following statement from *Deutsche Gold- und Silber-Scheideanstalt vormals Roessler v. Commissioner of Patents*, 251 F. Supp. 624, 148 USPQ 412 (D.C. D.C. 1966):

An applicant for patent need not compare the properties of a claimed compound with those of *all closely related* compounds whose structural formulas and beneficial properties are taught or suggested by the prior art, it being sufficient if the beneficial properties of the claimed compound are compared with the corresponding properties of the *most closely related prior art compounds*. [Emphasis added.]

Appellants further note that in *In re Wetterau*, 53 CCPA 916, 356 F.2d 556, 148 USPQ 499 (1966), this court affirmed the decision of the Board saying:

We are unable to find "clear and convincing evidence" * * * that appellant's compounds possess unexpected activity compared to the *closest* * * * reference compound. [Emphasis quoted.]

From this appellants infer that if such evidence had been at hand, evidence relating to less close compounds would not have been required.

Lemin's disclosure relates only to 2-halo and 2,4-dihalo-alkylphenyl carbamates. Lemin makes no mention of any nonchlorinated compounds, no mention of any compound unsubstituted in the 2-position of the phenyl moiety and no mention of any compound substituted only in the 3, 4, and 5 positions. The 2-chloro-3-ethyl-4,5-dimethylphenyl ethylcarbamate, which is singled out of the Lemin disclosure by the Patent Office, is merely mentioned in one of several lists of representative compounds, and the 2-chloro-3,4,5-trimethylphenyl, 2-chloro-3-ethyl-4-propyl-5-butylphenyl and 2-chloro-3,4,5-tributylphenyl ethylcarbamates are also mentioned in the same list with equal emphasis.

The Kohn patent does not seem to support the general proposition for which the Examiner cited it, namely, "that a chlorine substituent in the ortho position enhances the insecticidal properties of the phenyl carbamate." This reference compares only one halogenated carbamate with two nonhalogenated carbamates, and all three compounds had only one alkyl group (of four or five carbon atoms) on the phenyl ring. The Board appreciated the danger inherent in attempting to extrapolate a teaching such as that of Kohn to predict the properties of a significantly dissimilar compound such as that of appellants. The Board noted that in the Kolbezen tests (which involved compounds structurally more similar to appellants' compounds than those of Kohn) chlorine in the 2-position of the phenyl ring did not enhance toxicity.

We agree with the Examiner and the Board that from Kolbezen, one skilled in the art would expect an *N-methyl* carbamate to be superior to the corresponding *N-ethyl* carbamate (see paragraph [1] of the quotation from Kolbezen, *supra*). However, we feel that from Kolbezen one skilled in the art would also select a 2,3,5-trialkyl configuration rather than the 3,4,5-structure of appellants' compound (see paragraphs [2] and [3]). There being nothing in either Lemin or Kohn on which to base a prediction of the comparative insecticidal activities of trialkylphenyl methylcarbamates such as those of Kolbezen, Kuderna and appellants, we find that, by demonstrating their compounds to be unexpectedly superior to that of Kolbezen, appellants have succeeded in demonstrating the unobviousness of their compound over the sum of the teachings in the cited prior art.

[2] The decision of the Board is therefore reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE ROBERT W. BODLEY

No. 8318. Decided May 28, 1970

[57 CCPA —: 426 F.2d 390; 165 USPQ 714]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"SEAL."

The decision of the Board of Appeals, refusing certain claims for a seal in a floating roof storage tank as unpatentable over the prior art, is affirmed.

APPEAL from Patent Office. Serial No. 334,752.

AFFIRMED.

Richard G. Lione, Jack C. Berenzweig (*Hume, Clement, Hume & Lee*), for appellant.

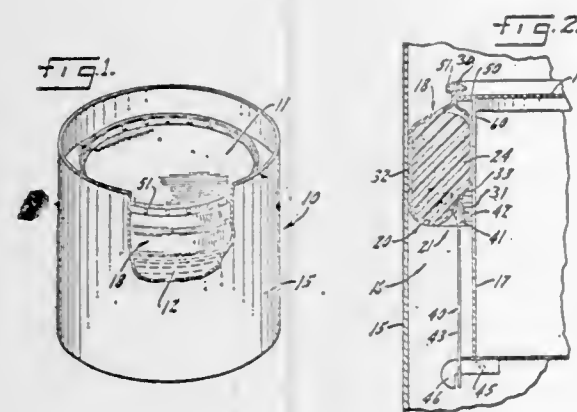
S. Wm. Cochran (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and FISHER, *Chief Judge*, Eastern District of Texas, sitting by designation

ALMOND, J., delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the rejection on prior art under 35 U.S.C. 103 of claims 18-21, all the claims remaining in appellant's application entitled "Seal."¹

The invention is readily understood by reading sole independent claim 18 in conjunction with FIGS. 1 and 2 of the drawings, reproduced below:



18. In a floating roof storage tank [10, FIG. 1], a resilient foamed material sealing arrangement [20] for providing light but effective sealing between the periphery of the roof [11] and the wall [15] of the tank while maintaining the resiliency of said foamed material and retarding the tendency of said foamed material to develop a compression set, comprising: a flexible toroidal envelope [23] in the space [16] between said floating roof and said wall, upper attachment means [30] extending horizontally around said envelope, lower attachment means [31] extending horizontally around said envelope, said upper and lower attachment means being annularly spaced on the vertical cross-sectional circumference of said envelope so as to define between them an innermost side [33] of said envelope which spans substantially less than 180 degrees of said cross-sectional circumference and an outermost side [32] which spans substantially in excess of 180 degrees thereof, means [50, 51] securing said upper attachment means to the periphery of the roof, means [40, 43, 45, 46] securing said lower attachment means to the periphery of the roof, a core [24] of relatively highly resilient foamed material in said envelope urging it against the periphery of the roof and the tank wall, said core having a toroidal configuration and a normal cross-sectional area approximately equal to or only slightly less than the corresponding cross-sectional area of said envelope, the normal cross-sectional diameter of said core being substantially greater than the width of said space whereby in operation said core is compressed in said envelope to a cross-sectional area less than said envelope, the relatively greater span of said outermost envelope side permitting said core of foam to roll so that its compression axis rotates through up to 90 degrees when the direction of travel of the roof changes, in upward travel of the roof said flexible foam core rolling downwardly with said envelope against said tank wall until its compression axis has rotated a maximum of 90 degrees after which further rolling is restrained by the tautness of said envelope between said tank wall and said upper connection, in downward travel of the roof, said flexible foam core rolling upwardly with said envelope against said tank wall until its compression axis has rotated a maximum of 90 degrees after which further rolling is restrained by tautness of said envelope between said tank wall and said lower connection.

Dependent claims 19-21 further define the core cross-sectional configuration and diameter.

¹ Serial No. 334,752, filed December 31, 1963.

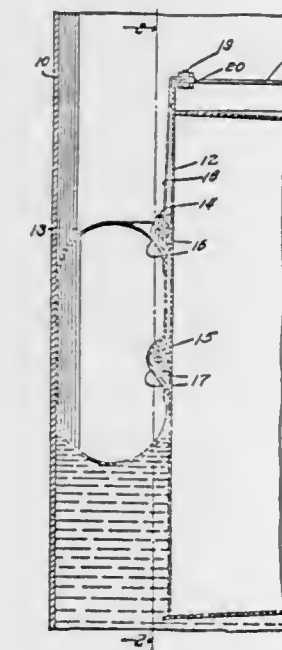
The following British patents were relied upon as references:

Greengate and Irwell Rubber Co., Ltd. (Greengate), 882,189, Nov. 15, 1961.

Chicago Bridge & Iron Co. (CB & I), 884,070, Dec. 6, 1961.

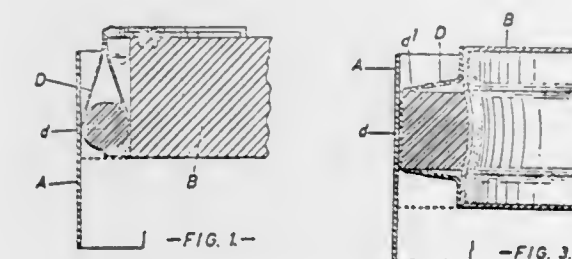
CB & I discloses a gas-inflated, self-centering seal for a floating roof storage tank. In FIG. 1 of the reference, below, can be seen an inflated annular sealing tube 13 anchored to an upper portion 14 and a spaced lower portion 15 on the skirt 12 of roof 11, the outer portion of the tube bearing against the wall of tank 10. The reference states:

It is considered desirable but not absolutely essential that both upper tabs 14 and lower tabs 15 be provided, because friction of that portion of the tube in contact with the shell during periods of vertical movement of the tank roof will cause the tube to be distorted either upwardly or downwardly, and a provision of both upper and lower anchors or tabs serves to keep the tube in approximately the same position both when the roof is moving upwardly and when it is moving downwardly.



CB&I Fig. 1

Greengate discloses the use of foamed polyurethane as a tank seal envelope filler. The filler or core *d* is trapped between the tank wall and roof edge and may have a circular or rectangular cross-section as shown in FIGS. 1 and 3 reproduced below:



Greengate FIGS. 1 and 3

The Examiner rejected the claims as unpatentable over CB & I in view of Greengate, taking the view that it would have been obvious to one of ordinary skill in the art "[t]o substitute for the gaseous type compressible material of the seal shown in FIG. 1 of the primary reference a toroidal foamed plastic compressible material of circular

cross section and of less cross sectional area than the cross sectional area of the envelope 13 as taught in the secondary reference * * *

The Board affirmed, stating:

It appears to us that persons of ordinary skill in the art approaching the seal shape and operation depicted in the base reference would find it obvious to replace the pressure-producing resilient ring by a ring rendered resilient through the use of foamed material. It appears to us that it would be obvious to fill the seal space of the primary reference with such deformable material while the seal was unconfined. The result would present a relaxed contour greatly exceeding the space in the assembly and upon assembly produce a resilient force comparable to the gas pressure form. Whether such undistorted form be circular or polygonal in cross section does not appear to bear any relationship to its final functioning or to be unobvious. The enclosure of the primary reference has the stated sectors and any seal so held will clearly tilt a bit upon the reversal of motion along the wall. This is all that is required by claim 18.

Appellant's argument in support of his position that the Board erred is that none of the art, taken individually or collectively, makes a teaching which would be the basis for obviousness. Moreover, it is urged, even if the reference combination is proper, the claimed structure is not anticipated. Finally, appellant contends that the Board's position that "all that is required by claim 18" is that the seal "tilt a bit" is a misinterpretation illustrating a lack of proper understanding of the invention and grounds in itself for reversal.

The *primary* distinction between the prior art and the claimed invention, urged in appellant's brief before us and set forth in the specification, is concerned with the controlled rolling of the core or the tank roof moving up and down within the tank. An amount of rolling "is calculated to assure minimal shear stresses being developed in the core as the direction of travel of the roof 11 changes, while shifting the axis of compression of the core 24 to minimize compression set along any one axis." This feature is expressed in the claim language "the relatively greater span of said outermost envelope side permitting said core of foam to roll so that its compression axis rotates through up to 90 degrees when the direction of travel of the roof changes * * *."

We are, however, unconvinced of error in the Board's position. The claimed structural features of the envelope are strikingly similar to those shown in the reference. The claim calls only for an envelope permitting rolling "through up to 90 degrees" and we think it apparent that the envelope construction of the reference disclosure would inherently permit a degree of rolling within the claim language. This view is further evidenced by the fact that the quoted portion of CB & I, appearing hereinbefore, contemplates movement and distortion. We are not convinced on this record that appellant's invention produces results not produced by the prior art.

While we agree with appellant that hindsight reconstruction of the prior art in light of an applicant's disclosure is to be vigorously guarded against and condemned, we feel that apposite here is this court's statement in *In re Rosselet*, 52 CCPA 1533, 347 F.2d 847, 146 USPQ 183 (1965):

* * * it is our view that the test of obviousness is not express suggestion of the claimed invention in any or all of the references but rather what the references taken collectively would suggest to those of ordinary skill in the art * * *

Properly evaluated and considered as a whole, the references here render obvious the claimed invention. [1] The decision of the Board is, therefore, affirmed.

AFFIRMED.

In the United States Patent Office
Before the Board of Patent Interferences

NERWIN v. ERlichman

Patent Interference No. 95,697. Decided May 29, 1969

1. INTERFERENCE—MATTER BEFORE BOARD—ISSUE OF NO INTERFERENCE IN FACT
FIRST RAISED AT FINAL HEARING.

"Since Nerwin in his opposition to Erlichman's motion to amend did not raise the issue of no interference in fact because of improper modification of the patent claims in counts 6 through 12, that issue as raised for the first time in Nerwin's brief at final hearing will not be here considered. As to whether or not a patent claim and a count consisting of a broadened modification of the patent claim are directed to the same invention, it would not be determinative of the issue to demonstrate by mere comparison that the count and the patent claim recite distinct or different inventions in the sense of *Brailsford v. Lavet et al.* * * * Upon such demonstration there would remain the question whether or not in view of pertinent prior art the substance of the count makes obvious to one ordinarily skilled in the art the substance of the patent claim, or *vice versa*."

2. SAME—SAME—RIGHT TO MAKE FIRST RAISED AT FINAL HEARING.

"The only issues here to be determined are those specific issues of alleged Erlichman lack of count support which were raised by Nerwin before the Primary Examiner on the parties' motions * * *. Those specific issues of lack of support raised for the first time in Nerwin's briefs at final hearing will not be here considered."

3. APPLICATION—DISCLOSURE—APPARATUS—INTEGRAL STRUCTURE CONSISTING OF SEVERAL ELEMENTS.

"The mere fact that a given structure is integral does not preclude its consisting of various elements."

Before BOYS and CAPELLI, *Examiners of Interferences* and ROEMING,
Acting Examiner of Interferences

ROEMING, *Acting Examiner of Interferences*.

The counts of this interference relate to a non-camera photographic apparatus and also to a camera.

The interference involves the reissue application of the senior party Erlichman and the patent of the junior party Nerwin. Counts 1 through 5 are claims of the Nerwin patent; counts 6 through 12 are modified claims of the patent.

The specification and drawings of the Erlichman reissue application are identical with those of the patent proposed to be reissued.

No testimony was taken. Only Erlichman filed preliminary statements. Nerwin timely moved to dissolve as to the original count on the ground of lack of support in Erlichman's disclosure. Erlichman opposed. Erlichman moved to amend by adding counts. Nerwin opposed the addition only on the ground of lack of support in Erlichman's disclosure. The Primary Examiner denied the motion to dissolve and granted in part the motion to amend. Nerwin requested final hearing for review of the issues raised by his motion to dissolve and his opposition to the motion to amend.

[1] Since Nerwin in his opposition to Erlichman's motion to amend did not raise the issue of no interference in fact because of improper modification of the patent claims in counts 6 through 12, that issue as raised for the first time in Nerwin's brief at final hearing will not be here considered. As to whether or not a patent claim and a count consisting of a broadened modification of the patent claim are directed to the same invention, it would not be determinative of the issue to demonstrate by mere comparison that the count and the patent claim recite distinct or different inventions in the sense of *Brailsford v. Lavet et al.*, 50 CCPA 1367, 318 F.2d 942, 796 OG 311, 1963

CD 723, 138 USPQ 28. Upon such demonstration there would remain the question whether or not in view of pertinent prior art the substance of the count makes obvious to one ordinarily skilled in the art the substance of the patent claim, or *vice versa*. Had Nerwin raised the issue of no interference in fact before the Primary Examiner in opposing the motion to amend, either Erlichman or the Primary Examiner might have, if necessary, cited prior art to show lack of *patentable distinction* between the patent claims and the respective counts. See *In re Wagenhorst*, 20 CCPA 829, 62 F.2d 831, 431 OG 532, 1933 CD 173, 16 USPQ 126; *In re Hidy*, 49 CCPA 1152, 303 F.2d 954, 782 OG 16, 1962 CD 380, 133 USPQ 650; *In re Ellis et al.*, 47 F.2d 963, 409 OG 559, 1931 CD 330, 8 USPQ 489, and *In re Risse et al.*, 54 CCPA 1495, 378 F.2d 948, 154 USPQ 1. Since neither Erlichman nor the Primary Examiner had the opportunity to cite prior art on this issue when Erlichman moved to add the counts which became counts 6 through 12, the issue of no interference in fact as now belatedly presented is not shown to be completely developed. Accordingly, any consideration of it here would be pointless.

[2] The only issues here to be determined are those specific issues of alleged Erlichman lack of count support which were raised by Nerwin before the Primary Examiner on the parties' motions, namely in Papers Nos. 8, 13 and 14 of the interference file. Those specific issues of lack of support raised for the first time in Nerwin's briefs at final hearing will not be here considered. *Smith et al. v. Klemperer* (Board of Interference Examiners 1949), 103 USPQ 275, and the court cases therein cited.

As to count 1, at page 1 of his reply brief Nerwin admits that the use limitations in the preamble are supported by Erlichman's FIGURE 10.

In issue is Erlichman's right to make in count 1 the limitations (1) "a divider between said exposure and processing chamber" and (2) "means effective upon movement of said strip along said first path for denoting the leading edge of each said sheet along a second path branching from said first path * * * into said exposure chamber."

Nerwin in effect contends that these limitations set forth two separate elements, that he discloses a divider comprising the roller 44 and the wall 34, that in his disclosure "the directing means comprises stripper 43," that in Erlichman's disclosure of FIGURE 10 these limitations find support only in the structure 198, that that structure is a single element, and that Erlichman "may not use this single element to meet two positively stated and separately claimed elements of the count." Erlichman cites *In re Kelley*, 49 CCPA 1259, 305 F.2d 909, 785 OG 413, 1962 CD 681, 134 USPQ 397, as authority that said limitations are properly supported by his structure 198. He further asserts and Nerwin does not deny that these limitations are unambiguous. Erlichman correctly notes that in Nerwin's patent the roller 44 is not only the divider but is also part of the "means * * * for pressing said layers toward one another." Nerwin's specification states as to his element 43:

"* * * To assist in directing the free end of the sheets into the exposure chamber a thin *stripper* member 43 of resilient material may be provided, so arranged as to bear lightly against the roll of film material in the supply chamber * * *." [Emphasis added.]

The emphasized terms in the foregoing statement indicate that the stripper member 43 is not *per se* the entire means for "directing" the

sheet into the exposure chamber. The roller 44 clearly participates also in that function. Nerwin states:

"* * * In FIGURE 10 of the Erlichman disclosure, the only structure conceivably forming such a divider is guide member 198. How guide member 198 functions as a divider is not clear since there is essentially a direct path from exposure chamber 184 to processing chamber 196 of Erlichman * * *"

Neither Nerwin nor Erlichman uses the term "divider" or expressly refers to a dividing function in his specification. In any event, it is clear that the tip of Erlichman's member 198 interposes itself between the strip and the sheet in the same manner as does Nerwin's roller 44, thus to divide the paths of the strip and the sheet.

[3] The mere fact that a given structure is integral does not preclude its consisting of various elements. In *Howard et al. v. Detroit Stove Works*, 150 US 164, 65 OG 1765, 1893 CD 659, the Supreme Court pertinently stated:

"* * * the Monumental grate * * * contains all the *elements* of the Beckwith grate, except that * * * it is cast in two pieces, while the Beckwith grate is cast in one piece." [Emphasis added.]

In *Reed v. Edwards*, 26 CCPA 901, 101 F.2d 550, 505 OG 234, 1939 CD 291, 40 USPQ 620, the court stated:

"* * * with reference to the statement [of the Board of Appeals] that the same element may be relied upon for performing two functions, we express no opinion thereon with respect to the application of that rule as applied to the counts before us. We are of the opinion, however, that while a given structure may in one sense be considered a single element, in another sense it may be so formed as to consist of several elements depending upon the functions to be performed by such elements."

If the upper portion of Erlichman's member 198 were eliminated and the "divider" tip of member 198 were supported by a member extending horizontally directly to the outer wall of chamber 196, then after the dividing of the paths of the sheet and of the strip, the sheet would not be guided into the exposure chamber 184. Clearly the upper portion of Erlichman's member 198 is an element which performs a function distinct from the dividing function of the tip, namely the function of assisting in guiding the sheet into the exposure chamber. Moreover, as Erlichman correctly points out, the curved surface joining the wall 188 of his exposure chamber and the top wall of his supply chamber cooperates in bending and guiding the sheet into the exposure chamber. We find it unnecessary to rely on *In re Kelley*, supra. In analogy to the findings in *Reed v. Edwards*, supra, and *Holdsworth v. Goldsmith*, 29 CCPA 1047, 129 F.2d 571, 542 OG 791, 1942 CD 491, 54 USPQ 90, we find that Erlichman supports the above indicated limitations of count 1 without double reading on the same element or structure. Moreover, we find that for support of these limitations Erlichman relies on "double reading" no more than does Nerwin.

Also in issue is Erlichman's right to make in count 1 the limitation: "said divider being effective upon continued movement of said strip * * * to cause such sheet to be effectively pulled * * * back past said divider and through said processing chamber in inverted position on said strip with said photosensitive and image-receptive layers facing one another." Nerwin contends that in Erlichman, the "inversion takes place in the initial movement of the strip by which the photosensitive sheet 164 branches into exposure chamber 184." When Erlichman's sheet is located in the exposure chamber there clearly is no completed inversion of the sheet, and the photosensitive and image-receptive layers do not face one another. On the continued

movement of the strip, the sheet is clearly pulled back past the divider, the inversion is completed, and the said layers are brought into position to face one another.

We conclude that count 1 is supported by the disclosure of Erlichman's FIGURE 10.

In Nerwin's opposition to Erlichman's motion to amend (Paper No. 13) the only issue of alleged Erlichman lack of support as to counts 2 through 12 (proposed counts *j* through *s* and *r* of the motion to amend) is raised as follows:

"Proposed count *j* also provides that continued movement of the strip in the same direction causes the sheet to be effectively inverted, and as stated above, the disclosure of the party Erlichman only shows inversion to take place upon initial movement into the sheet receiving chamber and not upon continued movement thereafter. Proposed counts *k*, *l* and *m* each are dependent upon proposed count *j*.

"Finally, it is respectfully submitted that the motions in the alternative to add counts *n* through *r* should be denied, because the party Erlichman has failed to show error to permit a reissue application, and particularly in regard to proposed counts *p* through *w*, the Erlichman disclosure does not support the elements of the counts regarding inversion after exposure for the reasons stated above and the Motion to Dissolve filed by the party Nerwin."

There is nothing in the terminology of any of counts 2 through 12 which makes the foregoing statement any more persuasive as to these counts than was its equivalent with respect to the corresponding substance of count 1. We find that the disclosure of Erlichman's FIGURE 10 supports counts 2 through 12.

In his brief, Erlichman alleges support in his structure of FIGURE 11 for counts 6 through 12. In Erlichman's motion to amend, the allusions to FIGURE 11 are too vague and their pertinence to specific counts and specific limitations is not sufficiently demonstrated to raise issues which are properly before us for review.

In summary, we find that Erlichman has established the earlier date of invention and that his reissue application disclosure supports all the counts.

Priority of invention of the subject matter in issue is awarded to Irving Erlichman, the senior party.

U.S. Court of Customs and Patent Appeals

IN RE DAVID W. WILSON

No. 8271. Decided May 7, 1970

[57 CCPA —; 424 F.2d 1382; 165 USPQ 494]

1. CLAIM—BROADER THAN DISCLOSURE—SECTION 112, FIRST PARAGRAPH.

"We first treat the rejection [for being 'broader than the disclosure'] under section 112. This rejection is in effect an attack on the specification as being insufficient to teach how to practice the broad invention claimed. The rejection is therefore under the first paragraph of section 112. The Board's position * * * was that the specification did not teach how to select ingredients so that the desired incompatibility would result. We disagree with the Board's position on this point. First of all, appellant provided four examples, each specifying the nature and amounts of materials to be used. Secondly, the record indicates that it involves only routine experimentation to find out which resins are incompatible. * * * We conclude that appellant has provided a sufficient specification to support the claims here in issue."

2. PATENTABILITY—OBVIOUSNESS—WORDS AND PHRASES—"INCOMPATIBLE."

"All words in a claim must be considered in judging the patentability of

that claim against the prior art. If no reasonably definite meaning can be ascribed to certain terms in the claim, the subject matter does not become obvious—the claim becomes indefinite. In the present case, we think the term 'incompatible' is defined with reasonable definiteness in the specification. While it is true that the word is not perfectly precise * * * there appears to be no other way for appellant to describe his discovery. In any event, the ignoring of this term by the Board renders its conclusion of obviousness unsupported."

3. SAME—PARTICULAR SUBJECT MATTER—"TREATED BRUSH AND BRUSH TREATING COMPOSITION."

The refusal of certain claims in an application entitled "Treated Brush and Brush Treating Composition," as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 332,321.

REVERSED.

Oberlin, Maky, Donnelly & Renner, William E. Thomson, Jr., John C. Oberlin, for appellant.

Joseph Schimmel (Raymond E. Martin, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, ALMOND, BALDWIN, LANE, *Associate Judges*, and FORD, *Judge*, United States Customs Court, sitting by designation

LANE, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals, which affirmed the rejection of claims 1-4, 8-10, and 15-21 in appellant's application Serial No. 332,321, filed November 5, 1963, for "Treated Brush and Brush Treating Composition." Four other claims have been allowed. We conclude that the Board's decision must be reversed.

THE DISCLOSURE

Appellant's disclosure discusses certain problems in the treatment of power-driven rotary brushes. According to the disclosure, it was desirable to produce a composition for treating the brush bristles, whereby the ability of the bristles to hold abrasive particles would be enhanced. It discloses that the treatment composition should have a strength of adhesion to the brush bristles sufficiently great to prevent such composition from transferring excessively to the object being brushed; that the treatment material should wear at substantially the same rate as the brush bristles; that the material should have a high temperature softening point; and that the strength of adhesion between the treating composition and the abrasive particles must be sufficient to withstand the centrifugal force which normally would tend to throw the abrasive outwardly from the brush. The disclosure states that previously known brush-treating compositions did not accomplish all these objectives and had a tendency to dry and lose their tackiness over a period of time, thus becoming useless for holding abrasive particles on the bristles.

The disclosure states that appellant discovered that a composition having a high temperature softening point and a high degree of tackiness could be produced if a film-forming resin were blended with a tackifier resin which was incompatible with (insoluble in) the film-forming resin. The resulting composition would have two distinct phases: a continuous phase comprised of film-forming resin, either alone or saturated with a small quantity of tackifier resin, and a dispersed phase comprised of small particles of tackifier resin. The two resins may be either completely or partially incompatible, and the disclosure states that the more insoluble the resins, the greater the

tack which the composition possesses. Appellant also disclosed that certain plasticizers could be added to render the resins more incompatible, thus further increasing the tack of the composition. Finally, appellant stated that the entire composition could be dissolved in a volatile solvent to allow easy application to the brush, the solvent being one which quickly evaporates upon such application.

The specification contains a list of suitable filmforming resins, including ethyl cellulose, nitro cellulose, cellulose acetate, polyvinyl acetate and cis-polyisoprene, among other materials. A list of tackifiers is given, including certain esters of abietic acid, polyvinyl ethyl ether, coumarone indene resin and terpene resins. A list of plasticizers is also given. The specification then gives four examples showing how to combine various film-formers, tackifiers, plasticizers and solvents to obtain brush-treating compositions of the desired characteristics, and explains how to apply them to brushes.

THE CLAIMS

In view of the result we reach, we find that claims 1 and 8 are representative:

1. A two-phase brush treating composition having a high softening point and sufficient tack to retain abrasive material firmly adhered to brush fill material comprising a film-forming resin and a tackifier resin which is incompatible with said film-forming resin, said two phases comprising a continuous phase formed of said film-forming resin and a dispersed phase formed of small particles of tackifier resin.

8. In combination, a rotary brush having brush fill materials and a two-phase pressure sensitive adhesive brush treating composition adhered thereto having a high softening point and sufficient tack to retain abrasive material firmly adhered to such brush fill material comprising a film-forming resin and a tackifier resin which is incompatible with said film-forming resin, said two phases comprising a continuous phase formed of said film-forming resin and a dispersed phase formed of small particles of tackifier resin.

The remaining claims on appeal are narrower, containing recitations of specific resins, plasticizers, etc.

THE PRIOR ART

Grantham ¹ relates to coatings for film material and discloses a coating composition comprising a cellulose derivative film-former, a blending resin, a plasticizer, and an organic solvent. Grantham teaches that the blending agent and the film-former should be compatible.

Depew ² teaches the preparation of emulsions consisting of a continuous phase of water and a discontinuous phase of elastomer particles and particles of a volatile hydrocarbon, with vulcanizing ingredients and other additives dispersed in the hydrocarbon particles. Depew then states that where a dispersion with additional adhesive properties is desired, an adhesive, such as certain of the tackifier resins disclosed by appellants, can be added to the emulsion, and that [t]his adhesive can be water soluble or dispersed as particles. * * * The chemistry of the adhesive component is not critical to this invention. The important thing is that the deposited film shall be tacky and adhesive.

Sergi ³ relates to adhesives suitable for installation of floor-covering products such as linoleum. Sergi's composition consists of a tackifier

¹ U.S. Patent 3,051,670, issued August 28, 1962.

² U.S. Patent 2,933,469, issued April 19, 1960.

³ U.S. Patent 3,015,638, issued January 2, 1962.

resin dispersed in a latex binder; the tackifier and latex must be compatible with one another, according to the Sergi disclosure.

Vaughan ⁴ teaches impregnating a fibrous buffing wheel with an aqueous emulsion consisting of a tacky resin and an emulsifier or stabilizer such as glue or gum.

THE BOARD

The Board found the composition claims to be unpatentable over Depew, Sergi or Grantham under 35 U.S.C. 103. The Board reached this conclusion after noting that each of the three references shows some of the film-formers, tackifiers, plasticizers and solvents appearing in appellant's lists. The Board found that the recited limitation of incompatibility was too relative a term to distinguish over the compositions of the references.

The Board found that the claims to the treated brush were unpatentable, under 35 U.S.C. 103, Vaughan in view of Sergi or Depew. Since Vaughan shows treating brushes, the Board apparently considered it obvious to treat brushes with compositions which it thought were made obvious by Sergi or Depew.

The Board also affirmed the rejection of certain claims for being "broader than the disclosure" under 35 U.S.C. 112. The Board's basis for this rejection was that the specification did not provide adequate guidelines for making a selection among the various disclosed ingredients, nor among other materials which are not disclosed but would be included by the claims.

OPINION

[1] We first treat the rejection under section 112. This rejection is in effect an attack on the specification as being insufficient to teach how to practice the broad invention claimed. The rejection is therefore under the first paragraph of section 112. The Board's position, as mentioned above, was that the specification did not teach how to select ingredients so that the desired incompatibility would result. We disagree with the Board's position on this point. First of all, appellant provided four examples, each specifying the nature and amounts of materials to be used. Secondly, the record indicates that it involves only routine experimentation to find out which resins are incompatible. The Examiner admitted as much when, with regard to obviousness, he said "selecting the proper tackifier and film-forming resin from those listed in the references to form an emulsion or two-phase composition would be within the expected skill of the art and would merely involve routine experimentation." We conclude that appellant has provided a sufficient specification to support the claims here in issue.

Turning to the rejection of the claims for obviousness, we again disagree with the Board's position. The Board has disregarded the term "incompatible," as used in the claims, because it is "too relative" to distinguish over the compositions of the references. Appellant contends this limitation is essential in defining his invention. There has been no rejection here for indefiniteness, under the second paragraph of section 112. Rather than reject the claims as indefinite, the Board chose to ignore the language it considered indefinite, and proceeded as though that language were not in the claims. The Board said, in effect, that since we do not know what "incompatible" means, and the

⁴ U.S. Patent 2,890,136, issued June 9, 1959.

rest of the claim defines obvious subject matter, there is no basis for concluding unobviousness. This reasoning is incorrect. [2] All words in a claim must be considered in judging the patentability of that claim against the prior art. If no reasonably definite meaning can be ascribed to certain terms in the claim, the subject matter does not become obvious—the claim becomes indefinite. In the present case, we think the term "incompatible" is defined with reasonable definiteness in the specification. While it is true that the word is not perfectly precise, under the circumstances of the present case there appears to be no other way for appellant to describe his discovery. In any event, the ignoring of this term by the Board renders its conclusion of obviousness unsupported. None of the references discloses a two-phase composition of incompatible resins or suggests that such a composition would have the properties disclosed by appellant. Grantham and Sergi both expressly teach that the components of their compositions should be compatible. Neither Vaughan or Depew¹ uses a resin as the continuous phase. While Depew states, as quoted above, that the adhesive material may be dispersed as particles in the continuous phase, and hence be incompatible with the continuous phase material, it cannot be ignored that Depew's continuous phase is of water, not a film-forming resin as recited in appellant's claims. Furthermore, there is no suggestion in Depew or Vaughan that there are advantages in using an adhesive which is insoluble in the aqueous phase. There is nothing of record, therefore, from which we can properly conclude that the subject matter of appellant's claims would have been obvious at the time of his invention. [3] The decision of the Board must accordingly be reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE KARL H. SANDMEYER, WILLIAM A. MILLER AND LEROY M. SWANSON

No. 8282. Decided May 21, 1970

[57 CCPA —; 425 F.2d 766; 165 USPQ 629]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—REMAND.

"There is pending before us a motion by appellants to remand this case to the Primary Examiner. The basis for the motion is the contention that the Board applied for the first time a rejection under 35 U.S.C. 103 and failed to denominate this a new ground of rejection. Appellants say they believed the Examiner's rejections to be under § 102 only * * *. We find no merit in these contentions. First of all, appellants submitted, prior to final rejection, an amendment stating that 'neither reference has such a teaching as to make obvious the production of articles corresponding to these claims.' * * * Second, in their petition to revive the instant application * * * appellants prayed for relief 'to get a further review of this application either at the Board of Appeals level or before the Court of Customs and Patent Appeals,' not to go back to the Primary Examiner. Finally, we find that all issues relevant to the disposition of this case have been fully developed before us. Accordingly, appellants' motion for remand is denied."

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—"HIGH ALPHA-ALUMINA FUSED CAST REFRACTORIES."

The refusal of certain claims in an application entitled "High Alpha-Alumina Fused Cast Refractories," as unpatentable over the prior art, is affirmed.

APPEAL from Patent Office. Serial No. 347,395.

AFFIRMED; MOTION DENIED.

William H. Webb, Russell D. Orkin (Spencer B. Michael, of counsel) for appellants.

Joseph Schimmel (Fred W. Sherling, of counsel) for the Commissioner of Patents.

Before RICH. Acting Chief Judge, ALMOND, BALDWIN, LANE, Associate Judges, and FORD, Judge, United States Customs Court, sitting by designation

LANE, J., delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals¹ which affirmed the rejection of claims 1 through 6, all the claims in appellants' patent application Serial No. 347,395, filed February 26, 1964, for "High Alpha-Alumina Fused Cast Refractories." We affirm the Board's decision.

Claims 1 and 4 are illustrative of the claims on appeal.

1. A fused cast refractory article consisting essentially of alpha-alumina and containing a small amount up to 1½ percent of an alkali oxide, and less than 1 percent of silica, said article having a preselected, definite size and shape.

4. A fused cast refractory article consisting essentially of alpha-alumina and containing a small amount up to 1½ percent of lithium oxide, said article having a preselected, definite size and shape.

The other claims on appeal additionally recite a non-porous crystal structure, and density.

All the claims were rejected by the Examiner as fully met by Comstock² or Marshall.³ The Board construed this rejection to be under 35 U.S.C. 103 since the Examiner's rejection stated that only mechanical skill would be required to form the molten alumina into any desired shape. The Board in its decision added a new rejection under Rule 196(b), stating that claims 1, 2 and 3 were met by Comstock under 35 U.S.C. 102. Upon subsequent consideration of arguments and affidavits filed by the applicant, the Examiner withdrew this new 35 U.S.C. 102 rejection.

The Comstock patent discloses a fused alumina containing 0.06% silica, 0.07% ferric oxide, 0.01% sodium oxide, with trace amounts of other materials. Comstock also teaches the formation of a hot-pressed molded product of great density and low porosity. The Marshall patent discloses an abrasive material consisting of fused alumina, 0.1–0.5% of lithium oxide, and 1.23–1.50% of silica.

Appellants' claim 1 defines a fused cast refractory article of preselected size and shape and consisting essentially of alpha-alumina and containing up to 1½ percent of an alkali oxide and less than 1 percent of silica. The Comstock articles of granular alumina are described therein as electrically fused and Comstock mentions a hot high-pressure molding technique utilizing graphite molds to produce ingots. The claims on appeal do not specify any particular size or shape distinguishable from the ingots molded by Comstock. Marshall discloses alumina abrasive materials prepared by adding ingredients to an arc furnace wherein the ingredients are heated to the fusing point and rendered molten. After cooling, the Marshall refractory article is crushed to produce materials for surface grinding operations. Both Comstock and Marshall disclose refractory articles consisting essentially of alumina containing small percentages of an alkali oxide and silica. Consideration of the ingots produced by Comstock in hot high-pressure molding, or by Marshall in an arc furnace rendering the materials molten, supports the conclusion that it would

¹ Consisting of Magil and Behrens, Examiners-in-Chief, and Rebold, Acting Examiner-in-Chief; opinion by Rebold.

² U.S. Patent 2,618,567, issued November 18, 1952.

³ U.S. Patent 3,141,747, issued July 21, 1964, filed August 24, 1961.

have been obvious to form fused cast refractory articles of any desired size and shape from the disclosed ingredients. Claim 2 adds to claim 1 that the article has a dense nonporous crystal structure, and claim 3 recites that it has a compact crystal structure having a density of at least 3.5 (presumably grams per cubic centimeter). Marshall discloses that alpha alumina has a density of 3.99 grams per cubic centimeter. Claims 4, 5 and 6 limit the alkali oxide specifically to lithium oxide. The aluminous abrasives disclosed by Marshall are stated to contain from 0.1 to 0.5 percent added lithia (lithium oxide).

Appellants contend that there is a difference between "fused" and "fused cast" and that the Comstock product is not fused cast. Comstock discloses hot molding of mixtures including fused low-soda alumina at temperatures of at least 1650° C. to produce strong and dense molded pieces. We are not convinced that it would not have been obvious to one skilled in the art of forming refractory articles to make such articles in a preselected shape and size by casting, by molding or by pressure molding. We find nothing in the record to convince us that the Board erred in affirming the rejection of claims 1, 2 and 3 as obvious over Comstock and unpatentable under 35 U.S.C. 103.

Appellants assert finally that Comstock and Marshall contain no teaching of fused cast refractory articles usable as a lining for glass tanks and the like. The claims on appeal are directed only to a fused cast refractory article of a preselected, definite size and shape. Appellants' application discloses melting of the raw batch composition with an electric arc. Marshall teaches adding the mixtures to a large arc furnace in which the ingredients are rendered molten. The size and shape of the article are a matter of selection within the ability of one having ordinary skill in the art. The selection of size and shape for a desired use is not considered to be a problem in this particular case wherein appellants have disclosed no specific sizes and shapes.

We conclude that the Board's determination that claims 1 through 6 are unpatentable under 35 U.S.C. 103 over Comstock and Marshall is correct and must be affirmed.

[1] There is pending before us a motion by appellants to remand this case to the Primary Examiner. The basis for the motion is the contention that the Board applied for the first time a rejection under 35 U.S.C. 103 and failed to denominate this a new ground of rejection. Appellants say they believed the Examiner's rejections to be under § 102 only, and that they never had an opportunity to argue § 103 issues before the Examiner and to submit evidence addressed to such issues. We find no merit in these contentions. First of all, appellants submitted, prior to final rejection, an amendment stating that "neither reference has such a teaching as to make *obvious* the production of articles corresponding to these claims." [Emphasis ours.] Second, in their petition to revive the instant application, which apparently had been held abandoned at one point in the proceedings below, appellants prayed for relief "to get a further review of this application either at the Board of Appeals level or before the Court of Customs and Patent Appeals," *not* to go back to the Primary Examiner. Finally, we find that all issues relevant to the disposition of this case have been fully developed before us. Accordingly, appellants' motion for remand is denied.

[2] The decision of the Board is affirmed, and appellants' motion to remand is denied.

AFFIRMED; MOTION DENIED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

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3,110,151. (See 2,985,993.)

3,113,115, Ziegler, Martin, Holzkamp, POLYMERIZATION CATALYST; 3,257,332, Ziegler, Brell, Holzkamp and Martin, POLYMERIZATION OF ETHYLENE, filed July 28, 1970, D.C., C.D. Calif. (Los Angeles), Doc. 70-1662-CC, *Dart Industries, Inc. and Purechem Corporation v. Karl Ziegler*. (See second amended complaint), filed Aug. 12, 1970.

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3,346,300, L. A. Grant, BLAST FURNACE LINING REMOVING MACHINE; 3,389,755, same, DEMOLITION TOOL CRADLE; 3,458,396, same, DEMOLITION MACHINE, filed Jan. 15, 1969, D.C., N.D. Ill. (Chicago), Doc. 69e81, *Louis A. Grant, Incorporated v. Edward Gray Corporation and Gray-Keibler Inc.* Consent judgment, count III of the complaint and supplemental complaint dismissed. Gray Industries has infringed, Patent 3,458,396 valid, Aug. 5, 1970.

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3,385,115. (See 2,778,418.)

3,389,755. (See 3,346,300.)

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3,469,572. (See 2,847,995.)

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3,510,981. (See 3,483,654.)

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DEFENSIVE PUBLICATIONS

PUBLISHED NOVEMBER 24, 1970

Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application, as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T880,001 PROTECTION OF SILVER DIFFUSION TRANSFER IMAGE

Joseph Samuel Yudelson and Wayne Arthur Bowman,
both % Research Laboratories, Kodak Park, Roches-
ter, N.Y. 14650

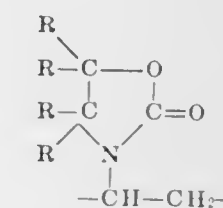
Filed Feb. 24, 1969, Ser. No. 801,851

Int. Cl. G03d 15/06

U.S. Cl. 95—1

No Drawing. 12 Pages Specification

A diffusion transfer photographic silver print having a protective coating against contamination by hydrogen sulfide gas consisting essentially of a polymer containing repeating segments having the formula:



wherein R is selected from hydrogen and a lower alkyl group with the proviso that at least one R is a lower alkyl is provided by coating the print surface with the protective coating.

T880,002 MANEB FORMULATIONS INCLUDING SILICONE OILS CONTAINING COLLOIDAL SILICA

Christian B. Luginbuhl, 127 Nevada Ave.,
Shipley Heights, Wilmington, Del. 19803

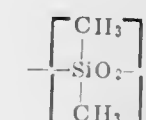
Continuation-in-part of application Ser. No. 639,273,
May 18, 1967. This application Apr. 29, 1969,
Ser. No. 820,324

Int. Cl. A01n 9/12

U.S. Cl. 424—286

No Drawing. 14 Pages Specification

A fungicidal spray composition suitable for spraying is made by adding to a maneb wettable powder, hydrocarbon spray oil, emulsifier and water formulation, a silicone oil containing colloidal silica as an antifoam agent. The silicone oil antifoaming agents are dimethylpolysiloxanes made of



units in combination with a small amount of colloidal silica, less than 5% by weight.

T880,003 ADAPTER FOR TELEPHONE RECEIVERS HAVING A SMALL STRAY MAGNETIC FIELD

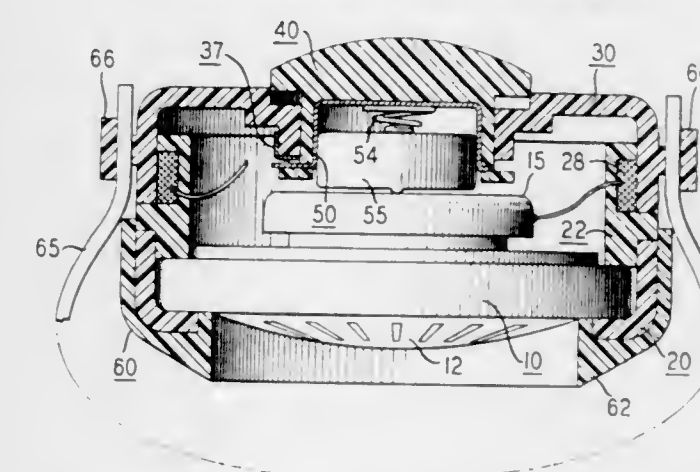
Gary L. Spahn, Indianapolis, Ind., assignor to Bell
Telephone Laboratories, Incorporated, Murray Hill and
Berkeley Heights, N.J., a corporation of New York

Filed May 5, 1969, Ser. No. 821,692

Int. Cl. H04r 25/20

U.S. Cl. 179—1

2 Sheets Drawing. 7 Pages Specification



The adapter is designed to facilitate the use of a hearing aid with a handset that contains a shielded receiver, such a receiver having too low a stray magnetic field to permit the telephone pickup coil provided with most hearing aids to work effectively. The adapter comprises a carbon transmitter that is acoustically coupled to the receiver and electrically connected in series with a battery, on-off switch, and coil. A modulated magnetic field is produced by the coil and this field can then be sensed by the telephone pickup of the hearing aid.

T880,004 PROCESS FOR PREPARING FILLED POLYMERS

Harold Boardman, Chadds Ford, Pa., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Filed Dec. 4, 1969, Ser. No. 882,335

Int. Cl. D01f 1/02

U.S. Cl. 264—211

No Drawing. 7 Pages Specification

A process is taught for the preparation of filled polyolefins containing about 55 to 90% of a particulate inorganic filler. The process comprises extruding a blend of appropriate quantities of the polyolefin and the filler diluted with a sufficient quantity of wax to permit the material to be extruded into the shape desired, followed by extraction of the wax. The process is particularly useful with high viscosity polymers which ordinarily would not be amenable to extrusion without undergoing serious degradation. Extraction is accomplished by use of an inert solvent such as hydrocarbons, alcohols or ketones, which selectively extract wax and do not dissolve either the filler or the matrix polymer. It is found that if the filler is not soluble in the wax or the solvent, substantially none of the filler is removed in the wax extraction step.

T880,005
PROCESS FOR MANUFACTURING
2,2,4-TRIMETHYLPENTANOL

Hugh J. Hagmeyer, Jr., David C. Hull, and Milton A. Perry, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

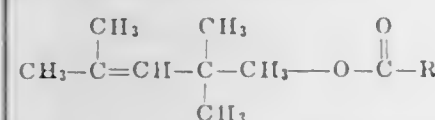
Continuation of application Ser. No. 786,458, Dec. 23, 1968, which is a continuation-in-part of application Ser. No. 379,009, June 29, 1964. This application Dec. 22, 1969, Ser. No. 883,663

Int. Cl. C07c 31/02

U.S. Cl. 260-638

No Drawing. 7 Pages Specification

A process for the manufacture of 2,2,4-trimethylpentanol which comprises contacting an ester of 2,2,4-trimethyl-3-pentenol having the formula



wherein R is alkyl of 1 to 17 carbon atoms, phenyl, o-, m- or p-tolyl, benzyl or cyclohexyl; with hydrogen at a temperature from about 185° C. to about 275° C. and a pressure in the range of about 2000 p.s.i. to about 10,000 p.s.i. over a copper-chromium oxide catalyst.

T880,006
BUTT SPLICING MACHINES

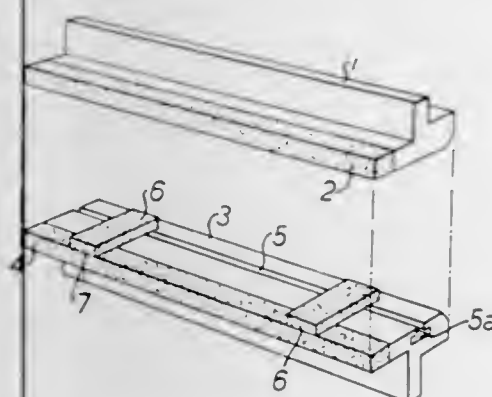
James D. Adams, 67 Bld. Mettwie, Brussels, Belgium, and Norman E. Odum, 29 Roger Van der Weydendreef, Overijse, Belgium

Filed Dec. 22, 1969, Ser. No. 887,038

Int. Cl. B29h 15/00

U.S. Cl. 156-503

1 Sheet Drawing, 10 Pages Specification



An adjustable clamp for holding an element, such as a tire inner tube, which is to be butt spliced with a mating element held in a similar clamp. The clamp has two relatively movable jaws. At least one of the jaws is provided with two spacing members which are relatively movable to accommodate inner tubes of different widths. The spacing members are held clamped by the jaws when the tube is clamped and they thus confine the edges of the tube when it is under compression.

T880,007
PREPARATION OF PURIFIED AROMATIC ACID

Olden E. Paris, Wilmington, Del., and Robert H. Sullivan, Woodbury, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 15, 1970, Ser. No. 3,234

Int. Cl. C07c 51/42

U.S. Cl. 260-525

No Drawing. 7 Pages Specification

Purified aromatic acid is prepared from an aqueous solution of an alkali metal salt of the acid which contains reducible impurities, wherein the alkali metal is selected

from the group consisting of sodium, potassium, rubidium and cesium, by reducing the impurities by catalytic hydrogenation, followed by acidifying the solution to precipitate the purified acid. The process is particularly useful for preparing purified terephthalic acid, especially where the reducible impurities are salts of aldehyde acids such as para-formylbenzoic acid. The reducible impurities are hydrogenated by contacting the aqueous solution with hydrogen in the presence of a hydrogenation catalyst at a pressure of from 0 to about 100, preferably 25 to 50 p.s.i.g., and at a temperature of about from 25 to 100° C., preferably 40 to 75° C. Any of the known hydrogenation catalysts can be used, but preferred catalysts are nickel/kieselguhr, cobalt/kieselguhr, nickel/aluminum oxide, active copper chromite, Raney nickel and chromium-promoted Raney nickel, with chromium-promoted Raney nickel being especially preferred. The amount of catalyst should be about from 0.5 to 3, preferably 1 to 2, percent by weight based on the amount of aromatic acid salt. The hydrogenation should generally be continued for about from 30 to 90 minutes, with a slight excess of hydrogen over stoichiometric quantities being used to insure complete reduction of the impurities.

T880,008
VINYL CHLORIDE RESIN PLASTISOLS HAVING
IMPROVED ADHESION

David L. Valentine and Dean C. Finney, both of P.O. Box 511, Kingsport, Tenn. 37662

Continuation of application Ser. No. 651,995, July 10, 1967. This application Jan. 21, 1970, Ser. No. 4,453

Int. Cl. C08g 39/10, 51/36

U.S. Cl. 260-873

No Drawing. 20 Pages Specification

Adhesive vinyl chloride resin plastisols are provided by incorporating certain unsaturated polyesters therein. These polyesters promote adhesion of the plastisol and may be conveniently incorporated by pre-blending with conventional vinyl resin plasticizers prior to blending such conventional plasticizers with the vinyl resin. The polyesters are untermated, have a molecular weight of up to about 4000, and are derived from 1,4-cyclohexanedimethanol and an unsaturated carboxylic acid having 4 or 5 carbon atoms.

T880,009
APPARATUS AND PROCESS FOR OBTAINING
UNIFORM DEPOSITION OF FINELY DIVIDED
ADDITIVES ON THE SURFACE OF A BANDED
CIGARETTE FILTER TOW

James E. Harris, Bristol, Tenn. (% Tennessee Eastman Company, Box 511, Kingsport, Tenn. 37662)

Filed Jan. 28, 1970, Ser. No. 6,611

Int. Cl. B67d 5/20; G01f 11/24

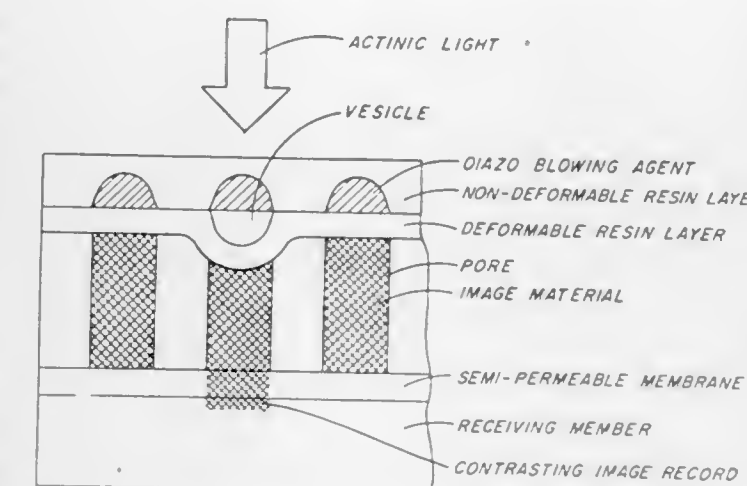
U.S. Cl. 222-56

3 Sheets Drawing, 16 Pages Specification



Apparatus for uniform deposition of a finely divided additive on a banded crimped multifilament cigarette filter tow to be used in making a cigarette filter rod. The apparatus comprises a gravity feed hopper, into which is fed finely divided particulate additive, such as hydrated

T880,011
ENEROGRAPHIC PROCESS AND ELEMENT
Jörg Jaskowsky, Ruit, Württemberg, Germany
Filed Apr. 8, 1970, Ser. No. 26,703
Int. Cl. G03c 1/52, 5/00
U.S. Cl. 96-27
1 Sheet Drawing, 15 Pages Specification



T880,010
OVENS
Laurence Michael Smith, Welwyn Garden City, England,
assignor to Imperial Chemical Industries Limited,
Millbank, London, England, a corporation of Great
Britain

Filed Feb. 6, 1970, Ser. No. 9,453

Claims priority, application Great Britain, Feb. 14, 1969, 8,173/69

Int. Cl. B32f 23/08; D21h 1/40

U.S. Cl. 117-155

No Drawing. 7 Pages Specification

A disposable liner for an oven comprising paper board coated with the polymer 4-methyl pentene-1 is disclosed. During the course of normal cooking and roasting in an oven, particularly an electric oven, grease and other splashings are deposited on the inside surface of the oven. Homopolymers of 4-methyl pentene-1 or a copolymer of 4-methyl pentene-1 with one or more α -olefins can be used, polymers of 4-methyl pentene-1 have a melting point of about 464° F. in excess of normal oven temperatures, and are inert to hot fat and splashings.

A thin coating, for instance about 0.001 inch thick, is placed over a fiber board about 0.018 inch thick capable of withstanding temperatures up to 500° F. and supporting the polymer coating. A liner of this thickness can be readily deformed to fit the interior of the oven walls and shelves. In use, the liner collects most of the greasy deposit otherwise deposited on the interior surfaces of the oven. The liner is easily removed, discarded and replaced when greasy or dirty.

Visible images can be prepared by an enerographic image-transfer process in which, an exposure to activating rays, an image material, preferably colored such as a dye or pigment, is selectively transported from an ener-responsive element including the image material and a radiation-sensitive blowing agent, a diazonium salt for example, to a contiguous receiver member like a paper sheet. When the element is imagewise exposed, the blowing agent decomposes to yield a propellant gas in exposed regions to actively transport image material to the receiving sheet and define an image thereon corresponding to the imagewise exposure. Elements useful in the image-forming process can include a transversely porous support material containing an image material within the pores, a pressure-deformable, fluid (i.e., gaseous and liquid) impermeable layer sealingly contiguous to a porous surface of the support, a radiation-sensitive blowing agent substantially discretely distributed on the pressure-deformable layer and a radiation-permeable, fluid-impermeable, substantially non-pressure deformable layer over and contiguous to the blowing agent and intervening portions of the pressure-deformable layer, encapsulating the blowing agent between these layers.

REISSUES

NOVEMBER 24, 1970

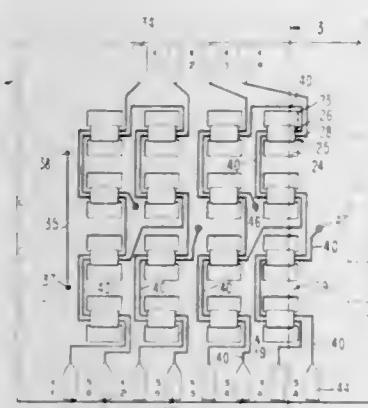
Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,983

DEPOSITED MAGNETIC MEMORY ARRAY

Edward B. Chapman, Poughkeepsie, Kenneth F. Greene, Woodstock, and Bruno J. Ronkese, Marlboro, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original No. 3,138,785, dated June 23, 1964, Ser. No. 814,772, May 21, 1959. Application for reissue June 21, 1965, Ser. No. 469,965

Int. Cl. G11c 5/02, 11/14; H01f 3/04
U.S. Cl. 340—174 11 Claims



A flat nonconductive substrate comprises a grid of separate memory areas formed by rows and columns of closely spaced pairs of slot openings, there being provided between each pair of openings a separate memory area strip receptive to cylindrical deposits. A plurality of sets of printed conductors are provided on the substrate with conductors of different sets being grouped over each of the strips in a memory area. There are further included cylindrical thin films of magnetic material deposited on the separate strips over the conductors as separate memory elements, the material being of a nature which exhibits square loop hysteresis characteristics.

26,984

STORAGE MEANS FOR RECEIVING, ASSEMBLING AND DISTRIBUTING TELETYPE CHARACTERS

Robert J. Hirvela, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

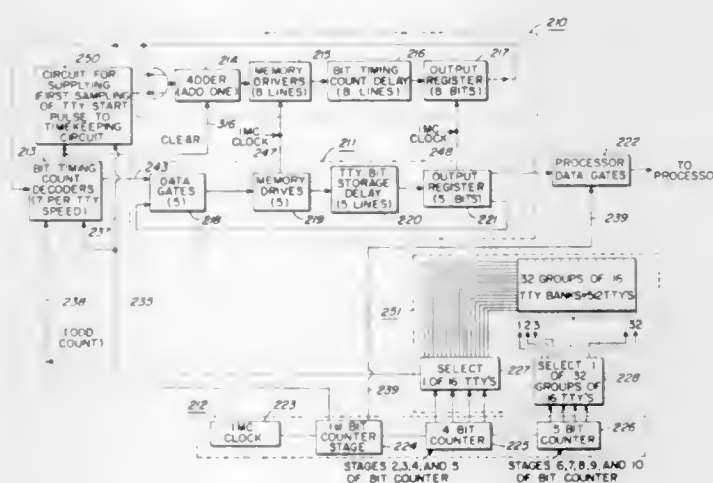
Original No. 3,350,697, dated Oct. 31, 1967, Ser. No. 434,964, Feb. 24, 1965. Application for reissue Oct. 7, 1968, Ser. No. 803,137

Int. Cl. G11c 9/00
U.S. Cl. 340—172.5 23 Claims

This structure functions to receive relatively slow serial type data from a TTY machine, transform such serial information into bit parallel characters and then supply the bit parallel characters to a data processor at high speed. The structure also functions in reverse to receive bit parallel characters from the data processor at high speed, transform them to serial data form, and then distribute the serial data at slow speeds to TTY machines. The structure utilizes circulating memories which can be selectively accessed.

This structure receives, in sequential order, the relatively slow serial type data from a bank of teletypewriters, transforms such serial information into bit parallel characters, and then supplies the bit parallel characters to a

data processor at high speed. The slow speed serial data is supplied to, and assembled in, unique and identifiable time positions in a group of circulating memories under



control of suitable time-keeping means. Periodically the stored characters are transmitted in parallel and at high speed to a data processor.

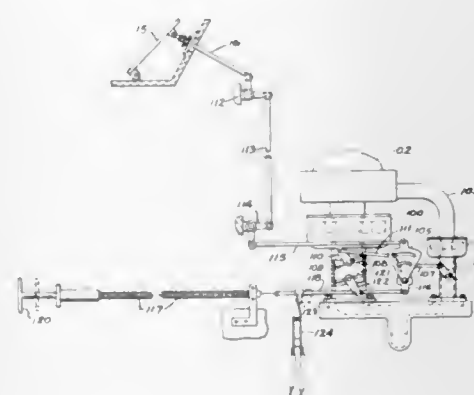
26,985

THROTTLE CONTROL DEVICE WITH OPTIONAL CHANGEOVER MEANS FOR "SMOG" CONTROL

Brooks Walker, 807 Francisco St., San Francisco, Calif. 94109, and Fred V. Hall, San Francisco, Calif.; said Hall assignor to said Walker

Original No. 3,366,194, dated Jan. 30, 1968, Ser. No. 530,754, Aug. 18, 1960, which is a continuation-in-part of Ser. No. 50,367, Aug. 18, 1960. Application for reissue Feb. 14, 1969, Ser. No. 802,292

Int. Cl. B60k 27/06
U.S. Cl. 180—77 7 Claims



A throttle control device with optional changeover means for smog control comprising a pair of carburetors and means for selecting one or the other carburetors for engine control. One of the carburetors has sufficient capacity to provide full engine performance and the other carburetor has a lesser capacity for providing restricted engine performance. In one form of the invention the selector means is inaccessible to the driver while operating the vehicle. A signal device is provided to indicate the operative condition of the carburetor.

NOVEMBER 24, 1970

U. S. PATENT OFFICE

1165

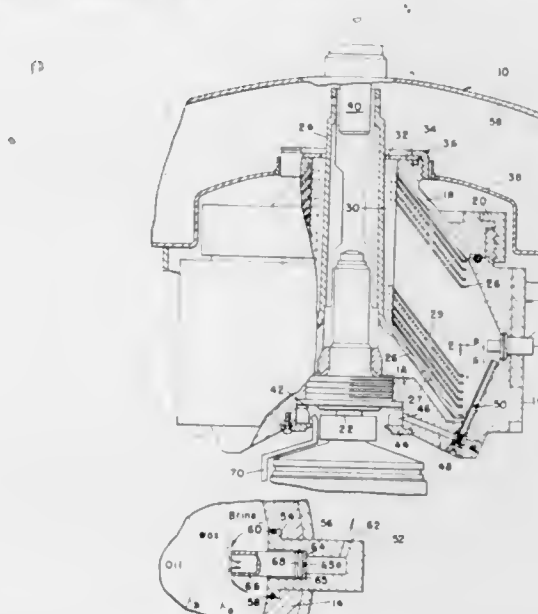
26,986

CENTRIFUGE DISCHARGE MEANS

Frederick W. Keith, Jr., Gladwyne, Pa., assignor to Pennwalt Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Original No. 3,228,598, dated Jan. 11, 1966, Ser. No. 452,232, Apr. 30, 1965, which is a division of Ser. No. 146,268, Oct. 19, 1961, now Patent No. 3,192,149, dated June 29, 1965. Application for reissue Jan. 10, 1968, Ser. No. 698,983

Int. Cl. B04b 1/08, 11/00
U.S. Cl. 233—29 10 Claims



In a centrifuge rotor for separating a layer of solids from between respective inner and outer annular layers of light and heavy liquid, the rotor having feed means, discharge means for lighter liquid, and outlet means for heavier discharge. The outlet means is in the wall of the rotor and a restricted tubular passageway extends inwardly therefrom toward the solids-heavy liquid interface for conducting the heavy liquid and entrained solids out of the rotor from adjacent the solids-heavy liquid interface.

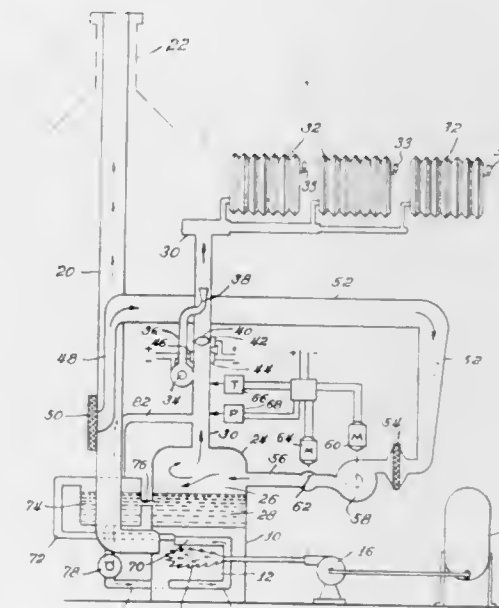
26,987

PRESSURE VAPOR HEAT SYSTEM

Casper J. Gatz, 118 N. Mayfield, Chicago, Ill. 60644

Original No. 3,265,304, dated Aug. 9, 1966, Ser. No. 355,765, Mar. 30, 1964. Application for reissue Aug. 7, 1968, Ser. No. 754,163

Int. Cl. F24d 1/00
U.S. Cl. 237—67 10 Claims



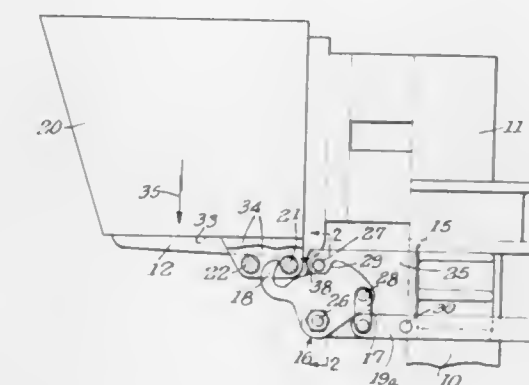
This water-vapor heating system includes apparatus for heating ambient air in products of combustion and supplying the air thus heated to at least one radiator.

26,988

FORKLIFT DUMPING MEANS

William A. Allen, San Bernardino, Calif., assignor to Jarke Corporation, a corporation of Illinois
Original No. 3,360,143, dated Dec. 26, 1967, Ser. No. 555,611, June 6, 1966. Application for reissue Dec. 31, 1968, Ser. No. 794,830

Int. Cl. B65b 69/00
U.S. Cl. 214—317 4 Claims



Forklift dumping means provided with shiftable means to pivotally couple a container to the upper end of the vertical guide of a forklift so the container may tilt forwardly as the lift is lowered for dumping of its contents. The container and the shiftable means cooperating to provide a "fail-safe" means to prevent accidental dislodgment of the container from the lift. The means is designed to allow separating of the container from the coupling means only when the container is upright.

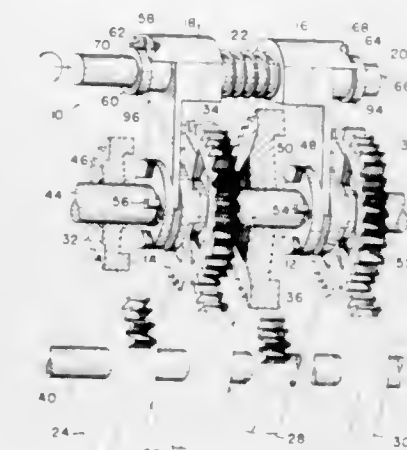
26,989

SHIFTING MECHANISM

George E. Lewis, Hialeah, Fla., assignor to Power-Flo Products, Inc., Oakland Park, Fla., a corporation of Florida

Original No. 3,370,477, dated Feb. 27, 1968, Ser. No. 488,393, Sept. 20, 1965. Application for reissue June 9, 1969, Ser. No. 835,885

Int. Cl. F16h 5/08
U.S. Cl. 74—337.5 10 Claims



Shifting mechanism including an output shaft, a plurality of gears of different size mounted for rotation on the output shaft at fixed axial positions therealong, clutch structures positioned between adjacent one of the gears mounted on the output shaft for axial movement therealong and against relative rotation with respect thereto for engagement with different ones of said gears in accordance with the axial position of the clutch structures for alternatively connecting different ones of said gears for driving the output shaft in a plurality of speeds in one direction and at least one speed in the opposite direction, means connected to said gears for continuously driving

the gears in the one and opposite direction, fork means engaged with the clutch structures for moving them into and out of engagement with the gears, a cam shaft for rotation in opposite directions and cam means operable between the cam shaft and forks for moving the forks to successively engage alternatively different gears separated by neutral positions to provide reverse, first, second and third speeds for the output shaft.

In one modification the fork means includes a pair of forks having sleeve portions with cam surfaces at the relatively remote ends thereof urged in opposite directions by spring means positioned therebetween sleeved over a camming sleeve secured to the cam shaft for rotation therewith including camming pins engaged with the outer ends of the sleeve portions of the forks for moving the forks in accordance with the cam surface on the ends thereof on rotation of the cam shaft.

In another modification the fork means includes a pair of forks having sleeve portions rotatably sleeved on the cam shaft, a pair of cam plate supporting members secured to the cam shaft at the opposite ends of the forks for rotation with the cam shaft, a cam plate secured to the plate supporting members having cam slots therein and cam pins extending through the cam slots and secured to the fork sleeves.

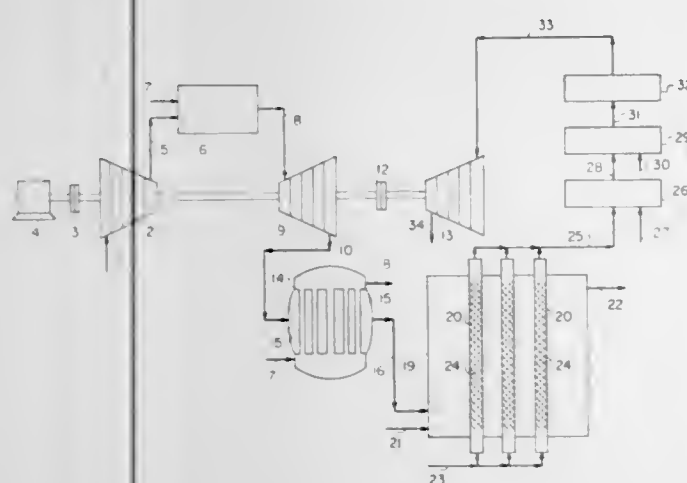
26,990

PROCESS AND APPARATUS FOR REFORMING HYDROCARBONS

Salvatore J. Bongiorno, Oradell, N.J., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Original No. 3,446,747, dated May 27, 1969, Ser. No. 388,863, Aug. 11, 1964. Application for reissue Nov. 21, 1969, Ser. No. 889,841

Int. Cl. B01j 9/04; C01b 2/16; F27d 17/00
U.S. Cl. 252—373 19 Claims



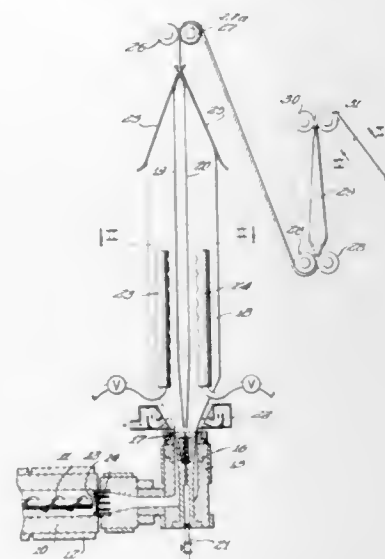
An improvement is provided in the high pressure production of synthesis gas containing carbon monoxide and hydrogen, which is generally produced by the catalytic primary steam reforming of a fluid hydrocarbon. The synthesis gas is produced at high pressure by compression of the gas stream in a synthesis gas compressor driven by a gas turbine. The motive power for the gas turbine is a hot gas stream which is produced by burning a fluid hydrocarbon fuel in a large excess of compressed air, and expanding the resulting hot gas stream through the gas turbine. The hot low pressure exhaust gas from the gas turbine, which contains a large proportion of unreacted air, is passed to the primary reformer furnace which produces the synthesis gas, and is employed as the combustion-supporting gas to heat the furnace. In this manner the previously wasted sensible heat in the gas turbine exhaust is recovered and usefully employed.

26,991 CONTROLLED COOLING OF EXTRUDED PLASTIC

Jacob L. Luca, New York, N.Y., assignor, by mesne assignments, to Minigrip, Inc., New York, N.Y., a corporation of New York

Original No. 3,320,340, dated May 16, 1967, Ser. No. 383,815, July 20, 1964. Application for reissue Apr. 10, 1968, Ser. No. 724,680

Int. Cl. B29c 25/00; B29f 3/01
U.S. Cl. 264—95 20 Claims



A plastic extruder which comprises an extruding die that has a slot for extruding a thermoplastic and which is formed with an enlarged profile portion in a slot shape for forming pressure interlocking complementary rib and groove elements and having first cooling means cooling the film and second cooling means which cool specifically the rib and groove elements.

26,992

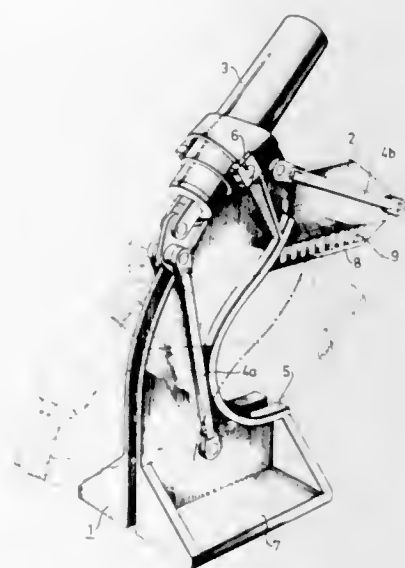
HYDRAULICALLY OPERATED DEVICE FOR CUTTING TREES, LOGS AND THE LIKE

Dick L. Rehnström, Skellefteå, Sweden, assignor, by mesne assignments, of one-third each to Canadian International Paper Company, and Quebec North Shore Paper Company, both of Montreal, Quebec, and Abitibi St. Anne Paper Ltd., Beupre, Quebec, Canada, all corporations of Quebec, Canada

Original No. 3,270,787, dated Sept. 6, 1966, Ser. No. 367,922, May 14, 1964. Application for reissue Sept. 4, 1968, Ser. No. 760,392

Claims priority, application Sweden, May 16, 1963, 5,431/63

Int. Cl. A01g 23/08
U.S. Cl. 144—34 20 Claims



A tree shear including at least one shear blade mounted on a frame in a link system which includes at least two

link members each pivotally connected to the shear blade and the frame and having the pivotal connections so located, the cutting edge of the cutting member follows a path of compound motion during movement of the cutting member relative to the frame toward and away from an abutment thereon respectively to sever and receive a tree. The shear is suspended from a boom at its approximate center of gravity with the shear blade being generally in a horizontal plane for severing a standing tree and the boom from which it is suspended is mounted on a mobile vehicle for slewing about a vertical axis.

26,993

FLUENT BED HEAT EXCHANGER

Jan Michal Malek, 710 Kingsford St., Monterey Park, Calif. 91754

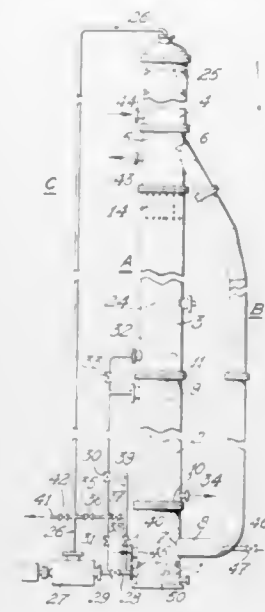
Original No. 3,266,556, dated Aug. 16, 1966, Ser. No. 258,192, Feb. 13, 1963. Application for reissue July 18, 1968, Ser. No. 753,804

Claims priority, application France, Feb. 14, 1962, 887,963, Patent 81,168
Int. Cl. B01d 1/14, 1/18

U.S. Cl. 159—16 16 Claims

A column including in upwardly ascending order a base section, a heat transfer section, a homogenizing sec-

tion and a separator section, gas being introduced into the column to reduce the specific gravity of a fluent material



therein, the gas and fluent material being separated and the material being recirculated.

PLANT PATENTS

GRANTED NOVEMBER 24, 1970

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

3,005

ALMOND TREE

John A. Fritz, J 11691 E. Graves Road, Manteca, Calif. 95336

Filed Feb. 19, 1969, Ser. No. 800,781

Int. Cl. A01h 5/03

U.S. Cl. Plt.—30 1 Claim

A variety of almond tree of medium size and vigor, medium to upright growth, open with respect to density, and a regular and very heavy producer of small nuts well distributed on the tree; the nuts being easy to harvest and hull, and having a quite substantial percentage of kernel to shell.

3,006

ROSE PLANT

Patrick Dickson, Newtownards, Ireland, assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Jan. 28, 1969, Ser. No. 794,810

Int. Cl. A01h 5/00

U.S. Cl. Plt.—22 1 Claim

1. A new and distinct variety of rose plant of the floribunda class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous and well-branched plant habit attaining an average height of about 2½ feet, flowers of

medium size and which are borne both singly and in small clusters, and a distinctive and attractive Saffron Yellow flower color which is overcast distinctively on the petal tips with Brick Red.

3,007

ROSE PLANT

Herbert C. Swim and O. L. Weeks, Ontario, Calif., assignors to O. L. Weeks, doing business as Weeks Wholesale Rose Grower, Ontario, Calif.

Filed Jan. 27, 1969, Ser. No. 794,427

Int. Cl. A01h 5/00

U.S. Cl. Plt.—17 1 Claim

1. A new and distinct variety of rose plant of the grandiflora class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a tall and bushy plant habit, with somewhat lax flower stems, particularly on the side blooms in the clusters, a very vigorous habit of growth, with moderately slender canes, moderately thin but leathery leaves, flowers of large size for the grandiflora class, with good petalage ranging from 60 to 80 petals, substantially greater than average flow substance, a bright orange-red flower color, a substantially longer than average vase-life of the flowers, better than average resistance to powdery mildew, and a penetrating tea-rose flower fragrance.

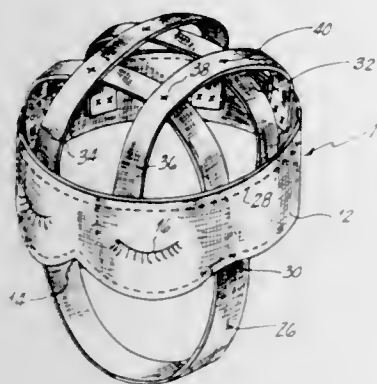
PATENTS

GRANTED NOVEMBER 24, 1970
GENERAL AND MECHANICAL

3,541,608
EYESHIELD FOR INFANTS
Ida M. Otwell, 7316 Sparta Ave.,
Birmingham, Ala. 35206
Filed Mar. 10, 1969, Ser. No. 805,453
Int. Cl. A61f 9/04

U.S. Cl. 2-15

9 Claims



An eyeshield for an infant for use in post birth treatments that is highly effective in protecting the eyes of the infant and that cannot be removed from the head of the infant by downward, upward or lateral pulling by the hands of the infant. The eyeshield comprises a wide split band that fully covers the eyes of the infant, the split ends of the band being fastened to each other by a Velcro fastener. A chin strap is carried by the eyeband and crossed straps attached to the eyeband serve to rest the eyeshield on the head of the infant.

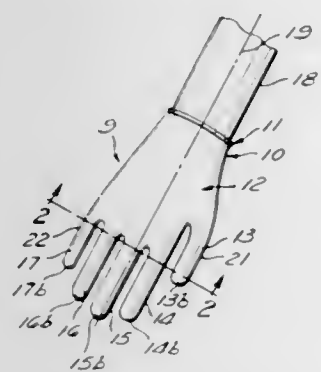
3,541,609
GLOVE

Lawrence Povlacs, Dothan, Ala., and Richardson W. Howe, Cuyahoga Falls, Ohio, assignors to Ackwell Industries, Incorporated, Dothan, Ala., a corporation of Ohio

Filed Oct. 9, 1968, Ser. No. 766,246
Int. Cl. A41d 19/00

U.S. Cl. 2-168

10 Claims



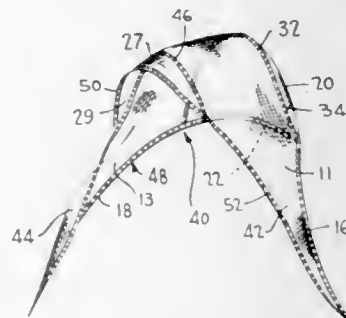
A disposable rubber glove is disclosed which is formed of latex or the like having a wall thickness in the order of 0.003 to 0.005 inch. The glove shape is neuter, but the material is sufficiently elastic to permit it to stretch to fit either hand. When unstressed, the glove is proportioned so that a central axis bisects the lateral width of the glove and the fingers are parallel to the central axis. Fluted arm portions provide increased wall length without requiring large diameter mold forms. The machine

for forming the glove includes a continuous conveyor which carries the forms through two dipping operations with intermediate drying of the coatings, a beading operation, a curing operation, and a stripping operation.

3,541,610
HEAD SCARF
Lillian L. Gettinger, 2509 Shelley Dale Drive,
Baltimore, Md. 21209
Filed Sept. 13, 1968, Ser. No. 759,600
Int. Cl. A42b 1/06; A41d 23/00

U.S. Cl. 2-203

5 Claims



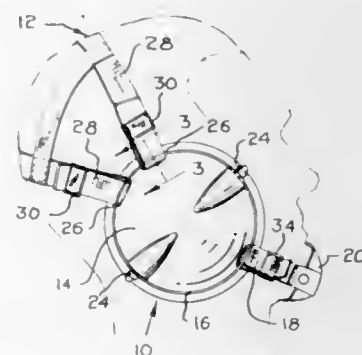
A head scarf especially suitable for covering bouffant hairdos to protect them from the weather elements is disclosed. The head scarf has a broad visor and a fitted back with long tie ends, thereby providing protection for the entire coiffure.

3,541,611
ATTACHMENT MOUNTING MEANS FOR HEARING PROTECTOR EAR CUPS
Fred P. Beguin, Sturbridge, Mass., assignor to American Optical Corporation, Southbridge, Mass., a corporation of Delaware

Filed July 7, 1969, Ser. No. 839,444
Int. Cl. A41d 21/00

U.S. Cl. 2-209

7 Claims



Hearing protector ear cup supporting means including a head harness formed of flexible strap material arranged to adjustably receive and support a pair of hearing protector ear cups upon the head. Attachment means for each ear cup includes a ring of rigid material within which the cup is pivotally mounted on a diameter of the ring. Slots are provided in one-half of each ring circumference at points between the pivotal axis of the cup through which straps of the head harness are looped in connecting the ring to the harness. A similar slot in the remaining circumferential portion of each ring receives an elastic strap

NOVEMBER 24, 1970

GENERAL AND MECHANICAL

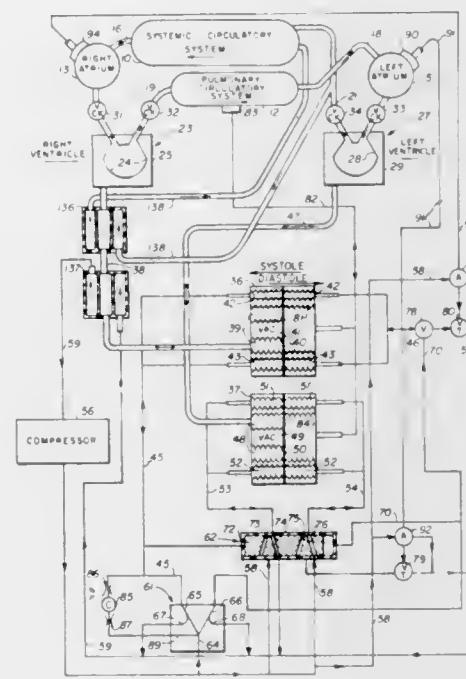
1169

adjustably connected to a chin cup by means of which the ear cups are drawn toward and held securely against a wearer's head.

3,541,612
FLUID ACTUATED AND REGULATED ARTIFICIAL IMPLANTABLE HEART SYSTEM
Homer C. Carney, P.O. Box 77,
San Ramon, Calif. 94583
Filed July 11, 1968, Ser. No. 744,221
Int. Cl. A61f 1/24

U.S. Cl. 3-1

7 Claims

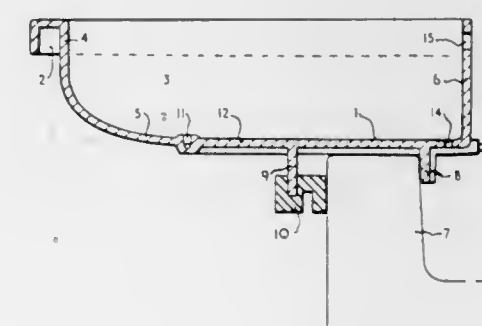


An artificial heart having right and left ventricles hydraulically actuated with respective bellows pumping chambers that are driven with pairs of opposing pneumatic bellows under control of a fluid switch, whereby the pneumatic bellows for the right ventricle pumping chamber are alternately and oppositely connected to main high and low pressure gas lines through the switch, while the pneumatic bellows for the left ventricle pumping chamber are alternately and oppositely connected directly to the main high and low pressure gas lines.

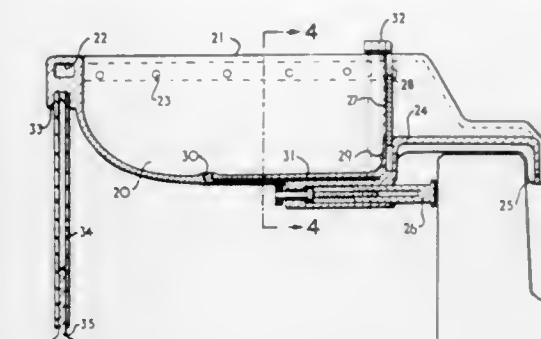
3,541,613
PORTABLE BIDET
Bohumil Sypal, 48 Highview Crescent,
Toronto 4, Ontario, Canada
Continuation-in-part of application Ser. No. 658,834, Aug. 7, 1967, now Patent No. 3,490,080. This application
Mar. 17, 1969, Ser. No. 807,878
Int. Cl. A47k 3/22

U.S. Cl. 4-6

3 Claims



A portable bidet for removable hook-on attachment to a permanent plumbing fixture, to extend outwardly there-

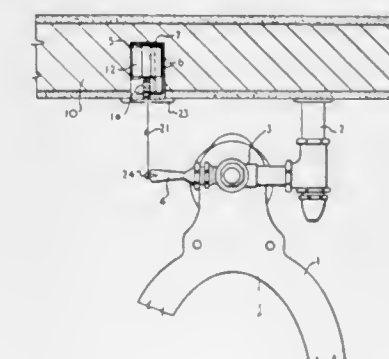


end reaching over the fixture wall to discharge into the fixture.

3,541,614
WALL MOUNTED SOLENOID ACTUATOR
Eugene K. Zorn, Cornwall, Ontario, Canada, assignor to Palleon Electronics Limited, Cornwall, Ontario, Canada, a corporation of Canada
Filed Sept. 25, 1967, Ser. No. 670,321
Int. Cl. E03d 13/00

U.S. Cl. 4-100

1 Claim

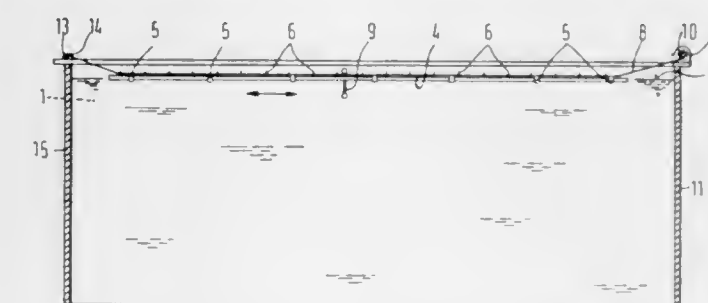


A wall mount for a toilet flushing solenoid that can be recessed in or mounted behind a wall, partition or the like, enabling the plunger of the solenoid to be positioned adjacent to and in line with the end of the flushing valve handle and connected thereto by a flexible cable; the wall mount having a travel-limiting stop for the said plunger of the solenoid.

3,541,615
ROLLABLE COVERS FOR SWIMMING POOLS
Gotthard Myrtha, 32 Auweg, 84 Regensburg, Germany
Filed Mar. 18, 1968, Ser. No. 713,597
Claims priority, application Germany, Apr. 20, 1967, M 73,667
Int. Cl. E04h 3/16

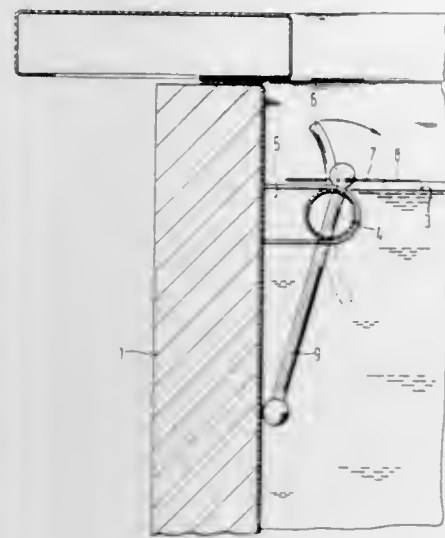
U.S. Cl. 4-172.14

8 Claims



A cover for a swimming pool with opposite side walls and opposite end walls, with the cover being a sheet which in nonuse is lengthwise rolled up on a preferably spring-wound roll on one end wall of the pool, and in use is partly unwound from the roll and extended to the other end wall of the pool to which it is releasably anchored

with its free end. The cover has in opposite side margins thereof longitudinally spaced slits, and the opposite-side walls of the pool are provided with claws which are manipulatable from inoperative position into operative

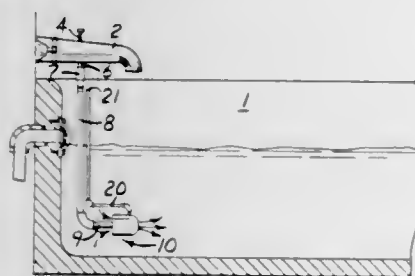


position in which they enter the adjacent slits in the extended cover and hold the latter taut across the side walls of the pool, with the claws being releasably lockable in their operative position.

3,541,616
HYDRO-THERAPY BATH DEVICE
Virgil A. Stricker, 1220 Southeast Blvd.,
Spokane, Wash. 99202
Filed July 5, 1968, Ser. No. 742,647
Int. Cl. A47k 3/03

U.S. Cl. 4-180

3 Claims



A simple device for installation in a conventional bath tub provides the necessary force to circulate the water in the tub from the water supply and further utilizes the added water and the circulated water to entrain and distribute air in the tub below the water.

The device embodies a valve in the faucet operable to direct water under pressure down into the tub below the normal water level and laterally through an injector nozzle within an open ended chamber where the jet from the nozzle entrains water from the supply in the tub and projects the water mixture into a second chamber having an air pipe leading into it. The water entrains air in passing through the second chamber and the mixture of air bubbles and water is discharged laterally into the open tub close to the bottom thereof with substantial force to effect a gentle massage of a body in the tub.

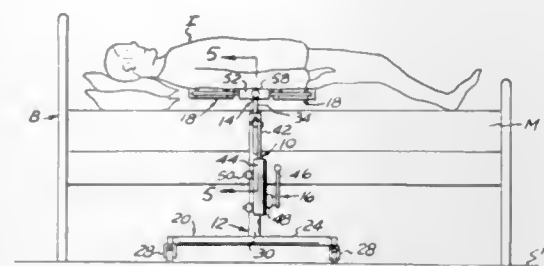
3,541,617
ELEVATOR FOR INVALIDS
Wayne N. Clanan, 1458 Burns Ave.,
Detroit, Mich. 48214
Filed May 10, 1968, Ser. No. 728,205
Int. Cl. A61g 7/02, 1/02

U.S. Cl. 5-81

5 Claims

For ease of insertion beneath the body of an invalid on a bed, and for raising the invalid off the bed in order

to change the bed linen, there is disclosed a base frame structure equipped with casters and an upright upon which a shaft is raised and lowered by means of a suitable jack. Extending horizontally from the top of the shaft parallel to the base frame is a support frame in which a pair of

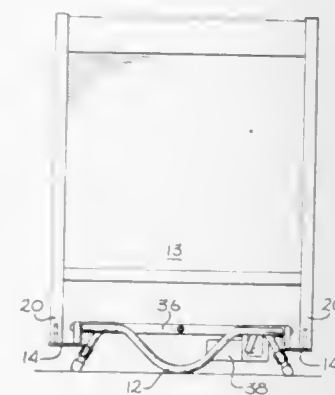


body rests are slidably and removably mounted. These rests are equipped with multiple parallel rollers and are of thin wedge-shaped longitudinal section in order to facilitate their insertion beneath the shoulders and buttocks of the invalid.

3,541,618
AUTOMATIC CRIB ROCKER
Sarah J. Johnson, Saul Jaslow, and Howard Vaughn, Los Angeles, Calif., assignors to Grace Gutterman and Siegfried R. Gutterman, both of Palm Springs, Calif.
Filed July 24, 1968, Ser. No. 747,344
Int. Cl. A47d 9/02

U.S. Cl. 5-109

9 Claims



An automatic crib rocker suitable for attachment to different size cribs. The sockets of the crib, which are otherwise used to support the crib's casters, are coupled to the rocker. An electric motor rocks the crib at a constant rate; no manual force is required to initiate the rocking.

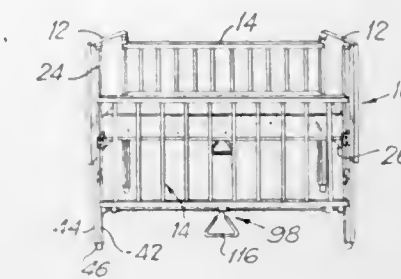
3,541,619
DROP SIDE CRIB
Harry H. Morrison, 353 W. 86th St.,
New York, N.Y. 10024
Filed June 28, 1968, Ser. No. 741,113
Int. Cl. A47d 9/00; A47c 27/08

U.S. Cl. 5-100

10 Claims

A drop side crib having a drop side extending between a pair of opposed crib ends and vertically movable with respect thereto. The drop side has upper and lower rails each of which is formed with a pair of opposed end notches extending vertically through the rail. The pair of opposed crib ends fixedly carry elongated substantially rigid guides which extend upwardly beyond bottom edges of the crib ends toward top edges thereof. These guides are respectively provided with inwardly extending guide ribs extending inwardly toward each other away from

the crib ends. The guide ribs are respectively received in the notches at the ends of the rails of the drop side so



as to guide the latter for vertical movement with respect to the crib ends.

3,541,620
ARTICLE OF MANUFACTURE
Jacques Chapuis, C.P. 2, Hemmingford, Quebec, Canada
Filed Sept. 5, 1967, Ser. No. 665,409
Claims priority, application Canada, Jan. 13, 1967,
980,372
Int. Cl. A47g 13/09

U.S. Cl. 5-343

7 Claims

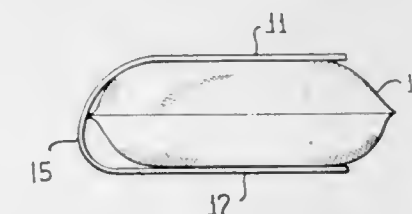


A fabric for use in making sleeping bags which includes an outer waterproof layer, an inner layer of soft wearable material and an insulating insert between the two layers. The insulating insert includes a thin ply of polyurethane material adhered to a thin ply of polystyrene material.

3,541,621
BED-MAKING AID
Florence A. Dauphin, P.O. Box 17,
St. Johnsbury Center, Vt. 05863
Filed Aug. 12, 1968, Ser. No. 751,872
Int. Cl. A47c 21/00

U.S. Cl. 5-320

1 Claim



A device for use in making up a bed, to provide the head of the bed in the area about the pillows with an appearance of uniformity and smoothness, in which a generally U-shaped rigid channel like sheet having flat or planar, spaced, parallel longitudinally coextensive end members connected by an arcuate bridging member accommodates a pillow or pillows in the space between the end members. The device is placed with a flat end member on the bed and with its open side immediately adjacent the head or headboard of the bed, and its arcuate side toward the foot of the bed. The bedspread is tucked under the end member lying directly on the surface of the bed, and is brought around the arcuate bridging member and over the remaining end member to complete the bed-making task.

ERRATUM

For Class 8-155 see:
Patent No. 3,541,635

3,541,622
FLOATING PIER FOR LOADING AND UNLOADING VESSELS
Eugene H. Harlow, Darien, Conn., assignor of one-half to Frederic R. Harris, Inc., New York, N.Y., a corporation of New York, and one-half to Bechtel International Corporation, San Francisco, Calif., a corporation of Delaware
Filed Apr. 5, 1968, Ser. No. 719,210
Int. Cl. B63b 21/00

U.S. Cl. 9-8

8 Claims



This floating pier for mooring vessels and transferring bulk cargo liquids, such as crude oil, pumpable solids, slurries or other fluids that may contain solid particles, to or from vessels, in the form of an elongated, open framework that is unsheathed by shell plating, and it has inherent floating buoyancy with appreciable draft. This open framework has a stem or head and a stern at opposite ends, and includes a plurality of longitudinally-extending tubular stringers with at least a transversely-spaced pair thereof embodied in the submergible lower portion thereof to flank the side margins of the latter and at least a transversely-spaced pair thereof embodied in the top portion above the waterline and flanking the side margins of the latter. These longitudinal hollow stringers are rigidly tied together by transversely-extending and upwardly-extending tubular struts at successive locations throughout. An appreciable number of the tubular stringers and struts have the interiors thereof sealed off against the entry of water for providing the inherent buoyancy. At least one of the stringers has a section adapted to conduct cargo liquid of the types described hereinbefore out along the framework to a point where it may be unloaded into tanker compartments. At this point is provided on the top of the open framework a lateral platform upon which may be mounted suitable vessel loading or unloading equipment. A substantially vertical tubular pivot structure adapted for flow of fluids therethrough is anchored to the sea bottom at a selected location with the top section of this pivot structure projecting above the water surface and the bottom section connected to a submerged pipeline. The stem end of the floating pier fixedly carries a rotatable hub that is rotatably mounted about the pivot structure so as to permit free swing of the pier. Fluid transfer means is supported by the projecting top section of the pivot structure to transfer fluid to and from stringers or conduits of the open framework.

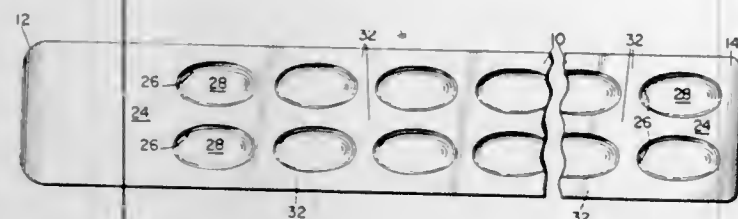
Other features of refinement include the particular constructions of unique embodiments of the pivot structure and the associated rotary hub, and selections as well as adaptations of the stringers to conduct cargo liquids and ballast liquids when desired details of which are illustrated by way of example in the drawings. Other features of the invention appear in the following specification and accompanying drawings.

3,541,623 TRACTION ACTUATED DEVICES FOR FACILITATING WALKING ON WATER

Mitchell W. Duda, Federal St.,
Belchertown, Mass. 01007
Filed Oct. 21, 1968, Ser. No. 769,194
Int. Cl. A63c 15/00

U.S. Cl. 9-310

1 Claim



Water walking devices adapted for attachment, one to each shoe of a user, to facilitate walking on water and comprising a pair of floatable bodies, each having strategically arranged pairs of buoyancy pockets or recesses extending inwardly into the body from the under surface wherein, in forward advancing movements, the pockets or recesses containing combinations of air and water are emptied permitting the body to slide over the water surface and in the temporary thrusts, when the body is caused to bear downwardly upon the water under the full weight of the user, the pockets or recesses provide both air pockets achieving increased buoyancy and water gripping elements achieving such traction as to enable the user to drive himself forwardly must as in normal walking.

3,541,624

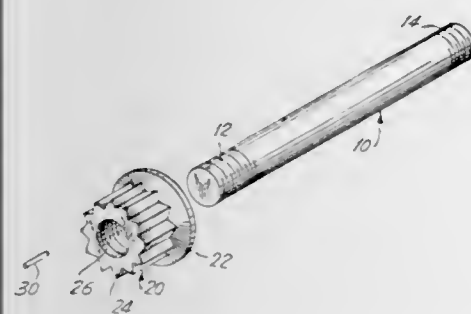
METHOD OF MAKING A BOLT

Robin K. Suan, Bryn Mawr, Pa., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania
Original application Dec. 20, 1967, Ser. No. 692,131, now Patent No. 3,468,211. Divided and this application Feb. 3, 1969, Ser. No. 816,440

Int. Cl. B21k 1/44

U.S. Cl. 10-27

3 Claims



Headed male fasteners fabricated by turning an internally threaded member onto a threaded stud, drilling a blind hole into the threaded joint formed by the stud and nut, and inserting an oversized pin into the blind hole.

3,541,625

INDUCTION PLASMA TORCH

Antonie Jan Burggraaf, Emmasingel,
Eindhoven, Netherlands
Filed Dec. 8, 1967, Ser. No. 689,143
Claims priority, application Netherlands, Jan. 6, 1967, 6700212

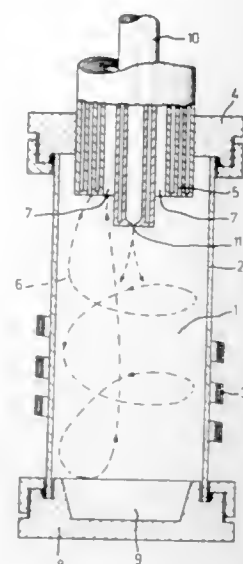
Int. Cl. H05b 5/00

U.S. Cl. 13-1

4 Claims

An induction plasma torch for heating finely divided material. A cylindrical casing is surrounded by an induction coil and sealed at both ends, one end having

apertures for introducing a supply gas, and a gas containing a mixture of finely divided material. The resultant



plasma gas is removed through exhaust apertures in this same end.

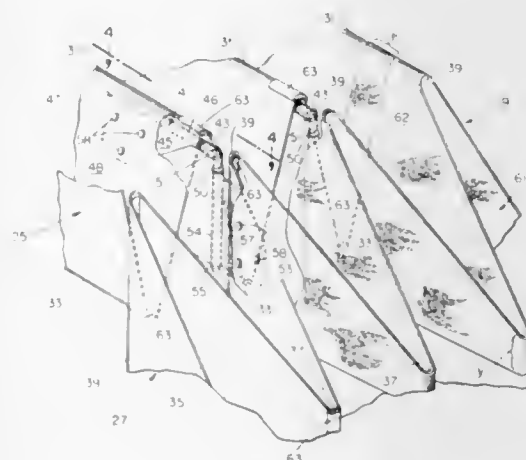
3,541,626

BELLOWS CONSTRUCTION

Walter S. Eggert, Jr., Huntingdon Valley, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1969, Ser. No. 850,142
Int. Cl. B65g 11/00

U.S. Cl. 14-71

6 Claims



Top and bottom fan fold members aligned with opposite side fan fold members are connected by hinges at their intersecting adjacent end portions. The hinges include pivoted posts each mounted for rotation about its axis along a fold line of a fan fold member. Adjacent end portions of members are connected by fabric to provide a seal against noise, wind and weather.

3,541,627

AUTOMOBILE WHEEL WASHER

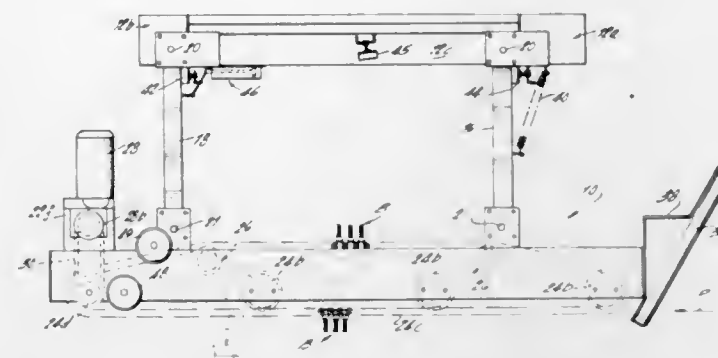
Howard E. Grant, % Trans-World Car Wash Systems, Inc., 65 Marine St., Farmingdale, N.Y. 11735
Filed July 23, 1968, Ser. No. 746,803
Int. Cl. B60s 3/04

U.S. Cl. 15-21

9 Claims

For use in a car or automobile washing unit in the operation of which an automobile is moved along a prescribed path in association with various apparatus for

cleaning different parts of the automobile, a wheel washer employing brushes mounted on endless conveyors strategically located on opposite sides of the prescribed path



and having cleaning contact with the automobile, and wherein movement of the automobile and brushes in opposite directions contribute to the cleaning action.

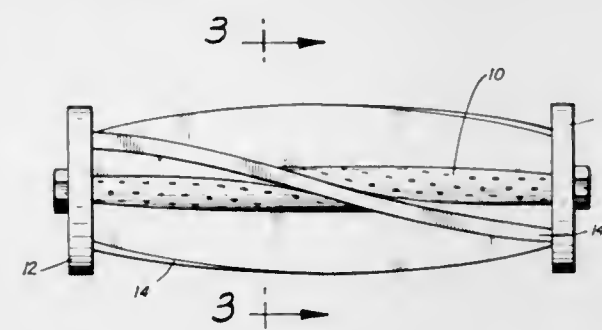
3,541,628

ROTATABLE PIG FOR PIPE LINES

Harry J. Girard, Houston, Tex.
Filed June 28, 1968, Ser. No. 741,183
Int. Cl. B08b 9/04

U.S. Cl. 15-104.06

4 Claims



A pipe line pig for use in pipe lines to be propelled therethrough by a pressure gradient in the line and including means positioned for engagement with deposited material in the pipe to cause the pig to rotate during movement of the pig along the pipe and also having means positioned for engagement with the internal surface of the pipe to brush or scratch such surface during rotational movement of the pig.

3,541,629

DETACHABLE WINDSHIELD WIPER BLADE UNIT

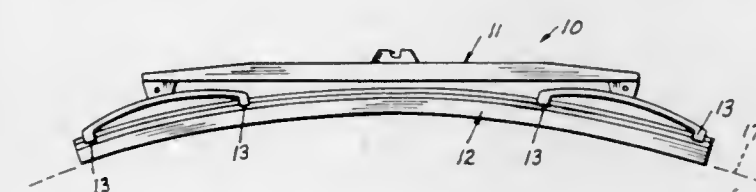
William J. Quinlan and Lawrence L. Huver, Hastings, Mich., assignors to Hastings Manufacturing Company, Hastings, Mich., a corporation of Michigan

Filed Apr. 30, 1968, Ser. No. 725,325

Int. Cl. B60s 1/38

U.S. Cl. 15-250.42

21 Claims



A flexible wiper element supported by a resiliently flexible backing strip. In some embodiments the wiper element and backing strip are bonded together. In other embodiments the backing strip includes a pair of transversely

spaced strip members which retain the wiper element therebetween. Longitudinal edge portions of the backing strip are embraced by the usual claws of a wiper pressure unit, and longitudinally spaced spring detents are provided on the backing strip to releasably or snap-fittingly receive one of the claws between them, whereby to releasably hold the blade unit and pressure unit in assembled relation.

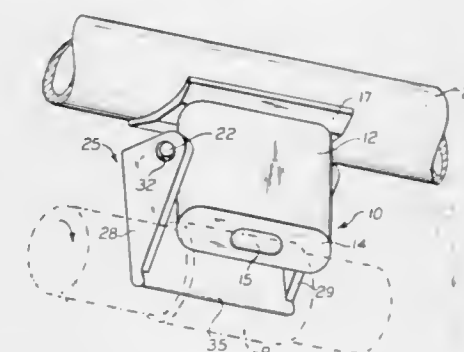
3,541,630

ROLL CLEARING

Harry S. Barr, Jr., William C. Bess, Jr., Alfred C. Morrow, and Rudolph Hovan Hocutt, Charlotte, N.C., assignors to Pneumafil Corporation, Charlotte, N.C., a corporation of New York
Filed Nov. 1, 1967, Ser. No. 679,901
Int. Cl. D01h 5/66

U.S. Cl. 15-308

5 Claims



Roll clearing apparatus for preventing and removing accumulations of foreign matter from processing rolls such as used in textile processing apparatus in which the rolls are subject to axial shifting. A suction nozzle coupled to an appropriate low pressure source, such as the intake of a fan, is arranged adjacent the rolls to be cleared with the intake orifice of the nozzle at a spaced distance from the roll to be cleared to provide clearance for any roll movement. A roll engaging wiping shoe is movably supported on the nozzle on the side of the nozzle orifice forward of the orifice with respect to the direction of rotation of the roll to be cleared.

3,541,631

INDUSTRIAL VACUUM LOADER AND CLEANER

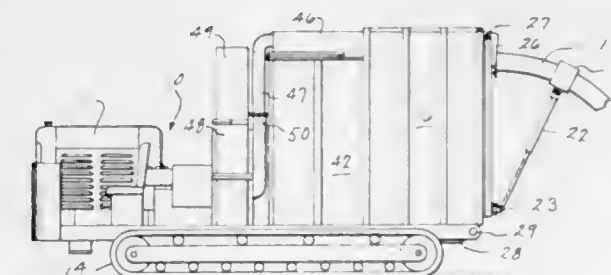
Burnett M. Kluge, Brookfield, and Howard E. Paulson, Waukesha, Wis., assignors to D P Way Corporation, Milwaukee, Wis., a corporation of Wisconsin

Filed Aug. 5, 1968, Ser. No. 750,118

Int. Cl. E01h 1/08

U.S. Cl. 15-340

1 Claim



A self-propelled unit provides suction pickup and collection of refuse materials and debris from factories and foundries, said unit including a high-powered blower and elongated flexible hose for picking up materials remote from said unit, and including self-cleaning filtration means adapted to thoroughly cleanse the collected dirt particles and foreign matter from the air stream before said air is discharged to the atmosphere, said self-propelled unit being of the crawler track type for maximum maneuverability and load-carrying capacity.

3,541,632

COUNTERBALANCE HINGE

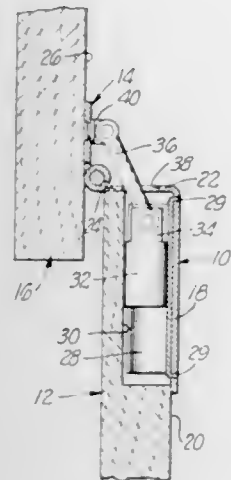
Raymond N. DuShane, Jr., Fullerton, and Frank A. Holmes, La Habra, Calif., assignors to Ajax Hardware Manufacturing Corp., City of Industry, Calif., a corporation of California

Filed Mar. 25, 1968, Ser. No. 715,732

Int. Cl. E05d 11/08

U.S. Cl. 16—140

12 Claims



A first hinge leaf mounts a resiliently radially expandable sleeve, preferably axially split and spring metal. A preferably plastic plunger is movable axially within, but radially frictionally engaged by the sleeve, said plunger being connected through an arm pivotally to a second hinge leaf for movement therewith within said sleeve. The first hinge leaf may be offset from the second with the plunger connecting arm movable through an opening in the offsetting portion. Also, the sleeve may have varying internal diameters along the axial length thereof providing varying frictional retardation for the plunger during movement along the sleeve.

3,541,633

FURNITURE HINGE

Richard Heinze, Herford, Westphalia, Germany, assignor to Firma Richard Heinze, Herford, Westphalia, Germany, a German company

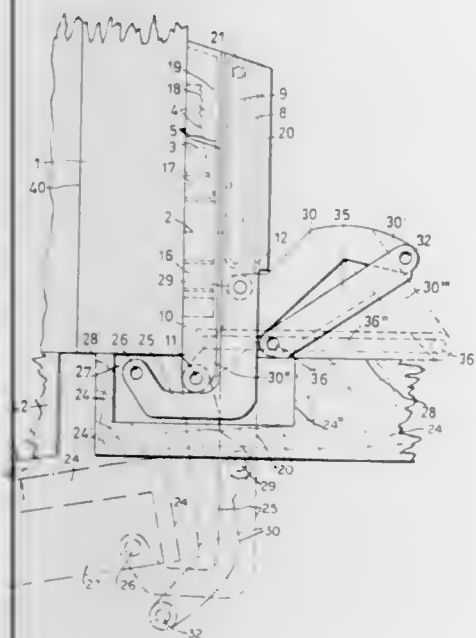
Filed Oct. 16, 1967, Ser. No. 675,438

Claims priority, application Germany, Oct. 14, 1966, H 60,760

Int. Cl. E05d 3/06

U.S. Cl. 16—164

11 Claims



An improved furniture hinge for a pivoting at an angle of between 170–180°, in which when the door is pivoted at 90°, no portion of the door projects beyond the outer

lateral surface of the piece of furniture, to which the hinge is attached whereas when the door is fully opened, a similar adjacent door is not touched and special guide-means for this purpose.

3,541,634

POULTRY HANDLING

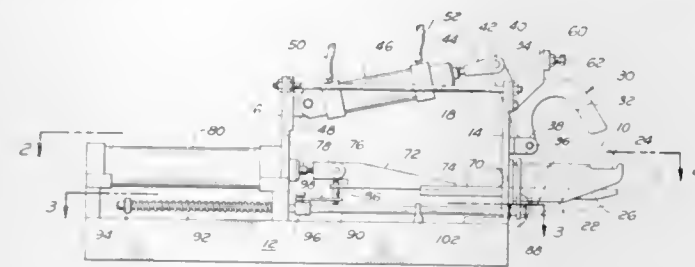
Mitchell W. Panek, Chicago, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Delaware

Filed Sept. 8, 1967, Ser. No. 666,434

Int. Cl. A22c 21/00

U.S. Cl. 17—46

5 Claims



The keel bone is removed from eviscerated fowl by supporting the latter preferably from the interior of the body cavity and applying a compressive force against the keel bone from outside the body and in an inward direction. Thereafter the keel bone is engaged within the cavity and pulled free through the posterior opening in the fowl carcass. An apparatus for performing the method includes a tubular support for insertion into the body cavity, and a punch member drivable against the exterior of the keel bone. An aperture in the tubular support allows the keel bone to be thus pushed partly into the support. Thence a claw that is reciprocable within the tubular support extracts the keel bone by withdrawing same through the rear thereof. An ejector ram is also actuated by the claw to propel a completed carcass from the support when the claw is returned to the forward end thereof.

3,541,635

APPARATUS AND METHOD FOR RANDOM DYEING SKEINS OF TEXTILE YARN

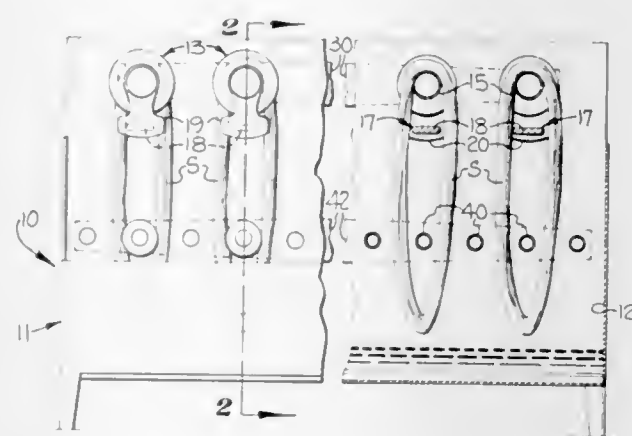
Walter J. Crenshaw, Clemson, and Herman A. Durham, Pendleton, S.C., assignors to Riegel Textile Corporation, a corporation of Delaware

Filed Oct. 29, 1968, Ser. No. 771,423

Int. Cl. B05c 8/02; D06f 35/00

U.S. Cl. 8—155.2

3 Claims



A textile skein yarn dyeing machine having dye tube support means for axially supporting a plurality of skeins of textile yarn and for applying dye thereto, a rotor means for rotating the skeins in a predetermined manner and dyestuff supply means for supplying dyestuff to the dye tube support means. The improvement therein of a second

dye tube means positioned below the dye tube support means to extend along the skeins in a predetermined position whereby a skein of textile yarn may be random dyed by rotating the skein while applying a first dyestuff thereto to provide a base color to all of the yarn and the entire circumference of the skein, stopping rotation of the skein and applying a second dyestuff by the machine to only a predetermined portion of the skein while the skein is in a stationary position, rotating the skein less than one complete revolution by the machine, and stopping rotation of the skein and applying a third dyestuff by the machine to another predetermined portion of the skein while the skein is in a stationary position.

3,541,636

METHOD OF PICKING POULTRY

Edward J. Crane, Ottumwa, Iowa, assignor to International Agri-Systems, Inc., Ottumwa, Iowa, a corporation of Iowa

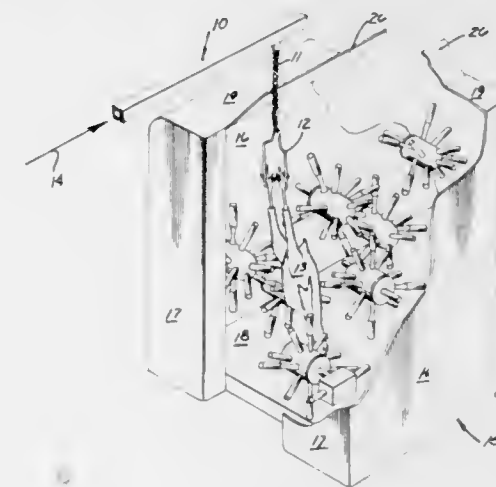
Original application Apr. 19, 1967, Ser. No. 631,989.

Divided and this application Feb. 12, 1969, Ser. No. 798,702

Int. Cl. A22c 21/02

U.S. Cl. 17—47

8 Claims



A method of picking poultry by flexibly suspending the poultry for movement along a path and engaging the poultry with flexible picking fingers on each side of the path such as to force the poultry first to one side of the path and then the other side between finger supports on the same side of the path.

3,541,637

HIDE PULLER METHOD

Fred E. Robison, Mont Alto, and Kenneth C. Cochran, Greencastle, Pa., assignors to Acme Markets, Inc., Philadelphia, Pa., a corporation of Delaware

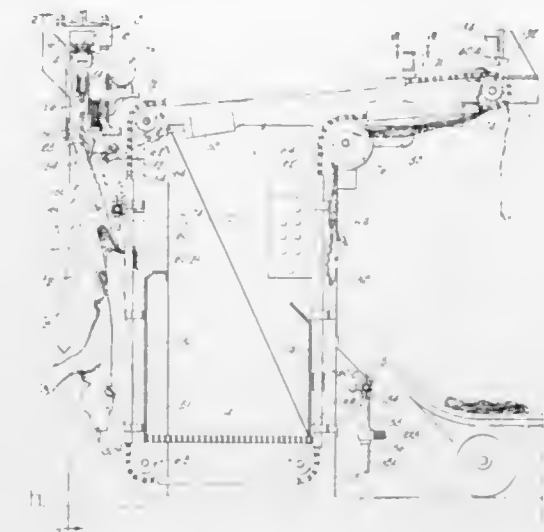
Original application Oct. 2, 1967, Ser. No. 672,046, now Patent No. 3,478,386, dated Nov. 18, 1969. Divided and this application July 22, 1969, Ser. No. 843,604

Int. Cl. A22b 5/16

U.S. Cl. 17—50

1 Claim

A method of automatically stripping hides from carcasses of slaughtered livestock consisting of the steps of continuously conveying by means of a main conveyor slaughtered carcasses along a predetermined path wherein a hide puller is disposed at a hide pulling station at a point along said path, temporarily discharging each carcass from the main conveyor at the hide pulling station, securing the stripped hind hide portion of the carcass at the hide pulling station to one of a plurality of gripper mechanisms mounted for movement in an endless path in the hide puller, cycling the hide puller whereby said one gripper mechanism moves from a home position through a gripper mechanism spray station to a dwell position and at the initiation of the next stripping cycle to a discharge position wherein the stripped hide is discharged to a



collecting means, and at a predetermined time during each stripping cycle, sterilizing portions of the hide puller which may be contacted by the slaughtered livestock being

processed during the stripping cycle and discharging the stripped carcass from the hide pulling station for continued movement along the main conveyor path.

3,541,638

APPARATUS FOR PRODUCING CONTINUOUS ROWS OF SLIDING CLASP FASTENER LINK MEMBERS

Hans Porepp, Am Rebberg, Wangen (Bodensee), Germany

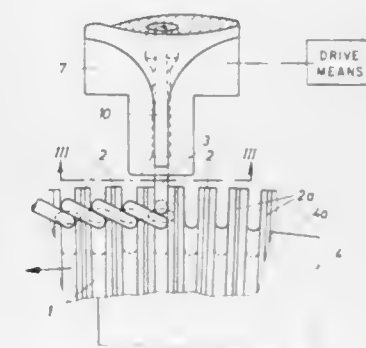
Filed Dec. 7, 1967, Ser. No. 688,845

Claims priority, application Germany, Dec. 14, 1966, P 41,000

Int. Cl. B29d 5/00

U.S. Cl. 18—1

10 Claims



Apparatus for forming a plastics thread into a continuous row of sliding clasp fastener link members to form a shape which is either a flattened helical spring or in section a prone figure-of-eight. The apparatus uses a thread guide to transport the plastics thread to and fro and a stamping die to produce coupling surfaces of the thread. The invention consists in the provision of a circumferentially toothed guide disc which is intermittently rotatable by an amount that corresponds to a predetermined distance between the link members and the thread guide is arranged to move the thread to and fro through each gap between two teeth, the thread passing through a channel in the guide member that faces the circumference of the disc. The thread guide also has a stamped projection and is moved forwards and backwards before one or both reverse movements radially towards the face of one or more anvils respectively fixed on one or both sides of the guide disc. The anvil face or faces is/are in substantial alignment with the bottom of the gap between the teeth and is used to back up the projection to stamp coupling surfaces on the thread, these surfaces when made preventing the thread from passing through the gaps when the thread guide is reversed.

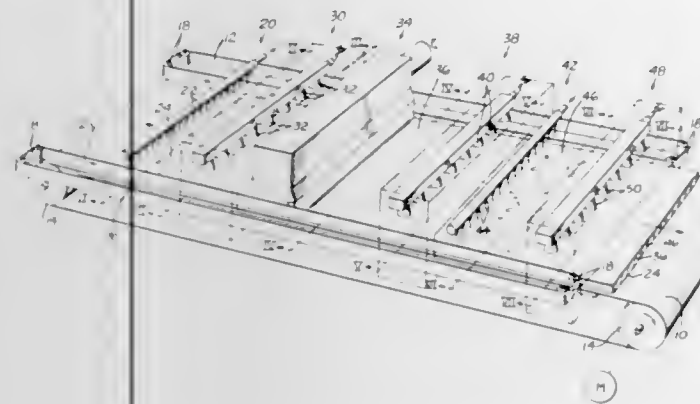
3,541,639

APPARATUS FOR MAKING AN ATHLETIC MAT MEMBER

James H. Enicks, Greenville, Ohio, assignor to Enroc Laboratories Development Co., Greenville, Ohio
 Filed Jan. 23, 1967, Ser. No. 611,155
 Int. Cl. B29d 27/00

U.S. Cl. 18—4

4 Claims



The invention concerns large athletic mats or pads consisting of a foamed body of plastic material and an unfoamed skin of the same material covering the body and to a belt type apparatus for making the material in long lengths by first spraying the material of the pad without a foaming agent on the belt, then applying material with a foaming agent to the sprayed on skin material, then spraying on further material without a foaming agent to form a top skin and curing the assembly, utilizing intermediate curing steps to set up the first skin and the body.

3,541,640

KNOCKOUT APPARATUS FOR BLOW MOLD

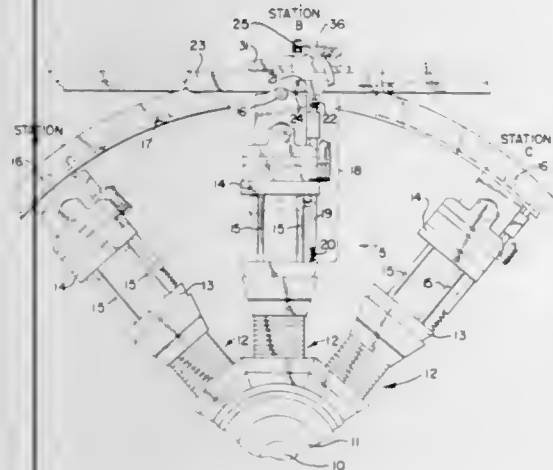
Rudolph J. Stefaniak, Munster, Ind., and Charles J. Chebuhar, Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Mar. 18, 1968, Ser. No. 713,693

Int. Cl. B29c 5/06

U.S. Cl. 18—5

17 Claims



Apparatus for automatically ejecting an article from a rotary blow mold, operating independently of mold opening motion. A knockout cam at the ejection station controls operation of a knockout bar carried by the mold arm. The knockout bar actuates an ejector pin in the mold half carrying the article. If knockout force exceeds a predetermined safe value, the cam releases, actuating a safety trip mechanism to stop the machine.

3,541,641

CORE FORMING PRESS WITH TUBULAR SEPARATING CHAMBER

Kiyoshi Hashimoto, Tokyo, Japan, assignor to TDK Electronics Co., Ltd., President Teiichi Yamazaki, Tokyo, Japan

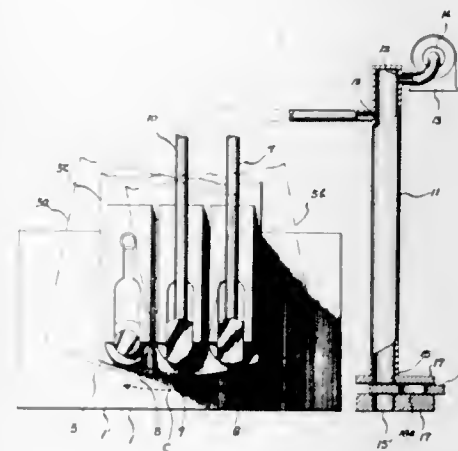
Filed June 4, 1968, Ser. No. 734,477

Claims priority, application Japan, Mar. 23, 1968, 43/22,281

Int. Cl. B30b 11/02, 15/32

U.S. Cl. 18—16

1 Claim



A die is provided with a lower punch into the center of which a core rod is fixed. The device is operative to supply powder material to the die, press and compact the powder to the required size, discharge the compacted part by the flow of air, and empty the cavity of the die in order to supply the next powder.

3,541,642

CASTING MACHINE

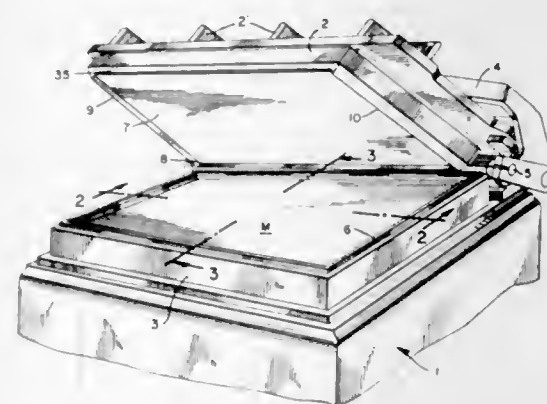
Eugene L. Bernardi, Oakland, Calif., and William F. Turner, Springdale, Conn., assignors to Reichhold Chemicals, Inc., White Plains, N.Y., a corporation of Delaware

Filed Mar. 27, 1968, Ser. No. 716,397

Int. Cl. B29f 5/00

U.S. Cl. 18—17

4 Claims



A casting machine for casting relatively thin flat plastic articles made of a thermosetting plastic material having a flat horizontally extending lower platen, a form on the lower platen on which a liquid plastic material is poured, and a movable upper platen closing with the lower platen with a hinge-like movement and having cutting means on the rear and side edges thereof for engaging the form and cutting off relatively thick excess plastic flashing which may extend beyond the form in order to prevent any cracks forming in the solidified flashing from extending into the cast article.

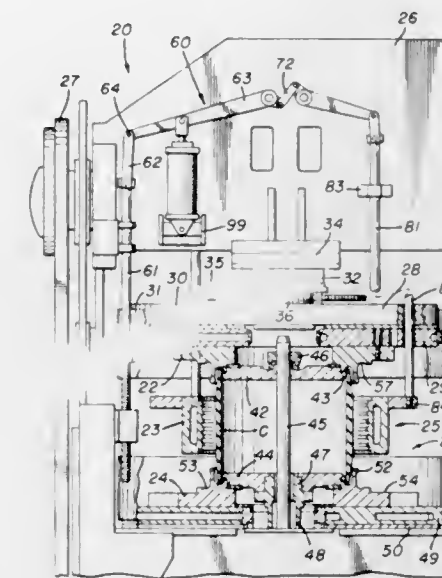
3,541,643

VULCANIZING PRESSES

Leslie E. Soderquist, Silverlake, Ohio, assignor to McNeil Corporation, Akron, Ohio, a corporation of Ohio
 Filed Feb. 20, 1968, Ser. No. 706,961
 Int. Cl. B29h 5/00

U.S. Cl. 18—17

11 Claims



Vulcanizing press for manufacture of pneumatic tire having folded side wall portions in three-part mold. Press includes feature of controlling motion of middle or tread mold part as a function of press closing motion. Press also includes center mechanism having means to seat beads of green tire carcass against outer or end mold parts prior to folding during press closing motion.

3,541,644

DEVICE FOR VULCANIZING REPAIRS IN DAMAGED TIRES

Daniel Lejeune, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dom, France

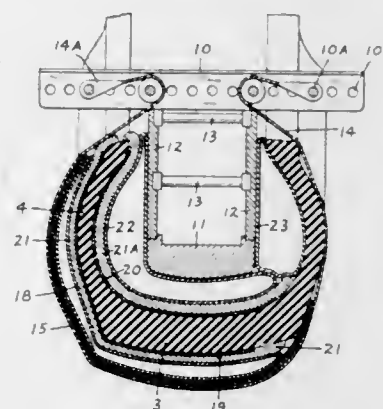
Filed Oct. 5, 1967, Ser. No. 673,113

Claims priority, application France, Oct. 21, 1966, 81,214

Int. Cl. B29h 5/02

U.S. Cl. 18—18

4 Claims



A device for vulcanizing repairs in a damaged tire which includes heating elements to be applied to the inner and outer surfaces of the tire in the repair area, inflatable pneumatic cushions inside and outside of the tire to apply pressure during vulcanization, insulating pads between the heating elements and the cushions, an articulated mat supporting the pneumatic cushion on the outside of the tire, a form supporting the cushion inside of the tire and tensioning elements extending around the outside of the

mat and connected to the form to enable the pneumatic cushions to apply uniform high pressure to the repaired area when the cushions are inflated.

3,541,645

AUTOMATIC ROTARY PLASTIC MOLDING MACHINE

Albert Lowell Bunting, 24627 Rockford Ave., Dearborn, Mich. 48124

Filed Oct. 30, 1967, Ser. No. 679,038

Int. Cl. B29c 3/00

U.S. Cl. 18—20 •

9 Claims



This automatic rotary plastic molding machine has an endless conveyor in the form of a turntable which is rotated step-by-step intermittently by a motor-driven propelling device which also rotates a cam. This cam operates a switch which controls the halting of the turntable and the actuation of a locking brake, the opening of the mold mounted in circumferentially-spaced relationship around the periphery of the turntable for removal of the molded workpieces for the filling of the molds with expansible plastic granules, and the closing of the filled molds. Steam is supplied to the closed molds through valves which are automatically opened and closed during a portion of the rotation of the turntable, in order to supply the necessary heat for expanding the plastic beads which contain an expanding agent, such as pentane. Cooling water is sprayed against the molds at another portion of the cycle immediately following the shutoff of the steam and immediately prior to the automatic opening of the molds. These molds are preferably opened, filled and closed in pairs for convenience of operation. The turntable propelling device moves the turntable in simple harmonic motion, thereby accelerating it from, and decelerating it to momentary points of rest without impact and momentarily locking the turntable at the rest points as the mechanism returns to initiate the next cycle of such motion.

3,541,646

MOLD FOR THE MANUFACTURE OF LINED SHOES BY CASTING

Antoine Joseph Georges Baudou, Les Eqlisottes 33, France

Filed July 11, 1968, Ser. No. 744,164

Claims priority, application France, July 12, 1967, 114,152

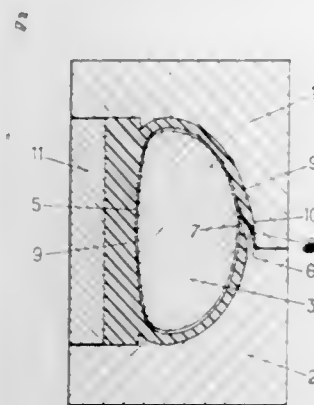
Int. Cl. B29d 31/00; B29f 1/10

U.S. Cl. 18—42

10 Claims

A mold for casting lined boots, of the type whose closing is effected by means of two flap portions that overlap one another, wherein a lining having a cut-out in its front

portion corresponding to the opening of the upper of the shoe, is placed on a form, and the edge portions of such cut-out are held in place in the mold by means of a rigid



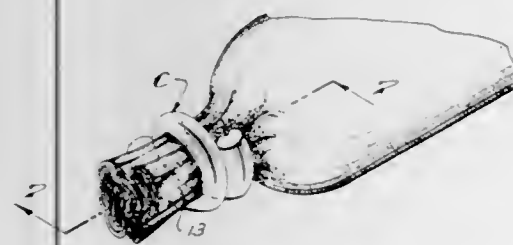
flange which is inserted between the edge portions whereby the casting material joins with the lining and forms the shoe with flap portions at said edge portions of the lining.

3,541,647 CASING CLIP

James W. Marietta, Jr., % D-Mar Company, 1116 W. 24th St., Los Angeles, Calif. 90007
Filed Dec. 31, 1968, Ser. No. 788,297
Int. Cl. B65d 55/08

U.S. Cl. 24—30.5

10 Claims



A normally U-shaped casing clip adapted to be deformed into encircling engagement about a gathered-together opening end of a flexible casing or the like, and having crown and leg portions of uniform cross-section, said portion having a pair of adjacent permanently inwardly disposed, convex casing engaging surfaces having converging inner edges defining a central inwardly opening V-shaped groove and having outer edges converging substantially tangentially with a curved outside surface, said clip being free of corners and edges that might otherwise bite into and cut or tear a casing.

3,541,648 GLOVE MOUNTING RING DEVICE TO PERMIT OF PERFORMING OPERATIONS IN A SEALED CONTAINER

Eric Jean Townsend, Vitry, Seine, and Marcel Fortin, Maurepas, France, assignors to Commissariat a l'Energie Atomique, Paris, France, a French organization
Filed July 21, 1967, Ser. No. 655,058
Claims priority, application France, Aug. 1, 1966, 71,635, 71,636

Int. Cl. A44b 21/00; A61g 11/00

U.S. Cl. 24—1

2 Claims

For the fixation of a flexible glove intended to permit of performing operations in a sealed container, use is made of a ring made of ring elements hinged to one another and some of which are always located on the outline of the ring, whereas the others can be retracted inside this outline. Expansion of the ring is obtained by

pushing in the outward direction the hinges between the two ring elements of the second kind. Such a ring is



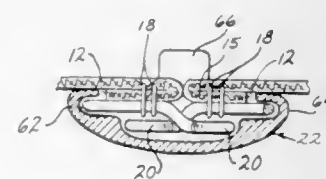
adapted to fit in the expansible gutter-shaped edge of the deformable glove.

3,541,649 SLIDE FASTENER

Alan A. Sim, Meadville, Pa., assignor to Textron Inc., a corporation of Delaware
Filed Dec. 20, 1968, Ser. No. 785,545
Int. Cl. A44b 19/10, 19/34

U.S. Cl. 24—205.1

19 Claims



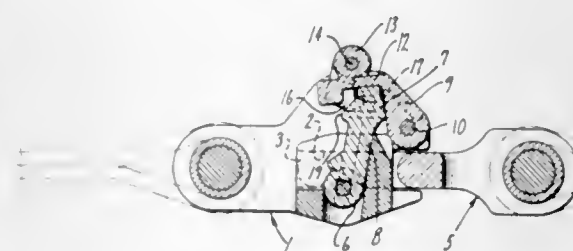
A slide fastener and stringer for an invisible type slide fastener having a plurality of interlocking elements formed from a continuous filament of a zig-zag type configuration. The interlocking elements on each filament configuration are formed from those heel portions interconnecting successive pairs of closely spaced leg members and the other series of heel portions interconnect spaced apart leg members. A tape can be attached to the heel portions of the spaced apart leg members and folded in a manner such that the folded edges of each tape will simulate a seam when the fastener is in the closed position.

3,541,650 LOCKING LEVER FOR CANOPY RELEASE

John A. Gaylord, San Rafael, Calif., assignor to H. Koch & Sons, Inc., a division of Global Systems, a Gulf + Western Company, Corte Madera, Calif.
Filed Dec. 19, 1968, Ser. No. 785,247
Int. Cl. A44b 17/25

U.S. Cl. 24—230

5 Claims



A locking lever pivoted on the end of a flap which locks a handle bar to prevent the rocking of the rocking shaft of the canopy release from locked position; the pivoted locking lever has projections which lock into the keeper

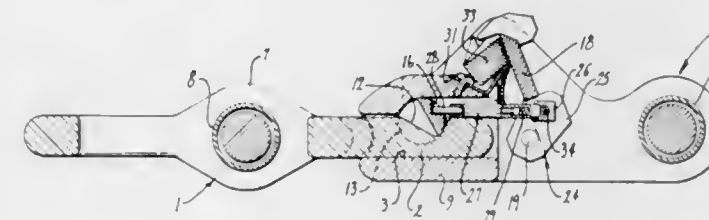
sockets in the handle bar; the exposed edge of the locking lever so located that when the person wants to lift the flap to release the handle bar, then the pull exerted on the edge of the locking lever rotates the locking lever thereby to withdraw the projections from the keeper sockets.

3,541,651 SHAFT LOCK FOR CANOPY RELEASE

John A. Gaylord, San Rafael, Calif., assignor to H. Koch & Sons, Inc., a division of Global Systems, a Gulf + Western Company, Corte Madera, Calif.
Filed Dec. 19, 1968, Ser. No. 785,242
Int. Cl. A44b 11/25

U.S. Cl. 24—230

7 Claims



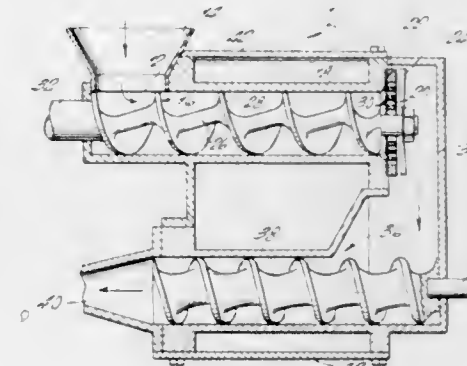
In a canopy release of the type shown in U.S. Pat. No. 3,183,568 further locking means are provided for safety by a shaft lock. The rocking shaft in that type of canopy release is cut away to permit the insertion of the prongs of the male member into the pockets of the female member and the shaft is then turned for engagement with the prongs to hold them in position. The shaft locking means include a locking arm on the safety flap which latter holds down the handle yoke on the shaft. The hub of the safety flap is cut away and it forms a journal for the head of a locking arm, which latter extends into the cut away portion of the pocket into which the shaft is turned in the unlocked position. The shaft has a notch in its periphery which in the locking position of the shaft is positioned opposite the locking arm. A spring on the body of the lock is pressed by the handle yoke against the locking arm to move and press the free end of the locking arm into the notch and thereby positively prevent the turning of the shaft.

3,541,652 SOAP AND DETERGENT PLODDER

Charles Frederick Fischer, Jersey City, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Nov. 29, 1968, Ser. No. 779,808
Int. Cl. C11d 13/18

U.S. Cl. 25—8

7 Claims



This invention relates to an apparatus for processing soap comprising a housing including a first extrusion device for levigating and homogenizing a mass of soap and an evacuated chamber interconnecting the housing to a casing containing a second extrusion device for compressing and compacting soap partially processed by the

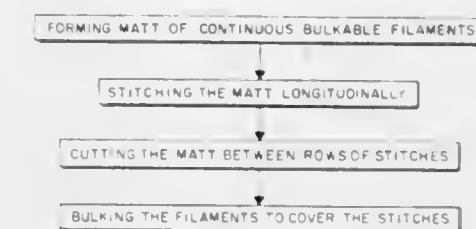
first extrusion device. The first extrusion device comprises a shank having flights disposed thereon, the end flight abutting and in wiping contact with the surface of a screen for forming "spaghettis" of partially processed soap.

3,541,653 PROCESS FOR FORMING BULK YARNS FROM CONTINUOUS FILAMENT WEBS

Philip J. Stevenson, Durham, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Dec. 19, 1968, Ser. No. 785,255
Int. Cl. D02j 1/12

U.S. Cl. 28—77

11 Claims



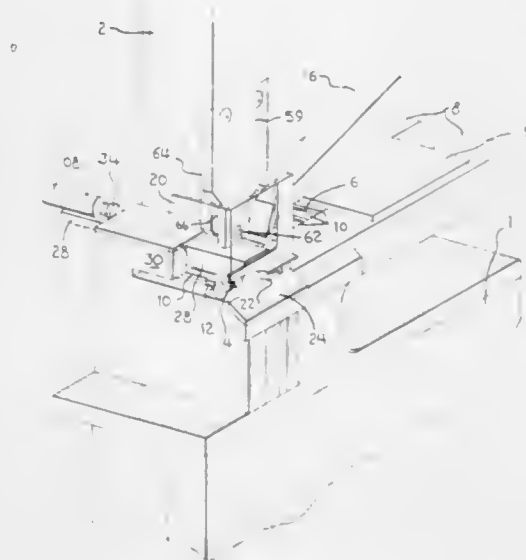
A high density bulked yarn having a bulk density of less than 0.050 g./cm.³ is formed by stitching a matt comprised of bulkable synthetic continuous filaments to form a plurality of aligned seams by cutting the matt between the seams to form individual yarns and subsequently bulking the synthetic filaments locked in the seams by contacting the yarns with a heated fluid. Upon being bulked, the synthetic filaments curl to cover the seam.

3,541,654 STRIPPER-CRIMPER DEVICE

Bruce Hills, Auburn, New South Wales, Australia, assignor to AMP Incorporated, Harrisburg, Pa.
Filed June 26, 1968, Ser. No. 740,143
Claims priority, application Australia, Aug. 11, 1967, 25,842/67
Int. Cl. B23p 23/04; H01r 43/04

U.S. Cl. 29—33.5

11 Claims



A stripper-crimper device comprises a slide moveable towards and away from an end of an insulated wire inserted in the device and it has therein radially-arranged pivotally-mounted stripping blades. The slide is advanced towards the wire end so that the wire end abuts the blades to swing them against the action of a spring, the wire end passing between the blades. The slide is then withdrawn to cause the blades to strip the wire and to permit a moveable crimping die to descend and crimp the stripped wire end to a connector.

3,541,655 INDEXABLE AND REVERSIBLE CUTTING INSERTS

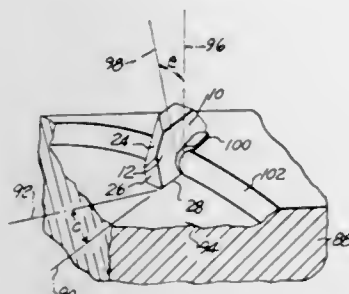
Henry W. Stier, Dearborn Heights, Mich., assignor to Carmet Company, Pittsburgh, Pa., a corporation of New Jersey

Filed Dec. 29, 1967, Ser. No. 694,678

Int. Cl. B23p 15/28; B26d 1/00

U.S. Cl. 29—95

4 Claims



Indexable and reversible cutting inserts for milling cutters and the like and having two polygonal parallel plane faces provided with trapezoidal sides alternately intersecting one face at an acute angle and the other face at a complementary obtuse angle.

ERRATUM

For Class 29—103 see:
Patent No. 3,542,528

3,541,656 SHEET DRIVER FOR PRINTER-SLOTTER BOX PRESSES

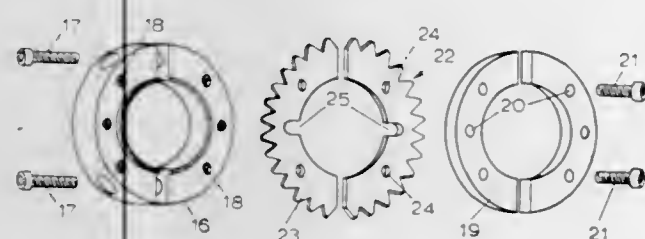
Harry J. Devon, Pittsburgh, Pa., assignor to Jas. H. Matthews & Co., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 6, 1968, Ser. No. 750,605

Int. Cl. B21b 31/00

U.S. Cl. 29—121

2 Claims



A toothed driving disk is mounted on a shaft and secured between a hub member and a clamp element by a plurality of bolts passing therethrough. The disk, hub and clamp are each presented as a split annulus. At least one aperture on each disk segment, through which a bolt passes, comprises a notch opening towards the center of the segment to facilitate assembly and disassembly.

3,541,657 METHOD OF PRODUCING A REED VALVE BLOCK

Raymond L. Ellingsen, Oshkosh, Wis., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware

Filed July 3, 1968, Ser. No. 742,430

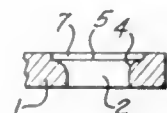
Int. Cl. B21d 53/00; B21k 29/00; B23p 15/26

U.S. Cl. 29—157.1

1 Claim

The cast reed valve block has an opening beneath the reed with the upper edge beveled or curved on a small radius to increase the efficiency. In manufacturing the block a depression is cast in the block above the beveled or curved radius and of a depth which allows for the maximum casting and machining tolerances, and the

upper surface of the block is machined to receive the reed while leaving the immediate edge corner so that the full



effect of the bevel or curvature may be obtained in increasing the efficiency of the reed valve.

3,541,658 METHOD AND APPARATUS FOR FASTENING A TUBE INTO A TUBE GABLE

Gustav Sigfrid Andersson, Grevgatan 36, Stockholm, Sweden

Filed June 21, 1968, Ser. No. 739,110

Int. Cl. B21d 53/02

U.S. Cl. 29—157.4

5 Claims



In boilers, heat exchangers, and other apparatuses containing a large number of tubes having their ends fastened to walls (referred to hereinbelow as tube gables) the tubes may be firmly fastened to the walls by means of a charge of powder. The tube is inserted into a somewhat larger opening in the wall, and a tubular socket is now driven at high-speed into the annular space between the tube and the wall by means of a charge of powder.

3,541,659 FIBRE REINFORCED COMPOSITES

John Corjeag Cannell, Waltham Abbey, and Noel James Parratt, Loughton, England, assignors to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

Filed Mar. 18, 1968, Ser. No. 713,778

Claims priority, application Great Britain, Mar. 16, 1967, 12,465/67

Int. Cl. C22c 29/00

U.S. Cl. 29—182.5

5 Claims

A reinforced metal composite has a matrix containing fibres, the matrix comprising aluminium powder containing between about 5% and 25% by weight of aluminum oxide dispersed within individual particles.

3,541,660 APPARATUS FOR ASSEMBLING AND SECURING DRAPERY PANELS

Enrique A. Soto, 981 Montecito Drive, Los Angeles, Calif. 90031

Filed Feb. 28, 1968, Ser. No. 709,084

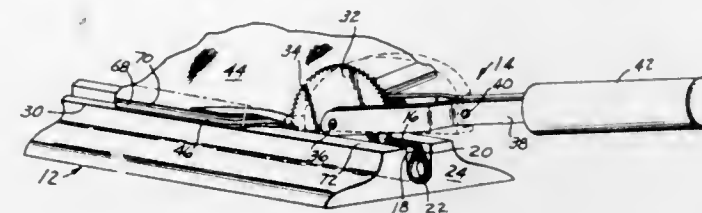
Int. Cl. B23p 19/04, 11/02

U.S. Cl. 29—200

10 Claims

An apparatus for forming a smooth seam between fabric drapery panels are disclosed. Portions of material along the edges of the panels are joined with a straight,

elongate, resiliently deformable clamp. Prior to joining, the clamp is placed within a jig with the panel edges



stacked thereover. A pry presses the fabric edges into the clamp to secure and form the seam.

3,541,661 CONTACT EXTRACTION TOOL

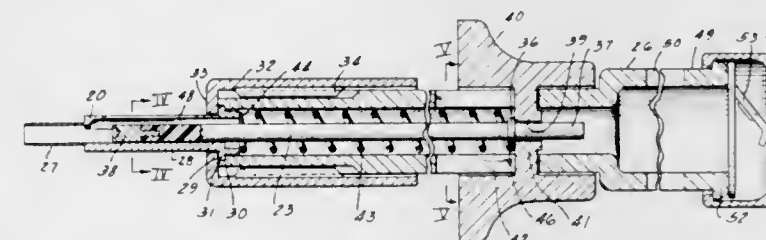
Joseph A. Nava, Villa Park, Ill., assignor to The Pyle National Company, Chicago, Ill., a corporation of New Jersey

Filed Mar. 6, 1968, Ser. No. 711,062

Int. Cl. B25b 27/00; H05k 13/00

U.S. Cl. 29—203

6 Claims



A tool for extracting a contact from a collet mounted in the bore of an electrical connector and including a body and a tip extending from the body, the body and the tip being constructed and arranged so as to collapse when subjected to an axial force or to a bending moment which approaches the axial force capability of the connector body or the bending moment capability of the contact. A clicking mechanism mounted on the body to provide an audible signal when the axial force imposed on the body exceeds a predetermined level.

3,541,662 FULLY AUTOMATIC WIRE FED TOP STOP MACHINE

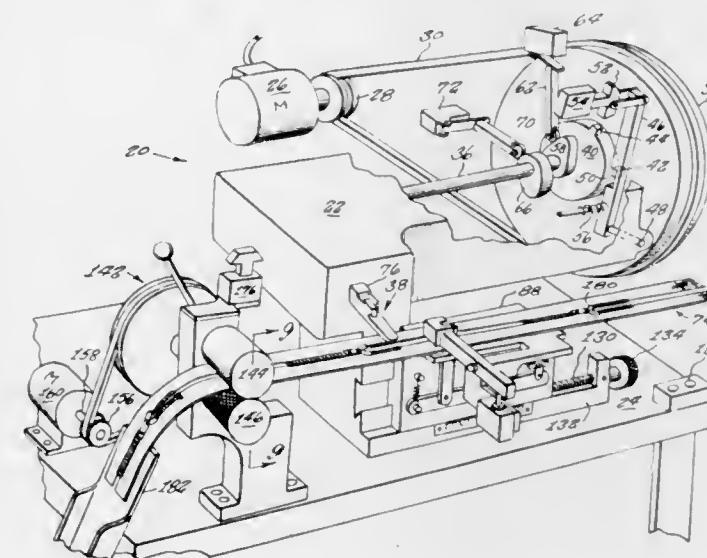
Morris Perlman, 1631 63rd St., Brooklyn, N.Y. 11204

Filed Feb. 14, 1968, Ser. No. 705,525

Int. Cl. B21f 45/18; B23p 19/04

U.S. Cl. 29—207.5

5 Claims



An automatic wire fed top stop machine for attachment of top stops to slide fasteners. The machine comprises a top stop forming and clinching mechanism. A

driver assembly ram is provided for applying a top stop to a slide fastener chain and means for automatically positioning slide fastener units of the fastener chain, subsequently, in alignment with the ram. The positioning means pulls the slide fastener chain past the ram and momentarily arrests the chain's travel when an endmost tooth of each slide fastener unit is in alignment with the ram. A pulling mechanism including a pair of axially parallel rollers, between which the fastener chain is pulled, is provided. A spring normally urges the rollers toward frictional engagement. Electromagnetic means are provided for urging one of the rollers apart from the other.

3,541,663 SYRINGE NEEDLE ATTACHMENT DEVICE

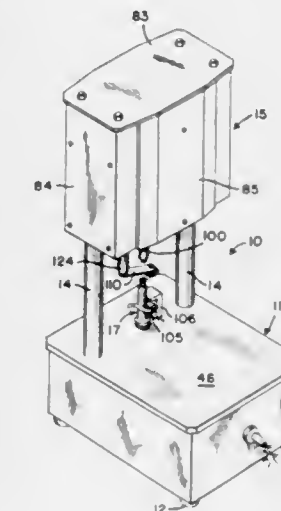
Roman Szpur, 2685 Culver Ave., Kettering, Ohio 45429

Filed Aug. 21, 1968, Ser. No. 754,192

Int. Cl. B23p 19/04

U.S. Cl. 29—208

7 Claims



A device for attaching a needle assembly to a glass barrel of a syringe. The mechanism automatically places the needle assembly on the head of the syringe barrel and then deforms the metal connector of the needle assembly around the head of the barrel. The machine automatically adjusts to the length of the barrel and it provides a preset downward force so that the needle assembly is properly sealed to the barrel.

3,541,664 PISTON RING COMPRESSOR

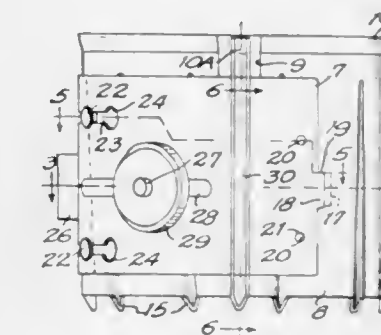
Charles R. Fogg, 3742 W. 119th St. Place, Hawthorne, Calif. 90250

Filed May 9, 1968, Ser. No. 727,956

Int. Cl. B23p 19/08

U.S. Cl. 29—222

3 Claims



A sectional sleeve, with open sections of varying circumference replaceably attachable to a control section,

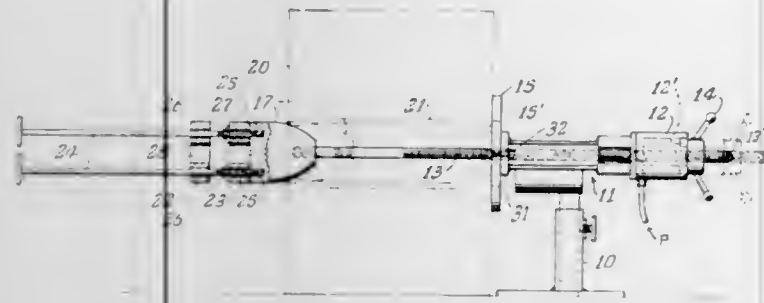
and with means for contracting and locking the sleeve at the diameter of a piston to be inserted in a cylinder, and with internal ramp flutes to contract the piston rings for entry into the cylinder as the piston is pushed through the sleeve.

3,541,665 ROLL AND CORE CORRECTING DEVICE AND METHOD

James A. Ferris, Sr., 712 Reid St.,
West De Pere, Wis. 54178
Filed June 5, 1968, Ser. No. 735,503
Int. Cl. B22d 19/10

U.S. Cl. 29—401

6 Claims



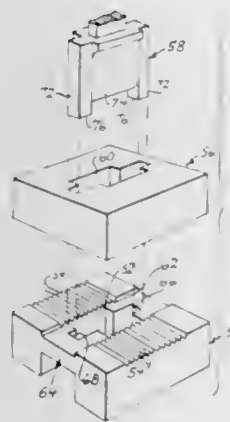
This disclosure relates to a method and a device for repairing and plugging a damaged core about which materials are rolled or coiled. The method is performed in a straight-through, non-reversing operation consisting of removably fastening a core plug to a core-correcting die, urging the die and plug throughout the length of the damaged core, plugging the entry end of the core with a second plug, and unfastening the first plug from the die. The device comprises means for performing the above method.

3,541,666 METHOD AND APPARATUS FOR GAPPING SLIDE FASTENER CHAIN

William F. Van Amburg, Meadville, Pa., assignor to
Textron Inc., a corporation of Delaware
Filed July 19, 1968, Ser. No. 748,114
Int. Cl. B23p 15/00, 19/04

U.S. Cl. 29—408

20 Claims



Apparatus and method for clean gapping a given length of continuous filamentary slide fastener chain wherein successive interengaging elements are interconnected by heel portions, each secured to the carrying tape by stitching passing about the filamentary material at a point intermediate the elements and the heel portions. The interengaging elements at opposite ends of

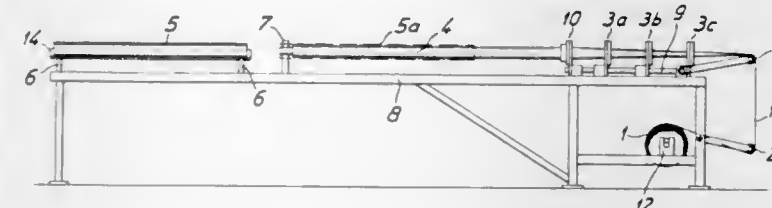
the length of the free gap are first severed, after which each stitch passing about the filamentary material extending the length of the space to be gapped is cut. A punch member is then actuated which engages the interengaged elements located in the space to be gapped, and removes these elements as well as the now cut stitching that previously secured the filamentary material to its carrying tape.

3,541,667 METHOD AND APPARATUS FOR DRAWING FOILS INTO PIPES

Walter Patzak, Stifterweg 34; Alfred Witulski, Priessnitzstr. 19; and Wilhelm Muhleisen, Munchner Platz 3, all of 8264 Waldkraiburg, Bavaria, Germany
Filed Aug. 23, 1968, Ser. No. 754,763
Int. Cl. B23p 19/00

U.S. Cl. 29—429

13 Claims



A method and apparatus of drawing foil liner into a tube, sliding a casing over the tube, attaching the liner to the casing thus forming a liner for the casing. The casing being used as a casting tube for plastic material.

3,541,668 METHOD OF ASSEMBLING A UNITIZED VEHICLE BODY

Henry W. Wessells III, Paoli, and Walter S. Eggert, Jr., Huntingdon Valley, Pa., and Arthur Schuld, Wolfsburg, Hannover, Germany; said Wessells and said Eggert assignors to the Budd Company, Philadelphia, Pa., a corporation of Pennsylvania, and said Schuld assignor to Volkswagenwerk Aktiengesellschaft, Wolfsburg, Hannover, Germany, a corporation of Germany
Filed Dec. 1, 1967, Ser. No. 687,300
Int. Cl. B23p 21/00

U.S. Cl. 29—469

4 Claims



A method of assembling a unitized body consisting of fabricating the major sub-assemblies such as the roof, floor pan, rear balloon and front end. The sub-assemblies are provided with adjacent internal flanges for positioning about a central welding buck and being joined by

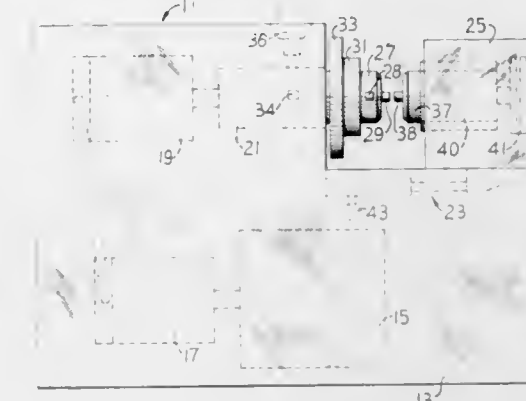
spot welding along the flanges. The buck is then removed and the body completed by positioning and securing the center floor pan sub-assembly in the body.

3,541,669 ORIENTING INERTIA WELDED PARTS

Ralph W. Yocum, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 20, 1968, Ser. No. 777,290
Int. Cl. B23k 27/00

U.S. Cl. 29—470.3

4 Claims



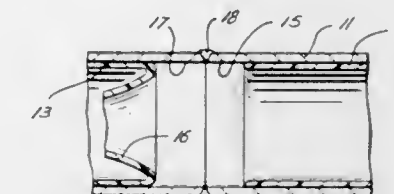
A first workpiece is inertia friction welded to a second workpiece wherein both workpieces are allowed to rotate near the end of the weld cycle to permit precise orientation of the workpieces with respect to each other.

3,541,670 METHODS FOR COATING SEPARATE MEMBERS TO BE JOINED

Edwin D. McCrory, Jr., Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Sept. 12, 1967, Ser. No. 667,199
Int. Cl. B23k 21/00

U.S. Cl. 29—471.1

22 Claims



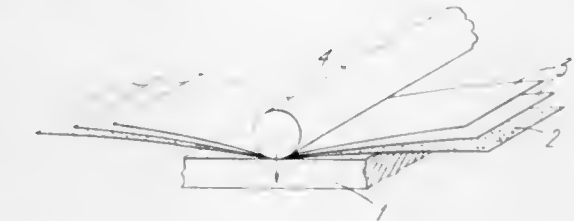
The particular embodiments described herein as illustrative of various manners in which the invention may be practiced and the articles produced thereby are directed to provide a continuous protective coating between adjacent members. In one manner of accomplishing this with, for example, pipe sections to be joined together, an extension member is mounted on one end of each pipe section and the exposed surface adjacent to that end is protected to prevent coating material from sticking thereto. A thermoplastic coating material is applied to each section so as to leave an exposed surface adjacent to the other end of each section and continued across the protected exposed surface onto the extension. Once the coating material is cured, the extension is removed to leave a tubular cuff of the cured material projecting from the one end of each pipe section. After two or more of the pipe sections are joined, the tubular cuff is laid across the joint and joined to the coating material in the next pipe section.

3,541,671 PROCESS OF FIXING PAPER TO METAL

Pierre G. J. Frachot, St. Berthevin, France, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 1, 1968, Ser. No. 725,675
Claims priority, application France, June 9, 1967, 109,794

U.S. Cl. 29—471.9

8 Claims



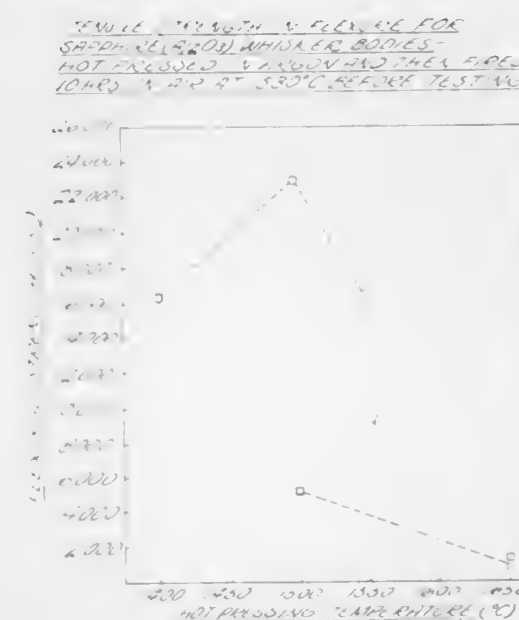
This is a method of fixing paper to a metal foil, such as an aluminum, by exerting pressure on the paper metal layers with a tool that utilizes ultrasonic vibrations.

3,541,672 PROCESS FOR FORMING A PROTECTIVE CERAMIC COATING ON A METAL SURFACE

Charles O. Hulse, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 657,686, Aug. 1, 1967. This application June 17, 1969, Ser. No. 834,126

U.S. Cl. 29—471.9

3 Claims



A process for forming a protective ceramic coating, the coating being resistant to spalling and to mechanical and thermal stresses, is provided. In the process ceramic whiskers are hotpressed into a unitary body of 60-90 percent of the theoretical density and provided with an impervious ceramic coating in hotpressing operation utilizing fine ceramic powders. A metallic surface is provided on the opposite surface of the whisker body and the metallic surface is bonded to the metal surface to be protected.

3,541,673 METHOD OF FORMING FILLET-SHAPED BONDS

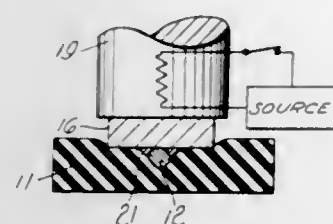
Robert Holbrook Cushman, Princeton Junction, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 14, 1968, Ser. No. 713,012
Int. Cl. B23k 5/22, 31/02

U.S. Cl. 29—491

8 Claims

A fillet-shaped bond is formed between two elements by sandwiching a first element and a heat softenable bonding

material between a deformable, resilient pad and a second element. Heat and pressure are applied to the sandwich to (1) force the elements against the pad to depress same, and (2) to render the bonding material fluent. The



pad, in resisting deformation, forces the bonding material to collect in a fillet-shaped mass at the juncture of the two elements. The bonding material is then rigidified by cooling to effectuate the bond.

3,541,674 METHOD FOR MAKING AN INTERNALLY REINFORCED CRUSHING ELEMENT

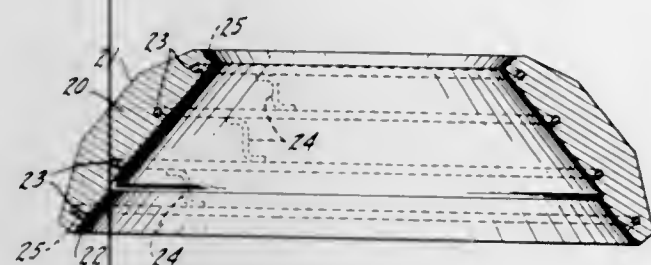
Erik Arne Sabel, Box 128,
Ojehyn, Sweden

Original application Oct. 13, 1966, Ser. No. 586,413, now Patent No. 3,473,746, dated Oct. 21, 1969. Divided and this application Apr. 26, 1968, Ser. No. 724,437
Claims priority, application Sweden, Jan. 12, 1966, 342/66

Int. Cl. B23p 17/00

U.S. Cl. 29—527.3

6 Claims



The present disclosure is related to wear taking bodies or members for mills, for example, for cone or gyratory crushers. The particular structures shown are bowl liners or mantles for use in crushers in which a head is gyrated within a surrounding bowl. The bowl liner is secured to the bowl, and the mantle is mounted on the head. These two wearing parts define a crushing cavity into which material is discharged from above for reduction. It will be understood that the crushing parts, the liner and mantle, take tremendous wear, and wear away rapidly. A major purpose of the disclosure is a wear taking part and a method of making it which permits the use of hard but brittle metals.

3,541,675 SEMICONDUCTOR CIRCUIT CHIP SUP- PORT APPARATUS AND WELDING CHUCK THEREFOR

Matheus D. Pennings, Los Altos Hills, Calif., assignor to Engineered Machine Builders Co., Inc., a corporation of California

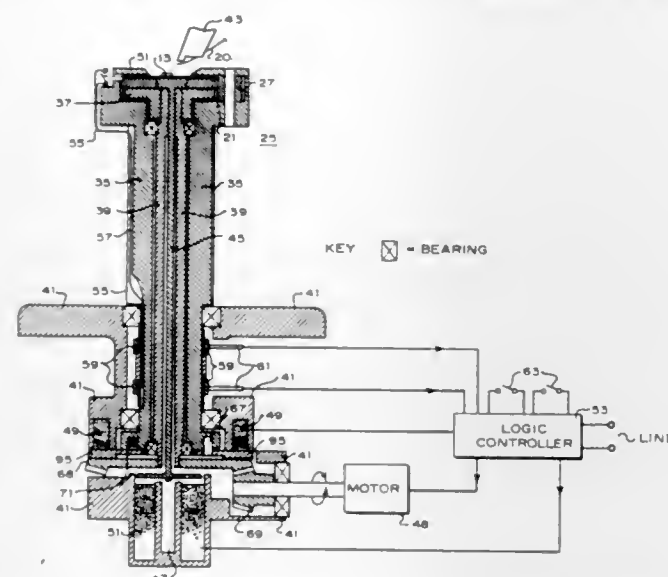
Filed Mar. 7, 1968, Ser. No. 711,405
Int. Cl. H01j 17/00

U.S. Cl. 29—569

9 Claims

A frame of integrated circuit electrode patterns is supported during fabrication between upper and lower plates with spring fingers holding the individual electrodes of an electrode pattern in fixed position during welding. A mating chuck provides longitudinal positioning of the frame and plates for selecting individual electrode patterns and also provides orthogonal and angular position-

ing of the frame and plates to facilitate ultrasonic welding of connecting wires between circuit terminals of an in-



tegrated circuit chip and selected electrodes in an electrode pattern in the frame.

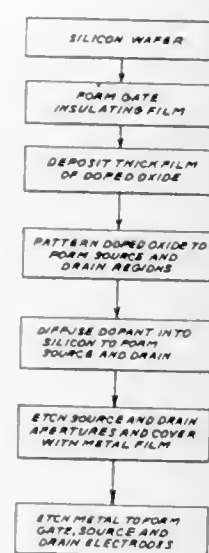
3,541,676 METHOD OF FORMING FIELD-EFFECT TRANSIS- TORS UTILIZING DOPED INSULATORS AS AC- TIVATOR SOURCE

Dale M. Brown, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 18, 1967, Ser. No. 691,483

Int. Cl. B01j 17/00; H01g 13/00; H01j 11/14

U.S. Cl. 29—571

8 Claims



Self-registered field-effect transistors are made by forming gate insulator with a thick film of doped insulator thereover. The doped insulator is etched at one region to define the gate area and separate the source from the drain region. Source and drain regions are formed by diffusing activator from the remaining portions of the doped insulating film. Apertures are etched in the insulating films to expose source and drain, and source, drain, and gate electrodes are formed in contact with respective regions of the device.

3,541,677 TOOL REPLACING DEVICE FOR MACHINE TOOLS HAVING A WORKING SPINDLE AND MOVABLE IN THREE COORDINATED AXES

Richard Fiegler, Karl-Marx-Stadt, Germany, assignor to Institut für Werkzeugmaschinen, Karl-Marx-Stadt, Germany

Filed Feb. 27, 1968, Ser. No. 708,704

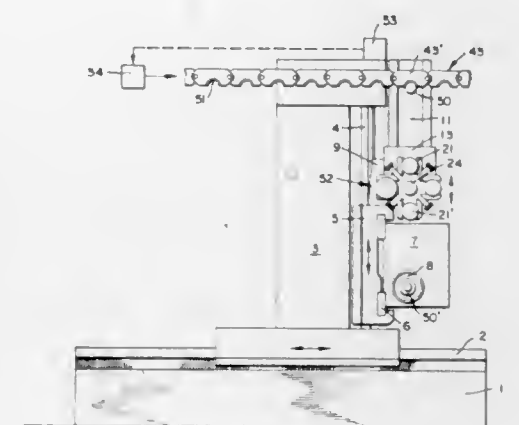
Int. Cl. B23q 3/157

U.S. Cl. 29—568

10 Claims

A tool storage chain is guided in parallel with and above the longest path of movement of the working spindle of a

programmed machine tool. A telescopic guide, which is slidably supported on the machine tool between the storage chain and the working spindle carries a rotatable multi-arm gripping head controlled by a number of hydraulic



piston drives to carry out the tool replacing motions. The position of the storage chain is controlled by a hydraulic tracing device which is attached to the machine tool and is arranged in slidable contact with the chain.

3,541,678 METHOD OF MAKING A GALLIUM ARSENIDE INTEGRATED CIRCUIT

Bruce A. McDonald, Stamford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 1, 1967, Ser. No. 657,703

Int. Cl. H01l 7/14, 7/44, 11/14

U.S. Cl. 29—571

7 Claims

A gallium arsenide integrated circuit and method of making the same in which a heat-resistant protective mask is formed over a gallium arsenide layer extending through a thin dielectric film diffusion opening into contact with a doped silicon substrate. This structure is heated to diffuse material upwardly from the substrate into the gallium arsenide layer. Following the diffusion, openings are formed in the mask and suitable contacts are applied to the resultant structure.

3,541,679 METHOD OF ATTACHING A COVER GLASS TO A SILICON SOLAR CELL

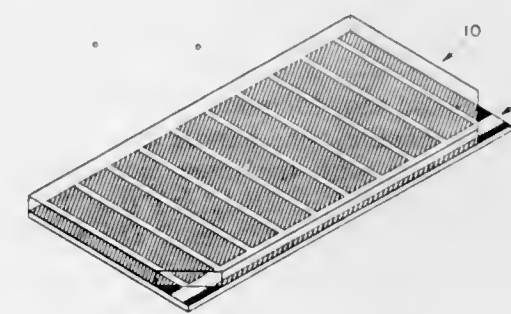
Joseph Mandelkorn, Cleveland Heights, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Original application May 18, 1967, Ser. No. 641,420, now Patent No. 3,472,698, dated Oct. 14, 1969. Divided and this application Mar. 17, 1969, Ser. No. 829,825

Int. Cl. B01j 17/00; H01c 7/08; H01g 9/00; H01l 15/02

U.S. Cl. 29—572

9 Claims



Cover glasses are attached to solar cells without using adhesive. Each cover glass is metallized in a pattern identical to the top contact pattern of a solar cell. The glass is bonded to the cell only within the metallized regions of glass and cell.

3,541,680 METHOD OF MANUFACTURING SUPER- CONDUCTING MATERIAL

Maarten Bastiaan Verrijp, Emmasingel, Eindhoven, Netherlands, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

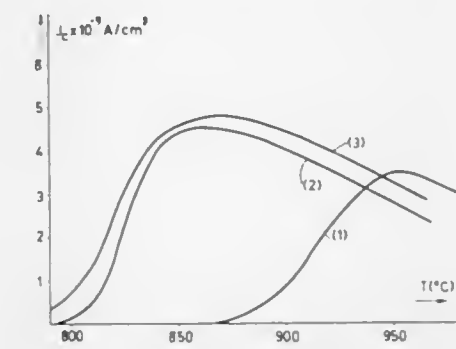
Filed Nov. 28, 1967, Ser. No. 686,275

Claims priority, application Netherlands, Dec. 30, 1966, 6618394

Int. Cl. H01v 11/00

U.S. Cl. 29—599

4 Claims



A method of manufacturing Nb₃Sn in which a mixture of niobium and tin are mechanically processed into a desired shape and then heated to a temperature between 700° and 930° C. in the presence of a metal which inhibits the formation of Nb-Sn compounds other than Nb₃Sn.

3,541,681 METHOD OF CONSTRUCTING A WIRED CORE MEMORY SYSTEM

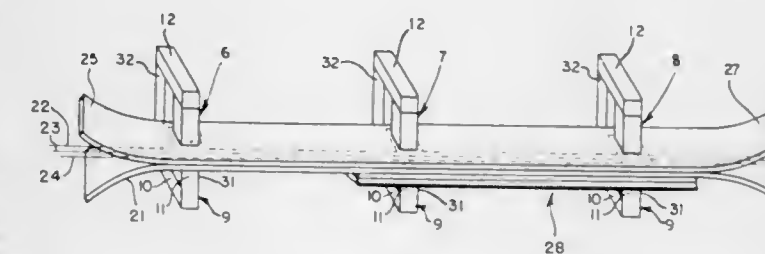
Markvard Hauerbach, San Diego, Calif., assignor to Stromberg Datagraphics Inc., San Diego, Calif., a corporation of Delaware

Filed July 16, 1968, Ser. No. 745,159

Int. Cl. H01f 7/06

U.S. Cl. 29—604

5 Claims



A method is described for constructing a wired core memory system by utilizing a fixture including upright members, around selected ones of which the wires of the system are wound. The wires wound on the upright members are sandwiched between two layers of material, after which the sandwich is removed and legs of magnetic cores are inserted through the layers at the regions around which the wires are positioned. Also described is a wired core memory system which may be constructed as described.

3,541,682 PROCESS FOR MANUFACTURING COIL COMPONENTS AND TRANSFORMERS

Albert R. Hildebrandt, Cincinnati, Ohio, assignor to Paul Smith, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Aug. 7, 1967, Ser. No. 658,824

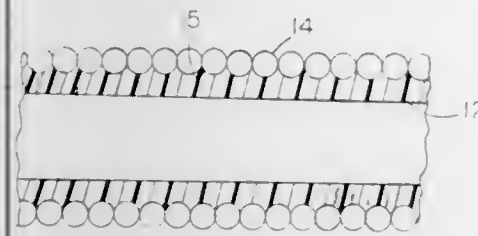
Int. Cl. H01f 7/06

U.S. Cl. 29—605

7 Claims

This invention relates to a unique process for manufacturing the coil component of a small transformer such as an RF transformer used in electronic equipment. Specifically, the process involves the steps of

helically winding a strand of wire about a cylindrical member, the surface of which comprises a thermo plastic. The wire is held under positive pressure and heated in situ by means of an electric current applied thereto.



During the resulting heating and cooling cycle, a continuous helical groove is formed in the said surface to receive and uniformly space the wire about the cylindrical member.

3,541,683

CLAMSHELL TYPE SAFETY RAZOR

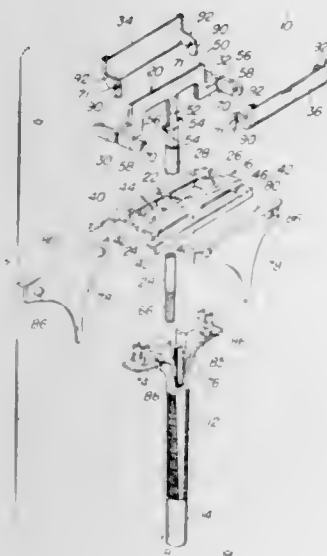
Clemens A. Iten, Staunton, Va., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia

Filed June 20, 1968, Ser. No. 738,570

Int. Cl. B26b 21/32

U.S. Cl. 30—60.5

5 Claims



A safety razor of the clamshell type in which certain of the several components of the razor are of improved construction lending to reduction in manufacturing and assembling costs of the razor. Thus, spider bar movement for controlling the opening and closing of the cap members is effected by rotating a control knob connected to the bottom of a grip member in captive but independently rotatable movement therewith, the control knob being internally threaded for receiving the threaded lower end of a spindle which is fixedly connected at its upper end with the spider bar, the captive assembly of the control knob with the grip member being effected by plastically deforming a projecting part on the control knob in an undercut groove in the grip member without allowing any adhesion between the two to occur. The spider bar also has a stem which is provided with a pair of lateral shoulders, at least one of which is adapted to abut on the underside of the razor bridge member when the spider bar is raised up to open the cap member thereby providing an upstop means to limit the degree of cap member opening and also to preclude accidental disengagement of the spindle from the control knob.

3,541,684
SURGICAL INSTRUMENT FOR CUTTING
AND REMOVING SUTURES

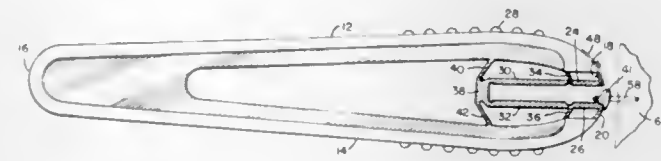
John R. Beaver, Belmont, Mass., assignor to Rudolph Beaver, Inc., Belmont, Mass., a corporation of Massachusetts

Continuation-in-part of application Ser. No. 715,645, Mar. 25, 1968. This application Nov. 14, 1968, Ser. No. 775,629

U.S. Cl. 30—124

Int. Cl. B26b 11/00

5 Claims



A surgical instrument for cutting and removing sutures in a single operation comprising of forcep-like device having opposing faces at the free distal ends and an inner pair of arms joined to the forceps substantially parallel thereto and moveable transversely and laterally in response to a compression moment exerted on the forceps to draw a suture within the opposed faces which is thereupon severed by a V-shaped blade member on one face thereof.

ERRATUM

For Class 30—136 see:
Patent No. 3,541,693

3,541,685

TOOL FOR PUNCHING HOLES IN METAL STUDS

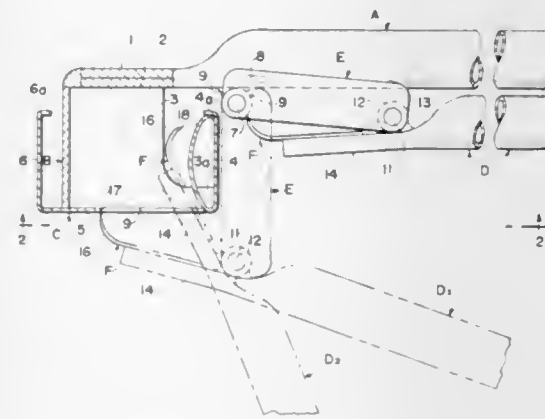
Jerry M. Gidich, 2511 Oaks Drive,
Hayward, Calif. 94542

Filed Oct. 29, 1968, Ser. No. 771,543

Int. Cl. B26f 1/00

U.S. Cl. 30—363

4 Claims



A portable hand tool for punching holes in metal studs comprising two handles, one handle carrying an abutment designed to contact with the inner side of a metal stud, the two sides of the channel-shaped stud being disposed on opposite sides of the abutment. The other handle is operatively connected to the first handle and carries a cutting tooth that will initially overlie the outer surface of the stud and be positioned adjacent to the abutment. A swinging movement of the handle that carries the stud cutting tooth, will cause the tooth to penetrate the metal stud to cut a hole therein, the portion of metal that is cut, being bent against the adjacent flange or side of the stud.

3,541,686

METHOD AND APPARATUS FOR DRAINING
CURDS AND FORMING CHEESE

Hans Koopmans, 16 A. H. van de Venstraat,
Bolsward, Netherlands

Filed Sept. 27, 1968, Ser. No. 763,309

Claims priority, application Netherlands, Oct. 4, 1967, 6713462

Int. Cl. A01j 25/10

U.S. Cl. 31—46

12 Claims



The present invention provides a method and apparatus for draining curds and forming cheese wherein whey is introduced into vertical pipes, curd is then introduced into the pipes, the whey is then removed in a manner so as to prevent the introduction of air into the system. The curd is then allowed to settle and the resultant cheese is removed.

3,541,687

VERTICAL CHEESE MAKING UNIT

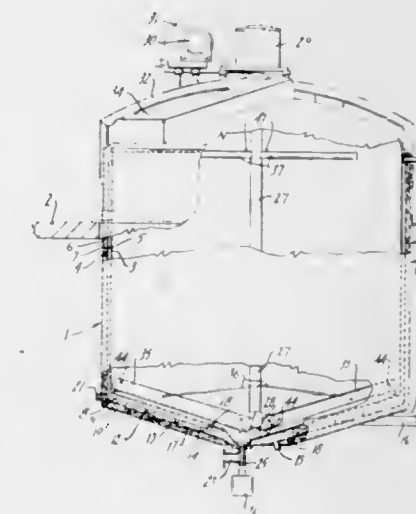
Norman J. Peters, Fond du Lac, Wis., assignor to Dairy Equipment Company, Madison, Wis., a corporation of Wisconsin

Filed Feb. 26, 1968, Ser. No. 708,068

Int. Cl. A01j 25/02

U.S. Cl. 31—47

18 Claims



This invention relates to a vertical cheese making vat. The vat comprises a closed vessel having a central vertical shaft and a pair of agitator panels are connected to the lower end of the shaft. In addition, a pair of arms extend radially outward from the upper portion of the shaft and the arms are adapted to carry a series of implements used during the cheese making operation. The closed top of the vat is provided with an opening enclosed by a removable cover through which the implements are inserted and withdrawn from the vessel.

3,541,688

DENTAL RESTORATIONS

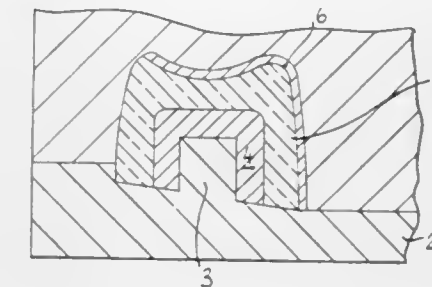
John Walford McLean, London, and Thomas Henry Hughes, Letchworth, England, assignors to National Research Development Corporation, London, England, a corporation of the United Kingdom

Continuation-in-part of application Ser. No. 364,896, May 5, 1964. This application Oct. 25, 1968, Ser. No. 770,627

U.S. Cl. 32—8

Int. Cl. A61c 13/00

11 Claims



Dental restorations, including artificial teeth, crowns and bridges, comprise a preformed element of recrystallized alumina imbedded in a body of dental porcelain fused to the alumina so as to define the external contour of the restoration, the element being situated in the body so as to be interposed between a principal source of rupturing forces, applied to the restoration when in use and the main mass of the porcelain body; the alumina may form a reinforcing core supporting the restoration in the mouth or on a plate or bridge structure, thus taking the supporting forces applied to the restoration, or may be placed to receive high biting forces to which the tooth may be subject. The dental porcelain used is preferably aluminous porcelain.

3,541,689

GINGIVAL RETRACTION RING

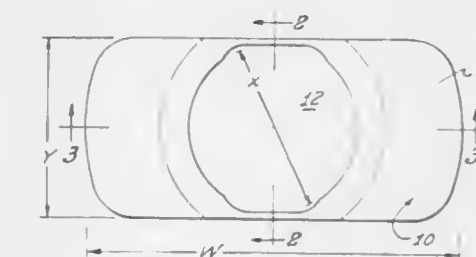
Wilford A. Snead, West Covina, Calif., assignor to Ormco Corporation, Glendora, Calif., a corporation of California

Filed Mar. 13, 1969, Ser. No. 806,941

Int. Cl. A61c 9/00

U.S. Cl. 32—17

3 Claims



A dental appliance is provided in the form of a gingival retraction collar, which is intended to be moved down over a tooth, and which is designed so that its bottom periphery contours the tooth subgingivally when so inserted. The collar of the present invention is intended to replace the present day time consuming methods used by dentists for obtaining subgingival impressions for crowns.

3,541,690

DENTAL METHOD AND APPARATUS

Albert R. Cerveris, deceased, late of Bethel Park, Pa., by Jeanne I. Cerveris, executrix, 5671 Villahaven Drive, Bethel Park, Pa. 15102

Filed Mar. 11, 1968, Ser. No. 712,300

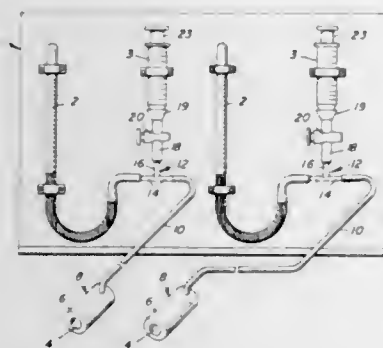
Int. Cl. A61c 9/00

U.S. Cl. 32—19

17 Claims

Disclosed herein are methods for adjusting the mandible of a human mouth and its condyles so as to put them

in a natural and comfortable position (i.e. their centric position). This is accomplished by applying an expanding pressure, as with inflated and compressed endotracheal cuffs, between the teeth until the mandible is located into its centric position, then using the basic technique of vibration as described in U.S. Pat. No. 3,098,298 to bypass elevator muscles and elevate the mandible into first tooth contact, whereby irregularities may be indicated and later removed.



Also disclosed herein is an apparatus for diagnosing mandibular problems and aiding in their cure which is comprised of an independent pair of endotracheal cuffs each connected to their own manometer so as to show by pressure movement in the manometer a movement of the mandible toward its centric position.

Further disclosed herein is a method of forming a fully equilibrated false denture which basically comprises performing the above equilibration techniques using a moldable false denture in the mouth.

3,541,691 METHOD FOR DETERMINING THE GREAT CIRCLE BEARING BETWEEN TWO SELECTED GEOGRAPHIC POINTS

Claude L. Spring, 1803 61st St.,
Des Moines, Iowa 50222
Filed Nov. 27, 1967, Ser. No. 685,754
Int. Cl. G01c 21/20; G09b 27/08

U.S. Cl. 33—1

2 Claims



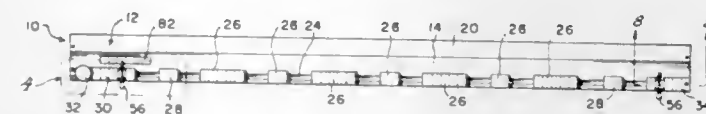
A method and means for determining the great circle bearing between two selected geographical points wherein a world inscribed globe is positioned so that its axis of rotation passes through a first selected geographical point on its surface, the spherical center of the globe and a reference means whereby the great circle bearing between the two points may be accurately determined. Means are also provided whereby the great circle bearing may be coordinated with other electronic directional equipment such as a rotatable antenna, laser beam, etc.

3,541,692 PLEATER GAUGE

Herbert Morantz, 1444 Wistar Drive, Wyncote, Pa. 19095, and Stanley Morantz, 9911 Haldeman Ave., Philadelphia, Pa. 19115
Filed Dec. 19, 1968, Ser. No. 785,150
Int. Cl. B43I 9/08

U.S. Cl. 33—192

1 Claim



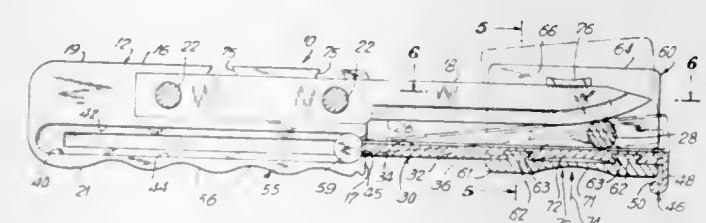
A pleater gauge including a body member having a top panel and an inclined panel, a track formed in the top panel and a series of movable guide blocks held captive in the track for sliding movement, the guide blocks being resiliently connected together so that the guide blocks can be pulled along the track in uniformly spaced relationship to each other, one of the guide blocks, known as the lead guide block, having a fastening knob to anchor the lead guide block at a desired place, clamping means formed on at least one of the guide blocks in order to hold an edge of a piece of drapery fabric, the inclined panel serving to facilitate the sliding of the drapery fabric onto the body member and adjacent the clamping means, and a marking tool which is centered in relationship to each one of the guide blocks in order to place pleat marks on the drapery fabric.

3,541,693 CUTTING IMPLEMENT

Marjorie McCullough, 258 Wadsworth Ave.,
New York, N.Y. 10033
Filed Dec. 5, 1968, Ser. No. 781,413
Int. Cl. B26b 3/03

U.S. Cl. 30—136

15 Claims



The disclosure provides for a cutting implement including a blade with a cutting edge and pivotally mounted supporting means for retaining the object to be cut when in its extended position, with the cutting edge in overlapping relationship to the supporting means. Stopping means adjustably mounted relative to the supporting means is provided for controlling the length of object to be cut. The stopping means is removable from the supporting means and the latter may be placed in a retracted position in which it is contained within the handle means of the cutting implement and retained there in place.

3,541,694 DIVIDING HEAD

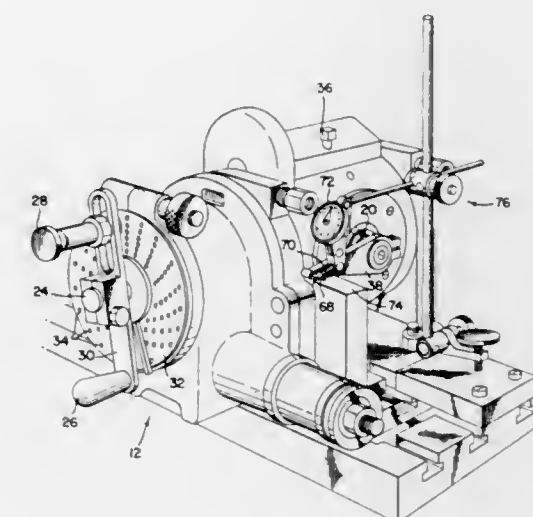
Walter F. Schafer, Gates Mills Tower, Apt. 301,
6801 Mayfield Road, Mayfield Heights, Ohio 44124
Filed July 7, 1969, Ser. No. 839,576
Int. Cl. B23q 17/04

U.S. Cl. 33—174

14 Claims

An arm and plug adapted to be secured to one end of the hollow work holding shaft of a dividing head combined with means for measuring its angular deflection. The outer surface of the plug is substantially cylindrical and an aperture extends coaxially through the plug. Slots

are cut in one end of the plug, radially of the axis. A screw projects through the aperture and is threaded to a nut having an outer peripheral surface defining the frustum of a cone which engages the inner surface of the plug adjacent the slots which serves to expand the plug when the screw is tightened. The plug is adapted to be secured within the shaft by tightening the screw which



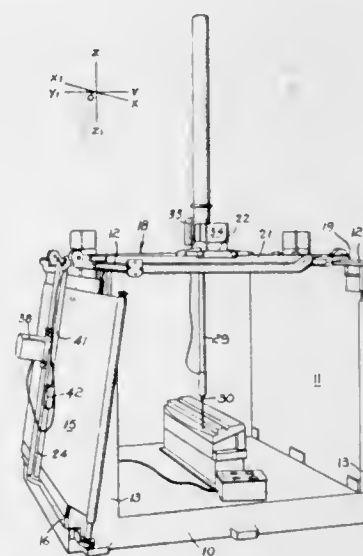
causes the frusto conical surface of the nut to bias the slotted end of the plug into engagement with the inner surface of the shaft. The arm circumscribes and extends radially of the plug and is adjustably fixed to rotate therewith. The measuring means engages the arm at a predetermined position and reflects the angular movement of the arm.

3,541,695 THREE-DIMENSIONAL TRACING UNIT

Christopher George Kelsey, Glenalta, South Australia, Australia, assignor to Data Resolved Tools Pty. Ltd., Plympton, South Australia, Australia
Filed May 7, 1968, Ser. No. 727,262
Claims priority, application Australia, May 8, 1967, 21,368
Int. Cl. B43I 13/10

U.S. Cl. 33—24

6 Claims



A three-dimensional tracing unit wherein a main carriage moves in an X axis direction, a secondary carriage in a Y axis direction and a probe in a Z axis direction, the unit having thereon an output track coupled to move with the main carriage in the X axis direction, and print-out means movable along the output track in response to the probe movement in the direction of either of the other (two) Y and Z axes.

3,541,696 VAPOR LEVEL CONTROL FOR WATER-DRYING ARTICLES WITH HIGH-BOILING SOLVENTS

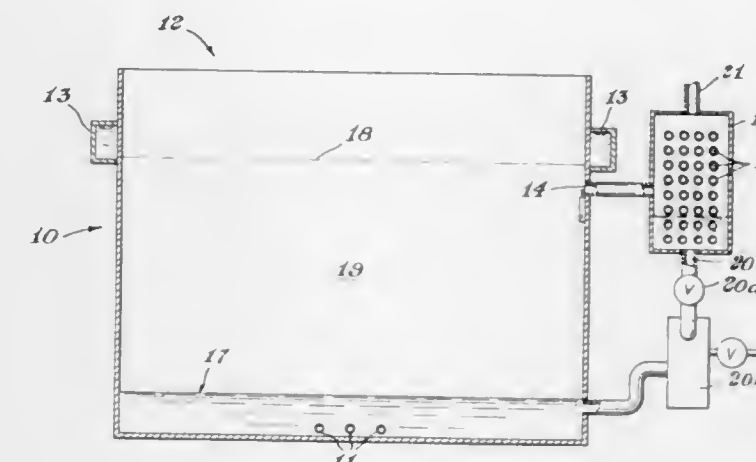
James L. Dunn, Jr., Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 1, 1968, Ser. No. 741,396

Int. Cl. F26b 3/00

U.S. Cl. 34—27

1 Claim



A method for removing water from articles by placing the article into the vapors of a solvent which has a boiling point higher than that of water, withdrawing the water vapor and solvent vapor from the vicinity of the article and passing the water vapor and solvent vapor to a chamber having only an air vent to the atmosphere, condensing the water vapor and solvent vapor in the chamber, separating the condensate water from the solvent and returning the solvent to the process.

3,541,697 HIGH VELOCITY THROUGH-DRYING SYSTEM

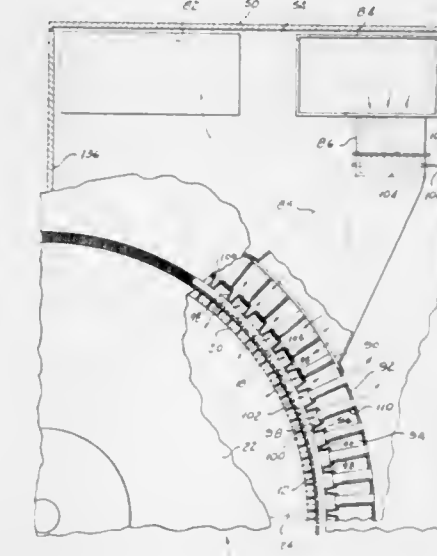
Joseph A. Villalobos, Ramsey, N.J., assignor to AER Corporation, Ramsey, N.J., a corporation of New Jersey

Filed Aug. 1, 1968, Ser. No. 749,549

Int. Cl. F26b 11/02

U.S. Cl. 34—115

17 Claims



A system for drying a wet web supported on an open-work surface in which nozzles direct a plurality of jets of high velocity hot air from a combustion chamber onto the surface of the web. A first portion of the high velocity air produces a scrubbing action at the surface of the web and is returned to the combustion chamber together with a quantity of water from the web. A secondary portion of the air passes through the web and through the

openwork surface to an exhaust space. The system includes means for regulating the jets across the width of the web and in the direction of travel of the web with the surface. The jet-forming means is readily moved out of cooperative relationship with the surface to permit access to the interior of the system for repair and maintenance.

3,541,698

RECORD CARD ASSEMBLY FOR TEACHING MACHINES

Sam M. Cole, New York, N.Y., assignor to Meredith Corporation, Des Moines, Iowa, a corporation of Iowa
Filed Nov. 21, 1968, Ser. No. 777,795

Int. Cl. G09b 1/06

U.S. Cl. 35—8

4 Claims



Program cards for teaching machines which are sandwiched or laminated between webs of transparent plastic film with their adjacent edges in parallel spaced relation. The plastic film between the spaced cards serves as a hinge to permit stacking the cards accordion-fashion into a deck which is placed on the card holder of the machine. Each card carries instructional information and coding perforations, the latter being covered by the plastic film. The film overlying the perforations may be perforated or covered with opaque paint, depending upon the construction of the control means of the teaching machine, to program the sequence of instructional operations and the feeding of the cards from the deck to viewing position and back to the deck.

3,541,699

TEACHING SYSTEM AND MACHINE

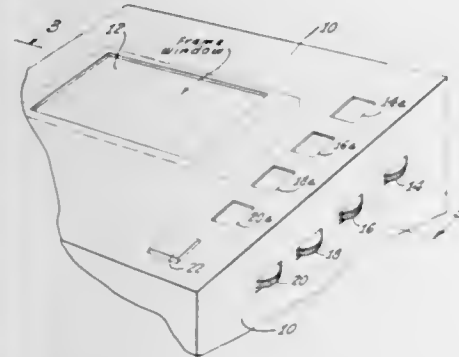
Arthur Y. Baker, Jr., 3818 Havenhurst Ave., Encino, Calif. 91316

Filed June 6, 1968, Ser. No. 734,914

Int. Cl. G09b 7/08

U.S. Cl. 35—9

4 Claims



An improved teaching system and machine is described in the following specification which uses, for example, a deck of cards presenting a selected topic. The cards are presented on a one-by-one basis to the student by the machine, and the machine is programmed to control the

sequence in which the cards are presented to the student in dependence upon the answers given by the student to the questions and problems presented by the cards. In this manner, a dialogue is created between the student and the machine, which can be brought to a conclusion only when the machine is satisfied that the student has mastered the particular topic.

3,541,700

INSTRUCTIONAL DEVICE

Harold S. Montgomery, Fox Point, Wis., assignor to Nutting Industries, Ltd., Milwaukee, Wis., a corporation of Wisconsin

Filed Nov. 19, 1968, Ser. No. 776,988

Int. Cl. G09b 7/08

U.S. Cl. 35—9

12 Claims



This disclosure relates to a multiple question and answer game which permits selection of two incorrect answers within an answer period before presenting a succeeding question. A first control relay is energized by closing a switch for an inserted correct response and actuates a drive relay to present the next question. A second control relay is energized by closing a second switch for a first incorrect response to set a third control relay for subsequent energization. If a second selection is correct, the first relay is operated to indicate the proper selection and actuate the program drive in the normal manner. If the second selection, however, is also incorrect, the second switch is again closed and energizes the third relay to indicate the wrong selection has again been made and actuate the program drive to present the next question.

3,541,701

TEACHING APPARATUS WITH RECEPTACLE FOR QUESTION AND ANSWER SHEETS

Donald W. Barnes, Fort Lauderdale, Fla., assignor to Serge A. Birn Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Aug. 8, 1968, Ser. No. 751,221

Int. Cl. G09b 1/00; A47d 1/12

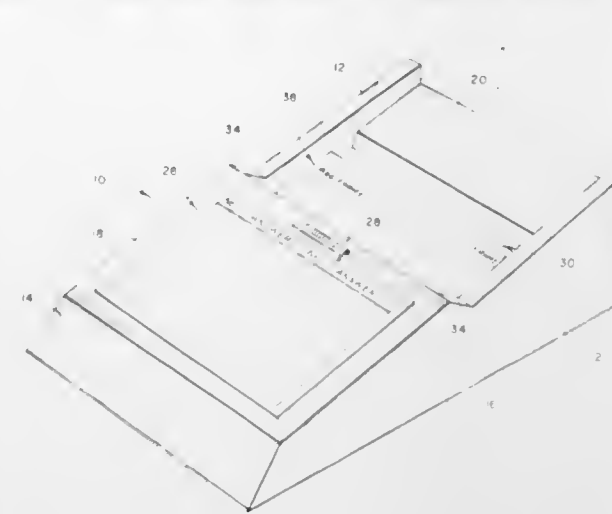
U.S. Cl. 35—8

10 Claims

Teaching apparatus in which a receptacle for question and answer sheets has upper and lower compartments separated by a divider wall inclined rearwardly upward between a pair of side walls. A partial top wall of the receptacle constitutes a writing surface provided with a paper holder for work sheets. Both compartments are open at the rear, and the lower compartment also has an inlet opening through the divider wall. The question and

answer sheets have successive frames each displaying a question and the answer to the question of the preceding frame, so that the question and answer sheets may be

instructor to silently suggest corrections to the student-passenger's response without distracting a student-driver



withdrawn from the upper compartment, frame by frame, for viewing and then inserted into the lower compartment for storage.

in actual control of the vehicle. A second student-passenger can operate a hand held console to permit him to contribute his responses to the actual driving situation.

3,541,702

EDUCATIONAL DEVICE

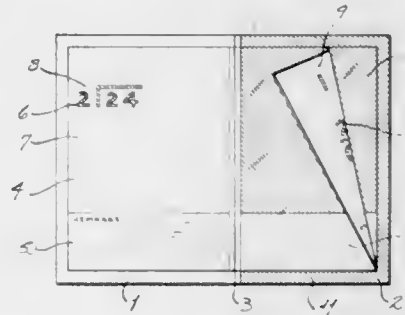
Julius G. Cohen, 1903 W. Main St., Jefferson City, Mo. 65101

Filed Nov. 25, 1968, Ser. No. 778,644

Int. Cl. G09b 1/30

U.S. Cl. 35—9

4 Claims



An educational device comprising a booklet having front and rear covers and intervening transparent pages; indicia being provided on like sides of successive pages in series for illustrating the step by step solution of a problem or development of a particular system by superimposition of said pages. The inner face of the cover remote from the first page of such series and the indicia are of like color so that the indicia are invisible prior to turning of the related page into operative or problem resolving position.

3,541,703

APPARATUS FOR TRAINING A STUDENT-PASSENGER IN A VEHICLE OPERATED BY A STUDENT-DRIVER

Frederick R. Mottola, 152 Peters Circle, Southington, Conn. 06489

Filed Apr. 15, 1968, Ser. No. 721,450

Int. Cl. G09b 9/04

U.S. Cl. 35—11

9 Claims

A student-passenger console mounted on the rear of the front seat of the vehicle has inactive controls, including a steering wheel with artificial feel for use by a student-passenger in the rear seat. A floor mounted unit below this console has at least a brake and an accelerator pedal, and all of these student-passenger controls do not actively effect the operation of the motor vehicle, but instead light indicator lamps on an instructor's console from which an instructor can determine the student-passenger's response to the actual driving situation in which the student-driver is operating. Lamps on the student-passenger's console can be selectively illuminated by the

A fog simulator for producing a realistic fog structure which, to the pilot, appears at a distance and is registered to the terrain in his line of sight. It provides a changing pattern of fog structure as the aircraft descends or ascends through the simulated fog and also provides an effect that creates the illusion of "streaming" of the simulated fog or clouds as the aircraft passes through it.

FLUID TABLE EDUCATIONAL DEVICE

Floyd W. Nelson, 107 S. Riverside, Ames, Iowa 50010

Filed Nov. 12, 1968, Ser. No. 774,793

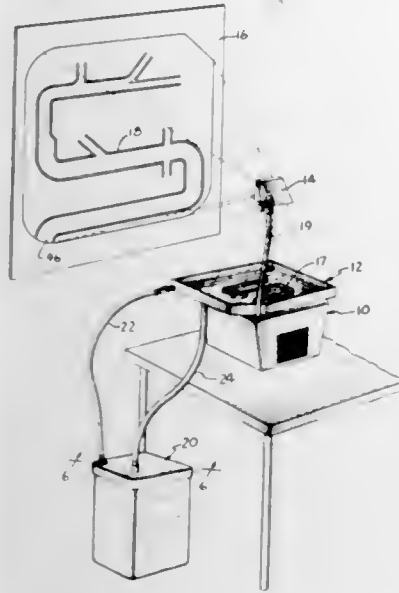
Int. Cl. G09b 23/12

U.S. Cl. 35—19

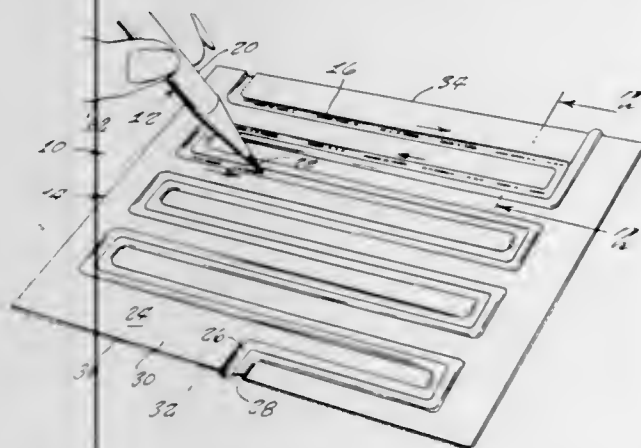
14 Claims

A portable water table for use with an overhead projector. The water table includes a frame and modular, interchangeable flow pattern plates. A recirculating sump mechanism provides water through nozzles or orifices in the frame and directs the water over the flow pattern plate mounted within the frame. Colored dyes or powder

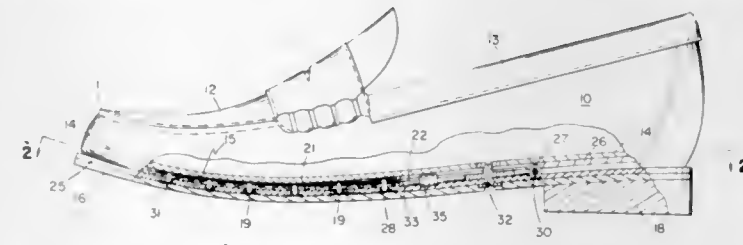
may be added to the water to more vividly demonstrate the flow pattern. Light from the overhead projector passes through the flow pattern plate and projects the flow pattern onto a screen.



3,541,706
WRITING AND READING DEVICE FOR THE BLIND AND METHOD OF USING THE SAME
Norman Shapiro, 47-15 212th St., Bayside, N.Y. 11361
Filed May 20, 1968, Ser. No. 730,390
Int. Cl. G06k 9/00; H04l 15/00
U.S. Cl. 35-38 1 Claim

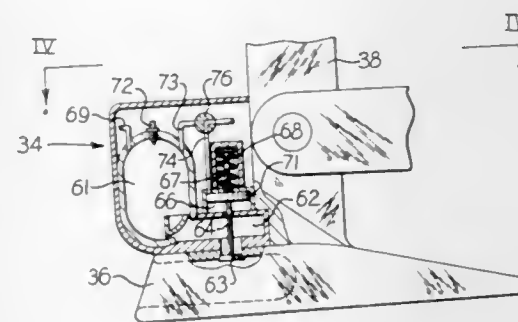


3,541,708
SHOE CONSTRUCTION
Henri Elliott Rosen, 64 Long Wharf, Boston, Mass. 02110
Continuation-in-part of application Ser. No. 612,003, Jan. 26, 1967. This application Mar. 26, 1968, Ser. No. 716,172
Int. Cl. A43b 16 Claims
U.S. Cl. 36-2.5



A footwear construction incorporating widthwise adjustability, where the width of the shoe is varied to fit any particular foot width over a relatively wide range of possible widths.

3,541,709
EARTHMOVING SCRAPER WITH EXPLOSIVE LOADING MEANS
Glen S. Comer, Jr., and Loyal O. Watts, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 26, 1968, Ser. No. 724,457
Int. Cl. B60p 1/00
U.S. Cl. 37-4 7 Claims

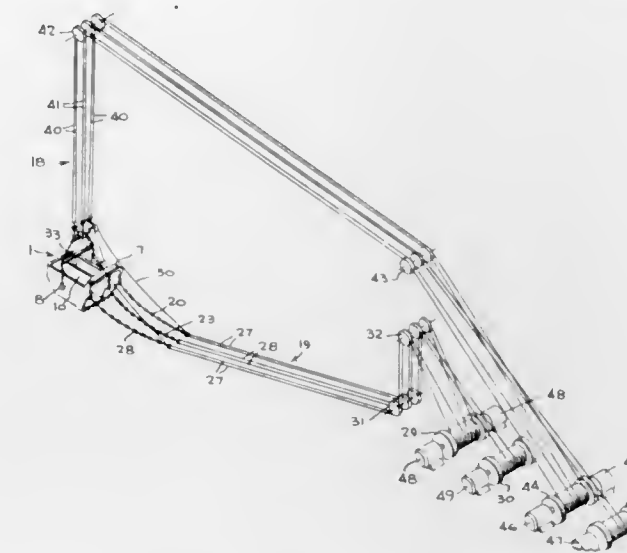


3,541,707
EDUCATIONAL DEVICE
Littleton C. Billingsley, P.O. Box 36, Brookeland, Tex., 75931
Filed Apr. 18, 1968, Ser. No. 722,479
Int. Cl. G09b 19/02, 1/22
U.S. Cl. 35-31 7 Claims

A teaching and testing device comprising a flat stationary masking plate and a number bearing member mounted for movement relative to the cover plate. An aperture means may be cut in the masking plate so as to reveal at least a portion of three different arithmetic expressions. One portion of the aperture means shows a binary problem in normal relationship. A second portion shows the

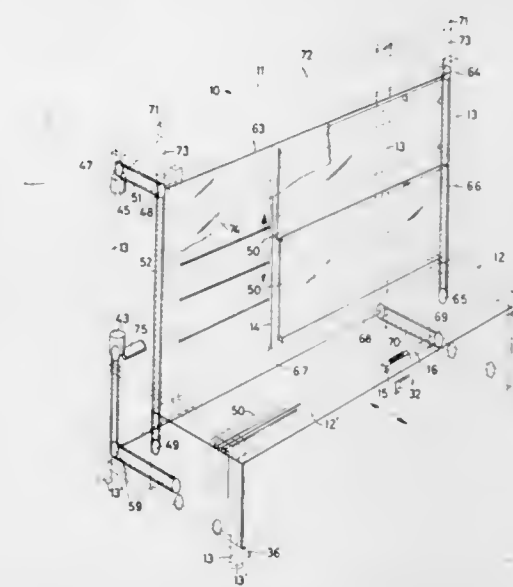
same type of operation, but in inverse relationship. Another portion of the aperture means between the first and the second portion shows a complete binary problem and its solution.

3,541,710
DRAGLINE BUCKET AND REEVING THEREFOR
Edwin W. Sankey and Robert W. Bergmann, Marion, Ohio, assignors to Marion Power Shovel Company, Inc., Marion, Ohio, a corporation of Delaware
Filed Aug. 22, 1967, Ser. No. 662,500
Int. Cl. E02f 3/46; H02p 5/22
U.S. Cl. 37-115 11 Claims



A special dragline bucket having a center partition and hoist and dragline reeving for the bucket, with the dragline reeving consisting of cables connected to the bucket sides and the partition, and wound upon a plurality of drums under proportional tension. The hoist line, also, is divided into a plurality of cables wound upon a plurality of drums under proportional tension. The drums are powered by motors having a drooping speed-torque characteristic to automatically divide the respective loads between the several drums.

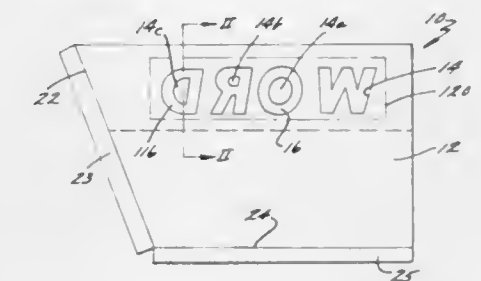
3,541,711
ASSEMBLY FOR EXAMINATION OF X-RAY PHOTOGRAPHS
Eric Oscar Ohlson, Ankdammsgatan 29, and Carl-Eric Ohlson, Lovgatan 68, both of Solna, Sweden
Filed Feb. 15, 1968, Ser. No. 705,681
Claims priority, application Sweden, Feb. 17, 1967, 2,256/67
Int. Cl. G09f 11/00
U.S. Cl. 40-78.05 8 Claims



An apparatus for the examination of X-ray photographs, wherein a carriage provided with rollers is arranged to support a frames-carrying magazine in detachable mounting in a position of rest. Guide rollers engaging guide rails cooperate during a manual movement of the unit consisting of magazine and carriage to a working position wherein the magazine is automatically released from engage-

ment with the carriage. The magazine is then locked in a position in which it is connected with its driving means. A cabinet provided with a light actuated glass surface is located above the magazine.

3,541,712
MEANS FOR HOLDING ARTICLES OF TRIM AND MOUNTING SAME
Gerald V. Jakeway, Grand Rapids, Mich., assignor to Keeler Brass Company, Grand Rapids, Mich., a corporation of Michigan
Filed Nov. 8, 1967, Ser. No. 687,081
Int. Cl. G09 10 Claims
U.S. Cl. 40-125



A containment apparatus for holding and mounting objects such as decorative trim letters and the like, having indexing portions for alignment with selected parts of a given article or device to which the objects are to be attached and including a sheet-like member defining a recess for each such object, the peripheral configuration of which is a substantial duplicate of that of the individual such object, such that each object will fit closely into its recess, and a retaining means for retaining the objects within their respective recesses, comprising an element which fits flush against one side of the member defining the recesses and behind each such recess, such element carrying a pressure-sensitive adhesive which contacts a portion of the object within the recess.

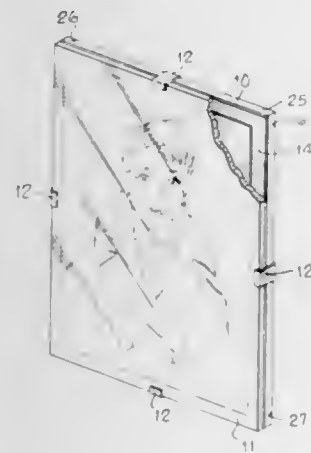
3,541,713
DISPLAY SIGN CONSTRUCTION
William S. Hart, Commack, N.Y., and Wendell V. Miller, Massillon, Ohio, assignors to The Massillon-Cleveland-Akron Sign Company, Massillon, Ohio, a corporation of Ohio
Filed June 3, 1968, Ser. No. 734,003
Int. Cl. G09f 7/00
U.S. Cl. 40-125 9 Claims



The display sign construction has a heavy, flat, plastic base member with adhesive mounting means on one ex-

tended flat surface, and spaced, tubular sign mounting means projecting integrally from the other flat surface. A thin gauge, V-shaped, plastic material sign with two sign panels has its free edges at the open end of the V releasably interengaged with the spaced tubular mounting means.

3,541,714
DETACHABLY SECURED PANEL ASSEMBLY FOR MOUNTING A PICTURE OR THE LIKE
Marvin Lester Bruck, Jr., Westport, Conn., assignor to Bruck Industries, Inc., Westport, Conn., a corporation of Connecticut
Filed Jan. 22, 1969, Ser. No. 793,017
Int. Cl. G09f 1/12
U.S. Cl. 40—156 6 Claims

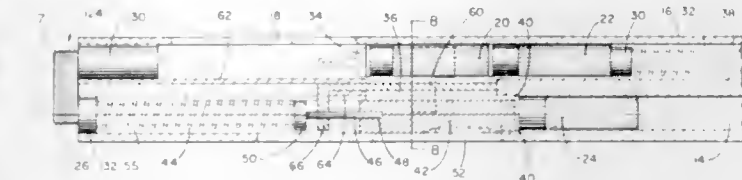


A panel assembly for mounting a flat article such as a photograph or other picture or document, including a rigid backing panel, a rigid transparent front panel superposed thereon, and a plurality of spring clips disposed around the perimeter of the assembly, each engaging edge portions of the two panels to hold them together. The picture to be mounted is placed between the two panels, facing the transparent panel. Each spring clip has a flange received in an outwardly slanting groove formed in the rear surface of the backing panel and parallel to an edge thereof; the clip extends outwardly and thence forwardly from the groove around the adjacent portions of the edges of the two panels, exerting oppositely directed spring forces against the outer side wall of the groove and the adjacent edge of the backing panel so that the clip is held fixed in position on the backing panel. Manual depression of a raised portion of the spring clip intermediate the groove and backing panel edge resiliently deforms the clip sufficiently to relieve the spring forces and permit sliding movement of the clip along and ultimately out of the groove, for release and separation of the two panels. A hole may be provided in the raised portion of the clip to receive a picture hook or the like, for hanging the assembly on a wall.

3,541,715
AUTOMATIC REPEATING FIREARM HAVING A MAGAZINE TRANSFER PORT AND CLOSURE MEANS THEREFOR
Nikolaos Lagos, 314 Seaton St., Toronto 2, Ontario, Canada
Filed July 1, 1968, Ser. No. 741,785
Int. Cl. F41c 13/00, 25/00
U.S. Cl. 42—17 10 Claims

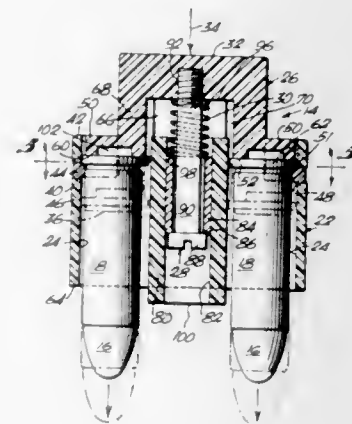
A magazine for unused cartridges parallels the barrel of a firearm and has a lateral transfer port through which unused cartridges are sequentially transferred into a cartridge-receiving chamber formed as a rearward extension of the barrel and including a cartridge ejection port. A

breech block slidably disposed in the cartridge-receiving chamber is driven rearwardly on detonation of a cartridge within the rearward end of the barrel to open the cartridge ejection port. On rearward movement of a detonated cartridge with the breech block, the former strikes an internal abutment and is twisted outwardly through the ejection port. After the initial part of its rearward movement,



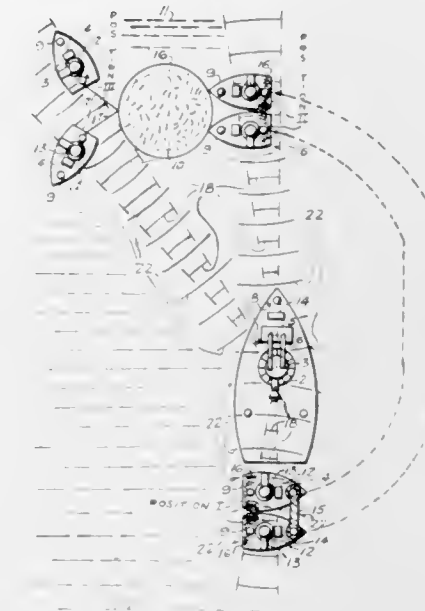
the breech block engages a transfer port closure to move the latter rearwardly to open such transfer port. Further rearward movement of the breech block actuates a transfer lever to move a cartridge from the magazine through the transfer port and into the cartridge-receiving chamber from which it is pushed forwardly into the rearward end of the barrel by the breech block.

3,541,716
RAPID REVOLVER LOADER
John Dees Fordham, 767 W. 32nd St., Hialeah, Fla. 33516, and William Lee Powers, 1260 NE. 214th St., North Miami Beach, Fla. 33162
Filed Jan. 28, 1969, Ser. No. 794,521
Int. Cl. F42b 39/04
U.S. Cl. 42—89 10 Claims



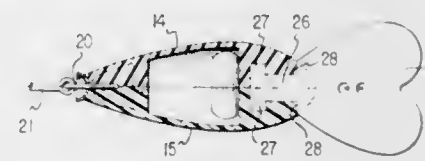
A device for the rapid loading of a full complement of cartridges into the loading chambers of the cylinder of a revolver at one time. The device includes a first cylindrical body which provides a plurality of cartridge receiving chambers which are spaced to register with the loading chambers in the revolver, each chamber of the device being adapted to receive and temporarily captivate a cartridge therein until released in a loading operation. The device also includes a second cylindrical body for coaxial reciprocal, telescopic movement in the cartridge receiving chambers to dislodge the full complement of cartridges at one time by releasing holding means in the chambers and to provide a substantial, positive, longitudinal movement to all of said cartridges simultaneously in the cylindrical chambers. The holding means comprises a single O-ring set in an annular groove which partially spans each of the cylindrical chambers to define a pocket to receive the flange portion of a cartridge yieldable so that the cartridge can pass the O-ring in loading the device and in loading a revolver with the device by displacement of said O-ring portion radially outwardly.

3,541,717
METHOD OF DIRECTING FISH SEINING OPERATIONS
Wilbur Charles Grayson, 3315 12th St., Port Arthur, Tex. 77640
Filed June 7, 1968, Ser. No. 735,437
Int. Cl. A01k 73/12
U.S. Cl. 43—4.5 4 Claims



In fish seining operations a sonar unit on a radio equipped search boat is operated to locate and display on a viewing unit the position of a body of fish. A transponder unit on a purse boat is operated to display on the viewing unit of the search boat its position relative to the body of fish. The radio on the search boat is utilized to direct the purse boat to the body of fish and the subsequent steps in the seining operations.

3,541,718
FISH LURE
Bill K. Norman, 1419 S. Houston, Fort Smith, Ark. 72901
Filed Oct. 18, 1968, Ser. No. 768,799
Int. Cl. A01k 85/00
U.S. Cl. 43—42.35 2 Claims

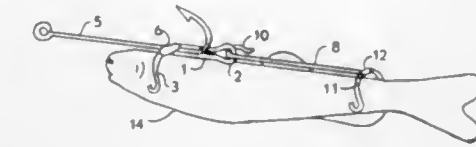


A fish lure comprising two concave side sections adhesively united along their mating side edges to form a closed, hollow, buoyant body. Each section has an integral solid block portion inwardly of one end of the lure body with a face abutting the face of the other block portion. Each block portion is slotted from the body end inwardly and has an enlarged opening at the inner end of the slot. A diving plate has a shank with lateral flanges thereon engaged within the slot and openings with the plate being positioned externally of the lure body for attachment to a fishing line.

3,541,719
LIVE-FISH BAIT ATTACHMENT
Henry B. Temple, Rte. 1, Woodland, Ga. 31836
Filed Feb. 12, 1969, Ser. No. 798,595
Int. Cl. A01k 83/06
U.S. Cl. 43—44.4 4 Claims

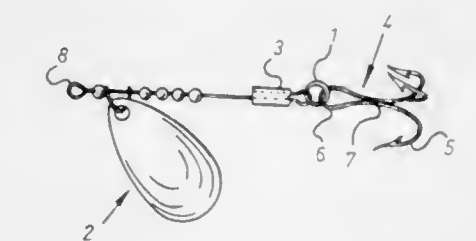
A device for holding live-fish bait comprising two spaced-apart clamp structures which are removably attached together in a manner to permit free movement

therebetween and flexibility of movement of live-fish bait held therein. A first clamp structure is rigidly secured to a fish hook and has an eye extending rearwardly of the hook. A second clamp structure has a wire member ex-



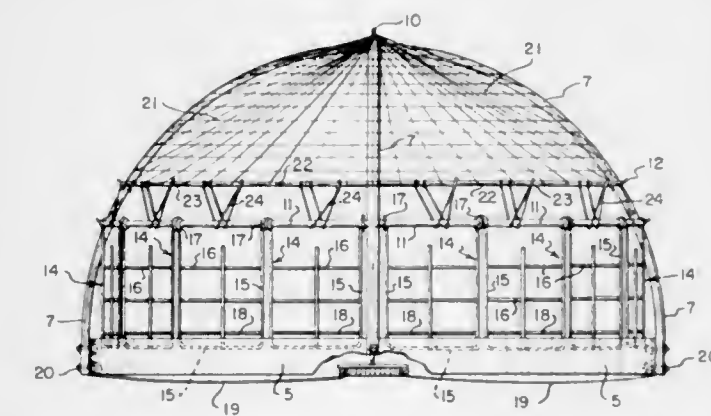
tending forwardly and terminating in a hook portion loosely engaging the eye of the first clamp structure. The clamp structures have spaced jaws which may be tied together by a cord or the like to encircle the bait.

3,541,720
FISHING SPOONS
Raymond Jean Buffet, Montreal, Quebec, Canada (759 Rue Tacombe, St. Vincent de Paul, Ville de Laval, Quebec, Canada)
Filed Nov. 28, 1967, Ser. No. 686,357
Int. Cl. A01k 83/00, 91/04
U.S. Cl. 43—42.19 3 Claims



A fishing spoon adapted to be attached to a line and a hook, a frangible link comprising a readily replaceable, jointless and continuous ring between the spoon and hook. The ring is of uniform cross-section and has a controlled and predetermined breaking resistance which is less than that of said line. The ring will break when the hook is irretrievably caught, enabling a fisherman to retrieve the spoon.

3,541,721
COLLAPSIBLE LOBSTER TRAP
Richard F. Sexauer, 140 Munsey Place, Manhasset, N.Y. 11030
Filed June 2, 1969, Ser. No. 829,362
Int. Cl. A01k 69/08; A01m 23/08
U.S. Cl. 43—66 1 Claim



A collapsible lobster or fish trap comprising a base ring, semi-circular upright frames crossing one another at the top and secured at their lower ends to the base ring, a gate-support pivot ring resting on the frames with gates hung on this ring, a closure for the base ring

plane and a dome-like cover positioned over the top of the frames and extending downwardly to the pivot ring. All rings, frames and the dome-like cover are removably secured together so that the trap can be readily disassembled.

3,541,722

TRAP FOR MINNOW BUCKET OR THE LIKE

James G. Garrison, Manchester, Ky.

(Rte. 1, Box 125, Monticello, Ky. 43633)

Filed Mar. 24, 1969, Ser. No. 809,608

Int. Cl. A01k 69/06, 97/04

U.S. Cl. 43—66

10 Claims



A trap is disposed in a minnow bucket or the like, which has minnows therein, for trapping one or more minnows within a passage in a body, which forms the trap. The body has a funnel on one end to direct the minnows into an entrance of the body. The entrance has means to prevent the minnows from escaping therethrough after they have entered the passage in the body. The other end of the passage in the body functions as an exit, which is substantially closed by a pair of pivotally mounted members. The opening between the pivotally mounted members is smaller than the size of a minnow but is sufficient to permit a head of a minnow to protrude therefrom for baiting on a hook. After a hook has been inserted into the head of the minnow, the cooperating members are pivoted away from each other to permit removal of one minnow from the passage in the body.

3,541,723

MOTOR FUELS CONTAINING MONOCARBOXYLIC ACIDS

George W. Eckert, Wappingers Falls, N.Y., assignor to Tetrao Inc., a corporation of Delaware

No Drawing. Filed Oct. 11, 1957, Ser. No. 689,466

Int. Cl. C101

U.S. Cl. 44—66

6 Claims

1. A hydrocarbon fuel in the gasoline boiling range containing an organo-lead anti-knock agent, high octane components selected from the group consisting of olefinic hydrocarbons, aromatic hydrocarbons and mixtures thereof in a concentration of at least about 10 volume percent of said fuel and an aromatic monocarboxylic acid containing up to 30 carbon atoms in a concentration between 0.1 and 5.0 volume percent, said amount being sufficient to effect substantial improvement of the octane rating of said organo-lead-containing hydrocarbon fuel.

3,541,724

TOY ROADWAY LAYOUT

Alfred Einfalt, Nuremberg, Germany, assignor to Gebrüder Einfalt, Blechspielwarenfabrik, Nuremberg, Germany, a firm of Germany

Filed Feb. 6, 1967, Ser. No. 614,332

Claims priority, application Germany, Aug. 13, 1966, E 23,865

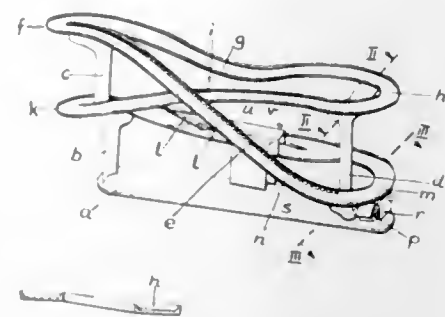
Int. Cl. A63h 11/00

U.S. Cl. 46—202

3 Claims

This disclosure teaches a toy roadway layout which includes at least one ascending section. A helical coil is arranged along the ascending section and is rotated about

its central axis. A toy vehicle travels the roadway and has a projection which is engageable by the helical coil



so that the toy vehicle is advanced by the coil up the ascending section.

3,541,725

TOY CAR

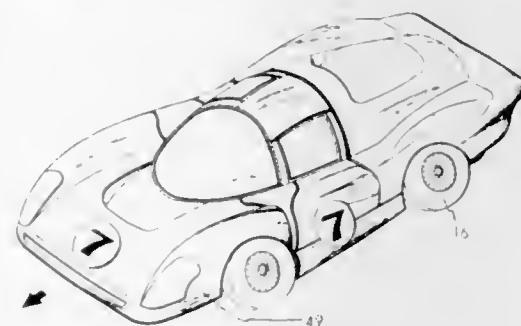
Keiichiro Miura, Tokyo, Japan, assignor to Asahi Toy Co., Ltd., Tokyo, Japan

Filed Aug. 19, 1968, Ser. No. 753,670

Int. Cl. A63h 17/00

U.S. Cl. 46—206

7 Claims



A toy car moved by a repulsive force of spiral spring. The spiral spring is wound by pressing the car downwardly and moving it forwardly, thereby making a gear provided on a driving shaft drive a gear which is connected to an end of the spiral spring through another shaft. The repulsive force of the wound spiral spring is transmitted to driving wheels by means of a gear train.

3,541,726

LAWN EDGING

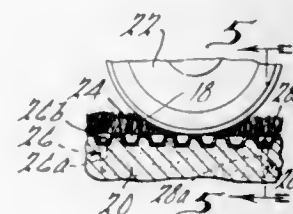
Herman O. Raschke, Jr., 30630 Austin Drive, Warren, Mich. 48092

Filed Jan. 8, 1968, Ser. No. 696,324

Int. Cl. A01g 1/00; E01c 1/00

U.S. Cl. 47—33

6 Claims



A lawn edging comprising a strip of transversely corrugated sheet metal adapted to be selectively crimped and expanded along the opposite edges of the strip to impart a curved configuration to the strip to selectively match the configuration of the lawn border to be edged; the thus curved strip is laid flat on the ground along with the lawn border and impacted into the ground. Separate L- or U-shaped anchor members for the strip are also disclosed.

3,541,727

GROUND VASE

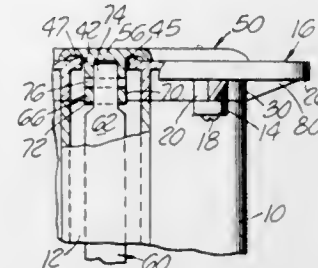
Axel S. Carlson, 1355 S. Hope St., Los Angeles, Calif. 90015

Filed May 16, 1968, Ser. No. 729,620

Int. Cl. A01g 5/00

U.S. Cl. 47—41.1

3 Claims U.S. Cl. 48—94



The invention is an improvement in ground vases as used in cemeteries and memorials and the like. The ground vase is of the type having a housing for the vase with a cover for the housing hinged to a lift rod. The improvements reside in a skirt provided on the cover and around the hinge connections of the lift rod so that debris cannot fall into the lift rod aperture when the cover is lifted. Also the lift rod itself is made to have a cross section to fully occupy the lift rod aperture for the same purpose. Additionally, the housing for the vase is provided at the top with an annular tapered surface having abutments thereon which a flange on the underside of the cover can seat, the tapered surface preventing debris from catching and being retained thereon.

3,541,728

METHOD OF IDENTIFYING CUTTINGS IN CONNECTION WITH ROOTING

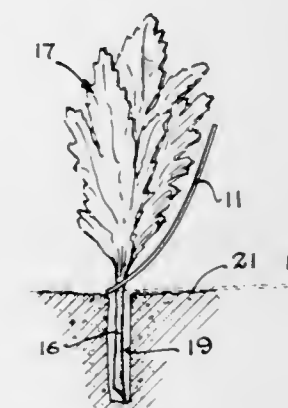
Gerald W. Thon and Arthur L. Thon, Arlington Heights, Ill. (both of 4815 Oak St., Crystal Lake, Ill. 60014)

Filed Feb. 28, 1968, Ser. No. 709,012

Int. Cl. G09f 3/18; A01g 1/00

U.S. Cl. 47—58

5 Claims



A cutting is slipped through a slit-extended hole in a tag showing the variety of the cutting, the hole having a diameter close enough to that of the stem of the cutting to come to rest thereon in an angle not over approximately 50 degrees from the horizontal, so that falling off during handling in planting is unlikely. The cutting is planted in rooting soil (a term used to include media other than soil) with the tag on top of the soil. When the plant is lifted, after the roots have grown, the tag is reliably retained by the roots. To withstand the horticulturists' practice of misting plants every few minutes, this tag is wetproof both as to durability (including non-absorption to maintain full strength), and as to resisting cementation to another tag. The slit extends lengthwise of the tag and is rounded at its end to resist further tearing of the tag.

3,541,729

COMPACT REACTOR-BOILER COMBINATION

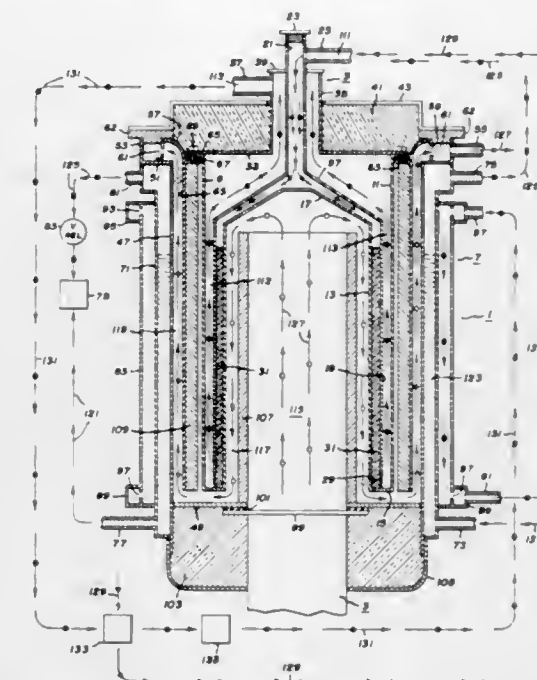
Philip Dantowitz, Peabody, Mass., assignor to General Electric Company, a corporation of New York

Filed May 9, 1968, Ser. No. 727,885

Int. Cl. C01b 1/13; B01j 7/00

3 Claims U.S. Cl. 48—94

3 Claims



A fuel for a fuel cell unit is prepared by feeding a mixture of reformable fuel and steam to a catalyst bed in indirect heat transfer relation with a hot fluid stream. The hot fluid is then passed into indirect heat transfer relation with a water reservoir of a surrounding boiler portion. The reaction products including hydrogen received from the catalyst bed are fed into indirect heat transfer relationship with the water reservoir. Steam from the boiler is mixed with the incoming fuel.

3,541,730

CLOSURE BIAS

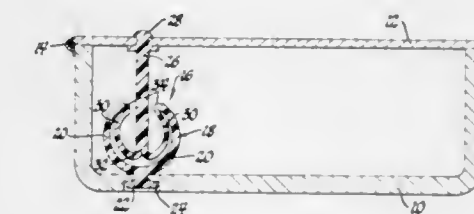
David B. Ballantyne, Southfield, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 31, 1969, Ser. No. 846,456

Int. Cl. E05f 1/14

U.S. Cl. 49—386

3 Claims



A bias for selectively and alternately biasing a closure member to either closed or open positions with respect to a support member which includes an arcuate semi-rigid channel portion adapted to be secured to one member, a stem portion adapted to be secured to the other member and a pair of arcuately shaped flexible legs extending from a common integral juncture to the stem portion, each leg being integrally hinged to a respective side of the channel portion. The legs are normally biased apart a distance greater than the distance between the hinge axes. When the closure member is in closed position, the legs extend inwardly of the channel portion to pull the closure downwardly and movement of the closure to an open position folds the legs with respect to each other so that the legs slightly bias the legs of the channel member apart and thereafter move outwardly and unfold to bias the closure member to open position.

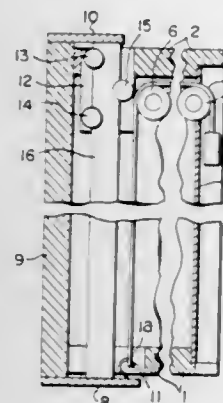
3,541,731

SLIDABLE CLOSURE

Alfred Rossié, Thomasweg 5, Suechteln, Germany
 Filed Feb. 23, 1968, Ser. No. 707,661
 Claims priority, application Germany, Feb. 24, 1967,
 R 45,368; Feb. 5, 1968, R 47,940
 Int. Cl. E05d 13/02

U.S. Cl. 49—425

12 Claims



The guide means for a sliding closure panel includes a guide post extending over the length of the panel in the direction of the sliding movement, and a roller guide having at least three rollers engaging the post and spaced over the periphery of the post, at least one of the rollers being spaced from the other rollers in the direction of sliding movement so that the post is securely guided between the rollers. Either the post or the rollers are affixed to the panel.

3,541,732

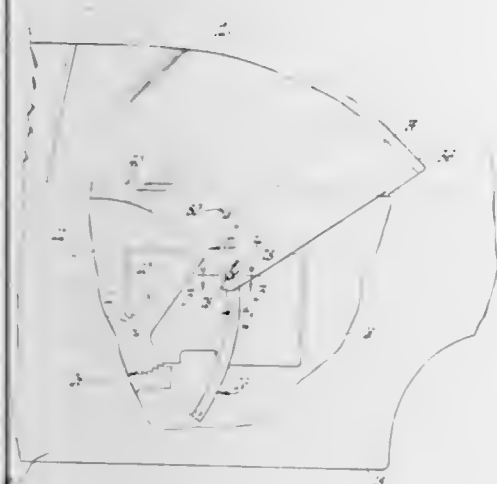
VEHICLE WINDOW ADJUSTING MEANS

Richard D. Hanson, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 11, 1969, Ser. No. 815,468
 Int. Cl. E05d 15/16

U.S. Cl. 49—440

4 Claims



A side drop window assembly for vehicle bodies includes a window panel movable relative to a window opening in the vehicle body and guided throughout its movement by a combined panel guide and path adjustment apparatus including a guide track fixed to the vehicle body. The guide and adjustment apparatus further includes a guided member slidable in the fixed track and carrying a pivot member which in turn carries a panel mounting member attached to the panel, the pivot member being rotatable about one axis of the guide member for fore and aft adjustment of the panel and the panel mounting member being shiftable along another axis for lateral adjustment of the panel in the body.

3,541,733

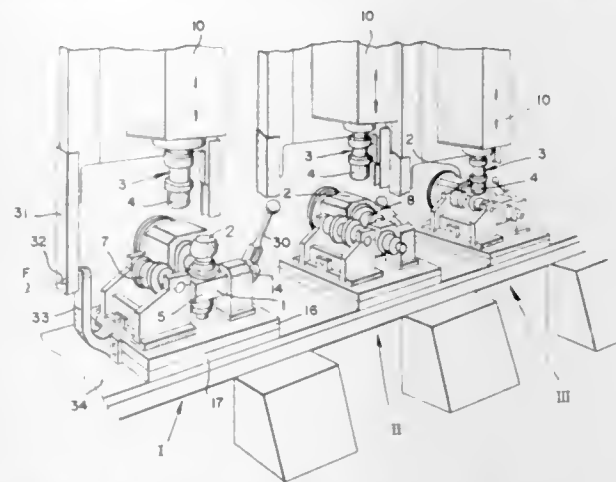
APPARATUS FOR MACHINING SPHERICAL HEADS OF ELONGATE WORKPIECES

Rudolf Schwär, Neviges, Germany, assignor to Maschinenfabrik Ernst Thielenhaus, Wuppertal-Barmen, Germany, a corporation of Germany
 Filed Aug. 5, 1968, Ser. No. 750,099

Claims priority, application Germany, Aug. 3, 1967,
 1,652,116
 Int. Cl. B24b 7/00

U.S. Cl. 51—55

10 Claims



To machine a spherical head of a pin, rod or other elongate workpiece, the shank of the latter is loosely mounted in a chuck with freedom of swinging in a plane between two parallel rollers whose spacing is less than the diameter of the workpiece head whereby the latter comes to rest in the nip of these rollers as one of them is rotated in a sense tending to draw the workpiece deeper into the nip. Within the plane of swing, an abrasive tool with a concave working surface of a curvature confronting to that of the workpiece head is brought to bear upon the latter while being rotated about its own axis.

3,541,734

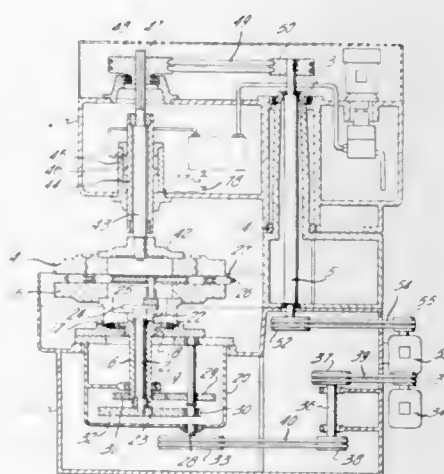
DUAL-DISC LAPPING MACHINE

Roland Clar, Schorndorf, Württemberg, Germany, assignor to Hahn & Kolb, Stuttgart, Germany
 Filed Feb. 27, 1968, Ser. No. 708,637

Claims priority, application Germany, July 20, 1967,
 H 63,329
 Int. Cl. B24b 5/00, 7/00

U.S. Cl. 51—111

7 Claims



A machine tool for lapping parallel flat faces of workpieces with two rotating lapping disks arranged vertically one above the other and a workpiece holder between them. A mechanism for lifting and lowering of the upper lapping disk and for swinging it outwardly. An electric drive for the lapping disks and controls for permitting the upper disk to keep running for a preset time after the lower disk has been stopped when the machine tool is switched off.

3,541,735

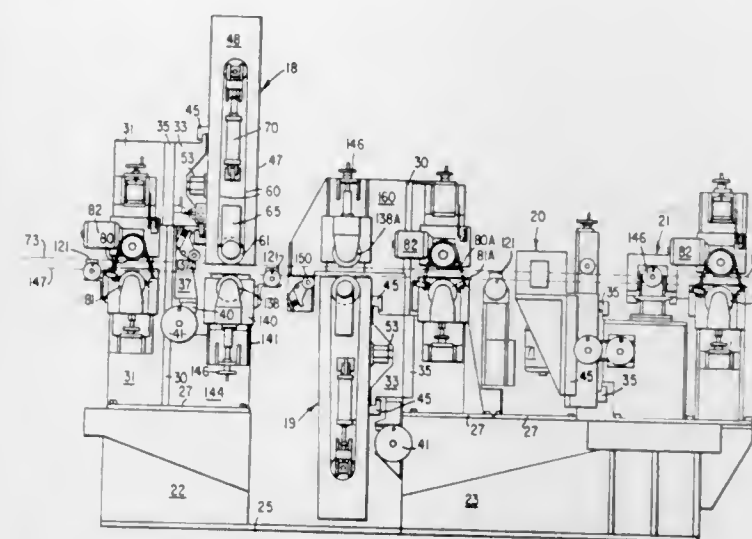
ABRADING MACHINE

Robert L. Schaller, Camillus, and Donald L. Towne, North Syracuse, N.Y., assignors to Sundstrand-Engelberg, Inc., a corporation of Delaware

Filed Aug. 5, 1968, Ser. No. 750,259
 Int. Cl. B24b 7/00, 21/00

U.S. Cl. 51—139

5 Claims



An abrading machine for finishing elongated workpieces rectangular in cross section, such as bars and tubes. A fixed pass line is established by a linear series of fixedly positioned rolls which engage two adjacent sides of the workpiece. Other rolls, which engage the opposite two adjacent sides of the workpiece, are adjustable to accommodate workpieces of different cross sectional dimension. The rolls include guide rolls, feed rolls and back-up rolls. There are a plurality of abrading heads spaced along the pass line for abrading the four sides of the workpieces, the heads being reciprocated transversely of the workpiece while abrading the same during its advancement along the pass line.

3,541,736

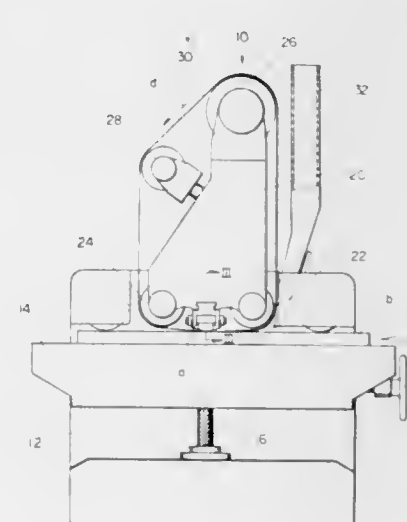
DEVICE FOR PRESSING A SANDER BELT OF BELT SANDER MACHINE

Toshio Takekawa, Nagoya, Japan, assignor to Takekawa Tekko Kabushiki Kaisha, Nagoya, Japan, a corporation of Japan

Filed Apr. 26, 1968, Ser. No. 724,531
 Int. Cl. B24b 21/08

U.S. Cl. 51—141

3 Claims



A device for pressing the sander belt of a belt sander machine according to the present invention comprises a pressure means in the form of a deformable bag containing fluid such as air under pressure and an overall pressure element made of a flexible material located under

said pressure means, which pressure element is in contact with the sander belt. The device further comprises an intermediate means in the form of rollers positioned between said pressure means and said overall pressure element whereby excessive sanding of the leading and trailing end portions of the workpiece may be avoided.

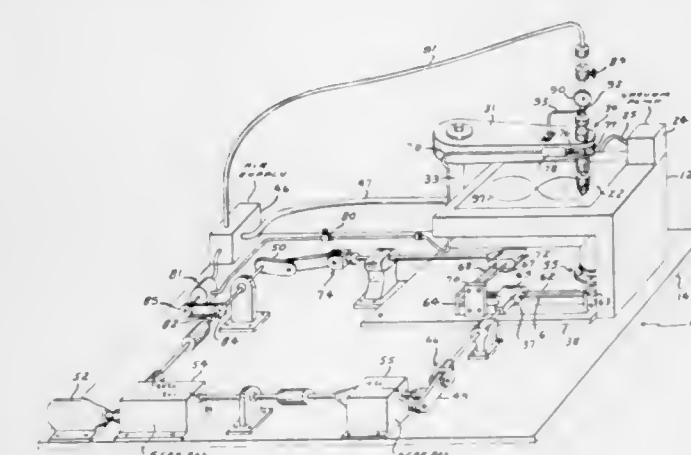
3,541,737

METHOD AND APPARATUS FOR POLISHING METALLOGRAPHIC SPECIMENS

William F. Sturke and Charles R. Underwood, Dayton, Ohio, said Underwood assignor to the United States of America as represented by the Secretary of the Air Force
 Filed May 21, 1968, Ser. No. 730,831
 Int. Cl. B24b 47/02

U.S. Cl. 51—151

6 Claims



A metallographic specimen is moved in a figure-of-eight motion over a stiff paper supported by a hard backing surface on which the polishing compound is positioned at the crossover point of the figure-of-eight motion. The specimen is rotated about its axis after each predetermined number of motions. Apparatus is provided to give a continuous range of selectable pressures between the specimen and paper.

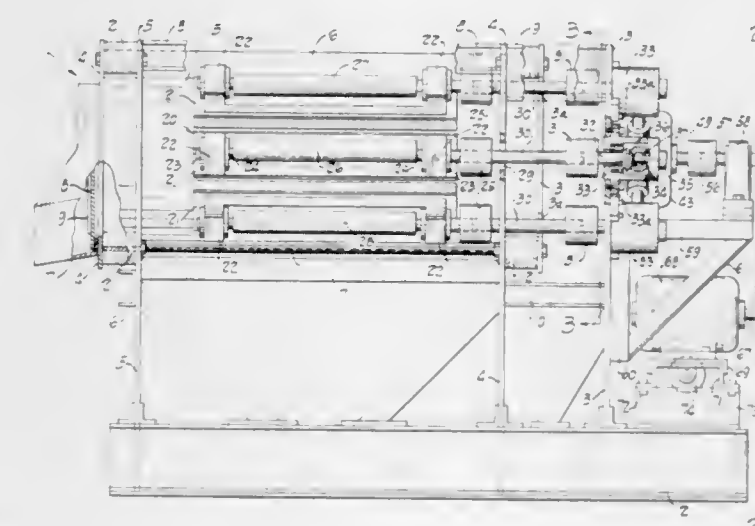
3,541,738

ORBITAL FINISHING MACHINE

John F. Rampe, 3417 Fairfax Road, Cleveland Heights, Ohio 44118
 Filed Apr. 15, 1968, Ser. No. 721,433
 Int. Cl. B24b 31/00

U.S. Cl. 51—163

11 Claims



A precision finishing machine of the orbital type making use of a multiplicity of vibration-inducing units where there is a plurality of units on each of the two long

sides of the machine. On each side, the units are arranged in overlying or superimposed relationship. At each level, there may be one, two or more units. By mounting the units in tandem at the same level, the length of the machine and its capacity may be increased without exceeding the bearing load limits. The vibration-inducing units on both sides of the machine are preferably driven in timed relation.

3,541,739

COATED ABRASIVE CONTAINING AN OVER-SIZE LAYER OF A METAL HALIDE

John P. Bryon, Potters Bar, and Alan G. Rolfe, London, England, assignors to English Abrasives Limited, London, England

No Drawing. Filed July 16, 1968, Ser. No. 745,106

Int. Cl. B24d 11/00; C08g 57/12

U.S. Cl. 51—295

14 Claims

A coated abrasive article comprising a backing, abrasive particles, and a bond securing the particles to the backing, such abrasive being oversized with a top coating of a reactive filler above the conventional sand size coating normally applied in the industry, such filler consisting of or containing a simple or complex halide, the proportion of such filler being 40-95% by weight of the total dry oversizing weight the remaining percentage being an adhesive to bind the filler to the abrasive surface.

3,541,740

FLEXIBLE ABRASIVE APPARATUS

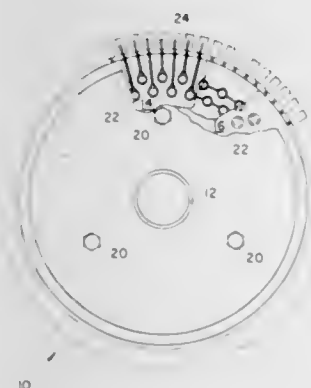
Arnold Radik, 1616 12th Ave., Moline, Ill. 61265

Filed Mar. 29, 1968, Ser. No. 717,187

Int. Cl. B24b 9/02

U.S. Cl. 51—332

4 Claims



An improved flexible abrasive wheel having a plurality of improved flap elements for grinding or polishing of contoured or flat surfaces. The improved flap elements including a flexible fabric having a plurality of abrasive elements bonded thereto, said plurality of flap elements providing a wheel having sufficient flexibility for following uneven surfaces and sufficient rigidity for effective grinding or polishing.

3,541,741

HONING TOOL HAVING ANGULAR CONE SLOTS

Albin S. Czubak, Detroit, and Gerald I. Sinclair, Livonia, Mich., assignors to Micromatic Hone Corporation, Detroit, Mich.

Filed Oct. 7, 1968, Ser. No. 765,329

Int. Cl. B24b 9/02

U.S. Cl. 51—346

3 Claims

A honing tool having a cone with a plurality of circumferentially spaced slots, each of said slots separated by a

cam surface. The cone is adapted to be adjusted so that the abrasive stone is first guided in the cone slots, then by



rotating the cone, having the abrasive stone guided on the cam surface.

3,541,742

THEATER SEATING

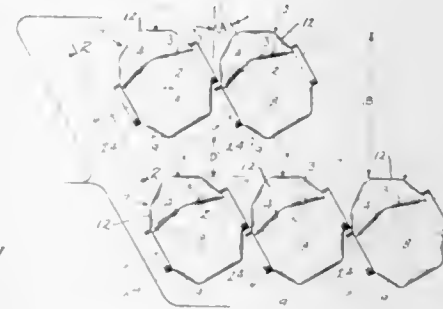
Charles H. Harper, 9441 N. Regent Court, Milwaukee, Wis. 53217

Filed Aug. 7, 1968, Ser. No. 750,859

Int. Cl. E04h 3/12

U.S. Cl. 52—8

1 Claim



A seating arrangement for theaters and auditoriums and the like features specially-designed seats positioned at an angle relative to the normal line of vision to the stage or screen, which angular arrangement provides greater leg and knee room between the seats and the backs of the seats in front thereof to enhance the comfort of persons seated therein without reducing the seating capacity of the room.

3,541,743

AIR TERMINAL DOCK

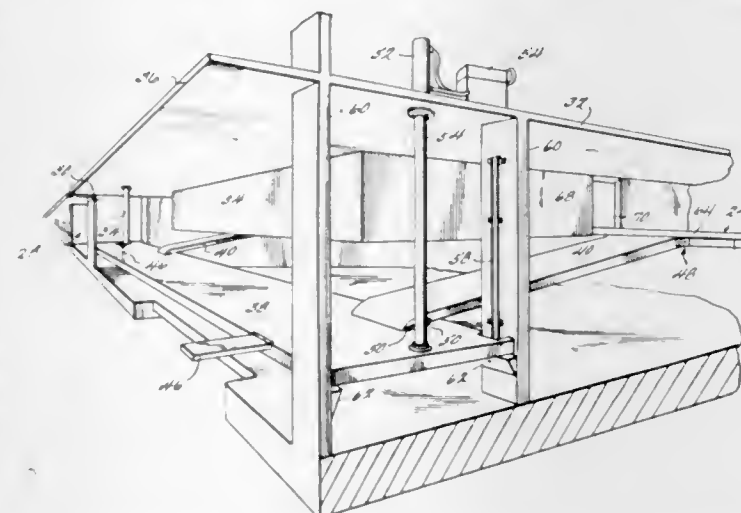
Francis J. Kness, 118 Northeast 2nd St., P.O. Box 369, Miami, Fla. 33101

Filed Aug. 16, 1968, Ser. No. 753,151

Int. Cl. B65g 61/28; E04h 6/44

U.S. Cl. 52—64

5 Claims



A passenger embarking and debarking facility for aircraft includes an open-sided building having a passenger

floor disposed at an elevation above wing-tip level so that the aircraft may be parked alongside the building with one wing received in the building space below the passenger floor. Passenger access to the doors of the aircraft is provided by lowering an elongated passenger gallery to a position below wing-tip level and alongside and parallel to the fuselage. Ramps provide passenger access between the gallery and the passenger floor of the building.

3,541,744

PORTABLE DWELLING STRUCTURE

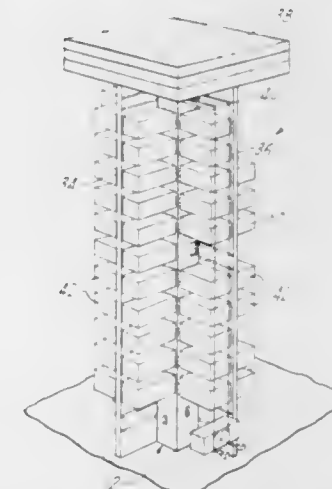
William J. Maxwell, 1017 Five Forks Road, Virginia Beach, Va. 23455

Filed Sept. 4, 1968, Ser. No. 757,412

Int. Cl. E04b 1/343; E04h 1/04

U.S. Cl. 52—73

7 Claims



This invention relates to a portable dwelling structure that has one or more columns with a plurality of laterally extending supporting walls. The walls have vertically spaced parallel receivers for portable dwelling units. The dwelling units have mating receivers that are positioned in the supporting wall receivers to support the portable dwelling units in a cantilever fashion from the supporting walls. Suitable plumbing, electrical facilities, elevators and stairs are provided in the columns. The dwelling units are lifted into place by a crane, preferably mounted on the top of the respective column. With the mating receivers, the dwelling units can be quickly positioned on the supporting walls and also removed therefrom.

3,541,745

ROOFING CONSTRUCTION

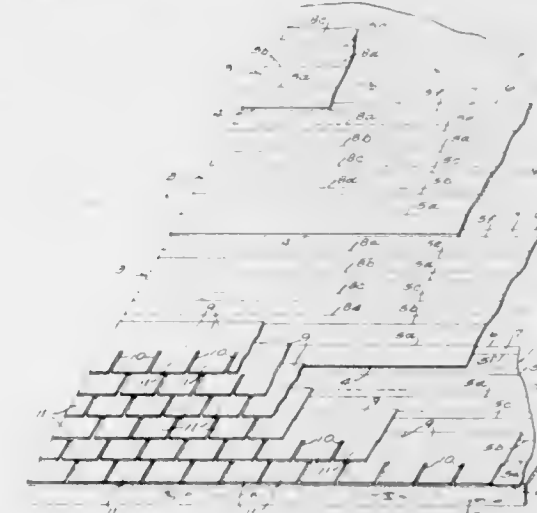
John F. Probst, Hartland, Wis., assignor to P.A.L. Development Corporation, Butler, Wis., a corporation of Wisconsin

Filed June 7, 1968, Ser. No. 735,287

Int. Cl. E04d 5/02

U.S. Cl. 52—105

10 Claims



A roofing construction for applying shingles to a roof. A sheet of roofing paper is applied to the roof decking

and includes two series of parallel guide lines which extend longitudinally of the paper. The first series of guide lines alternate with the second series of guide lines, and the two series of guide lines are visually distinguishable. The lines are used as guides in applying shingles to the roof as well as guides for applying additional rolls of roofing paper to the roof deck.

3,541,746

MULTIPLE SECTION POLE

Mertz O. Scott, Oakland, Calif., assignor, by mesne assignments, to Ameron Incorporated, Monterey Park, Calif., a corporation of California

Filed May 8, 1968, Ser. No. 727,430

Int. Cl. F16b 7/10; E04h 12/08

U.S. Cl. 52—127

6 Claims



A multi-sectional tubular tapered pole in which adjoining sections are aligned with each other by tightly fitting center sleeves secured to an end of one of the sections and projecting into the interior of the other section. A tension member engages the adjoining sections and is arranged so that it is accessible from the exterior of the pole and, when subjected to tension, moves the adjoining sections toward each other into mutual abutment. The tension member and the adjoining sections are arranged so that they prevent relative rotational movement between the adjoining members as long as the tension member is in place.

3,541,747

BURIAL VAULT

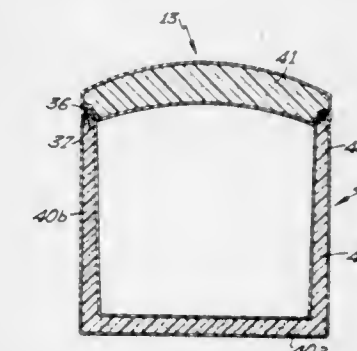
Eugene W. Olson and Harold H. Wanner, Detroit Lakes, Minn., assignors to Dowlite, Inc., Detroit Lakes, Minn., a corporation of Minnesota

Continuation of application Ser. No. 449,777, Apr. 21, 1965. This application Apr. 15, 1968, Ser. No. 721,520

Int. Cl. E04h 13/00; E04c 2/20; A61g 17/00

U.S. Cl. 52—141

6 Claims



Disclosed herein is an incombustible burial vault having box and lid members each of which is comprised of smooth thin spaced inner and outer walls supported by a polyurethane core having a density of about two-three

times that of its free foam density as a result of having been formed under substantial pressure and being otherwise devoid of reinforcing structure.

3,541,748 FOUNDATION LOCK FOR MOBILE HOMES

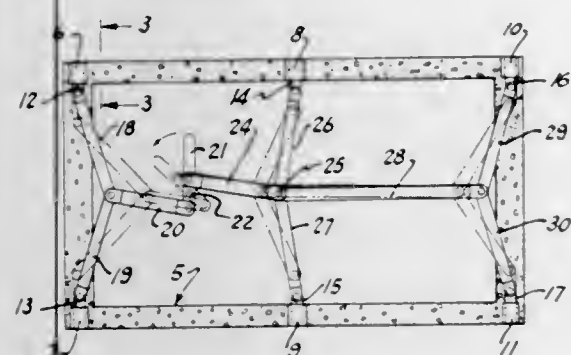
Noble J. Rothgeb, 16009 Harper Road,
New Haven, Ind. 46774

Filed Nov. 26, 1968, Ser. No. 778,975

Int. Cl. E02d 27/44

U.S. Cl. 52—169

4 Claims



A device for locking a mobile home to a foundation comprising a plurality of rods mounted for movement on the underside of a mobile home, a plurality of guides secured to the foundation, and apparatus including levers and a handle common to each of the rods for positioning the rods in and retracting the rods from the guides, respectively, to lock and unlock the mobile home from the foundation, as desired.

3,541,749 METAL TRUSS

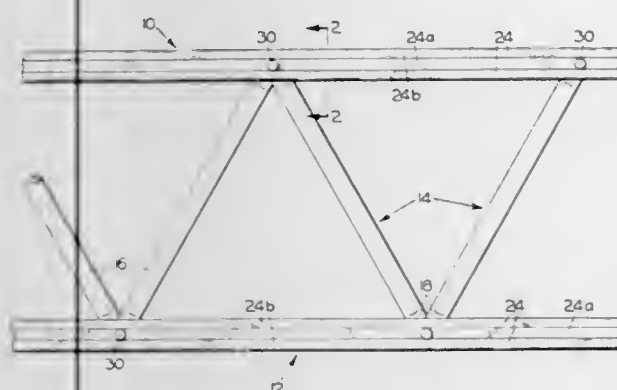
Arthur L. Troutner, Skyline Drive, Boise, Idaho 83702

Filed Sept. 20, 1968, Ser. No. 761,232

Int. Cl. E04c 3/04

U.S. Cl. 52—693

4 Claims



A metal truss comprises upper and lower chords and a connecting zig-zag of web members. The chords comprise metal sheets formed rectangularly into outer, side, and inner chord segments. The inner segments have slots receiving the ends of the web members in overlapped relation. Pin means penetrate the chord side segments and the overlapped web member ends to interlock the elements of the truss assembly.

3,541,750 EXPANDABLE ROOMS INCORPORATING BUILDING CONSTRUCTION

Henry Ritter, Nashville, Tenn., assignor to Avco Corporation, Nashville, Tenn., a corporation of Delaware

Filed June 4, 1969, Ser. No. 830,232

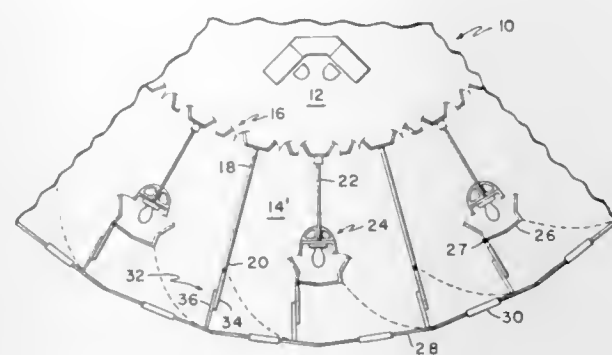
Int. Cl. E04b 1/344; E04h 3/08

U.S. Cl. 52—65

10 Claims

The disclosure illustrates a circular hospital-health care center incorporating a plurality of patient rooms positioned around a central service area. The rooms are

formed from radially extending common walls which terminate at a given distance from a circumferential outer wall. Movable panels are pivoted to the outer end of the common walls and displaceable between two positions. In the first position they form, in combination with the circumferential wall, a peripheral corridor around the



patient rooms. Sliding panels in the movable wall provide an entranceway to the patient rooms when the movable walls are in this position. In the second position they essentially form an extension of the common wall to provide a plurality of patient rooms having an enlarged area. Windows are provided in the circumferential wall to provide an exterior view for the expanded patient rooms.

3,541,751 METHOD AND APPARATUS FOR PACKAGING A PLURALITY OF ARTICLES IN PREDETERMINED ARRANGEMENT

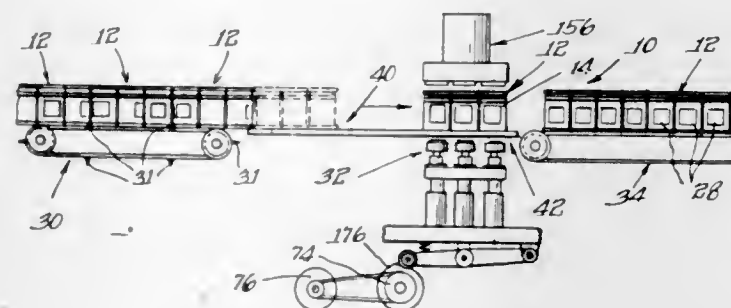
Fred H. Quebe and Fritz Quebe, Houston, Tex., assignors, by mesne assignments, to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Sept. 18, 1968, Ser. No. 760,516

Int. Cl. B65b 35/58

U.S. Cl. 53—3

16 Claims



There is disclosed a method and apparatus for packaging a plurality of articles such as cans by assembling the cans with a carrier, then engaging the cans with individual driving heads for rotating the cans to a predetermined arrangement, and then disengaging the driving heads and stopping and holding the cans in the predetermined arrangement by frictional engagement with the carrier.

3,541,752 PACKAGING OF COMPRESSIBLE GOODS

Irving Ness, 28 Pinnacle Rock Road,

Stamford, Conn. 06903

Filed June 7, 1968, Ser. No. 735,350

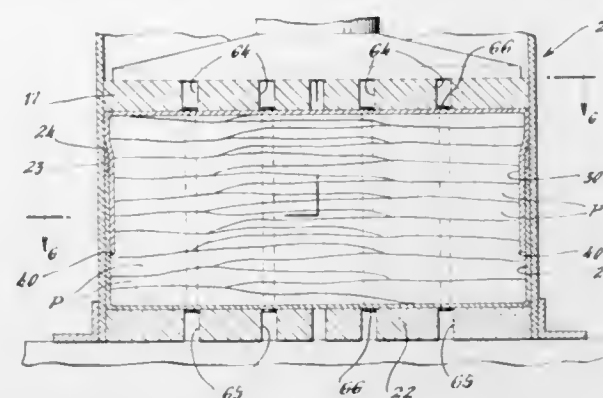
Int. Cl. B65b 1/24, 7/28, 13/20

U.S. Cl. 53—24

8 Claims

Compressible goods such as pillows are packaged by being compressed into a small box using a box cover. Compression takes place with the box and cover each reinforced against the action of the pillows as they are

compressed between the box and cover. The pillows and cover are suitably guided for entrance into the box during



the compression of the pillows by movement of the box cover relatively to the box.

3,541,753 BOTTLE PACKAGING PROCESS

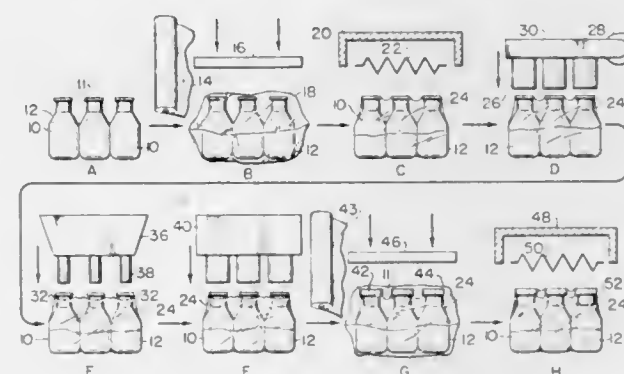
Bernard Katz, Greenwich, Conn. (% Empsco Inc., Town Dock Road, New Rochelle, N.Y. 10805)

Filed Dec. 12, 1968, Ser. No. 783,271

Int. Cl. B65b 21/06

U.S. Cl. 53—26

4 Claims



Empty bottles are arrayed and sealed in light plastic film which is heat shrunk about the bottles. The light plastic film is punctured about the bottle necks, the bottles are filled and capped, and the filled array of bottles still in the light plastic film is sealed within a heavier plastic film which is heat shrunk about the array of bottles as final packaging.

3,541,754 METHOD AND APPARATUS FOR PLACING ITEMS IN CONTAINERS

Victor F. Gugler, 8920 Helen Ave.,

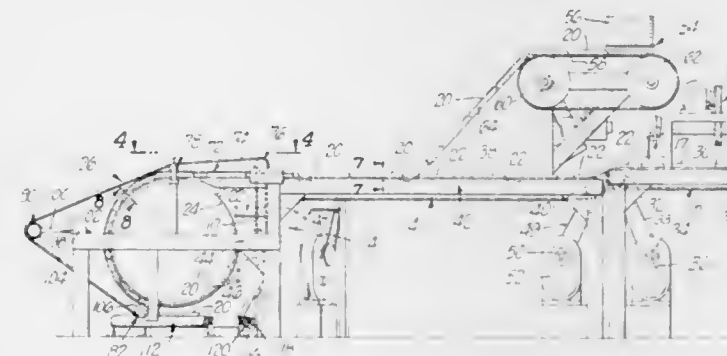
Sun Valley, Calif. 91352

Filed Feb. 13, 1968, Ser. No. 705,137

Int. Cl. B65b 5/04, 63/00

U.S. Cl. 53—35

14 Claims



A method and apparatus for transferring items moving along a conveyor belt into boxes including placing

inverted boxes over the items as they move with the conveyor belt and vertically compressing the boxes to engage and hold the items in place therein as the boxes move with the conveyor belt around a drum from the inverted to an upright position for transfer from the conveyor belt.

3,541,755 APPARATUS FOR FILLING RECEPTACLES WITH LIQUID OR PASTE-LIKE PRODUCTS UNDER ASEPTIC CONDITIONS

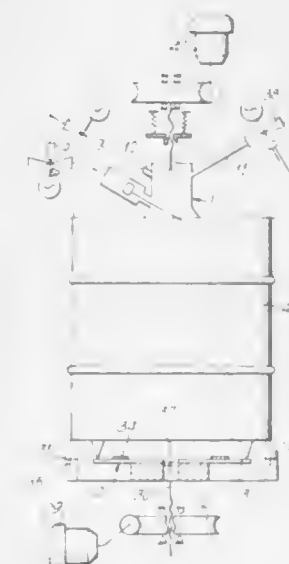
Boris Petrovich Bobrakov, Ul. Tolbukhina 6, kv. 34; Meerik Abramovich Sirota, Ul. Uritskogo 19, kv. 15; Filipp Khaimovich Lerman, Kotovskoe shosse 22-a, kv. 44; Dmitry Vladimirovich Chumak, Ul. Zavodskaya 2, kv. 3; and Evgeny Iosifovich Skuratov, Kotovskoe shosse 22-a, kv. 28, all of Kishinev, U.S.S.R.; and Grigory Grigorievich Lukianenko, Ul. Karla Marxa 1-a, kv. 21, Tiraspol, U.S.S.R.

Filed Aug. 28, 1967, Ser. No. 663,683

Int. Cl. B65b 57/00, 31/00

U.S. Cl. 53—59

3 Claims



An apparatus is provided for filling a receptacle with liquid or paste-like products under aseptic conditions, and the apparatus comprises a mechanism for lifting and lowering the receptacle to be filled and an aseptic chamber in the form of a dispenser head against which the receptacle is brought from below by the lifting and lowering mechanism, so that the filling opening of the receptacle, fitted with a plug-like closure underlies the dispenser head. The dispenser head is provided with conduits for feeding steam and sterilized product to the receptacle and with a device for removing and replacing the closure of the receptacle brought thereagainst. The latter device for removing and replacing the closure includes a spring-biased rod which is rotatable and vertically reciprocal and which has a groove at the lower end thereof accommodating spring-biased cams adapted to hold the closure of the receptacle.

3,541,756 ARTICLE WINDING AND TAPE APPLYING APPARATUS

Anton Mateski, 4675 E. 6th Ave.,

Denver, Colo. 80220

Filed Nov. 29, 1968, Ser. No. 780,044

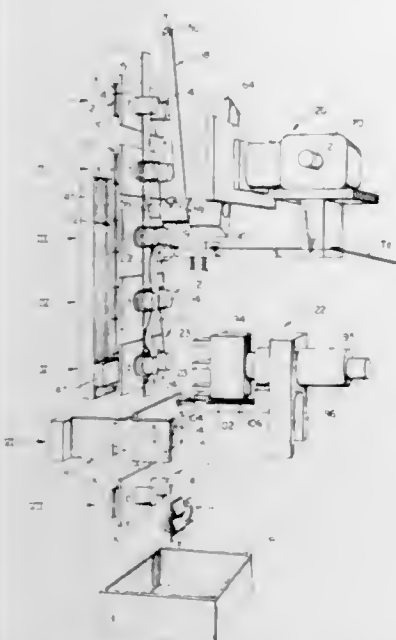
Int. Cl. B65b 63/06, 13/32

U.S. Cl. 53—116

10 Claims

A flexible elongated element is wound into a succession of loops of predetermined length and secured together by heat-sealing a tape about a medial portion of the loops in an automatic sequence of operations which is fully coordinated throughout each cycle of operation. The flexible element is drawn from a feed roll and wound at a high rate of speed without tension over a pair of spaced

holders on each of a series of continuously advancing tables so as to form an uninterrupted series of loops of the element. Simultaneously, lengths of heat-sealable tape are drawn along the advancing tables above and below



each succession of loops, the tapes being sealed together between and on opposite sides of each of the loops, followed by severing and stripping the completed package from each table.

3,541,757

METHOD OF AND DEVICE FOR TIGHTENING A WRAP AROUND BLANK ABOUT A GROUP OF RECEPTACLES

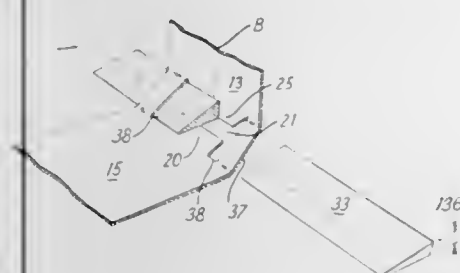
Normand L. Bertrand, Redwood City, Calif., assignor to Certipak Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 8, 1968, Ser. No. 696,477

Int. Cl. B65b 27/04; B26b 21/24

U.S. Cl. 53—32

7 Claims



A carrier blank wrapped about a group of receptacles, with its ends folded and overlapped beneath the group of receptacles, is tightened by two blades engaging the blank from opposite sides at relief apertures through which the receptacles partially project at the juncture of the side and bottom panels. The blades simultaneously raise the receptacles off the bottom panels, thus facilitating the reduction of vertical slack by the primarily horizontal tightening action of the blades.

3,541,758

BALING APPARATUS

Jimmie Ray Welborn, Beaumont, Tex., assignor to J & J Manufacturing Company, a wholly owned subsidiary of J. & J. Industries, Inc., Beaumont, Tex., a corporation of Texas

Filed Dec. 21, 1967, Ser. No. 692,351

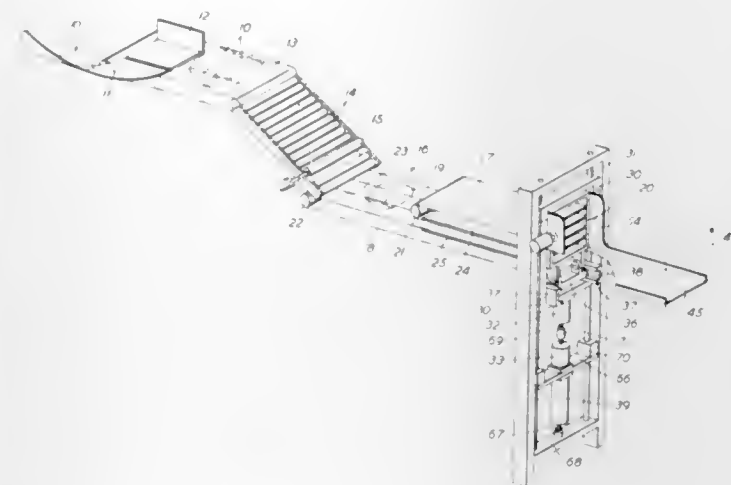
Int. Cl. B65b 57/10, 35/50, 39/06

U.S. Cl. 53—62

10 Claims

This application discloses apparatus for packaging articles in bales of a plurality of layers, particularly articles

such as sacks of pulverulent material such as rice. A hopper is used, which has a number of slots corresponding to the desired number of layers, and the articles are fed into one side of the hopper as by a conveyor to fill the bale positioned on the other side. The hopper is indexed downward when each layer is full, and when the bale is full the hopper rotates 90° to a horizontal position to



release the bale. The motive power for these operations is provided by air cylinders, and these air cylinders also function to move the hopper back up out of the way so that the filled bale may be removed. The conveyor feeding articles into the hopper also functions to compress the sacks and form them into the desired shape for baling. Unique bag straightening arrangements are employed in the feed assembly for the compressor conveyor.

3,541,759

APPARATUS FOR PLACING PARTITIONS BETWEEN GROUP ARTICLES

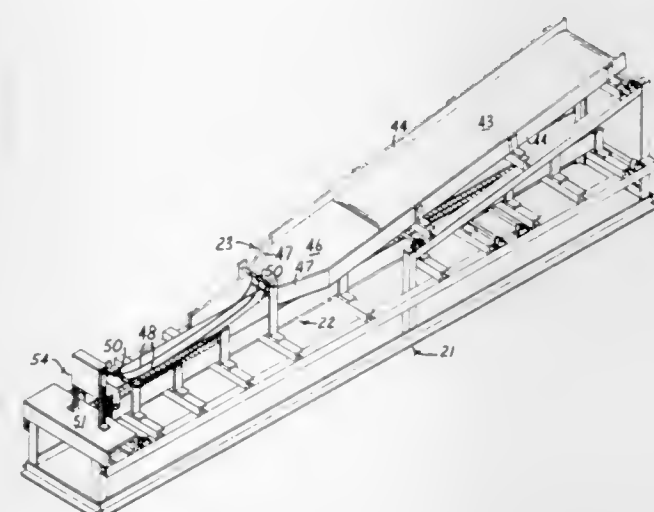
Reinhold A. Pearson, % R. A. Pearson Company, E. 304 2nd Ave., Spokane, Wash. 99202

Filed July 18, 1968, Ser. No. 745,821

Int. Cl. B65b 35/54

U.S. Cl. 53—157

9 Claims



An apparatus and method for placing initially collapsed partition units which are foldably joined to one another between grouped rows of articles, such as containers, bottles or cans. A continuous group of articles is collected in rows on a moving conveyor and a continuous string of foldably joined partitions is expanded and their per-

pendicular walls are placed between the articles. The partition and article unit corresponding to a carton load requirement is severed from the continuous structure prior to actual filling of a carton.

3,541,760

CARTON LOADING APPARATUS

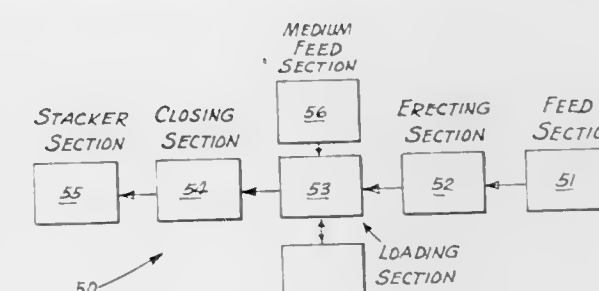
Robert J. Hickin, Seville, Ohio, assignor to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware

Filed Feb. 16, 1968, Ser. No. 707,386

Int. Cl. B65b 5/02, 19/18

U.S. Cl. 53—186

12 Claims



This disclosure relates to an apparatus which is adapted to successively receive individual collapsed tubular cartons, the latter having broad top and bottom panels foldably interconnected by narrow side panels and narrow end flaps. Subsequent to receiving the collapsed tubular cartons, the apparatus causes said cartons to be set up to form erected carton tubes open at opposite ends and while in such condition load each carton tube with a thin pliable product, and then effect discharge of the loaded tubes.

3,541,761

METHOD OF TREATING HOT WASTE GASES FROM A METALLURGICAL FURNACE

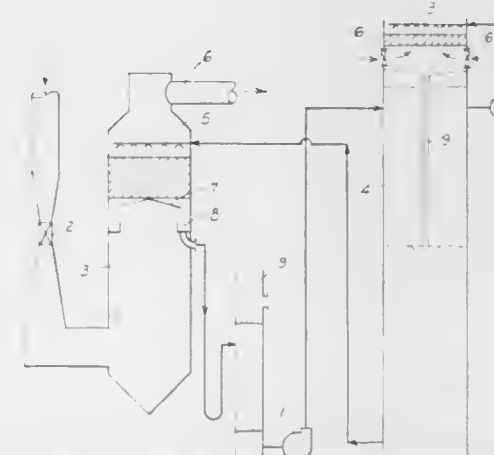
Daniel E. Pike, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Kentucky

Filed Aug. 19, 1968, Ser. No. 753,397

Int. Cl. B01d 47/06

U.S. Cl. 55—89

5 Claims



A process for treating hot waste gases emanating from a metallurgical furnace wherein the hot gases are cooled in countercurrent flow with a liquid in a gas cooling tower, the liquid subsequently being cooled and recirculated to such gas cooling tower.

3,541,762

ANNULAR PACKED-BED FILTER

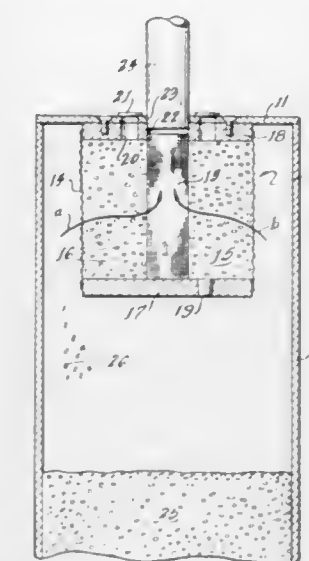
Devabaktuni Ramaswami, Hinsdale, Albert A. Jonke, Elmhurst, and Norman M. Levitz, Bellwood, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 18, 1969, Ser. No. 808,120

Int. Cl. B01d 46/04

U.S. Cl. 55—96

1 Claim



Concentric cylindrical screens form an annulus which contains filter material. Gas is passed transversely through the filter material from the outer screen and exits axially upward through the inner screen.

3,541,763

GAS DEHYDRATOR

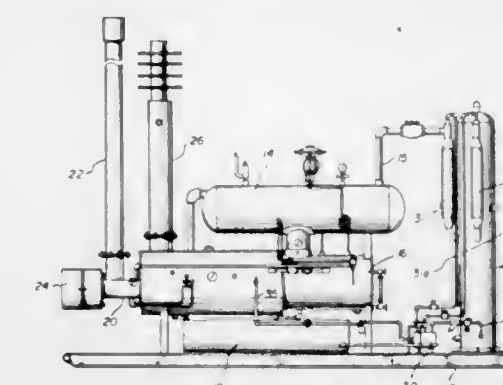
Rodney T. Heath, Farmington, N. Mex., assignor to Olman Heath Co., Farmington, N. Mex.

Filed May 15, 1968, Ser. No. 729,213

Int. Cl. B01d 19/00

U.S. Cl. 55—185

6 Claims



A gas dehydrator using a liquid dehydrating agent, such as glycol, includes a contactor separator for the gas and liquid, and the contactor separator has a pair of series mounted concurrent contactor elements each with a following separator element, with the separator elements mounted within a separator shell. A double action piston pump injects dehydrating agent into the contactor elements.

3,541,764

MULTI-STAGE DUST SEPARATOR

Nils Osten Astrom, Hockertsavagen 17, Bromma, Sweden

Filed Oct. 23, 1968, Ser. No. 770,009

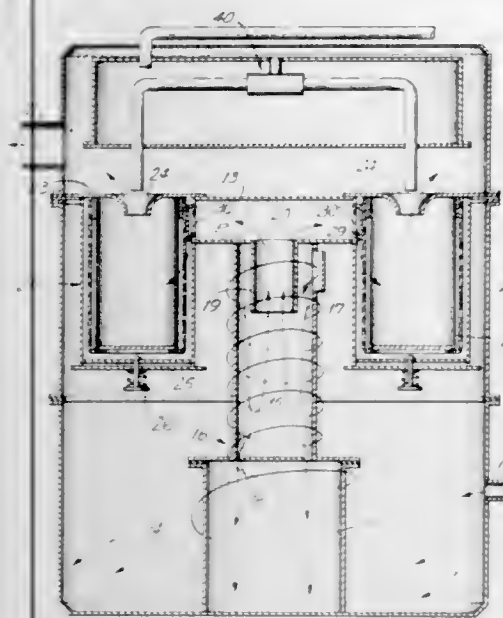
Int. Cl. B01d 46/04

U.S. Cl. 55—302

4 Claims

A multi-stage dust separator in which dust laden air is passed through first and second sequentially connected chambers in a container, wherein the dust laden air is subjected to successive stages of separation of dust from the air, whereafter the thrust purified air is then fed to a

third stage which is composed of a plurality of filter elements arranged in an annular array. Each filter element is composed of a can with a filter therewith in and any



dust contained in the air from the second chamber is separated by the filter. Pressure air is periodically blown into the filter elements in succession to clean the filters.

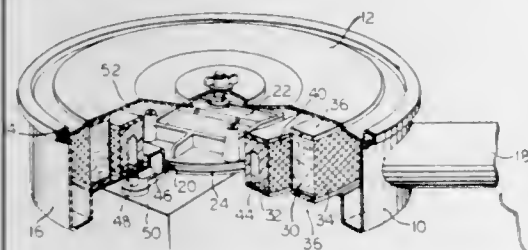
3,541,765

DUAL ELEMENT AIR CLEANER FUEL EVAPORATIVE LOSS CONTROL

Leonard E. Adler, Detroit, and Thomas A. Nelson, Birmingham, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 21, 1968, Ser. No. 769,154
Int. Cl. B01d 50/00

U.S. Cl. 55—316

1 Claim



An engine air cleaner contains two concentrically mounted ring type air filter elements, the inner one containing a bed of activated carbon to absorb excess fuel vapors from the carburetor fuel bowl and vehicle gasoline tank during the hot soak cycle of the engine, the vapors being purged into the engine during the normal air flow through the air cleaner, the inner filter being lower in height than the outer to provide a non-valved orificed air bypass of the inner filter of the air from the outer filter to the carburetor.

3,541,766

CENTRIFUGAL SEPARATOR VESSEL

Joseph G. Wilson, New York, N.Y., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

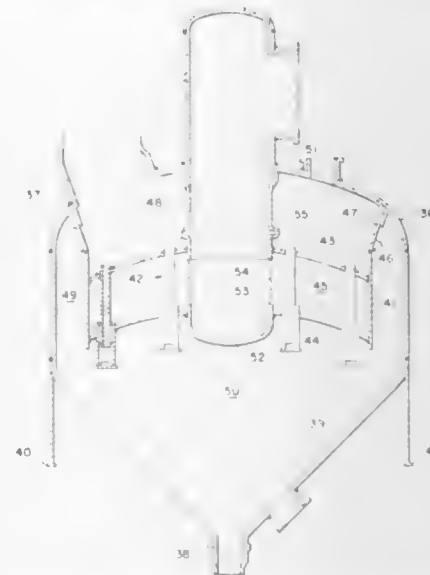
Original application Apr. 8, 1966, Ser. No. 541,360, now Patent No. 3,415,042, dated Dec. 10, 1968. Divided and this application Jan. 19, 1968, Ser. No. 721,902
Int. Cl. B01d 45/12

U.S. Cl. 55—348

1 Claim

Apparatus for cleaning gas comprising a hollow outer vessel having an inner wall and a cleaning gas outlet communicating through the wall of the outer vessel with the interior of the outer vessel. An inner casing is attached to, supported by and within the outer vessel and has its vertical axis coincident with the vertical axis of

the outer vessel. The inner casing is spaced from the inner wall of the outer vessel so as to form an annular space therebetween. Partition means is disposed within the inner casing sealingly dividing the inner casing into at least a pair of chambers. The first of these chambers has an opening therein communicating with the clean gas outlet of the outer vessel and a gas inlet operatively engages the second of these chambers for introducing gas burdened with particles into the second of these chambers. A plurality of centrifugal separators cooperates with the second of these chambers, each of these separators having an outer first tube with its upper end communicating with the interior of the second of these chambers. Particle and blowdown gas collecting means is located



within the vessel and communicates with openings in the lower ends of the outer tubes of the separators. Each of the separators further includes a second tube mounted within each of the outer tubes having its upper end communicating with the interior of the second of the chambers. Swirl-producing means is located between the first and second tubes for producing a swirling motion to gas introduced within the first tubes and expandable structural means operatively engages the inner casing and is adapted to allow the inner casing to substantially expand and contract under apparatus operating conditions without damaging the structure of the outer vessel. A particle and blowdown gas outlet operatively engages the outer vessel and communicates with the particle and blowdown gas collection means for removing particles and blowdown gas from the apparatus.

3,541,767

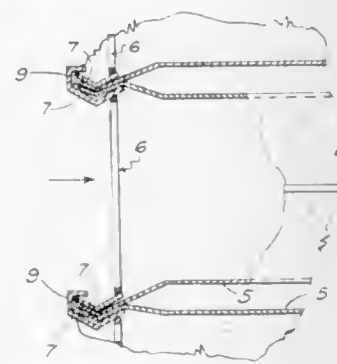
GAS FILTER BAG STRUCTURE

Allan R. Getzin and David E. Bonn, Louisville, Ky., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Apr. 21, 1969, Ser. No. 817,831
Int. Cl. B01d 46/02

U.S. Cl. 55—378

4 Claims



An improved gas filter bag structure comprising: a plurality of side-by-side filter bags each having their

mouth portion held in an open position by a rigid mouth-shaping member, the opposite extremities of the mouth portions of the filter bags being inserted in a channel-shaped flow-through border frame sized to hold the mouth portions of the filter bags in fast side-by-side relation to grip such mouth portions therebetween.

3,541,768

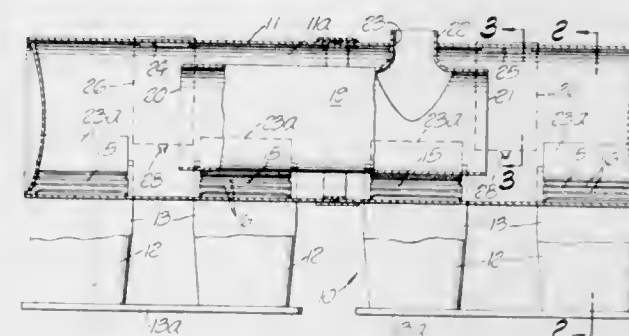
APPARATUS FOR ARRESTING EXHAUST GAS SPARKS

Paul A. Labadie, Redondo Beach, Calif., assignor to Farr Company, El Segundo, Calif., a corporation of California

Filed Aug. 5, 1968, Ser. No. 750,339
Int. Cl. B04c 5/04

U.S. Cl. 55—419

7 Claims



A spark arrester removes carbon particles from the exhaust of a diesel locomotive engine prior to emission to the atmosphere. Exhaust including the particles is introduced into a chamber defined by a cylindrical body from the exhaust ports of the engine and then rotated in one direction about the chamber to segregate the particles by centrifugal force in the outer portion of the chamber where they are retained by a collection container. The particle free exhaust in the central portion of the chamber is then discharged through a centrally located duct into the atmosphere.

3,541,769

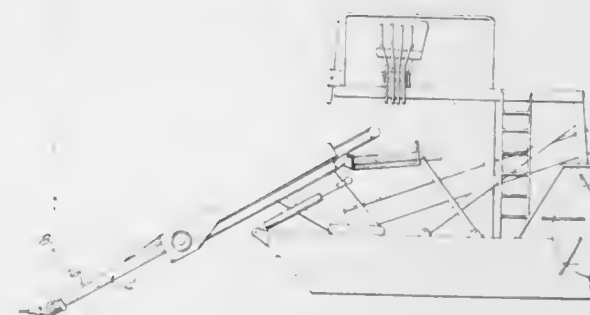
DIVERTER AND CUTTER ATTACHMENT FOR AQUATIC HARVESTER

Mathias E. Grinwald, N46 W31067 Highway 16, Hartland, Wis. 53029

Filed Jan. 8, 1969, Ser. No. 789,693
Int. Cl. A01d 45/08

U.S. Cl. 56—9

6 Claims



A weed diverter attachment for an aquatic harvester which is located at the side of the conveyor carrying weeds, marine growth and underwater growth from the underwater cutter assembly to an above water storage, comprising a cylinder driven so that its upper surface travels in the same direction as the conveyor. A scraper plate and a turning shield are associated with the cylinder to aid it in guiding weeds and the like dangling or hanging from the side of the conveyor on to the conveyor.

An alternative attachment consists of a cutting member mounted on such conveyor which cooperates with a fixed cutting edge to cut off such dangling weeds.

3,541,770

LAWNMOWER

Jean-René Dufour, Plateau de Champel 18, Geneva, Switzerland

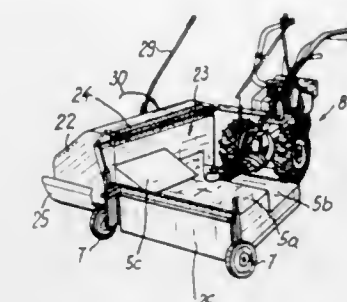
Filed Mar. 18, 1968, Ser. No. 713,570

Claims priority, application Switzerland, Mar. 31, 1967, 4,608/67

Int. Cl. A01d 35/26

U.S. Cl. 56—25.4

4 Claims



A lawnmower including a rotary blade with a vertical axle revolving in a housing which is open at the bottom and is divided into a front part into which tall grass can enter and a shallower rear part. The height of the shallower part is only slightly higher than the height of the blade. Rotation of the blade through the rear part generates a horizontal air stream which ejects the grass which is cut by the blade in the front part outwardly through a lateral outlet into a grass bin.

3,541,771

LAWN MOWER INCLUDING BOTTOM GUARD PLATE

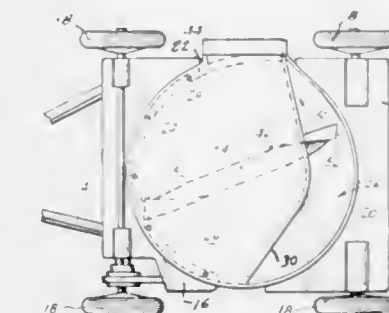
Ernest G. Schulze, 78 Black Oak Ridge Road, Wayne, N.J. 07470

Filed Apr. 15, 1968, Ser. No. 721,362

Int. Cl. A01d 55/18

U.S. Cl. 56—255

7 Claims

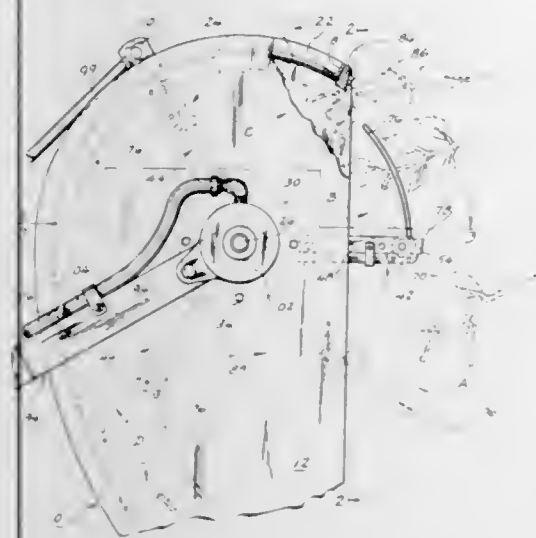


A lawn mower having means for cutting grass, entraining the cut grass on air currents and carrying the entrained cut grass to an outlet frame adapted to be connected to a collecting device for disposal of the grass. The mower includes a platform on wheels for transporting the same over the surface of a lawn. A rotatable cutting device is carried underneath the platform in a compartment. The blades rotate well above the lower edge of the skirted platform and are shaped to cut the grass and create an upright draft of air in the compartment. A guard-plate for the blades extends over at least 70% of the area of the underside of the platform and prevents lawn scalping. The guard-plate has a V-shaped forward edge defining with the skirted platform a crescent shaped opening of minimum cross sectional area and maximum circumferential length to maximize suction and cutting action of the blades at the crescent shaped opening while minimizing suction and preventing back pressure at the rear of the compartment. A spiral integral or removable duct is adapted to carry the entrained cut grass to an outlet to which a collector may be attached.

3,541,772
FRUIT HARVESTER
 Arthur J. Miller, 2741 S. 76th St.,
 West Allis, Wis. 53219
 Filed Feb. 5, 1969, Ser. No. 796,867
 Int. Cl. A01g 19/00

U.S. Cl. 56—328

6 Claims

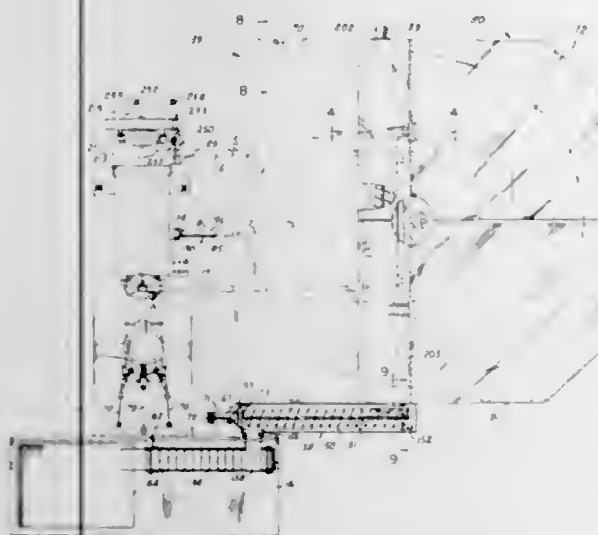


A fruit harvester carried by a tractor to pick fruit from a tree, comprising a reel having transversely-extending bars provided with "rake" fingers that engage the fruit. The bars co-operate with a stationary shearing bar to sever the stems of the fruit after it has been gathered by the fingers. Means is provided to "feather" the fingers angularly and normally to the axis of the reel to facilitate gathering, severing and disposing of the fruit.

3,541,773
TREE CROP HARVESTER
 Pledger B. Cate, Rte. 2, Box 202,
 Mexia, Tex. 76667
 Filed May 24, 1968, Ser. No. 731,859
 Int. Cl. A01g 19/08

U.S. Cl. 56—329

13 Claims



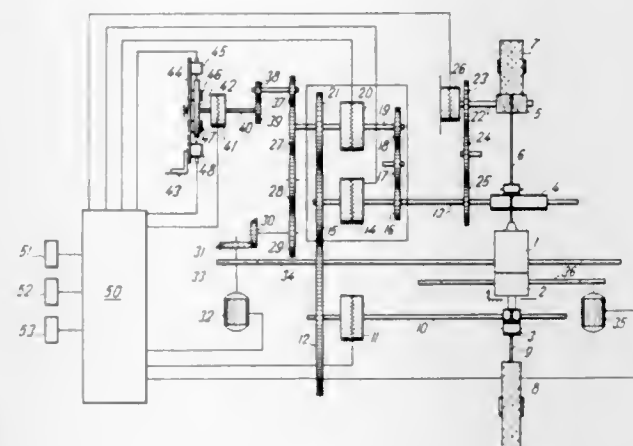
An apparatus for harvesting fruits, nuts and the like from trees which is mountable on a tractor to extend longitudinally along and laterally outwardly of one side of a tractor and includes an inner catcher which is tiltable toward a longitudinally extending conveyor of the apparatus and a pair of outer catchers which are movable between outer operative positions wherein they are tilted toward the conveyor and inner inoperative positions over the inner catcher. The apparatus also includes a blower

movably mounted on the tractor for blowing the fruit or nuts from the tree to fall upon the catchers and roll thereon to the longitudinal conveyor.

3,541,774
CONTROL APPARATUS FOR STARTING, STOPPING, AND PRIMING A SPINNING MACHINE
 Jan Sterba and Julius Varga, Usti nad Orlici, Czechoslovakia, assignors to Elitex Zavody Textilního Strojirensťv Generalni Reditelství, Liberec, Czechoslovakia
 Filed Apr. 7, 1969, Ser. No. 815,272
 Claims priority, application Czechoslovakia, Apr. 8, 1968, 2,593/68
 Int. Cl. D01h 13/14

U.S. Cl. 57—78

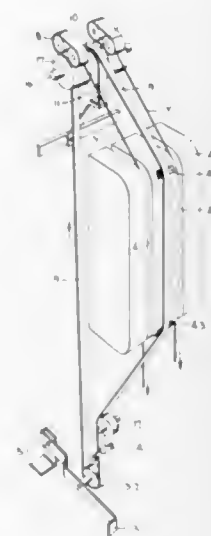
10 Claims



An electric control apparatus includes a rotary arm for successively operating control switches by which devices cooperating with a spinning chamber are started in a predetermined sequence required for priming, and then placed in a condition for normal spinning operations. By relative adjustment of the control switches along the path of the control arm, the timing of the operations of the devices can be determined.

3,541,775
TEXTILE MACHINE
 Daniel J. Fisher, Jr., North Kingstown, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
 Continuation of application Ser. No. 700,227, Jan. 24, 1968. This application Dec. 4, 1968, Ser. No. 781,711
 Int. Cl. D01g 12/00; D01h 13/04; B65h 51/28
 U.S. Cl. 57—157

4 Claims



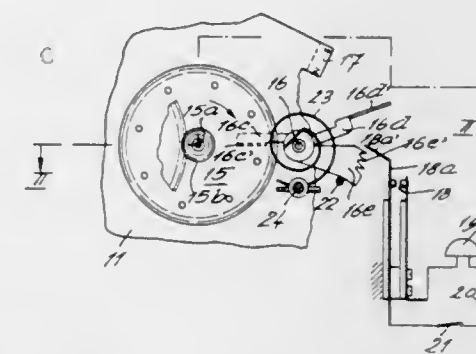
A method of threading a textile machine comprising a double heater from a convenient level is described. The method includes the steps of carrying a yarn strand up the

back of a heater on a textile machine and over the top thereof into contact with the heated zone in front of the heater.

3,541,776
ELECTRIC MECHANISM FOR SOUNDING THE ALARM OF A CLOCK AT A PRESET TIME
 Wolfgang Ganter, Schramberg-Sulgen, Wurttemberg, Germany, assignor to Messrs. Gebrüder Junghans Gesellschaft mit beschränkter Haftung, Schramberg, Wurttemberg, Germany
 Filed July 15, 1968, Ser. No. 744,986
 Claims priority, application Germany, July 19, 1967, J 16,736
 Int. Cl. G04c 21/16

U.S. Cl. 58—19

7 Claims

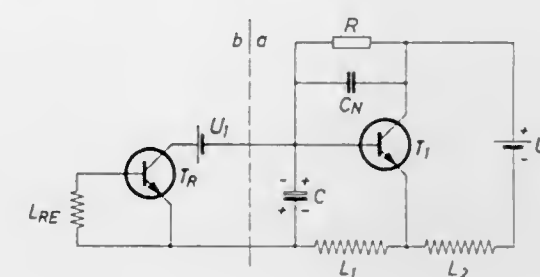


A single cycle alarm mechanism is briefly actuated at a preset time by a clock gearwheel by means of a rotating shaft operated through a desired angle and detented until release for an additional cycle by the clock timing mechanism. The load on the clock mechanism is present only during the time the alarm is being actuated.

3,541,777
CONTROL CIRCUIT FOR THE DRIVE OF A MOVEMENT-REGULATING OSCILLATOR FOR A TIMEKEEPING INSTRUMENT
 Wolfgang Ganter, Schramberg-Sulgen, Wurttemberg, Germany, assignor to Messrs. Gebrüder Junghans Gesellschaft mit beschränkter Haftung, Schramberg, Wurttemberg, Germany, a corporation of Germany
 Filed May 8, 1968, Ser. No. 727,484
 Claims priority, application Germany, May 8, 1967, J 33,623
 Int. Cl. G04c 3/00

U.S. Cl. 58—23

14 Claims

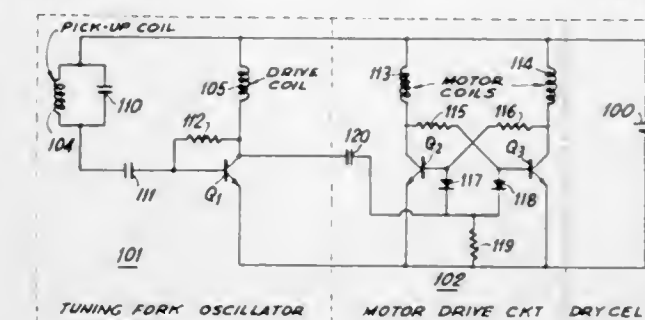


The invention concerns a control circuit for the drive of a movement-regulating oscillator of a timekeeping instrument, specifically of a clock, with an electronic main amplifier, specifically a transistor amplifier, which is controlled by a voltage generated by means of the relative motion between a magnetic system and a control element, and which supplies current impulses at its output end, passing through a driving coil and supplying the driving power to the movement-regulating oscillator, and with a second electronic control amplifier, specifically a transistor amplifier, which influences the operating characteristics of the first amplifier, dependent on the values affecting the oscillation of the movement regulator.

3,541,778
BATTERY-POWERED CLOCK
 Michael Joseph Ingenito, Bronx, N.Y., and Frank W. Stellwagen, Stamford, Conn., assignors to General Time Corporation, Stamford, Conn., a corporation of Delaware
 Filed Apr. 5, 1968, Ser. No. 719,087
 Int. Cl. G04c 13/02

U.S. Cl. 58—23

12 Claims

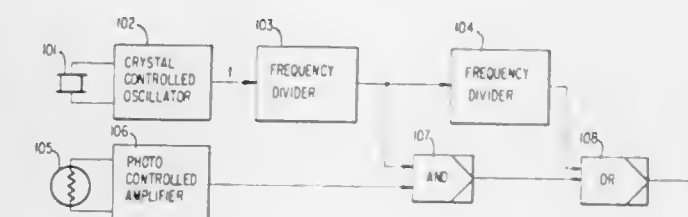


A battery powered clock including a synchronous timer motor of the type including a rotating polarized magnetic circuit. A tuning fork oscillator controls a motor drive circuit which in turn energizes the winding of the motor with a signal of the type required for efficient motor operation. The transistors in the oscillator and motor drive circuits are selected having characteristics properly related to the battery discharge characteristics for achieving a relatively long battery life.

3,541,779
ELECTRONIC TIMEPIECE
 Lawrence W. Langley, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
 Original application Mar. 19, 1968, Ser. No. 714,278, now Patent No. 3,485,033, dated Dec. 23, 1969. Divided and this application Aug. 19, 1969, Ser. No. 862,138
 Int. Cl. G04b 19/30

U.S. Cl. 58—50

2 Claims



An electronic timepiece for providing a visual indication of the time. A highly stable frequency source provides pulses which are divided by frequency dividing means to provide one pulse per minute. Counter chains with light-emitting diodes in their outputs, indicate, in binary form, the time in tens and units of minutes and hours. Photosensitive elements responsive to the light emitting diodes are used to control a display array to provide the visual indication of the time. The entire device is hermetically sealed, and means is provided to control the frequency dividing means from outside the hermetic seal to set the timepiece to the correct time.

3,541,780
DATE-INDICATING WRISTWATCH
 Benjamin Bolle, Pforzheim, Germany, assignor to Bernhard Forster, Pforzheim, Germany, a firm
 Filed Oct. 7, 1968, Ser. No. 765,341
 Int. Cl. G04b 19/24

U.S. Cl. 58—58

5 Claims

A date ring in a date indicating watch carries a circular series of teeth. A drive wheel having a projecting finger rotates once in twenty-four hours. An arcuate pawl is parallel to and coplanar with the date ring and is formed with a guide slot. The pawl has at one end a hammer

head and adjacent neck, and the other end has an inclined step. The hammer head engages one tooth at a time upon engagement of the finger with the inclined step.



Guide elements carried by the frame engage the neck and slot. A spring opposes movement of the pawl under action of the finger and effects a return of the pawl when the finger engages the inclined step.

3,541,781

APPARATUS FOR MEASURING TIME SPENT STANDING OR WALKING

Walter L. Bloom, Rte. 3, Johnson's Ferry Road, Marietta, Ga. 30060

Filed Sept. 9, 1968, Ser. No. 758,497

Int. Cl. G04f 7/04

U.S. Cl. 58—74

3 Claims



The present invention relates to a method and an apparatus for measuring the time a person spends in the upright position during a selected period. The method includes measuring the accumulation of time a person's leg is in a substantially vertical position during the selected period. The apparatus includes a watch mounted in a frame or holder that is adapted to be strapped to an individual's leg and having a pivoted weight that functions as a gravity actuated switch positioned in the watch which engages and stops the watch's gear train when the watch is rotated an angle of approximately 90° from its operating position; for example, when the wearer sits or reclines. The watch is rotatably mounted in the frame or holder to facilitate any adjustment that may be necessary for use on varying leg sizes and posture habits of different individuals.

3,541,782

CONTROL FOR RESONANT VIBRATING SYSTEM

Howard L. Shatto, Jr., La Jolla, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Oct. 24, 1968, Ser. No. 770,144

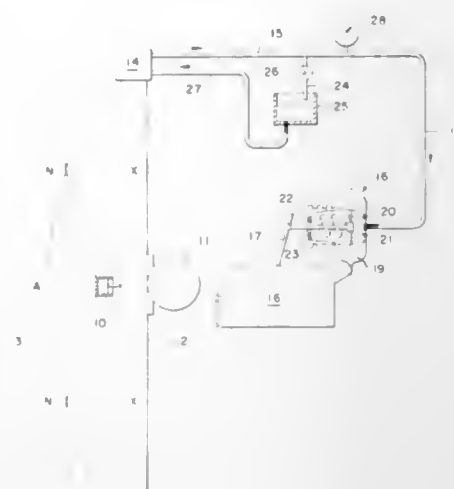
Int. Cl. F01c 9/00

U.S. Cl. 60—1

6 Claims

A vibrationally activated transducer is coupled to an output member of a resonant vibration system to provide

fluid volume and/or pressure which is related to the frequency and/or amplitude of the output member of the



3,541,783

COMBINED DRIVE ENGINE SYSTEM FOR SHIPS

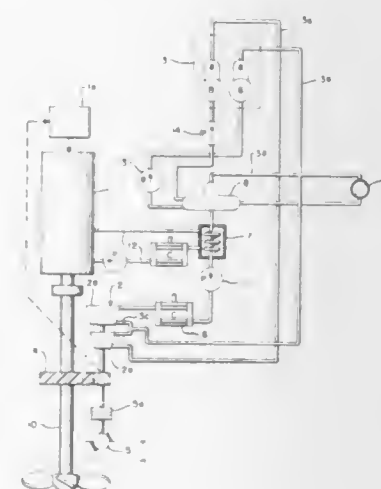
Peter Schmuck, Rostock, Germany, assignor to VEB Warnowwerf Warnemunde, Warnemunde, Germany

Filed Sept. 25, 1968, Ser. No. 762,499

Int. Cl. F01k 23/14

U.S. Cl. 60—11

1 Claim



An I.C. engine and a steam turbine driving a common propeller shaft. The I.C. engine operates near to its full load and delivers greater part of driving power, whereas the turbine at normal travel speed rate of the ship drives simultaneously a disconnectable electrical generator for board use. The exhaust gas from the I.C. engine is utilized for the steam production in the steam generator of the turbine.

3,541,784

CONTROL SYSTEM FOR TURBO CHARGED INTERNAL COMBUSTION ENGINE

Elmer A. Haase, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware

Filed June 24, 1968, Ser. No. 739,565

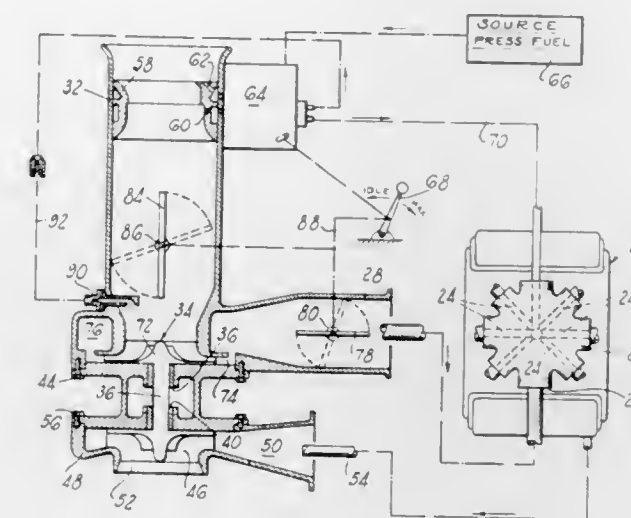
Int. Cl. F02b 37/08

U.S. Cl. 60—13

9 Claims

Air induction apparatus for an internal combustion engine of the fuel injected type wherein an air induction conduit has an engine exhaust driven air compressor mounted therein for pressurizing air flow to the engine

cylinders. The air induction conduit is provided with manually actuated simultaneously movable air throttle valves upstream and downstream of the compressor and in close proximity thereto which close during an engine deceleration to isolate the compressor from air disturbances in the air conduit upstream and downstream therefrom. Dur-



ing an engine deceleration, the closed downstream throttle valve prevents formation of a vacuum at the compressor outlet thereby resulting in faster air pressure recovery when the downstream throttle valve is opened for engine acceleration as well as minimizing compressor bearing oil leakage into the engine air induction conduit.

3,541,785

EXHAUST GAS LINE CONNECTED TO THE CYLINDER HEADS OF AN INTERNAL COMBUSTION ENGINE

Jürgen Wahnschaffe, Stuttgart-Stammheim, and Wolfgang Rudert, Grunbach Kreis Waiblingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

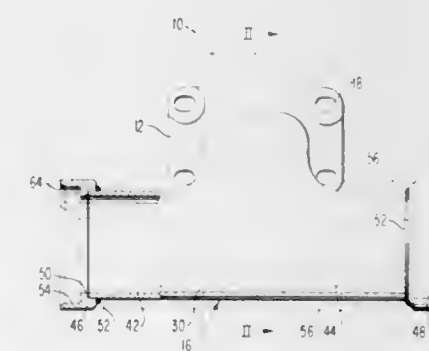
Filed May 28, 1968, Ser. No. 732,758

Claims priority, application Germany, May 31, 1967, 1,576,357

Int. Cl. F01n 7/10; F16l 17/02

U.S. Cl. 60—29

23 Claims



An exhaust gas line to be connected to the cylinder heads of an internal combustion engine, in which the discharge elbow pipes pass over into pipe line sections that can be assembled according to the building block principle by connecting pieces; a given discharge elbow pipe is connected to its cylinder by means of a flange of high inherent rigidity and the pipe line sections are also provided at their ends with flanges of inherent rigidity; each pipe line flange forms a connecting element with the next adjacent pipe line section and at least the pipe line sections, however preferably also the discharge elbow pipes are made from high heat-resistant sheet metal.

3,541,786

INBOARD MARINE ENGINE COOLING SYSTEM

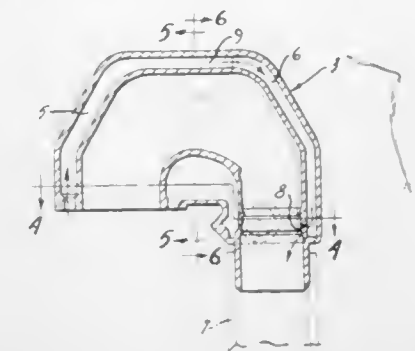
Salvatore S. Sarra, Fond du Lac, Wis., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware

Filed Apr. 4, 1969, Ser. No. 813,623

Int. Cl. F01r 3/04

U.S. Cl. 60—30

3 Claims



The engine exhaust pipe leading from the manifold has an elbow turn of approximately 180° initially leading upwardly and thereafter discharging downwardly. The elbow passage for water from the manifold water cooling jacket extends around the exhaust elbow and discharges into the exhaust on the downward side in a manner to prevent draining of water from the manifold and elbow.

3,541,787

SELF-COMPRESSED CONTINUOUS CIRCULAR INTERNAL COMBUSTION ENGINE

Mario Romoli, 133 Via dei Serragli, Florence, Italy

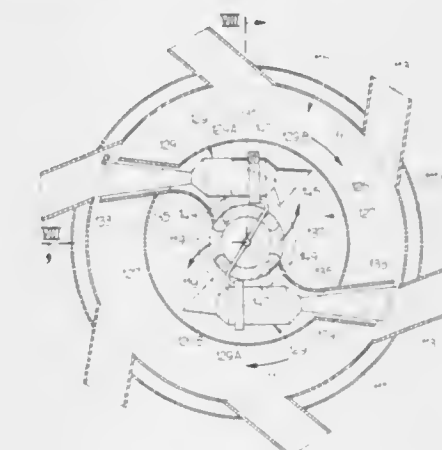
Filed Sept. 6, 1968, Ser. No. 757,911

Claims priority, application Italy, Oct. 30, 1967, 4,788/67; Mar. 15, 1968, 4,486/68

Int. Cl. F02c 3/16

U.S. Cl. 60—39.06

11 Claims



A self-compressed continuous circular internal combustion engine, operating as a pure jet or pulse-jet engine in its several embodiments, comprised of a toroidal cavity in which combustion chambers fixed to the driving shaft freely rotate, said combustion chambers compressing air entering the toroidal cavity when rotated through a suitable starting means up to a velocity sufficient for combustion, thereafter fuel being admitted and mixture being ignited.

3,541,788

NOZZLE CONSTRUCTION AND LIQUID FUEL ROCKET FUEL SYSTEM

Manfred Schutz, Ottobrunn, Germany, assignor to Bolkow Gesellschaft mit beschränkter Haftung, Ottobrunn, Germany

Filed May 3, 1968, Ser. No. 726,368

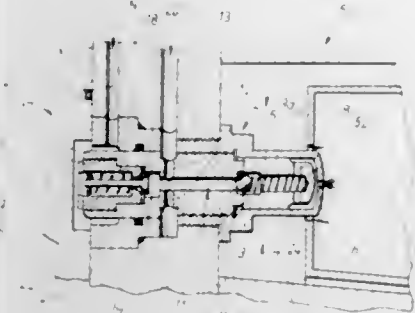
Int. Cl. F02c 7/22; F02k 9/02

U.S. Cl. 60—39.09

6 Claims

An injection nozzle system for liquid fuel rocket engines comprises a plurality of injection nozzle housings

mounted at spaced locations around two spaced ring conduits, one of which is for supplying fuel and the other of which is for supplying a scavenging agent such as nitrogen. The fuel is delivered under pressure to a central conduit ahead of a valve which seals off a chamber to which the scavenging agent is supplied. As long as the fuel is being delivered and maintained under pressure, the



valve at the inner end of the central conduit will close off the connection to the scavenging agent supply. However, when the fuel pressure drops and when the engine is to be shut off, the valve will open and permit the scavenging agent to move through the central conduit and to be discharged into the combustion chamber to scavenge the remaining fuel from the system.

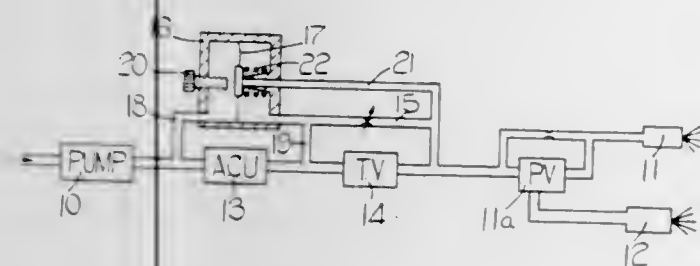
3,541,789

GAS TURBINE ENGINE DECELERATION CONTROL APPARATUS

Denis Gascoigne, Alcester, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed June 6, 1968, Ser. No. 734,973
Int. Cl. F02c 9/08

U.S. Cl. 60—39.28

2 Claims



Deceleration control apparatus for gas turbine engines comprises a fuel control unit, and a throttle valve in series, and a means for sensing the pressure drop obtaining across the fuel control unit, and passage means providing a by-pass for fuel past the throttle valve and a valve in the passage controlled by said means.

3,541,790

HOT GAS GENERATORS

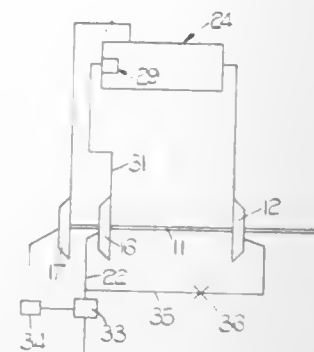
Eric Kellett, Ealing, London, England, assignor to C.A.V. Limited
Filed Oct. 3, 1968, Ser. No. 764,840
Claims priority, application Great Britain, Oct. 5, 1967, 45,458/67
Int. Cl. F02c 7/08

U.S. Cl. 60—39.52

1 Claim

A hot gas generator comprising a combustion chamber in which is mounted an air/fuel mixture burner, a turbine including a rotor driven by the heated gases leaving the combustion chamber, a first compressor rotor for supplying dilution air to the combustion chamber and a second compressor rotor for supplying air/fuel mixture to the

burner, the compressors being driven by the turbine, a carburettor for supplying air/fuel mixture to the second compressor and a duct through which exhaust gases leave-



ing the turbine can be admitted to the inlet of the second compressor thereby to control the combustion-temperature.

3,541,791

HYDRAULIC DEVICE FOR CONTROLLING THE ACTUATING CYLINDERS OF THE GEARSHIFT FRICTION CLUTCHES AND BRAKES OF SELF-PROPELLED VEHICLES, MAINLY TRACTORS

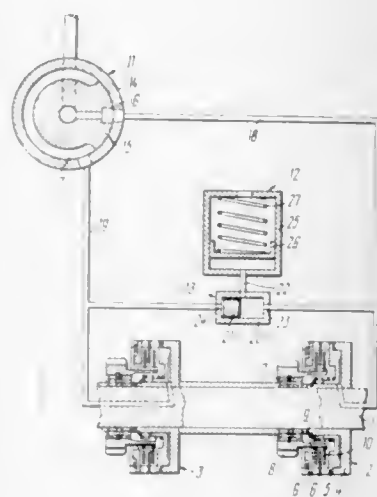
Kiva Yakovlevich Lvovsky, Naberezhnaya, Novikova-Priboya 8, korpus 1, kv. 53, and Nikolai Alexandrovich Scheltsyn, Skakovaya ulitsa 18, kv. 19, both of Moscow, U.S.S.R.

Filed Sept. 6, 1968, Ser. No. 757,869

Int. Cl. F15b 1/02; F16d 25/10

U.S. Cl. 60—51

5 Claims



A hydraulic device is provided for controlling actuating cylinders of gearshift friction clutches and brakes of self-propelled vehicles such as tractors. The device comprises actuating cylinders for the gearshift friction clutches and brakes hydraulically connected by main channels through a working fluid distributor. A hydraulic accumulator is connected to the main channels via a hydraulic change-over valve which incorporates a floating change-over element in a body having a middle channel providing communicating between the chamber of the hydraulic accumulator and the middle part of the change-over valve chamber, and two end channels providing communication between the main channels with the end portions of the change-over valve chamber. Consequently, the fluid pressure moves the change-over element and the hydraulic accumulator is put in communication with that main channel in which the pressure is higher than in the other channels.

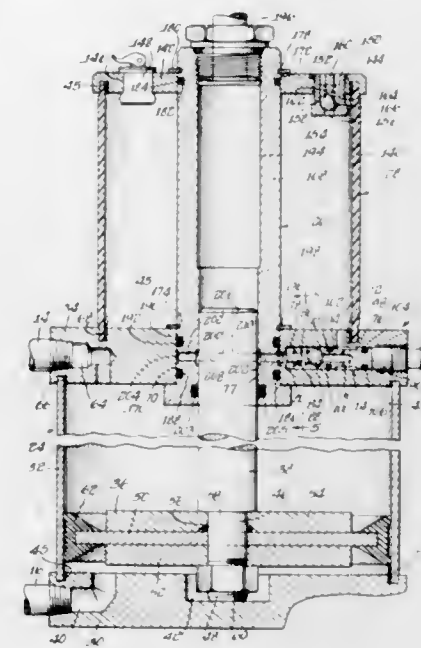
3,541,792

FLUID PRESSURE AMPLIFIER

John T. Ellis, Jr., Chicago, Ill., assignor to Ellis Engineering, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 19, 1968, Ser. No. 706,487
Int. Cl. F15b 7/00; F16j 15/18

U.S. Cl. 60—54.5

12 Claims



This fluid pressure amplifier utilizes air at low pressure to deliver hydraulic fluid at a high pressure. The amplifier includes a relatively large diameter air cylinder, a relatively small diameter hydraulic fluid cylinder, and a piston reciprocally mounted in the air cylinder having a rod which is formed integral with the piston in the hydraulic cylinder. A reservoir is mounted concentric with the hydraulic cylinder, and a hydraulic fluid flow path is provided to deliver hydraulic fluid from the reservoir to the hydraulic cylinder to replenish leaked hydraulic fluid.

3,541,793

LIQUID FUELED ROCKET ENGINE SYSTEM

Günther Schmidt, Ottobrunn-Riemerling, Germany, assignor to Bolkow Gesellschaft mit beschränkter Haftung, Munich, Germany

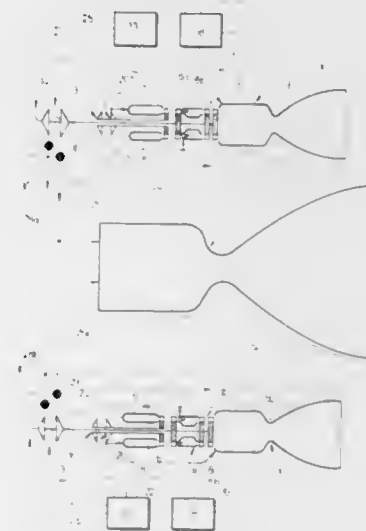
Filed Mar. 12, 1968, Ser. No. 712,487

Claims priority, application Germany, Apr. 5, 1967, B 91,917

Int. Cl. F02k 9/06

U.S. Cl. 60—204

10 Claims



A liquid fueled rocket engine system comprises at least one high-power thrust unit having a combustion chamber and thrust nozzle for the production of a major part of the thrust and at least one main current-rocket engine having a pre-combustion chamber and one or more auxiliary turbines driven by gases from the pre-combustion

chamber for driving pumps for delivering its own propellants or fuel components and the fuel components of the high-power thrust unit, the main current rocket engine or engines producing a smaller portion of the total thrust. The main current-rocket engines are characterized by an arrangement of two concentric shafts including a central shaft and a hollow shaft therearound. The shafts are driven independently of each other by mechanically separated single or multi-stage turbines. The pumps for delivering the fuel components for the main current-rocket engine are associated with the hollow shaft which is driven by a single stage turbine and the pumps for delivering the fuel components of the high-power thrust unit are associated with the central shaft which is driven by a multi-stage turbine.

3,541,794

BIFURCATED FAN DUCT THRUST REVERSER

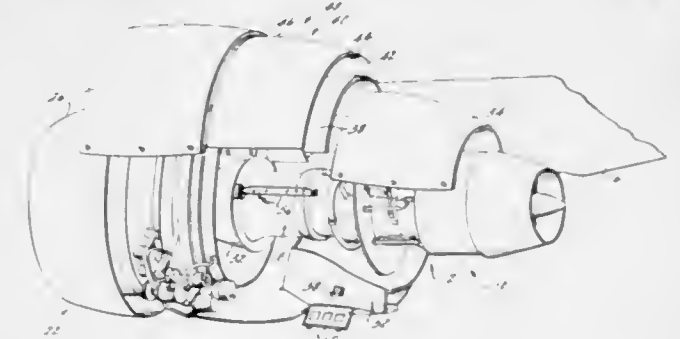
Everett A. Johnston, David F. Howard, and Hans Bollenbacher, Cincinnati, and Henry A. Carl, Sardinia, Ohio, assignors to General Electric Company, a corporation of New York

Filed Apr. 23, 1969, Ser. No. 818,717

Int. Cl. F02k 3/04, 1/20, 11/00

U.S. Cl. 60—226

7 Claims



Bifurcated thrust reversing means for use in an aircraft propulsion system and comprising a pair of duct assemblies hingeably connected to the aircraft supporting structure for rotation between an open position, enabling ready access to the core engine of the turbofan engine associated therewith, and a cruise position wherein the duct assemblies surround the core engine downstream of the fan duct and form an exhaust nozzle for receiving fan pressurized air from the fan duct and discharging said fan air to generate a forward propulsive thrust. The duct assemblies include means for blocking the fan flow and diverting such flow through flow reversing cascades carried by an outer wall assembly of said duct assemblies.

3,541,795

REGENERATIVE PISTON ENGINES

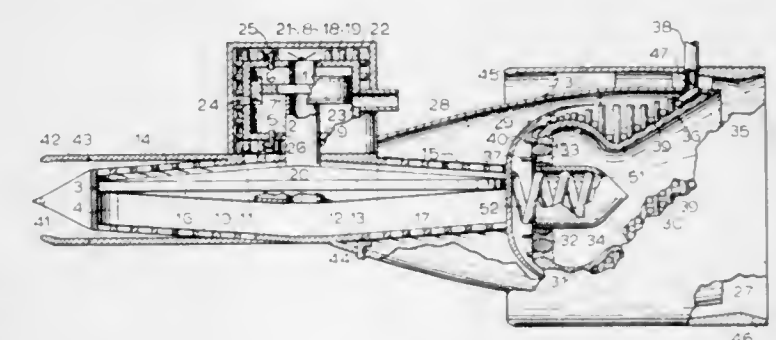
Daniel E. Nelson, Pacific Grove, Calif., assignor to General Kinetics Corporation, Monterey, Calif., a corporation of California

Filed Aug. 17, 1967, Ser. No. 666,228

Int. Cl. F02k 5/02

U.S. Cl. 60—247

8 Claims



A regenerative piston jet engine in which combustion pressure from a double-acting power piston is transferred

to a double-acting compressor piston attached to a shaft common to both of said pistons, air compressed by the compressor is conveyed to a combustor and to the power cylinder with optional heat exchange relationship thereto, water for optional thrust augmentation is conveyed to the combustor in heat exchange relationship thereto, on-board oxidizer is directed as an additional option to the power piston and combustor and air mass is directed into the combustion stream by air scoops.

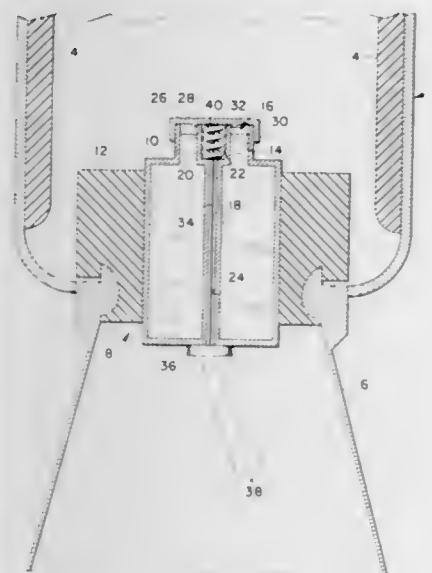
3,541,796

HYPERGOLIC IGNITER FOR SOLID MOTORS
Eugene D. Morris, Grand Prairie, Tex., assignor to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware

Filed Sept. 30, 1968, Ser. No. 763,717
Int. Cl. F02k 9/04, 1/24

U.S. Cl. 60—256

3 Claims



A hypergolic igniter for solid fuel rocket motors includes a container for a hypergolic fluid, the container having an outlet communicating with a chamber containing the solid fuel, the outlet being normally closed by a closure member fitted thereon. Resilient means urge the closure member to an open position, and a cable means extends within the container and is connected between the closure member and a retainer means for normally holding the closure member in a closed position. In one embodiment, the retainer means is an electrically-actuable, explosive cable cutter which is operable to release the cable means for permitting the closure members to be moved, by the resilient means, to the open position.

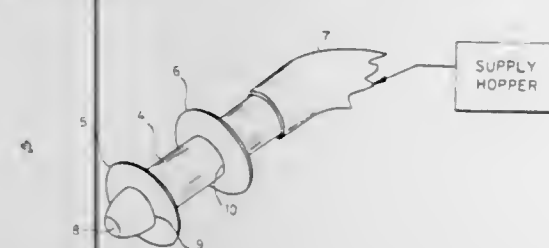
3,541,797

APPARATUS FOR LOADING BOREHOLES
Iain G. H. Stewart, Glendower, Edenvale, Transvaal, Republic of South Africa, assignor to African Explosives and Chemical Industries Limited

Filed Aug. 26, 1968, Ser. No. 755,108
Claims priority, application Republic of South Africa, Aug. 29, 1967, 67/5,162
Int. Cl. E02d 7/24

U.S. Cl. 61—35

9 Claims



Apparatus for filling a borehole with a slurried or plastic mass. The apparatus comprises a tubular member having an open bore, at least one flexible annular element

mounted on the tubular member and a flexible hose connecting the inlet end of the tubular member to supply means for supplying the slurried or plastic mass.

3,541,798

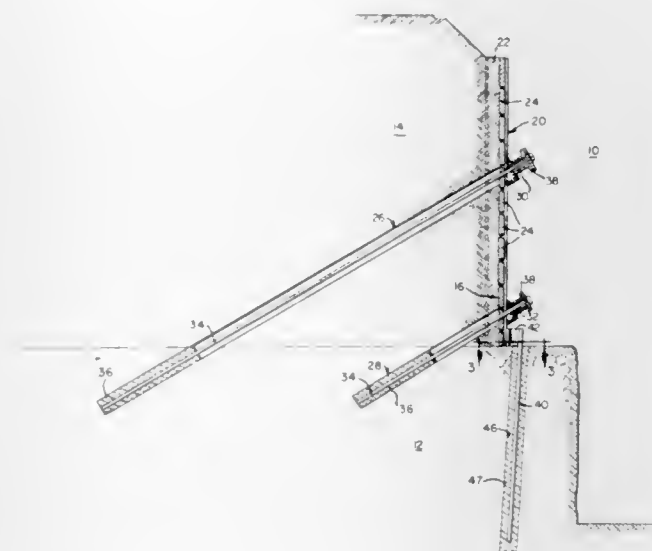
METHOD AND STRUCTURE FOR SHORING A LATERAL FACE OF AN EXCAVATION

Harry Schnabel, Jr., 5272 River Road,
Bethesda, Md. 20015

Filed Apr. 18, 1969, Ser. No. 817,330
Int. Cl. E02d 5/08

U.S. Cl. 61—39

9 Claims



A method and structure for shoring a lateral face of an excavation which face is defined partially by an earthen overburden and partially by a rock underlayer and is supported by a sheeting wall of soldier beams and lagging members reinforced by tie back, with vertical support members smaller than the soldier beams connected to and extending downwardly from the bases of the beams and anchored in the rock underlayer to permit transfer of load to such members thereby preventing failure of the rock underpinning the wall.

3,541,799

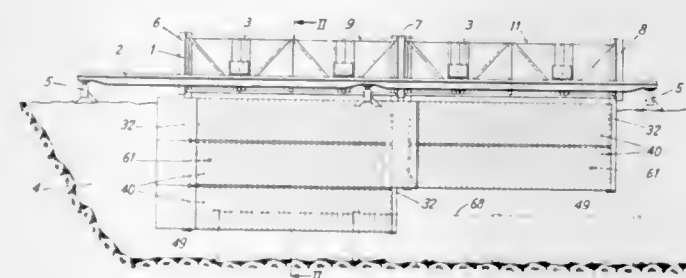
BRACING CONSTRUCTION

Hans Jost, Steffisburg, and Fritz Jost, Heimberg, Switzerland, assignors to Gebr. Jost AG., Heimberg, Heimberg, Switzerland, organized under the laws of Switzerland

Filed Apr. 5, 1968, Ser. No. 719,004
Claims priority, application Switzerland, Apr. 7, 1967, 4,973

Int. Cl. E21d 19/00; E02f 3/62
U.S. Cl. 61—41

3 Claims



A car rolling on rails located on either side of a ditch mounts three crosspieces which support bracing walls that are free to roll over the ditch walls as the car progresses.

3,541,800

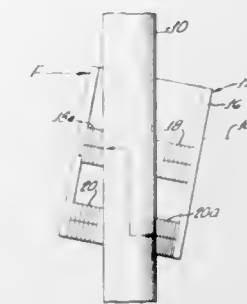
PILE PROTECTOR

Grant W. Walker, 4339 Lantzy Court, Sacramento, Calif. 95825, and Duane B. Ford, 2811 Hocking St., Placerville, Calif. 95667

Filed Sept. 17, 1968, Ser. No. 760,142
Int. Cl. E02b 3/22

U.S. Cl. 61—48

7 Claims



A pile protector comprising a rigid housing surrounding the pile to be protected in spaced relation therefrom and upper and lower non-energy storing collapsible assemblies filling the space between the pile and the rigid housing for being collapsed without significant storage of energy upon impact of a vessel with the rigid housing, the collapsible assemblies normally containing water which is expelled at a rate commensurate with the severity of impact is disclosed.

3,541,801

THERMAL SEPARATOR

Philippe Albert Hippolyte Marchal, Boulogne, Marcel Jannot, Sarcelles, Jacques Louis Paul Simonnet, Gif sur Yvette, and Cyrille Francois Pavlin, Saclay, France, assignors to Bertin et Compagnie, Paris, France, a company of France

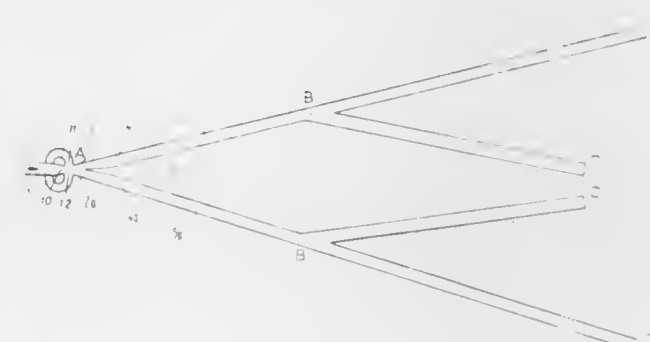
Filed Sept. 6, 1968, Ser. No. 757,896

Claims priority, application France, Sept. 7, 1967, 120,216

Int. Cl. F25b 9/02

U.S. Cl. 62—5

7 Claims



This invention relates to an apparatus which can be called a heat separator because it can divide a pulsating flow through it of compressed gas at a particular initial temperature into a first component flow at a lower temperature and a second component flow at a higher temperature.

3,541,802

RECOVERY OF CONDENSABLE PRODUCTS FROM GASEOUS MIXTURES

Judson S. Swearingen, 500 Bel Air Road,
Los Angeles, Calif. 90024

Continuation-in-part of application Ser. No. 445,113, Apr. 2, 1965. This application June 25, 1968, Ser. No. 739,780

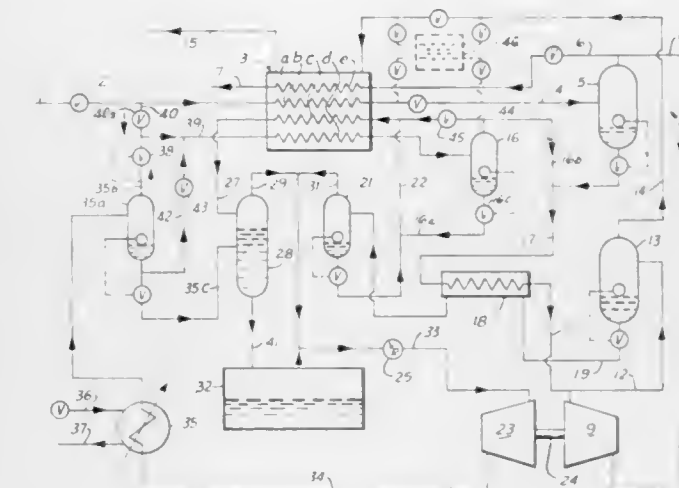
Int. Cl. F25j 3/06

U.S. Cl. 62—23

16 Claims

A process is disclosed for recovering liquid products from a gaseous mixture. The mixture is cooled initially by countercurrent heat exchange with separated constituents of preceding portions of the same mixture and a recycled refrigerant. This initial cooling condenses

some of the constituents. The liquid product thus formed is separated from the gas. The gas is then expanded to a lower pressure while doing mechanical work to cool it to a still lower temperature and condense more liquid products, which are combined with the first liquid products obtained to provide a cold liquid product stream and a cold gas stream. The cold product stream and a cold liquid refrigerant stream are combined and passed in heat exchange relationship with the gaseous feed stream to provide the initial cooling described above by partially vaporizing the combined liquid product and refrigerant stream. The vaporized portion of the com-



combined liquid stream is separated from the remaining liquid and compressed with the power from the expanding of the gaseous feed stream as described above. The compressed vapor is cooled to condense some of it at substantially ambient temperature and to remove the latent heat of vaporization it had picked up in the heat exchanger. The partially condensed stream is recycled through the heat exchanger to condense additional vapor and thereby provide a liquid stream. This liquid stream is expanded, combined with the liquid product stream and passed through the heat exchanger as a refrigerant to cool the incoming feed stream.

3,541,803

CRYOGENIC LIQUID STORAGE SYSTEM

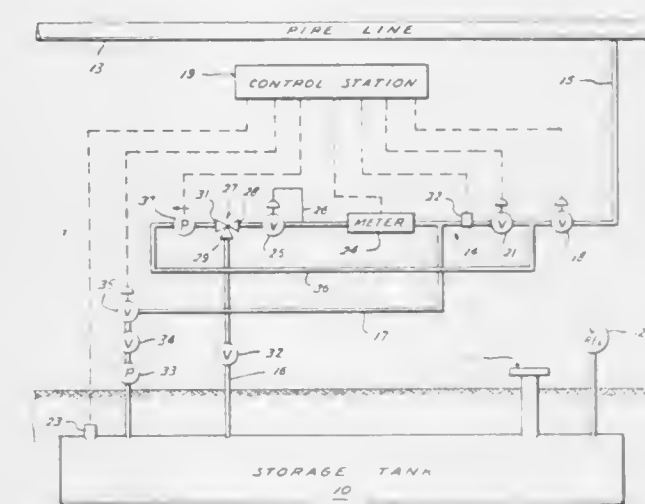
Farrile S. Young, Houston, Tex., assignor, by mesne assignments, to Gulf Central Pipeline Company, Chicago, Ill., a corporation of Delaware

Filed Sept. 18, 1968, Ser. No. 760,541

Int. Cl. F17c 7/02; F17d 3/00

U.S. Cl. 62—45

8 Claims



This patent discloses a system for storing volatile liquids, and particularly ammonia, in which the temperature of the earth is utilized to maintain the stored fluid in the liquid stage.

3,541,804

FRACTIONAL CRYSTALLIZATION WITH AN IMMISCIBLE REFRIGERANT
Herbert Fredrick Wiegandt, Ithaca, N.Y., and Regis Lafay, Suresnes, Hauts-de-Seine, France, assignors to Institut Francais du Pétrole, des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France

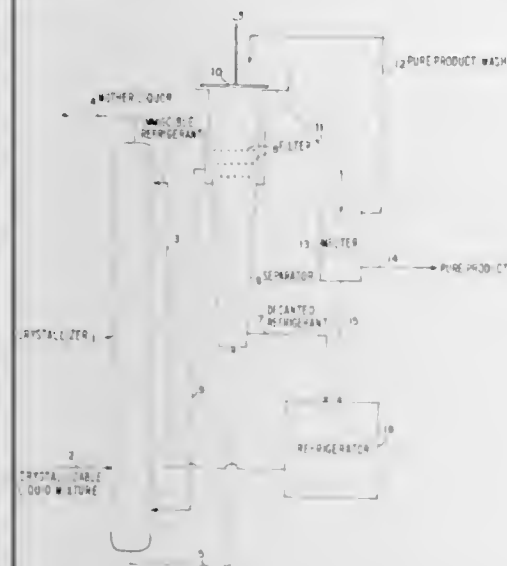
Filed Oct. 7, 1966, Ser. No. 585,126

Claims priority, application France, Oct. 8, 1965, 34,363

Int. Cl. B01d 9/04

U.S. Cl. 62—58

9 Claims



In the formation and separation of crystals such as p-xylene, from a mixture of liquids, such as xylene isomers, mixed with an immiscible liquid refrigerant, such as brine, the improvement of decanting the immiscible liquid refrigerant from the crystalline product which is itself entrained in a liquid, and thereafter separating the entraining liquid from the crystalline product and recirculating said entrainment liquid in co-current flow with the crystalline product which ascends in a vertical crystallizer.

3,541,805

METHOD AND APPARATUS FOR VAPOR CONDENSATION

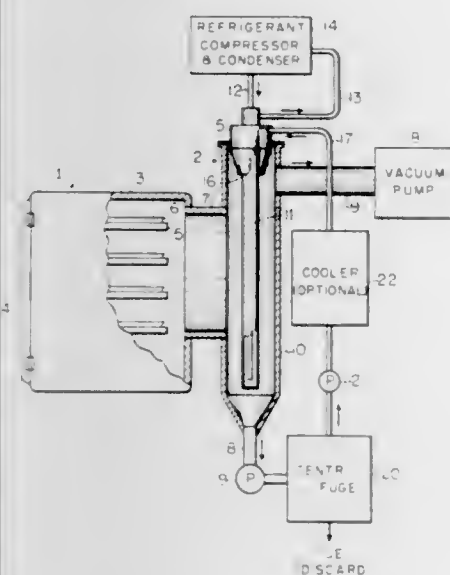
Romesh Kumar, Berkeley, Cary Judson King III, Kensington, and Arthur I. Morgan, Jr., Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Feb. 26, 1969, Ser. No. 802,456

Int. Cl. F26b 13/30; F25c 1/00

U.S. Cl. 62—66

2 Claims



Systems for condensing water vapor which includes exposing the vapor to a refrigerated surface maintained at a temperature low enough to convert the vapor to ice,

and concomitantly flowing a water-immiscible liquid over the refrigerated surface to sweep away the so-formed ice. The liquid is then centrifuged or filtered to remove ice, and is then cooled and recycled to the system.

3,541,806

CONTROL SYSTEM FOR REFRIGERATOR WITH AUTOMATIC ICEMAKER AND DEFROSTING MEANS

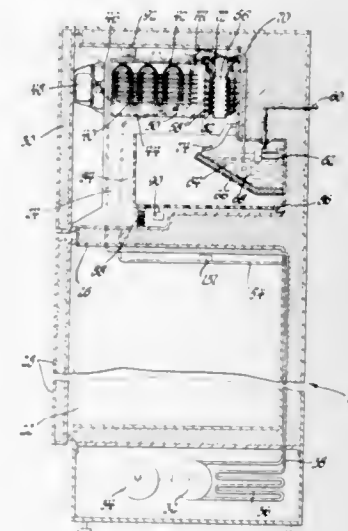
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 14, 1969, Ser. No. 799,327

Int. Cl. F25c 1/06

U.S. Cl. 62—233

4 Claims



In the preferred form, a household refrigerator having a below freezing frost-free storage compartment and a separate above freezing storage compartment is provided with an icemaker in which the timed freezing and ice separating periods are controlled by a multiple lobed cam driven by a timer motor which has an additional cam providing a defrost period which is synchronized with one of the ice separating periods of the icemaker.

3,541,807

AIR DRYING DEVICE

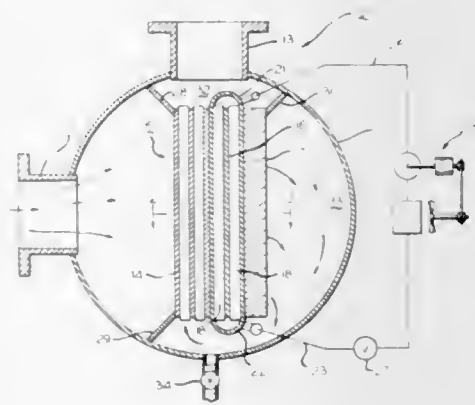
Joseph H. Henderson, 5400 McDermott Drive, Berkeley, Ill. 60163

Filed Sept. 5, 1968, Ser. No. 757,588

Int. Cl. F25d 23/12

U.S. Cl. 62—272

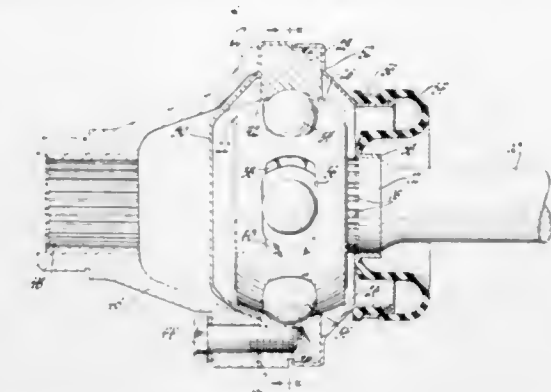
2 Claims



An improved air drying unit characterized by a shell having an inlet and an outlet port, an integral air retempering, cooling and demisting unit in the shell comprised of juxtaposed first and second high conductivity heat exchangers and a demister juxtaposed to the second heat

exchanger. The integral unit is supported in the shell by upper and lower walls secured to the interior of said shell and to the first heat exchanger to form a barrier whereby entrant air must pass through the first and second heat exchangers. A second upper wall is secured to the interior of said shell and to the upper portion of the demister to define with the first upper wall an outlet chamber for retempered air which has moved past the first heat exchanger. The second upper wall and the lower wall form a second chamber for circulation there-through of air which has been cooled below its dew-point and separated of its water in the demister, and into the first heat exchanger for retempering of the air prior to moving to the outlet chamber. The second chamber has a valve at the bottom for controllably discharging the water dropping from the demister to the bottom of the second chamber.

joint outer member. The flatted portions are adjacent the diametrically opposed openings to reduce the amount



of material required to be removed to obtain sufficient flattening.

3,541,808

DRINKING FOUNTAIN

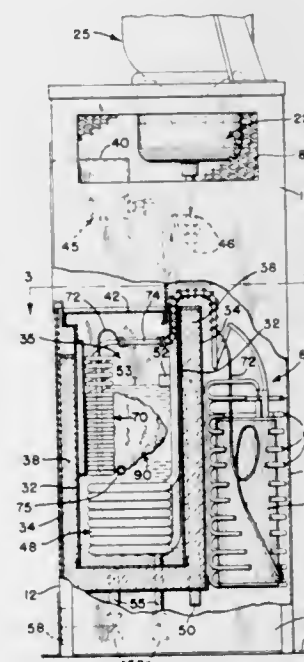
Vincent Materese, Trotwood, Ohio, assignor to Mink-Dayton, Inc., Dayton, Ohio, a corporation of Ohio

Filed Oct. 10, 1968, Ser. No. 766,528

Int. Cl. B67d 5/62

U.S. Cl. 62—397

8 Claims



In a drinking fountain particularly adapted for installation in a moving vehicle, a cabinet supports a water supply container, and a water line extends from the container through an ice and water chamber to a dispensing valve located within an alcove formed within the front wall of the cabinet above the ice chamber. A refrigeration unit is located within the cabinet directly behind the ice chamber and circulates a refrigerant through an evaporator coil located within the ice chamber below a water overflow line for producing a bank of ice which supplements the ice added to the chamber through an opening located at the bottom of the alcove.

3,541,809

UNIVERSAL JOINT CAGE

Stanley G. Howey, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 6, 1969, Ser. No. 804,920

Int. Cl. F16d 3/34

U.S. Cl. 64—21

2 Claims

A universal joint cage with a series of openings for positioning balls has diametrically opposed flatted portions to reduce the outside diameter of the cage and permit the insertion of the cage into a spherical bore of a universal

3,541,810

DRIVE TRANSMITTING CONNECTION

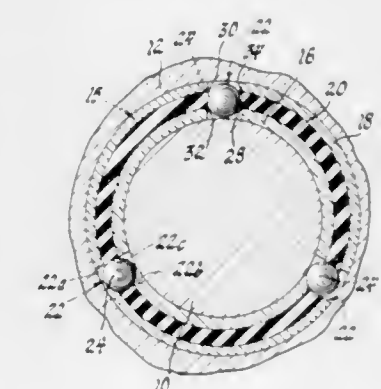
Glen A. Kendall, Dearborn, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 27, 1968, Ser. No. 779,479

Int. Cl. F16d 3/58, 7/00

U.S. Cl. 64—28

9 Claims



There is a drive connection disposed between a rotatable input and a member driven by the input, which includes inner and outer metallic cylindrical sleeves having a compressed elastomeric, torque-transmitting sleeve therebetween. The sleeves have aligned radial holes formed therein to accommodate steel balls which are effective on torque overload to provide driving contact between the inner and outer sleeves thereby limiting elastomeric sleeve slip and wear.

3,541,811

ADJUSTABLE MOUNTING FOR INCLINED DESIGN WHEELS

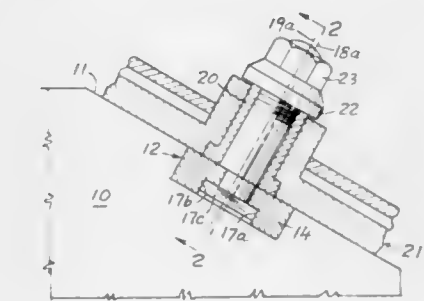
Arthur Finkelstein, Rockaway Park, N.Y., assignor to Monarch International Ltd., Brooklyn, N.Y., a corporation of New York

Filed June 25, 1968, Ser. No. 739,781

Int. Cl. D04b 15/76

U.S. Cl. 66—50

4 Claims



An angularly adjustable eccentric stud mounting on a latch needle circular knitting machine for and upon which a needle-driven inclined rotary design wheel is

journalled and wherein changes in the angular position of the stud causes the design wheel to be adjusted lengthwise of its plane of inclination to thereby adjust the level to which selected needles are raised by the design wheel.

3,541,812

WARP KNT FABRIC CONTAINING LOOSE FILLING AND HAVING UNFRAYED SELVAGE AND METHOD AND APPARATUS FOR MAKING THE SAME

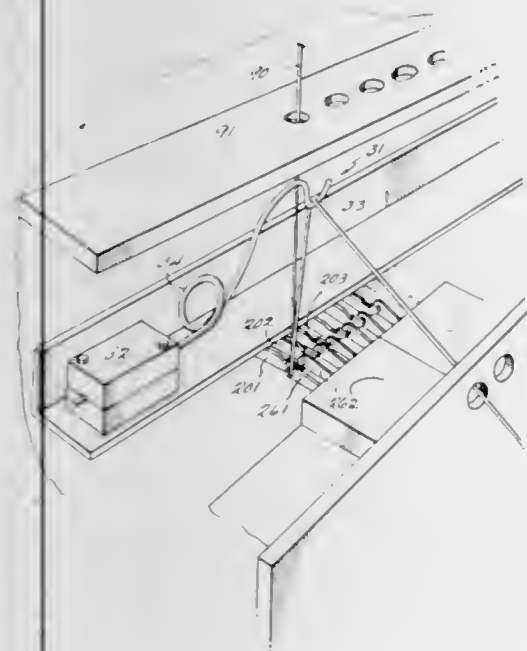
Ned K. Sharpe, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

Original application Sept. 7, 1967, Ser. No. 666,057.
Divided and this application Oct. 29, 1968, Ser. No. 794,816

Int. Cl. D04b 23/10

U.S. Cl. 66—85

5 Claims



1. In a warp knitting apparatus for producing textile fabric, said apparatus comprising a plurality of knitting needles in a row, means for simultaneously extending and simultaneously withdrawing said needles, said needles having means for holding sewing threads supplied to them when they are extended so that the sewing threads are drawn through said fabric as said needles are withdrawn and thereby form loops, said loops being received on the shanks of said needles when next extended and cast off said needles when they are next withdrawn

and a plurality of sewing thread guides in a row adjacent said row of needles to supply sewing threads to said needles when extended, each guide supplying a sewing thread alternately to one and then the other of a pair of adjacent needles during alternate extensions of the row of needles, the withdrawing needles pulling a sewing thread through substantially all of said loops as they are cast off, but the sewing thread supplied by the thread guide at one end of said row being left loose in alternate loops without a sewing thread therethrough;

the improvement comprising resilient thread guide means in contact with the sewing thread supplied to said thread guide at one end of said row, said thread guide means including resilient means such that the part of the thread guide means contacted by said sewing thread is displaced when said sewing thread is pulled by a withdrawing needle but recovers its undisplaced position when a loose loop is cast off, pulling out said loop and drawing the sewing thread substantially taut.

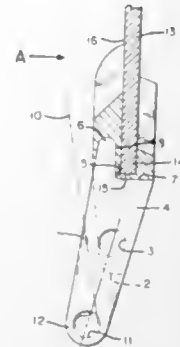
3,541,813 NEEDLE FOR WARP KNITTING MACHINES Harry Günter Schubert and Werner Walther Gottsmann, Limbach-Oberfrohna, Germany, assignors to VEB Wirkmaschinenbau Limbach-Oberfrohna, Limbach-Oberfrohna, Germany

Filed Nov. 6, 1968, Ser. No. 773,755

Int. Cl. D04b 23/00

U.S. Cl. 66—86

4 Claims



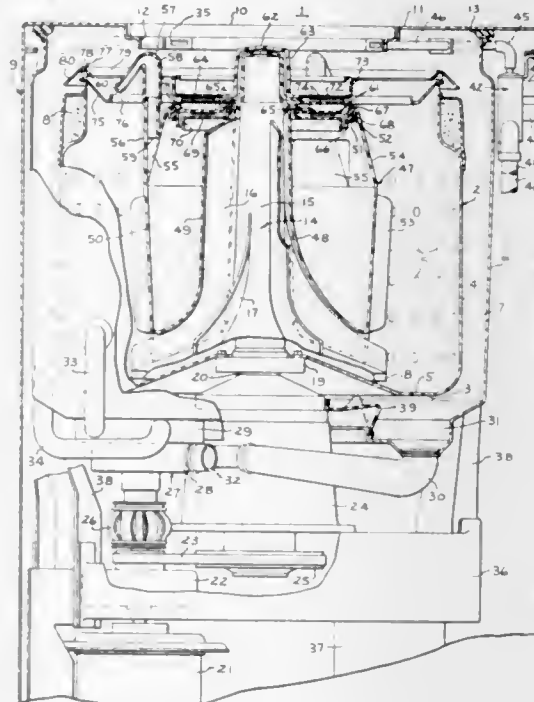
A needle such as a thread guide made of sheet steel is provided with a recess adjacent the lower edge of the needle setting such as lead. The needle has an extension in the vicinity of the above mentioned recess which has also a recess therein. Both recesses are penetrated by the needle lead.

3,541,814 EXTRACTION SYSTEM FOR WASHING MACHINE John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York Filed May 8, 1968, Ser. No. 727,571

Int. Cl. D06f 31/00

U.S. Cl. 68—4

7 Claims



A washing machine adapted to wash two loads of fabrics simultaneously in separate solutions without liquid interchange therebetween includes a chamber with a first or outer, perforated tub mounted in the chamber to receive liquid and fabrics to be washed in that liquid. A movably mounted agitator extends upwardly in the first tub and the machine includes drive means for effecting a washing motion of the agitator and rotation of the tub together for centrifugal extraction operation. A second, substantially imperforate tube, to receive liquid and fabrics to be washed in that liquid is mounted on the agitator for movement therewith. A number of return bent, generally vertical conduits are provided with inlets connected to the upper portion of the inner tub and outlets disposed adjacent the upper portion of the

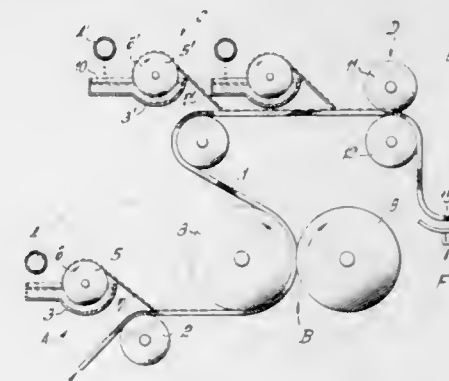
outer tub to prevent splashing of liquid from the inner tub during agitation and to allow discharge of liquid from the second tub during centrifugal extraction. The first tub includes a number of openings therein for discharge of liquid from the second tub during centrifugal extraction and includes a pair of spaced walls for guiding the liquid from the second tub over the top of the first tub so that the liquid from both tubs is received in the chamber during centrifugal extraction. The machine also includes a pump effective during centrifugal extraction to exhaust liquid from the chamber.

3,541,815 MEANS FOR CONTINUOUS DYEING OF PILE WARP TEXTILES, ESPECIALLY OF CARPETS Valentin Appenzeller, Kempen (Lower Rhine), and Johannes Kutz, St. Tonis, Krefeld, Germany, assignors to Eduard Kusters Maschinenfabrik, Krefeld, Germany Filed June 30, 1967, Ser. No. 650,450

Int. Cl. B05c 1/04

U.S. Cl. 68—22

8 Claims

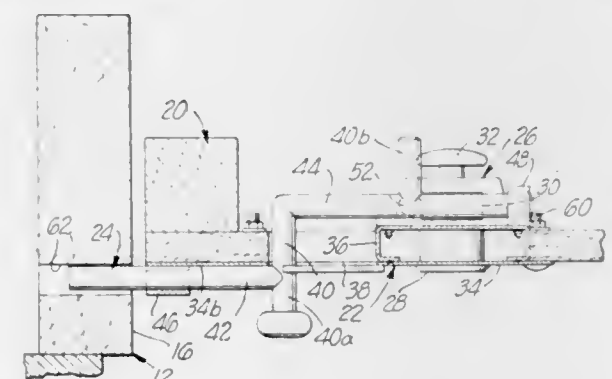


Apparatus for dyeing a continuously moving textile web which comprises means to apply a wetting agent to said web, means to apply pressure to said web to improve the penetration of said wetting agent, at least one means to apply dye to said web, including a container to hold dye, a rotating roller positioned partially in said container and adapted to pick up dye on its surface, a scraper having one end adjacent said rotating roller and the other end adjacent and above said web, said scraper being positioned to remove dye from said rotating roller to cause dye to flow upon the web, and means, such as a pair of rollers, to apply pressure to said web to improve dye penetration.

3,541,816 LOCK FOR OVERHEAD GARAGE DOORS AND THE LIKE Dayton C. Maddox, 4003 1/2 Whistler Ave., El Monte, Calif. 91732 Filed Apr. 29, 1968, Ser. No. 724,744 Int. Cl. E05b 55/00, 65/06; E05c 1/04

U.S. Cl. 70—134

10 Claims

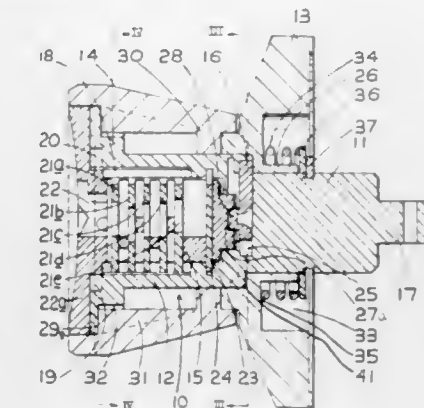


A lock is provided for closures such as overhead garage doors and the like. The lock has a lock bolt movable between locking and unlocking positions, and a key operated latch mechanism for latching the locking bolt in its locking position.

3,541,817 KEY OPERATED LOCK Albert Edward Morris, Shorthearth, Willenhall, and Reginald James, Darlaston, Stafford County, England, assignors to Lowe and Fletcher Limited, Willenhall, Stafford County, England, a British company Filed Jan. 28, 1969, Ser. No. 794,556 Claims priority, application Great Britain, Feb. 13, 1968, 7,071/68 Int. Cl. E05b 13/10

U.S. Cl. 70—216

10 Claims



A lock in which a lock plug member is rotatably received within a lock body member and held against rotation relative thereto by tumblers which can be withdrawn into the plug member by means of a key. A bolt element is slidably received in a guideway which extends transversely of the body member, and the bolt element is operatively connected with the plug member by means of a projection pressed out from the bolt element engaging in a recess formed in the plug member, which is die cast, eccentrically in relation to the axis of rotation thereof. The lock body may be coupled to a latching mechanism external thereto, and to enable the latter to be operated, the lock as a whole is rotatably mounted in a bearing member and carries a knob. The direction of rotation of the knob from a datum position required to operate such latching mechanism can be selected to be either clockwise or anti-clockwise by positioning a transferable filler piece at a selected end of a part circular slot in the bearing member in which engages a projection from the lock member. The knob is secured to the lock body member by interengaging axially extending ribs and slots and abutment means are provided to prevent axial withdrawal of the knob from the body member in a direction away from the bearing member.

3,541,818 KEY Eugene Dana, 922 19th St., Apt. A, Santa Monica, Calif. 90404 Filed July 5, 1968, Ser. No. 742,603 Int. Cl. E05b 19/04, 19/26

U.S. Cl. 70—393

3 Claims



A key made of a thermosetting plastic material and having a bundle of glass filaments that extend through

the shank and into the head that reinforce the plastic and having a metal staple with arms embedded in the head to form a loop for supporting the key.

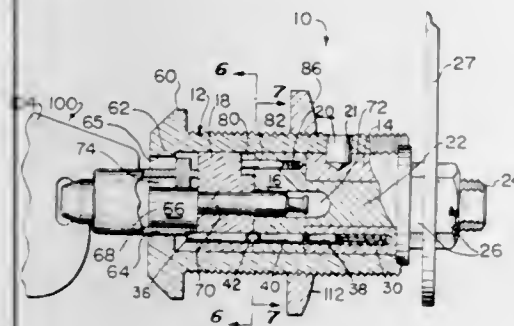
3,541,819

TAMPER-PROOF AXIAL TUMBLER LOCK

William J. Kerr, Glenview, Ill., assignor to Chicago Lock Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 5, 1968, Ser. No. 750,323
Int. Cl. E05b 27/08

U.S. Cl. 70—363

12 Claims



A tamper-proof axial tumbler lock having a three-part plug including a fixed plug part and two rotatable plug parts. An annular series of four-part tumblers normally maintains the three-plug parts interlocked but when a proper key is inserted in the lock the two rotatable plug parts become interlocked for rotation in unison with respect to the fixed plug part, thus effecting an unlocking operation. When a picking tool is employed in an effort to defeat or pick the lock, a "false picking" is attained wherein only one of the rotatable plug parts is released for turning movement, the lock shaft being fixed to the other rotatable plug part so that it cannot be rotated by the picking tool.

3,541,820

BREECHLOCK CORE AND KNOB

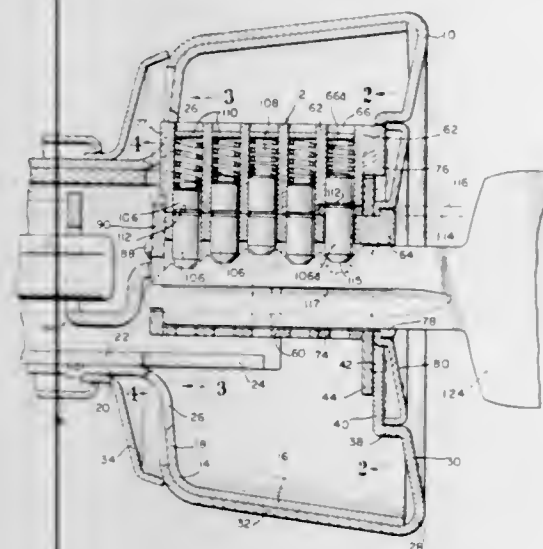
Walter E. Best, Indianapolis, Ind., assignor to Best Lock Corporation, Indianapolis, Ind., a corporation of Indiana

Filed Apr. 18, 1969, Ser. No. 817,362

Int. Cl. E05b 35/00

U.S. Cl. 70—369

21 Claims



A key-removable, front breech mounted, pin tumbler lock. A front breech plate is rotatively positioned by a short control sleeve on the front of a key plug in a core body. A pin barrel web of the core body overlies the sleeve. Pins in the front pin barrel normally hold the sleeve in breech locking position. A control key actuates such pins to release the sleeve and pin it to the key plug

for turning to breech-released position. An operating key actuates all pins for normal key plug turning with the sleeve locked to the core body in breech-locking position.

The core fits a front mounting wall, as in a knob. It may also engage a rear knob portion for rotative positioning. The breech plate and mounting wall opening are each diametrically symmetrical to permit the core to be mounted right-side up with the knob in either of two 180° positions on opposite sides of the door.

3,541,821

LOCK CORE

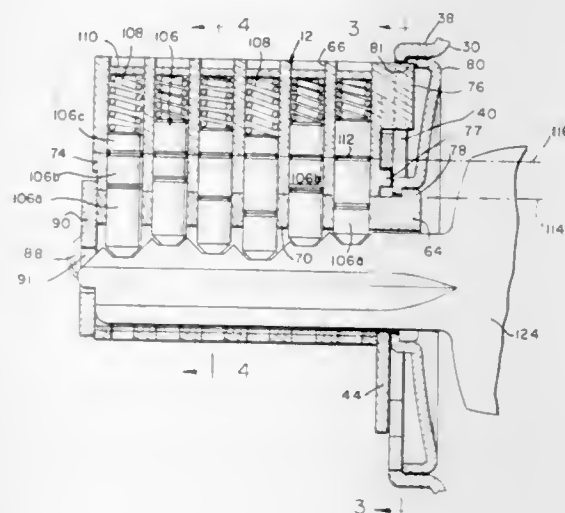
Walter E. Best, Indianapolis, Ind., assignor to Best Lock Corporation, Indianapolis, Ind., a corporation of Indiana

Continuation-in-part of application Ser. No. 817,362, Apr. 18, 1969. This application May 14, 1969, Ser. No. 824,423

Int. Cl. F05b 27/08, 33/00

U.S. Cl. 70—369

7 Claims



A key-removable, front-breech mounted, pin tumbler lock. A front breech plate is rotatively positioned by a thin sleeve which surrounds the full length of the key plug and has a thick web movable in the pin-barrel web of the core body and intersecting and forming part of the tumbler pin barrels. Pins in such barrels normally hold the sleeve and plug locked to the core body. In normal operation an operating key moves the pins for shear separation at the surface of the key plug while locking the sleeve to the core body. For lock-core removal, a control key moves the pins for shear separation at the outer face of the sleeve web and locks the sleeve to the key plug, and key turning then turns the breech plate to released position.

3,541,822

PICKPROOF LOCKS

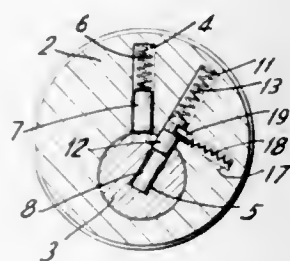
Fred A. Murphy, 1512 Commonwealth Ave., Bronx, N.Y. 10460

Filed June 28, 1968, Ser. No. 741,168

Int. Cl. E05b 15/14

U.S. Cl. 70—421

4 Claims



The present invention provides a preventative against unauthorized opening of a cylinder lock such as by

"picking" in a manner which voids the cylinder plug of the tumbler. There is provided auxiliary pins which intersect the tumbler receptacle chambers on the cylinder plug at a point along its rotational path to relock the cylinder plug. There is further provided means to set the auxiliary pins against displacement and means to provide a momentary stop in the cylinder plug rotation to afford the auxiliary pins an opportunity to engage.

3,541,823

ELECTROMAGNETIC FORMING APPARATUS

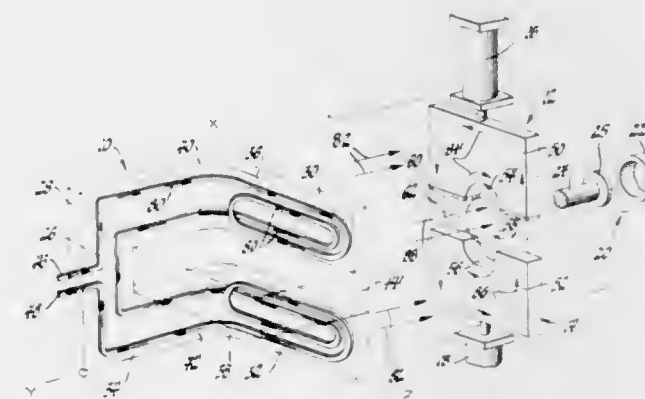
Richard Weadock, Jr., Saginaw, Mich., assignor to General Motors Company, Detroit, Mich., a corporation of Delaware

Filed July 12, 1968, Ser. No. 744,566

Int. Cl. B21d 26/14

U.S. Cl. 72—56

1 Claim



The combination of a primary coil and a plurality of relatively movable secondary coils arranged so as to alternately define a workspace for the workpiece and a clearance space through which the workpiece may be laterally transferred into and out of the workspace.

3,541,824

MAGNETIC FORMING METHODS AND APPARATUS

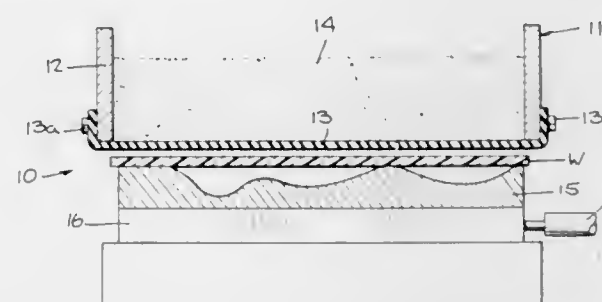
Marvin A. Frenkel, 26323 Hendrie Blvd., Huntington Woods, Mich. 48070

Continuation-in-part of application Ser. No. 685,433, Nov. 24, 1967. This application Aug. 20, 1969, Ser. No. 851,716

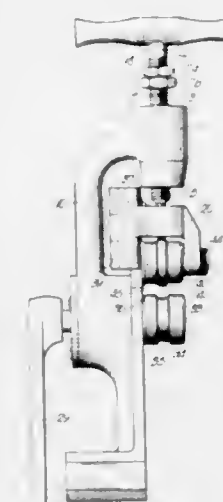
Int. Cl. B21d 26/14

U.S. Cl. 72—56

10 Claims



A method of magnetically forming workpieces to the contours of a die is disclosed. An amorphous mass of metallic particles is juxtaposed to the free surface of the workpiece the other surface of which faces the die. The mass of particles is then subjected to the action of a high intensity magnetic field to force the mass of particles and therewith the workpiece against the die so as to assume a corresponding shape or surface configuration. Upon removal of the magnetic field, the particles can be withdrawn from the workpiece for subsequent reuse.



A device for preparing the ends of lengths of pipe for coupling together which simultaneously rolls a groove

3,541,826

ROLL GROOVING AND SWAGING DEVICE

Virgil F. Halliburton, Kansas City, Mo., assignor, by mesne assignments, to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland
Original application Nov. 29, 1965, Ser. No. 510,206. Divided and this application Feb. 19, 1968, Ser. No. 711,823

Int. Cl. B21d 17/04, 19/06

U.S. Cl. 72—105

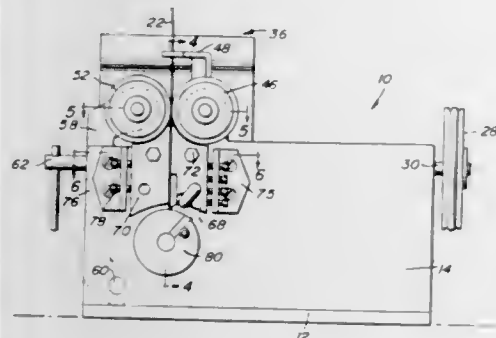
5 Claims

into the pipe wall adjacent the free end thereof and swages the end, per se, circumferentially inwardly.

3,541,827
SPRING COILING MACHINE
Thelma D. Hansen, Rte. 2, Box 1A,
Vale, Oreg. 97918
Filed Apr. 16, 1968, Ser. No. 721,699
Int. Cl. B21f 3/10, 11/00

U.S. Cl. 72-132

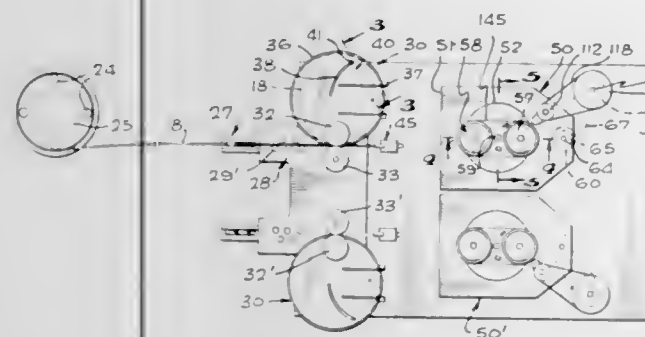
12 Claims



A power operated wire coiling machine for forming coil springs by feeding stock wire between guides closely spaced from an externally grooved forming element which is rotated in synchronized relation to the feeding movement of the wire. The coils being formed to one side of the rotational axis of the forming element are engaged by a plunger axially displaced by a cam device. The cam device is operated by the drive shaft for the forming element to effect severing of the coils from the wire by a cutter blade mounted on the forming element.

3,541,828
SPRING FORMING APPARATUS AND PROCESS
Harry H. Norman, Los Angeles County, Calif., assignor of one-half to Stephen Baliski, Gardena, Calif.
Filed Aug. 21, 1967, Ser. No. 661,948
Int. Cl. B21f 3/02, 3/04, 3/10, 7/00, 23/00, 35/00
U.S. Cl. 72-140

35 Claims



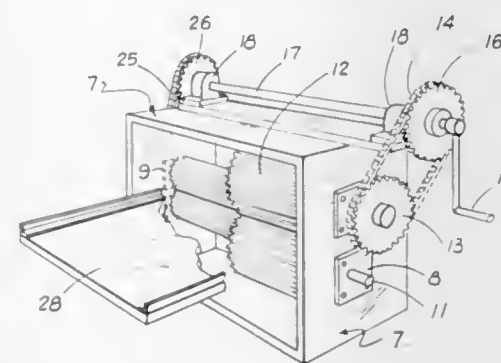
An apparatus and method for producing a spring from a wire by twisting the wire about its longitudinal axis. The twisted wire assumes a natural diameter and pitch which are restrained to achieve the desired spring diameter and pitch. The apparatus comprises a feed wheel mounted on, and exhibiting planetary motion with respect to a rotary platen. A twist mechanism extending coaxially below the platen twists the incoming wire, which then is guided through a passageway and around the feed wheel toward a stationary stanchion. Control rollers mounted on the platen restrain the natural wire curvature, imparted by twisting, to form the spring. A mechanical feedback system may be used to control the planetary ratio so as to keep the spring from rotating as it is being formed.

3,541,829
TAPERED SEPARATOR FOR PLEATED FILTER AND APPARATUS FOR MAKING THE SAME
Donald E. Engleman, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Sept. 6, 1968, Ser. No. 757,841
Int. Cl. B21b 13/04

U.S. Cl. 72-196

4 Claims

A forming apparatus including first and second pairs of fluted rolls with flutes of different respective depths to form a tapered separator for a pleated filter from a blank of foldable sheet material having one portion folded in zigzag formation to present first fold increments of a first selected height and the remaining portion folded in zigzag

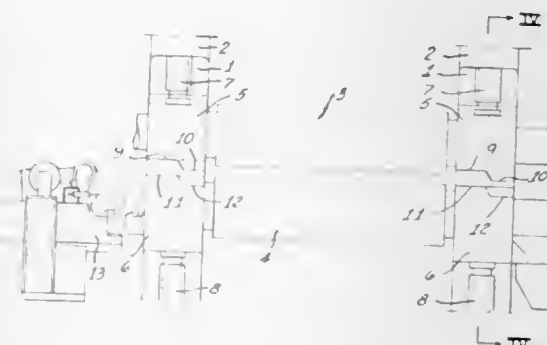


fashion to present second fold increments in substantially end-to-end relation with said first fold increments and of a second selected height different from the height of said first fold increments to thereby provide a tapered configuration to the separator.

3,541,830
ROLLING MILL ROLL CHANGING
Heinrich Bohnenkamp, Am Kreuzfeld, and Otto Mödder, Dahlbruch, Germany, assignors to Siegener Maschinenbau G.m.b.H., a corporation of Germany
Filed May 17, 1968, Ser. No. 730,025
Claims priority, application Germany, May 29, 1967, S 110,061
Int. Cl. B21b 31/10

U.S. Cl. 72-238

7 Claims

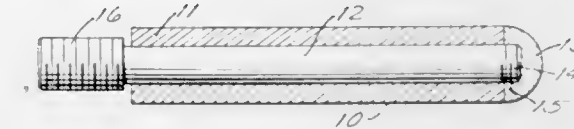


This disclosure provides a work roll chock configuration for a 2- or 4-high rolling mill to facilitate changing of the work rolls as a unit from the mill. The upper work roll chocks have lower surfaces constructed at each side of the chocks with stepped surfaces such that in the direction of the roll axes one surface projects from the chock relative to the other surface. The lower work roll chocks have upper surfaces constructed at each side of the chocks with stepped surfaces such that in the direction of the roll axes one surface is recessed in the chock relative to the other surface. During the rolling operation, the stepped surfaces complement each other and, during roll changing, the lower roll and chocks are axially shifted to form a stable roll unit by locating the projecting surfaces of the upper roll chocks on the nonrecessed surfaces of the lower roll chocks.

3,541,831
EXTRUSION MANDREL
Raymond L. Simonton, Huntington, W. Va., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 7, 1967, Ser. No. 629,162
Int. Cl. B21c 25/06

U.S. Cl. 72-266

15 Claims

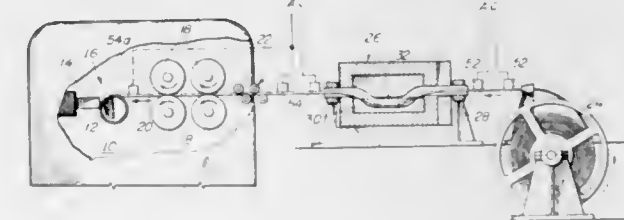


Compound mandrel for use in hot extrusion of hollow metal products has a heat-resistant casing disposed around a tension bar of maraging steel.

3,541,832
METAL FORMING MACHINE AND WIRE PREHEATING APPARATUS
Joseph F. Loftus, Torrington, and Vincent A. Stanton, Canton, Conn.; said Loftus assignor to The Torrington Manufacturing Company, a corporation of Connecticut
Filed Oct. 21, 1968, Ser. No. 769,145
Int. Cl. B21d 7/16

U.S. Cl. 72-364

17 Claims

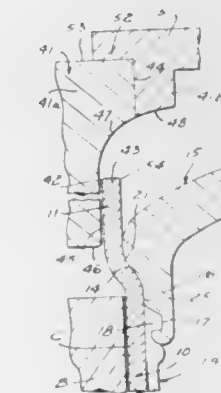


A spring coiler has an associated hot bath of salt, tin, lead, etc., through which wire is fed to the coiler and which preheats the wire for stress relief and ready forming. Heater and control apparatus maintains bath and wire temperature at a desired level and a guide selectively positions the wire in or out of the bath. Electrical resistance wire heating may also be employed before and/or after the bath.

3,541,833
APPARATUS FOR FORMING PRESSURE VESSEL ENDS
Jean Mercier, 501 Bloomfield Ave., Caldwell, N.J. 07006
Original application Apr. 25, 1966, Ser. No. 544,769, now Patent No. 3,408,731, dated Nov. 5, 1968. Divided and this application July 10, 1968, Ser. No. 743,746
Int. Cl. B21d 22/00

U.S. Cl. 72-354

1 Claim



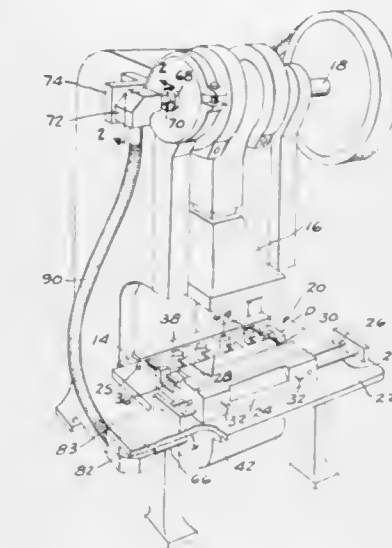
This disclosure relates to the art of pressure vessels of the type having an enlarged mouth with a cover member positioned therein and retained in fixed position by bending over the periphery of such mouth, and more particularly relates to the press for retaining the cover member

in fixed position, the press having a cavity in which the pressure vessel is positioned and having two die elements movable against the mouth of the pressure vessel to force the latter inwardly against the cover member.

3,541,834
TRANSFER DIE MECHANISM FOR PRESSES
Bernard J. Wallis, % Livernois Engineering Co., 25200 Trowbridge Ave., Dearborn, Mich. 48021
Filed July 17, 1968, Ser. No. 745,432
Int. Cl. B21j 9/10; B21b 43/02

U.S. Cl. 72-405

10 Claims

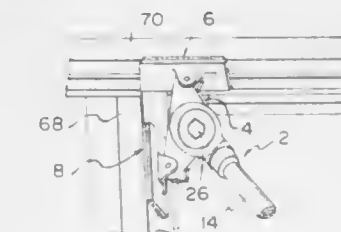


A punch press provided with a transfer die mechanism removably mounted thereon and adapted to progressively index workpieces through successive stations of the transfer die in the press. The composite die and transfer mechanism is removably mounted on the press and includes a reciprocating carriage with retractable work-engaging fingers thereon. The reciprocation of the carriage and actuation of the work-gripping fingers is effected by a rotary shaft on the transfer mechanism which is driven by a flexible drive shaft connected with a rotary shaft on the press driven at a speed in timed relation with the speed of rotation of the crank shaft of the press; the flexible drive shaft being of the type which has an outer flexible casing and a flexible torque transmitting core.

3,541,835
WEDGE HEAD APPARATUS
Wayne E. Hunnicutt, Big Bend, Wis., assignor to Applied Power Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Dec. 22, 1967, Ser. No. 692,747
Int. Cl. B21j 13/00

U.S. Cl. 72-446

10 Claims



An adjustable wide-angle wedge head apparatus for use in conjunction with a means for positioning and applying force to the apparatus to produce compressive engagement of irregular surface areas. The wedge head includes a fork member which is adjustably connected to a laterally elongated yoke member at substantially the mid-point of the yoke member. A pair of pressure pads are rotatably

connected at opposed ends of the yoke member and are freely rotatable at the ends of the yoke member which can be tilted relative to the plane of each of the pads. When the wedge head apparatus is applied to a non-uniform surface, such as may be found in automobile door openings, the pressure pads automatically adjust themselves with respect to the surfaces desired to be engaged. A force may then be applied by suitable means to the fork member of the apparatus in a preselected direction. This force or load is distributed through the fork member to the yoke member and pressure pads.

3,541,836
SHEET METAL CRIMPING DEVICE
William J. Meis, 3632 Camerino St.,
Lakewood, Calif. 90712
Filed Mar. 18, 1968, Ser. No. 713,572
Int. Cl. B21c 3/16

U.S. Cl. 72-476

4 Claims

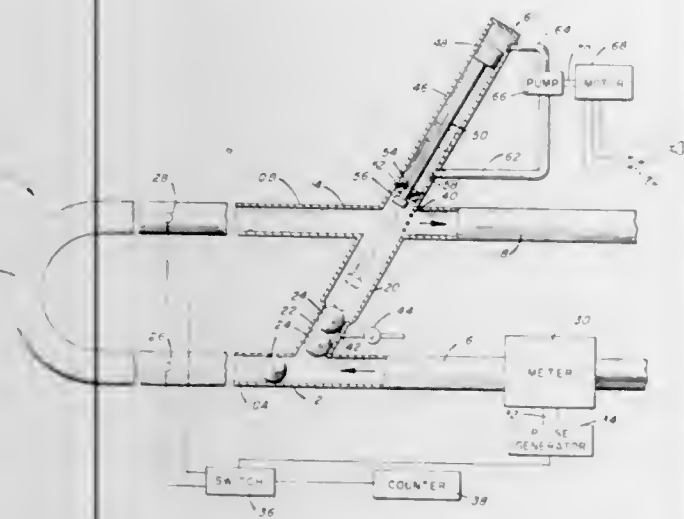


A crimping tool adapted to be removably supported from a vibrating socket of a pneumatic hammer, and when so supported, may be used to crimp a longitudinally extending lip of a first sheet into overlapping, gripping contact with a longitudinal edge portion of a second sheet.

3,541,837
CALIBRATING BARREL
Billy E. Davis, Tulsa, and Paul V. Gilliam, Broken Arrow, Okla., assignors to Signet Controls, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed June 13, 1968, Ser. No. 736,752
Int. Cl. G01f 25/00

U.S. Cl. 73-3

8 Claims



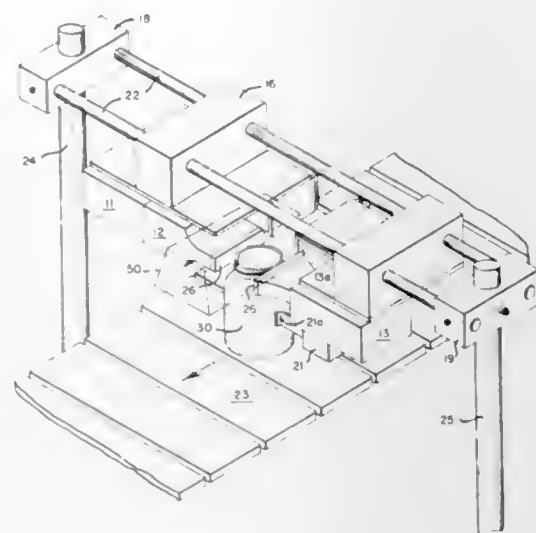
Fluid flow meters are calibrated by comparing the flow meter through a calibration barrel. The barrel is of uniform internal diameter with two detector switches placed a predetermined distance apart. Balls with a diameter substantially equal to the internal diameter of the barrel move the predetermined distance to actuate the switches so that an exact and predetermined amount of fluid flow is detected. A ball return conduit is connected to the inlet and outlet ends of the calibration barrel so that a ball is returned from the outlet to the inlet for another calibration test.

3,541,838
METHODS AND APPARATUS FOR TESTING GLASSWARE

John N. Antonevich, Jamestown, N.Y., assignor to Blackstone Corporation, a corporation of New York
Filed Aug. 1, 1968, Ser. No. 749,533
Int. Cl. G01n 3/38, 3/32

U.S. Cl. 73-12

6 Claims

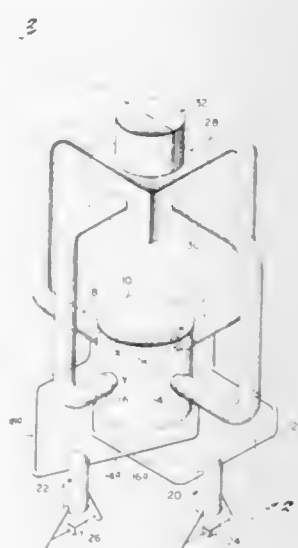


A method of detecting articles containing defects such as hair line cracks, fire checks comprises subjecting ware to destructive ultrasonic impact stresses. An apparatus is provided having an ultrasonic transducer and an impact generator adjacent a conveyor adapted to deliver an article to be tested into contact with the impact generator which in turn drives the article into the ultrasonic transducer.

3,541,839
FLUIDIC POSITION SENSOR
Raymond E. Weber, Jersey City, and Kenneth J. Zwoboda, Saddle Brook, N.J., assignors to Singer-General Precision, Inc., Little Falls, N.J., a corporation of Delaware
Filed July 15, 1968, Ser. No. 744,873
Int. Cl. F15c 4/00; G01b 13/00

U.S. Cl. 73-37

9 Claims

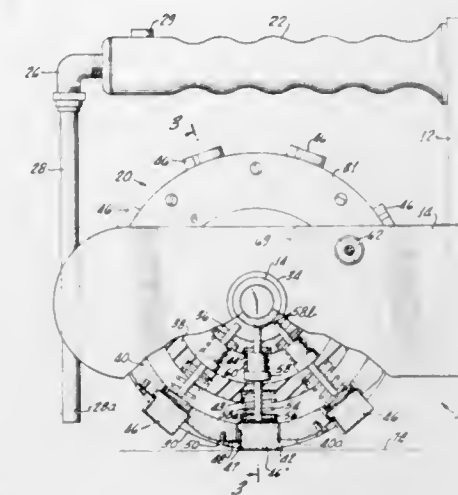


A position sensor having at least one sensing member disposed adjacent the workpiece, along with means to distribute fluid through the sensing member. The pressure of the fluid in the sensing member is proportional to the relative position of the sensing member and the workpiece, and means are provided to detect this pressure and provide an output signal.

3,541,840
ROTATING PROBE ASSEMBLY
Charles S. Phelan, Tustin, Calif., assignor to Shurtronics Corporation, a corporation of California
Filed Nov. 13, 1968, Ser. No. 775,349
Int. Cl. G01n 29/04

U.S. Cl. 73-71.5

4 Claims

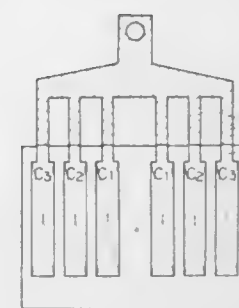


A wheel carrying a series of transducers mounted in its periphery is rotated along a test item, the transducers sequentially engaging the test item. The transducers are automatically ultrasonically energized when engaging the test item and de-energized when not engaging the test item with the result that a series of readings can be rapidly obtained testing the structural quality of the item.

3,541,841
ELECTROMAGNETIC LOADING DEVICE
Tadami Taoka and Tetuya Sugai, Tokyo, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan
Filed Dec. 6, 1968, Ser. No. 781,837
Int. Cl. H01f 7/13

U.S. Cl. 73-90

1 Claim



An electromagnetic loading device to be used as a power source for a tensile strength testing machine and the like, in which a mobile iron piece to be attracted into an electromagnet is cylindrically formed and is so arranged that the opening edge of the mobile iron piece may be interposed into gaps formed in the upper part of the electromagnet and the relation between the attracting power of the electromagnet and an exciting current may be varied in a straight line extending over a relatively wide range, so that the load can be controlled exactly and smoothly.

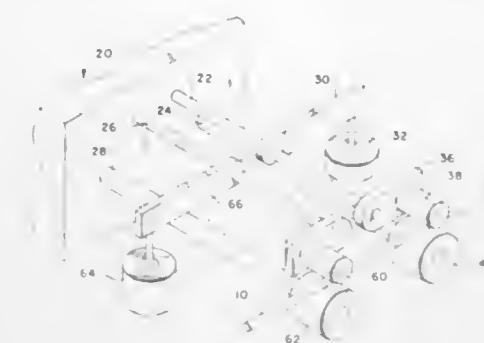
3,541,842
CONTINUOUS HARDNESS TESTER
William P. Gergen, Garden Grove, John C. Clark, Lakewood, and Jon W. Martin, Los Alamitos, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of New York
Filed Aug. 15, 1968, Ser. No. 752,950
Int. Cl. G01n 3/42

U.S. Cl. 73-81

3 Claims

A system and method for automatically measuring and recording the hardness of a polymer material and using

the results thereof to control a process. A sample material is compressed between two sets of rollers by known forces.

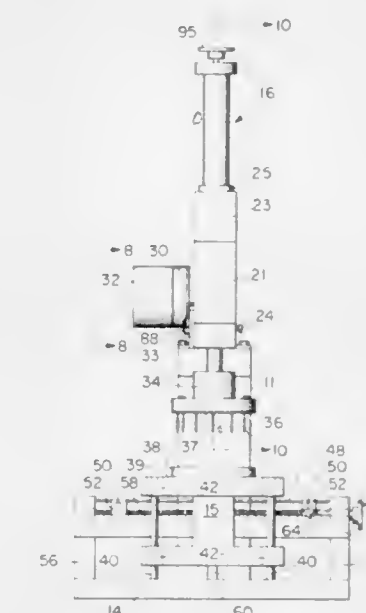


The deformations are measured and related through a computer to the hardness of the samples.

3,541,843
METHOD AND APPARATUS FOR MEASURING FABRIC SOFTNESS
Danny Joe Flesher, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 29, 1967, Ser. No. 694,608
Int. Cl. G01l 5/04; G01n 3/48

U.S. Cl. 73-81

5 Claims



A method of measuring fabric softness comprising measuring the force resisting penetration of a fabric sample by one or more pointed pins and an apparatus for practicing the said method which comprises a plurality of pointed pins drivingly interconnected with a constant speed electric motor, a receiver containing holes spaced to receive the pins, and a force measuring device.

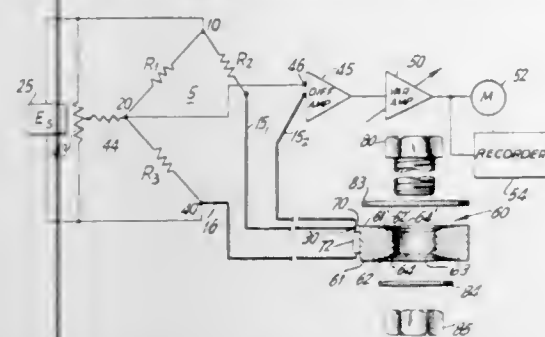
3,541,844
FORCE-MEASURING WASHER AND READOUT ARRANGEMENT
Jordan H. Stover III, Tucson, Ariz., assignor to Lebow Associates, Inc., Troy, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 769,768, Aug. 1, 1968. This application May 7, 1969, Ser. No. 822,638
Int. Cl. G01l 1/22

U.S. Cl. 73-88.5

3 Claims

An improved force-measuring washer and readout circuit arrangement therefor employs two wire leads to connect strain gauges mounted on the washer to an impedance bridge configuration, and a separate lead directly connecting one terminal of the strain gauges to an output signal amplifier. The wires connecting the strain gauges

into the bridge are thereby electrically included in different, adjacent bridge branches such that spurious signals associated with these leads are mutually subtractive rather than cumulative in effect.

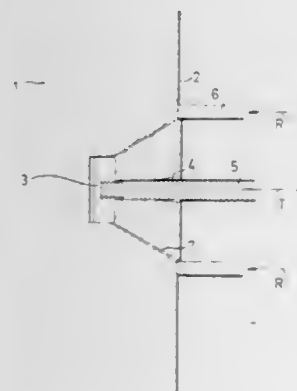


3,541,845 METHOD FOR TESTING THE STRENGTH OF THE MATERIAL OF CAST STRUCTURES, PARTICULARLY CONCRETE STRUCTURES

Peter Kierkegaard-Hansen, Nordahl Griegs Vej 16, Soborg, Denmark
Filed Apr. 2, 1968, Ser. No. 718,077
Int. Cl. G01n 3/08

U.S. Cl. 73-95

4 Claims



In a concrete structure, in which the test is to take place, a metal piston, for instance in the shape of a cylindrical block, is embedded in the concrete near one of the structure's surfaces. A counter-pressure member is placed to rest on said surface and coaxially to the piston. A force is exerted towards the exterior following the axis of the two pieces, the dimensions of which are such and the spacing between them is such that the force of extraction of the piston causes the concrete to fracture forming a frusto-conical face, the piston and the counter-pressure member forming the small and the large base, respectively, of the truncated cone.

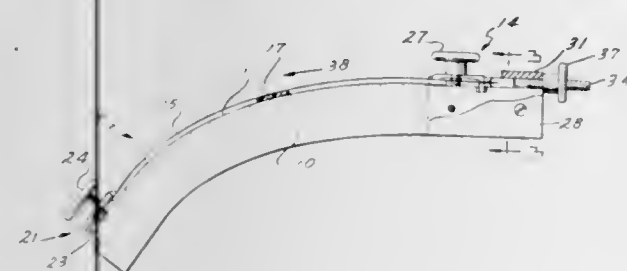
3,541,846 STRAIN TESTING DEVICE

Thomas J. Stolki, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Oct. 21, 1968, Ser. No. 769,200
Int. Cl. G01n 3/20

U.S. Cl. 73-100

4 Claims



A strain testing device in which a sample of material in sheet form is adapted to be clamped in a controlled

configuration such that strain in such sample varies linearly with distance along such sample. When using this device, one clamps a sample of material such as plastic thereinto, usually exposes the so-clamped sample to a controlled environment, and thereafter examines the sample for strain cracks. The positioning of the strain cracks indicates the limitations in strain characteristics inherently associated with the material in the sample tested.

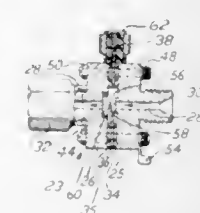
3,541,847 FLUID FLOW ANALYZING METHOD AND APPARATUS

Raymond Pisors, Morton Grove, Ill., assignor to Sun Electric Corporation, a corporation of Delaware

Filed June 7, 1968, Ser. No. 735,309
Int. Cl. G01m 15/00

U.S. Cl. 73-119

5 Claims



A fluid flow analyzing and timing method and apparatus having a transducer disposed in one or more fuel feed lines of a fuel injected engine. The flowing fuel in the feed line passes through the transducer and impinges upon a normally closed resilient movable contact in the switch to open an electrical circuit. A tachometer for measuring the rotational speed of the engine or a timing light for timing the engine may be located in the electrical circuit of one of the transducers. To measure, display and provide for comparison of the time duration of fuel flow through each fuel line, a transducer may be provided in each of the lines and an oscilloscope is connected across the electrical circuits of the switches to display the signals generated by the opening and closing of the transducers.

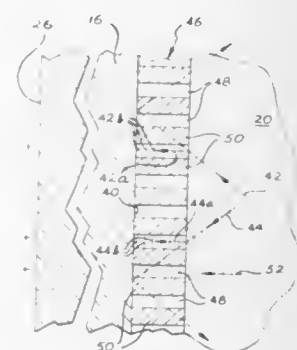
3,541,848 ACOUSTICAL IMAGING SYSTEM

Frederick L. Thurstone, Durham, N.C., assignor to American Optical Corporation, Southbridge, Mass., a corporation of Delaware

Filed Oct. 28, 1968, Ser. No. 770,928
Int. Cl. G01n 29/04

U.S. Cl. 73-67.5

5 Claims



A system for electroacoustically producing images of objects placed in an ultrasound transmitting medium which is coupled to a piezoelectric transducer. The coupling in

cludes a sonic waveguide for accepting acoustical energy through a large angle of incidence and directing the energy to the transducer at a normal angle of incidence.

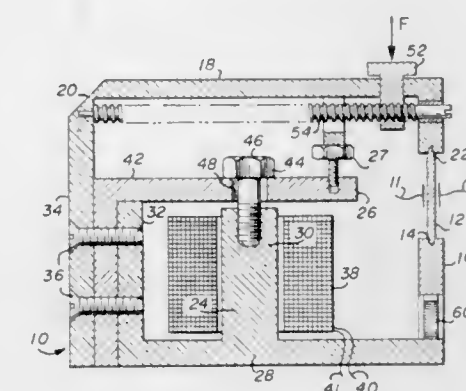
3,541,849 OSCILLATING CRYSTAL FORCE TRANSDUCER SYSTEM

James P. Corbett, 1841 Hamilton Ave., Palo Alto, Calif. 94303

Filed May 8, 1968, Ser. No. 727,567
Int. Cl. G01e 1/10

U.S. Cl. 73-141

13 Claims



An improved force transducer and force transducer system employing the electrical frequency change brought about by controlled application and removal of force or weight to a quartz or other piezoelectric crystal which is maintained in a state of oscillation by an electrical oscillator circuit. The transducer, when stressed by an unknown force, provides changes in pulse rate output of the oscillator which are measured by a reversible period counter, the output of which may be displayed or used for digital computation purposes. Using the disclosed transducer system, any unknown force or change in force may be measured with great accuracy.

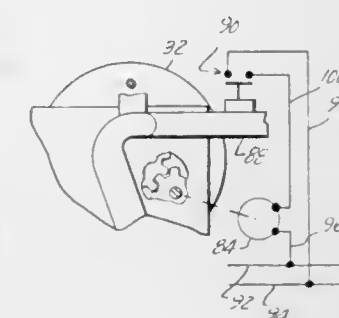
3,541,850 MOVING CABLE TENSION MEASURING DEVICE

John C. McKechnie, Maitland, Fla., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 21, 1968, Ser. No. 754,420
Int. Cl. G01l 5/06

U.S. Cl. 73-144

1 Claim



This invention relates to a device for measuring progressively and continuously an increase in tension applied to a moving cable in arresting the movement of a vehicle. The device is particularly useful for measuring progressively the increase in tension applied to an elastic arresting cable used to arrest the movement of a plane on a carrier deck by continuous measurement and recording, through spring means and a recording disc and scribe, of deflection force in the cable as the cable stretches and the plane is brought to a halt.

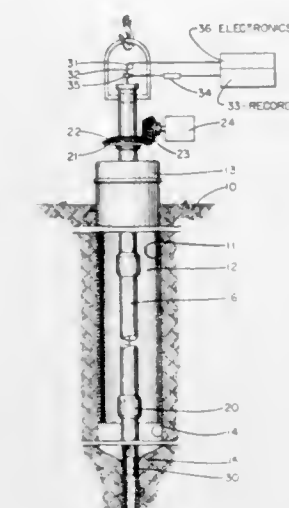
3,541,851 METHOD OF LOCATING THE STUCK POINT OF A PIPE IN A WELL

Arthur H. Youmans, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed May 22, 1968, Ser. No. 731,238
Int. Cl. E21b 47/00

U.S. Cl. 73-151

2 Claims



The stuck pipe is mechanically worked, as by applying a torque or stretch, while making a temperature log along the length of the pipe. Depending upon the type of sticking, the temperature log provides an appropriate indication of the stuck point. In one of the preferred embodiments of the invention, the pipe receives a cyclically applied torque at a relatively high frequency to provide heating of the pipe while avoiding excessive stressing of the pipe material.

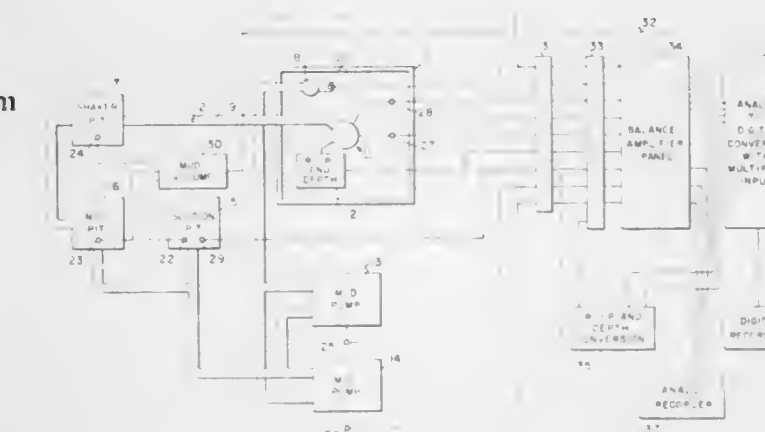
3,541,852 ELECTRONIC SYSTEM FOR MONITORING DRILLING CONDITIONS RELATING TO OIL AND GAS WELLS

James H. Brown, William S. Young, and William M. Deason, Houston, Tex., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Nov. 29, 1968, Ser. No. 780,041
Int. Cl. E21b 45/00

U.S. Cl. 73-151

19 Claims



An electronic system self-contained within a skid or trailer-mounted console provides a completely new set of well statistics once each minute or once each foot, thus giving the drilling operator a continuous picture of drilling conditions. Information recorded by the system includes drilling depth, time, penetration rate, hook load, rotary speed, pump strokes, gas chromatography, and such drilling mud information as weight-in, weight-out, viscosity and temperature and flow rates. A drilling mud pit volume totalizer sub-system includes means for monitoring the mud volume in each of a series of drilling mud pits, means for adding the individual volumes to monitor

the total mud volume in the system and also means to include the residual drilling mud located beneath the mud level sensors within the total mud volume. Also included within the system is mechanical apparatus and associated electronics for monitoring the true depth and rate of penetration of the drill bit and associated drill pipe and also the speed of rotation of the drill bits.

3,541,853

NAVIGATION APPARATUS

Edward William Anderson, Prestbury, Cheltenham, England, assignor to Smiths Industries Limited, London, England, a British company

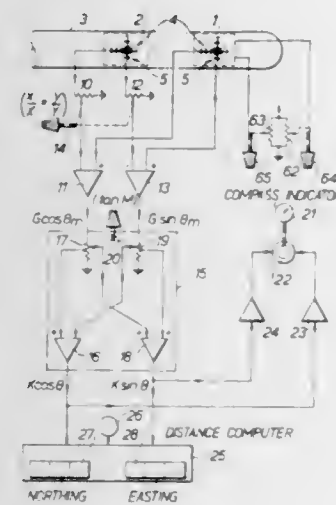
Filed June 30, 1967, Ser. No. 650,544

Claims priority, application Great Britain, July 7, 1966, 30,577/66

Int. Cl. G01c 21/00, 17/38

U.S. Cl. 73—178

12 Claims



Craft navigation apparatus includes two flux-valve detectors that sense fore-aft and athwartships components of the earth's magnetic field at different distances from the craft. Fractionally-weighted values of the components sensed by the detector nearest the craft are subtracted from their corresponding component-values sensed by the other detector to derive component-values corrected for the craft-produced magnetic-deviation. These values, before use to indicate craft-heading and compute northing and easting of the craft, are corrected for local magnetic-variation by combining with a fraction of each, a pre-selected fraction of the other.

3,541,854

DEVICE FOR SENSING THE PRODUCT OF THE DENSITY AND THE SQUARE OF THE RATE OF CIRCULATION OF A FLUID

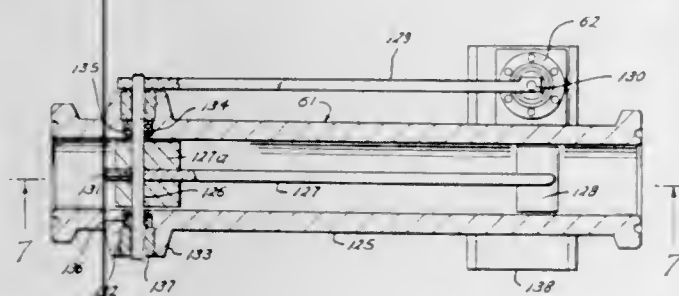
Marvin R. Jones and Benton F. Baugh, Houston, Tex., assignors to Cameron Iron Works, Inc., Houston, Tex.

Original application Dec. 30, 1966, Ser. No. 606,312, now Patent No. 3,429,385. Divided and this application July 3, 1968, Ser. No. 742,386

Int. Cl. G01f 1/06

U.S. Cl. 73—228

3 Claims



A choke is connected to an outlet from the upper end of the annulus between a well bore penetrating an earth formation containing fluid under pressure and a drill

string extending into the well bore. When a kick is encountered during drilling of the well, a blowout preventer at the wellhead about the outlet may be closed to divert drilling fluid circulating through the drill string and annulus through the choke. The choke is responsive to a bias and a control signal for regulating the pressure of the drilling fluid in order to maintain the differential between the bottom hole pressure of such drilling fluid and the pressure of the formation fluid at a predetermined value. Means are provided for producing a control signal and a bias which cooperate to cause the choke to respectively increase or decrease the formation fluid pressure within the outlet automatically in response to a deviation, negative or positive, from said predetermined pressure differential, whereby the outlet pressure approaches a value at which such deviation is zero. The bias is a signal representing the pressure of the drilling fluid within a standpipe connected to the upper end of the drill string, and the control signal represents the sum of the circulating pressure loss within the drill string, the static pressure of the drilling fluid in such standpipe, and the predetermined pressure differential. The signal producing means includes a device for sensing the product of the density and the square of the rate of circulation of drilling fluid within the upper end of the drill string, which is useful in computing the circulating pressure loss within such string. The device includes a conduit adapted to be connected in the drill string, a rotatable shaft extending through the side of the conduit, and an arm on the shaft within the conduit for rotation with the end extending longitudinally of the conduit. A sensing element is mounted and arranged on the end of the arm remote from the shaft for swinging out of a neutral position in proportion to MV^2 , wherein M equals the density and V the velocity of a fluid such as drilling mud flowing through the conduit. There is a means including a transmitter on the exterior of the conduit and responsive to loads of the arm due to swinging of the sensing element for returning the sensing element to its neutral position. The transmitter has means for producing a signal which is a mathematical function of the force necessary to so return the sensing element.

3,541,855

ANEMOMETER FOR MEASURING HORIZONTAL WIND VELOCITIES

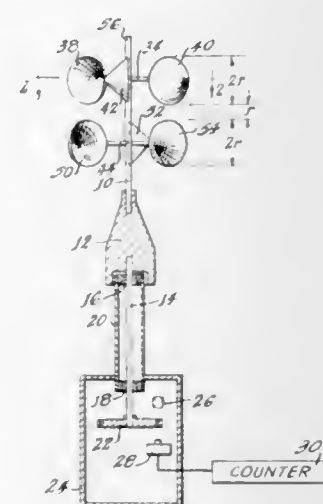
Paul Frenzen, Palos Heights, and Richard L. Hart, Berwyn, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 5, 1968, Ser. No. 781,438

Int. Cl. G01p 5/06

U.S. Cl. 73—229

9 Claims



An anemometer includes a rotatable shaft and means for measuring the velocity of rotation of the shaft. A first set of three anemometer cups are equispaced about the

shaft in a plane normal thereto to rotate therewith. A second set of three anemometer cups are equispaced about the shaft between the first set of anemometer cups in a plane normal to the shaft to rotate therewith. The planes of the two sets of anemometer cups are separated along the shaft a distance which is proportional to the diameter of the cups and the radial distance of the cups from the shaft.

3,541,856

PYROMETRIC CONES HAVING REGIONS OF VARIED DENSITIES

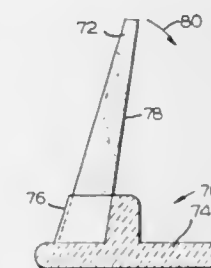
Richard E. Steele, Columbus, and Milan Vukovich, Jr., Galena, Ohio, and Leroy Scott Hood, Jr., Raleigh, N.C., assignors to The Edward Orton, Jr., Ceramic Foundation, a testamentary trust under the laws of Ohio, Columbus, Ohio

Filed Dec. 2, 1968, Ser. No. 780,427

Int. Cl. B28b 3/08; G01k 11/08

U.S. Cl. 73—358

12 Claims



A heat treatment measuring system and a method of using such system wherein a pyrometric cone having varied densities in the regions defining the side surfaces thereof is placed in an upright attitude in the environment of a heat treatment process. The cone is oriented in the environment so that when the amount of heat applied during the process is sufficient to fuse the material from which the cone is made, the cone will bend over the side surface thereof defined by the region of least density.

3,541,857

COMPENSATED RESISTANCE BRIDGE-TYPE ELECTRICAL THERMOMETER

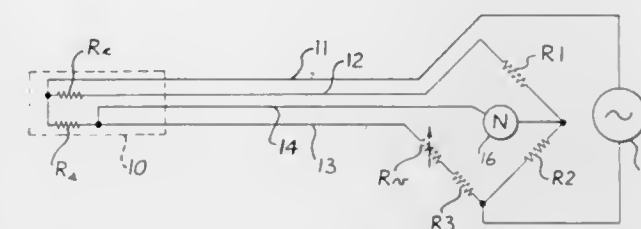
John Massey, 517 East Building, Hunting Towers, Mount Vernon Blvd., Alexandria, Va. 22314

Filed Nov. 27, 1968, Ser. No. 779,558

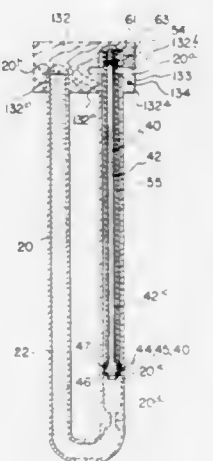
Int. Cl. G01k 7/24

U.S. Cl. 73—362

12 Claims



A resistance bridge-type electrical thermometer including a temperature-sensing resistor having a nonlinear temperature resistance characteristic in one arm of the bridge, and a compensating resistor made of the same material as the temperature-sensing resistor in another arm of the bridge. Both the temperature-sensing resistor and the compensating resistor are contained in a single sensor probe, so that two resistors are always exposed to the same temperature. The compensating resistor is connected in the bridge in such a manner that it compensates for the nonlinear temperature-resistance characteristic of the temperature-sensing resistor so that the change of null adjustment of the bridge for a given temperature change remains substantially constant over a preselected temperature range.



3,541,858

U-TUBE MANOMETER WITH SHIPPING SEAL

Joseph E. Bonczek, Elyria, Ohio, assignor, by mesne assignments, to The Scott & Fetzer Company, Lakewood, Ohio, a corporation of Ohio

Filed July 25, 1968, Ser. No. 747,896

Int. Cl. G01l 7/18

U.S. Cl. 73—401

7 Claims

Combination including a removable internal seal for a bore, especially adapted for sealing liquid inside tubing, such as sealing mercury inside a closed-end, absolute pressure gauge, U-tube, wherein the seal is adapted to be inserted into a long bore, to be moved into sealing position or into a removable position by manipulation from outside of the bore, and to follow the expansion or contraction of the liquid in the bore without permitting air leakage between the seal and the liquid surface.

3,541,859

DEVICE FOR MEASURING BLOOD PRESSURE IN A VEIN OF A PATIENT

Dieter Leis, Erlangen, Germany, assignor to J. Pfrimmer & Co., Erlangen, Germany, a firm of Germany

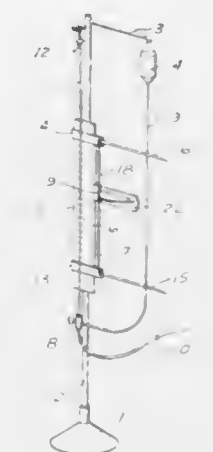
Filed July 19, 1968, Ser. No. 746,187

Claims priority, application Germany, July 22, 1967, 1,566,140

Int. Cl. G01l 7/20; A16b 5/02

U.S. Cl. 73—402

9 Claims



A device for adjusting the zero setting of a manometer responsive to the blood pressure in the vein of a patient in conformity with changing anatomical conditions experienced by the patient during treatment in which device two markers are lengthwise slidable along an elongate scale carrier and are jointly moved with a transmission ratio of 2:3, said transmission ratio being based upon the anatomy of the human body.

3,541,860

PRESSURE VESSEL SAMPLING DEVICE

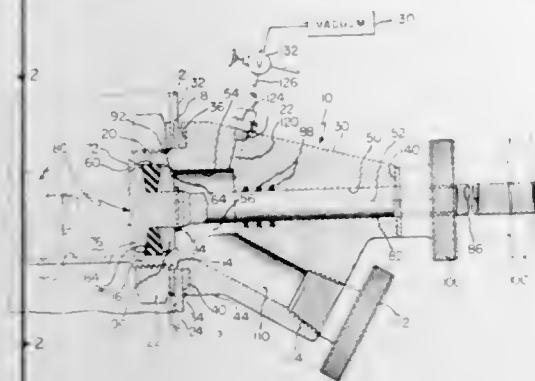
Everett D. George, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Mar. 18, 1969, Ser. No. 808,125

Int. Cl. G01n 1/20

U.S. Cl. 73—421

5 Claims



A body having a sample receiving chamber is connected to a vessel containing a flowable material under a pressure or a vacuum. A deformable plug connected to a stem is axially movable within the body in a first or a second direction. A sample of the material is obtained by moving the stem and plug in the first direction to open the chamber to the vessel and then moving the stem and plug in the second direction to move the sample into the chamber. The movement in the second direction is continued until the deformable plug has expanded to seal the sample chamber within the body.

3,541,861

PIPE-LINE SAMPLING APPARATUS

John Drummond, Thatcham, and Stamford Robert Francis Vanderstegen-Drake, Newbury, England, assignors to Plenty & Son Limited, Newbury, Berkshire, England, a British company

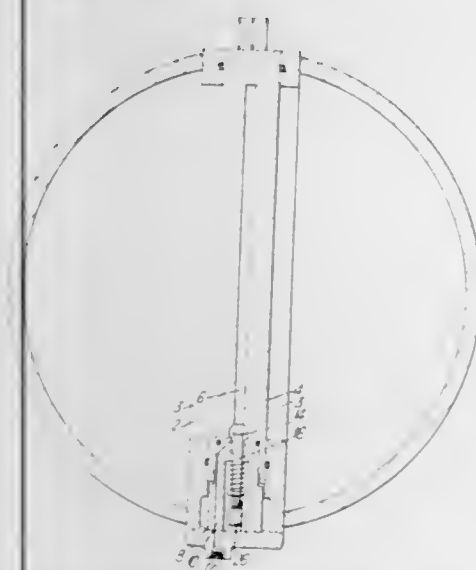
Filed Mar. 6, 1968, Ser. No. 710,819

Claims priority, application Great Britain, Mar. 8, 1967, 10,998/67

Int. Cl. G01n 1/20

U.S. Cl. 73—422

1 Claim



The pipe line sampler has a cylindrical bushing which is adapted to extend across a line section and which has two diametrically opposed slots in its wall to provide a liquid passage in alignment with the direction of flow through the pipe line. A plug is rotatably mounted in the bushing and has a slot which can be aligned with the slots in the wall of the bushing during free flow of the liquid. The plug is movable to a position in which the slots thereof are out of alignment with the slots in the bushing and communicate with an outlet passage through which the liquid, trapped in the slot in the plug, flows to a sample container or the like. A valve is located be-

tween the sample slot in the plug and the outlet to the container. Means are provided to open the valve either as a result of movement of the plug to the sampling position, or timed so as to operate in sequence with the means for turning the plug.

3,541,862

MEANS FOR SAMPLING BULK MATERIALS

Fred Jordison, Chesterfield, England, assignor to The Birmingham Small Arms Company Limited, Birmingham, England, a British company

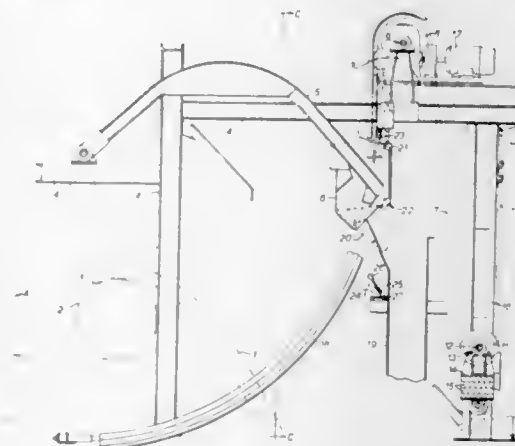
Filed Dec. 16, 1968, Ser. No. 783,862

Claims priority, application Great Britain, Dec. 28, 1967, 58,780/67

Int. Cl. G01n 1/20

U.S. Cl. 73—423

11 Claims



A sampler container is moved across the path of a bulk material as the material falls in a stream. The container is mounted on two arms and is driven downwardly along an arcuate path from a first position above the material flow through the material flow and then upwardly in the reverse direction through the material flow back to the first position. The sample of material is removed when the container is in the first position. The container is driven by a motor controlled chain, which follows an arcuate guide corresponding to the path of movement of the container.

3,541,863

DENSIMETER AND ACTUATOR

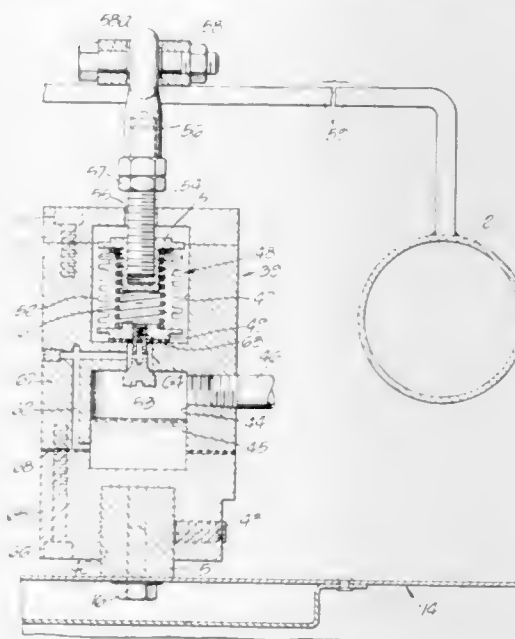
Charles D. Barron, Huntington Beach, and Loren B. Sheldon, Long Beach, Calif., assignors to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware

Filed Oct. 4, 1968, Ser. No. 765,219

Int. Cl. G01n 9/06; G01g 23/14

U.S. Cl. 73—434

11 Claims



A U-tube densimeter for measuring the densities of liquids and/or controlling such densities including a pneu-

matically operated actuator for zeroing the U-tube and balancing its tare weight, the actuator including a hydraulic dampening device.

3,541,864

COMPOSITE ROLLER MECHANICAL VIBRATION GENERATOR

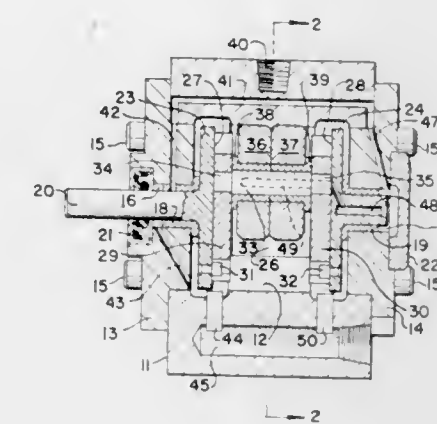
Otto Kurt Schwenzfeier, Chula Vista, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Oct. 15, 1968, Ser. No. 767,764

Int. Cl. B06b 3/00

U.S. Cl. 74—87

1 Claim



The roller of an orbiting roller vibration generator is constructed of a plurality of substantially identical cylindrical rollers eccentrically carried on a radially compliant crank-arm for rotatable engagement with an internal raceway formed in an oscillator body member.

3,541,865

FLUID ACCELEROMETER

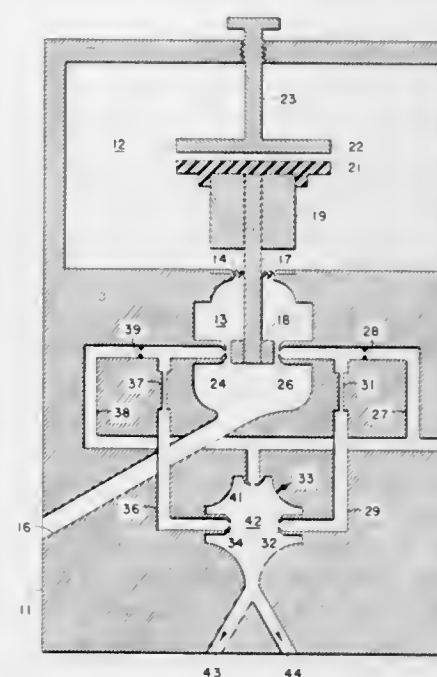
Larry T. Brown, Warren, Mich., assignor to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware

Filed Apr. 19, 1967, Ser. No. 632,029

Int. Cl. G01p 15/02

U.S. Cl. 73—515

5 Claims



A fluid accelerometer includes a housing enclosing first and second chambers which are separated by a flexible diaphragm. A shaft extends through the diaphragm and

is affixed thereto at a juncture point spaced from its ends such that the shaft is free to pivot about the juncture point. An inertial weight is affixed to one end of the shaft and disposed within the first chamber, the first chamber also containing a fluid for damping movement of the shaft and inertial weight. A fluid amplifier has sensing nozzles disposed within the second chamber end adjacent the shaft for measuring pivotal movement of the shaft occurring in response to acceleration.

3,541,866

VIBRATING STRING ACCELEROMETERS

Raymond Mathey, Paris, and Bernard Picardat, Urville, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France

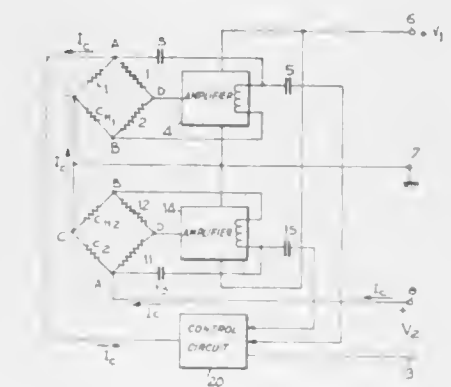
Filed Feb. 13, 1968, Ser. No. 705,162

Claims priority, application France, Feb. 24, 1967, 96,432

Int. Cl. G01p 15/10

U.S. Cl. 73—517

3 Claims



A vibrating string accelerometer, for the measurement of the acceleration of a body by measuring the difference in the resonance frequencies of two vibrating strings, associated with the said body wherein the sum of these two frequencies is kept constant by passing through the two strings the same heating current controlled by the sum of these frequencies.

3,541,867

PROGRAMMING DEVICE FOR WATER SOFTENING PLANTS

Günther Otto, Hildesheim, Germany, assignor to Gebrüder Heyl KG Gesellschaft, für Analysentechnik, Hildesheim, Germany

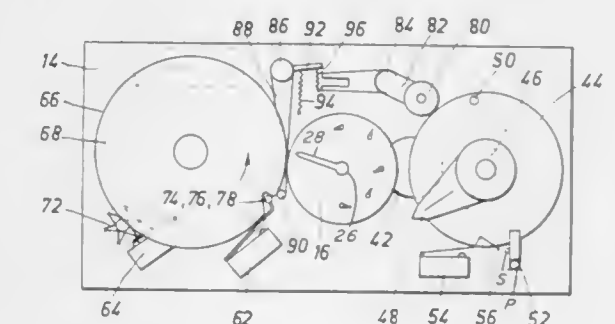
Filed Feb. 8, 1968, Ser. No. 704,165

Claims priority, application Germany, Feb. 9, 1967, H 61,793

Int. Cl. F16h 5/74

U.S. Cl. 74—3.5

14 Claims



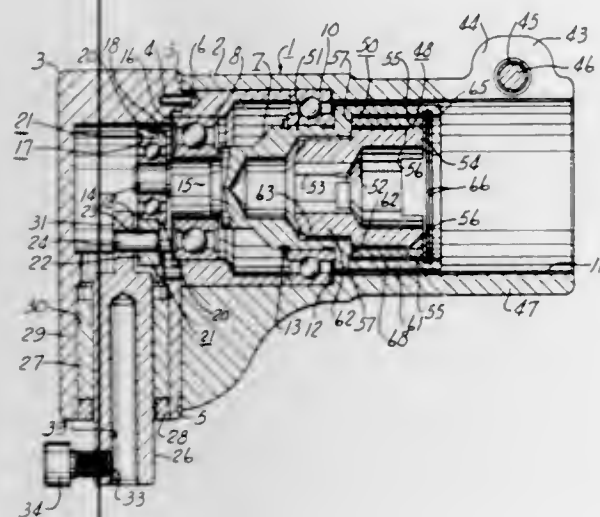
An improved programming device for water softening plants, actuated by a water flow meter and including a meter disk driven through a reduction and coupled with a coaxially mounted switch disk, with return spring and

adjustable switch arm, further including a mechanical transmission coupling link for transmitting the movement of the metering disk to the switch disk and a cam controlled release arm for the coupling, controlled as a function of the movement of the program disk of the programming device.

3,541,868 SURGICAL IMPACTOR-EXTRACTOR APPLIANCE

Robert M. Hall, 2084 Alisos Drive,
Santa Barbara, Calif. 93103
Filed Apr. 8, 1968, Ser. No. 719,424
Int. Cl. F16h 24/01; F16d 1/00

U.S. Cl. 74—44



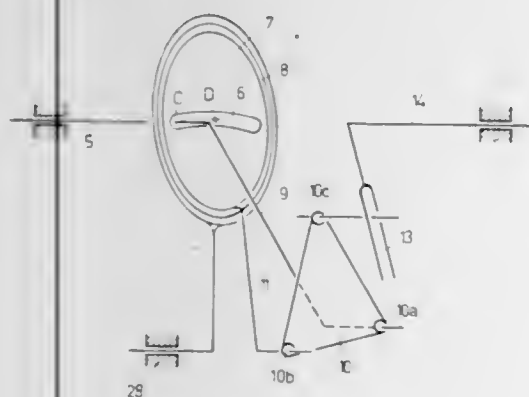
A surgical appliance adapted to be applied to the output drive or spindle of a high speed surgical instrument to impart high speed reciprocal motion to the tool slide of the appliance to which is attached an impact hammer tool or extractor tool for use in surgical procedures.

3,541,869 DEVICE FOR DRIVING A ROTATING PART AT AN ANGULAR VELOCITY THAT VARIES DURING ONE COMPLETE REVOLUTION

Gert Deutschlander, Neuhausen am Rheinfall, Switzerland, assignors to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland
Filed Nov. 14, 1968, Ser. No. 775,690
Claims priority, application Switzerland, Dec. 22, 1967, 18,092/67

U.S. Cl. 74—63

5 Claims



The corners of a triangular coupler are respectively pivotally connected to the drive shaft rotated at constant angular velocity, through a tang and fork to the driven

shaft, to be rotated at a cyclically varying angular velocity, and to a lever rigidly connected to a rotatable ring mounted on a disk surrounding the drive shaft and adjustable about a fixed axis.

ERRATUM

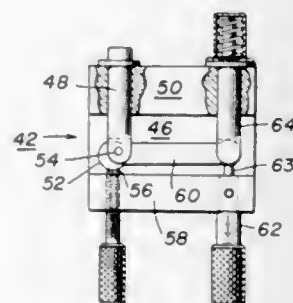
For Class 74—87 see:
Patent No. 3,541,864

3,541,870 COARSE AND VERNIER ADJUSTABLE MECHANISM

Glen E. Lyons, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 27, 1969, Ser. No. 811,010
Int. Cl. F16h 25/18

U.S. Cl. 74—89.15

6 Claims

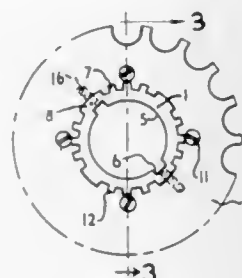


A cam is pivotally mounted on a movable member. A screw bears on the cam, for coarse direct adjustment of the position of the member carrying the cam. A second screw bears on a lever on the cam, to rotate the cam and provide a vernier adjustment of the position of the member.

3,541,871 UNIVERSAL-TYPE HUB Alfred A. Burrell, 10323 106th St., Edmonton, Alberta, Canada Filed Mar. 14, 1969, Ser. No. 807,343 Int. Cl. F16h 55/12, 55/30

U.S. Cl. 74—447

7 Claims



A universal type hub for releasably carrying shaft-mounted products of various materials, the hub consisting of two separate parts, namely a sleeve having longitudinally extending tooth-like splines, divided by circumferentially spaced block teeth on its exterior and a longitudinal keyway on its interior in radial alignment with one of said block teeth, the splined exterior being also threaded if desired, and a collar with an axial sleeve-accommodating opening correspondingly formed to register with said splines and block teeth for mounting on the sleeve. Various shaft-carried products including gears, sprockets, sheaves and the like for interchangeable mounting on said hubs have axial openings correspondingly formed to register with said splines and block teeth of the hub sleeve for longitudinal press-on engagement to provide an efficient torque distributing relationship therewith while designed to coact also in selected ways with said hub collar.

3,541,872 CUSHION AND COVER COMPOSITIONS FOR V-BELTS

Sidney R. Fix, Stanley W. Olson, and John C. Wolfe, Lincoln, Nebr., assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 6, 1968, Ser. No. 703,248
Int. Cl. F16g 5/04; C08d 13/00

U.S. Cl. 74—231

9 Claims

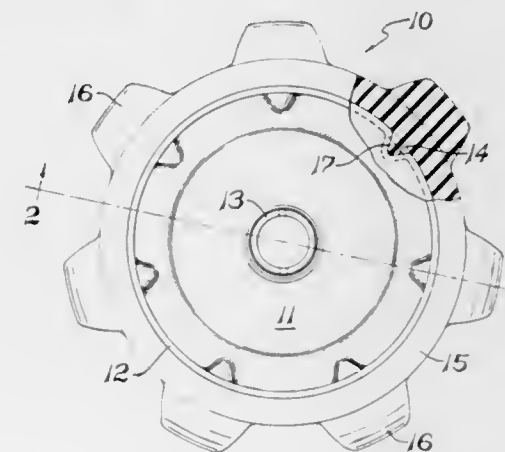
V-belts containing cushion compositions and/or elastomeric impregnated fabric envelopes which contain polyfluorohydrocarbon resins which increase the resistance to failure due to flexing of said V-belts.

3,541,873 SPROCKET

Alvin O. Wolf and James H. Kramer, Akron, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed July 1, 1968, Ser. No. 741,801
Int. Cl. F16h 55/14

U.S. Cl. 74—243

5 Claims



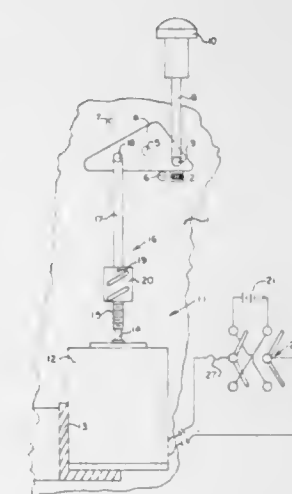
The present invention discloses a driving sprocket for an elastomeric traction belt, the sprocket having a circular shell of stamped metal halves spot-welded together and a ring of elastomer disposed circumferentially around the shell with a plurality of elastomeric lugs formed in the outer periphery of the ring extending radially outwardly therefrom.

3,541,874 POWER DOOR LOCKING AND UNLOCKING APPARATUS

Gideon A. DuRocher, Mount Clemens, Mich., assignor to Essex International, Inc., a corporation of Michigan
Filed Nov. 4, 1968, Ser. No. 773,159
Int. Cl. F16h 1/18; E05b 47/00; E05f 15/00

U.S. Cl. 74—424.8

7 Claims



Power apparatus for locking and unlocking a vehicle door of the kind having a lock control member movable

between locking and unlocking positions under the control of manually operable, linearly movable actuating means, the power apparatus including a reversible, electric motor having a rotary shaft and motion transmission means interconnecting the rotary shaft and the control member for moving the latter to and from its locking and unlocking positions independently of the manual operating means.

3,541,875 SELF-LUBRICATING GEARS AND OTHER MECHANICAL PARTS

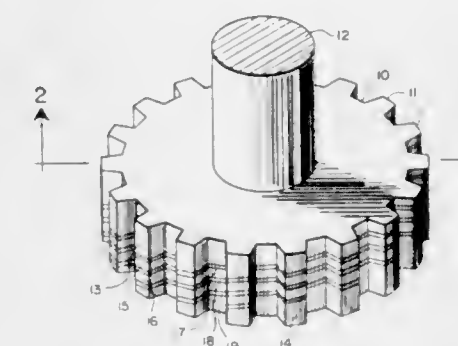
Keith E. Demorest, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed May 26, 1969, Ser. No. 827,579

Int. Cl. F16h 55/12, 57/04

U.S. Cl. 74—468

7 Claims



Gears and other mechanical parts having surfaces adapted to engage in frictional contact are constructed of alternating layers of metal and a dry-lubricant-containing material bonded into a laminated composite body. The lubricating layers extend through the body of the part so that exposed portions thereof form a part of the contacting surfaces. Disposition of the lubricating layers diagonally with respect to contacting surfaces provides for continuous distribution of a lubricating film by lateral movement of the exposed lubricating portion over the opposing surface with rotation of the part.

3,541,876 SINGLE LEVER CONTROL UNIT FOR HYDROSTATIC TRANSMISSIONS

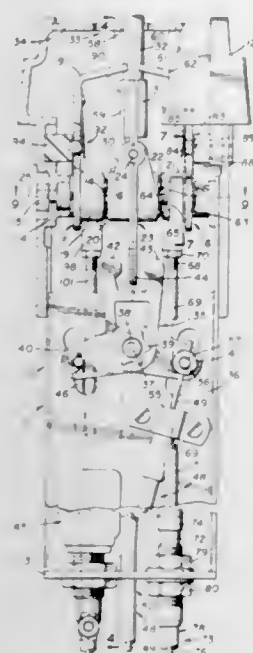
Charles F. Gressard, Kent, Ohio, assignor, by mesne assignments, to North American Rockwell Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 16, 1969, Ser. No. 791,752
Int. Cl. G05g 9/10

U.S. Cl. 74—471

10 Claims

A mechanical control unit for operating a hydrostatic transmission having one swash plate fixed and one swash plate capable of being stroked by a single lever, selective movement of which also actuates an unloader valve to deactivate the transmission and, sequentially, an immobilizing mechanism to preclude rotation of the motor portion of the transmission. A stroke actuating member and an immobilization actuating member are rotatably mounted on a support shaft and selectively engageable by a control lever mounted for rotation both about the axis of the support shaft and longitudinally thereof. Rotation of the control lever about the axis of the support shaft causes rotation of the selected actuating member to effect stroking control of the hydrostatic transmission or immobilization thereof. Rotation of the control lever longitudinally of the axis of the support shaft rocks a safety actuating lever arm to operate an unloader mechanism that controls a hydraulic disconnect between the pump and motor in the hydrostatic transmission. The lever arm also operates a neutral lockout. The control unit may be

provided with locking means releasably to retain the control lever and/or, selectively, the actuating members in



positions predetermined on the basis of desired safe operation for the hydrostatic transmission.

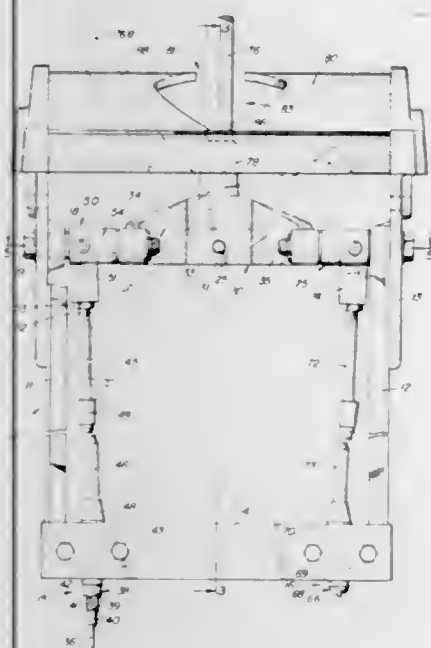
3,541,877 SINGLE LEVER CONTROL FOR COORDINATING MULTIPLE MOTION TRANSMITTING DEVICES

Richard D. Houk, 3874 Kenwood Ave.,
Stow, Ohio 44224

Filed Jan. 23, 1969, Ser. No. 793,439
Int. Cl. G05g 9/00

U.S. Cl. 74—471

11 Claims



A control unit for coordinated actuation of two motion transmitting devices. The control unit has a beam supported across its housing with a yoke mounted on the beam. The yoke has a pair of arm means to which the motion transmitting devices are respectively connected. A control lever rotates the yoke about a first axis defined by that of the beam and/or a second axis transversely of the first. The control lever cooperates with a guide plate aperture to maintain a coordinated limitation of the yoke rotation about one axis with respect to the other, thereby to effect coordinated actuation of the two motion transmitting devices.

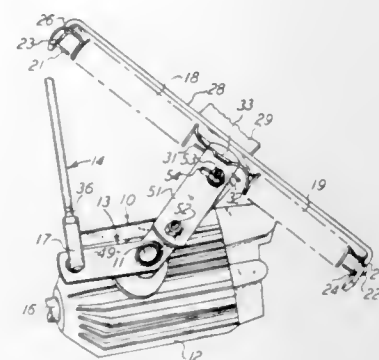
3,541,878 HYDROSTATIC TRANSMISSION CONTROL FOR VEHICLES

Donald G. Haffner, Racine, Wis., assignor to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin

Filed Jan. 3, 1969, Ser. No. 788,796
Int. Cl. G05g 7/12

U.S. Cl. 74—474

6 Claims



A hydrostatic transmission control for vehicles including a hydraulically responsive unit having a mechanical control shown to be in the form of a lever operatively connected with the hydraulic mechanism for selectively setting the latter into positions corresponding to a forward position and a reverse position and a neutral position for the vehicle. Spring means are connected to the lever to influence its position in opposition to a manual control member which is also connected to the lever for setting the hydraulic unit in a selected position. Further, the manual control is shown to be a foot pedal type of control, and stop means are associated with the control for limiting both forward and reverse positions of the hydraulic unit and thereby limiting the vehicle speed, as desired. The lever has adjusting means for setting it in a position corresponding to the neutral position, and the spring means is also arranged for automatically establishing the neutral position when the manual control is released.

3,541,879 GEAR SELECTOR LOCKING MEANS

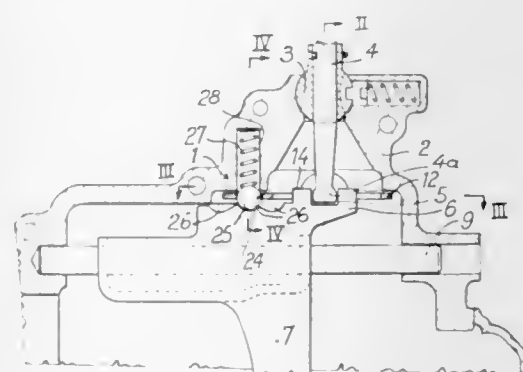
Raymond A. Ravenel, Sceaux, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French society

Filed June 13, 1968, Ser. No. 736,711
Claims priority, application France, June 15, 1967,
110,502

Int. Cl. G05g 5/10

U.S. Cl. 74—477

3 Claims



A gear box selector locking element comprising a thin plate with two springs mounted therein. The plate being movable transversely of the selector and having central opening through which an end of the gear change lever

passes. Each spring normally bearing against a face and a part of the plate and arranged to abut the gear box housing when the plate is moved out of its neutral position.

3,541,880 MOTOR VEHICLES

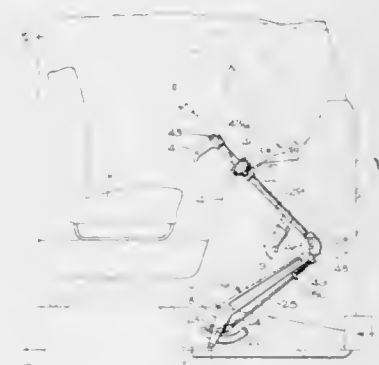
John Trevor Dudley, Brewood, England, assignor to GKN Sankey Limited, Bilston, Stafford, England, a British company

Filed Dec. 10, 1968, Ser. No. 782,685
Claims priority, application Great Britain, Dec. 15, 1967,
57,200/67

Int. Cl. G05g 5/12

U.S. Cl. 74—503

5 Claims



The disclosure describes a motor vehicle with a tilting cab in which the brake mechanism comprises a first lever pivoted to the vehicle chassis and connected to the vehicle brakes and a second lever pivoted to the first, carrying an operating handle for release means associated with the first, and pivotally and slidably mounted on the cab.

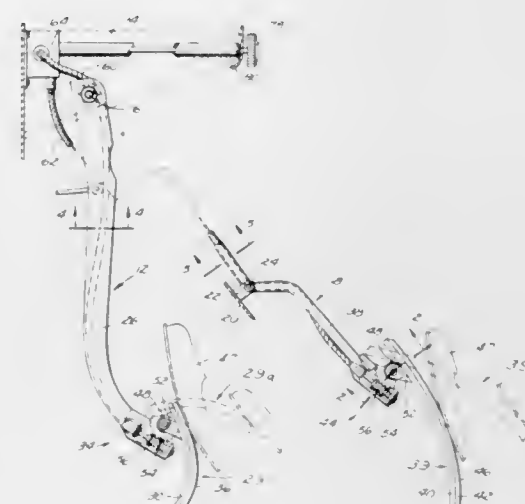
3,541,881 ADJUSTABLE PEDAL

Rodney B. Pharis, San Jose, Calif., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Nov. 18, 1968, Ser. No. 776,452
Int. Cl. G05g 1/04

U.S. Cl. 74—512

15 Claims



A pedal assembly for an automotive vehicle having an adjustable contoured pad. The pad is rotatable relative to the pedal lever about an axis parallel to the pivot axis of the pedal lever to vary the fore and aft distance between the pedal and the vehicle operator seat. The contour of the pad provides substantial pad contact with the sole of the operator's shoe during all positions of adjustment.

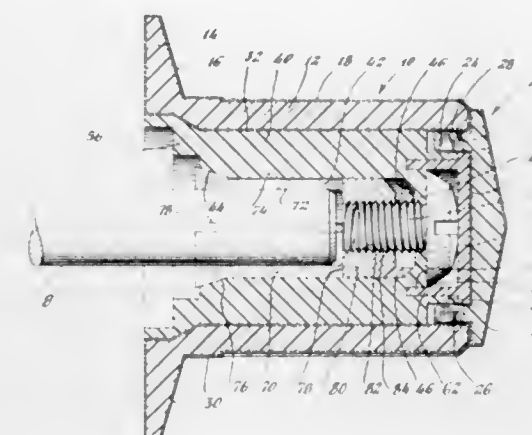
3,541,882 ELECTRICALLY INSULATING KNOBS

Rosario Testa, Ridgefield, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed Dec. 31, 1968, Ser. No. 788,185
Int. Cl. G05g 1/10; F16d 1/08

U.S. Cl. 74—553

6 Claims



An instrument knob assembly includes an external surface of electrically conducting material, which is grasped by the operator. To insure electrical isolation between this-external surface and the metallic shaft of the instrument, which may be at an elevated electrical potential, an intermediate insulating member is positioned between the shaft and the external knob. Where the main knob is itself in the form of a generally cylindrical main body and removable end cap, the intermediate insulating member is preferably also composed of an insulating sleeve and a detachable insulating disc. The insulating sleeve and disc may be molded on the interior surfaces of the cylinder and removable end plate, respectively, of the knob itself.

3,541,883 HIGH SPEED COMPOSITE CAM

David W. Knight, Stratford, Conn., assignor to The U.S. Baird Corporation, Stratford, Conn., a corporation of Connecticut

Filed Apr. 11, 1969, Ser. No. 815,419
Int. Cl. F16h 53/00

U.S. Cl. 74—567

10 Claims



There is disclosed a cam for operating a machine tool, such as a drawing die. The cam includes high velocity portions permitting the tool to approach and withdraw from the workpiece at high speeds and an intermediate constant velocity portion for controlling the tool during its working cycle. The various portions of the cam

surface are so formed that the start and end of each portion has a second derivative equal to zero. Therefore, the acceleration of each such point is also zero.

3,541,884

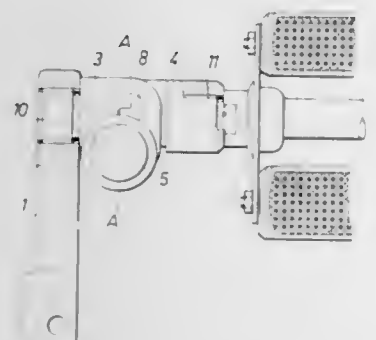
CONNECTING JOINT FOR TURNING OFF TOE CLIPS, ESPECIALLY FOR COLLAPSIBLE BICYCLES

László Nógrádi, Budapest, Hungary, assignor to Csepeli Kerekpar és Varrogegyar, Budapest, Hungary
Filed Mar. 14, 1969, Ser. No. 807,222
Claims priority, application Hungary, Mar. 19, 1968, NO-124

Int. Cl. G05g 1/14

U.S. Cl. 74-594.7

3 Claims



The invention provides a simple and very reliable mechanism for turning the toe clips of collapsible bicycles in order to diminish their packing volume. For this purpose an axially displaceable pin is provided in the device, this pin being pushed in its connecting position by a spring and being adapted to be moved in the disengaging position by a push button.

3,541,885

POWER SHIFT TRANSMISSION FOR RACING VEHICLES

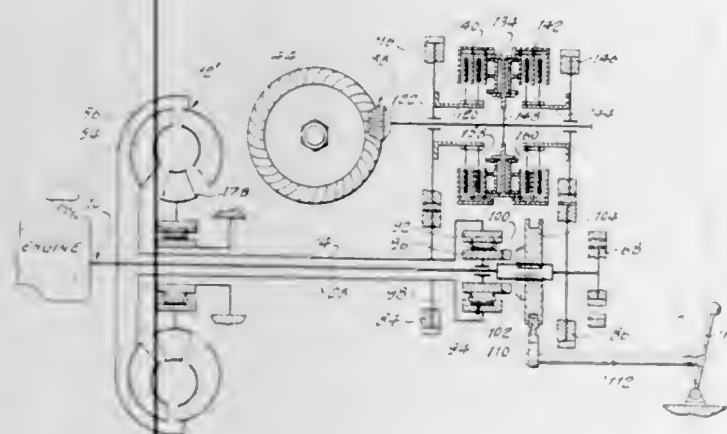
Lawrence D. Burcz, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Jan. 16, 1969, Ser. No. 791,672

Int. Cl. F16h 47/06, 3/10

U.S. Cl. 74-720

7 Claims



A racing car transmission comprising a hydrokinetic coupling and two-speed-ratio gearing, power input elements of the gearing being located concentrically with respect to the turbine of the coupling, the output gearing element being mounted for rotation about the axis of the countershaft, controllable clutch structure for conditioning the mechanism for operation in either the high-speed ratio condition or one of two low-speed ratio conditions, and semi-automatic control valves for establishing non-synchronized ratio changes.

3,541,886

TWO-SPEED TRANSMISSION WITH TWO SIMPLE PLANETARY GEAR UNITS

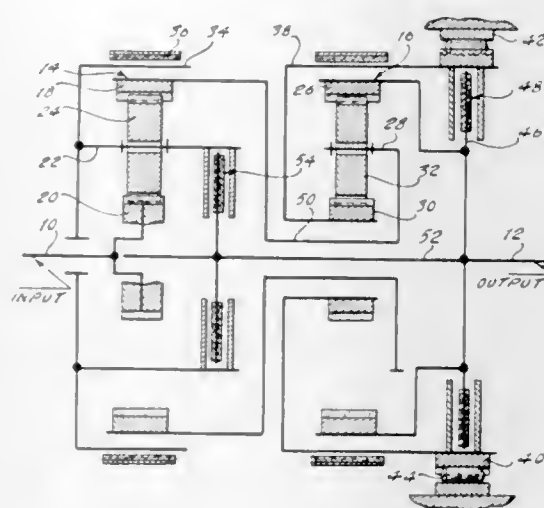
Charles C. Bookout, Orchard Lake, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Apr. 14, 1969, Ser. No. 816,003

Int. Cl. F16h 57/10

U.S. Cl. 74-763

6 Claims



A two-speed ratio transmission mechanism including two simple planetary gear units that are commercially available in three-speed ratio automotive transmission mechanisms, the gear units establishing a compound torque delivery path during operation in underdrive, and a direct-drive, lock-up condition being established during high speed ratio operation, the ratio spread between the underdrive and the direct-drive ratios being compatible with the operating requirements of a two-speed ratio driveline.

3,541,887

TRANSMISSION AND CONTROL

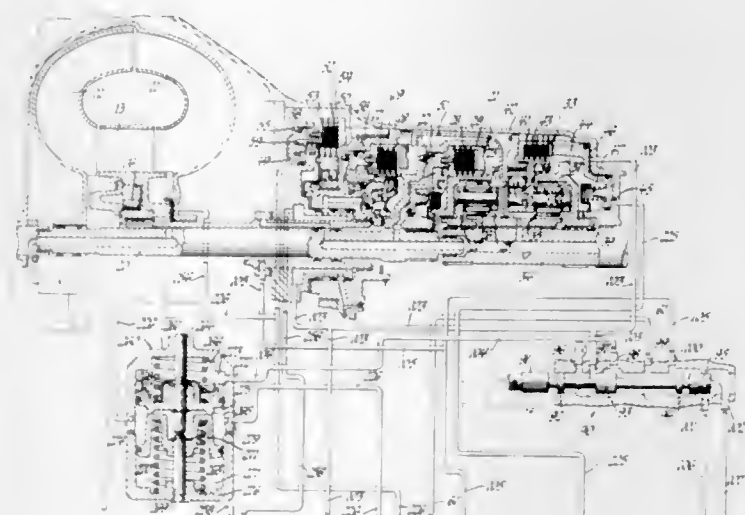
Henri J. Van Lent, Warren, John E. Mahoney, Bloomfield Hills, and Leo G. Steinel, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 28, 1969, Ser. No. 811,439

Int. Cl. F16h 57/10; G05g 19/00; B60k 71/10

U.S. Cl. 74-763

5 Claims



A transmission and control system wherein the transmission includes a casing, planetary gearing, a second speed disc brake and a one-way brake positioned at the forward end of the casing, a forward drive clutch, a direct drive clutch located intermediate the second speed disc brake and forward drive clutch and low gear brake

means located rearwardly in the casing from the forward drive clutch, control features include accumulators and accumulative timing valves for providing smooth downshifts from direct to second gear drive and from second gear to first gear drive. Controls include a drive range selector valve for selecting drive, intermediate and low range operation. In drive range, overrun coast is provided in first and second gear. In intermediate range, second gear start can be provided with overrun coast braking. In low range, first gear start is provided with overrun coast braking in all forward drive ratios. A manually operable detent valve is movable through a first range of positions and to first and second detent positions. In the first detent position, which occurs before the carburetor throttle valve is fully open, modulation pressure, which is variable, is delivered to the second to third shift valve for downshifting the valve. In the second detent position, which occurs at full carburetor throttle opening, a fixed pressure controlled by a detent pressure regulator valve is delivered to the modulator valve to establish a minimum modulator pressure equal to the fixed pressure. A second to first gear detent valve, at speeds above a predetermined speed, blocks off delivery of the fixed pressure to the first to second shift valve to prevent downshift of the first to second shift valve. The fixed pressure will be delivered to the second to third shift valve through the detent valve to downshift the second to third shift valve.

3,541,888

MECHANICAL POWER TRANSMITTING MECHANISM

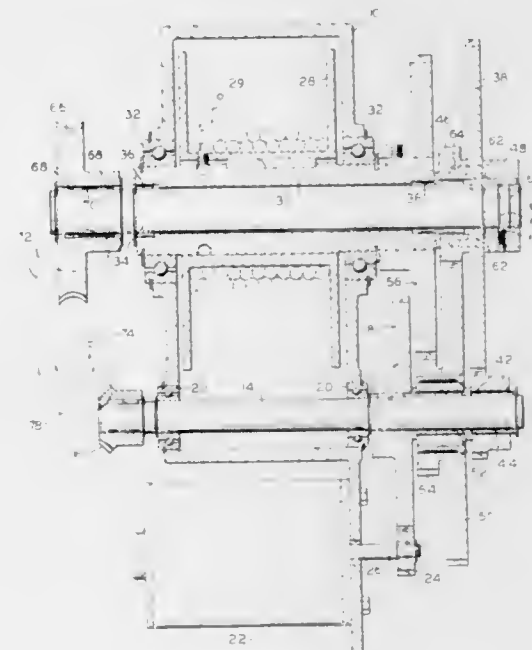
Frank Hegar, Oregon City, and Vearl Day, Beaverton, Oreg., assignors to Warn-Bellevue, Inc., Portland, Oreg., a corporation of Oregon

Filed Apr. 14, 1969, Ser. No. 815,920

Int. Cl. B66d 1/00; F16h 5/52

U.S. Cl. 74-810

8 Claims



A mechanical power transmitting mechanism particularly useful for a winch is disclosed which provides a low friction loss spur gear drive for the winch drum in the rope take up direction and which snubs reverse rotation of the drum under control of reverse rotation of the input shaft. This snubbing action is provided by a self locking worm and gear assembly connected in parallel with a portion of the spur gear drive in combination with an overrunning clutch in series with such portion of the spur gear drive and an overrunning clutch in series with the worm and gear assembly.

3,541,889

APPARATUS FOR AUTOMATICALLY REVERSING THE DIRECTION OF ROTATION OF A SHAFT, WITH CONTINUALLY VARYING AMOUNTS OF ANGULAR ROTATION THEREOF

Heinrich Peter Weller, 63 Bellhovenstrasse, 405 Monchen-Gladbach, Germany, and Josef Mehl, Schillerstrasse 18, Wegberg, Germany

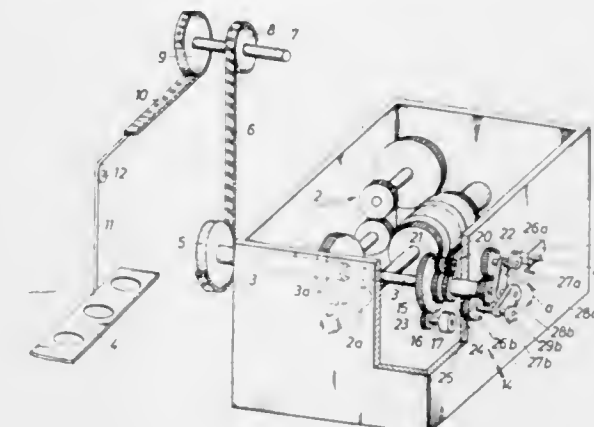
Filed Mar. 3, 1969, Ser. No. 803,870

Claims priority, application Germany, Mar. 1, 1968, 1,650,786

Int. Cl. F16h 5/52; F16d 67/00

U.S. Cl. 74-810

6 Claims



The shaft for driving the mechanism that raises and lowers a bank of circular holes on a thread-winding machine, is driven by a reversing gear mechanism which is operated by a control switch actuated by two eccentric, rotatable cam disks carried by angularly spaced support arms mounted on the shaft. The cam disks are driven by a train of gears which are turned in one direction only by a main driving gear, connected to the shaft by a one-way clutch so that it can turn therewith in one direction only. Another gear meshing with the driving gear is free to turn in one direction only on a stationary shaft, and serves to brake said driving gear when the shaft turns in the other direction. With the main drive gear thus held stationary while the shaft turns in said other direction, the train of gears connected to the cam disks is driven by a third gear fixed to the shaft and meshing with a fourth gear turning on a shaft mounted eccentrically on the driving gear, said fourth gear being one of said train of gears driving the cam disks. As the eccentric cam disks revolve with the shaft, they increase or decrease the angular distance between their switch-contracting edges, thereby continually varying the angular travel of the shaft between reversals in direction.

3,541,890

DEVICE FOR ARRESTING THE TURNING TABLE OR THE LIKE OF MACHINE TOOLS

Willi Minkenberg, Monchen-Gladbach-Rheindahlen, Germany, assignor to Schiess Aktiengesellschaft, Dusseldorf-Oberkassel, Germany

Filed Aug. 20, 1968, Ser. No. 754,091

Claims priority, application Germany, Aug. 23, 1967, 1,627,283

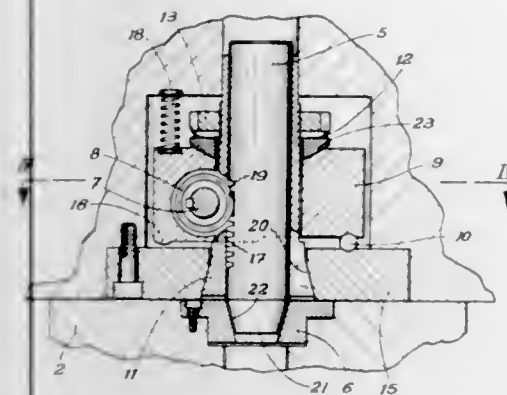
Int. Cl. B23b 27/24

U.S. Cl. 74-816

6 Claims

A locating device for a pair of relatively rotatable members in which one of the members has locating sockets therein and the other of said members has locating pins therein reciprocable into and out of engagement with the sockets. Each pin is slidable in a bushing which has a tapered end part received in a tapered hole in the pertaining member. Each bushing is engaged by a block moveable in the member carrying the pins and bushings, a single shaft is journaled in the blocks and connected to the pins for moving them to and from socket

engaging position. When the pins engage the sockets, further rotation of the shaft will move the blocks which will, in turn, move the bushings in a direction to cause

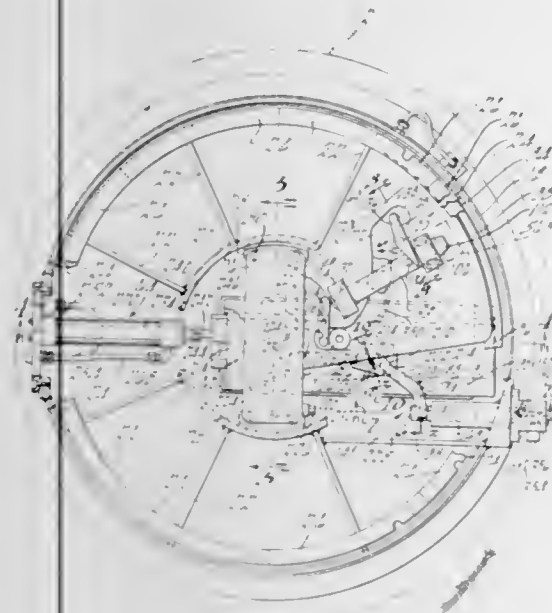


contraction thereof, thereby eliminating any lost motion between the pins and the member by which they are carried, thus providing for precise location of the members in indexed position.

3,541,891
INDEXING MECHANISM
Charles E. Sweet, 7143 S. Riverside,
Marine City, Mich. 48039
Filed Aug. 8, 1968, Ser. No. 751,187
Int. Cl. B23b 29/24

U.S. Cl. 74—822

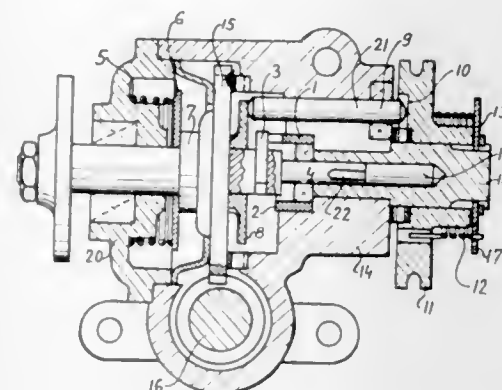
22 Claims



Apparatus for imparting progressive displacements, to a device, such as successive angular movements to a rotatable work table. A cam roll and slide structure is reciprocated generally radially of the table axis. Its cam roll applies pressure to the cam slot of a reverse cam plate to oscillate the latter through the displacement angle about the table axis. It also actuates a pair of releasable dogs or pins engageable with the table, one to rotate the table through the displacement angle concurrently with one directional movement of the cam plate and the other to hold the table stationary during return movement of the cam plate, engagement and disengagement of the dogs occurring whilst the cam plate is stationary and each dog being engaged with the table before the other is disengaged therefrom.

3,541,892
CONTROL MEANS FOR THE CONTROL OF THE PISTON STROKE OF A PISTON PUMP
Jiri Kubinek, Milos Marcik, Rudolf Jokl, and Eugen Ritschl, Prague, Czechoslovakia, assignors to JAWA, narodni podnik, Tynec nad Sazavou, Czechoslovakia
Filed Jan. 31, 1969, Ser. No. 795,473
Claims priority, application Czechoslovakia, Feb. 2, 1968, 813/68
Int. Cl. F04b 7/06, 49/00
U.S. Cl. 74—839

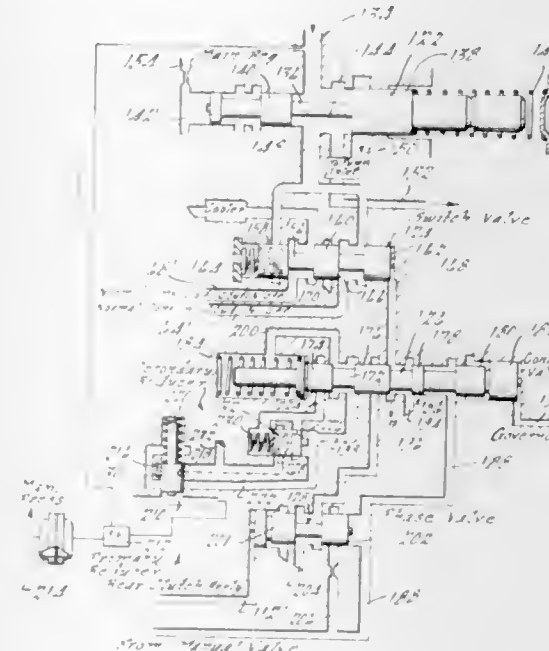
2 Claims



Control means for the control of the piston stroke of a piston pump with a reciprocating and simultaneously rotating piston, enabling it to maintain a prior adjusted amount of delivered liquid even after wear due to prolonged operation. The wear of cam means generating the reciprocating movement of the piston is compensated by the wear of stop means limiting the stroke of the piston.

3,541,893
CONTROL VALVE SYSTEM CONTROLLING RATIO CHANGES IN A MULTIPLE RATIO POWER TRANSMISSION MECHANISM
William J. Dyke, Northville, and Paul G. Roberts, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 2, 1968, Ser. No. 718,069
Int. Cl. B60k 21/00; F16d 47/00
U.S. Cl. 74—864

6 Claims

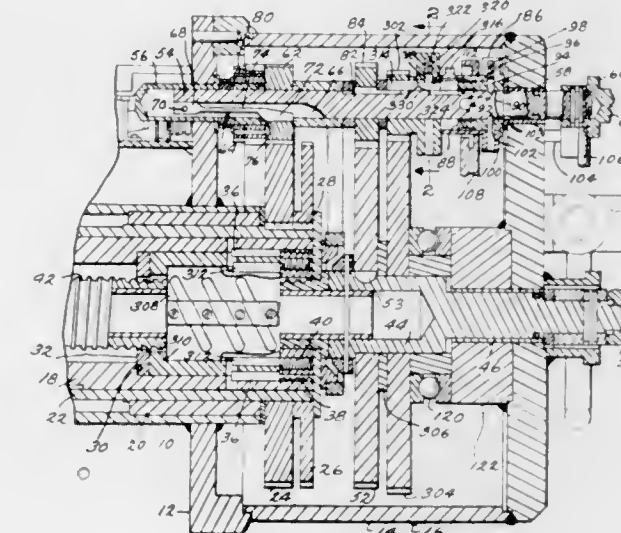


A control valve system for a multiple-ratio, power transmission mechanism in an automotive vehicle drive-line including fluid pressure operated servos for controlling the relative motion of transmission gear elements, and a valve system including an engine torque signal source for producing a controlled signal for the control valve

which delays the ratio upshift point during acceleration to a degree that is dependent upon the magnitude of the engine torque being delivered through the gearing, wherein the torque signal is modified to cause the upshift point to occur at a torque demand that is substantially different than the torque demand that would occur on a downshift from the higher speed ratio to the lower speed ratio thereby avoiding the occurrence of "hunting" or uncontrolled transitions from one ratio to the other when transient driving conditions are present.

3,541,894
DRILLING MACHINE
Frank H. Mueller, John J. Smith, and Lynn D. Edwards, Decatur, Ill., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed Sept. 16, 1968, Ser. No. 760,006
Int. Cl. B23b 41/08
U.S. Cl. 77—37

4 Claims



A drilling machine for tapping a pipe includes a rotatable boring bar which is advanced linearly by a ball bearing nut and screw combination, the nut being fixed to the boring bar and the screw being rotated by a power source. The power source is inactivated when the pipe has been tapped, and the fluid pressure in the main will act on the boring bar tending to force it in a reverse direction thereby tending to rotate the screw rapidly in an uncontrolled manner. To prevent this the machine includes a friction brake of special design which automatically restrains reverse rotation of the screw yet is not sufficient to prevent manual reverse rotation of the screw by the operator.

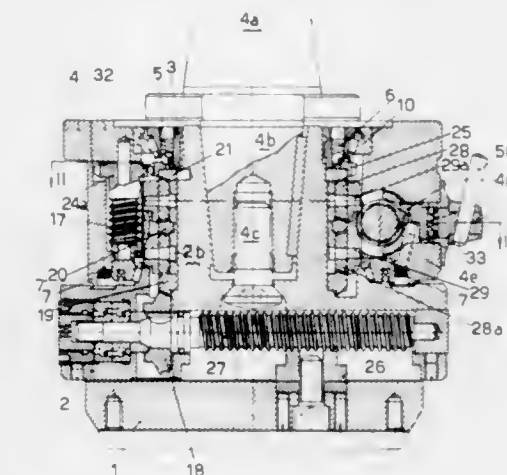
3,541,895
DEVICES FOR IMPARTING RADIAL DISPLACEMENTS TO ECCENTRICALLY ROTATING PARTS
Nicola D'Andrea, Via Luigi Cagnola 6, Milan, Italy
Filed Feb. 21, 1968, Ser. No. 707,114
Claims priority, application Italy, Feb. 27, 1967, 35,080/67, Patent 798,352
Int. Cl. B23b 29/034

U.S. Cl. 77—58

5 Claims

An apparatus for imparting radial displacements to an eccentrically rotatable tool includes a casing, a rotary member located within the casing and connected to the driving shaft of a machine tool, a tool carrying slide movable transversely to the axis of the driving shaft and a level gear ring keyed to the rotary member and driving a set of bevel pinions. The bevel pinions are rotatably mounted on pins carried by the casing and mesh with a double bevel gear ring. This double bevel gear ring meshes with another set of bevel pinions mounted on radial pins

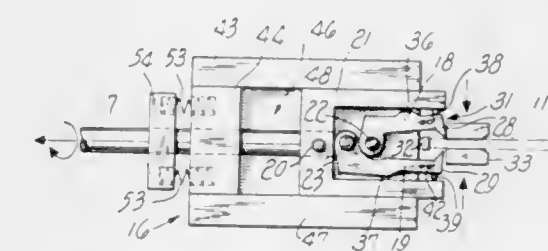
projecting from the inner wall of a worm wheel. There is also a second double bevel gear ring which meshes with the other set of bevel pinions. A bevel pinion which meshes with the second double bevel gear ring is keyed to a screw shaft which actuates the slide. A second screw shaft extends perpendicularly to the driving shaft and meshes with the worm wheel to provide a radial displacement of the slide. The invention is particularly characterized by the provision of a third screw shaft integral with a pinion meshing with a crown gear mounted upon the rotary member and driven by a torque limiting coupling. This third screw shaft meshes with the helical



gear of a second worm wheel rotatably mounted on the second screw shaft. This second worm wheel meshes with a sleeve slidably mounted upon the second screw shaft. There is also a fourth screw shaft meshing with a third worm wheel which faces a second sleeve linked to the first-mentioned sleeve by a semi-cylindrical element. Due to this construction, the second screw shaft may be rotated at two different speeds by the rotary member. A control shaft carries a finger used to provide a sliding movement of the semi-cylindrical element. A lever connected with the control shaft is used to rotate it into three different positions.

3,541,896
APPARATUS FOR STRIPPING CABLES
Richard J. Watson, Danvers, Mass., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 25, 1968, Ser. No. 739,673
Int. Cl. H02g 1/12
U.S. Cl. 81—9.51

14 Claims

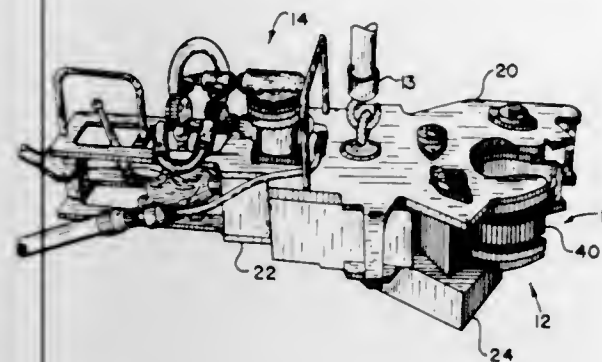


A cable stripping apparatus includes a rotating head with first and second pivotally mounted cutters. A yoke is moved axially in the head. A first cam on the yoke pivots the first cutter to cut through a braided cable shielding. The shielding disintegrates and exposes a plastic insulation. A second cam on the yoke then pivots the second cutter, moving a bifurcated cutting blade on the second cutter to cut through an axially offset portion of the insulation. The second cutter is next moved axially. The bifurcated cutting blade strips the severed insulation axially off of a central conductor core.

3,541,897
POWER TUBING TONGS
 Herbert D. Horton, P.O. Box 6434,
 Odessa, Tex. 79760
 Filed June 7, 1968, Ser. No. 735,450
 Int. Cl. B25b 17/00

U.S. Cl. 81-57.18

7 Claims

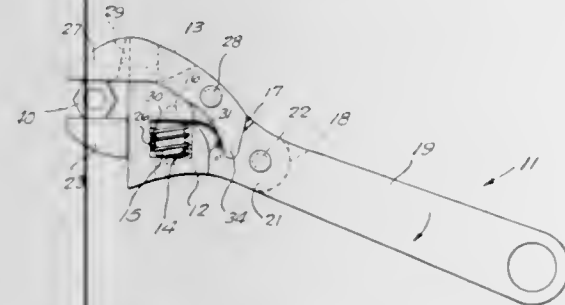


Improved power tubing tongs for multiple string operations which enables threads on the tubing joints to be individually made up on multiple production wells. The power tongs include an external housing having a bull gear assembly disposed for the major circumferential distance thereabout with the external housing being adapted to receive a removable internal jaw section therein. The internal jaw section includes a tubing die circumferentially disposed for the major circumferential distance about the inside peripheral wall surface thereof. The internal jaw section includes a segment which pivotally swings open to permit the insertion of a tubing therein and an abutment which cooperates with an edge portion of the external housing in a manner whereby rotation of the bull gear assembly imparts rotational motion into the internal jaw section which in turn causes the removable dies to firmly grasp the tubing when the tubing is to be made up. Upon disassembly of the joints of tubing, the internal jaw section is inverted within the external housing to permit joints of tubing to be unscrewed. The configuration of the external housing and the drive train assembly permits the power tubing tongs to cooperate with each string of tubing in a triple completed well without the necessity of springing each of the tubes apart from one another.

3,541,898
RATCHET WRENCH
 Mark M. Murata, Kaneohe, Hawaii
 (Box 275, FPO, Seattle, Wash. 98766)
 Filed Aug. 30, 1968, Ser. No. 756,491
 Int. Cl. B25b 13/28

U.S. Cl. 81-111

2 Claims



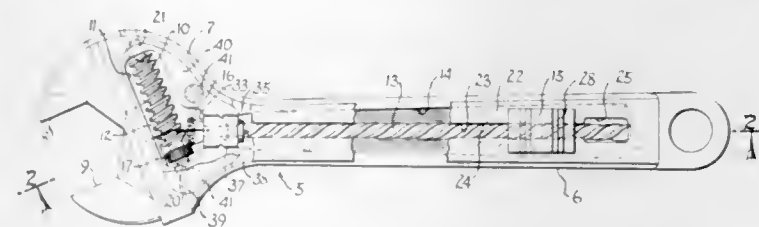
An adjustable ratchet wrench consisting of a housing in which a first wrench jaw is slidably-mounted and is gearingly-engaged by a manually-operated adjusting worm journaled in the housing. A second jaw is pivoted to the housing and is biased toward the first jaw by a flat spring. A handle is pivoted to the housing and has a drive notch engageable with a drive lug on the inner end of the pivoted second jaw. In one direction of rotation the handle rigidly interlocks with the drive lug and holds the pivoted jaw rigidly in parallel relation to the first

jaw. In the opposite direction of rotation of the handle, the pivoted jaw can yield against the tension of the spring to allow the jaws to slip from one set of opposed flat surfaces of an object between the jaws to the next adjacent set of opposed flat surfaces of the object, thereby providing a ratchet action.

3,541,899
QUICKLY ADJUSTABLE END WRENCH
 James H. Tanner, Milwaukee, Wis., assignor to Koerper Engineering Associates, Inc., Milwaukee, Wis., a corporation of Wisconsin
 Filed Feb. 19, 1968, Ser. No. 706,357
 Int. Cl. B25b 13/16

U.S. Cl. 81-165

5 Claims

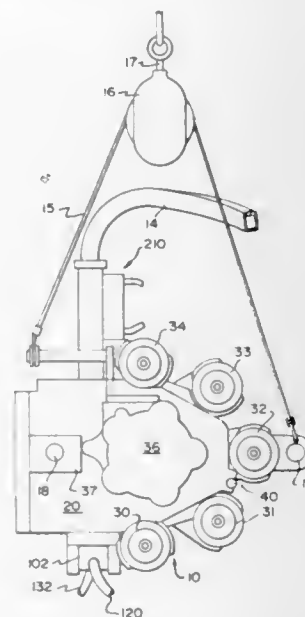


Adjustment of the movable wrench jaw is effected by means of a slide movable along the handle to rotate a helical shaft that is gear connected with a worm which actuates the jaw. The front end portion of the helical shaft is a reduced diameter journal engaged by a split bearing comprising an inner bearing member and a press-fitted complementary outer bearing member. The gear on the helical shaft reacts against the split bearing to take rearward thrust; a thrust washer on the rear of the journal portion takes forward thrust.

3,541,900
NUT FEEDING AND DRIVING APPARATUS
 Kenneth C. Mosier, 3516 Springdale Ave.,
 Dayton, Ohio 45429
 Filed Nov. 14, 1968, Ser. No. 775,688
 Int. Cl. B25b 17/00, 23/02, 13/00

U.S. Cl. 81-57.23

28 Claims



The apparatus includes a hand manipulatable driving unit, a stationary nut advancing unit, and a single flexible tube or nut conduit connecting these units. The advancing unit includes mechanism for supplying nuts to the flexible conduit, the latter being designed to receive the nuts in a continuous train with the nuts in flat-to-flat relation. The driving unit includes a passageway communicating with the conduit for receiving the nuts in a continuous train. The housing of the driving unit includes means defining a plurality of other passageways communicating with the

first mentioned passageway and also communicating with respective powered spindles mounted on the housing. The driving unit mounts a plurality of plungers, one for each spindle, for substantially simultaneously advancing nuts from the single train of nuts to respective spindles. The driving unit also mounts a plurality of pneumatically actuated reciprocal pushers for forcing the nuts axially through the spindles for substantially simultaneous threading engagement of the nuts with respective studs, such as the studs on an automobile wheel.

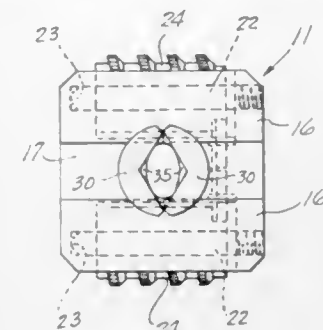
3,541,901
ADJUSTABLE SOCKET
 Mark M. Murata, Kaneohe, Hawaii
 (Box 275, FPO, Seattle, Wash. 98766)
 Filed Aug. 30, 1968, Ser. No. 756,628
 Int. Cl. B25b 13/14, 13/16

U.S. Cl. 81-165

5 Claims

An adjustable socket for use with a socket wrench. The socket has a housing with a pair of opposing jaws pro-

jecting therefrom, the jaws having parallel rack elements slidably mounted on parallel trackways in the housing. The rack elements are gearingly engaged by parallel



jecting therefrom, the jaws having parallel rack elements slidably mounted on parallel trackways in the housing. The rack elements are gearingly engaged by parallel knurled worm members journaled in the housing and projecting laterally from its opposite sides so as to be manually rotatable. The worm members are gearingly coupled together for simultaneous operation.

3,541,902

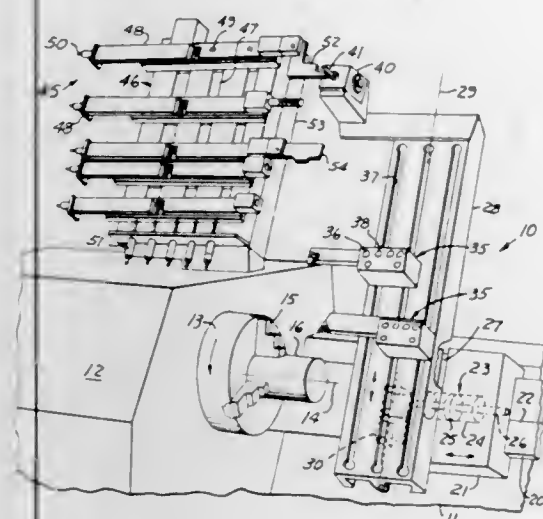
TEMPLATE-CONTROLLED MACHINE TOOL

Paul J. Weaver, Pasadena, California, assignor to True-Trace Corporation, El Monte, California a corporation of Connecticut

Filed March 26, 1968, Ser. No. 716,027
Int. Cl. B23b 3/28

U.S. Cl. 82—14

5 Claims



This invention relates to a template-controlled machine tool in the nature of a lathe or a chucker, and to a method of machining workpieces. A tracer valve and a tool holder means are mounted to the free one of a pair of stacked slides which can move along a pair of axes disposed obliquely to one another in order to duplicate the configuration of a template in a workpiece. The bed of the machine carries template holder means to be scanned by the tracer valve. According to a preferred feature of the invention, when successive cutting passes are made over the workpiece, the successive templates lie closer to the workpiece, and the successive tools lie closer to the tracer valve, so that the position of the tracer valve becomes closer to the workpiece from pass to pass, thereby reducing inherent tolerance errors in machining the final product.

3,541,903

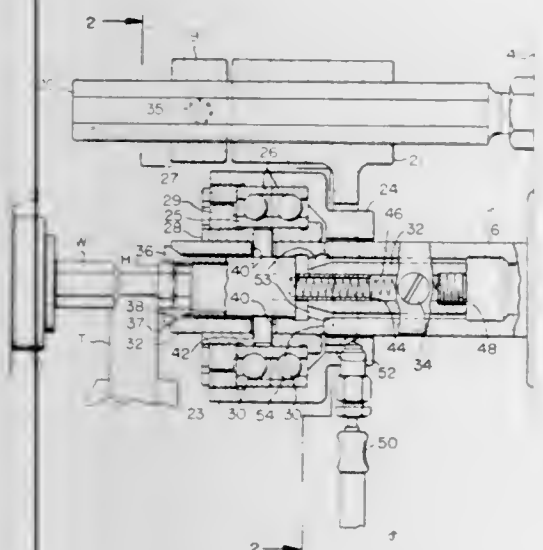
SCREW MACHINE CHUCK

Earl W. Brinkman and Wray S. Seymour, Rochester, New York, assignors to Davenport Machine Tool Company Inc., Rochester, New York a corporation of New York

Filed March 7, 1968, Ser. No. 711,318
Int. Cl. B23b 25/00

U.S. Cl. 82—38

4 Claims



For supporting a workpiece in an automatic screw machine a chuck is mounted on a reciprocable tool spindle in axial alignment with a work spindle so that a workpiece mounted on the work spindle is held also at its projecting end during a tooling operation. The work and tool spindles are driven at

the same speed. The tool spindle chuck is of the split collet type. The collet-closing sleeve is secured to the tool spindle to rotate and reciprocate therewith. It surrounds the collet and is mounted in an antifriction bearing whose outer race is held against rotation. The collet is spring-pressed to released position.

3,541,904

BAR-STOCK GUIDE ARRANGEMENT FOR A SWISS-TYPE AUTOMATIC LATHE

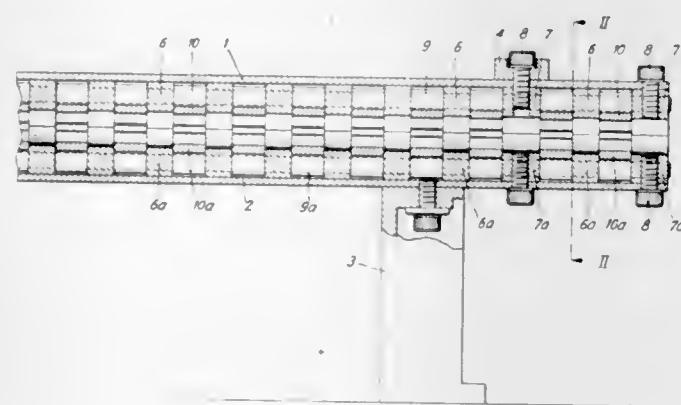
Charles Gurtner, Moutier, Switzerland, assignor to Fabrique de Machines Andre Bechler S.A., Moutier, Bern, Switzerland

Filed April 9, 1969, Ser. No. 814,699
Claims priority, application Switzerland, April 19, 1968, 5843/68

Int. Cl. B23b 25/00

U.S. Cl. 82—38

2 Claims



The bar-stock guide housing is divided into upper and lower parts, the upper part being free to swing upwards, permitting the housing to be opened up for sideways loading of the bar stock.

3,541,905

CUTTING APPARATUS AND METHOD

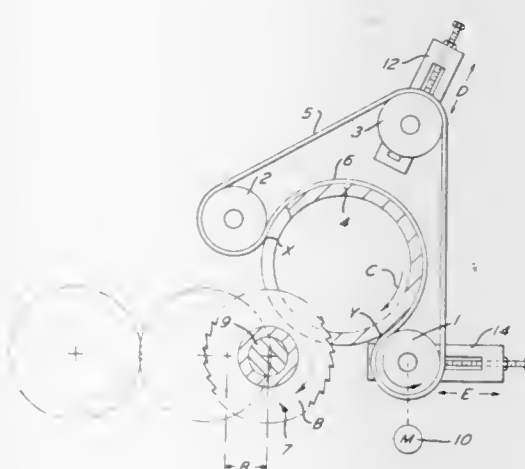
Helmuth Mey, Sursee, Switzerland, assignor to Contec Ltd., Sursee, Switzerland a corporation of Switzerland
Filed July 5, 1968, Ser. No. 742,815

Claims priority, application Germany, July 24, 1967, C42,876

Int. Cl. B23b 3/04, 5/14

U.S. Cl. 82—47

7 Claims



Tubular workpieces are cut radially into rings by a rotating blade. The workpiece may be stationary or rotated about its longitudinal axis by an endless belt contacting at least 180° of the periphery of the workpiece.

3,541,906

METHOD AND SYSTEM FOR CONTROLLING SHARPENING AND REPLACEMENT OF A CUTTING BLADE OF A MATERIAL CUTTING MACHINE

George W. Sederberg, Highland Heights, Kentucky and James G. Wiatt, Cincinnati, Ohio, assignors to Cincinnati Milacron Inc., Cincinnati, Ohio a corporation of Ohio
Filed Oct. 16, 1968, Ser. No. 768,139

Int. Cl. B26d 7/12

U.S. Cl. 83—13

13 Claims U.S. Cl. 83—171

5 Claims



The wear time of a cutting blade of a material cutting machine is timed by timing means. When a predetermined period of wear time has been timed by the timing means, means to sharpen the cutting blade are activated when the cutting blade is next removed from cutting engagement with the material. After a predetermined number of sharpenings of the cutting blade has occurred, indicating means warns the operator that the blade should be replaced.

3,541,907

METHOD AND APPARATUS FOR LOADING AND UNLOADING A MATERIAL CUTTING MACHINE

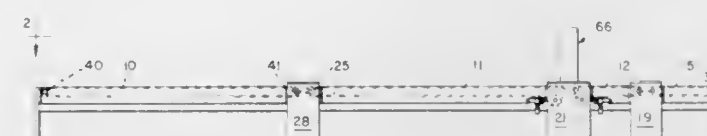
James G. Wiatt and Edward C. Bruns, Cincinnati, Ohio, assignors to Cincinnati Milacron Inc., Cincinnati, Ohio a corporation of Ohio

Continuation of application Ser. No. 641,621, May 26, 1967, now abandoned. This application July 3, 1969, Ser. No. 842,802

Int. Cl. B26d 1/00

U.S. Cl. 83—23

18 Claims



A material cutting machine has a pair of endless bands adapted to be driven in unison to move material longitudinally relative to a cutting blade, which is disposed in a transverse passage formed between the pair of bands. The cutting blade is adapted to move transversely of the pair of bands while the material is moved longitudinally by the endless bands to cut a desired pattern in the material. A loading storage table, which has an endless band functioning as its movable top, is disposed adjacent one of the pair of bands at the end remote from the cutting blade. When a clutch is engaged, the top of the loading storage table is driven in unison with the pair of bands to advance the material from the loading storage table onto the pair of bands. A discharge storage table, which has an endless band functioning as its movable top, is disposed adjacent the other of the pair of bands at the end remote from the cutting blade. When a clutch is engaged, the top of the discharge storage table is driven in unison with the pair of bands to move a severed portion of the material, which has the pattern cut therein, from the pair of bands to the discharge storage table.

3,541,908

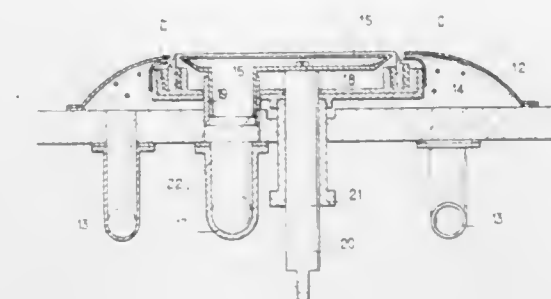
DEVICE FOR CUTTING THE WRAPPER LEAVES OF CIGARS, CIGARILLOS OR LIKE PRODUCTS

Pierre Waegaert, Bordeaux, France, assignor to Service D'Exploitation Industrielle Des Tabacs et Des Vallumettes, Paris, France a French public establishment

Filed June 28, 1967, Ser. No. 649,595

Claims priority, application France, July 1, 1966, 67784

Int. Cl. A24b 7/02



Device for cutting the wrapper leaves of cigars, cigarillos or like products, comprising means for modifying the material of the tobacco leaf along a desired cutting line, said means being adapted to produce action without any counterpart on at least one of the faces of the tobacco leaf and to cooperate with means for holding said leaf in the outspread position while producing action on at least a portion of the leaf surface which is located outside the zone of action of said leaf-modifying means.

3,541,909

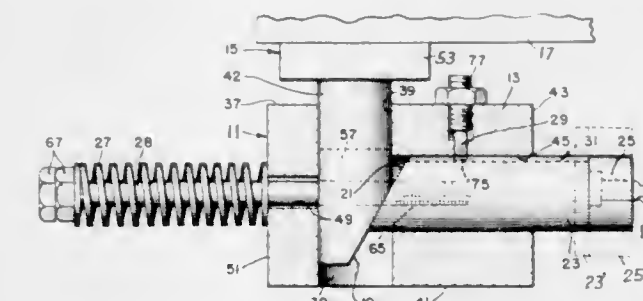
SIDE ACTION PIERCING UNIT

Romer H. Franzen, 2714 Guilford Road, Rockford, Ill. 61107
Filed Apr. 5, 1968, Ser. No. 719,158

Int. Cl. B26d 5/16

U.S. Cl. 83—588

7 Claims



An inexpensive piercing unit is formed for operative connection to a ram of a press and is able to pierce an opening in a wall of formed parts such, for example, as cylindrically or cup-shaped workpieces by causing a piercing tool or tools to move laterally to and through an upwardly projecting wall thereof as a result of vertical movement of the press ram, this being done alone or at the same time when another tool or tools is doing vertical piercing, when necessary.

3,541,910

CUTTER KNIVES AND METHODS OF MAKING THE SAME

Charles Wesley Murray, Franklin Park, Pennsylvania, assignor to Heppenstall Company, a corporation of Pennsylvania

Filed Aug. 28, 1968, Ser. No. 756,021

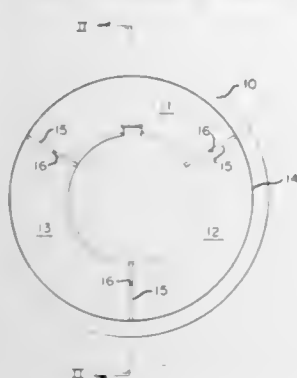
Int. Cl. B23d 35/00

U.S. Cl. 83—676

7 Claims

A composite cutter is provided having an outer annular carbide cutter ring, and a plurality of slightly spaced apart

hub segments metallurgically bonded to said cutter ring within said annulus and forming a shaft receiving opening.



The hub segments are joined radially by a low temperature bonding compound such as epoxy.

3,541,911

SHEAR BLADES

Josef Schillers, Moenchengladbach-Rheindahlen, Germany, assignor to Schloemann Aktiengesellschaft, Duesseldorf, Germany a German Company

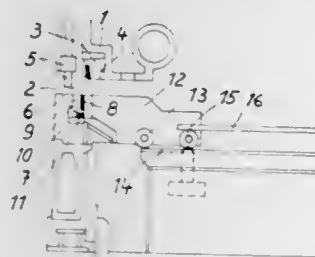
Filed May 8, 1968, Ser. No. 727,575

Claims priority, application Germany, May 11, 1967, Sch 40695

Int. Cl. B26d 1/06

U.S. Cl. 83-694

4 Claims



A shear blade, comprising: upper and lower shear saddles, upper and lower cutter blocks secured in the upper and lower shear saddles, each cutter block consisting of a filler bar and a cutting blade, dovetail-shaped teeth connecting the two filler bars with their associated shear saddles, the gaps between the said teeth being wider than the coating teeth, and the teeth on the two filler bars being of corresponding depth but of opposite inclination to one another.

The apparatus includes a carriage movable transversely to the cutting blades, an adjusting device for moving the upper cutter block parallel to the cutting blades, receiving lugs mounted on the carriage and adapted to engage in horizontal longitudinal slots in the lower filler bar.

ERRATUM

For Class 83-698 see:
Patent No. 3,542,643

3,541,912

MANUAL AND CHORD BUTTON BANK PORTABLE-NECKED BODY FOR AN ELECTRIC ORGAN

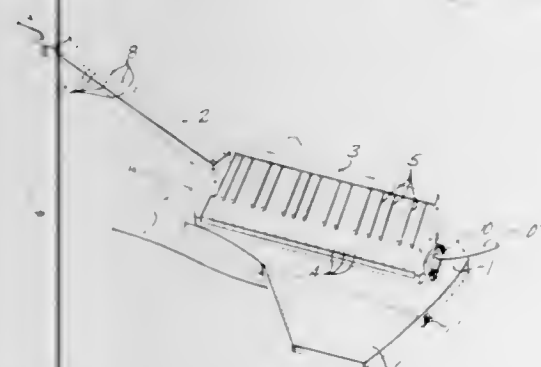
John C. Radke, Seattle, Washington (10228 Main St., Bothell, WA 98011)

Filed July 24, 1968, Ser. No. 747,350

Int. Cl. G10c 3/12; G10h 1/00

U.S. Cl. 84-117

10 Claims



A guitarlike mounting includes a body carrying a manual and a neck projecting from the body and carrying a chord

button bank. The manual and the chord button bank include switches closable by depressing keys of the manual and buttons of the bank which are connected to relays for energizing tone generators corresponding to the various keys of the manual and buttons of the bank.

3,541,913

DRUM WITH QUICK CHANGEABLE BATTER HEADS

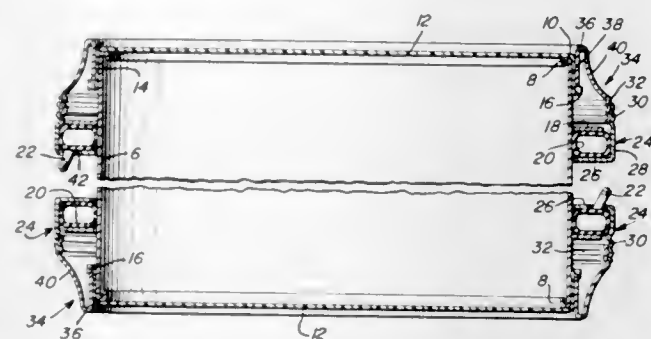
Frank J. Severino, Reseda, California, assignor, a fractional part interest to Shelly Manne, Northridge, California

Filed July 24, 1968, Ser. No. 747,271

Int. Cl. G10d 13/02

U.S. Cl. 84-413

6 Claims



Each end of a cylindrical drum shell is provided with head attaching and retaining means which not only facilitates tuning but ready attachment and replacement of the head. A sectional collar encircles an outstanding annulus or rim. The collar encompasses the rim and holds an inflatable and deflatable tube beneath the rim. The sections of the collar are adjustably screwed together and the outer section has a turned in adapter flange whose edge provides a thrust lip. When the tube is inflated the lip exerts end thrust pressure on the usual holddown ring or frame of the drumhead and applies the tension desired.

3,541,914

ANGULARLY AND RADIALY ADJUSTABLE SPUR ASSEMBLY FOR BASS DRUMS

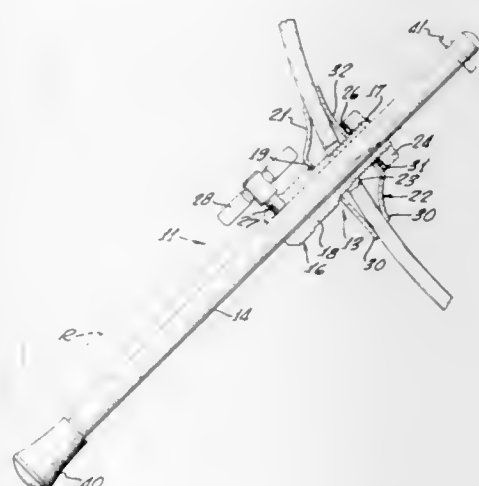
Josephus B. Thompson, deceased, late of Covington, Ohio, by K. E. Stade, administrator, Covington, OH, assignor to Columbia Broadcasting System, Inc., New York, New York a corporation of New York

Filed July 29, 1968, Ser. No. 749,261

Int. Cl. G10d 13/02

U.S. Cl. 84-421

7 Claims



A spur assembly for bass drums, in which a bushing is mounted generally radially of the drum shell by means of a nut and first and second corresponding mounting washers, such washers being angularly offset 180° relative to each other. A set screw is provided to mount the spur in the bushing at any desired radial position. Conjoint rotation of both washers during the mounting procedure permits the bushing and thus the spur to project at a great variety of angles relative to the shell, so that the spur may be mounted on different diameters and types of bass drums.

3,541,915

PLURAL ELECTRONIC MUSICAL INSTRUMENTS FOR TEACHING

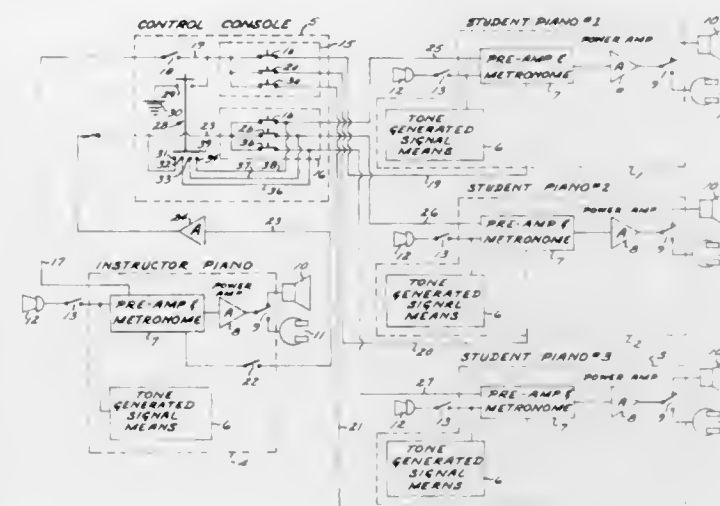
Harold B. Rhodes, Anaheim, California, assignor to Columbia Broadcasting System Inc., New York, New York a corporation of New York

Filed Sept. 12, 1968, Ser. No. 759,272

Int. Cl. G09b 15/00; G10h 1/00

U.S. Cl. 84-470

7 Claims



A school system for teaching piano, guitar, etc., and wherein a musical instrument is provided for each of the students and for the instructor. Each piano (or other instrument) is supplied with a microphone, a metronome, amplification means and electro-acoustic transducer means, in addition to the signal means which are responsive to the musical tones being generated. Switching and circuit means are provided to connect the instructor's piano with each individual student piano, or with various groups of student pianos, and also to connect selected ones of student pianos with each other for ensemble play or communication. Such switching and circuit means permit the instructor to deliver the sound generated by his metronome to the individual students, so that a "master metronome" effect is provided whereby all (or a group) of the students may play at the same speed in ensemble. Switching means are also provided to permit the instructor to transmit his voice to all students simultaneously, and also to prevent the students from transmitting sounds to the instructor or to each other, whereby the instructor may have the full attention of the class for group instruction or for fire drill purposes.

3,541,916

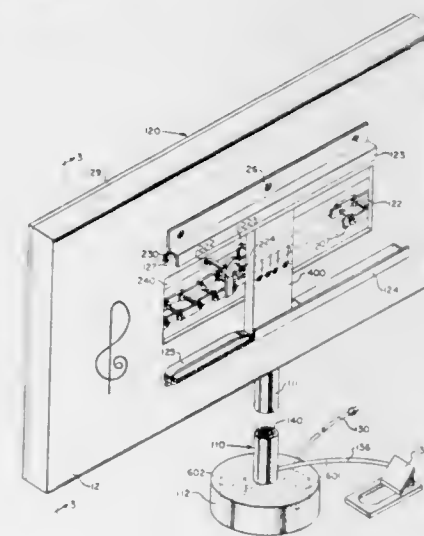
RHYTHM TEACHING MACHINE

John E. Reid, Sr., 152 S. Lincoln, Mundelein, Illinois
Continuation-in-part of Ser. No. 698,703, Dec. 11, 1967.
This application March 10, 1969, Ser. No. 814,874

Int. Cl. G10b 15/00

U.S. Cl. 84-484

11 Claims



A machine for teaching timing to music students employs a manually-controlled low voltage powered, electrically or

manually operated motor mechanism to advance a rhythm indicating lamp across a carriage at a smooth tempo while said lamp is viewed by the operator of the machine.

3,541,917

BOLT SET AND BOLTED JOINT

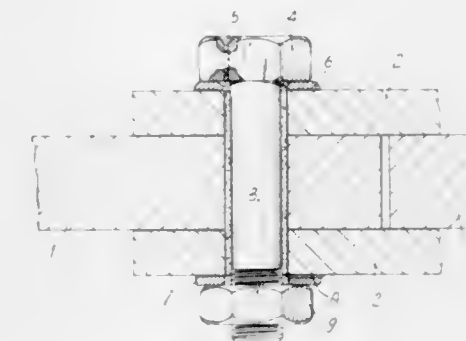
Adolf A. VanDowen, 31, V. Almondestraat 31, Delft; Jacobus DeBack, 22, Wilhelminasingel, Pijnacker; Leendert P. Bouwman, 14, Brinkmanstraat, Rotterdam, and Herman Kluwen, 3, Kuijperlaan, Pijnacker, Netherlands
Filed April 7, 1969, Ser. No. 814,001

Claims priority, application Netherlands, April 9, 1968, 6804977

Int. Cl. B65d 53/06; E21b 33/10; F16b 35/00

U.S. Cl. 85-1

4 Claims



Bolt set comprising a threaded bolt, the bolthead of which having a through-going channel debouching just beside the bolt body, if desired one or more washers and a nut, the washer adjoining said nut or said nut itself at its side turned towards the bolthead having a vent from its central bore to its circumference.

3,541,918

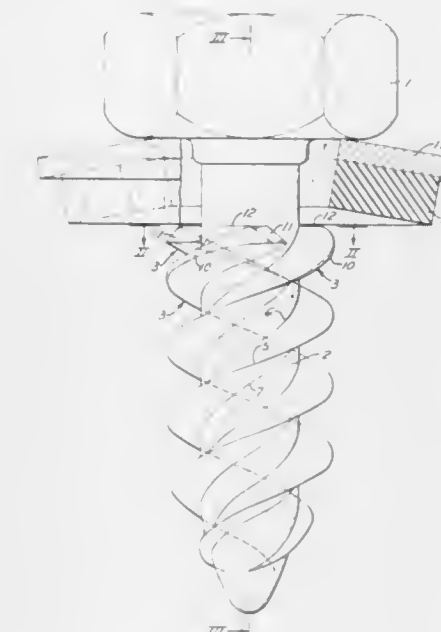
SELF-LOCKING FASTENER

Thomas B. Johnson, Droz Ave., Ambridge, Pennsylvania
Filed July 25, 1969, Ser. No. 844,959

Int. Cl. F16b 25/00, 39/30

U.S. Cl. 85-46

4 Claims



A self-locking fastener is made from a self-tapping screw and a resilient washer. The upper surface of each V-thread has a uniform pitch, and the lower edge of each thread root has the same pitch as its upper edge for most of its length but becomes less steep along the upper portion of the thread to thicken the root in that area. Each thread at its upper portion is widened downwardly from the outer edge of its upper surface to form a longitudinally tapered crest extending along the thread from its upper end. The upper end of each thread has a flat end face connecting the upper end of the tapered crest with the screw stem and the upper end of the thread also has a flat top extending away from the upper edge of its

end face. The latter is inclined downwardly away from the adjoining flat top face.

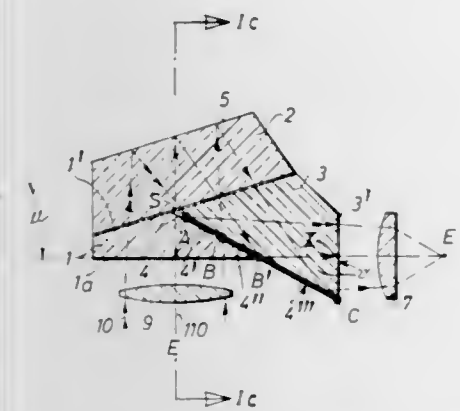
3,541,919

VIEW FINDER FOR A REFLEX CAMERA INCLUDING A ROOF PRISM

Adolf Weyrauch, Wetzlar, Germany, assignor to Carl Zeiss Stiftung doing business as Carl Zeiss, Württemberg, Germany a corporation of Germany
Continuation-in-part of application Ser. No. 440,354, March 15, 1965. This application March 18, 1969, Ser. No. 808,162
Ser. No. 808,162
Int. Cl. G03b 13/02

U.S. Cl. 88—1.5

10 Claims



A prism system for a view finder of a mirror reflex camera having an exceptional small size and which is composed of at least two prisms cemented together and in addition to a light admitting and a light exit surface has a first reflecting surface and a second reflecting surface. The latter is arranged in the plane of the cemented surface. The cemented surface comprises three sections all arranged in a single plane; one section of which transmits a portion of the entering light which together with the other portion goes to the first reflecting surface formed by two roof faces arranged on one of the two prisms; another section is formed by a dielectric layer which reflects a portion of the light reflected by the first reflecting face toward the light exit surface, while the third section of said cemented surface does not admit any light rays into said prism system and is fully reflective.

3,541,920

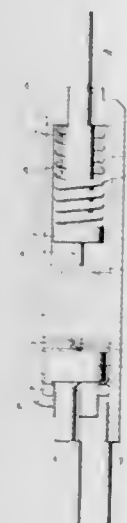
SPRING URGED IGNITABLE ACTUATING ELEMENT

Reinhold Rapp, Stadeln, Heinz Gawlick, Furth and Hellmut Bendler, Nurnberg, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
Filed April 8, 1968, Ser. No. 719,652

Claims priority, application Germany, Apr. 7, 1967, D52735
Int. Cl. F01b 29/08

U.S. Cl. 89—1

7 Claims



The translating actuating member of the element is held against the bias of a spring by a member that will release it in response to the heat given off by an electrically actuated pyrotechnic charge. The member may be a metallic plate or wire melttable or deformable in response to the heat given off

by the pyrotechnic charge or a ring spring radially expandable in response to the heat.

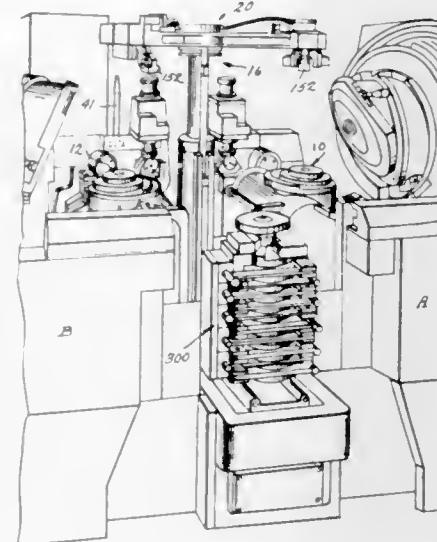
3,541,921

APPARATUS FOR TRANSFERRING WORK BLANKS AND WORKPIECES IN BEVEL GEAR MAKING MACHINES

Lawrence R. Helfer, Macedon and Ernst J. Hunkeler, Fairport, New York, assignors to The Gleason Works, Rochester, New York a corporation of New York
Filed Oct. 1, 1968, Ser. No. 764,219
Int. Cl. B23f 23/02

U.S. Cl. 90—1

27 Claims



A work loader and transfer device for handling and moving gear blanks and gear pieces from one station to another in a gear cutting apparatus is disclosed. The work loader and transfer device is constructed to operate between at least two cutting or working positions of a machine and includes means for being lifted and lowered as well as rotated back and forth about a vertical axis of rotation. Work holding devices are positioned on the ends of arms associated with the work loader and transfer device, and more than one type of work holding device may be associated with a single work loader and transfer means. Each work holding device includes a centering cup means for contacting a gear piece and for centering the same relative to the work loader and transfer device, and jaw members are provided for effecting a tight grip of the workpiece. Means may be provided for rotating or indexing the workpiece relative to the loader and transfer device so that the workpiece is properly oriented for a cutting operation. Also, a method for handling work blanks and workpieces between two or more stations of gear cutting apparatus is described.

3,541,922

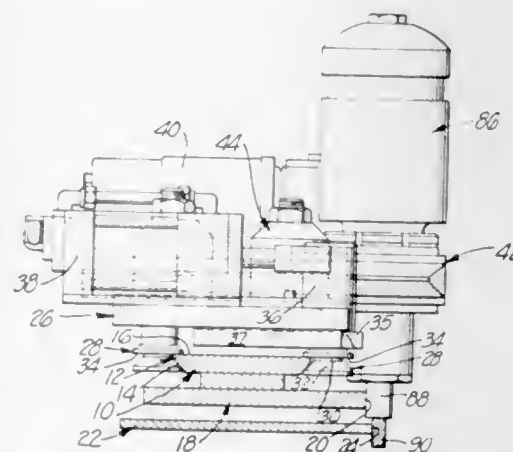
SUPPORT MECHANISM FOR TEMPLATE GUIDED TOOL

Laurel E. Dunlap, 4510 Mary Ellen Ave., Sherman Oaks, California 91403

Filed June 24, 1968, Ser. No. 739,249
Int. Cl. B23c 1/16

U.S. Cl. 90—13

9 Claims



A supporting track has angular, longitudinal side edges engaged by angular roller surfaces on laterally spaced sets of

supporting rollers to longitudinally movably support the carriage. Pressure cylinders constantly laterally urge the supporting rollers at one of the track sides toward said side for maintaining support roller gripping. Longitudinally spaced sets of guide roller assemblies on the carriage have V-shaped roller surfaces engaging mating roller surfaces on lateral side edges of a guide plate to support the guide plate laterally movable. Each roller assembly has independently adjustable upper and lower roller parts for aligning the guide plate. A template controls lateral movement of the guide plate and a tool thereon during longitudinal movement of the carriage along the supporting track.

3,541,923

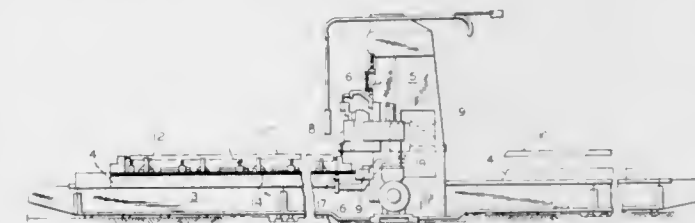
METHOD AND APPARATUS FOR SURFACE-TREATING CONTINUOUSLY CAST SPECIAL STEEL SLABS

Kichiro Saigo, Hikari and Naokichi Matsui, Hiroshima Prefecture, Japan, assignors to Nippon Steel Corporation, Tokyo, Japan and Daiwa Heavy Industry Co., Ltd., Hiroshima Prefecture, Japan
Continuation-in-part of application Ser. No. 509,956, Nov. 26, 1965, now abandoned. This application July 9, 1968, Ser. No. 761,363

Claims priority, application Japan, Dec. 2, 1964, 39/67,392
Int. Cl. B23d 1/30

U.S. Cl. 90—24.3

7 Claims



An apparatus for continuously surface treating cast special steel slabs. The apparatus has a forwardly and rearwardly movable table on which a continuously cast special steel slab can be mounted and supported. Means for providing a memory of the shape of the surface of the slab extend along the side parts of the top surface of the slab, and a cutter supporting crossrail is positioned above said table and extends transversely of the direction of movement of the table and is movable up and down relative to said table. Cutter means is provided on said crossrail, and means are provided for supporting said crossrail and are coupled to and actuated by said memory providing means for inclining said crossrail transversely of the table depending on the shape of the top surface of the slab at the edges thereof so that the position of the crossrail corresponds to the shape of the slab. The invention also includes the method of operating the apparatus for carrying out surface treating by the use of such an apparatus.

3,541,924

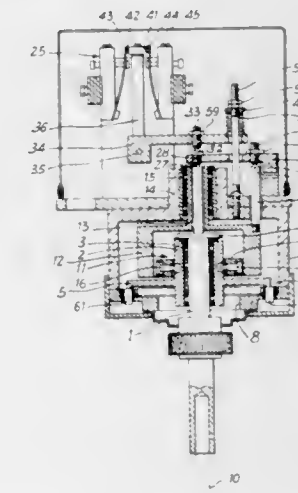
TRACER DEVICE FOR COPYING MACHINE-TOOLS

Paul Bregny Gambin, Viuz en Sallaz, France, assignor to Societe Anonyme Gambin S. A., Viuz en Sallaz, France
Filed Aug. 5, 1968, Ser. No. 750,164

Claims priority, application France, Sept. 14, 1967, 120946
Int. Cl. B23q 35/04

U.S. Cl. 90—62

4 Claims



A tracer control device for engraving and contour copying work having a tracer finger-carrying rod slidably mounted in

a hub connected through a cardan joint to a sleeve slidably mounted in a casing. The hub is secured to a circular upper plate resting on an annular lower plate secured to the casing. An actuating member which controls a system of electric contacts is biased against the inner end of the rod to urge an axial abutment of the rod against the hub and thereby to urge the upper plate against the lower plate.

3,541,925

DEVICE FOR DETECTING THE END OF TRAVEL OF JACK PISTONS

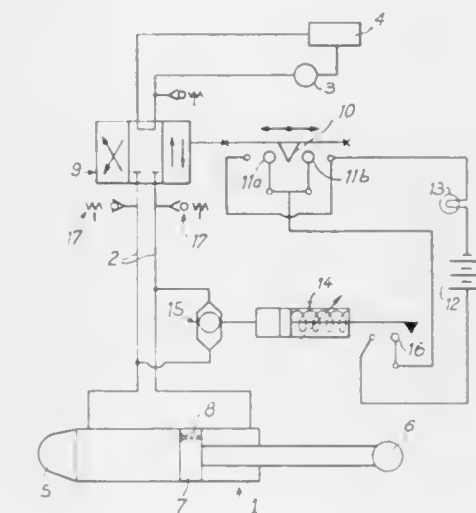
Gabriel L. Guinot, Le Plessis-Belleville, Oise, France, assignor to Societe Anonyme Poelain, Oise, France a corporation of French Society

Filed Sept. 4, 1968, Ser. No. 757,378

Claims priority, application France, Sept. 21, 1967, 121,772
Int. Cl. F01b 25/26, 31/12

U.S. Cl. 91—1

4 Claims



A device for detecting the end of travel of a piston in a double-acting jack cylinder fed by two feed conduits and a three-position distributor, the device including a pressure distributor connected to the two feed conduits and adapted to be actuated by a predetermined pressure, so that a pressure increase occurring in one or other of the conduits as a result of the piston reaching an end of travel position causes actuation of the pressure switch to cause a light indicator to be illuminated.

3,541,926

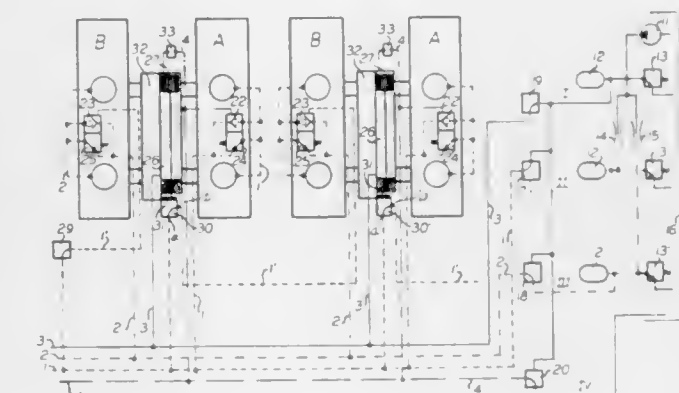
CONTROL SYSTEM FOR A STEPPING HYDRAULIC ROOF PROPPING SYSTEM

Konrad Grebe, Auf dem Nutzenberg 1, Wuppertal-Elberfeld, Germany

Filed April 8, 1968, Ser. No. 719,334

Int. Cl. F01b 15/00; F01b 15/02
U.S. Cl. 91—189

20 Claims



Hydraulic mine roof prop of the stepping type having a plurality of eocks, each having a pair of frames which act alternately as propping members and stepping members, in which system check valves are provided associated with each frame through which control hydraulic fluid is provided as supplied by the hydraulic fluid supply to the opposite frame

props, and in which a preselected elastic hydraulic pressure is maintained. The stepping and propping actions of the frames are controlled from a central point with a single set of hydraulic lines.

3,541,927

HYDRAULIC DAMPING MEANS

Katsuhiko Iijima, 40-1, Den-en Chofu 2-Chome, Ohta-Ku, Tokyo, Japan

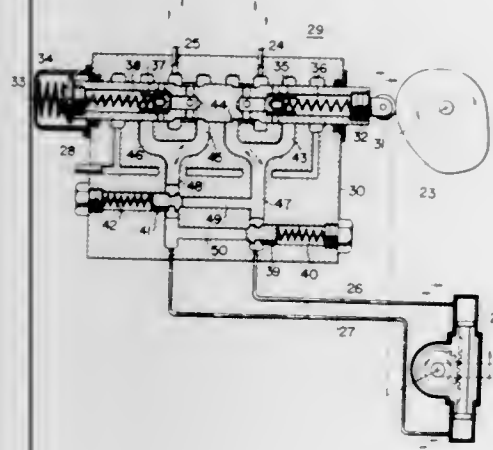
Filed Oct. 8, 1968, Ser. No. 765,912

Claims priority, application Japan, Oct. 17, 1967, 42/66747

Int. Cl. F15b 13/04; F15b 11/08

U.S. Cl. 91—410

6 Claims



cylinder operates under a lower pressure than the upright cylinder to elevate the carriage before the upright extends.

3,541,929

BAG MACHINES

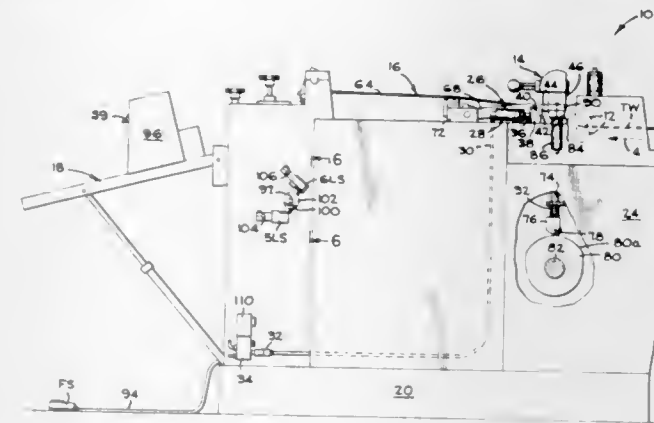
Donald C. Crawford and Robert J. Wech, Green Bay, Wisconsin, assignors to F M C Corporation, San Jose, California a corporation of Delaware

Filed Dec. 30, 1968, Ser. No. 787,767

Int. Cl. B31b 1/20; B65b 65/08; B31b 1/92

U.S. Cl. 93—33

16 Claims



A hydraulic system for hydraulically operated apparatus includes a control valve interposed between a source of fluid under pressure and a hydraulic actuator for effecting traversing of the hydraulic apparatus. A valve assembly is interposed between the control valve and the actuator and includes a cutoff valve controlling connection of the control valve to the actuator and operable to block flow of fluid to and from the actuator. This cutoff valve includes pressure-responsive check valves allowing fluid to flow in a reverse direction at a reversal point of the actuator. The cutoff valve is moved to its flow-blocking position by limit means, such as a cam or lever, operated by the actuator. This limit means operates the cutoff valve to block the flow at the limit of the desired range of traverse of the apparatus in either selected direction. A pair of pressure-responsive relief valves are interposed between the cutoff valve and the actuator and operate, responsive to the blocking action of the cutoff valve, to short circuit or interconnect the fluid lines leading to the actuator and thus to dampen the impact pressure due to abrupt deceleration of the actuator near its limiting position in either direction.

3,541,928

LIFT TRUCK UPRIGHT

Charles W. Conwell, Portland, Oregon; Donald A. Harris, Vancouver, Washington and Robert C. Shoemaker, Portland, Oregon, assignors to Huster Company, Portland, Oregon a corporation of Nevada

Filed March 28, 1968, Ser. No. 716,746

Int. Cl. F01b 1/00; B66b 9/20, 11/09

U.S. Cl. 92—146

31 Claims

A lift truck with a four stage upright having a load carriage on the upper stage movable by a hydraulic cylinder on such stage. Another hydraulic cylinder on the lower stage extends and retracts the upright. A passage in the piston and piston rod of the upright cylinder conducts fluid from a source on the lift truck to the carriage cylinder without such fluid first passing through the cylinder cavity of the upright cylinder.

The bag machine of the present disclosure comprises the usual heated reciprocating cutting and sealing bar which separates and welds a folded sheet of thermoplastic web into bags. A pneumatic cylinder, operated by a control circuit, moves a wedge shape block to prevent reciprocation of the seal bar by holding it in its raised position whenever the machine operator desires to interrupt web movement through the bag machine or when a predetermined number of bags have been produced.

3,541,930

MANUFACTURE OF BLISS BOXES

Robert S. Goodrich, El Segundo, California, assignor to Weyerhaeuser Company, Tacoma, Washington a corporation of Washington

Filed Dec. 1, 1967, Ser. No. 687,301

Int. Cl. B31b 1/44

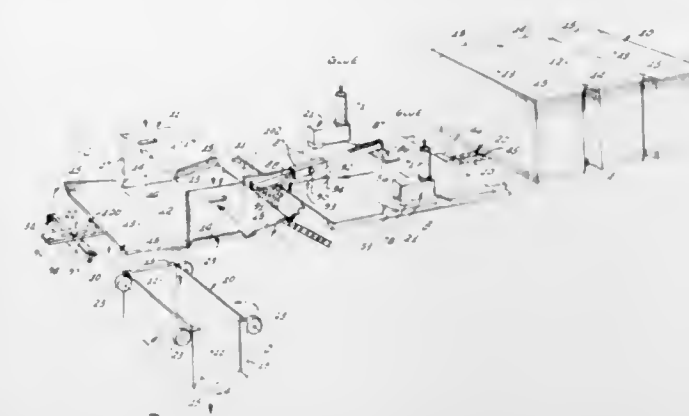
U.S. Cl. 93—51

13 Claims

A machine and method for continuously producing Bliss boxes from preformed end wall and body blanks. A portable compact framework has a pair of end wall blank magazines positioned at opposite ends of a forming station to which main body blanks are conveyed along a central conveyor means. Flaps of the main body blank are automatically striped with hot melt adhesive during passage along the central conveyor means. A mandrel mechanism overlying the forming station simultaneously thrusts a main body blank and

a pair of end wall blanks into the forming station to effect folding of the sides of the main body blank about the edges of the end wall blanks and to fold the glue-coated flaps into adhesive contact with the end walls. A plurality of camming devices are employed within the forming station to effect the folding of the main body sidewalls and of the glue-coated

grader, and is driven by a drive assembly 40 attachable to rigid arms 42 fixed to the circle. The spreader-compacter assembly has independently and reversibly driven augers 26 and 28, a striker blade and a vibrated screed. Shoes 34 and side plate extensions 32 bracket the augers and the striker, and the shoes engage the subgrade.



flaps. After formation of the box and upon withdrawal of the mandrel, stripper means within the forming station hold the completed box during withdrawal of the mandrel to release the box for dropping by gravity onto a conveyor. The machine is adjustable to accommodate not only various thicknesses of the box material but also various sizes of box blanks.

3,541,931

CEMENT FINISHING MECHANISM HAVING ADJUSTABLE ROTATING DRUM

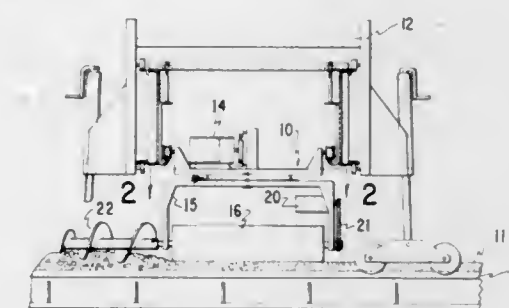
Harold W. Godbersen, Ida Grove, Iowa 51445

Filed Aug. 29, 1968, Ser. No. 756,240

Int. Cl. E01c 19/22

U.S. Cl. 94—45

2 Claims



A cement finishing mechanism for a self propelled deck finisher or the like having a rotating drum, the axis of which is canted in a direction such that the motion of the rotating drum on the side of the drum rotating upwardly moves the excess concrete out of the way and forwardly for more efficient finishing. Provision is made for changing the angle of cant, reversing the angle, or for having two rollers, one canted in each direction adaptable for alternate use dependent on the direction of motion of the carriage.

3,541,932

AUGER TYPE AGGREGATE SPREADER

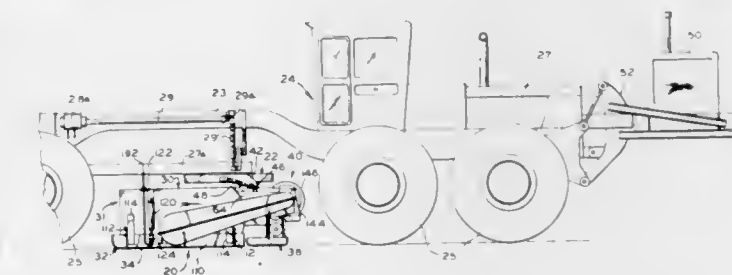
Raymond W. Hodson, Fall Creek, Oregon, assignor to Pape Bros. Inc., Eugene, Oregon a corporation of Oregon

Filed Dec. 18, 1967, Ser. No. 691,262

Int. Cl. E01c 19/00

U.S. Cl. 94—39

10 Claims



A spreader-compacter assembly 21 of an aggregate

combination with a wheeled power-driven vehicle provided with an augered screw-type conveyor. The device,

3,541,933

BERM-FORMING APPARATUS

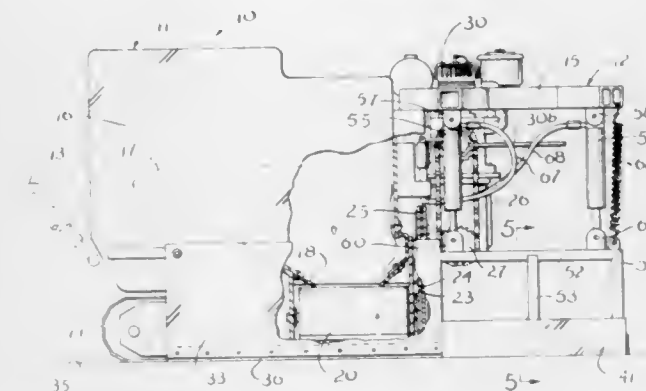
Edgar L. Carpenter, 330 Empire Ave., Modesto, California 95351

Filed Aug. 5, 1968, Ser. No. 750,087

Int. Cl. E01c 19/48

U.S. Cl. 94—46

17 Claims



Apparatus for constructing an asphalt berm or the like along a roadway. The apparatus is pulled along such roadway by a truck or other vehicle to which it may be attached, and it includes a hopper adapted to receive a supply of hot flowable asphalt therewithin. Communicating with the hopper is a belt-type conveyor that is transversely oriented and transports such flowable material from the hopper to an open receiver equipped at the rear end thereof with a mold. As the apparatus moves forwardly, the asphalt material discharged by the conveyor into the receiver is engaged by the mold which forms the material into the desired configuration while laying it along the roadway.

3,541,934

SHOULDER BUILDING APPARATUS

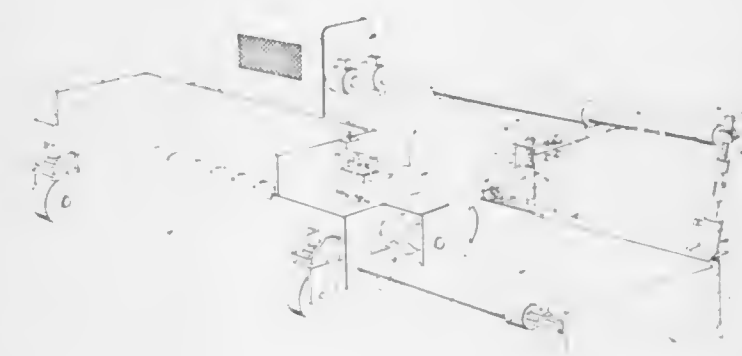
Neil E. Borgquist, Pasadena; Carl C. Scheurn, Sunland; Jesse T. Hughes, Glendora and Dom N. Maffia, Canoga Park, California, assignors to Industrial Asphalt Inc., Van Nuys, California a corporation of Delaware

Filed June 20, 1968, Ser. No. 738,463

Int. Cl. E01c 19/48

U.S. Cl. 94—46

5 Claims



Disclosed herein is a road shoulder paving device used in combination with a wheeled power-driven vehicle provided with an augered screw-type conveyor. The device,

detachably mounted on the side of a vehicle as described and rearwardly of the conveyor comprises a hydraulically controlled extendable or retractable scraper blade slidably sectioned for longitudinal adjustment during operation. The device also includes a hydraulically controlled telescoping rod for varying the pitch of the strike-off screed and thus the slope of the road shoulder during operation. The device further includes a forwardly extending scraper plate attached to the outer end of the scraper blade for controlling the width of the road shoulder.

3,541,935

PHOTOGRAPHIC OR CINEMATOGRAPHIC CAMERA WITH A LABYRINTH SEAL

Kurt Steisslinger, Stuttgart-Hedelfingen and Horst Simon, Fellbach near Stuttgart, Germany, assignors to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed Aug. 3, 1967, Ser. No. 658,091

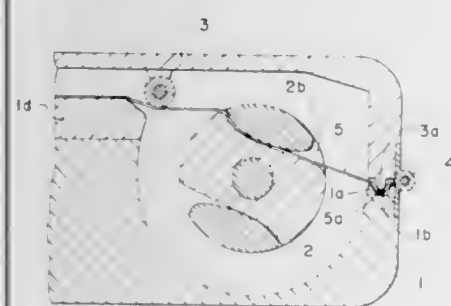
Claims priority, application Germany, Sept. 10, 1966,

K55470

Int. Cl. G03b 19/04

U.S. Cl. 95-11

5 Claims



A camera including a case part and a closable cover each having edges which mate to form a labyrinth seal for preventing light from entering the camera when the cover is closed. The labyrinth seal is formed so that any part of the film, such as the leader end, that may have entered the labyrinth seal can be removed from the seal during film wind even when the camera back is closed. The parts forming the seal may be designed and spaced to enable the film end to be removed through a tortuous path, or resilient material may be used to form portions of the seal, the resilient material being flexed during film wind to permit withdrawal of the film end.

3,541,936

APPARATUS FOR COMPENSATING FOR CROSS-AXIS IMAGE MOTION IN TILTED PANORAMIC CAMERAS

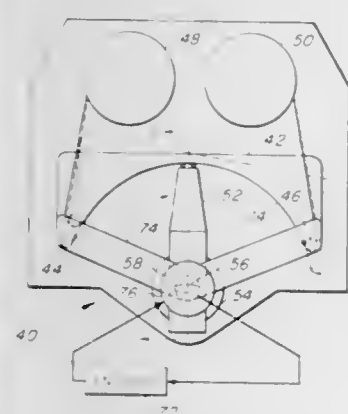
Joseph F. G. Miller, Lincoln and David Dudley Cook, Jr., Concord, Massachusetts, assignors to Itek Corporation, Lexington, Massachusetts a corporation of Delaware

Filed April 15, 1968, Ser. No. 721,224

Int. Cl. G03b

U.S. Cl. 95-12.5

13 Claims



A panoramic camera having a variable scan rate which is utilized to compensate for distortion of the photographed scene when the axis about which the camera scans is tilted relative to the scan scene. One arrangement for panoramic

cameras at high altitudes utilizes two panoramic cameras, one tilted aft, the other forward. The tilting of the axis of each of the cameras introduces a cross-axis image motion which results in distortion of the photographed image. This cross-axis image motion is compensated for by modifying the rate at which the film medium is scanned to provide a higher rate of scan when the cross-axis motion is in the direction of scan and provide a lower rate of scan when the cross-axis motion is in the direction opposite to the direction of scan.

3,541,937

CAMERA AND METHOD FOR EXPOSING AND DEVELOPING SLIDE TRANSPARENCY UNITS

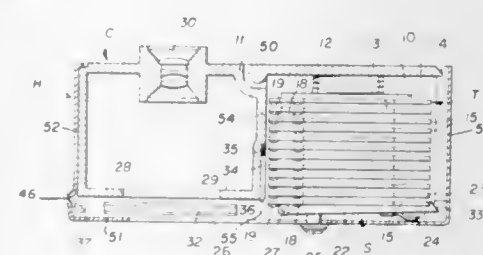
Hubert Nerwin, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed Oct. 16, 1967, Ser. No. 675,597

Int. Cl. G03b 17/50

U.S. Cl. 95-13

35 Claims



A camera is provided in which slide transparency units can be transported from a storage chamber to another chamber for exposure and development. Each transparency unit includes first and second pods containing developing agents. A simple slide mechanism moves successive units from the storage chamber to the exposure chamber, and is adapted to rupture the first pod and spread a first developing agent therefrom across the transparency as the slide is moved back toward the storage chamber. After a suitable development period, the slide is again moved toward the exposure chamber, transporting a succeeding transparency unit into exposure position. The latter movement forces the first transparency unit out of the camera, and simultaneously ruptures the second pod and spreads a second developing or fixing agent therefrom across the transparency.

3,541,938

DEVICE FOR EXPOSING AND PROCESSING RADIATION SENSITIVE UNITS

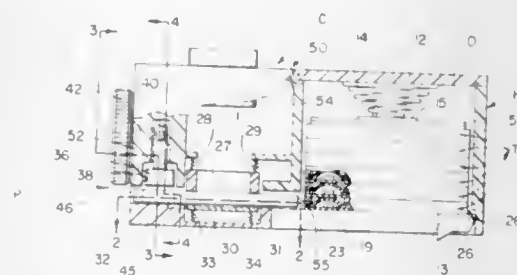
Donald M. Harvey, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed Jan. 4, 1968, Ser. No. 695,769

Int. Cl. G03b 17/52

U.S. Cl. 95-13

14 Claims



A device such as a camera, is provided in which a radiation-sensitive unit, such as a slide transparency unit can be transported from a storage chamber to another chamber for exposure and processing each unit including a radiation-sensitive element and at least one rupturable pod containing a processing agent. The preferred embodiment illustrates a camera suitable for exposing and processing a slide transparency unit, each unit including a pair of pods, adjacent to the transparency, containing nonviscous processing agents. After the transparency has been exposed, the two pods are sequentially ruptured and the processing agents contained

therein are forced across the transparency by a pair of pistons in or adjacent to the camera exposure chamber.

3,541,939

CARTRIDGE FOR DISPENSING SLIDE TRANSPARENCY UNITS

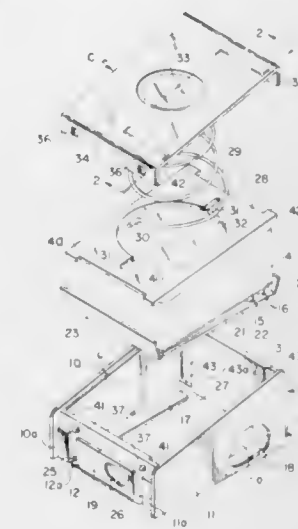
Leonard F. Kamp, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed Nov. 24, 1967, Ser. No. 685,618

Int. Cl. G03b 19/10, 17/52

U.S. Cl. 95-30

9 Claims



A cartridge for sequentially supplying unexposed slide transparency units to an exposure chamber of a camera having a reciprocating mechanism for withdrawing and transporting the units from the cartridge. The cartridge includes a housing having support members defining an opening for entry of the camera reciprocating mechanism into the bottom section of the cartridge, and an exit slot for the film units in one end of the cartridge. A pressure pad rides on units in the housing and is biased to urge the slide units towards the exit slot. In an alternative embodiment, the slide units are urged towards the exit slot by a spring-driven plunger included in the camera structure.

3,541,940

CARTRIDGE FOR DISPENSING AND STORING RADIATION SENSITIVE UNITS

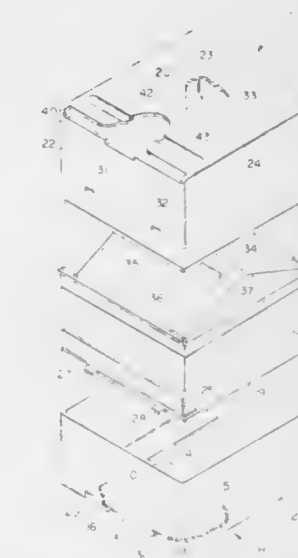
Henry J. Bartnick and Hubert Nerwin, Rochester, New York, assignors to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed Nov. 24, 1967, Ser. No. 685,687

Int. Cl. G03b 19/10, 17/52

U.S. Cl. 95-30

28 Claims



A cartridge for supplying radiation-sensitive units to an exposing device such as a camera of the so-called self-develop-

3,541,941

CAMERA SYSTEMS

John Denzil Barr, Oadby and Dexter Robert Plummer, Leicester, England, assignors to The Rank Organisation Limited, London, England a British company

Filed Aug. 7, 1968, Ser. No. 750,931

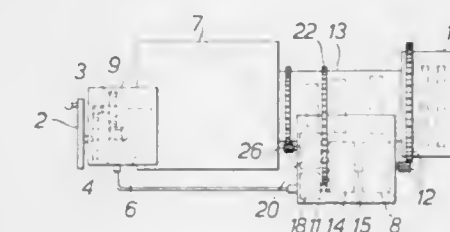
Claims priority, application Great Britain, Aug. 7, 1967,

36122/67

Int. Cl. G03b 3/02

U.S. Cl. 95-45

20 Claims



A television or motion picture camera system has an adjustable objective such as a zoom objective and an adjustable iris for varying the mean brightness of an image in the camera. Variable mechanical or electrical transmission means are provided for adjusting the focus setting of the objective in response to a focus demand signal and the effective transmission ratio of said transmission means is variable automatically as a function of the iris aperture setting, and preferably also as a function of the focal length setting, to give constant focus control sensitivity.

3,541,942

SHUTTER FOR PHOTOGRAPHIC CAMERAS

Wilhelm Bertram, Munich and Georg Amesbichler, Munich-Aubing, Germany, assignors to Ernst & Wilhelm Bertram, Munich-Pasing, Germany

Filed June 15, 1967, Ser. No. 646,235

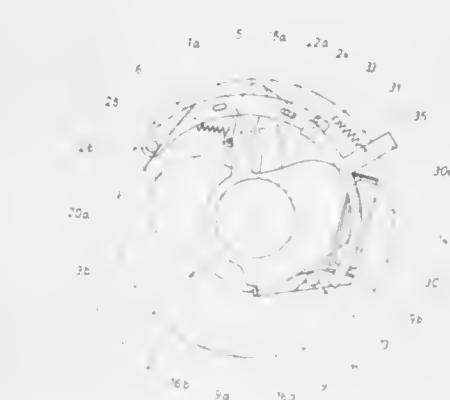
Claims priority, application Germany, June 16, 1966,

B87597

Int. Cl. G03b 9/14

U.S. Cl. 95-62

16 Claims



A two-lamellae-system shutter for photographic cameras comprising an open and closed lamellae system associated with the aperture. The opening of the open system and the closing of the closed system is effected by means of springs. The open system is held in the cocked closed position by means of a first locking pawl, the pawl being released by an electromagnet to open the system and control the aperture

width. The closed system is held in the cocked open position by a second locking pawl, which pawl is released by an electromagnet upon termination of the desired exposure time whereby said system closes.

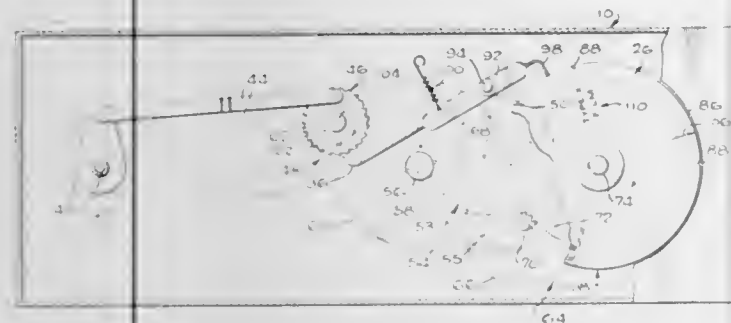
3,541,943 FILM PROCESSOR

Gary G. Witt, Santa Monica, California and Robert Reynolds, Yuma, Arizona, assignors to M. Brunson Motley, Inc., doing business as Richard Manufacturing Co., Van Nuys, California a corporation of California

Filed May 13, 1968, Ser. No. 728,659
Int. Cl. G03d 3/04

U.S. Cl. 95—89

10 Claims



Apparatus suitable for processing a variety of types of photographic films. The apparatus comprises a tank for holding the film and processing solution, and timing means for activating an alarm to signal the end of successive processing periods when the solution must be changed. The duration of each period is governed by an interchangeable timing cam driven by a motor. The motor also drives the alarm which is activated at the end of a processing period, and reciprocates a stirring shaft for stirring the solution in the tank.

3,541,944 NOZZLE FOR THE MOUTH OF AN AIR DUCT

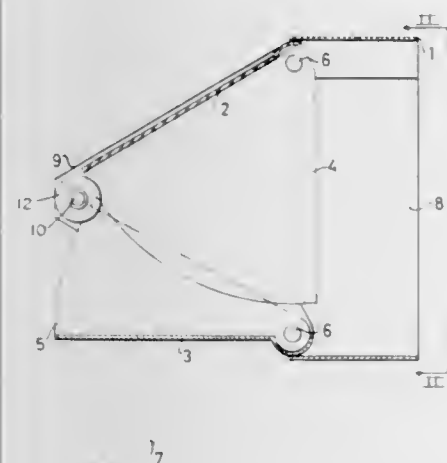
Svend Helge Kristiansen, Naestved, Denmark, assignor to Nordisk Ventilator Co. A/S, Naestved, Denmark

Filed May 27, 1968, Ser. No. 732,458

Claims priority, application Denmark, June 1, 1967, 2882/67
Int. Cl. F24f 13/06

U.S. Cl. 98—40

3 Claims



A mouthpiece for an air injection channel for ventilation purposes comprising two parts each made of a plate bent into a U-shape, the lateral parts thereof being shaped as circular sections, the two parts being pivotably mounted with a common axis through points approximately in the centers of the circular sections. The two parts form a tubular structure and are mutually independently adjustable over a range of angular positions so as to adjust both the mouth area and the axial direction of the mouthpiece as a whole.

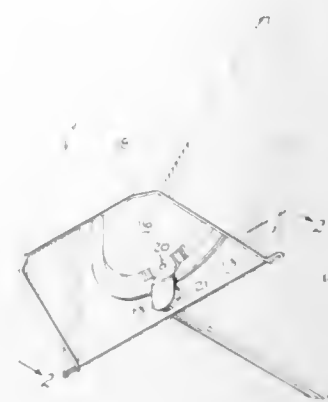
3,541,945 HOODED EXHAUST VENT

Monroe L. Wexler, Philadelphia, Pennsylvania, assignor to Acme Manufacturing Company, Philadelphia, Pennsylvania a corporation of Pennsylvania

Filed Feb. 26, 1969, Ser. No. 802,536
Int. Cl. F231 17/00

U.S. Cl. 98—119

3 Claims



An air venting apparatus for use with air discharge blowers, including an air discharge duct, a flap valve having a swingable valve plate movable by gravity to close the discharge end of the duct and one or more magnetic latches operative upon the valve plate to releasably retain the same in its duct closing position. Each latch includes a magnet, and a strike plate magnetically held to the magnet when the valve is closed, the strike plate being preferably carried by the valve plate to minimize mass loading thereof. The magnetic holding force is chosen to be sufficient to hold the valve shut against pressure differentials developed by outside wind, but is also chosen to be inadequate to prevent opening of the valve against pressure differentials developed by the associated air discharge blower.

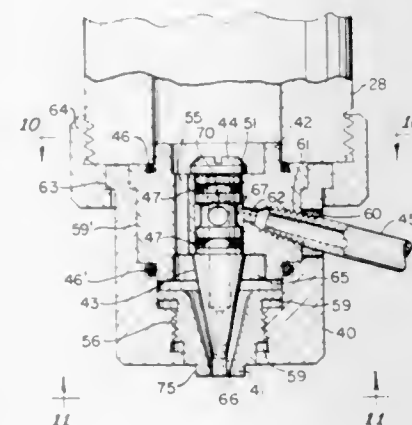
3,541,946 APPARATUS FOR CONTINUOUSLY PRODUCING A CENTER FILLED PUFFED CEREAL PRODUCT

Ronald M. Johnston, Crystal Lake, Illinois, assignor to The Quaker Oats Company, Chicago, Illinois a corporation of New Jersey

Filed May 13, 1968, Ser. No. 728,583
Int. Cl. A231 1/18

U.S. Cl. 99—238

3 Claims



A quick takedown apparatus for continuously producing a center-filled puffed cereal product. The center-filled die and the cereal dough die around it are maintained in proper alignment by concentric pilot surfaces on an inner and outer die assembly. In a preferred device a center-fill material is admitted to a removable inner die by way of a circumferential channel around the inner die which connects by conduit means to the hollow interior of the center-fill die.

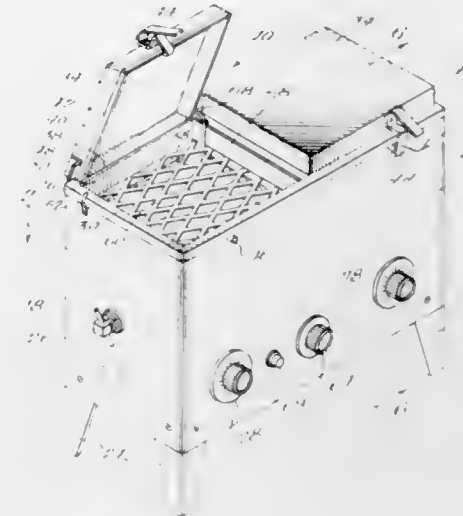
3,541,947 COOKING UTENSIL

Albert P. Anderson, Des Plaines, Illinois, assignor to Perfect Automatic Egg Timer & Mfg. Co., Elk Grove Village, Illinois a corporation of Illinois

Filed July 1, 1968, Ser. No. 741,684
Int. Cl. A47j 27/62

U.S. Cl. 99—332

11 Claims



The invention relates to utensils for cooking comestibles for a predetermined period of time. An insulated container is provided with one or more cooking chambers each separately closed by a pivoted cover. In operation, controlled heat is continuously supplied to water in the chambers with means being provided for shutting the heat off if insufficient water is available in the chambers. Interconnections are provided between each cover and a timing mechanism for that chamber such that after a predetermined time is set on the timer, the timer will commence operation only when the cover is closed. Expiration of the time on the timer will release the latched cover which will open and substantially stop the cooking in the chamber. The cooking takes place in the closed chamber by the action of the steam given off from the water in the chamber.

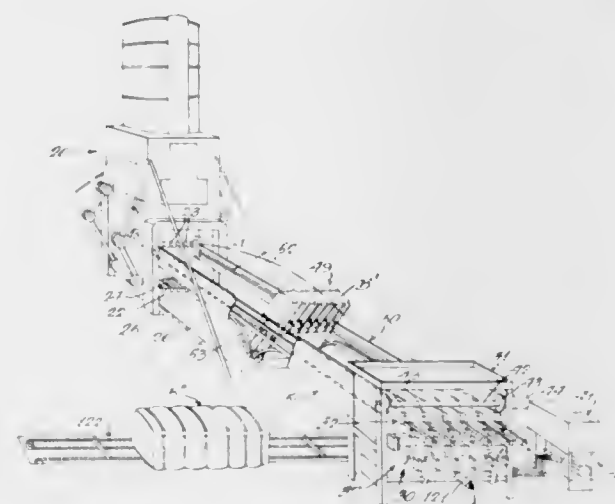
3,541,948 COTTON COMPRESS STRAPPING SYSTEM

Leo Peter Sauer, Glenview and Frank J. Lindholm, Park Ridge, Illinois, assignors to Signode Corporation, a corporation of Delaware

Filed Aug. 28, 1968, Ser. No. 755,886
Int. Cl. B65b 13/20

U.S. Cl. 100—3

20 Claims



A method and apparatus wherein a bale or like object is reduced in size in a press, and is allowed to partially expand into a holding means on a carrier assembly. The holding means removes the partially expanded object from the press, and mechanically transports it to a strapping station wherein loops of strapping are wound around the partially expanded

object. The holding means then releases the object to allow it to expand further into snug engagement with the encircling straps. The strapped object is then removed from the strapping station and the carrier structure moves the holding means back to the press for reception of a further object.

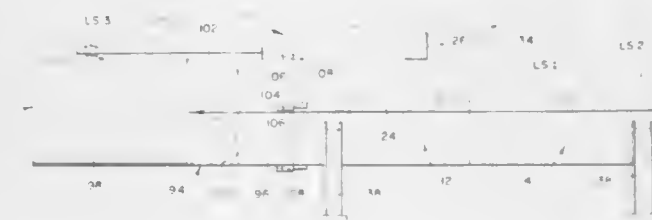
3,541,949 APPARATUS FOR COMPACTING MATERIAL INTO DRUMS OR BAGS

Milton Clar, Bethesda, Maryland, assignor to Auto Pak Company, Bladensburg, Maryland a corporation of the District of Columbia

Filed May 9, 1968, Ser. No. 727,845
Int. Cl. B30b 15/14

U.S. Cl. 100—49

30 Claims



Compaction apparatus having a material receiver chamber of polygonal cross section with an inlet opening at the top and a polygonal outlet opening at the front. A compaction blade of polygonal cross section moves through the chamber and forces material through the outlet opening into a snout having, in succession, a portion of polygonal cross section, a tapered transition portion, and a portion of circular cross section of reduced cross-sectional area. A receptacle received over the snout is moved along the snout as material is supplied thereto. The blade has cutting teeth which cooperate with a shear bar and is hydraulically actuated by a photoelectric control system.

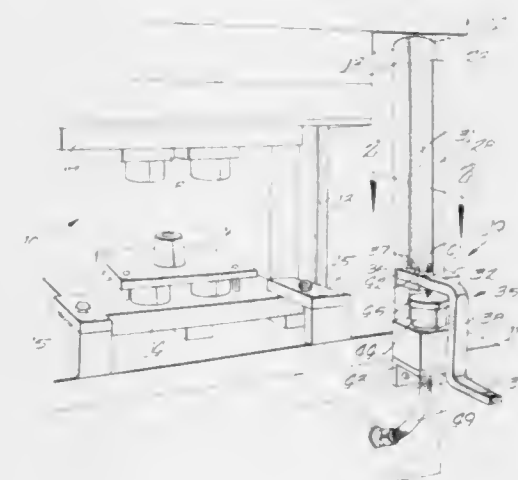
3,541,950 PRESS SAFETY DEVICE

Evans W. Anderson, Rockford, Illinois, assignor to Keystone Consolidated Industries Inc., a corporation of Delaware

Filed Sept. 11, 1968, Ser. No. 759,191
Int. Cl. B30b 15/28

U.S. Cl. 100—53

8 Claims



A safety device for a platen press to prevent injury to the operator thereof where the safety device must be deliberately actuated to allow operation of the press. The device includes a pivotally mounted safety block or bar normally biased so that the bar is in the path of travel of a press platen to halt downward movement thereof, and a press trip lever secured to the safety bar and having a switch actuator to operate the switch causing reciprocation of the press platen. The trip lever is depressed by the operator to pivot the safety bar out

of the path of the platen and simultaneously actuates the press operating switch.

3,541,951

JUICE EXTRACTION PRESS

Hans Ulrich Hauser-Lienhard, Watt, Zurich, Switzerland, assignor to Bucher-Guyer AG Maschinenfabrik, Niederweningen, Zurich, Switzerland

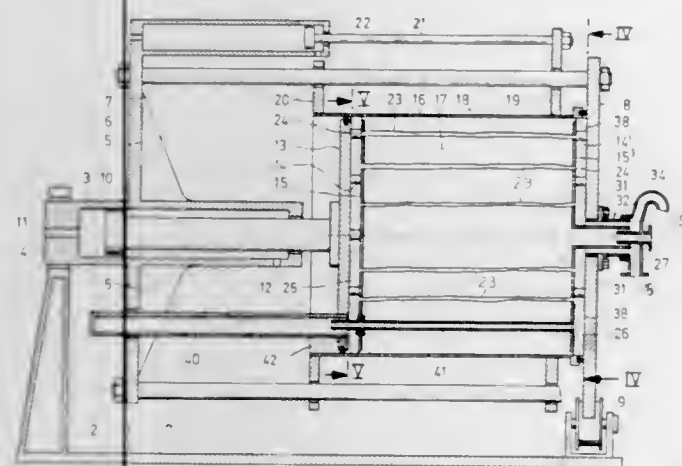
Filed Aug. 22, 1968, Ser. No. 754,562

Claims priority, application Switzerland, Aug. 25, 1967, 11931/67

Int. Cl. B30b 9/02

U.S. Cl. 100—107

15 Claims



A juice extraction press for fruit comprises a rotary pressing basket having a cylindrical basket wall, opposite pressure and counterpressure plates and a large member of fluid pervious drain tubes extending between the two plates and opening into juice collecting chambers adjacent each plate. For removing the juice from the juice collecting chambers without the juice contacting with the atmosphere, a juice outlet pipe leads away from one of said juice collecting chambers and extends coaxially with the pressing basket, and juice conveying means are provided in said juice collecting chamber for directing the collected juice toward the juice outlet pipe. The other juice collecting chamber continuously communicates with the first mentioned juice collecting chamber.

3,541,952

DUAL-CYLINDER COMPACTION APPARATUS

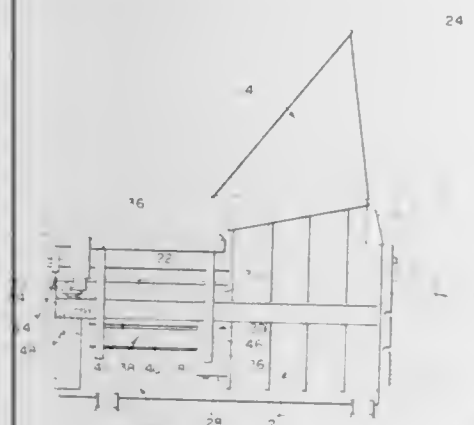
Milton Clar, Bethesda, Maryland, assignor to Auto Pak Company, Bladenburg, Maryland a corporation of the District of Columbia

Filed July 25, 1968, Ser. No. 747,676

Int. Cl. B30b 1/32

U.S. Cl. 100—229

2 Claims



Hydraulically-driven compaction apparatus for refuse and the like in which the drive ram comprises a pair of cylinders fixed side-by-side and having oppositely extending piston rods, one of which is fixed to the compaction blade and the other of which is fixed to the frame. The latter piston rod has

a pair of internal passages which permit hydraulic fluid to be supplied to and returned from the cylinders by connections to ports at the fixed end of the rod, corresponding ends of the cylinders being interconnected hydraulically.

3,541,953

APPARATUS FOR PRODUCTION OF PRINTED WEB MATERIALS

Roy Edward Rochford, Wallington, England, assignor to Thomas De La Rue and Company Limited, London, England a corporation of the United Kingdom

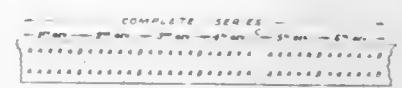
Filed March 8, 1968, Ser. No. 711,560

Claims priority, application Great Britain, March 8, 1967, 11,016/67

Int. Cl. B41j 1/00; B41f 5/06

U.S. Cl. 101—92

8 Claims



Apparatus for printing web material with a plurality of consecutively repeating patterns comprises at least one printing cylinder including a retractable segment and means adapted, upon completion of any desired number of complete revolutions of the cylinder, to move said retractable segment alternately into and away from its operative printing position. Preferably a first cylinder includes a permanently operative printing surface and a second cylinder includes solely a retractable segment provided with a printing plate for printing upon portions of the web not printed by the first cylinder.

3,541,954

POSITION INDICATOR FOR A MULTIPLE CHARACTER MARKING DEVICE

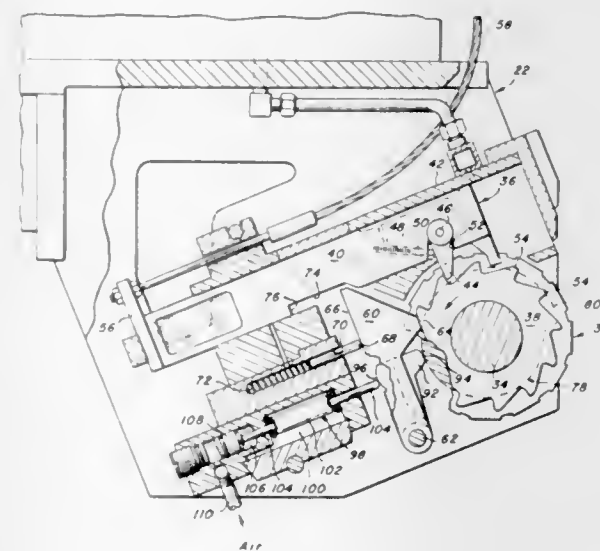
Edwin W. Speicher, Pittsburgh and Charles E. Fry, Jr., Coraopolis, Pennsylvania, assignors to M. E. Cunningham Company, Ingomar, Pennsylvania a corporation of Pennsylvania

Filed Oct. 21, 1968, Ser. No. 769,112

Int. Cl. B41j 1/54; B44b 5/00

U.S. Cl. 101—95

5 Claims



This disclosure relates to a marking device with a plurality of marking wheels for marking slabs, billets or the like with a group of characters. Each marking wheel has a plurality of characters on the outer periphery and character selection is accomplished by rotating the marking wheel until the desired character on the wheel periphery is in marking position. Each wheel has a ratchet on one side that is actuated by a pawl connected to an actuating slide. The pawl on the actuating slide engages a segment of the ratchet and rotates the marking wheel for character selection. On the other side of the wheel there is a spiral cam with different preselected

radial dimensions for each of the characters. A linear transducer is biased against the cam surface and generates a voltage signal that is proportional to the radial dimension of the portion of the cam aligned with the transducer to thus indicate the particular character in the marking position. The voltage signal from the transducer is compared with fixed reference voltages and when the voltages match, a relay is actuated to indicate the character on the wheel in marking position. The circuitry includes a logic section to count sequentially so that a transducer malfunction at the steeply sloping portion of the cam between the longest and shortest dimension of the cam cannot produce an incorrect character indication.

3,541,955

SETTABLE DISKS FOR DRUM SERIES PRINTING WHEELS IN SELF-INKING HAND STAMPS

Howard Price, 162-21 Powells Cove Blvd., Whitestone and Bela Szilagyi, 144-15 41st Ave., Flushing, New York, assignors to Said Szilagyi assignors to said Price

Filed June 26, 1968, Ser. No. 740,196

Int. Cl. B41j 27/02; 1/60

U.S. Cl. 101—108

3 Claims



A self-inking marking device of the rubber stamp type with a plurality of dial-type disks on one side of the device corresponding to the number of indicia wheels to set the required indicia and a plurality of concentric hollow shafts, each carrying an indicia wheel inside the housing of the device and a dialing disk on the outside of the housing.

3,541,956

APPARATUS FOR SELECTIVELY PERFORATING A WEB AND PRINTING THEREFROM

Emilio Falchero and Duilio Grandi, Milano, Italy, assignors to Olivetti-General Electric S.P.A., Caluso Turin, Italy a corporation of Italy

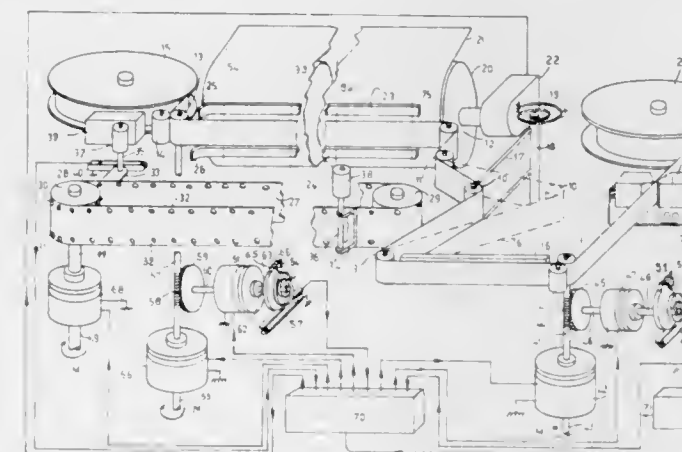
Filed July 28, 1967, Ser. No. 656,846

Claims priority, application Italy, July 29, 1966, 17679/66

Int. Cl. B41 13/08; B41j 1/20

U.S. Cl. 101—121

8 Claims



A non impact printing device, whereby an intermediate print support is perforated by electrical discharges to

reproduce the characters and marks to be printed, and the printing is subsequently transferred to an ultimate print support by inking means to colour the ultimate print support in correspondence with the perforations of the intermediate print support.

3,541,957

PNEUMATIC TENSIONING OF STENCIL SCREENS

Henry J. Bubley, Deerfield, Illinois, assignor to American Screen Process Equipment Company, Chicago, Illinois

Filed Oct. 12, 1967, Ser. No. 674,995

Int. Cl. B41 13/02; B41f 27/04

U.S. Cl. 101—127.1

15 Claims



In the preparation of screen process stencils, a stencil frame is enclosed tightly by a pneumatically operated frame. The stencil screen is secured on all sides by the movable portions of the surrounding pneumatic tensioning frame. The pneumatic tensioning frame is then inflated uniformly with compressed air and extended to cause the screen to be tensioned uniformly in all directions. The screen is then tacked or stapled or otherwise fastened to the stencil frame and has the desired degree of stretch for stencil printing. The pneumatic frame comprises a plurality of pneumatically operated frame members having a fixed member engageable with the stencil frame and a movable member on which the stencil screen is secured for movement under pneumatic pressure. The pneumatic frame members are provided with connection means for assembling the individual frame members end to end or at right angle to provide a rectangular frame enclosure of any desired size in which the movable frame member is adapted to move under pneumatic pressure to tension a screen stencil in all directions uniformly and continuously around the periphery of the stencil frame.

3,541,958

ROTARY PRINTER UNITS FOR INTERMITTENT AND RANDOM DYEING

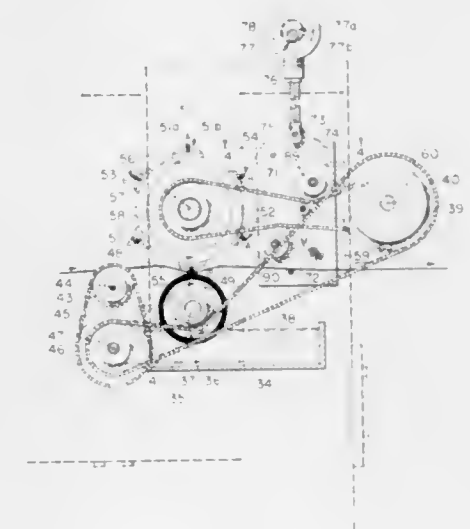
Roy L. Keown, La Grange, Georgia, assignor to Varicolor, Inc., a corporation of Georgia

Continuation of application Ser. No. 575,869, Aug. 29, 1966, now abandoned. This application Aug. 11, 1969, Ser. No. 852,967

Int. Cl. B41f 17/10

U.S. Cl. 101—172

6 Claims



For applying a dye of a single color to a plurality of strands of yarn, a pair of movable printer units are arranged so as to intermittently engage and dye the strands. A drive imparts rotative movement to both printer units and a separate coupling is interconnected between said drive and each of

said printer units. A control is interrelated with each coupling and effective to impart relative movement to the printer units whereby the spacing between dyed portions of the strands is varied. The control is preferably interconnected with the drive so that all printer units are coordinated with each other. Preferably the printer units are arranged in coaxial relationship to each other and are arranged to rotate about their common axes with the yarn to be dyed disposed immediately adjacent to the perimeter of the printer units and movable in synchronism therewith, the printer units being angularly shiftable relative to each other while rotating so as constantly to vary the spacing between printer elements or bars located on each printer unit and the printer elements or bars located on the other printer unit. More than one pair of printer units may be used to apply dyes of more than one color.

3,541,959

FLUID AMPLIFIER IN INK CONTROL ARRANGEMENT FOR PRINTING PRESSES

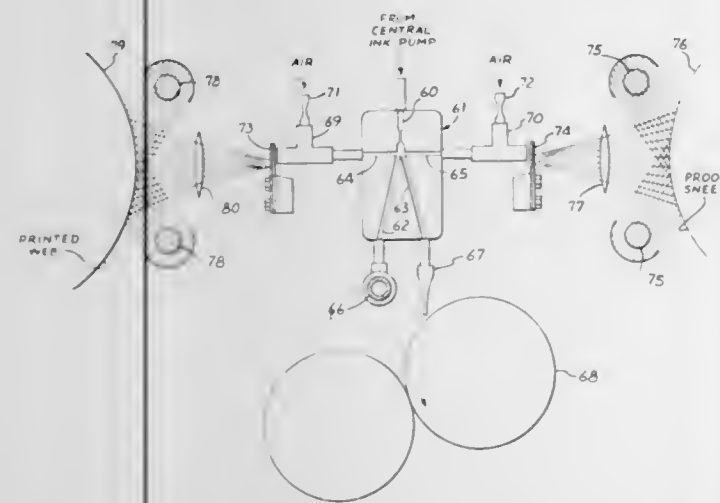
Leonard I. Taffel and Carl J. Hermach, Chicago, Illinois, assignors to Miehle-Goss-Dexter, Incorporated, Chicago, Illinois a corporation of Delaware

Filed Oct. 19, 1967, Ser. No. 676,529

Int. Cl. B41f 31/08

U.S. Cl. 101—363

5 Claims



An automatic control system for feeding ink to the ink drum of a printing press in which the ink feed rate is controlled by a fluid-operated device such as a fluid amplifier. Systems utilizing both digital and proportional type amplifiers are disclosed. In the digital type system, the ink feed rate is controlled by supplying pulses of pressurized air to turn on a fluid amplifier which is normally biased off by means of a constant pressure supply of pressurized air. The ink feed rate is controlled by varying the frequency of the air pulses. This frequency may be automatically controlled in accordance with the press speed or some other press variable which affects the ink density of the printed image. In the system utilizing the proportional fluid amplifier, the ink feed rate is automatically controlled by varying the air pressure in the two control nozzles of the amplifier by means of two separate bimetallic strips. The bimetallic strips are deflected toward or away from the open ends of two fluid control elements in accordance with temperature changes effected by light reflected from the printed web in the case of one bimetallic strip, and from the proof sheet in the case of the other bimetallic strip.

3,541,960

METHOD OF ENCODING DATA ON PRINTED RECORD MEDIA

Frederick W. Dilsner, Deerfield, Aaron B. Aronson, Glenview, John E. Jones, Winnetka, and Joseph P. Vogel, Rock Island, Illinois, assignors to Cummins-Chicago Corp., a corporation of Illinois

Filed Dec. 4, 1967, Ser. No. 687,572

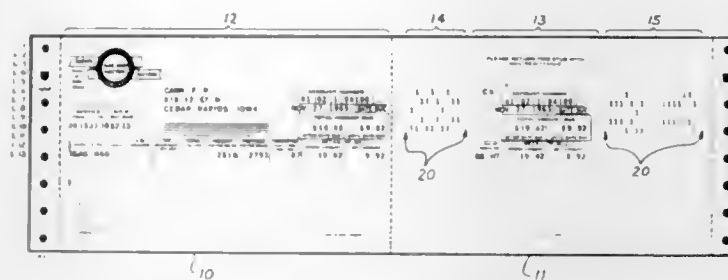
Int. Cl. B41m 3/00

U.S. Cl. 101—426

11 Claims

A method of encoding data on printed documents or other

record media to be processed by automatic data processing equipment. The method comprises printing conventional printing characters on the document with conventional character spacing in a legible uncoded format on selected printing lines on the document, such as by the use of a conventional high speed computer printer. The uncoded printing format provides at least one clear area of at least five printing



3,541,961

METHOD AND APPARATUS FOR PREVENTING PREMATURE IGNITION OF ELECTRO-EXPLOSIVE DEVICES

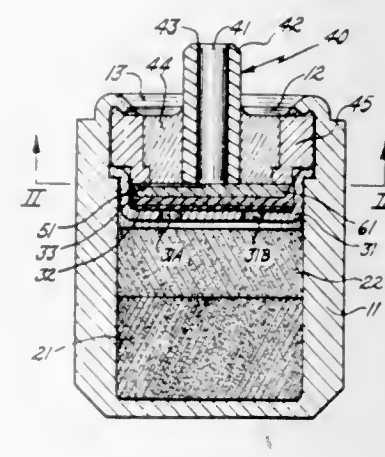
Richard R. Larson, Ulster Park, New York

Filed Dec. 3, 1968, Ser. No. 780,815

Int. Cl. F42c 11/00, 19/12

U.S. Cl. 102—28

10 Claims



A method and an apparatus for preventing the premature explosion, and the inadvertent breakage of bridge wire, in ignition systems, such as squibs and detonators, used in electroexplosive devices subjected to high linear and angular acceleration and high spin rates. The highly sensitive primer-type explosives of the system are compressed, in a suspended metallic cup, by a header assembly, which includes a hardened flat ended firing pin. A bridge wire is affixed to the bottom of the header assembly, abutting the explosives. The compression prevents explosion-causing acceleration vibrations from reaching the explosives and also prevents explosion-causing agitation of the explosives against each other. The position of the bridge wire, and its compressed state, result in the upward support of the bridge wire and eliminate its inadvertent breakage.

3,541,962

URBAN TRANSPORTATION SYSTEM

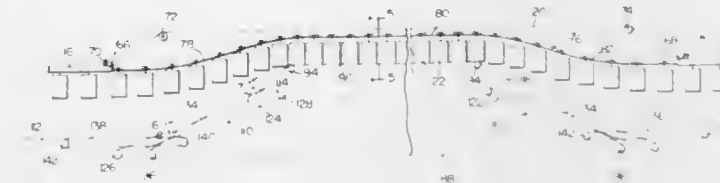
William H. Avery, 8621 Georgia Ave., Silver Spring, Maryland 20910

Filed Feb. 29, 1968, Ser. No. 709,377

Int. Cl. B61k 1/00; B61b 3/00

U.S. Cl. 104—25

20 Claims



An urban aerial car transit system for easily accessible, immediately available local transportation which comprises a closely interdigitated series of intersecting north-south and east-west lines of overhead supporting rails and continuously driving cables laid out in separate, parallel loops of minimum block lateral placement from which small passenger cars are suspended for fixedly spaced-apart movement between aerial stations provided at closely spaced, e.g., three block points of intersection between the latitudinally and longitudinally extending lines. Arriving at a station, the cars disengage from the cable and decelerate by gravity up an inclined rail section to arrive in a closely grouped formation on a bottom supporting moving belt carrying boarding and leaving passengers so that the passengers are interfaced with the cars with no relative movement therebetween. Leaving the station, the cars accelerate by gravity down a declined section of the rail to mesh with the cable for rail supported and cable driven orderly spaced full speed movement to the next station. The passengers gain access to and from the moving belt from the lower street level on an inclined conveying surface composed of a series of interleaving end-to-end belts of gradually varying speeds.

3,541,963

TOW TRUCK SWITCHING MEANS

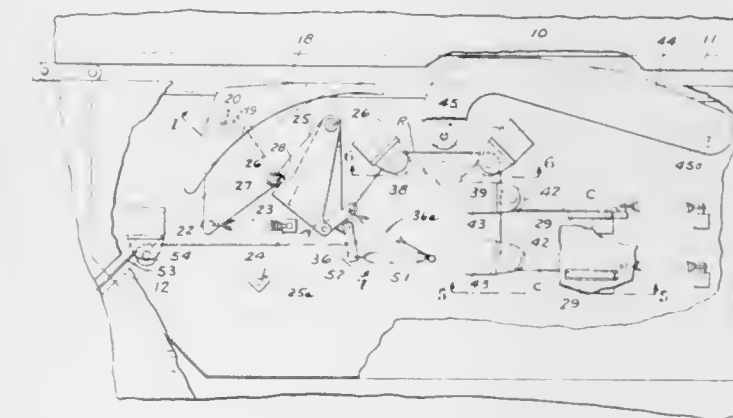
Karl R. M. Karlstrom, Roseville, Michigan, assignor to American Chain and Cable Company, Inc., New York, New York a corporation of New York

Filed May 21, 1968, Ser. No. 730,881

Int. Cl. B61j 3/04

U.S. Cl. 104—88

22 Claims



A tow truck conveyor system comprising a track defined by slots in the floor including a main track portion and a branch track portion. A plurality of tow trucks with tow pins extending downwardly in the slots are movable along the main track portion by a chain operating beneath the floor. A switch tongue is provided at the area of juncture of the main

track portion and the branch track portion. The switch tongue is operated when signal reader elements in the floor are engaged by signal members on the tow truck.

3,541,964

PRETENSIONED ELEVATED TRACK AND CABLE STRUCTURE

Arney J. Harbert, Denver, Colorado, assignor to Transportation Systems, Inc., Boulder, Colo., a corporation of Colorado

Filed Feb. 5, 1968, Ser. No. 702,953

Int. Cl. B61b 3/02

U.S. Cl. 104—91

15 Claims



In an aerial transportation system, an elevated track adapted for overhead suspension and advancement of a vehicle is supported between towers by a cable structure having transverse suspender elements interconnecting the main supporting cables and track under a predetermined degree of tension in such a way as to stabilize the track, to compensate for temperature changes and greatly increase the track span between supporting towers.

3,541,965

THREE-WAY CONVEYOR TRACK SWITCH

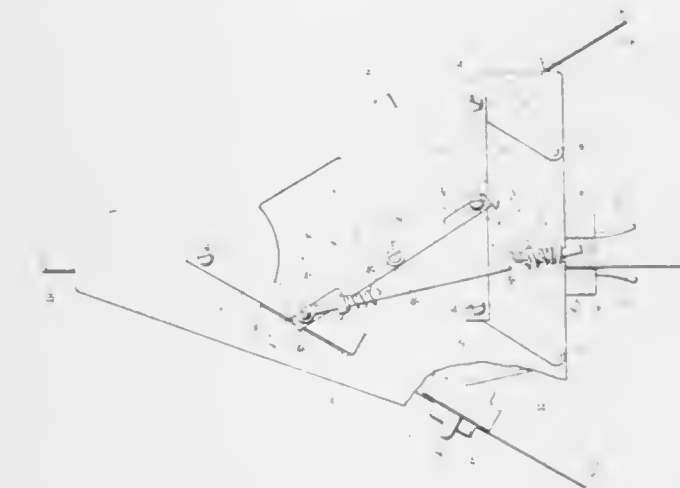
John H. McElroy, 14 E. Roosevelt Circle, Red Bank, New Jersey 07701

Continuation-in-part of application Ser. No. 715,414, March 22, 1968, now pending. This application May 5, 1969, Ser. No. 821,929

Int. Cl. E01b 7/00; B61b 13/00

U.S. Cl. 104—130

4 Claims



A semiautomatic switching apparatus for monorail trolley conveyors having the capability of receiving trollies moving on three angularly spaced paths or tracks. The apparatus utilizes a simplified spring-loaded toggle linkage for releasably holding a flexible track segment in two angularly adjusted positions, together with switching levers having parts in the paths of movement of the trollies on all tracks of the switching apparatus.

3,541,966

STORAGE FACILITY

Richard Johnson Greaves, 165 Tramway Parade, Beaumaris, Australia

Filed March 8, 1968, Ser. No. 711,756

Claims priority, application Australia, March 10, 1967, 18,793/67

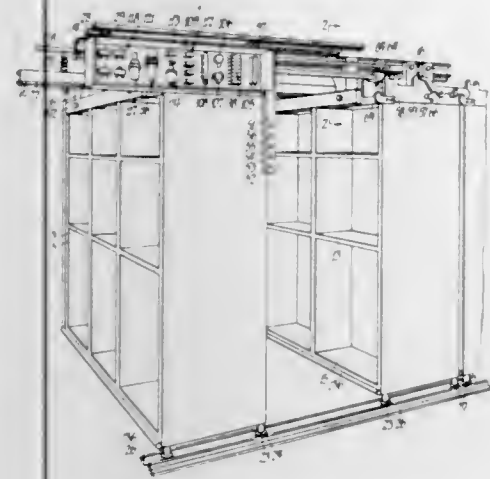
Int. Cl. B61b 13/12

U.S. Cl. 104—162

11 Claims

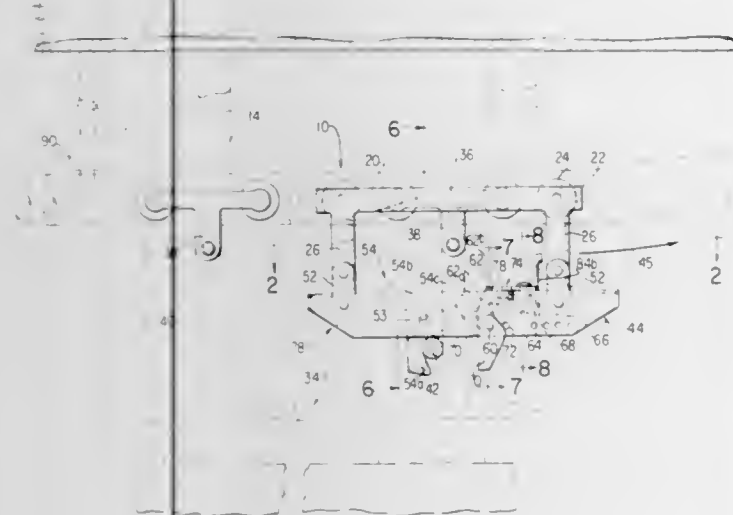
A mobile storage facility comprising a plurality of storage structures which are movable along a track, extensible power

means which is movable so that it can be positioned to engage at least one storage structure of any adjacent pair of storage structures which are in buff with one another such as then to be operable to exert a force on the one structure of



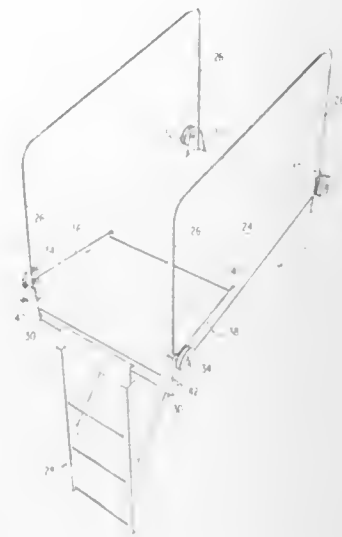
the pair to move that structure away from the other structure of the pair, the reaction to the force being resisted by engagement of the extensible means with the other structure of the pair or with a fixed component of the facility.

3,541,967
AUTOMATIC RELEASING DRIVE CARRIAGE FOR POWER AND FREE CONVEYOR SYSTEM
Frank G. Birkhead, Whittier, California, assignor to Hewitt-Robins Incorporated, Stamford, Connecticut
Filed Sept. 16, 1968, Ser. No. 759,846
Int. Cl. B65g 17/42
U.S. Cl. 104—172 10 Claims



A drive carriage for a power and free conveyor system is provided wherein the drive dog is prevented from overriding by an indexing mechanism having a spring which is compressed rather than tensioned as in conventional overriding drive carriages. The indexing mechanism includes a pivotally mounted pawl which is held in a first position by a spring means so that the pawl may normally bear against one drive arm on the drive dog and thereby position another of the drive arms in an operative position. The drive dog overrides so as to release any article carrier being driven by the drive carriage by forcing the pawl into a second position and thereby compressing the spring means. A pivoting locking means is also provided on the drive carriage so that the pawl may be readily locked in the first position in order to thereby prevent the drive dog from overriding.

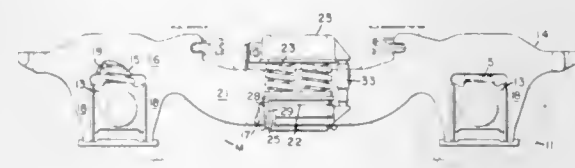
3,541,968
SERVICE CAR FOR TIERED POULTRY CAGES
Robert L. Van Huis, Zeeland, Michigan, assignor to U.S. Industries, Inc., New York, New York a corporation of Delaware, by mesne assignments
Filed Nov. 20, 1967, Ser. No. 684,306
Int. Cl. B61k 7/06
U.S. Cl. 104—249 12 Claims



A service car for use on elevated tiers of poultry cages, comprised basically of a bed or platform to which wheels are attached for carrying the car along a trackway attached to the poultry cage structure. The wheels at the rear of the car are attached thereto by a leverage mechanism such that the rear portion of the bed or platform can be raised and lowered with respect to the trackway by using the rear wheels as fulcrums, and braking elements attached to the platform are forced against the trackway by the weight of the person standing on the platform when the leverage mechanism is released. That is, the car may be rolled along the trackway when a force is applied to actuate the leverage mechanism, but the car will be positively braked against the trackway by the weight of the person carried on the platform when the actuating force is removed from the leverage mechanism.

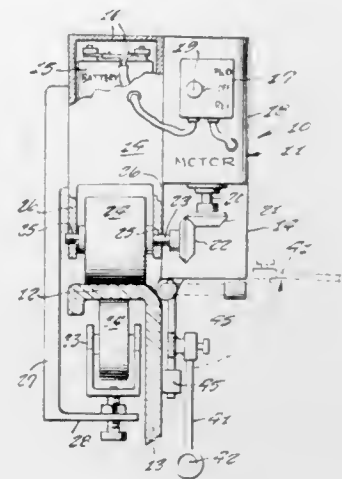
3,541,969
WITHDRAWN

3,541,970
BOLSTER STABILIZED LOCOMOTIVE TRUCK
Alexander Ross, Schenectady, New York, assignor to Alco Products, Inc., New York, New York a corporation of Delaware
Filed April 9, 1968, Ser. No. 719,933
Int. Cl. B61c 3/00; B61f 3/04, 5/12
U.S. Cl. 105—136 7 Claims



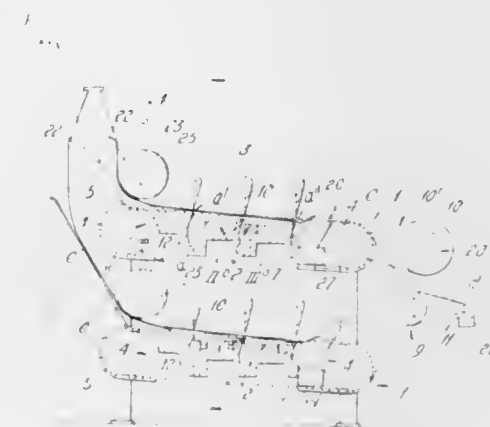
A truck assembly for a self propelled railway vehicle which includes a bolster to support the vehicle superstructure on the truck frame in which the tractive effort is transmitted from the truck frame to the bolster substantially in the same or just below the horizontal plane of the axles to minimize weight transfer between the axles.

3,541,971
TRAY CRAWLER
Donald F. Drennan, Rte. 7, Laurel, Mississippi
Filed Nov. 4, 1968, Ser. No. 773,236
Int. Cl. B61b 3/02
U.S. Cl. 105—153 4 Claims



A crawling device for moving around to the lip of a tray, the device comprising a unit including a drive wheel which rides along the upper surface of the tray lip and a pair of binding wheels which bear against the underside of the tray lip, the drive wheel being powered by an electric motor operated by a dry cell battery that is carried by the unit and a unit carrying a rope clamp arm.

3,541,972
APPARATUS FOR PROCESSING OF ALIMENTARY PASTA
Amerigo Benedettelli, Piazza Umberto, 8, 70100 Bari, Italy
Filed Sept. 13, 1968, Ser. No. 759,662
Claims priority, application Italy, Sept. 19, 1967, 20,636 A/67
Int. Cl. A21c 5/00
U.S. Cl. 107—4 9 Claims

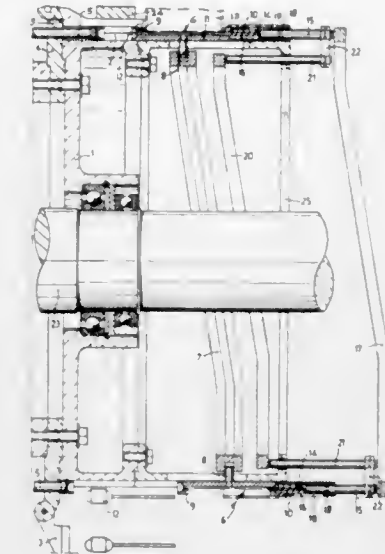


An apparatus for a continuous automatic and complete processing of elongated alimentary pasta from extrusion press nozzles up to packaging, comprising in a single assembly four parts mutually synchronized with one another, namely, a unit for spreading and cutting pasta; a unit for conveying pasta with crusting means; a vacuum drier unit and a stabilizer unit.

3,541,973
APPARATUS FOR MOULDING LOLLIPOPS FROM A STRING OF SUGAR, WITH LOLLIPOP STICKS TO BE LOCATED SIMULTANEOUSLY
Conradus Hubertus Aquarius, 13 Kanaalstraat, Weert, Netherlands
Filed Jan. 24, 1968, Ser. No. 700,218
Claims priority, application Netherlands, Feb. 13, 1967, 670,2160
Int. Cl. A23g 3/12
U.S. Cl. 107—8 8 Claims

An apparatus for moulding lollipops from a sugar string, with simultaneously located lollipop sticks, in which the lol-

lipops are formed by compressing severed stringpieces between two reciprocating moulding dies which are located at both sides of each piece of sugar string, and the sticks are



axially inserted (in the direction of movement of the dies) into said piece, through an axial insert opening which is provided in one of the two dies.

3,541,974
MOULDING APPARATUS
John Harry Clapham Atkins, Westwood, England, assignor to Baker Perkins Incorporated, Saginaw, Michigan
Filed April 15, 1968, Ser. No. 721,397
Claims priority, application Great Britain, April 18, 1967, 17796/67
Int. Cl. A21c 11/4
U.S. Cl. 107—8 7 Claims

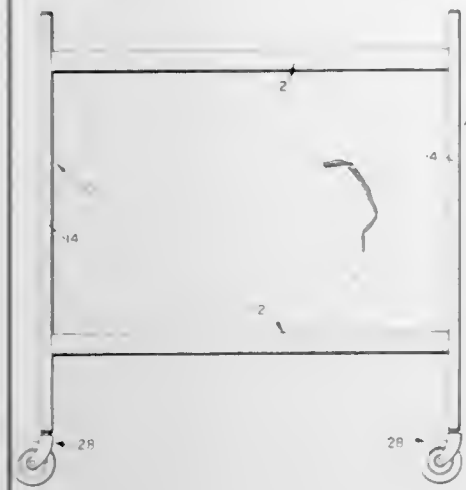


A rotary drum pie moulder and depositor in which dough pieces are ejected from die cavities in the drum by compressed air acting internally of the drum and progressively over the base of the cavities whereby the dough pieces are ejected with a peeling action.

3,541,975
SERVING CART
Ralph B. Lay, Columbus, Indiana, assignor to Hamilton Cosco, Inc., Columbus, Indiana a corporation of Indiana
Filed May 29, 1968, Ser. No. 733,174
Int. Cl. A45b 17/00
U.S. Cl. 108—27 3 Claims

A serving cart in which there is a pair of end frames each formed from a pair of wheeled uprights interconnected at their upper and lower ends by upper and lower transverse stretchers. A shelf is interconnected to said end frames and has a peripheral molding attached thereto and extending therearound. Corner brackets underlie said shelf and are connected to said molding and to end braces which also un-

derlie said shelf in abutting relation to said brackets and molding. Fastening elements extend through aligned



openings in the brackets, end braces, and molding for reception in said uprights to connect said shelf to said uprights.

3,541,976

PORTABLE BODY-MOUNTED DESK

Luis A. Rozas, Apartado 433, Cuzco, Peru
Filed June 27, 1968, Ser. No. 740,669
Int. Cl. A47b 17/00

U.S. Cl. 108—43

5 Claims



A portable desk or table that has a support firmly attached to the body of the user and a work surface pivotally and slidably attached to the support. These two areas of adjustability allow the work surface to adjust to any size user in a sitting as well as a standing position without necessitating a change of the mounting of the support member on the user.

3,541,977

PALLET FOR TRANSPORTATION AND STORAGE OF TOROIDAL SHAPED ARTICLES

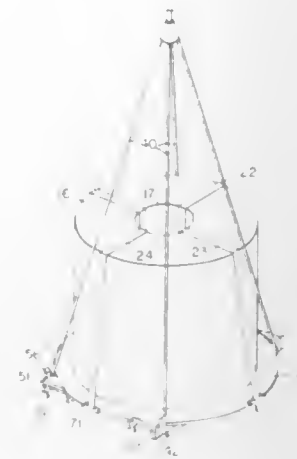
David H. Waldman, 258 Yale Ave., Kensington, California
Filed Nov. 25, 1968, Ser. No. 778,467
Int. Cl. B65d 19/38

U.S. Cl. 100—53

7 Claims

A pallet for supporting heavy articles during storage and transport and particularly articles shaped in a toroidal form, such as coiled metallic sheet material. An upper material receiving platform of the pallet is provided by a generally circular plate for coaxially receiving and supporting one end of the coiled material with the plate being provided with a central aperture for passing tiedown straps from beneath the plate up through a central free space of the coil registering with the aperture. A pair of elongate, laterally spaced support members are mounted to the plate opposite its material receiving surface to extend on either side of the plate aper-

ture and provide spaced openings for receiving correspondingly spaced tongs of a forklift. Each of the support members are provided with slotted openings immediately adjacent their connection to the plate for receiving and freely passing the tiedown straps beneath the plate between its outermost edge and interior aperture thereby facilitating placement of the tiedown straps on a loaded



pallet and at the same time substantially guarding the former against potential damage by the manipulation of the forklift tongs. Additionally, the pallet is formed with means for providing optional lifting and transporting by conventional hoist cables and means for nesting empty pallets one to another to minimize the required transportation or storage space thereof.

3,541,978
STOKERS

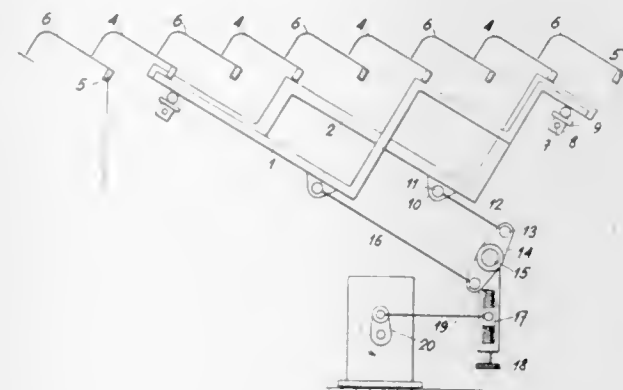
Mojmir Stloukal, Milan Dolezel and Miroslav Benes, Brno, Czechoslovakia, assignors to Prvni Brnenska Strojirna, Zavody Klementa Gottwalda, Narodni Podnik, a corporation of Brno, Czechoslovakia

Filed July 12, 1968, Ser. No. 744,516

Int. Cl. F23b 1/22

U.S. Cl. 110—38

8 Claims



Stokers, particularly for incinerating low-quality fuel of high ash content, such as urban or industrial refuse. The stoker includes at least three bar fields successively arranged one after the other in the direction of fuel movement from the rear toward the front of the stoker. Within each field there are a plurality of rows of bars extending transversely across the stoker so as to extend transversely with respect to the direction of fuel movement, and these transversely extending rows of bars include stationary rows alternating with reciprocating rows. In each row the bars are arranged in side-by-side relation, and each reciprocating row has a front end extending over and slidably engaging the rear end of the next following stationary row and a rear end extending beneath and slidably engaging the front end of the immediately preceding row. A moving means is operatively connected to

the reciprocating rows of bars of each field for reciprocating the rows of bars to advance the fuel with each reciprocating row of bars reciprocating in a direction opposite to the directions of reciprocation of the immediately preceding and immediately following reciprocating rows of bars.

3,541,979

ROW CROP PRODUCTION AND HARVESTING

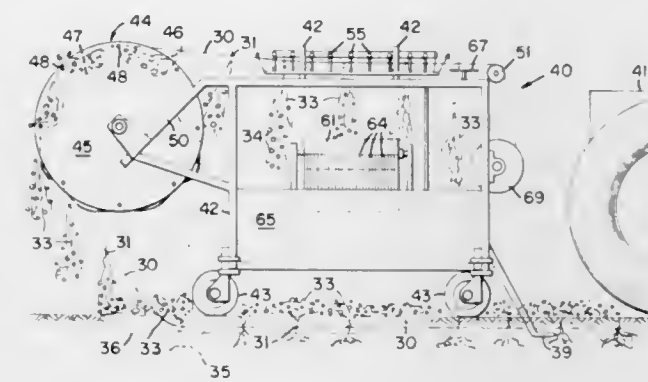
Coby Lorenzen, Davis, California, assignor to The Regents of the University of California

Filed Oct. 10, 1968, Ser. No. 766,441

Int. Cl. A01c 11/00

U.S. Cl. 111—2

27 Claims



A production method for row crops and a row crop harvester. A line having a series of spaced-apart slipknots is placed below ground, and plants are grown in a row so that the stems extend through said slipknots and branch above them, with the roots branching below the knot, until the fruit on the plants is ready for harvest. Then the roots are severed below the slipknots, and the line is pulled from the ground so as to tighten each said slipknot and to carry up the plants with the line, thereby orienting the plants by means of the pulled-up line. A force (twisting, plucking, or shaking) is then exerted on the fruit tending toward and resulting in separation of the fruit from the plants, and the separated fruit is collected while the plants are disposed of.

3,541,980

LATCH HOOK DEVICE

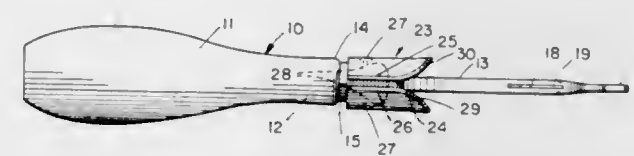
Eugene Thomas Barker, La Porte, Indiana, assignor to The Boye Needle Company, Chicago, Illinois a corporation of Illinois

Filed Jan. 21, 1969, Ser. No. 792,506

Int. Cl. D05c 15/06

U.S. Cl. 112—80

6 Claims



A latch hook device for knotting yarn strands to a canvas mesh in making no frame latch rugs is characterized by a yarn loop holding means, which may hold one or a plurality of yarn loops, while the latch hook is being threaded through the mesh, the yarn loops being separately removable from the holding means for insertion in and knotting by the latch hook.

3,541,981

MULTIPLE STITCH PATTERN PRODUCING MECHANISM

William Alexander Watson, Duntocher, Scotland, United Kingdom, assignor to The Singer Company, New York, New York a corporation of New Jersey

Filed July 12, 1968, Ser. No. 744,493

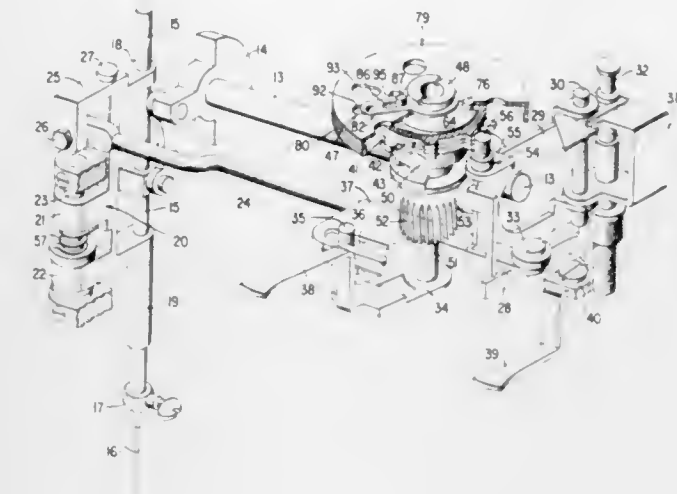
Int. Cl. D05b 3/02

U.S. Cl. 112—158

11 Claims

A mechanism for a sewing machine comprising a conventional zigzag cam having superimposed upon it in spaced relation a substantially similar upper zigzag cam modified so

that a predetermined number of spaced cam lobes are removed from the latter cam. Superimposed upon the conventional zigzag cam in face-to-face relation is a second or intermediate zigzag cam which is similar in design to the aforementioned modified zigzag cam and is operatively associated with the first or upper modified cam and the conventional cam, so that indexing of the upper modified cam will effect movement of the second modified cam through a predetermined number of degrees, whereby the void between



3,541,982 PNEUMATIC DRIVE SYSTEM FOR THREAD CUTTING DEVICES FOR SEWING MACHINE

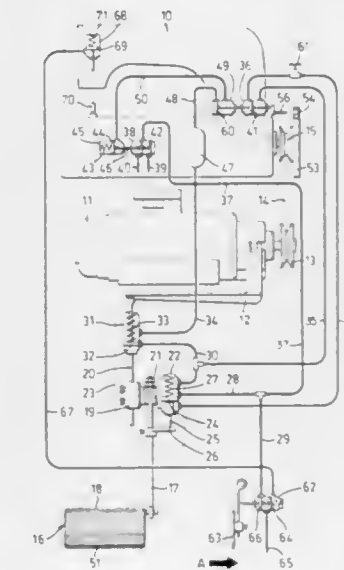
Nerino Marforio, Milan, Italy, assignor to S.P.A. Virginio Rimoldi and Company, Milan, Italy an Italian corporation.

Filed Dec. 17, 1968, Ser. No. 784,435

Claims priority, application Italy, Jan. 16, 1968, 11577/68
Int. Cl. D05b 69/24

U.S. Cl. 112—219

6 Claims



A pneumatic drive system for thread cutting devices of a sewing machine is provided with a pneumatic drive device which is mechanically connected to a sewing machine power source. The pneumatic drive device is connected to a pneumatic supply line and to a sensing device for determining whether the sewing needle of the machine is in its uppermost position. The pneumatic drive device is also connected to an auxiliary pneumatic container which, in turn, is connected to

a distributing valve. The auxiliary container receives a sufficient amount of compressed fluid to cause the distributing valve to be operated once after each stitching operation of the sewing machine to operate the thread cutting devices. The auxiliary container is supplied with compressed fluid while the sewing machine is running and provides compressed air to the distributing valve when the sewing machine is stopped with its needle located in its uppermost position.

3,541,983

STITCHING MACHINE NEEDLE GUIDE IMPROVEMENTS

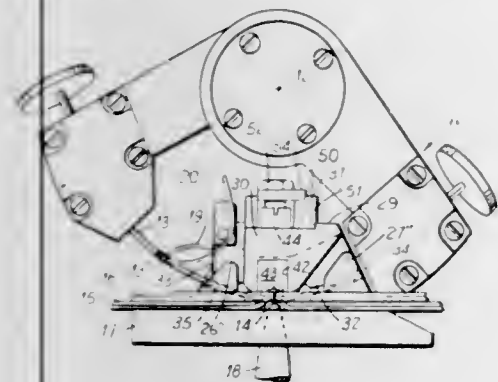
George P. Diacont, Richmond, Virginia, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 9, 1968, Ser. No. 766,043
Int. Cl. D05h 55/06

U.S. Cl. 112-170

6 Claims

U.S. Cl. 114-16

10 Claims



A top needle guide support is provided for a curved needle which is passed through a formed node of work material. The top support has portions which separate the thread strands and portions for the thread strands to turn and run on. It also has a removable stitch control block having a bottom cavity. The bottom cavity cooperates with a plunger to control the work material node formed therebetween.

3,541,984

THREAD-CHAIN CUTTING DEVICE FOR SEWING MACHINES

Hermann F. Daniel, Stuttgart-Plieningen, Germany, assignor to Union Special Maschinenfabrik G.m.b.H., Stuttgart, Württemberg, Germany

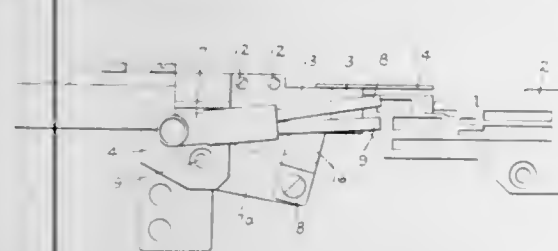
Filed Sept. 17, 1968, Ser. No. 760,183

Claims priority, application Germany, Sept. 23, 1967, 1,685,080

Int. Cl. D05h 65/02

U.S. Cl. 112-252

8 Claims



Thread-chain cutting mechanism for sewing machines involving a pair of knives disposed in a horizontal plane parallel to the plane of the throat plate of the machine, at least one of said knives being swingable about an axis perpendicular to the plane of the throat plate. Operation of said swingable knife is produced by connections from a conventionally driven member of the machine, such as a feed bar. Pneumatic means are provided for urging a thread-chain, that is formed beyond the rearward edge of a work piece being stitched, into the zone of operation of the cutting mechanism. Said means for urging the thread-chain into the zone of operation of the cutting knives involves the delivery of air under pressure toward the region in which the cutting knives operate. When the stitch forming mechanism involves two needles, one cooperating with means for producing an overedge line of stitches and the other a parallel line of through and through stitches, means are provided for directing two jets of air, one toward each of the free thread-chains,

for urging the latter toward each other and into the cutting zone. The connections from said feed bar, or the like, to at least one of said knives which is swingable comprises bendable or otherwise distortable means adapted to convert the longitudinal movement imparted to one end thereof into an arcuate movement of the engaged portion of a member carrying said swingable knife.

3,541,985

VARIABLE BUOYANCY ARRANGEMENT

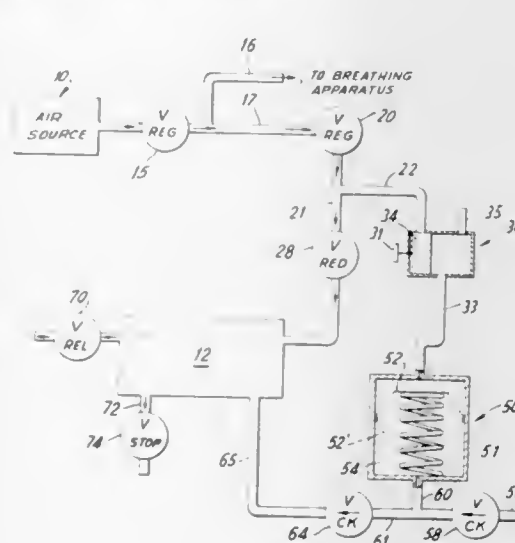
Robert H. Murphy, West Hartford, Connecticut and Julian Gordon, Malden, Massachusetts, assignors to The Wiremold Company, West Hartford, Connecticut a corporation of Connecticut

Filed Oct. 11, 1968, Ser. No. 766,932

Int. Cl. B63g 8/14, 8/22

U.S. Cl. 114-16

10 Claims



A variable buoyancy arrangement includes a tank of fixed volume and pressure regulating apparatus for maintaining the interior of the tank within a fixed pressure range above the ambient underwater condition. An air-pressure actuated pump is selectively operable under user control for decreasing buoyancy by inserting water into the tank; and buoyancy may be increased by opening a stop cock to allow expulsion of water from the tank.

3,541,986

SUBMERSIBLE SALVAGE UNIT AND METHOD OF OPERATION

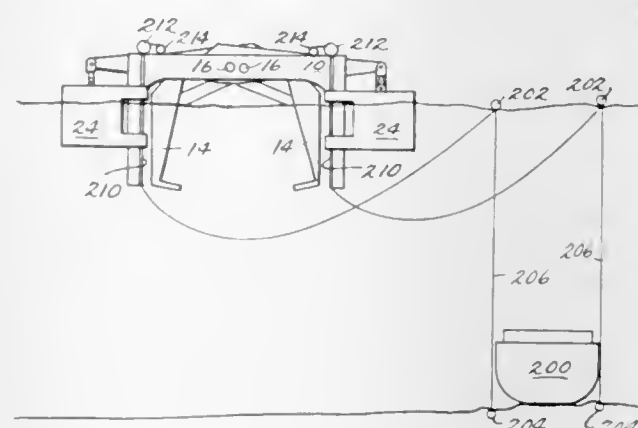
Frederick A. Kriedt, 1722 East West Highway, Silver Spring, Maryland 20910; Thomas H. Sundstrom, 9706 Wicollat Ave. S., Bloomington, Minnesota and Richard Walko, 15913 Martin Road, Roseville, Michigan 48066

Filed Oct. 8, 1968, Ser. No. 765,897

Int. Cl. B63c 7/08

U.S. Cl. 114-52

19 Claims



A submersible salvage unit is provided with a support frame which carries opposed pairs of downwardly depending arms for grasping a sunken vessel or other object. The arms

can be actuated from grasping to inoperative positions by relative vertical movements of pontoons which are also carried by the support frame of the unit. The relative movements are effected by movement of either the pontoons or the support frame relative to the other. Buoyancy compensators are provided in the salvage unit to adjust buoyancies to match loads which are to be lifted, and the buoyancy compensators include means for rapidly releasing buoyancy gas from the pontoons, if necessary. Also, buoyancy compensators on opposite sides of the salvage unit may include stabilizers which relate the compensators to each other in their operations to maintain stable attitudes of the salvage unit when it is lifting a load. A method of operation provides for an alignment and sinking of the salvage unit over a sunken vessel, and engagement of the vessel is accomplished by adjusting buoyancies of the entire salvage unit.

3,541,987

WATER VEHICLE WITH ELEVATED DECK

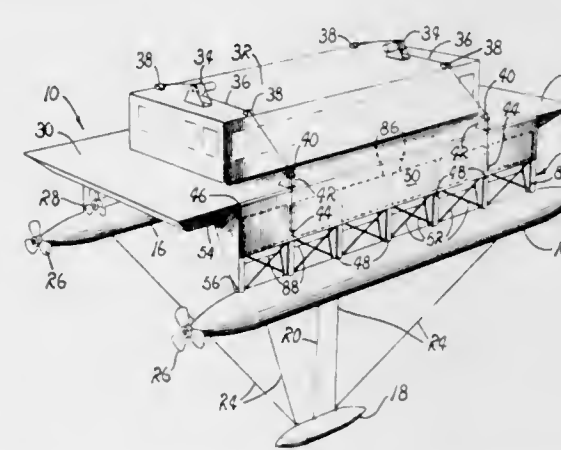
William Barkley, 3847 Underwood Drive Apt. 3, San Jose, California

Filed Sept. 26, 1968, Ser. No. 762,917

Int. Cl. B63b 1/10

U.S. Cl. 114-61

8 Claims



A water vehicle including a flat bottom hull supported above the water on depending legs connected to a pair of pontoons. The legs are of tapered construction with a broad base pivoted to the hull and a narrow ankle portion joined to their respective pontoons. A stabilizing weight is connected to the hull and the pontoons. Sliding panels on the legs provide for additional buoyancy. Adjustable devices between the hull and the legs are adapted to swing the legs outwardly for lowering the hull to provide greater stability and for disposing the legs and pontoons above water for maintenance purposes.

3,541,988

CLEANING SYSTEM FOR VESSELS AFLOAT

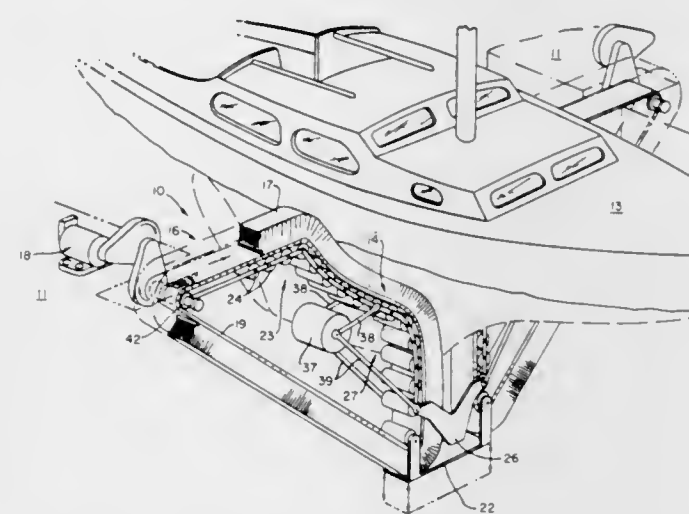
Henry J. Laney, 2828 Regent St., Berkeley, California 94705

Filed Aug. 29, 1968, Ser. No. 748,532

Int. Cl. B63b 59/00; B60s 3/02

U.S. Cl. 114-222

10 Claims



A cleaning system for cleaning underwater hull portions of a vessel while afloat includes a cyclically operated flexible

cleaning assembly and a support assembly for urging the cleaning assembly into conformity with various underwater hull configurations. Means for towing the vessel through the cleaning system exposes the underwater hull portions to the cleaning assembly as the hull moves past the cleaning assembly.

3,541,989

HYDROPNEUMATIC MEASUREMENT AND CONTROL FROM BUOYED BODIES

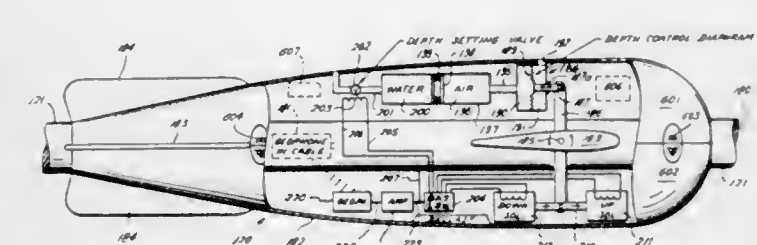
Willie Burt Leonard, 1922 W. Gray, Houston, Texas 77003

Filed March 4, 1968, Ser. No. 710,003

Int. Cl. B63b 21/00; G01n 9/00; B63g 8/14

U.S. Cl. 114-235

17 Claims



A diaphragm motor drives a mud densitometer gauge or depth control vanes for a barge or cable. One side of diaphragm is subject to air pressure received from a hydropneumatic converter which responds to hydraulic pressure at a predetermined depth (densitometer) or at ambient depth (barge) or at controlled depth (cable).

3,541,990

WRIST ENGAGING ARRANGEMENT FOR HANDLES TO BE GRIPPED BY A TOWED WATER OR LAND SKIER OR THE LIKE

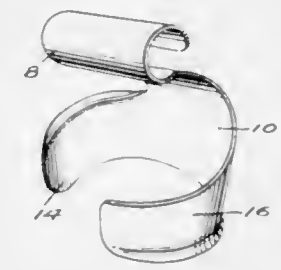
Frank M. Du Mas, 2327 Overton Road, Augusta, Georgia 30904

Filed March 27, 1969, Ser. No. 811,141

Int. Cl. B63b 21/00; A47b 95/02; B65g 7/12

U.S. Cl. 115-6.1

3 Claims



A bar intended to be attached to a towrope and of a size to be gripped by the hand has connected with it a wrist engaging member which has a first generally flat portion connected to the bar and extending from the bar by a distance substantially equal to the distance between the center of the palm and the beginning of the wrist and a wrist engaging portion having a part for engaging the inside of the wrist with inwardly bent wings on each edge of the part for engaging the sides of the wrist. The free edges of the wings are spaced apart. The wrist engaging member is formed of plastic or metal of sufficient resiliency to permit it to release the wrist of the wearer in case of a fall. The wrist engaging member may be separate from the bar and be connected by a portion curled around the bar which is also sufficiently flexible to come off the bar in the case of a fall.

3,541,991

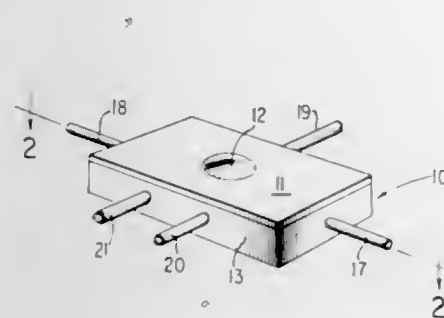
FLUID OPERATED ANNUNCIATOR

Robert B. Hartman, Bridgeport, Connecticut, assignor to Remington Arms Company, Inc., Bridgeport, Connecticut a corporation of Delaware

Filed July 2, 1968, Ser. No. 741,995
Int. Cl. G08b 1/04

U.S. Cl. 116-65

5 Claims



A device for displaying a plurality of signals wherein at least two slidable dislike or signal members are movable in a passage means by fluid pressure, a central portion of the passage means having a window with an indicating surface in line therewith. The signal discs are movable in the passage means so that the dislike members selectively can be displayed in the window or all of the dislike members can be moved adjacent to their respective guide passage means so as to leave the area under the window displayed therein.

3,541,992

FLUID LIGHT MODULATING MEDIUMS FOR IMAGE PROJECTION APPARATUS

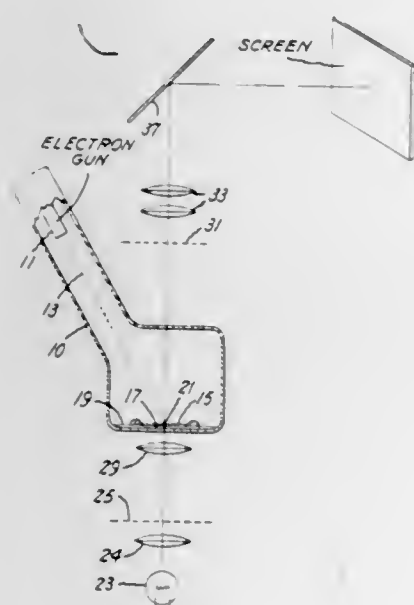
Carlyle S. Herrick, Alplaus and Frederick F. Holub, Scotia, New York, assignors to General Electric Company, a corporation of New York

Continuation-in-part of application Ser. No. 560,912, May 31, 1966, now abandoned. This application Oct. 26, 1966, Ser. No. 589,583

Int. Cl. H04n 3/16, 5/44

U.S. Cl. 178-7.5

16 Claims



A light modulating fluid of considerably improved properties is prepared by adding a concentration of polymeric material to conventional light modulating fluid used in the projection of self-erasing, rapid decay images. The polymeric material must not only be soluble in the base (conventional) fluid at the image forming temperature but must be soluble therein to the extent that a molecular weight/concentration relationship of the polymeric material can be established in the base fluid, which is productive of viscoelastic behavior in

the modified fluid. A simple test for the routine identification of viscoelastic capability in the modified fluid is described.

3,541,993

APPARATUS FOR TREATING EGGS

Johannes Bruinsma, Steensel, Netherlands, assignor to N. V. Crimex, Westerhoven, Netherlands

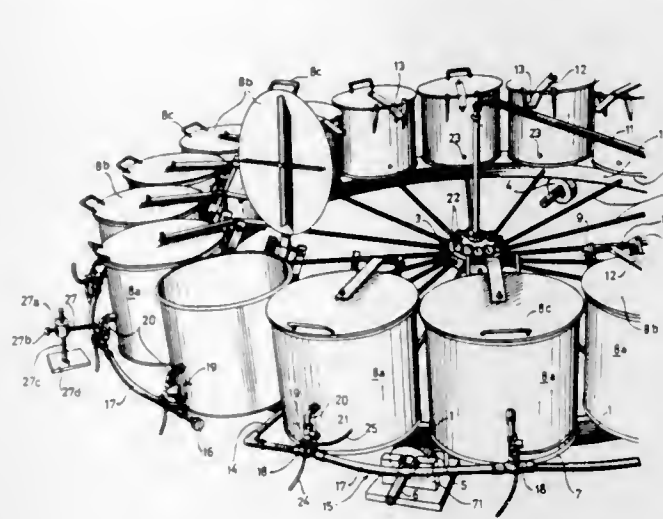
Filed Dec. 13, 1968, Ser. No. 783,683

Claims priority, application Netherlands, Dec. 14, 1967, 6717004

Int. Cl. A01k 45/00

U.S. Cl. 119-1

10 Claims



An apparatus is disclosed for treating eggs according to the direct pressure difference method wherein a negative pressure is established in the interior of the eggs by subjecting the eggs to a vacuum, a liquid containing an adjuvant penetrates through the impact shells of the eggs when the eggs are again subjected to atmospheric pressure. A plurality of vacuum tanks are circularly arranged on a frame which is rotated about a vertical axis with each tank containing a treatment liquid and a plurality of vertically arranged trays holding eggs. Means are provided for introducing a vacuum or atmospheric pressure into each tank as the frame rotates one revolution.

3,541,994

CALF STALL

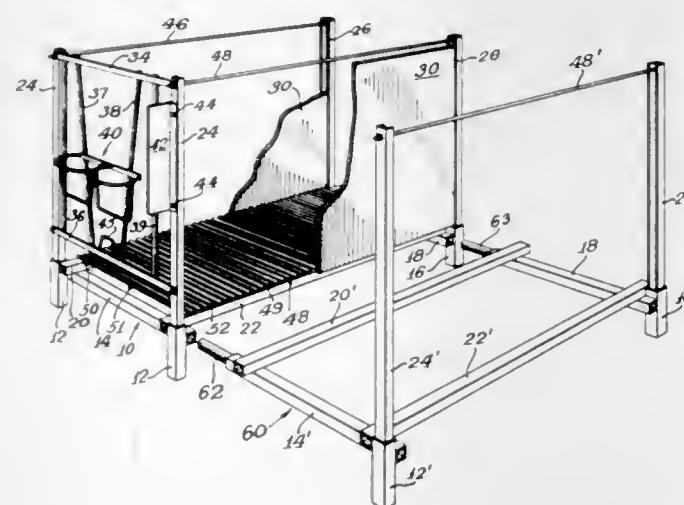
Miles F. Meng, 525-15th St. and Edwin C. Sauey, 734 River Crest Drive, Baraboo, Wisconsin 53913

Filed Dec. 18, 1968, Ser. No. 784,794

Int. Cl. A01k 01/00, 01/02

U.S. Cl. 119-20

6 Claims



An inexpensive, compact, long lasting readily cleaned animal stall arrangement comprising a basic stall with a floor defined by a self-cleaning rodlike grate. The stall arrange-

ment includes an add-on stall having outwardly extending support rods adapted to be received telescopically in frame members of the basic stall and the add-on stall makes use of a wall of the basic stall.

3,541,995

AUTOMATIC ANIMAL FEED CONTROL SYSTEM

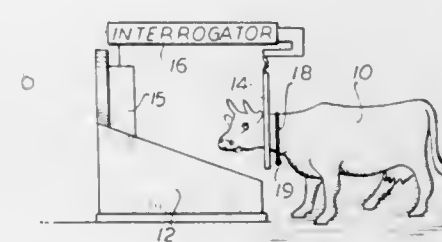
George H. Fathauer, 11 Eastmanland Place, Decatur, Illinois 62521

Filed Nov. 18, 1968, Ser. No. 776,537

Int. Cl. A01k 05/02

U.S. Cl. 119-51

16 Claims



A system is disclosed which is capable of the automatic control of any process or operation in response to the propinquity, duration of dwell time and frequency of the presence of a self-contained movable transponder in the field of an interrogator. One described embodiment controls the operation of an animal feedbox used to feed a plurality of animals such that the feeding rate of any individual animal may be regulated. The apparatus comprises an interrogator which transmits a radio frequency signal to a transponder attached to the animal. Each transponder measures the dwell time of the animal at the feed station and discharges feed at the station in accordance with a predetermined program. When the correct feed discharge and consequent consumption is reached, the response of the transponder to the radio frequency signal is altered in a way detectable at the interrogator and the discharge is terminated. Only when another eligible animal enters the field will additional feed be discharged at that station.

3,541,996

AUTOMATIC SPRAYER APPARATUS

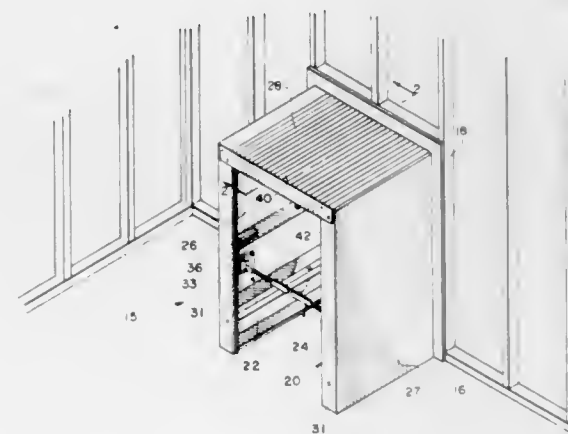
Norman D. Brockelsby, Grand Island and William K. Evers, Hastings, Nebraska, assignors to EBKO Industries Inc., Juniata, Nebraska

Filed April 10, 1968, Ser. No. 720,300

Int. Cl. A01k 13/00, 29/00

U.S. Cl. 119-159

7 Claims



This invention relates to an automatic sprayer apparatus and, more particularly, to a device used to dispense predetermined amounts of fluids such as insecticides upon animals which actuate the same. Still, more specifically, this invention relates to a sprayer apparatus including a U-shaped housing adapted to fit about the periphery of an entranceway having pump and spray actuator means connected to sidewalls of the housing each having an elongated actuator arm adapted to be moved by an animal in order to pump under air pressure a predetermined amount of fluid through spray nozzle assemblies at a given smooth rate.

Numerous types of sprayer structures are known in the prior art operable to dispense oil or the like onto animals passing through swinging type gates. However, the prior art devices are normally dependent upon an exterior source of power as an electrical supply and are not completely self-operable to dispense a predetermined amount of fluid onto the respective animals. In fact, the prior art devices are generally dangerous to use with insecticide fluids and the like as an animal can actuate the dispensing means a plurality of times and an overdose of the fluid may prove fatal to the animal. Additionally, the prior art devices are costly to manufacture, generally unreliable in operation, and not operable to dispense a predetermined fluid quantity at a desired even spray for most efficient end results.

3,541,997

COVER AND PAN COMBINATION

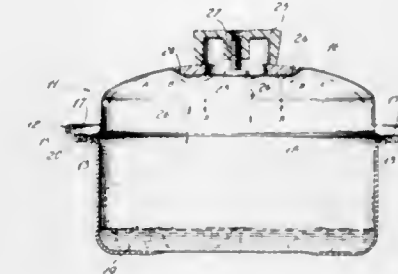
Charles Merchand, 7002 19^e Avenue, Ville St-Michel, Quebec, Canada

Filed April 2, 1969, Ser. No. 812,675

Int. Cl. H47j 27/00

U.S. Cl. 126-381

7 Claims



The invention consists of a cooking pan and a cover in which the flat edge of the cover rests on a convex portion of the rim of the pan so that a liquid which is spread between the said portion and the said flat edge provides a seal produced by superficial tension. A concave gutter surrounds the convex portion. The cover is preferably convex with a central depression.

3,541,998

COOLING SLEEVE FOR EXHAUST PORT OF ELECTRIC FURNACE ROOF

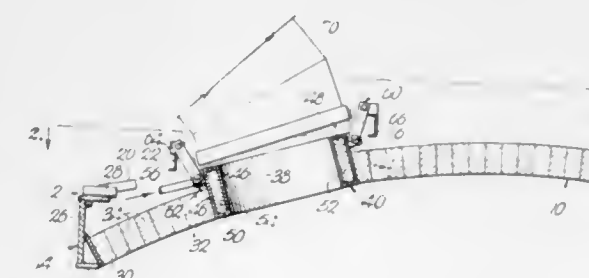
Quentin Schiene, Chicago Heights, Illinois, assignor to Geo. P. Reinjes Co. Inc., Kansas City, Missouri a corporation of Missouri

Filed Nov. 8, 1968, Ser. No. 774,463

Int. Cl. F22b 37/00

U.S. Cl. 122-6.5

4 Claims



A cooling sleeve for the exhaust port of an electric furnace roof, such exhaust port normally being defined by the brick of the roof, the sleeve circumscribing the exhaust port, there being a passage through the sleeve and means for delivering fluid through said passage whereby the sleeve may be cooled. The sleeve is carried by supporting framework in such a manner that it may shift with respect to the brick of the roof dome.

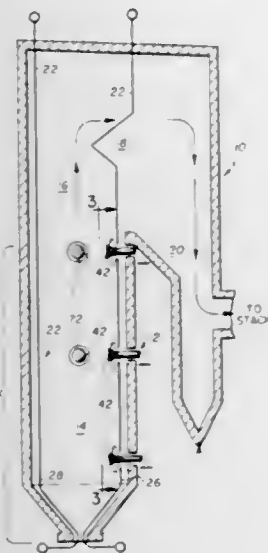
3,541,999

APPARATUS AND PROCESS FOR SLAG DEPOSIT REMOVAL

Justin P. Winkin, Fairlawn and William D. Stevens, North Caldwell, New Jersey, assignors to Foster Wheeler Corporation, Livingston, New Jersey a corporation of New York
Filed Sept. 11, 1968, Ser. No. 759,184
Int. Cl. F28g 3/00

U.S. Cl. 122-392

8 Claims



The heat absorption surface in the furnace section of a vapor generator is cleaned of slag deposits by injecting water under pressure. This creates thermal shock together with a mechanical force which causes the slag deposits to be separated from the heat absorption surfaces.

3,542,000

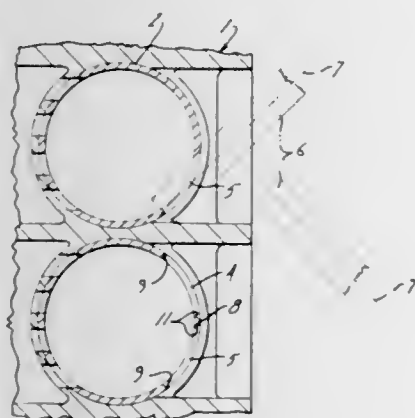
TWO CYCLE ENGINE PORTS AND METHOD OF MAKING THE SAME

Raymond L. Ellingsen, Oshkosh, Wisconsin, assignor to Brunswick Corporation, Chicago, Illinois a corporation of Delaware

Filed May 22, 1969, Ser. No. 826,877
Int. Cl. B23p 15/00; B23c 3/00; F02f 1/77

U.S. Cl. 123-1

6 Claims



A pair of inlet ports are provided on one side of the cylinder with a bridge of the liner therebetween and with the far sides thereof squared to give added inlet capacity, by successive end milling operations in which the mill is advanced along a chord of the cylinder for each port from an initial cut adjacent the bridge to a position of completion where the end of the mill leaves a vertical far edge for the port. A similar construction and method may be provided for the exhaust port on the opposite side of the cylinder. If desired, this construction and method may be utilized to construct a single substantially rectangular port.

3,542,001

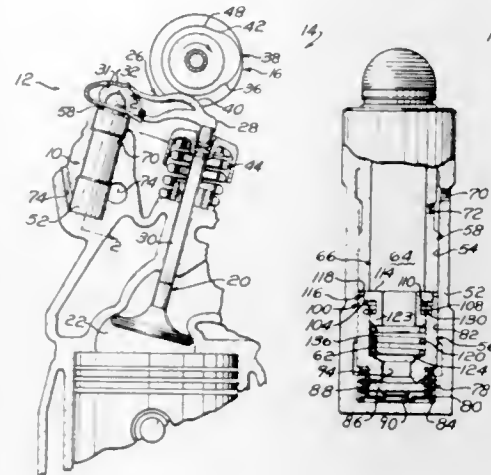
HYDRAULIC LIFTER WITH LASH COMPENSATOR

Gerald D. Line, Saginaw, Michigan, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio a corporation of Ohio
Filed Oct. 25, 1968, Ser. No. 770,482

Int. Cl. F01l 1/18, 1/24

U.S. Cl. 123-90.43

17 Claims



An improved hydraulic lifter or lash adjuster has a compensator assembly for providing a predetermined amount of lash in a valve train. The compensator assembly includes a member which is biased outwardly by a spring to provide a clearance, corresponding to the predetermined lash, between the compensator member and a stop surface on a plunger. The compensator member is brought into engagement with the stop surface by operation of a cam associated with the valve train to thereby eliminate the clearance and take up the lash. A stop means is provided to limit outward movement of the compensator member under the influence of the spring.

3,542,002

RECYCLING DEVICE WITH IMPROVED DRAIN VALVE

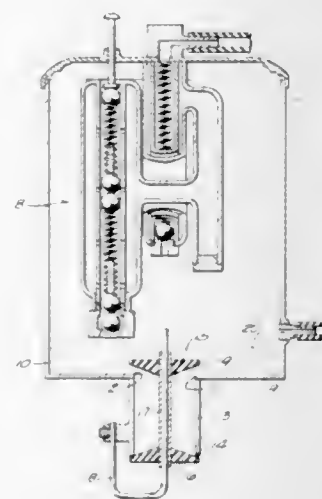
Cecil W. Miles, 2819 N. Nicolet Road Rte. 1, Green Bay, Wisconsin

Filed May 2, 1969, Ser. No. 821,336

Int. Cl. F02f 9/04

U.S. Cl. 123-119

6 Claims



A recycling device for connection between the sealed crankcase and manifold of an engine includes a pair of opposed sludge drain valves which simultaneously and alternately open and close. When the engine is operating, the upper valve is open to permit sludge to drain therethrough, and the lower valve is closed to trap the sludge between the valves. When the engine is off, the upper valve is closed and the lower valve is opened to permit the trapped sludge to drain therethrough.

3,542,003

ENGINE EXHAUST RECIRCULATION

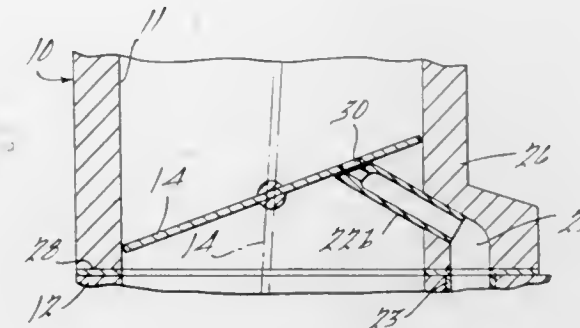
Jorma O. Sarto, Orchard Lake, Michigan, assignor to Chrystal Corporation, Highland Park, Michigan a corporation of Delaware

Filed March 17, 1969, Ser. No. 807,705

Int. Cl. F02m 25/06

U.S. Cl. 123-119

40 Claims



Automobile exhaust gases are recycled by means of a bypass conduit communicating with the exhaust system and discharging into the fuel and air inlet system in opposition to a jet of inlet gases discharging through an orifice in the throttle valve when the latter is at the idle position, such that during engine idling, the bypass flow of exhaust gases into the inlet system is inhibited, but upon opening movement of the throttle valve from the idle position, the jets move out of opposition with each other to enable increased exhaust recycling with increasing engine load.

3,542,004

RECYCLE APPARATUS

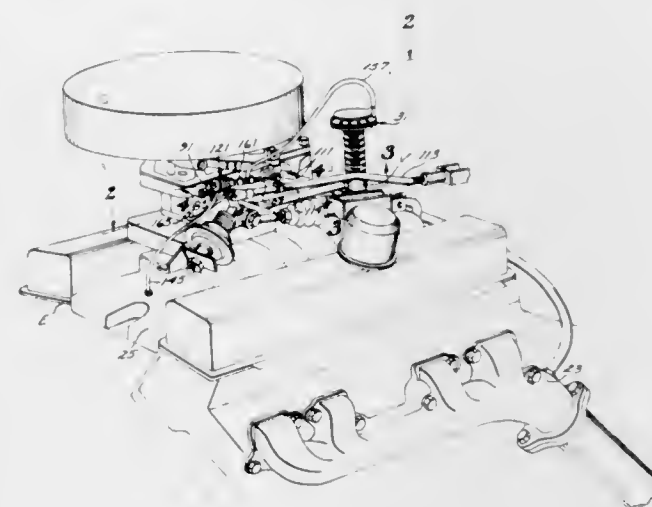
George W. Cornelius, San Pedro, California

Filed Aug. 9, 1968, Ser. No. 752,107

Int. Cl. F02m 25/06

U.S. Cl. 123-119

22 Claims



A recycle apparatus including a conduit leading from the exhaust manifold to the intake manifold of an internal combustion engine and a recycle valve disposed therein. The recycle valve has a light-throttle position permitting a relatively small amount of exhaust gas to recycle from the exhaust manifold to the intake manifold and a heavy-throttle position wherein a relatively large amount of exhaust gas is permitted to recycle. A control means is coupled to the throttle controlling the recycle valve to bleed in only such relatively small amount of exhaust when the engine is idling to avoid rapid vacuum decrease in the intake manifold and consequent erratic operation on such valve.

3,542,005

AUXILIARY VACUUM GENERATOR AND REGULATOR

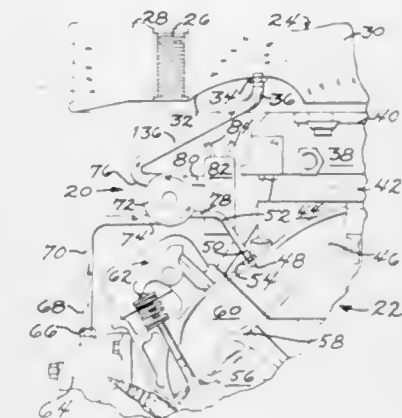
Joe W. Von Brimer, 3177 S. Highland Drive, Las Vegas, Nevada 89102

Filed Nov. 4, 1968, Ser. No. 773,006

Int. Cl. F02m 25/06; F02f 9/00; F04f 5/16

U.S. Cl. 123-119

14 Claims



An auxiliary vacuum generator and regulator assembly for an internal combustion engine, comprising means for imparting a curvilinear flow pattern to a stream of combustion gases from the exhaust system of an engine so that centrifugal force creates a vacuum in a first region, such as a vacuum chamber, a second vacuum region, such as a chamber, for disposition between a vacuum supply tank and a source of vacuum associated with the engine, means between the first and second vacuum regions for communication therebetween, a first valve disposed between the regions or chambers and a second valve disposed in the second chamber for opening and closing the connection between the vacuum source and second chamber. The valves and chambers are so disposed and arranged that when the vacuum at the first chamber exceeds that in the second chamber, the valve between the chambers will open so as to place the first and second chambers in communication and draw vacuum on the vacuum tank or supply through the second chamber, while the valve between the second chamber and the engine vacuum source will close to avoid reverse flow in the conduit connected to the intake manifold or other vacuum source. Means are provided, in one embodiment, for recirculating the exhaust gases which create the vacuum into the intake airstream of the engine, preferably upstream of the carburetor within the air cleaner.

3,542,006

INTERNAL COMBUSTION ENGINE RADIO FREQUENCY RADIATION SUPPRESSING IGNITION SYSTEM

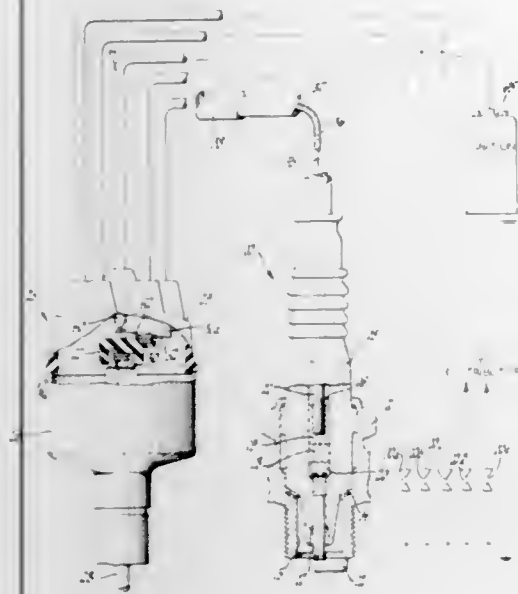
Charles L. Dusenberry, Chesterfield, Ind., and Richard E. Massall, Flint, Mich., and John R. Snead, Kokomo, Ind., and Richard J. Hanson, Warren, Ohio, and Paul W. Wood, Warren, Mich., and Jack E. Riley, Alexandria, Ind., and James V. Clare, Howell, Mich., assignors to General Motors Corporation, Detroit, Michigan, a corporation of Delaware
Continuation-in-part of application Ser. No. 761,193, Sept. 20, 1968, now abandoned. This application Feb. 17, 1969, Ser. No. 799,895
Int. Cl. F02p 7/02

U.S. Cl. 123-146.5

5 Claims

An internal combustion engine radio frequency radiation suppressing ignition system which combines a gap of a width

which is greater than is currently normal between the rotating terminal and each stationary terminal of an internal com-



bustion engine distributor with television-radio radiation suppression ignition cable and resistor type spark plugs.

3,542,007

ALTERNATOR DRIVEN CAPACITOR DISCHARGE IGNITION SYSTEM

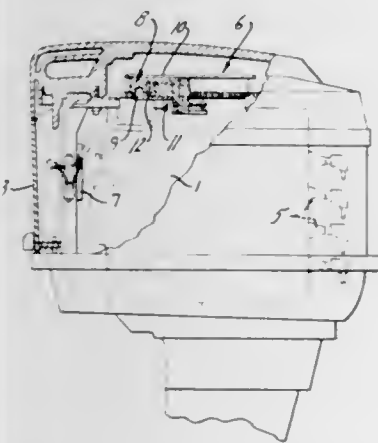
Floyd M. Minks, Campbellsport, Wisconsin, assignor to Brunswick Corporation, Chicago, Illinois a corporation of Delaware, by mesne assignment

Filed Nov. 3, 1966, Ser. No. 591,790

Int. Cl. F02p 3/06

U.S. Cl. 123—148

2 Claims



The present disclosure relates to an ignition system having a capacitor connected across an alternator winding in series with a diode for charging of the capacitor. A discharge circuit includes a silicon controlled rectifier in series with a pulse transformer across the capacitor. The transformer is connected to the spark plugs through a suitable distributor or the like. The gate of the rectifier is connected to the alternator winding such that a firing voltage is established as the alternator output begins the decreasing amplitude portion of the charging half cycle. Alternatively, the winding charges the capacitor during one half cycle of the output and energizes the gate during the opposite half cycle.

3,542,008

GAS-POWERED SHOTGUN

John F. Vadas, Webster, and Edward P. Joslyn, Rochester, New York, assignors to Crosman Arms Company Inc., Fairport, New York a corporation of New York

Filed June 26, 1967, Ser. No. 648,692

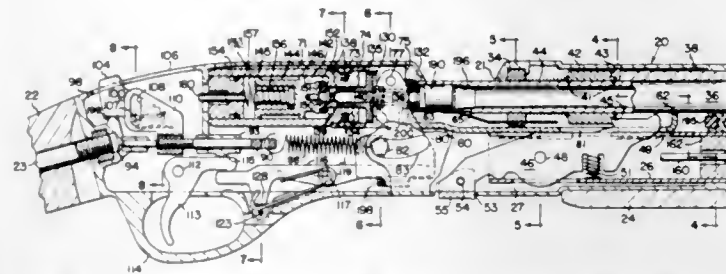
Int. Cl. F41b 11/06

U.S. Cl. 124—11

10 Claims

The barrel is spring-loaded to forward position, and is pulled rearwardly to chamber the shell. In forward position a shell can be loaded through the breech opening, but the hammer may not be cocked. Rearward movement of the bar-

rel seats the shell, and trips a locking lever, which holds the barrel in rear position, and permits the hammer to be cocked. When the trigger is actuated, the hammer opens a valve admitting the propellant gas to the rear of the shell to



drive shot therefrom out the barrel. Manual release of the locking lever, permits the barrel to return to forward position and causes extraction of the spent shell.

3,542,009

COOKING-GRILL CONSTRUCTION

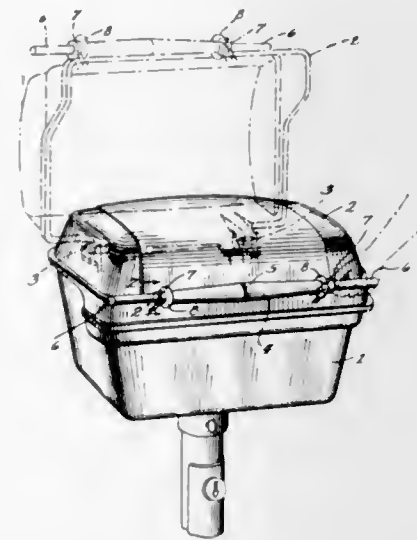
James T. Warner, Richardson, Texas, assignor to Interlake Steel Corporation, Chicago, Illinois a corporation of New York

Filed March 6, 1969, Ser. No. 804,844

Int. Cl. A47j 37/00, 45/08; F24b 3/00

U.S. Cl. 126—25

3 Claims



A cooking grill of the outdoor type for use with solid or gaseous fuel having an improved handle arrangement for the cover of the grill with a middle region to facilitate manual gripping of the handle from the middle front of the grill and two end regions extending to the opposite ends of the grill to facilitate manual gripping of the handle from the ends of the grill.

ERRATA

For Classes 126—116 and 126—381 see:
Patent Nos. 3,541,997 and 3,542,018

3,542,010

SURFACE CONTACTING ELECTRODE ASSEMBLY HAVING ELECTRICALLY CONDUCTIVE PILE FORMING CONTACT SURFACE

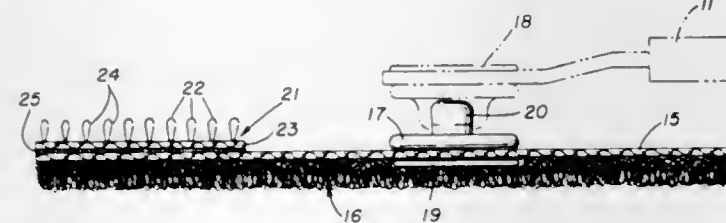
Winston A. Love, 118 Maple Street, Marietta, Ohio 45750

Filed Feb. 19, 1969, Ser. No. 800,469

Int. Cl. A61b 5/04

U.S. Cl. 128—2.1

7 Claims



An electrode assembly is provided for medical diagnostic work with the assembly having improved electrical contact-

forming capability thereby effecting a minimal skin contact resistance. The electrode assembly is formed of electrically conductive, matted-loop pile carried on a surface of an elongated, flexible fabric strip of a length to encircle a body member for positioning of the pile in electrical contact-forming engagement with the skin surface. A multiplicity of hooks formed on an opposite surface of the fabric strip and releasably engageable with the loop pile form fastening means when interengaged to facilitate securing of the assembly to a body member. A connector terminal secured to the fabric strip and in electrical contact with the pile facilitates connection of the electrode assembly with associated diagnostic apparatus.

3,542,011

APPARATUS FOR MEASURING AND MONITORING BLOOD PRESSURE

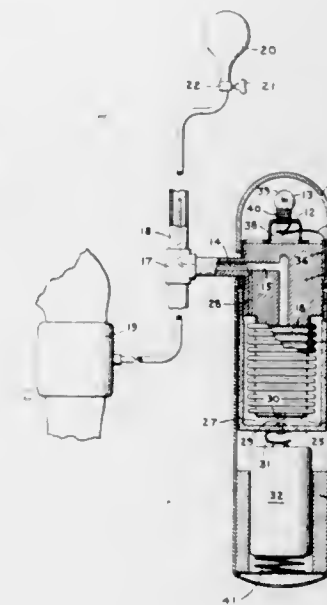
Peter Langenbeck, Norwalk, Connecticut, assignor to Daniel H. Bobis, Newark, New Jersey

Filed June 21, 1967, Ser. No. 647,835

Int. Cl. A61b 5/02

U.S. Cl. 128—2.05

10 Claims



A blood pressure measuring apparatus of the type having a pump, pressure release valve, cuff pressure transducer and gauge wherein the transducer is a differential transducer employing a flexible member directly subjected to the pressure in the conduit leading to the cuff on one side and through an elongated capillary tube on the other side and wherein the pressure gauge may be a standard pneumatic gauge a flashing light, a moire fringe-producing device, or a pneumatic gauge with markers or relay-operated lights.

3,542,012

SYSTEM FOR RECORDING RECURRING EVENTS

Christian Frieberger, Vegagasse 15, 1190 and Heinrich Malczynski, Knauergrasse 1-3, 1100, Vienna, Austria

Filed June 29, 1967, Ser. No. 650,060

Claims priority, application Austria, June 30, 1966, 6,247/66

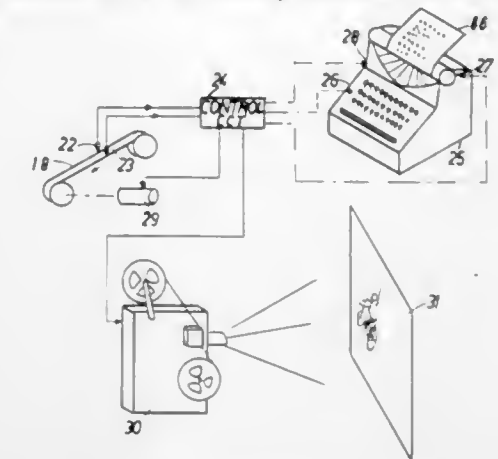
Int. Cl. A61b 5/02; G01d 9/00, 9/08

U.S. Cl. 128—2.05

9 Claims

To record the number of occurrences of a recurring event, such as a pulsebeat, as well as its cadence relative to a more slowly recurring reference signal, which may be the output of a timer or an indication of some other more or less periodic occurrence (such as the downtread of a pedaling cyclist), a character key of a typewriter is depressed to print a mark upon occurrence of the event whereas a line-feed and carriage-return mechanism is actuated in response to the reference signal so that the number of events per measuring cycle—or, if desired, the number of recurrences per cycle exceeding a predetermined minimum—can be read directly on an individual line of the typewriter sheet. Electric pulses re-

gistering the recurring event and the pacemaker signal may also be stored on a recording medium, such as a magnetic



3,542,013

EKG PICKUP ASSEMBLY

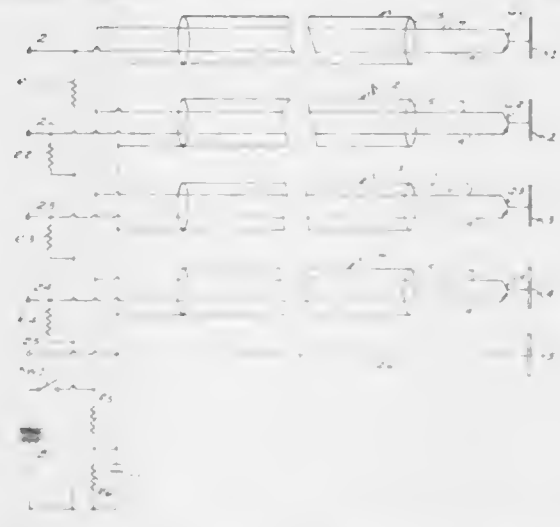
Wilbur B. Stephenson, Kirkwood, Missouri, assignor to Walter Raymond Barrett, Jr., Florissant, Missouri by mesne assignments

Filed Sept. 25, 1968, Ser. No. 762,399

Int. Cl. A61b 5/04

U.S. Cl. 128—2.06

9 Claims



The EKG pickup assembly disclosed herein employs an emitter-follower transistor amplifier at the electrode end of each of a plurality of shielded cables. The emitter-follower transistor amplifiers provide a low impedance signal source so that substantially distortion-free signals which are continuous functions of the potentials occurring at corresponding points on a patient's body are transmitted through the cables.

3,542,014

CATHETER WITH PIEZOELECTRIC TRANSDUCER

Pierre Peronneau, Paris, France, assignor to Compagnie Generale d'Electricite, a corporation of France

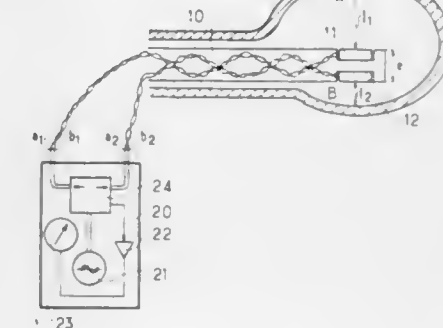
Filed April 8, 1968, Ser. No. 719,593

Claims priority, application France, April 6, 1967, PV101822

Int. Cl. A61b 1/00; A61h 1/00; G01n 9/24

U.S. Cl. 128—2

2 Claims



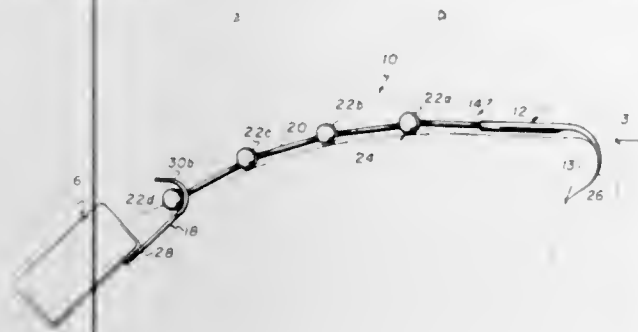
Catheter comprising, at its terminal, two piezoelectric transducer plates back to back.

3,542,015 SURGICAL RETRACTOR

Charles Steinman, Mount Vernon, New York, assignor to Shirley A. Steinman, Mount Vernon, New York and Irwin A. Steinman, Staten Island, New York co-trustees
Filed March 25, 1968, Ser. No. 715,692
Int. Cl. A61b 1/00

U.S. Cl. 128-20

5 Claims



A self-retaining surgical retractor comprises a rake having curved fingers for engaging incision margins, a flexible cable connected at one end to the rake, and a retaining weight adaptable to be detachably connected to the other end of the cable. The rake fingers are engaged with an incision margin and the cable is draped over an adjacent downwardly sloping body surface, whereby the weight applies traction to the rake fingers which thereby retract the incision margin.

3,542,016

BODY MASSAGER AND/OR COSMETIC APPLICATOR
David E. Zimmer, Bridgeport, Connecticut, assignor to David E. Zimmer, Trustee, Bridgeport, Connecticut
Filed March 18, 1968, Ser. No. 713,985
Int. Cl. A61h 15/00

U.S. Cl. 128-57

10 Claims



A body massager and/or cosmetic applicator which includes a base member having a plurality of openings formed therein in which a ball-type roller is retained for relative rotation. The arrangement is such that the peripheral portion of each ball roller is extended to at least one side of the base member whereby the ball rollers may be placed in rolling engagement with that part of the body to be massaged and/or to which a cosmetic or beauty cream is to be applied.

3,542,017

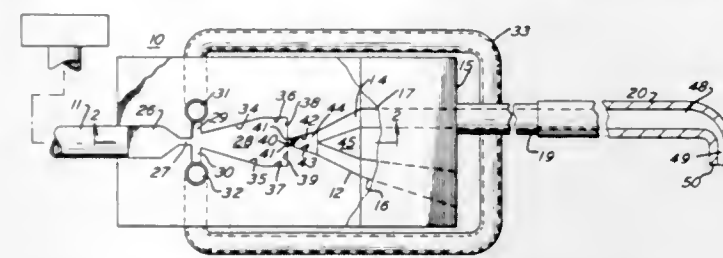
INTERMITTENT FLUID JET APPARATUS
Robert B. Adams, Tredyffrin Township, Chester County, Pennsylvania, assignor to Moore Products Co., Spring House, Pennsylvania a corporation of Pennsylvania
Filed Nov. 21, 1967, Ser. No. 684,806
Int. Cl. A61h 9/00

U.S. Cl. 128-66

8 Claims

Intermittent fluid jet apparatus for hydrotherapeutic and other uses in which a liquid stream is alternately delivered by a fluid oscillator to a handpiece having a passageway with a

terminal nozzle and to a discharge passageway, the discharge passageway having a good acceptance to aid in aspirating the



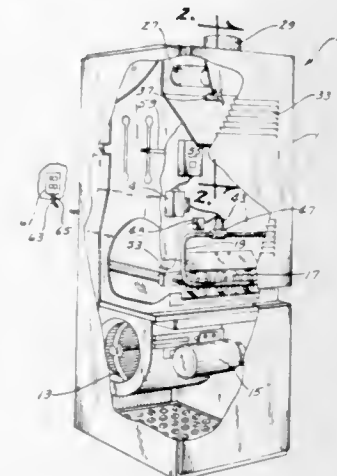
handpiece passageway so that the nozzle provides enhanced impulses.

3,542,018

VENT SAFETY SWITCH FOR HEATING SYSTEMS
Kenneth C. Quick, 826 Walnut St. and Kenneth F. Weir, 836 Elm St., Webster City, Iowa
Filed Aug. 14, 1968, Ser. No. 752,596
Int. Cl. F24h 3/06, 9/20

U.S. Cl. 126-116

2 Claims



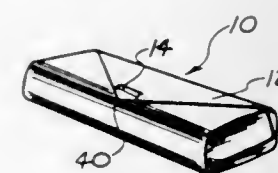
A vent safety switch for gas-fired heating systems adapted to interrupt the gas supply to the gas burner when the temperature in the air vent chamber rises to a predetermined level. The switch is placed in the air vent chamber which is in communication with the heating system chimney. The switch is electrically connected to the gas valve and is adapted to close the gas valve when the temperature rises to the said predetermined level. The switch has a manual reset provided thereon which must be manually operated to cause the switch to be closed thereby opening the gas valve.

3,542,019

CATHETER DRAPE AND WRAP
Ramona R. Gittins, 238 Sylvan Drive, Council Bluffs, Iowa 51501
Filed Feb. 8, 1968, Ser. No. 703,960
Int. Cl. A61f 13/00

U.S. Cl. 128-132

4 Claims



This invention pertains to a medical drape, adapted to provide a sterile field for performing a catheterization procedure and other medical and surgical procedures. Another feature covered herein is a novel method of performing the catheterization procedure using the new drape. As a secondary feature, the drape also serves as a wrapping for storing the medical and surgical equipment in a sterile field prior to performance of the procedure. The drape, adapted to be draped over the patient, comprises a sterilizable, foldable sheet of material having an opening formed therein through which the procedure is performed and having graspable means disposed thereon for unfolding the material without contaminating the sterile field.

3,542,020

FLUID FLOW DEVICES

John Andrew Bushman, London, England, assignor to W. Watson & Sons Limited, Bells Hill, Barnet, England a British company

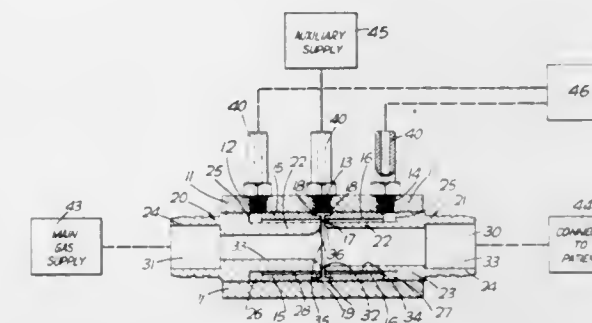
Filed May 6, 1968, Ser. No. 726,705

Claims priority, application Great Britain, May 10, 1967, 21755/67

Int. Cl. A62b 7/00

U.S. Cl. 128-145.8

12 Claims



A fluid flow device comprises a tubular body having a first inlet and an outlet. A second annular inlet concentric with the fluid passage in the body is outwardly flared towards the first inlet and outlet so that fluid flow through the second inlet causes a larger flow between the first inlet and outlet. Control apertures are provided on each side of the second inlet to control the direction of flow through the body.

3,542,021

BANDAGE APPLICATOR AND CUT-OFF DEVICE

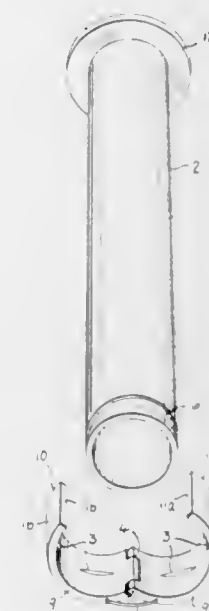
Norman R. Preston, 38-17th St., Toronto 14 Ontario, Canada

Filed May 6, 1968, Ser. No. 726,776

Int. Cl. A61f

U.S. Cl. 128-157

3 Claims



A bandage cutoff device for use with a cylindrical applicator of tubular bandages, the cutoff device comprising a pair of half-ring jaws which are hinged at one end and operable to clamp around the applicator, cutting blades being mounted to and protruding from the inside surface of the jaws. Upon rotation of the jaws about the axis of the applicator, a cutoff operation is performed on an interposed tubular bandage.

3,542,022

TEMPLATE GUIDE FOR MEDICATION INJECTION INTO GLUTEUS MEDIUS MUSCLE AREA

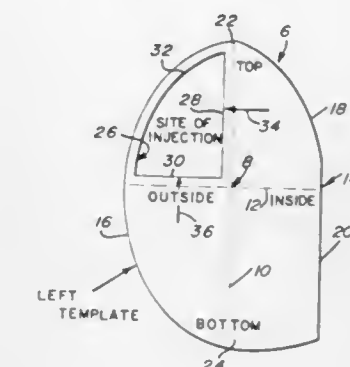
Richard W. Bartnik, West Frankfort, Illinois, assignor to Leonard J. Dunn, West Frankfort, Illinois a part interest

Filed Feb. 28, 1968, Ser. No. 709,043

Int. Cl. A61m 5/00

U.S. Cl. 128-215

7 Claims



This invention pertains to administration of injectible medications into either the left or right buttock of a prone patient. It is intended to replace uncontrolled and often haphazard planning and procedural steps wherein, for example, the site chosen for an injection is contingent almost wholly on the training and experience of an intern, nurse or aide. It seeks to establish a uniform, perhaps a standardized practice, based on unerring area identification and positive control. It has to do with a prefabricated pliant plastic template of prescribed size and marginal contour. The instructions for use are on the template and a quadrantal sight opening designates and isolates the upper outer quadrant of the selected buttock and circumscribes the site for injection. If desired, the nurse can stencil an indelible pencil line directly on the anatomy and mark the delineated area for future repetitional injections.

3,542,023

MINIMIX

Robert W. Ogle, Newport Beach, California, assignor to Min-Mix Corporation, Los Angeles, California a corporation of Delaware

Filed March 6, 1968, Ser. No. 711,036

Int. Cl. A61j 1/00; A61m 5/18

U.S. Cl. 128-218

8 Claims



A two-compartment device for the administration of medicaments which is particularly adapted for containing a dry or lyophilized product and the diluent therefor in separate compartments until it is desired to administer the medicament whereupon the dry material and the liquid material may be readily mixed. The device includes a hypodermic syringe barrel having an open end and a closed

end, a boss extending from said closed end, a needle affixed to said boss, means for enclosing medicament associated with said barrel, a tubular needle cover enclosing said needle, one end of said needle cover sealing on said boss, the other end of said needle cover containing an opening therein coaxial with said needle, received in said opening a medicament vial, said medicament vial having an open end and a closed end, received in the open end of said medicament vial a resilient impermeate stopper, said stopper being adapted to be punctured by the open end of said needle to permit the transfer of the contents of said medicament vial to the medicament container associated with said barrel and vice versa.

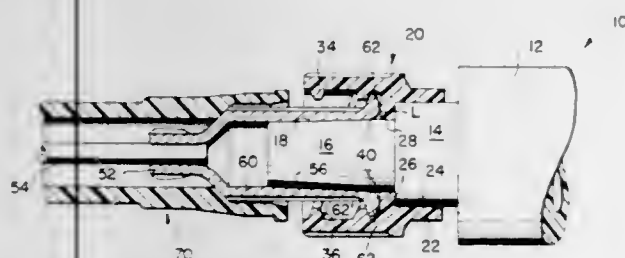
3,542,024

HYPODERMIC ASSEMBLY

George K. Burke, Bethlehem, Pennsylvania, assignor to Burron Medical Products, Inc., Bethlehem, Pennsylvania
Filed Jan. 17, 1969, Ser. No. 792,044
Int. Cl. A61m 05/32

U.S. Cl. 128—221

4 Claims



A hypodermic syringe is provided with a tip portion having a tapered outer surface. An adapter is fixed to the syringe and includes a tubular portion in surrounding relationship to the tapered tip, this tubular portion having internal threads formed therein. A flat end surface is formed in the adapter and extends substantially perpendicular to the longitudinal axis of the assembly. A hypodermic needle means includes a cannula and a hub, the hub having an internal bore tapered to fit on said tapered tip. Flange portions are formed on the hub and are received within and engage the internal threads of the adapter in surface-to-surface contact. The rear surface of the flange portions of the hub is convex and is formed by an annular axially extending projection spaced outwardly of the tapered tip, so as to have substantially a line contact with said flat end surface of the adapter to firmly position the needle means in place relative to the adapter and the syringe.

3,542,025

SURGICAL TYPE SCRUBBING SPONGE

Harry C. Gustafson, Milwaukee, Wisconsin, assignor to Fuller Laboratories, Inc., Eden Prairie, Minnesota a corporation of Minnesota.

Filed May 29, 1968, Ser. No. 733,017

Int. Cl. A61m 7/00

U.S. Cl. 128—269

4 Claims



A medical swab having an essentially lint-free characteristic. The swab is formed from a nonwoven cotton material. Forming apparatus forms a strand of such material into an essentially rectangular cross section and bonds it to an applicator stick.

3,542,026

THORACOSTOMY DEVICE

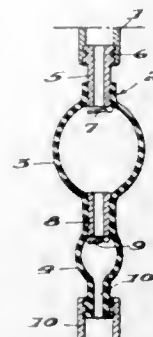
Billy M. Bledsoe, P.O. Box 26, Ashburn, Virginia
Filed July 23, 1968, Ser. No. 746,907
Int. Cl. A61m 1/04

U.S. Cl. 128—278

5 Claims

A thoracostomy device to remove air and fluid from the area of the lungs through an elastic bulb having an air

chamber connected by a tube to the pleural cavity to draw fluid from the cavity through this tube into the chamber of the bulb. At the inlet end of the bulb, a one-way valve is provided which closes the end of the tube as the fluid is discharged from the opposite end of the bulb during successive expansion and contraction thereof and with the inner surface of the chamber tapering inward toward the periphery of the valve and the tube to prevent accumulation



therearound. The discharge end of the bulb is connected with a second enlarged chamber through a tube which also has a one-way valve to control back pressure therethrough during the opening of the first-mentioned valve by action of the bulb. This second chamber also is in enlarged relation to the valve and tapers inward toward the valve and end of the inlet tube thereof to prevent material from accumulating thereon. The second chamber discharges through a tube to a suitable receptacle.

3,542,027

DIAPER WITH MULTILAYERED TIE-INS

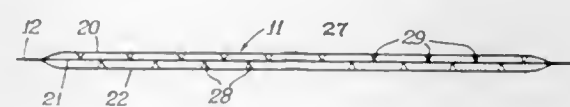
Charles R. Higgins, Charlotte, North Carolina, assignor to The Kendall Company, Walpole, Massachusetts a corporation of Massachusetts

Filed Feb. 1, 1968, Ser. No. 702,247

Int. Cl. A61f 13/16

U.S. Cl. 128—284

9 Claims



A woven diaper of the type including a low density multilayered central section, the layers of which are bound together by closely spaced parallel rows of yarns interwoven in each of two adjacent layers.

3,542,028

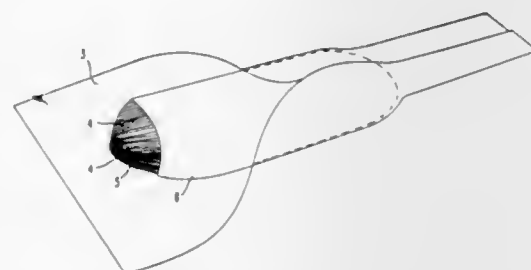
FLUSHABLE SANITARY NAPKINS

Edwin Victor Beebe and Edith Maier Singh, Wilmington, Delaware, assignors to E. I. du Pont de Nemours and Company, Wilmington, Delaware a corporation of Delaware
Continuation-in-part of application Ser. No. 621,547, March 8, 1967, now abandoned. This application June 19, 1968, Ser. No. 744,277

Int. Cl. A61f 13/16

U.S. Cl. 128—290

12 Claims



A genuinely flushable sanitary napkin having an absorbent core of loosely felted fibrated wood pulp; a fluid barrier of a cellulosic fiber substrate coated with a fluoropolymer for retaining body fluids within the core, and a soft, water disper-

sible wrapper exhibiting pleasing aesthetics during use for enclosing the core and fluid barrier and for maintaining the napkin in a unitary assembly during use, the wrapper being a nonwoven fabric of randomly entangled cellulosic fibers chemically modified to allow easy disintegration of the fabric in tap water for promoting flushability of the entire napkin, the wrapper is further characterized as having a unique combination of tensile properties while dry, or when wet with tap water, or while wet with body fluids. Also disclosed is a fluid barrier of a cellulosic sheet substrate coated with a fluoropolymer, or paraffin wax, the sheet having a combination of wet and dry tensile properties which yields good performance during use of the napkin of which it is a part while promoting flushability of the napkin.

3,542,029

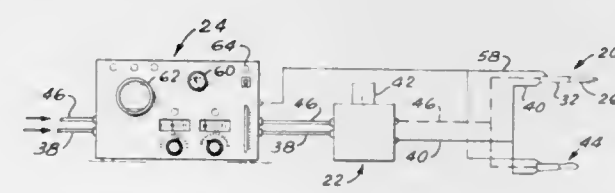
SUPERCOOLED SURGICAL INSTRUMENT

Max L. Hirschhorn, 5601 13th Ave., Brooklyn, New York
Filed June 12, 1968, Ser. No. 736,529

Int. Cl. A61b 17/36

U.S. Cl. 128—303.1

11 Claims



A supercooled surgical instrument comprising a heat conductive surgical tool having a hollow thin walled body of heat conductive material of low icing capacity and a thermally insulative handle connected to the body. A reservoir containing a cryogenic liquid including means for injecting a precooled nontoxic inert gas into the cryogenic liquid so that the said gas and said liquid are supercooled by expansion during passage through the cryogenic liquid, and outlet means located above the liquid level of the cryogenic liquid for removing the supercooled gas from the reservoir is interconnected with the body through means disposed in the handle of the tool or by venting said gas along the outer contour of the instrument in order to increase the cooling of the instrument and to prevent icing by repelling the water molecules of the surrounding air.

3,542,030

LABORATORY STEREOTAXIC EQUIPMENT FOR SMALL, LIVING CREATURES

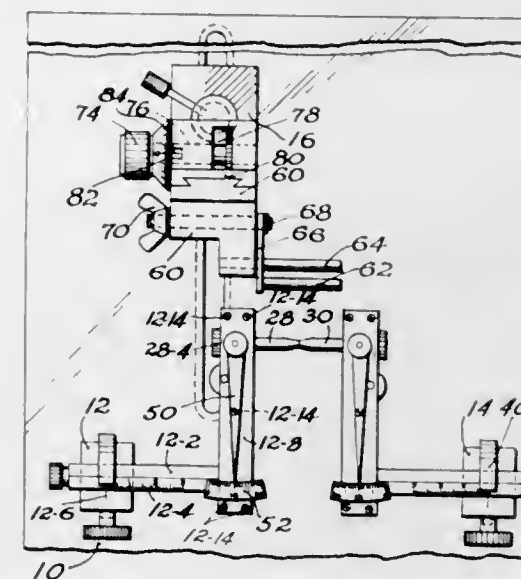
Roger A. Hoffman, Box 84, Hamilton 13346; and Russel J. Reiter, 260 Crittenden Blvd., Rochester, New York

Filed Dec. 16, 1968, Ser. No. 784,299

Int. Cl. A61b 17/00

U.S. Cl. 128—303

6 Claims



An experimental animal is immobilized by firm and mechanical contact with osseous structure, either direct or

through intervening thin pectorial tissues. The contact means is a rigid structure, adjustable for clamping the animal ineffectively immobilized condition, at least with respect to the parts to be treated. The rigid clamping structure also provides guide means for guiding the insertion of conventional cannula or other treatment member to the exact point of treatment. In case of a cannula, a hollow, rigid guide member adapted to receive the cannula in sliding engagement is provided, and stop means for determining the exact extent of insertion of the cannula. The complete assembly is adapted for repeated use without disturbing the adjustment of any of the stereotaxic contact members, but certain of the members are independently removable to permit the removal of a treated animal and the installation of an untreated animal. Calibrated indicating means are provided for all adjustments that affect the position and orientation of the parts or places to be operated, or otherwise treated, and a record of all calibration readings enables an unskilled person to duplicate any set of predetermined recorded adjustments without repeating the original difficult determination.

3,542,031

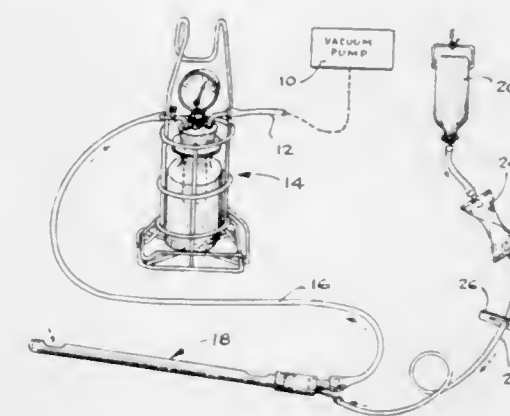
VACUUM CURETTE

Marshall B. Taylor, 2901 S. Parkway, Chicago, Illinois
Filed June 24, 1968, Ser. No. 739,322

Int. Cl. A61b 17/22; A61m 1/00

U.S. Cl. 128—304

4 Claims



A vacuum curette and curettage assembly for vacuum evacuation of the uterus. An elongated tube having a length sufficient to sound the depth of a uterus, and a rounded contact forward end with an aspiration inlet. The rearward end of the elongated tube has an opening which is connected to vacuum tubing leading to a vacuum trap and to a source for creating a vacuum. Saline flush tubing extends along the length of the elongated tube and is mounted to the wall thereof. The flush tubing is connected to the saline tubing and to a saline source so that a saline drip is introduced through a discharge opening of the flush tubing in the area of the aspiration inlet, to thereby counteract clogging of tissue passing through the elongated tube. An aperture at the rear of the tube allows finger control of the negative pressure within the tube during the evacuation procedure.

3,542,032

THERAPY PACKAGE

Charles C. Spencer, Jr., Gardner, Kansas, assignor to Cramer Products, Inc., Gardner, Kansas a corporation of Kansas
Filed March 22, 1968, Ser. No. 715,240

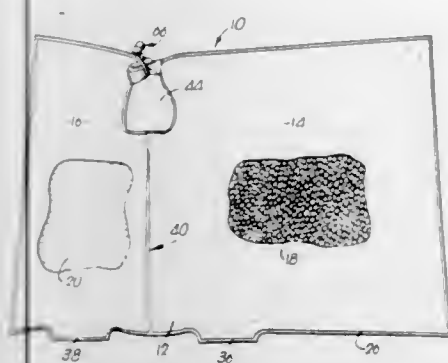
Int. Cl. A61f 7/00, 7/06; F25d 3/08; F28f 7/00

U.S. Cl. 128—399

6 Claims

A therapy package comprised of an envelope of flexible material, the envelope being divided into a pair of separate compartments, one of the compartments containing a dry heating or refrigerating chemical, the other compartment containing a liquid or a gel, there being a flap formed as a part of the envelope and having a passage therethrough and in communication with each of the compartments whereby

the compartments may be selectively placed in communication to permit the liquid or gel and the dry chemical to mix



and thereby produce a thermal or refrigerating chemical reaction depending upon the chemical used.

3,542,033

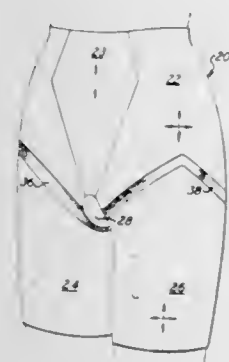
ACTION ZONE GIRDLE

Louise M. Tenusiak, New York, New York, assignor to Sarong, Inc., Dover, Delaware a corporation of Delaware
Filed Nov. 9, 1967, Ser. No. 681,705

Int. Cl. A41c 1/00

U.S. Cl. 128—528

14 Claims



This is an undergarment that encircles the lower torso of the body and has easier stretchability in a zone which lies along the natural crease lines of the body of the wearer.

3,542,034

FOUNDATION GARMENTS

Anne Klein, 166 E. 65th St., New York, New York 10021
Continuation-in-part of application Ser. No. 478,118, Aug. 9, 1965, now Patent No. 3,331,372, dated July 18, 1967. This application May 26, 1967, Ser. No. 641,620

Int. Cl. A41c 1/00

U.S. Cl. 128—535

12 Claims



Foundation garments comprising fastener structure comprising, in turn, cooperating male and female elements secured with the garment adjacent the lower marginal portion thereof adapted to be interengaged to support hosiery, or the like, relative to the garment.

3,542,035
TOBACCO FOILS HAVING IMPROVED WET STRENGTH
Wolfgang Dierichs, Duesseldorf-Holthausen, Germany, assignor to Henkel & Cie G.m.b.H., Holthausen, Germany, a corporation of Germany

No Drawing. Filed May 3, 1968, Ser. No. 726,552

Claims priority, application Germany, June 5, 1967, H62921
Int. Cl. A24b 03/14

U.S. Cl. 131—15

7 Claims

This invention relates to a tobacco foil having improved wet strength comprising a dried aqueous mixture of tobacco powder and a water-soluble, film-forming agent, a portion of said water-soluble, film-forming agent consisting of a compound selected from the group consisting of water-soluble xanthan-gum and water-soluble derivatives of xanthan-gum in admixture with a water soluble cellulose ether.

3,542,036

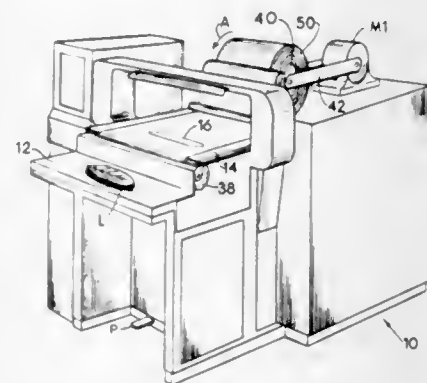
SYSTEM FOR FEEDING LEAF TO A CIGAR MAKING MACHINE

Harry Allison Hooper, Larchmont, New York; Warren A. Brackmann, Cooksville, Ontario, Canada and Frank Hollenton, Richmond, Virginia, assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 10, 1969, Ser. No. 790,277

Int. Cl. A24b 05/14; A24c 01/04

U.S. Cl. 131—33

13 Claims



A method and apparatus for processing large volumes of tobacco leaf to form a roll or other container of a plurality of stretched, oriented leaf patches and for feeding the patches directly to a cigar making machine. Each tobacco leaf is stretched and the stretched patches are prepared therefrom. The stretched patches are retained in their stretched condition on a flexible supporting means until they are removed from the supporting means for delivery to a cigar filler core.

3,542,037

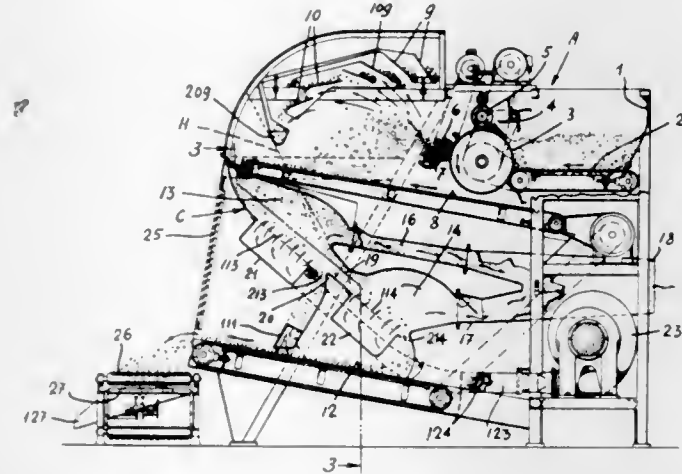
CUT TOBACCO STEMMER

Ivano Pietralunga, Bologna, Italy, assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Feb. 23, 1968, Ser. No. 707,753

Int. Cl. A24c 05/39; B07b 04/02, 13/10

U.S. Cl. 131—109

13 Claims



An apparatus and method for separating cut tobacco components into fractions, which comprises a baffle means and

means for ballistically projecting said cut tobacco. The cut tobacco is ballistically projected toward the baffle means and at least a first group of heavy fractions are trapped by the baffle means and are removed therefrom. Pneumatic blow means pneumatically propel the remaining cut tobacco to remove additional fractions from the remaining cut tobacco and leave a residue of cut tobacco for separately collecting each of said fractions and the residue of said cut tobacco.

3,542,038

CIGAR MANUFACTURE

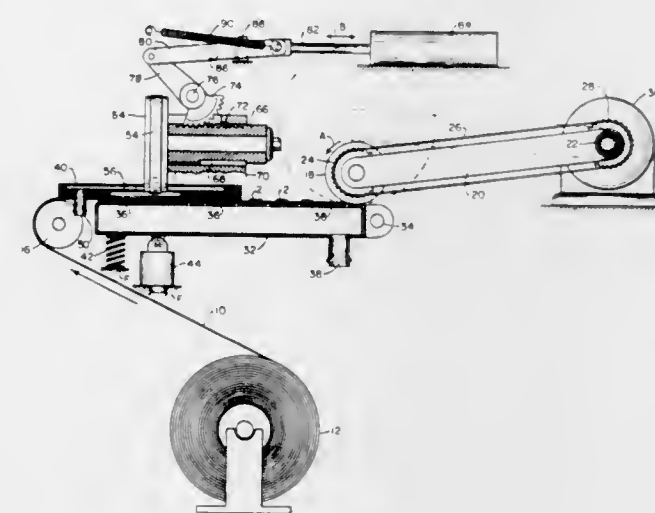
Harry Allison Hooper, Larchmont, New York; Warren Arthur Brackmann, Cooksville, Ontario, Canada and Frank Hollenton, Richmond, Virginia, assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Jan. 10, 1969, Ser. No. 790,278

Int. Cl. A24b 05/14; A24c 01/04

U.S. Cl. 131—149

8 Claims



An apparatus for processing whole tobacco leaf, utilizing an open contoured matrix for forming shaped patches of leaf suitable as wrapper and binder. A porous web travels beneath the matrix, and suction applied to the web and matrix causes the leaf to assume the patch shape. The shaped portion is cut and the patch is simultaneously transferred to the web. Means are provided to wind the web so as to entrap the cut patches between the web layers for subsequent storing as a booked roll.

3,542,039

CIGARETTE RECEIVER AND EXTINGUISHER

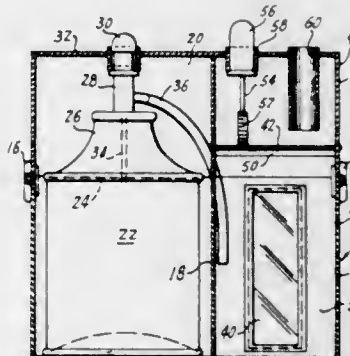
Marvin J. Blakeway, Sacramento, California (1690 Tracy Blvd. Apt. 7, Tracy CA 95376)

Filed Feb. 24, 1969, Ser. No. 801,302

Int. Cl. A24f 13/18, 19/14

U.S. Cl. 131—235

6 Claims



A casing is provided in one side with a cigarette receptacle and in its other side with a compartment adapted to receive a container of CO₂ gas. Above the cigarette receptacle is a

tube for the insertion of cigarettes and flap gates adapted to be opened to drop the cigarette into the receptacle, whereupon a valve operating button is pressed to discharge CO₂ gas into the receptacle to extinguish the cigarette.

3,542,040

EASILY CLEANED HAIR COMB

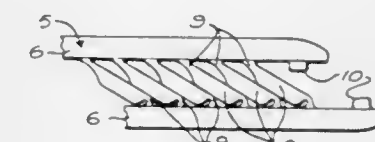
Lloyd Richard Poe, Beverly Hill, California (9035 Venice Blvd. Los Angeles CA 90034)

Filed Jan. 28, 1969, Ser. No. 794,737

Int. Cl. A45d 24/00

U.S. Cl. 132—11

9 Claims



A hair comb in which flat teeth normally disposed in parallel relation are interconnected by integral hinge webs so that the teeth may be rotated in unison first in one direction then the other to expose the sides thereof for cleaning.

3,542,041

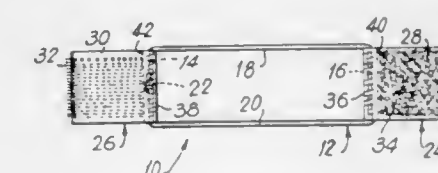
HAIR FASTENERS AND METHODS OF USING THE SAME

Dominic J. Mercorella, 12 E. 57 St., New York, New York
Filed April 18, 1967, Ser. No. 631,651

Int. Cl. A45d 8/00

U.S. Cl. 132—46

8 Claims



A hair fastener which is to be worn at the head and which is designed to fasten together a body of hair at the head of the wearer of the fastener. The fastener has an elongated, endless, stretchable elastic filament provided with opposed ends and a pair of elongated portions extending between these ends, and the fastener further includes a pair of flexible tabs which are connected respectively to the opposed ends of the filament and which carry at their exposed surfaces a releasable fastening means for fastening the tabs to each other in overlapping relation with the elongated portions of the filament extending at least in part around the body of hair which is fastened by the fastener.

3,542,042

WATER MIXING DEVICE AND METHOD FOR DELIVERING A STREAM OF TEMPERATURE CONTROLLED WATER

Werner W. Buechner, 4407 Gladding Court, Midland, Michigan 48640

Filed Feb. 23, 1968, Ser. No. 707,757

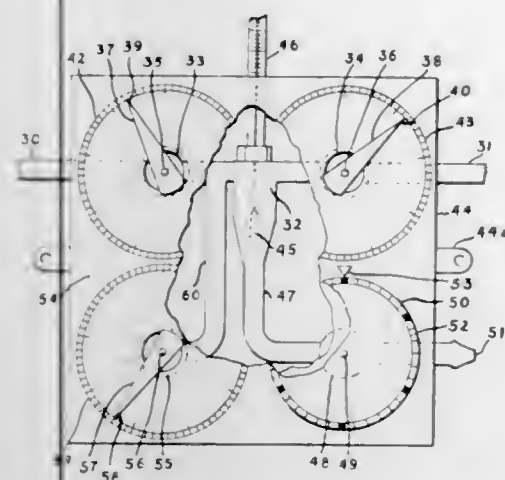
Int. Cl. F16k 31/50, 37/00

U.S. Cl. 137—1

6 Claims

Device for mixing streaming hot and cold water in exact proportions for producing a stream of water having an exact, predetermined intermediate temperature, which device comprises means for metering one of the streams of incoming

water and a valve for metering and varying the flow rate of the second stream of water and scale means and correlated



indicating means for adjustment of the flow rate through said variable valve to a predetermined value.

3,542,043

METHOD FOR TRANSPORTING TWO IMMISCIBLE FLUIDS BY PIPELINE

Richard L. Every, Ponca City, Oklahoma, assignor to Continental Oil Company, Ponca City, Oklahoma a corporation of Delaware

No Drawing. Filed Feb. 27, 1969, Ser. No. 803,101
Int. Cl. F17d 1/100

U.S. Cl. 137-1

3 Claims

Two fluids which are mutually immiscible, such as a hydrocarbon and an ammonium polyphosphate solution, are transported through a pipeline by interposing two buffer slugs, the first comprising a liquid miscible with one of the fluids and the other of the slugs but immiscible with the other of the fluids, and the second comprising a liquid miscible with the first slug and the other fluid but immiscible with the one fluid.

3,542,044

FRICTION REDUCING COMPOSITIONS FOR OIL-BASED FRACTURING FLUIDS

Gerald D. Hansen, Holicon; Leonard J. Persinski; Alan Bischof, by mesne assignments and John I. Padden, Pittsburgh, Pennsylvania, assignors to Calgon Corporation, a corporation of Delaware

Filed Sept. 22, 1966, Ser. No. 588,655
Int. Cl. F17d 1/16; E21b 43/26

U.S. Cl. 137-13

4 Claims

A composition for and a method of reducing energy loss during flow of oil through a pipe is provided which comprises adding to said oil in aqueous polyacrylamide solution preferably containing a dispersing agent.

3,542,045

EMERGENCY SHUT-OFF VALVE

Christian W. Kruckeberg; John S. Loy, Fort Wayne and Lester R. Overy, Garrett, Indiana, assignors to Tokheim Corporation, a corporation of Indiana

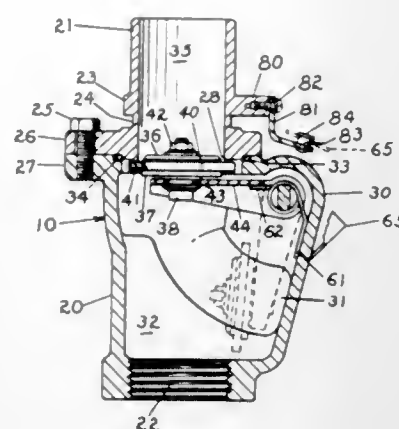
Filed April 26, 1968, Ser. No. 724,399
Int. Cl. F16k 17/36

U.S. Cl. 137-39

5 Claims

A shutoff valve having an operating lever of leaf-spring construction, the lever holding the valve open by engagement

with a latch, but being biased toward disengagement and being releasable from the latch upon delivery to the valve of



an undesired impact. The lever also includes a fusible connection to allow closing of the valve in event of fire.

3,542,046

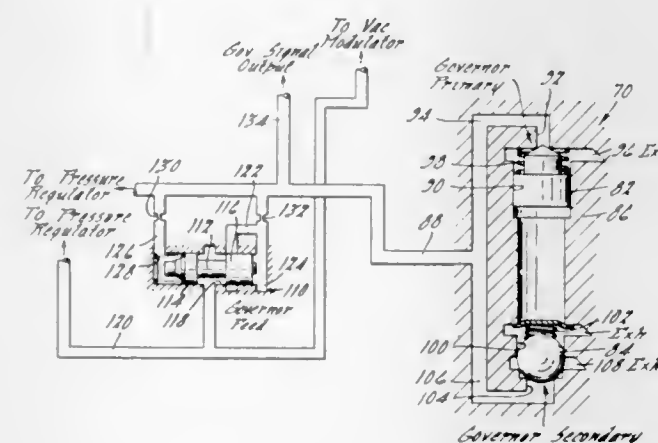
FLUID PRESSURE GOVERNOR MECHANISM HAVING A GOVERNOR VALVE ORIFICE AND A CONSTANT FLOW GOVERNOR FEED CIRCUIT

Richard D. Moan, Livonia, Michigan, assignor to Ford Motor Company, Dearborn, Michigan a corporation of Delaware
Filed May 13, 1968, Ser. No. 728,679

Int. Cl. G05d 13/10

U.S. Cl. 137-54

2 Claims



A control valve system for establishing automatic ratio changes in an automotive vehicle power transmission mechanism including a driven speed sensitive governor that comprises a governor orifice controlled by a centrifugally responsive valve element to produce a variable back pressure, and a pressure feed circuit which allows a constant flow across a feed orifice restriction thereby establishing a reliable speed signal in a range of high operating speed as well as in a low speed range.

3,542,047

TEMPERATURE AND IMPACT RESPONSIVE SHUT-OFF VALVE

Lowell F. Nelson, Muskegon, Michigan, assignor to Enterprise Brass Works, Muskegon, Michigan a corporation of Michigan

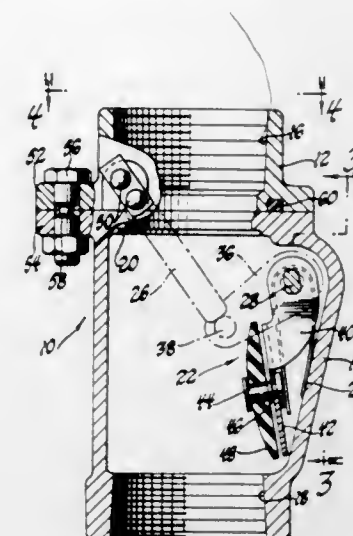
Filed Feb. 1, 1968, Ser. No. 702,222
Int. Cl. F16k 17/38

U.S. Cl. 137-68

13 Claims

A shut-off valve assembly including a housing having first and second independent sections which are connected together by shearable bolts so that the sections separate in response to a predetermined force. The second section of the valve assembly supports a rotatable shaft and the rotatable

shaft in turn has an arm secured thereto with a valve member disposed thereon so that upon rotation of the shaft the valve



member engages a valve seat in the second section of the housing. The shaft extends externally of the second section of the housing and has a lever extending therefrom with a projection thereon. A bimetallic link is secured to the first section of the housing and has its opposite end in abutting engagement with the projection on the lever to hold the valve in the open position against the biasing action of a spring which urges the valve to the closed position.

3,542,048

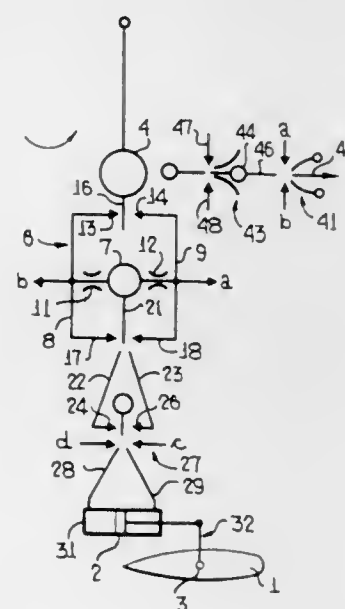
SELF-ADAPTIVE SYSTEMS

Ronald E. Bowles, 12712 Meadowood Drive, Silver Spring, Maryland 20904

Filed Oct. 18, 1967, Ser. No. 676,262
Int. Cl. F15c 1/12

U.S. Cl. 137-81.5

10 Claims



A self-adaptive system is provided capable of continuously adapting itself to compensate for changing operating conditions to which the apparatus is subjected. The system can be programmed to adjust to predictable operating condition changes and can, through self-adjustment, operate in an acceptable manner under conditions which cannot be predicted from prior knowledge of the performance envelope or environment. The control system includes a variable gain amplifier in which the gain can, for instance, be altered by a signal indicating an environmental change or by the very signal to be amplified or a derivative or integral of the signal to be amplified or by a condition related to the signal to be amplified.

3,542,049

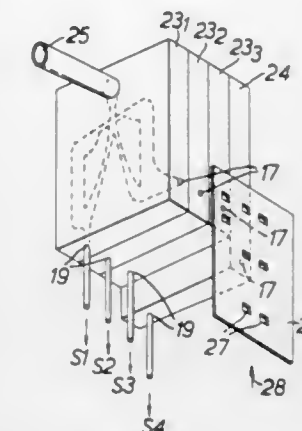
PROXIMITY DETECTOR

Tomooi Kobayashi, Norio Maejima, Kazuo Ozawa, and Hayao Nishino, Kyoto, Japan, assignors to Omron Tateisi Electronics Co., Ukyo-ku, Kyoto, Japan a company of Japan

Filed July 9, 1968, Ser. No. 743,433
Claims priority, application Japan, July 11, 1967, 42/44830
Int. Cl. F15c 1/10, 4/00

U.S. Cl. 137-81.5

3 Claims



A proximity detector comprising at least one pure fluid or fluidic oscillator by the changes in the oscillating output condition of which the presence or absence of an object is detected. The fluidic oscillator includes a feedback channel and an object detecting aperture communicating the feedback channel with an environment. While the feedback channel communicates with an environment through the aperture, it cannot perform its feedback function so that the oscillator cannot start oscillation. When an object has closed the aperture, the feedback function of the feedback channel is restored, so that the oscillator starts oscillation. When the object leaves the aperture open, the feedback channel loses its function, so that the oscillation stops. Thus, by the changes in the oscillating output condition of the oscillator it is possible to detect the presence or absence of an object at the aperture.

3,542,050

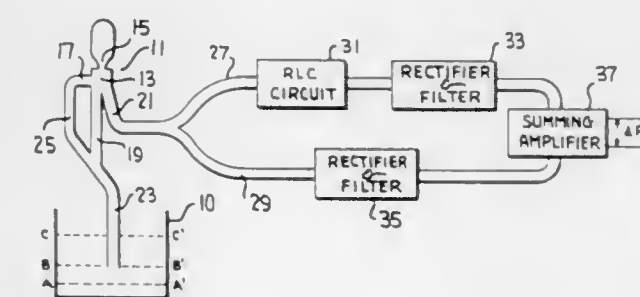
FLUIDIC LIQUID LEVEL DETECTOR

Edwin U. Sowers, III, Silver Spring, Maryland, assignor to Bowles Engineering Corporation, Silver Spring, Maryland a corporation of Maryland

Filed Dec. 9, 1968, Ser. No. 782,326
Int. Cl. F15c 1/10

U.S. Cl. 137-81.5

10 Claims



A liquid level detector in a preferred embodiment, comprises a fluidic oscillator having a single feedback line which when blocked by liquid induces oscillations in the oscillator and when open to air inhibits oscillations. The oscillator output signal is divided, one path feeding a rectifier and filter and a second path feeding a resonant circuit and a rectifier and filter. The resonant circuit is tuned to the nominal operating frequency of the oscillator so that when the oscillator is oscillating the two output paths provide signals at different pressure levels and when the oscillator is inhibited the two output paths provide substantially equal pressure levels. The oscillator frequency is variable with the height of liquid in the feedback line so that the pressure differential provided between the two output paths varies with the level of the liquid.

3,542,051

FREE JET STREAM DEFLECTOR SERVOVALVE

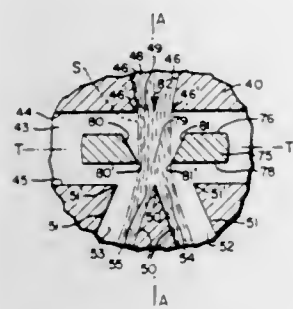
Edward F. McFadden and Leonard J. Williams, East Aurora, New York, assignors to Moog Inc., East Aurora, New York a corporation of New York

Filed Dec. 29, 1967, Ser. No. 694,739

Int. Cl. F15c 3/12

U.S. Cl. 137—83

5 Claims



A deflector movably responsive to a control signal is arranged in a servovalve to deflect a free jet stream of fluid discharged from a fixed nozzle with respect to a pair of fixed receiver passages, thereby to produce a differential fluid output in said passages which is responsive to said signal. The fixed relation of the ejector nozzle and receiver passages is accurately provided by forming wall surfaces thereof in a single member covered on opposite sides by end members, one of which has conduits through which fluid flows with respect to this nozzle and passages and is press-fitted into a recess in the body of the servovalve to eliminate the need for special sealing means where the fluid is transferred between the valve body and end member. The discharge orifice of the ejector nozzle and the entrance ports to the receiver passages are rectangular to provide linearity of response sensitivity at all times, even around the null position of the deflector because these entrance ports are separated only by an apex ridge which is disposed centrally opposite this discharge orifice. The deflector may also be movable other than transversely of the entrance ports to the receiver passages to vary gain.

3,542,052

RELIEF MONITOR FOR GAS SERVICE

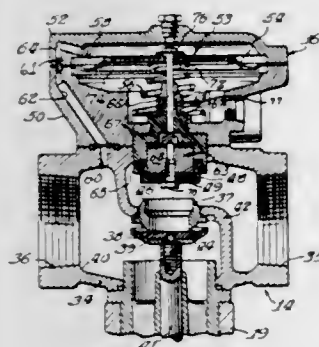
Donald W. Irwin, Marshalltown, Iowa, assignor to Fisher Governor Company, a corporation of Iowa

Filed Aug. 5, 1968, Ser. No. 750,306

Int. Cl. F16k 17/02

U.S. Cl. 137—116.5

6 Claims



A relief monitor is operatively connected to a gas service regulator to prevent excessive downstream pressure that can damage the connected appliances and equipment. The relief monitor includes a valve cooperating with valve seat means upstream of the regulator valve means, the relief monitor valve being operatively responsive to downstream pressure to control gas flow to the regulator valve means and being automatically reset after the excessive downstream pressure condition is obviated. Such relief monitor functions in cooperation with the internal relief valve in the service regulator to afford the desired protection.

3,542,053

FLUSH SYSTEM ARRANGEMENT

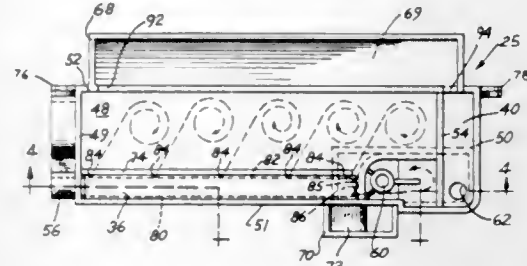
Clifford D. Peterson, Marshalltown, Iowa, assignor to Lennox Industries Inc., a corporation of Iowa

Filed May 20, 1968, Ser. No. 730,296

Int. Cl. F16k 51/00

U.S. Cl. 137—238

8 Claims



An improved flush arrangement for a reservoir, for example, a reservoir in a humidifier, which includes a distribution channel having spaced slots therein constructed and arranged for directing jets of fluid into the reservoir adjacent the bottom to create successive whirlpools, so as to flush all residue from the bottom toward a drain opening.

3,542,054

LUBRICATED DOUBLE-ACTING VALVE SEAT

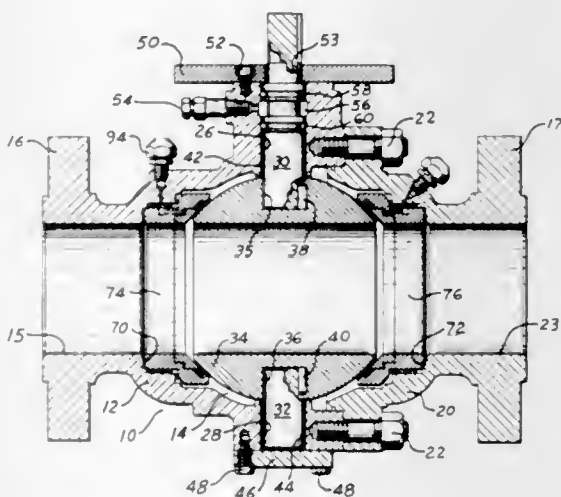
Madden T. Works, Houston, Texas, assignor to ACF Industries Incorporated, New York, New York a corporation of New Jersey

Filed April 8, 1968, Ser. No. 719,643

Int. Cl. F16k 5/22

U.S. Cl. 137—246.22

11 Claims



A valve having movable seat members disposed within seat recesses on either side of a movable valve member. The seat assemblies of this invention include movable back seal carrier members disposed in annular chambers which maintain multiple seals between the valve body and seat assembly and define lubricant communication between lubricant passages formed in the valve body and lubricant passages formed in the seat assembly. The back seal carrier is movable responsive to fluid pressure from the flow passage of the valve or from the valve body and responsive to lubricant pressure to achieve pressure actuation of both the upstream and downstream seat assemblies in a direction toward the valve member.

3,542,055

BRAKE FLUID RESERVOIR FOR A TWO-COMPARTMENT MASTER CYLINDER

Juan Belart, Walldorf, Hessen, Germany, assignor to Alfred Teves GmbH, Frankfurt am Main, Germany a corporation of Germany

Filed April 24, 1968, Ser. No. 723,800

Claims priority, application Germany, May 2, 1967, T33770

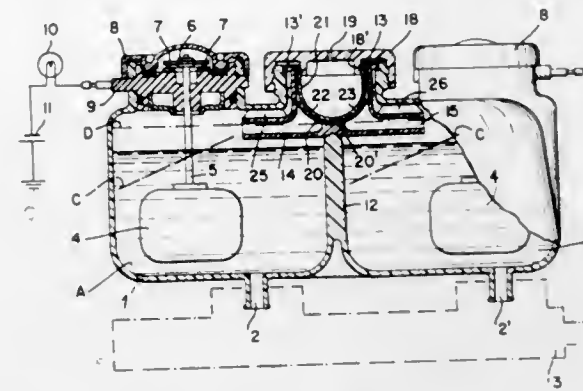
Int. Cl. F15b 7/08

U.S. Cl. 137—255

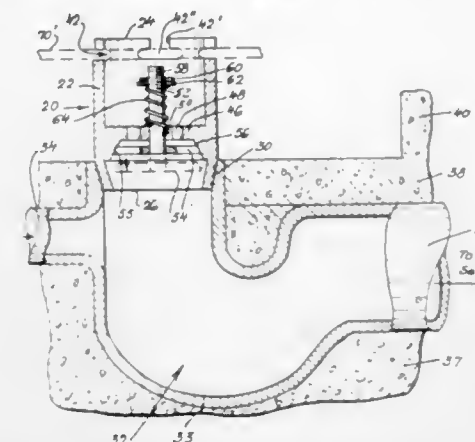
10 Claims

In order to prevent brake fluid from flowing from one chamber to the other of a two-chamber reservoir when it is at

a slant, this reservoir has a wall between its two chambers partition to the valve member. Inverted T-slots in the open top of the casing can be engaged by a tool for removing the



arms extending into the upper portions of the side-by-side chambers and forming the sole passage for brake fluid therebetween. To aid in refilling, such an equalizer can have an open top located under a filler cap of the reservoir.



casing. The partition can be removable for removing the valve member without disturbing the casing.

3,542,058

DEVICE FOR INTRODUCING WASHING AGENTS INTO THE VESSEL CONTAINING SUDS OF A FULLY AUTOMATIC WASHING MACHINE

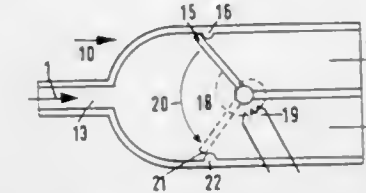
Walter Holzer, Drostweg 19, Meersburg (Bodensee), Germany

Filed May 10, 1967, Ser. No. 639,252

Int. Cl. F16k 31/44

U.S. Cl. 137—387

8 Claims



This invention relates to water switches for automatically controlled washing machines having one or more containers for washing agents. The improvement comprises an adjustable water switch which admits incoming water selectively into the suds tank or into a washing agent container.

3,542,059

DRAINAGE VALVE

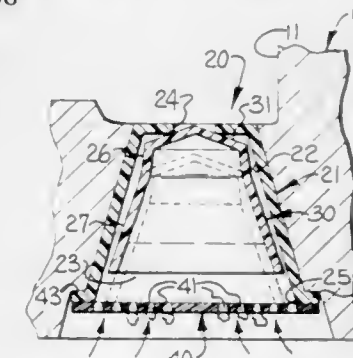
Jay L. Blanchard, 2226 Maryanne Drive, Charlotte, North Carolina and Beynon Blanchard, 508 Knollwood Ave., Ashtabula, Ohio

Filed Oct. 1, 1968, Ser. No. 764,098

Int. Cl. F16k 45/00; E04h 13/00

U.S. Cl. 137—388

7 Claims



The valve is constructed with an inner valve which is formed to threadably engage a valve stem from either end. The inner valve and related valve seat and cage can then be used for either direct action or reverse action. Also, the inner valve is provided with passages and the cage is provided with apertures, either of which can be plugged so as to permit the use of the valve in a balanced pressure condition or an unbalanced pressure condition.

3,542,057

DRAIN PLUG VALVE FOR SUMPS

Louis T. Staiano, 729-48th St., Brooklyn, New York 11220

Filed Nov. 4, 1968, Ser. No. 782,506

Int. Cl. F16k 15/06

U.S. Cl. 137—328

10 Claims

A valve assembly has a cylindrical casing which can be screwed into a threaded drain opening or trap. A movable valve member in the casing is held closed by a spring which is adjustable in tension. The valve member seals a transverse apertured partition in the casing, but opens when water enters the top of the casing and passes through the holes in the

A drainage valve adapted for many uses including burial vaults to allow the drainage of fluids therefrom and to prevent the passage of liquids thereinto when a liquid level rises above the drainage valve. The drainage valve comprises a vertically extending valve body having an interior passageway extending therethrough and an inverted cup-shaped valve member freely disposed within the passageway for free vertical and horizontal movement therein and having a generally conical-shaped upper sealing surface, whereby liquid flowing into the valve body will cause the valve member to move vertically upwardly against the force of gravity due to the buoyancy created by the formation of an air pocket therein to allow the valve member to seat itself in a self-centering manner within an upper port of the valve body to close the drainage valve and prevent liquid from flowing through the valve.

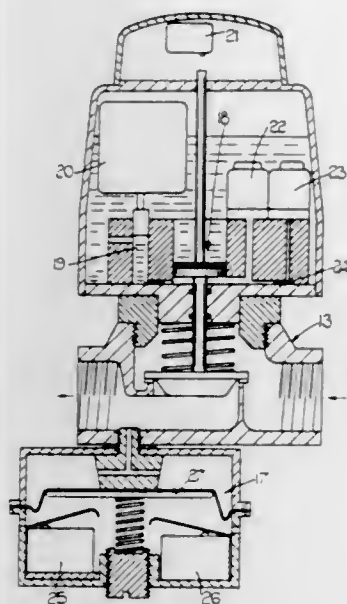
3,542,060

FLUID FUEL BURNER CONTROL SYSTEMS

Willem Jan Nienhuis, Drotwisch, England, assignor to Nu-Way Heating Plants Limited, Drotwisch, England
Filed May 6, 1968, Ser. No. 726,948
Int. Cl. F16k 31/02

U.S. Cl. 137-487.5

4 Claims



A fluid fuel burner control system employs an electrically controlled power operated main gas valve for controlling the flow of gas to the burner. This valve is of the type normally used as an on-off control and can close quickly. The system also has an electrical pressure sensing device arranged downstream of the valve connected in the control system of the valve to cause slow opening thereof when the pressure is below a first predetermined value and to cause slow closing of the valve when the pressure is above a somewhat higher second predetermined value.

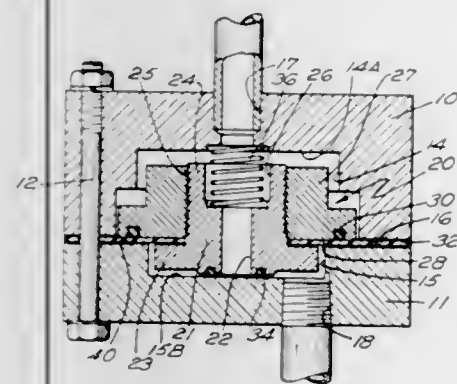
3,542,061

CHECK VALVE

Kalman Kormos, North Scituate, Rhode Island, assignor to General Signal Corporation, a corporation of New York
Filed Jan. 8, 1969, Ser. No. 789,733
Int. Cl. F16k 15/00

U.S. Cl. 137-496

3 Claims



A check valve assembly for a diaphragm operated type check valve which is provided with means to prevent rupture of the diaphragm if an excessive differential in absolute pressures are present between the inlet and the outlet ports.

3,542,062

GAS-CHARGING AND RELIEF VALVE ASSEMBLY

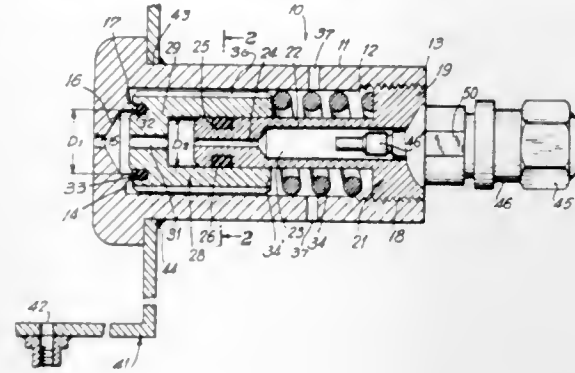
Abdus Zahid and Alphonse A. Jacobellis, Los Angeles, California, assignors to Greer Hydraulics Inc., Los Angeles, California a corporation of New York
Filed June 6, 1968, Ser. No. 734,953
Int. Cl. F16k 17/00

U.S. Cl. 137-512.3

4 Claims

This invention relates to an integral valve assembly which

will permit charging of a pressure vessel with gas under pressure and which incorporates a relief valve that will relieve the



pressure in the pressure vessel when it exceeds a predetermined amount.

3,542,063

FILLER VALVE

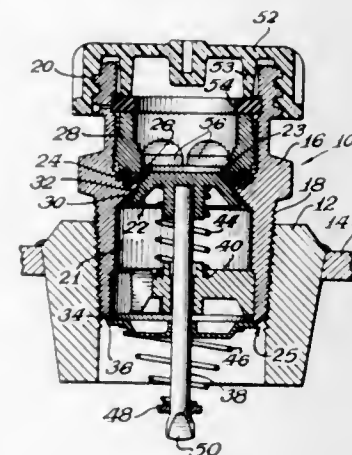
William A. Etter, Mc Kinney and Wendell L. Seaman, Allen, Texas, assignors to Fisher Governor Company, a corporation of Iowa

Filed June 6, 1968, Ser. No. 735,106

Int. Cl. F16k 15/06

U.S. Cl. 137-512.3

7 Claims



A filler valve for a pressure container provided with a first seating means comprising a replaceable valve seat and a fixed valve seat. A first valve member carried on a valve stem is adapted to normally seat against the replaceable valve seat, however, when the replaceable valve seat is removed for repair or replacement, the first valve member seats against the second valve seat. The valve stem is elongated and carries a second valve member thereon adapted to seat against second seating means. The valve stem is constructed and arranged to permit long travel of the second valve member on the valve stem to provide improved flow capacity and spray filling of the pressure container.

3,542,064

GAS FLOW CONTROL VALVE

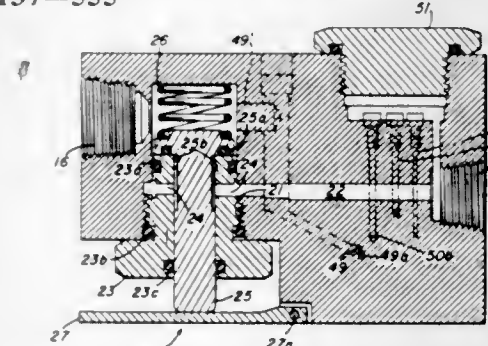
Richard Garrahan, 2664 Russmar Drive, San Diego, California 92123

Filed July 31, 1968, Ser. No. 749,097

Int. Cl. A62b 9/02

U.S. Cl. 137-555

7 Claims



The disclosed invention relates to gas flow control valves used by divers wherever a precisely regulated gas mixture

volume is required. This regulation is necessary with semiclosed gas or possibly, closed gas breathing systems or systems other than those using demand-type regulators. An inherent requirement of such systems is that a constant volume of gas be precisely valved according to the needs of the diver. In the instant invention this valving is provided by a selective valve unit ensuring any one of several gas-volume combinations to be switched to the valves assembly. In addition, a bypass valve unit is included giving a free flow of gas through the valve mechanism when the diver is descending, working very hard, or when an emergency arises. Construction of the valve mechanism from noncorrosive metals with easily identified controls, enables reliable one-hand operation of the valve mechanism under adverse conditions.

3,542,065

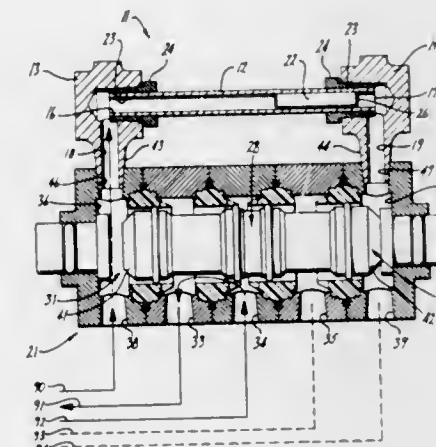
INDICATOR FOR TRANSITORY FLUID PULSES IN A FLUID CONTROL SYSTEM

Edward L. Holbrook, Pinole, California, assignor to Amot Controls Corporation, a corporation of California
Filed Jan. 13, 1969, Ser. No. 790,524

Int. Cl. F16k 37/00, 11/07

U.S. Cl. 137-557

7 Claims



In a fluid valve control system of the type operating in response to a predetermined sequence of transitory fluid pressure pulses, an indicator is provided for sensing, storing and displaying the directional sense of such pulses. For this purpose, an elongate conduit formed of a transparent material is provided with connections at opposing ends thereof to receive time spaced sequential pulses of pressurized fluid circulating within the control system, and a visually observable member is movably mounted within the conduit and is responsive to such fluid pressure pulses to assume one of two stable longitudinal positions therein. The positions of the member, being visible through the transparent conduit, represent the directional sense of the last occurring pressure pulse. In a preferred embodiment, the indicator as described above is combined with a valve having a pair of fluid pressure responsive pilots, or operators in which the indicator visually represents the particular instantaneous state or mode of the valve.

3,542,066

SINGLE CONTROL VALVE DEVICE FOR REGULATING TEMPERATURE AND FLOW TO A SELECTED OUTLET FROM HOT AND COLD INLETS

Jose Juan Cordova, Chirimay 65, Buenos Aires, Argentina
Filed June 6, 1968, Ser. No. 735,076

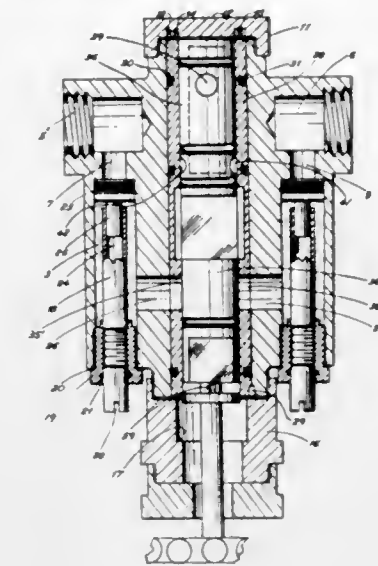
Int. Cl. F16k 19/00

U.S. Cl. 137-597

11 Claims

A valve device has a single central control for controlling the flow and regulating the temperature of two fluids, for use as a unitary selector in bath and shower combinations or similar assemblies. The valve device has a main body with two fluid inlets and two fluid outlets and a shaped selector member is mounted within the body and is able to perform

controlled sliding and rotational movements by which the desired outlet is selected and the flow as well as the mixing of



3,542,067

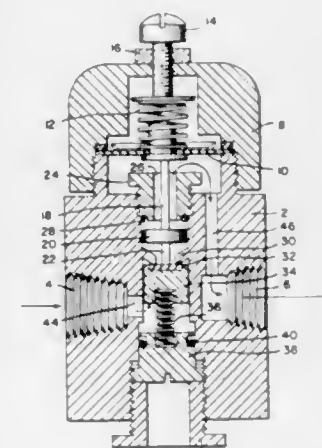
CONTROL VALVE

Robert R. Douglas, Philadelphia, Pennsylvania, assignor to Amercon corporation, Philadelphia, Pennsylvania a corporation of Delaware, by mesne assignments
Continuation of application Ser. No. 509,760, Nov. 24, 1965, now abandoned. This application Aug. 8, 1968, Ser. No. 751,125

Int. Cl. F16k 17/06, 17/10

U.S. Cl. 137-614.11

3 Claims



A control valve for fuel oil systems includes a first valve, operated by a pressure-responsive diaphragm, which automatically shuts off flow in case of a pipe rupture on the downstream side, and which regulates pressure. A second valve, operated by the same pressure-responsive diaphragm, automatically shuts off flow of oil in the event of leakage past the first valve, if the pressure exceeds a predetermined maximum.

3,542,068

ROTOR AND MANIFOLD STRUCTURE FOR JOINT OF ARTICULATING AERIAL DEVICE

William A. Prescott, Grandview, Missouri, assignor to A. B. Chance Company, Centralia, Missouri a corporation of Missouri, by mesne assignments

Filed May 19, 1967, Ser. No. 639,886

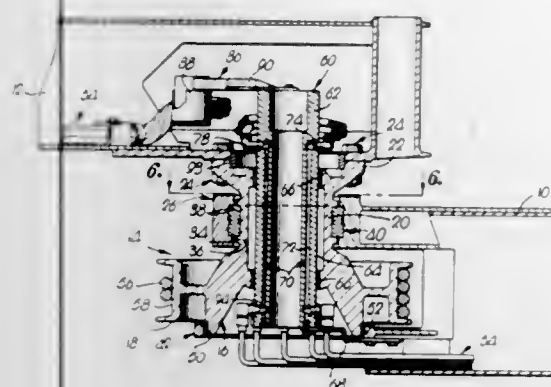
Int. Cl. F17d 1/00; F16c 13/04; E04g 1/20

U.S. Cl. 137-615

10 Claims

Rotor structure for rotatably interconnecting a pair of boom elements of an articulated aerial device. The rotor structure is rigid with one of the elements and is mounted for rotation at one extremity of the other element. The rotor includes a sheave portion for transforming a linear force applied by a cable drive mechanism into a rotational force for swinging the element which is rigid with the rotor. A com-

bined thrust and journal bearing is provided to prevent shifting of the rotor along its axis of rotation while accommodating transmission of normal forces between the boom elements. The mechanism includes a plurality of flexible hoses



of a length to permit relative rotation of the elements and a guide is provided for positioning the hoses to preclude damage to the same during relative rotation of the boom elements.

3,542,069

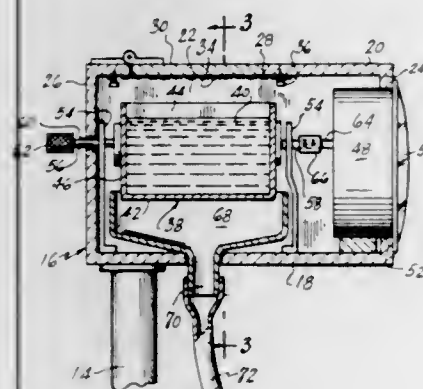
APPARATUS FOR AUTOMATICALLY FEEDING WATER AT SPACED TIME INTERVALS

Napoleon E. Ollison, P.O. Box 429, East Elmhurst, New York
Filed May 23, 1968, Ser. No. 731,410

Int. Cl. A01r 7/02; A01g 27/00

U.S. Cl. 137—624.21

2 Claims



Apparatus for automatically feeding water to plants and to drinking water vessels at spaced time intervals without the services of an operator. The apparatus includes a tiltable container for a supply of water and an alarm clock mechanism for tilting said container at spaced time intervals. When the container is tilted, the water flows by gravity through a hose operatively connected to the container and from the hose to a pair of branch hose lines adapted to feed water to various articles such as a potted plant and a drinking vessel. Means is provided for controlling the flow of water through the branch hose lines. Means is also provided for manually tilting the water container.

3,542,070

PLURAL PASSAGE ROTARY VALVE

Walter R. Sheeter, La Habra, California, assignor to All Power Manufacturing Co., Montebello, California a corporation of California

Filed March 25, 1968, Ser. No. 715,731

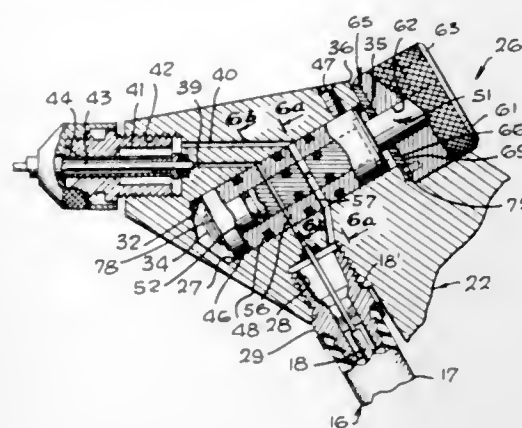
Int. Cl. F16k 5/04

U.S. Cl. 137—625.19

6 Claims

A spray gun capable of discharging selectively either an air-liquid mixture or a stream of pure air, with the selection being made by a rotary valve unit consisting of an outer aper-

tured sleeve, a rotary valve element proper in the sleeve, an actuating knob, and a motion limiting washer, all connected



by a snap ring for removal as a unit from a chamber in the sprayer body.

3,542,071

FLUID FLOW CONTROL VALVE

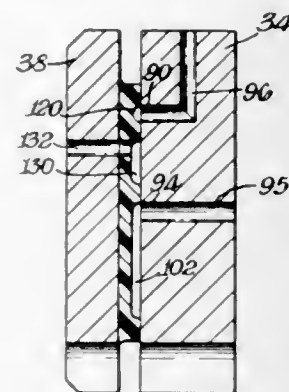
Gene E. Lightner, Kennett Square, Pennsylvania; Frederick J. Debbrecht; Howard Blair Muhlestein, Wilmington and Robert W. S. Seeds, North Star, Newark, Delaware, assignors to Hewlett-Packard Company, Palo Alto, California a corporation of California

Filed May 10, 1968, Ser. No. 728,259

Int. Cl. F16k 11/08

U.S. Cl. 137—625.46

16 Claims



A rotary valve has a fixed body and a rotatable disc held in compressive sliding contact with the valve body. Flow passages through the valve body terminate at ports in the contacting face of the valve body. Shallow grooves are formed in the contacting face of the disc to disconnect and to interconnect selected ones of the ports. The distance separating the shallow grooves from each other or the valve exterior should be no greater than the minimum distance separating any of the ports in the valve body. Portions are cutaway from the disc face such that the centroid of the disc face corresponds as closely as possible to the center of rotation of the disc. This reduces the possibility of unequal pressures interfering with the valve's sealing ability. A shallow recess or dimple is formed in the disc's face at all locations which, at rest, abut a port or groove in the face of the valve body.

3,542,072
VALVE

Rano J. Harris, Sr. and Rano J. Harris, Jr., Baton Rouge, Louisiana, assignors to Precision Sampling Corporation, a corporation of Louisiana

Filed June 27, 1968, Ser. No. 740,700

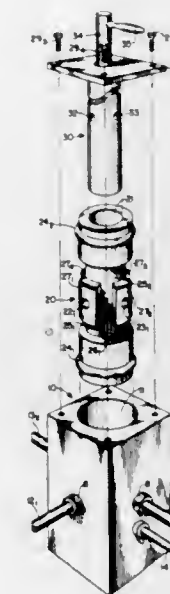
Int. Cl. F16k 25/00

U.S. Cl. 137—625.47

10 Claims

A valve assembly comprising a set of cooperating telescoping members, including in their telescoped position an outer tubular member, an intermediate tubular member, and an inner member or stem. In place, the outer and intermediate tubular members are positioned in fixed relationship, one to the other. The position of the innermost member or stem is changeable with respect to the other members (*i.e.*, rotatable therein) and each is provided with corresponding lateral

openings in fixed communication for passage of fluid delivered therethrough. In a preferred embodiment, the members are provided with pairs of lateral openings for operative communication, the mid portions of the openings through the inner member or stem being displaced one from the other to avoid intersection, while the entry and exit features thereof lie on a common plane for connection with the lateral openings of the outer and intermediate tubular members. The intermediate tubular member is constructed of



semirigid, flexible or semiflexible material and the lateral openings thereof communicate through physically contacting surfaces, or lands, at the interface of the two members. A tap is provided within the outer member for passage of pressurized fluid into the lower surface areas, or voids, surrounding the contact portions, or lands, of the said tubular members whereby the walls beneath the lower surface areas can be pressed inwardly against the innermost member or stem to effectively seal the valve against leakage.

3,542,073

MULTIPLE SIGNAL PILOT FOR FLUID LOGIC VALVE

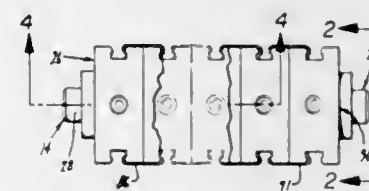
Edward L. Holbrook, Pinole, California, assignor to Amot Controls Corporation, a corporation of California

Filed April 24, 1968, Ser. No. 723,853

Int. Cl. F16k 11/07, 31/143

U.S. Cl. 137—625.66

7 Claims



A plurality of mechanical and/or fluid actuators are arranged in tandem for effecting displacement of a valve part having a connection to one of the actuators. By this arrangement, operation of a valve is achieved by one or more of a plurality of independent and isolated signals, each actuator being individually responsive to one of these signals for effectuating displacement of the valve part. In at least one of the embodiments, each of the actuators are embodied by reciprocating and engageable pistons for responding to a plurality of independent fluid pressure signals. In another embodiment at least one of the actuators takes the form of a reciprocating member responsive to a mechanical signal such as the displacement of a solenoid plunger. By the provision of optional multiple fluid and mechanical actuation of a valve, the invention may be advantageously employed with a fluid logic valve system such as disclosed in assignee's U.S. Pat. application Ser. No. 707,271 filed Feb. 21, 1968.

3,542,074

FLUID RESPONSIVE CONTROL VALVE

Willy Gassert, 59 Hauptasse, Solothurn, Switzerland

Filed Oct. 2, 1968, Ser. No. 764,440

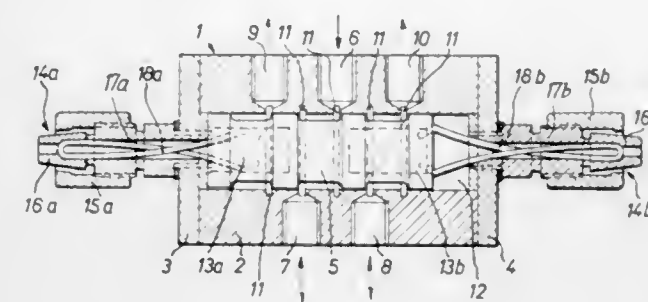
Claims priority, application Switzerland, Oct. 4, 1967,

13,809/67

Int. Cl. F16k 11/07

U.S. Cl. 137—625.66

9 Claims



A multiway control valve for controlling the oscillatory movement of the piston of a hydraulically or pneumatically actuated oscillator in such manner that the period of oscillation of the piston movement of the oscillator is independent of the velocity of the piston. The control valve comprises a valve housing and a fluid actuated control piston arranged for reciprocating movement in the housing. A longitudinally extending recess is provided at each end of the control piston, and two springs are mounted one at each end of the piston. In the unstressed state, the springs press against the edge of the respective recess in the control piston to restrain the movement of the piston until the force acting on one end of the piston exceeds the spring force, at which time the relevant spring is then laterally compressed and slides into the recess of the piston so as not to restrain the piston.

3,542,075

PILOT VALVE WITH UNBALANCED SPOOL

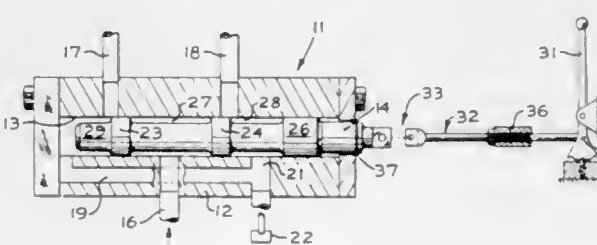
Neil W. Kroth, Joliet, Illinois, assignor to Caterpillar Tractor Co., Peoria, Illinois a corporation of California

Filed May 22, 1968, Ser. No. 731,114

Int. Cl. F16k 11/07

U.S. Cl. 137—625.69

5 Claims



A compact pilot valve having a reciprocable spool. Surfaces on the spool which interact with fluid in the pilot valve are unbalanced so that fluid pressure existing within the pilot valve tends to urge the spool toward one end of the valve. A control element is preferably connected to the pilot valve spool so that the unbalanced spool is urged into interaction with the control to eliminate any free play or looseness developing in the coupling between the spool and its control.

3,542,076

TUBE TESTER CONNECTOR

William D. Richardson, Palos Heights, Illinois, assignor to Tuthill Pump Company, a corporation of Delaware

Filed March 14, 1968, Ser. No. 713,243

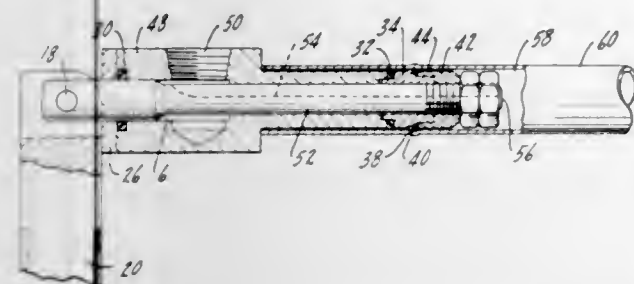
Int. Cl. F16l 55/10, 55/12

U.S. Cl. 138—89

10 Claims

A tube tester connector for sealing the open end of thin wall deformable tubing which employs as the primary retaining and anchoring means a split ring or similar type expanding device, which, upon actuation, forms an internal groove in the interior wall of the thin wall tubing. The bead thereby formed provides a satisfactory anchoring means and a sealing

member, such as an O-ring, provides the seal so that the tubing may be tested. In one embodiment the device is provided



with a pipe port through which a fluid may be introduced into the tubing to be tested.

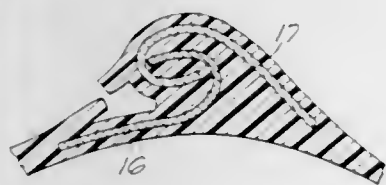
3,542,077

DIFFERENTIALLY CROSS-LINKED ARTICLE AND PROCESS FOR MAKING THE SAME
Richard W. Muchmore, Redwood City, California, assignor to Raychem Corporation, Menlo Park, California a corporation of California

Filed May 22, 1968, Ser. No. 731,200
Int. Cl. F16I 1/100

U.S. Cl. 138—99

8 Claims



A differentially cross-linked polymeric article having an insert embedded therein, the article on one side of the insert containing sufficient cross-linked density to be substantially infusible and on the other side of the insert being substantially fusible and noncross-linked. The article is fabricated by extruding, molding or otherwise positioning the insert within a polymeric material and then cross-linking the material on the one side of the insert, the insert preventing cross-linking of the material on the other side. The article may then be imparted with the property of elastic memory so as to render it heat recoverable. Several specific embodiments of such an article are disclosed.

3,542,078

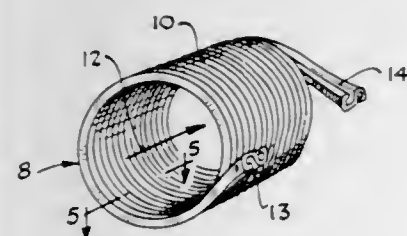
FLEXIBLE AND EXTENSIBLE HOSE

Joseph R. Lykle, 1105 Austin, Park Ridge, Illinois 60068
Filed Feb. 21, 1968, Ser. No. 707,041

Int. Cl. F16I 1/104

U.S. Cl. 138—122

3 Claims



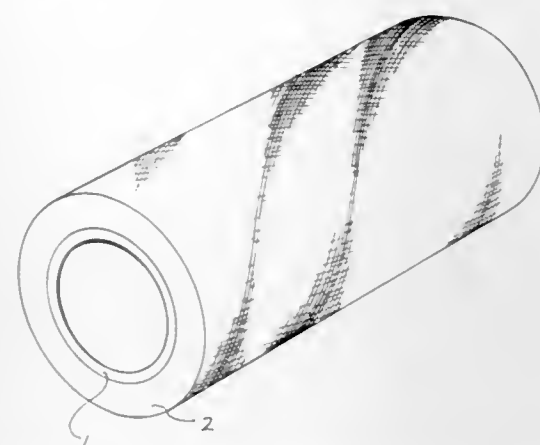
A hose or conduit having a substantially circular configuration which retains its shape in normal use. The hose is formed of a resilient strip which is helically wound, interlocked, and bonded to itself to form a flexible and extensible hose of desirable length. The resilient strip has a convoluted cross section having oppositely disposed and offset channels formed by convoluted portions of the strip. A member or a portion of the convoluted strip is seated and interlocked in the channels as the strip is helically formed in the process of making a length of hose. The members and portions of the convoluted strip in the formed hose are laterally displaceable to make the hose extensible, and the resilient character of such strips urges the members and portions back to their original position to impart resiliency to the hose.

3,542,079
GLASS REINFORCED PLASTIC ARTICLE
Mark E. Kelly, Jr., Midland, Michigan, assignor to A. O. Smith Corporation, Milwaukee, Wisconsin a corporation of New York

Filed Jan. 15, 1968, Ser. No. 697,594
Int. Cl. F16I 9/16

U.S. Cl. 138—141

6 Claims



The invention relates to a glass reinforced plastic pipe having improved chemical resistance and including an inner layer of haphazardly arranged glass fibers impregnated with an epoxide resin with the glass of the inner layer containing a high proportion of alkali metal oxides. Surrounding the inner layer is an outer layer formed of helically wound glass fibers bonded with an epoxide resin and the glass of the outer layer contains a high proportion of aluminum oxide.

3,542,080

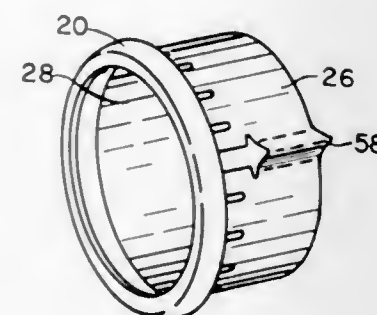
PIPE COUPLING COMPONENT

William H. Tomb; Peter E. Wesel and Anthony R. Zine, Jr., Corning, New York, assignors to Corning Glass Works, Corning, New York a corporation of New York
Original application Jan. 30, 1967, Ser. No. 612,659, now Patent No. 3,419,291, dated Dec. 30, 1967. Divided and this application Aug. 5, 1968, Ser. No. 763,467

Int. Cl. F16I 9/14

U.S. Cl. 138—143

3 Claims



A pipe coupling in which an annular beadlike adaptor member is held around the end of an unbeaded cylindrical section of glass pipe by means of a metal band bonded to the outer surface of the pipe and interlocking with the adaptor member. The metal band is bonded to the glass by a composite adhesive medium which includes circumferentially oriented glass fibers and a heat-shrinkable material and axially oriented glass fibers. A second metal band maintains a flexible gasket around the adaptor member.

3,542,081

SECTIONAL PIPE INSULATION ASSEMBLY

Carl J. Agriesti, Granville, Ohio, assignor to Owens-Corning Fiberglass Corporation, a corporation of Delaware

Filed Aug. 19, 1968, Ser. No. 753,450

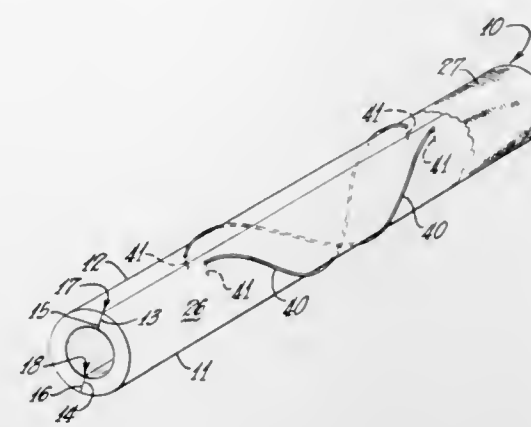
Int. Cl. F16I 59/12

U.S. Cl. 138—161

9 Claims

A sectional pipe insulation assembly. The assembly includes a pair of mating semitubular insulation bodies which are preferably constructed of resin bonded fibrous glass

material. The bodies have a first set of edges openable to receive a pipe to be insulated and a second set of edges tooth on the cooperating crank gear so as to prevent rotation thereof. The shifter is nonrotatable and engages between the



joined together by hinges. A flexible jacket surrounds the outer surface of the insulation bodies.

3,542,082

DOBBY MECHANISM

Thomas Hindle and Vincent Pinder Banks, Blackburn, England, assignors to Hindle, Son & Company Limited, Blackburn, England

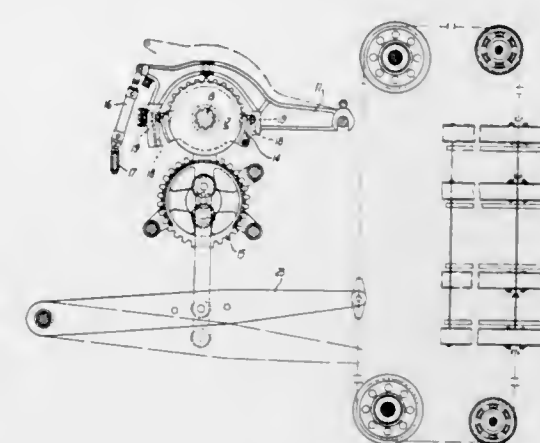
Filed Oct. 7, 1968, Ser. No. 765,586

Claims priority, application Great Britain, Oct. 7, 1967, 45973/67

Int. Cl. D03c 1/00

U.S. Cl. 139—76

11 Claims



A dooby mechanism comprising a double-acting slave cylinder coupled to each cam lever to effect the lifting and lowering of the cam lever in accordance to the shedding requirements or pattern.

3,542,083

DOBBY MECHANISM

Thomas Brow Hindle, Blackburn, England, assignor to Hindle, Son & Company, Blackburn, England

Filed Aug. 28, 1968, Ser. No. 756,064

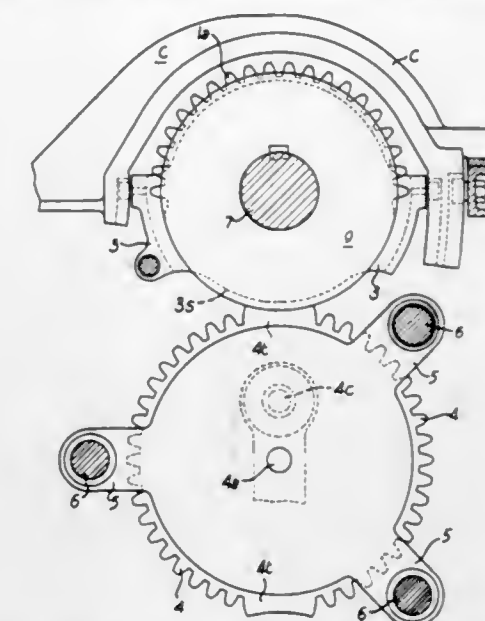
Claims priority, application Great Britain, Sept. 2, 1967, 40230/67

Int. Cl. D03c 1/00

U.S. Cl. 139—76

7 Claims

A Leeming-type dooby or head motion having a plurality of axially shiftable segment gears, a crank gear corresponding to each such segment gear, and a shifter whereby the segment gears are adjusted axially into or out of engagement with their respective crank gears, also includes a dwell plate in respect of each segment gear, the dwell plate being rotatable with the segment gear and being engageable with a lock-



segment gear and the dwell plate, or between such plate and a boss upon which the segment gear is mounted.

3,542,084

THREAD FEEDING DEVICE AND PROCESS

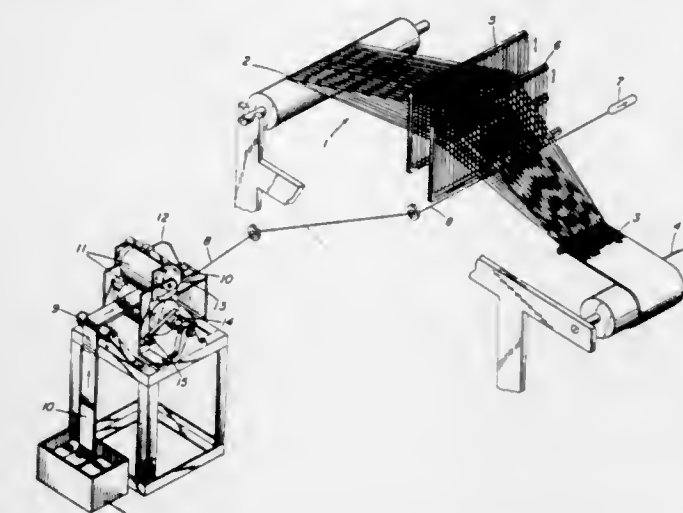
Kenneth J. Rupprecht, Chesterfield and Albert J. Richards, Lowell, Massachusetts, assignors to J. P. Stevens & Co., Inc., New York, New York a corporation of Delaware

Filed Jan. 18, 1967, Ser. No. 610,205

Int. Cl. D03d 47/00

U.S. Cl. 139—116

9 Claims



Looms are fed with a thread or yarn from a tubular knitted tube of the yarn with thread unravelling from its end and hence under insignificant back tension. The tube can be pulled up by the pull on the yarn or preferably a portion is advanced to avoid any back tension. When the yarn has been unravelled from the length of tube advanced, another short length is advanced.

A preferred form of advancing mechanism is described in which the yarn tube moves between a metallic finger and a conducting surface. When the predetermined length of tube is advanced it insulates the two contacts and no further advancing takes place until the yarn from the tube has been unravelled back to the point where the finger contacts the conductive surface. This starts a motor turning two rolls which advance a certain length of tube and the motion of the roll ceases when a cam on the shaft of one of the rolls opens a microswitch. The advanced portion of the tube remains until it has again been unravelled back to the point where the contact is made as described above.

The feed is useful for any types of looms which obtain part or all of their weft threads from an external source. Typical examples of this type of loom are looms which use gripping or bullet shuttles and catch thread looms. Similarly most knitting machines draw their yarn or thread from an external source and the described stocking feed is useful on such machines also.

3,542,085

MULTICOLOR PICK CHANGE DEVICE FOR WEAVING MACHINES

Paul Haltmeier, Brugg, Switzerland, assignor to Georg Fischer Ltd., Brugg, Brugg, Switzerland

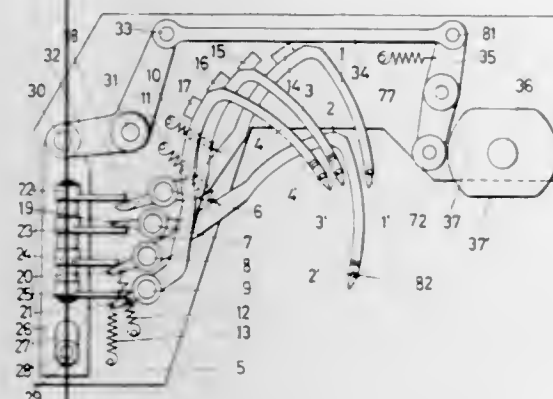
Filed Oct. 23, 1968, Ser. No. 769,943

Claims priority, application Switzerland, Oct. 25, 1967, 14941/67

Int. Cl. D03d 47/38

U.S. Cl. 139-122

7 Claims



The present invention relates to a multicolor pick change device for weaving machines of the type in which weft is drawn from a supply located outside a shed of a fabric being woven, with at least two thread feeders with thread eyelets that guide the weft threads connected to the selvage from the supply cones and are employed to feed the weft thread selectively in the color to be inserted in the shed to a point where it can be picked up or taken over by a weft inserting member.

3,542,086

VELVET FABRIC WITH RANDOMLY GAPPED PILE FACE

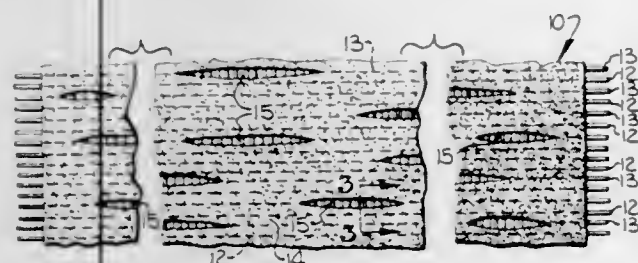
Walter J. Crenshaw, Clemson and Hoke S. Hicks, La France, South Carolina, assignors to Riegel Textile Corporation, New York, New York a corporation of Delaware, by mesne assignments

Filed Oct. 1, 1968, Ser. No. 764,102

Int. Cl. D03d 27/10

U.S. Cl. 139-402

3 Claims



A velvet or plush pile fabric having random gaps in the pile face thereof formed by spaced slubs in slub filling yarns which alternate with plain filling yarns throughout the length of the fabric.

3,542,087

METHODS OF AND APPARATUS FOR STRAIGHTENING LEADS

Charles R. Fegley, Laureldale, Pennsylvania, assignor to Western Electric Company, Incorporated, New York, New York a corporation of New York

Filed May 14, 1968, Ser. No. 728,928

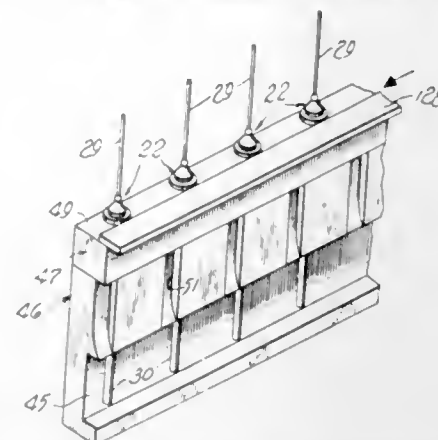
Int. Cl. B21f 1/02

U.S. Cl. 140-147

18 Claims

Methods of and apparatus for straightening a lead extending upwardly from a diode subassembly which is supported on a workholder wherein a pair of opposed members are moved into engagement with the lead and then upwardly to comb and straighten the lead. The workholder is indexed with the subassembly in contact with a stationary magnet to

rotate and reorient the lead at each of a plurality of subsequent positions along the magnet whereat the opposed



members are sequentially moved into engagement with the lead to further straighten the lead.

3,542,088

LEAD WIRE PREPARATION FOR THREADING FLUORESCENT BASES

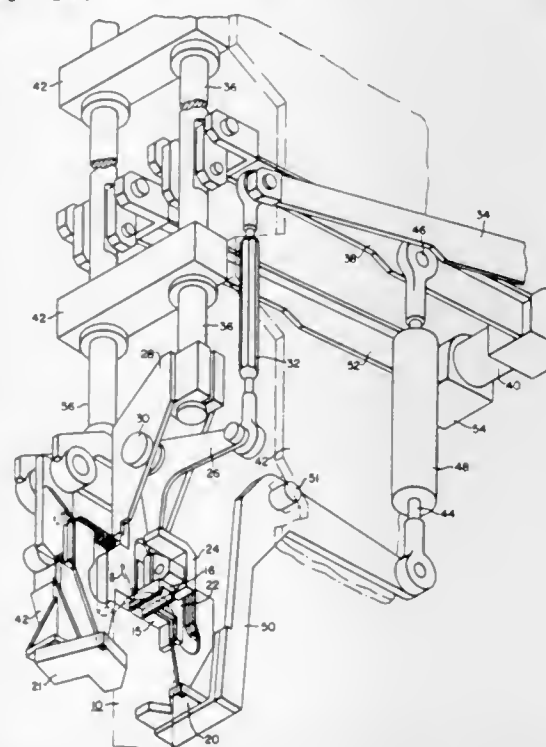
James Petro, Little Falls, New Jersey, assignor to Westinghouse Electric Corporation, Pittsburgh, Pennsylvania a corporation of Pennsylvania

Filed May 15, 1968, Ser. No. 729,151

Int. Cl. B21f 1/02

U.S. Cl. 140-147

7 Claims



A mechanism for preparing the lead wires of a fluorescent lamp for receiving the lamp base by performing a search, gather and set operation on the lead wires. The lamp is fed into a position with the spaced lead wires separated by a lead wire guide and spacer plate and situated adjacent a fixed sandwich plate. A movable sandwich plate is pivoted toward the fixed sandwich plate until it abuts the spacer plate which separates the two sandwich plates by a distance only slightly greater than a lead wire diameter thus gathering the lead wires into substantially the same plane. A pair of cam operated setting blades then slide between the sandwich plates forcing the lead wires against the edges of the spacer plate to thereby set the lead wires in a straight and parallel condition for receiving the lamp base.

3,542,089

TONER DISPENSER

Gopal C. Bhagat, Rochester, New York, assignor to Xerox Corporation, Rochester, New York a corporation of New York

Filed July 11, 1968, Ser. No. 744,159

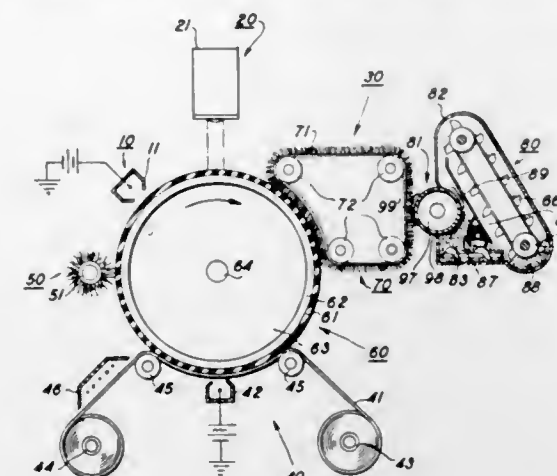
Int. Cl. B65b 1/04, 3/04

U.S. Cl. 141-1

4 Claims

An apparatus and method for dispensing toner to a developing member including a dispenser which mechani-

cally and/or triboelectrically strips toner particles from the load cell includes a flexible seal exposed to the vacuum environment within the housing and additional diaphragm



particles to the developing member upon which they are deposited.

3,542,090

VACUUM FILLING MACHINE

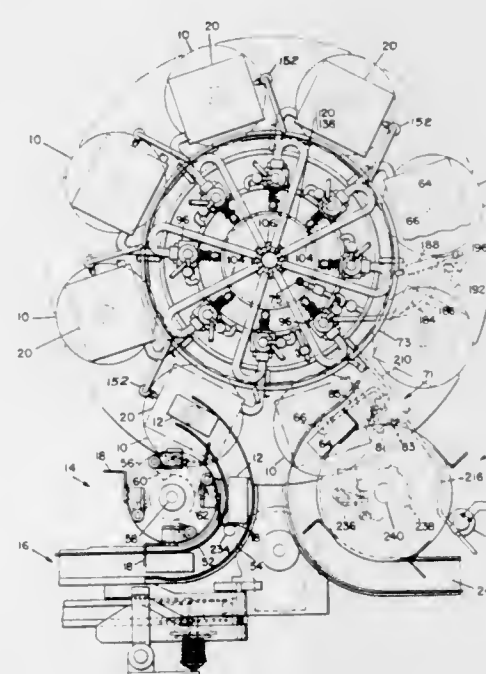
Edward J. McCarthy, Braintree, Massachusetts, assignor to Pneumatic Scale Corporation, Quincy, Massachusetts a corporation of Massachusetts

Filed June 22, 1966, Ser. No. 559,540

Int. Cl. B65b 57/02, 31/04

U.S. Cl. 141-59

9 Claims



A vacuum operated filling machine for filling bags made of flexible material and having bag operated control means actuated by the upper edge of the bag for initiating a filling operation and consequently which prevents operation of the machine in the event of the absence or displacement of a bag.

3,542,091

APPARATUS FOR FILLING CONTAINERS IN A VACUUM ENVIRONMENT

Clarence F. Carter, Danville, Illinois, assignor to Cater Engineering Company, Danville, Illinois a corporation of Illinois

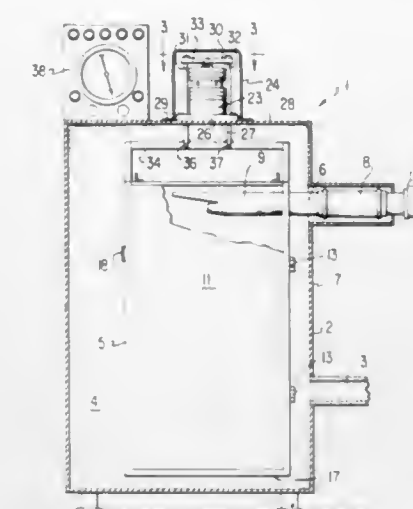
Filed April 16, 1968, Ser. No. 721,871

Int. Cl. B65b 31/04

U.S. Cl. 141-65

4 Claims

A weighing and filling apparatus including a housing, a weighing cage suspended within the housing from a pneumatic load cell, means for generating a vacuum within the housing, and means for conveying particulate material to a container supported by the weighing cage. The pneumatic



means exposed to the vacuum and operable to nullify vacuum generated forces acting on the pneumatic load cell.

3,542,092

AUTOMATIC SHUT-OFF DISPENSING NOZZLE

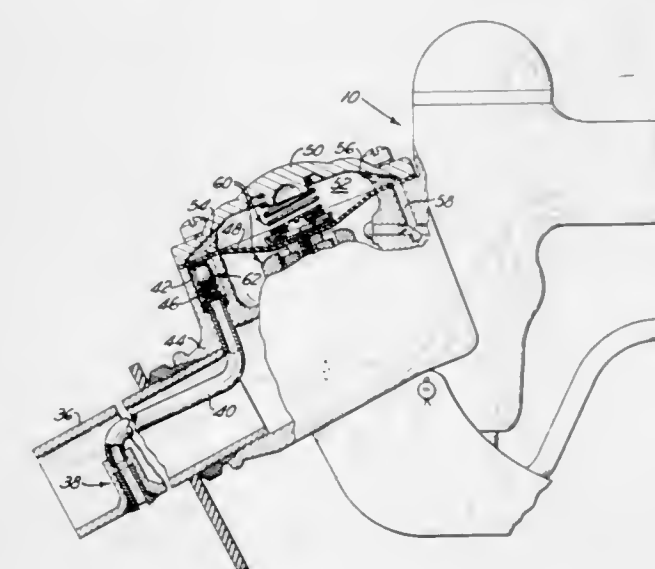
Paul Budzak, Cheswick and Howard W. Croop, Mars, Pennsylvania, assignors to Gulf Research & Development Company, Pittsburgh, Pennsylvania a corporation of Delaware

Filed Dec. 30, 1968, Ser. No. 787,897

Int. Cl. B65b 1/30

U.S. Cl. 141-209

4 Claims



The invention pertains to automatic shutoff dispensing nozzles of the type wherein air is drawn from a location near the exit end of the discharge pipe by a venturi in the nozzle body created by the flow of liquid being dispensed. Disruption of this air flow by the liquid in the receptacle covering the air intake triggers nozzle shutoff. The invention comprises additional means to trigger nozzle shutoff tapped into this air flow stream, while retaining normal operating capabilities. A double spring loaded ball check assembly is provided to permit use in any orientation and to minimize the amount of the liquid utilized by the invention.

3,542,093

FRACTIONAL COLLECTOR

Wolfgang Pollmann, 7 Goldbergstrasse 3554, Marburg-Cap-pel, Germany

Filed Aug. 25, 1967, Ser. No. 663,441

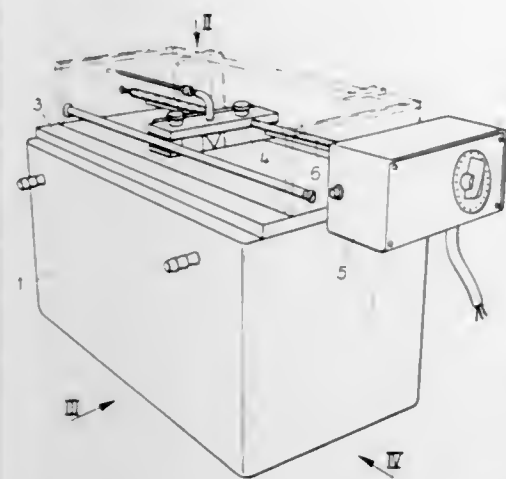
Int. Cl. G01n 1/10

U.S. Cl. 141-284

7 Claims

Apparatus for the fractional collection of an extracted material to be poured into a plurality of vessels supported in

a stationary rack. The material extract is fed into the vessels a fuel tank and carburetor. Vibration isolating means are in- from a movable carriage from a feed member through the in- terposed between the two assemblies. A handle network



termediary of a distributor plate which is supported over said vessels by said rack.

3,542,094

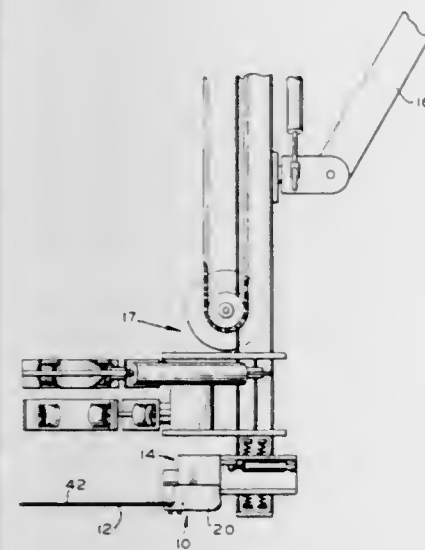
SAW BAR BREAKAWAY MECHANISM

Duane M. Gibson, Milwaukee and Myron D. Tupper, Portland, Oregon, assignors to Omark Industries Inc., Portland, Oregon a corporation of Oregon

Filed March 18, 1968, Ser. No. 713,911

Int. Cl. B27b 17/02; A01g 23/02

U.S. Cl. 143—32



A saw bar breakaway mechanism 10 mounts a saw bar 12 on the lower end of a head 14 at the end of a boom 16 of a timber harvester 17. The breakaway mechanism includes a bar mounting plate 18 normally clamping the saw bar and is mounted rigidly on a mounting block 22. When the saw bar is pushed downwardly with a force approaching but below the breaking strength of the saw bar, a pin 26 is pried out of a slot 28 to free the bar from the head 14.

3,542,095

CHAIN SAW WITH VIBRATION ISOLATION SYSTEM
Robert Eugene Frederickson, South Gate and Walter Joseph Hammond, Lakewood, California, assignors to McCulloch Corporation, Los Angeles, California a corporation of Wisconsin

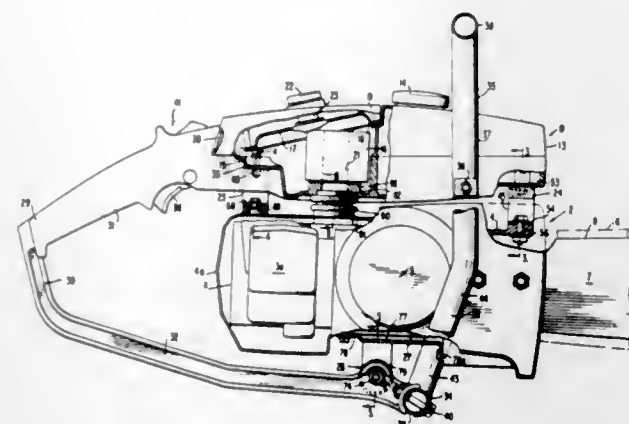
Filed Aug. 5, 1968, Ser. No. 750,082

Int. Cl. B27b 17/02

U.S. Cl. 143—32

6 Claims

A chain saw including a first assembly and a second assembly. The first assembly includes a chain saw engine, a guide bar, and a drive system. The second assembly includes



defines a cage-like structure, within which the first assembly is resiliently supported by vibration isolation means.

3,542,096

SAW CHAIN

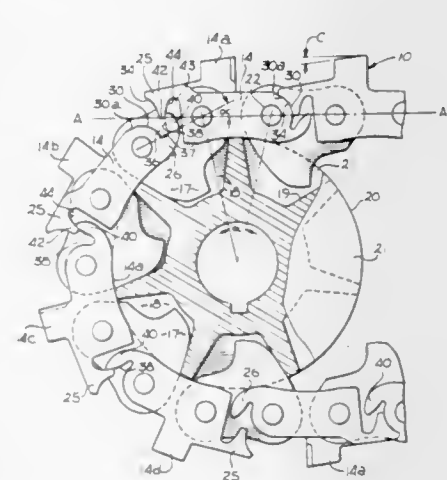
John W. Oehrli, Pacific Palisades, California, Lillian M. Oehrli, sole legatee and devisee under the Will of John W. Oehrli, deceased

Filed July 10, 1968, Ser. No. 743,843

Int. Cl. B27b 33/14

U.S. Cl. 143—135

16 Claims



A saw chain comprising alternating center drive links to be driven by a sprocket and cutter-carrying side links, with extensions on the trailing ends of the side links having restraining formations which engage extensions on the leading ends of the side links to hold the side links against outward tilting on their rearward pivots both during straight runs on the saw bar and curved runs about the sprockets, the interengagement of these extensions being interrupted in the region in which the chain goes onto the drive sprocket.

3,542,097

CHUCK ASSEMBLY FOR SABRE SAWS

Edmund C. Dudek, Oakbrook, Illinois and Richard M. Fegan, Taylors, South Carolina, assignors to The Singer Company, New York, New York a corporation of New Jersey

Filed May 2, 1968, Ser. No. 726,075

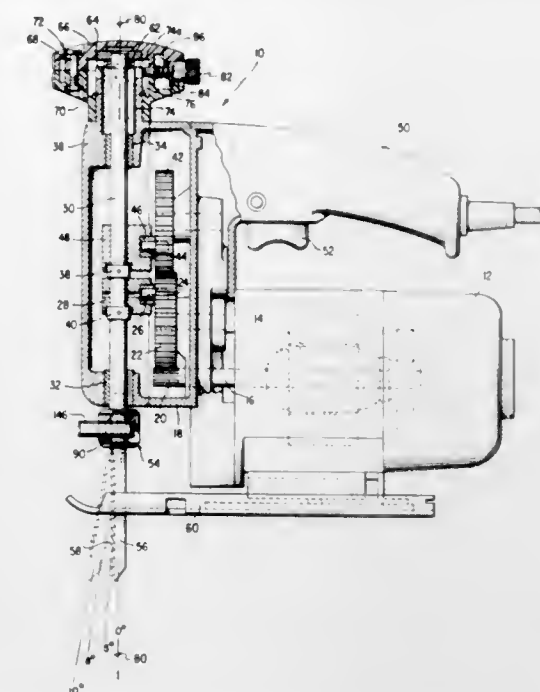
Int. Cl. B27b 11/06

U.S. Cl. 143—156

5 Claims

This disclosure relates to a chuck assembly for sabre saws

in which the saw blade may be mounted in one of a plurality of cant angles by an operator-adjustable selector socket



means prior to insertion of the blade, after which the blade is locked in the selected position by a locking means.

3,542,098

SAWYER'S PROTECTIVE DEVICE

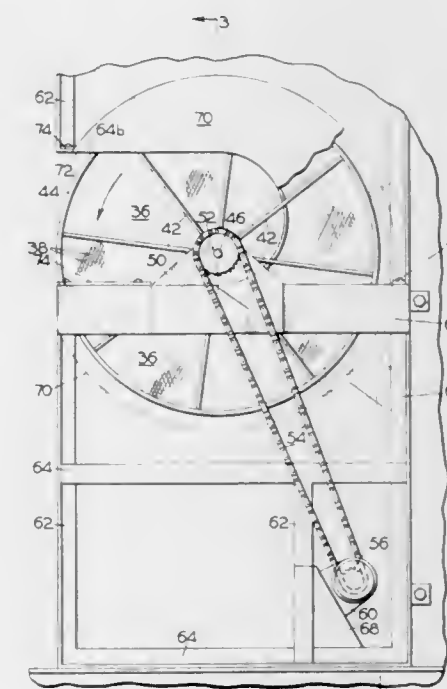
Daniel Hill, Kelowna, British Columbia, Canada, assignor to Crown Zellerbach Canada Limited, Vancouver, British Columbia, Canada a corporation of Canada

Filed June 7, 1968, Ser. No. 735,381

Int. Cl. B27g 19/06

U.S. Cl. 143—159

3 Claims



A rotatable, disc-shaped screen is positioned between a sawyer's control station and a work station where a saw severs a log. Debris such as chips, bark and sawdust flung from the saw does not pass through the screen when the screen is rotating; yet, the sawyer is able to effectively view the saw at the work station through the screen.

3,542,099

TREE HARVESTERS

Duane M. Gibson, Milwaukee, Oregon, assignor to Omark Industries, Inc., Portland, Oregon a corporation of Oregon

Filed May 13, 1968, Ser. No. 736,907

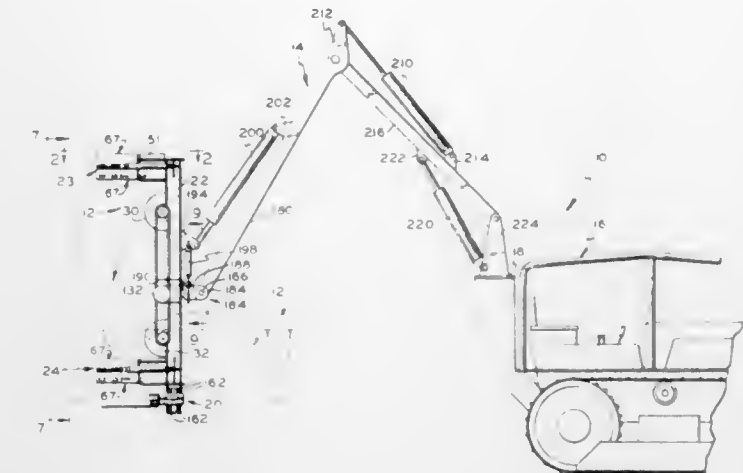
Int. Cl. A01g 23/02

U.S. Cl. 144—3

35 Claims

Tree harvesters 10, 210 and 310 have headers 12, 212 and

312 carried by tractors and each is movable into a felling position in which V-groove, ribbed rollers engage the tree and, with pressing and guiding limbers, encircle the tree to hold the tree. A chain saw on the header then fells the tree,



the header is driven up the tree to grip it at its center of gravity, the header lays the tree in a horizontal position, and the header pulls the tree therethrough to limb the tree and bucks the tree.

3,542,100

SHEAR-TYPE TREE CUTTING DEVICE WITH JAW LOCK

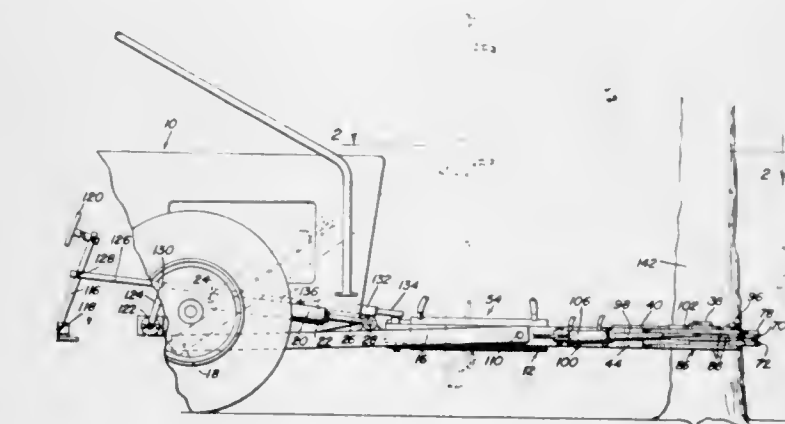
Joseph S. Choat, Rte 1 Box 358, Odenville, Alabama

Continuation-in-part of application Ser. No. 611,936, Jan. 26, 1967, now Patent No. 3,493,020. This application Sept. 24, 1968, Ser. No. 762,040

Int. Cl. A01g 23/08

U.S. Cl. 144—34

9 Claims



An elongated frame including tree clamping jaws at one end and a shear-type cutting blade movable along the frame from an inactive position remote from the jaws and an active position cooperable with the jaws to shear a tree member clampingly engaged by the jaws, the jaws being powered by fluid motors, openable away from the cutting blade and including mechanical interlock means, actuated automatically by the fluid motors upon their shifting the jaws to closed positions, for locking the jaws in their closed positions independent of the fluid motors.

3,542,101

APPARATUS FOR MECHANICALLY BREAKING EGGS

Jan Tavsén Klint, Havnegade 33, 5000 Odense, Denmark

Filed April 18, 1969, Ser. No. 817,512

Claims priority, application Denmark, April 29, 1968, 1974/68

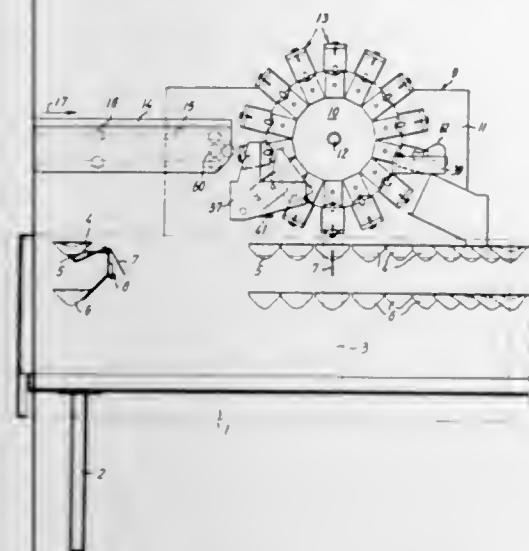
Int. Cl. A47j 43/14

U.S. Cl. 146—2

5 Claims

Apparatus for breaking eggs in which a knife is caused to penetrate the egg shell in a positively controlled, inwardly directed movement effected by means of a stationary cam member acting on the knife. A detector member which may

be the cam member, senses the size of an egg and delivers a signal which adjust the inner end position of the knife ac-



ording to the size of the egg in order to prevent the knife from penetrating too deeply into the interior of the egg.

3,542,102

CACTUS PROCESSING APPARATUS

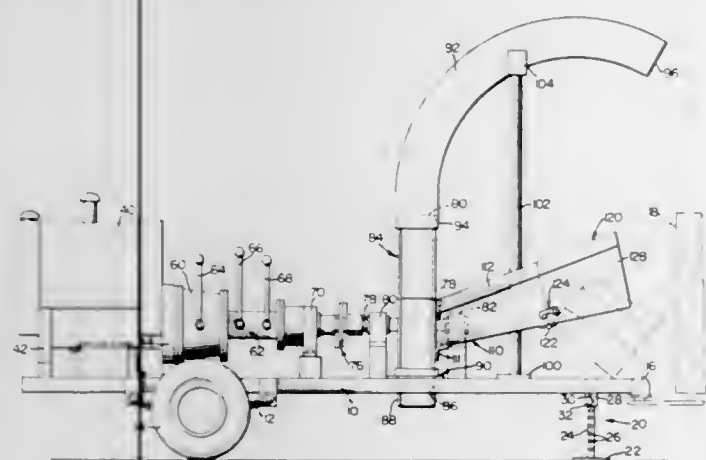
Glen A. Watkins, Model, Colorado 81059

Filed June 18, 1968, Ser. No. 738,062

Int. Cl. B02c 13/10

U.S. Cl. 146—107

1 Claim



A wheeled support vehicle carries a hammermill which is driven by a suitable drive means. Cactus is adapted to be placed in an inclined hopper which feeds the cactus into the inlet of the hammermill. The hopper includes a foraminous bottom which separates foreign matter from the cactus before entering the hammermill. A curved discharge spout is connected with the outlet of the hammermill for discharging processed cactus in a desired direction.

3,542,103

MEAT SKINNING APPARATUS

Ray T. Townsend, Des Moines, Iowa, assignor to Townsend Engineering Company, Des Moines, Iowa a corporation of Iowa

Continuation-in-part of application Ser. No. 616,692, Feb. 16, 1967, now abandoned. This application Feb. 20, 1968, Ser. No. 706,938

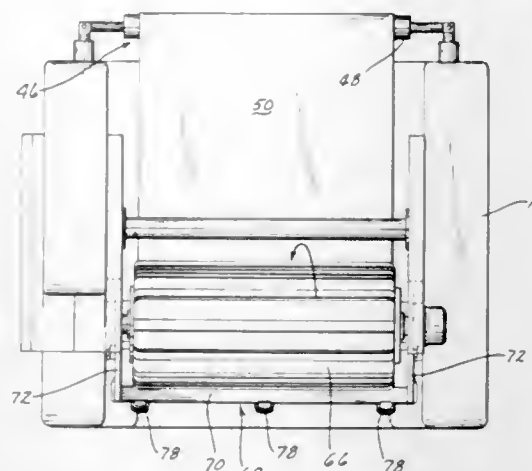
Int. Cl. A22c 17/12

U.S. Cl. 146—130

7 Claims

A meat skinning machine of the type having a skin gripping roll and a concave shoe cooperating with a skinning blade and the gripping roll to pull the skin through the machine and part the skin from a piece of meat. A stripper roll is mounted adjacent the gripper roll to strip the skin from the gripper roll after the skin has been removed from the meat. The shoe and skinning blade are held concentrically with the gripping roll by air piston means. The air piston means are controlled by a photoelectric cell means which functions to instantaneously move the shoe and blade to the skinning position as soon as the meat approaches the close

proximity of the blade. The instantaneous initial bite of the blade into the meat is enhanced and accelerated by pivoting the shoe above and forwardly of the point of engagement of the blade with the oncoming meat to be skinned. The method involves the holding of the shoe adjacent the gripping roll



concentrically with sufficient force to grip the removed skin but with insufficient force to prevent puncture of the skin by the gripping roll. The method further holds the skin uniformly against the gripper roll, and then strips the skin from the gripper roll by a remotely located stripper roll to insure that a uniform thickness of skin is removed.

3,542,104

MEAT GRINDER WITH PNEUMATICALLY-BIASED RETAINER RING

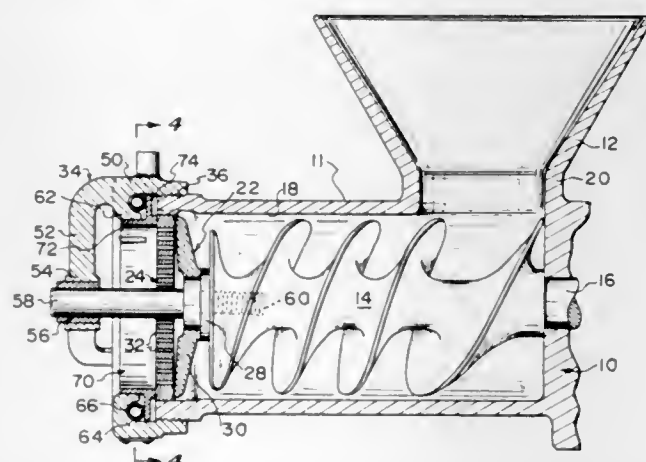
Chester A. Anderson, McHenry, Illinois, assignor to Speco, Inc., Schiller Park, Illinois a corporation of Illinois

Filed Sept. 18, 1968, Ser. No. 760,571

Int. Cl. B02c 18/30

U.S. Cl. 146—189

7 Claims



A meat grinder characterized by the fact that the retainer ring for urging the stationary perforated plate against the coacting rotary cutter is pneumatically biased.

3,542,105

METHOD OF SKINNING MEAT

Ray T. Townsend, Des Moines, Iowa, assignor to Townsend Engineering Company, Des Moines, Iowa a corporation of Iowa

Continuation-in-part of application Ser. No. 616,692, Feb. 16, 1967, now abandoned. This application Feb. 20, 1968, Ser. No. 706,942

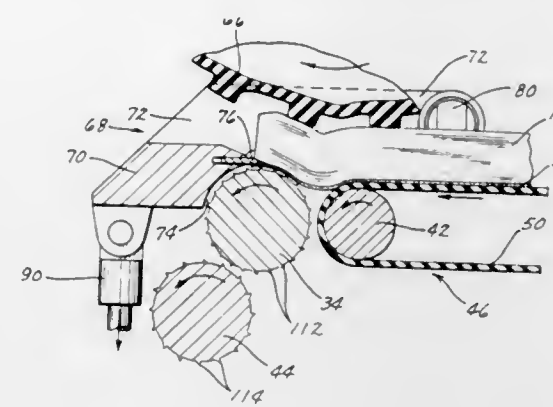
Int. Cl. A22c 17/12

U.S. Cl. 146—241

1 Claim

A meat skinning machine of the type having a skin gripping roll and a concave shoe cooperating with a skinning blade and the gripping roll to pull the skin through the machine and part the skin from a piece of meat. A stripper roll is mounted adjacent the gripper roll to strip the skin from the gripper roll after the skin has been removed from the meat. The shoe and skinning blade are held concentrically with the gripping roll by air piston means. The air piston

means are controlled by a photoelectric cell means which functions to instantaneously move the shoe and blade to the skinning position as soon as the meat approaches the close proximity of the blade. The instantaneous initial bite of the blade into the meat is enhanced and accelerated by pivoting the shoe above and forwardly of the point of engagement of the blade with the oncoming meat to be skinned. The method



involves the holding of the shoe adjacent the gripping roll concentrically with sufficient force to grip the removed skin but with insufficient force to prevent puncture of the skin by the gripping roll. The method further holds the skin uniformly against the gripper roll, and then strips the skin from the gripper roll by a remotely located stripper roll to insure that a uniform thickness of skin is removed.

3,542,106

SELF-LOCKING BOLT

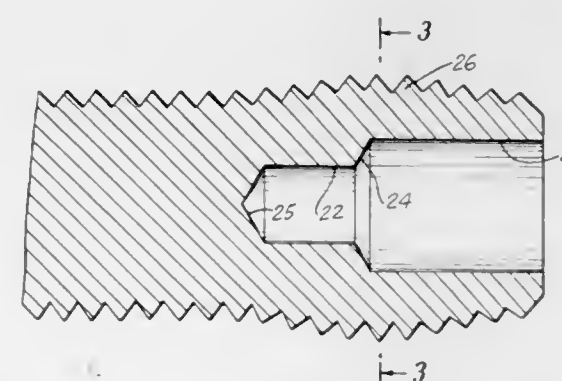
William J. Busch Jr., Warminster, Pennsylvania, assignor to Standard Pressed Steel Co., Jenkintown, PA, a corporation of Pennsylvania

Filed Jan. 15, 1969, Ser. No. 791,387

Int. Cl. F16b 39/16, 39/30

U.S. Cl. 151—14

8 Claims



A self-locking bolt in which the thread portion of the bolt is permanently distorted to have an oblate external cross section. The bolt is provided with a stepped counterbore extending axially of the bolt from the point of the bolt toward the head of the bolt. The oblate external cross section extends selected axial lengths in both directions from the step of the counterbore.

3,542,107

PNEUMATIC TIRE

Harold E. Mills, Akron and, Donald L. Knight, Kent, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio a corporation of Ohio

Filed Nov. 18, 1968, Ser. No. 776,572

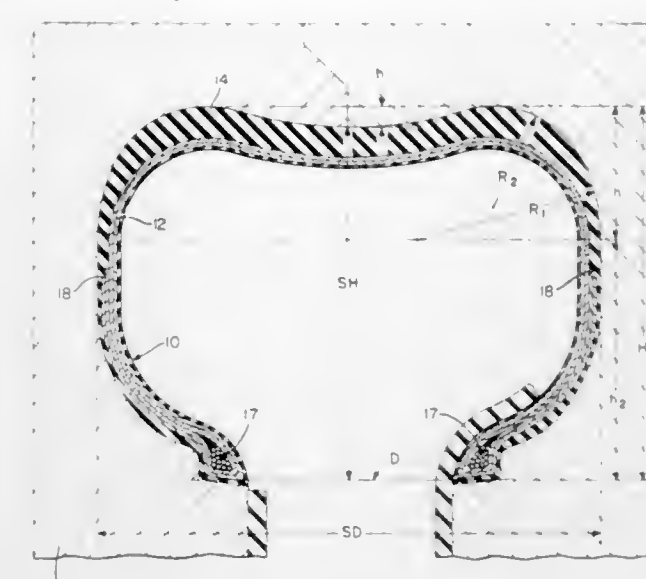
Int. Cl. B60c 3/00

U.S. Cl. 152—352

3 Claims

A bias ply carcass pneumatic tire wherein the tire is maintained in a predetermined shape during curing, and particularly wherein the upper sidewall portion of the tire has in cross section a predetermined convex curvature. The carcass of the resulting tire when the tire is inflated to normal operat-

ing pressure and deflected within the normal load range of the tire is free of any reverse curvatures in the upper sidewall



portions of the deflected portion of the carcass, particularly adjacent the tread edge.

3,542,108

TIRE

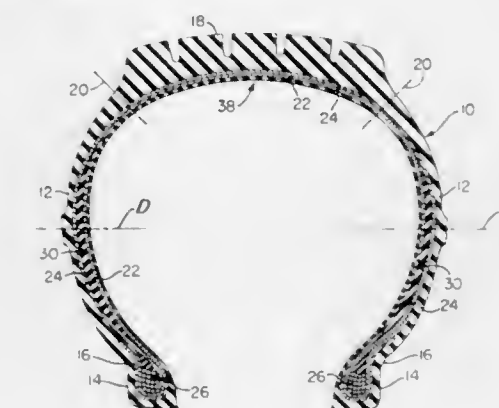
Grover W. Rye, Cuyahoga Falls and David M. Callahan, Stow, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio a corporation of Ohio

Filed May 23, 1968, Ser. No. 731,520

Int. Cl. B60c 9/06

U.S. Cl. 152—360

12 Claims



A pneumatic tire having improved circumferential or rolling uniformity and reduced vibration or noise transmission is provided by separating the reinforcing plies from one another at or near the mean radial extent of the tire sidewall by a resilient elastomeric annular strip disposed between the plies in the sidewall of the tire.

3,542,109

SNAP-IN TIRE VALVE

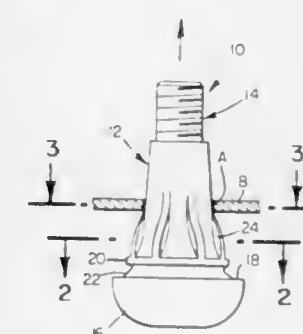
William Sylvester Stroh, Dickson, Tennessee, assignor to Scovill Manufacturing Company, Waterbury, Connecticut a corporation of Connecticut

Filed June 27, 1968, Ser. No. 740,533

Int. Cl. B60c 29/00

U.S. Cl. 152—427

5 Claims



A snap-in tire valve having inwardly deformable means above the peripheral bead to hold the bead against upward

deformation. In the preferred embodiment, the means are elongate ribs molded into the valve body. In this way the valve can fit into any of a number of different-sized rim openings.

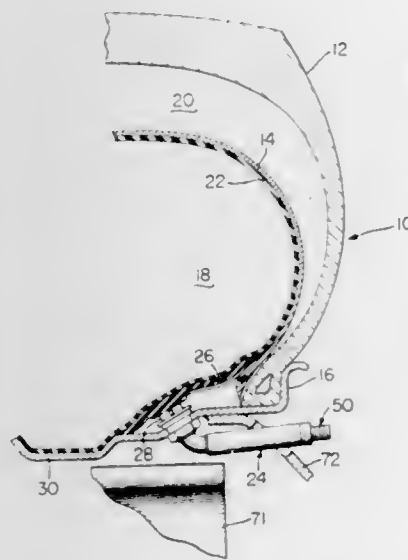
3,542,110 VALVE MEANS FOR MULTI-CHAMBER PNEUMATIC TIRE

William L. Holl, Gadsden, Alabama, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio a corporation of Ohio

Filed April 1, 1968, Ser. No. 717,543
Int. Cl. B60c 23/10

U.S. Cl. 152-429

7 Claims



A valve assembly for use with a dual chambered tire which permits location of a dual valve in a position remote from the usual mounting position of such a valve and in an angular relationship to the tire rotational axis to permit assembly with a wheel while not interfering with adjacent components such as a disc brake assembly. The valve is mounted on a pair of bendable tubular members dispersed one within the other which provide a pair of air passages between the valve and the chambers of the tire.

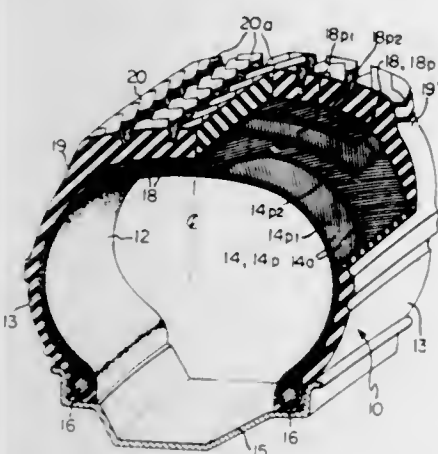
3,542,111 COMBINATION OF INGREDIENTS IN BIAS-BELTED TIRE

Frederick J. Kovac, Bath; Grover W. Rye, Cuyahoga Falls and Kevin B. O'Neil, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio a corporation of Ohio

Filed Dec. 31, 1968, Ser. No. 789,047
Int. Cl. B60c 1/00

U.S. Cl. 152-359

17 Claims



A bias-belted tire having the herein specified tire belt warp cord physical characteristics, herein called combination of ingredients, especially when used in a bias-belted tire with fiberglass belt cords, polyester carcass cords, and specified cord angles and relationships.

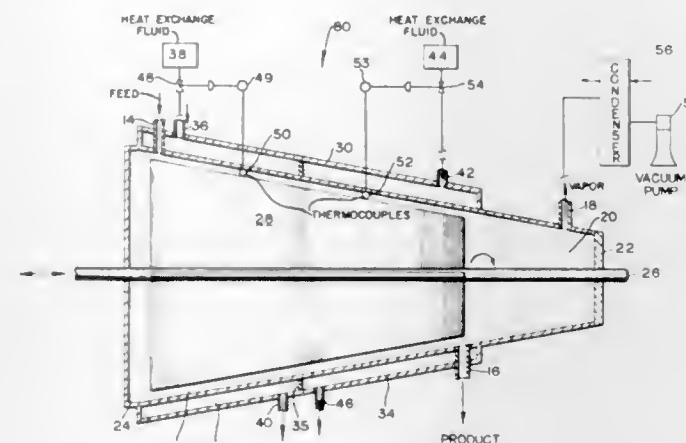
3,542,112 THIN-FILM EVAPORATOR HAVING MULTI-ZONE TEMPERATURE CONTROL JACKET

Leo J. Monty, Reading, Massachusetts, assignor to Artisan Industries Inc., Waltham, Massachusetts a corporation of Massachusetts

Filed June 5, 1968, Ser. No. 734,789
Int. Cl. B01d 1/22

U.S. Cl. 159-6

9 Claims



A horizontally axised, rotary thin-film evaporator having a heat exchange jacket about the processing chamber with the jacket divided into two zones particularly useful for the processing of temperature sensitive resinous materials. The first zone is adapted for the introduction of saturated steam to remove as much of the solvent material being processed as possible without degradation of the resin. The second zone is adapted for the introduction of a liquid to regulate the temperature of the material below the degradation temperature.

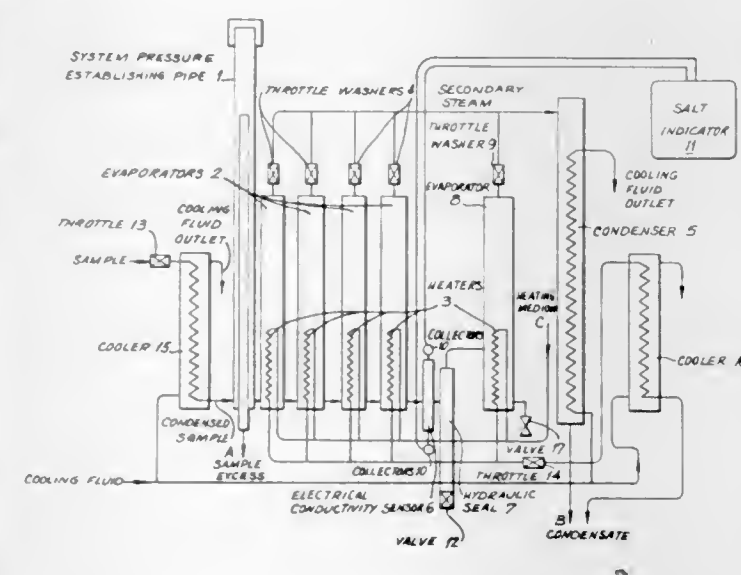
3,542,113 DEVICE FOR MEASURING SALT CONCENTRATION IN SAMPLES

Alexei Alexeevich Mostofin and Nina Sergeevna Sorokina, Leningrad, U.S.S.R., assignors to Tsentralny nauchno-issledovatel'skiy i projektirovatskiy konstruktorskiy kotloturbinniy institut imeni I. I. Polzunova, Leningrad, U.S.S.R.

Filed June 11, 1968, Ser. No. 736,178
Int. Cl. G01n 27/42; B01d 1/02

U.S. Cl. 159-30

1 Claim



A device is provided for obtaining salt-enriched samples of condensates from power generating equipment of power plants and for measuring the salt content in the samples. The device has a succession of evaporators through which the sample passes, whereafter the sample is supplied to a sensor of the electrical conductivity of the concentrated sample, whereafter the sample passes to a final evaporator furnished with a throttle washer at the steam outlet end thereof.

3,542,114 METHOD FOR PURIFYING AND IMPROVING THE SURFACE QUALITY OF AN INGOT

Roy E. Ferree and Edward P. Vincent, Valencia, Pennsylvania, assignors to Eastern Splash Mats, Incorporated, Valencia, Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 627,283, March 31, 1967, now abandoned. This application April 5, 1968, Ser. No. 719,218
Int. Cl. B22c 3/00; B22d 27/00

U.S. Cl. 164-74

1 Claim

This invention relates to a method of purifying, reducing surface imperfections and of lubricating the outer surface of an ingot to facilitate removal from the mold, comprising reacting naphthalene in powder or liquid form by pouring molten metal thereon in an ingot mold or pouring the naphthalene during teeming thereby creating an inert and dense cloud of carbonaceous smoke that will rise in the mold and prevent oxidation and that will coat the inner surface of the mold and outer surface of the ingot. Various organic and inorganic compounds are mixed in specified proportions with the naphthalene.

3,542,115 CONTINUOUS-CASTING METHOD

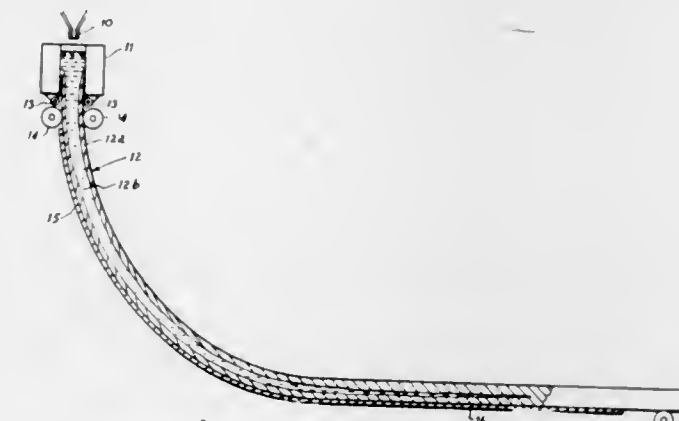
Irving Rossi, Morristown, N.J., assignor to Concast Incorporated, New York, N.Y.

Filed Dec. 26, 1967, Ser. No. 693,430

Int. Cl. B22d 11/12

U.S. Cl. 164-82

2 Claims



In a continuous casting method wherein a strand of metal having a solidified skin and a molten core is formed in a chill mold and emerges from the lower end of the mold to be conducted along a curved guide path and is then straightened along a horizontal guide path, the movement of the strand from the mold to the horizontal guide path is controlled by driven rolls engaging the strand at a position close to the mold at the upstream end of the curved path, thereby avoiding longitudinal tension on the strand. In addition, the portion of the strand travelling from the mold to the horizontal guide path is maintained in a temperature range such that the core remains molten and the strand is sufficiently pliable to be straightened out along the horizontal guide path by its own weight.

3,542,116 METHOD AND APPARATUS FOR THE CONTINUOUS CASTING OF METAL TUBING

Eugene S. Machlin, Croton-on-Hudson, New York, assignor to U.S. Smelting Refining & Mining Co., New York, New York a corporation of Maine

Filed Jan. 15, 1968, Ser. No. 697,765

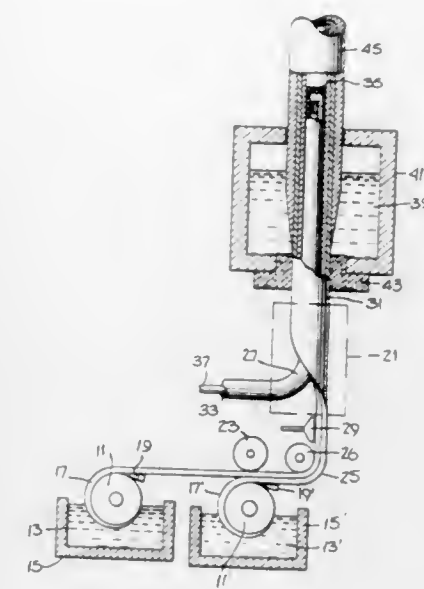
Int. Cl. B22d 11/00

U.S. Cl. 164-86

34 Claims

Cast metal tubing is continuously produced by forming metal strip into a tube, passing the tube upwardly through a bath of molten metal in contact with one surface of the tube and causing the solidification of molten metal in contact with one surface of the tube by withdrawing heat through the tube by a heat absorbing body adjacent the surface of the tube opposed to the surface in contact with the molten metal. The tube may form a part of the thus produced tubing, in which

case it is formed from strip obtained by casting the strip on a heat-absorbing body and maintaining the strip under an inert atmosphere until solidification of the molten metal on the



3,542,117 CONTINUOUS CASTING MACHINE

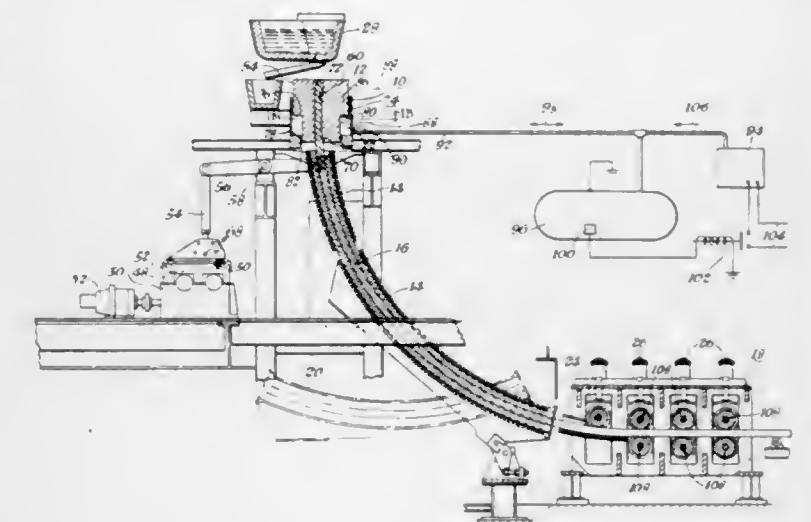
Herbert Lemper; Thomas E. Rodwick and Paul M. Lowy, Pittsburgh, Pennsylvania, assignors to Mesta Machine Company, a corporation of Pennsylvania

Filed March 6, 1967, Ser. No. 620,779

Int. Cl. B22d 17/32, 11/00

U.S. Cl. 164-154

9 Claims



Counterbalancing means for a vertically oscillatory mold structure used in a continuous casting machine. The impractical counterweights or springs used in conventional practices are eliminated by forming the mold structure as a reciprocable plunger in a suitably shaped cylinder surrounding the mold structure. The plunger is supported within the cylinder by means of compressed fluid introduced therein under sufficient pressure to counterbalance the weight of the mold structure. A compressor or other source of compressed fluid is coupled to the cylinder, together with an accumulator to maintain the compressed fluid within the cylinder at a substantially constant pressure irrespective of the position of the mold structure along its reciprocary path.

3,542,118

DUMMY BAR HANDLING MECHANISM

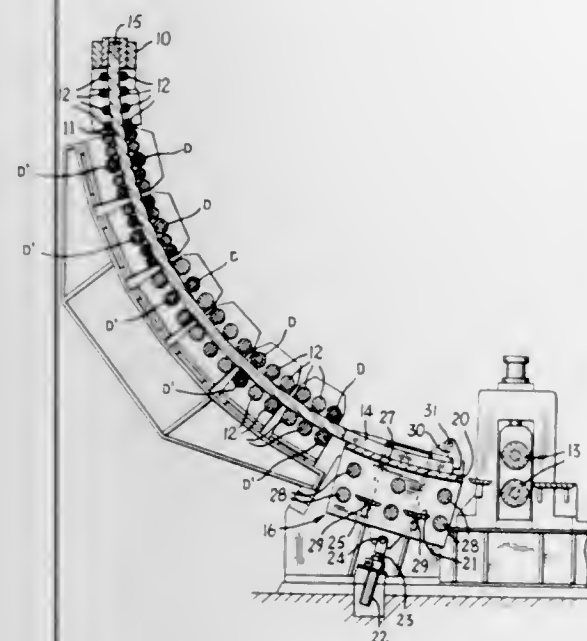
Irving Rossi, Morristown; Horst Huber, Roselle Park and Herbert Fastert, Wyckoff, New Jersey, assignors to Concast Incorporated, New York, New York

Filed Dec. 20, 1967, Ser. No. 692,219

Int. Cl. B22d 11/08

U.S. Cl. 164—274

7 Claims



In a continuous-casting machine for continuously casting a strand of metal which emerges from the exit end of an open-ended mold wherein the exit end of the mold is plugged by a dummy bar at the start of casting, a conduit member having two alternative conduits for a strand or dummy bar is in the path of the dummy bar and strand from the mold and is movable to alternatively interpose one or the other of the conduits as a section of the path for moving a dummy bar on one of the conduits into or out of the path. In a preferred form, rolls on the path are adapted to be driven alternatively in opposite directions and are arranged to move a dummy bar from the mold to the conduit member or, by reversing the drive, from the conduit member to the mold.

3,542,119

COOLING DEVICE FOR CONTINUOUS CASTING OF STRIP METAL

Alfred J. Wertli, Poststrasse 15, Winterthur, Switzerland

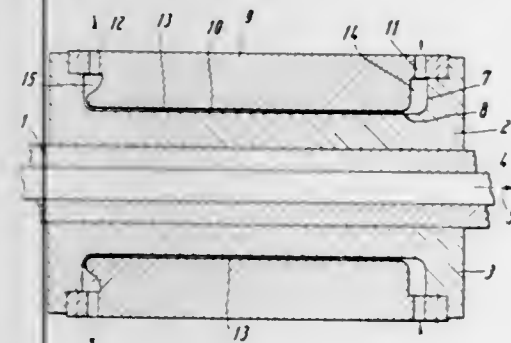
Filed Oct. 25, 1967, Ser. No. 677,921

Claims priority, application Switzerland, Oct. 26, 1966, 15503/66

Int. Cl. B22d 11/00

U.S. Cl. 164—283

6 Claims



The passages for the cooling device are of narrow dimensions so that the coolant passes through as a high speed film in order to avoid boiler scale and to increase the rate of cooling of the casting mold. The passages can extend across the mold or a number of parallel passageways can be distributed across the mold.

3,542,120

APPARATUS FOR PRODUCING SINGLE CRYSTAL METALLIC ALLOY OBJECTS

Barry J. Pearcey, Brixham, Devon, England, assignor to United Aircraft Corporation, East Hartford, Connecticut a corporation of Delaware

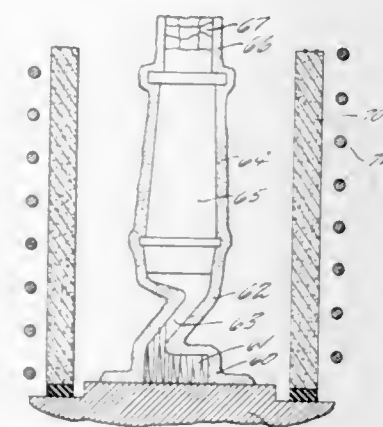
Original application Feb. 17, 1966, Ser. No. 540,114, now

Patent No. 3,494,709, dated Feb. 10, 1970, which is a continuation-in-part of application Ser. No. 459,391, May 27, 1965, now abandoned. Divided and this application Oct. 1, 1968, Ser. No. 764,171

Int. Cl. B22c 9/02

U.S. Cl. 164—361

10 Claims



- ☒ UNCONTROLLED GROWTH POLYCRYSTALLINE
- ☐ CONTROLLED GROWTH SINGLE CRYSTALLINE
- ☐ CERAMIC MOLD
- ☒ CONTROLLED CRYSTALLINE

A method and a special mold are provided for casting a single crystal metallic alloy object of complex shape formed from a heat-resistant and corrosion-resistant alloy having a face-centered cubic crystal structure, said crystal being oriented with its direction less than 20° from the elongated axis of the crystal, said single crystal object having laterally enlarged integral base and generally being in the form of a gas turbine blade or vane.

3,542,121

HEAT EXCHANGING METHOD FOR FLUID MATERIAL CONTAINING CONDENSIBLE VAPOR

Niilo H. Kaartinen, Turku, Finland, assignor to Packard Instrument Company, Inc., Downers Grove, Illinois a corporation of Delaware

Filed May 14, 1968, Ser. No. 729,047

Claims priority, application Finland, May 16, 1967, 1,390/67; Mar. 25, 1968, 829/68

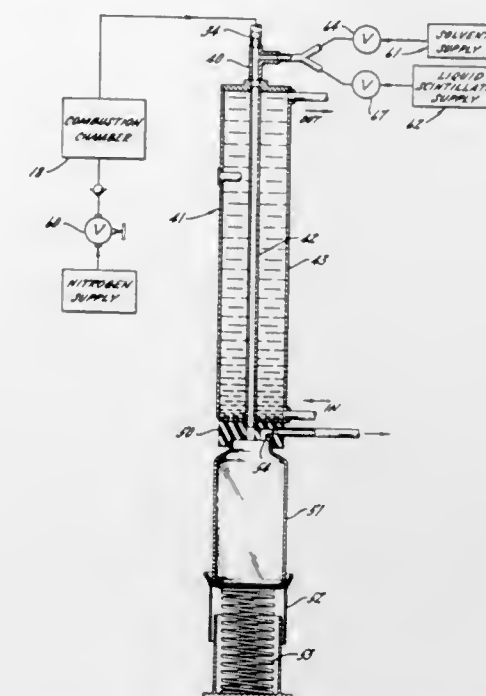
Int. Cl. F28b 3/00

U.S. Cl. 165—1

8 Claims

Method and apparatus for the processing of fluid materials, particularly in the preparation of samples for radioactive isotope tracer studies by combustion of starting materials containing such isotope tracers. The sample is burned in a combustion chamber and the combustion products are continuously exhausted from the combustion chamber and passed through a heat exchanger which condenses the condensable vapors in the combustion products. The condensed vapors are then separated from the gases, and the gases are passed into a reaction column if there is a radioactive isotope tracer remaining in gas form. Oxygen is fed into the combustion chamber at a controlled rate during combustion, and after combustion nitrogen gas is fed into the combustion chamber and exhausted therefrom through the heat exchanger and into the separating means, so as to purge the system of any remaining gaseous production products. A

liquid scintillator, and a liquid solvent if desired, are passed flow sensor connected in series with a temperature sensor to through the heat exchanger into the separating means after provide a combined signal proportional to the sum of the



each combustion so as to recover any residual condensed vapors.

3,542,122

REGENERATOR SEAL

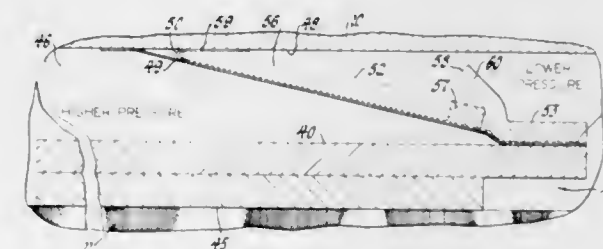
Joseph W. Bracken, Jr., Redford Township, Michigan, assignor to General Motors Corporation, Detroit, Michigan a corporation of Delaware

Filed Oct. 23, 1968, Ser. No. 769,928

Int. Cl. F28d 19/04

U.S. Cl. 165—9

5 Claims



An axial-flow rotary regenerator has fluid seals which extend between the fixed housing of the regenerator and the matrix and conform to the perimeters of the fluid flow paths. The seals can yield to distortions of the matrix or housing. Each seal includes a matrix-engaging element, a flexible sealing membrane engaging the housing and welded to the matrix-engaging element, a supporting membrane disposed on the low pressure side of the sealing membrane, and a support plate disposed on the low pressure side of the supporting membrane. The support plate has a hinged connection to the matrix engaging element through an abutment strip welded to the matrix-engaging element.

3,542,123

TEMPERATURE MEASUREMENT APPARATUS

David R. Hornbaker, 1520 Cole Way, La Habra and Dieter L. Rall, 11818 E. North Circle Drive, Whittier, California

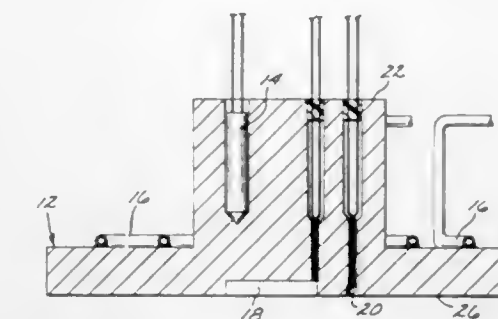
Filed June 17, 1968, Ser. No. 737,572

Int. Cl. B60h 1/00

U.S. Cl. 165—39

22 Claims

Temperature detection apparatus including a thermal sink or reference body mounting a heat flow sensor, and operative to determine the temperature of an external medium or body by utilizing the principle that net heat exchange between the reference body and the external body will be zero when the bodies are at the same temperature, the apparatus in one embodiment having the heat flow sensor mounted generally flush with the operative face of the reference body for optimum sensitivity to convective heat exchange between the bodies, the apparatus in another embodiment having the heat



temperature of the reference body and the temperature differential between the bodies.

3,542,124

HEAT EXCHANGER

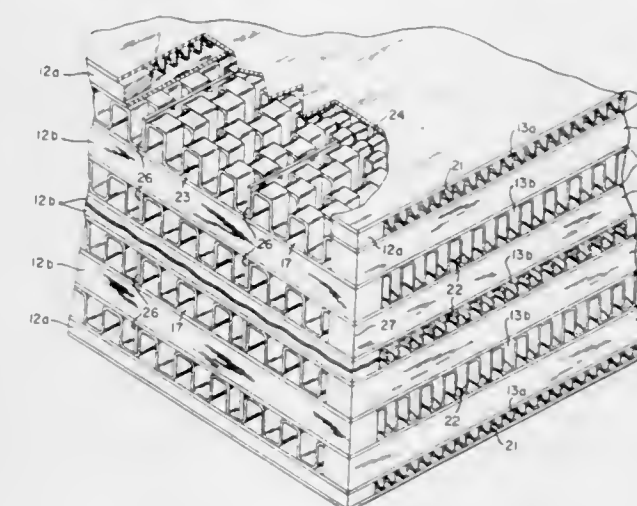
Joseph N. Manfredi, Van Nuys; David G. Bridgnell, Rolling Hills and Soren K. Andersen, Los Angeles, California, assignors to The Garrett Corporation, Los Angeles, California a corporation of California

Filed Aug. 8, 1968, Ser. No. 751,288

Int. Cl. F28f 3/00

U.S. Cl. 165—166

1 Claim



In a heat exchanger having passageways formed between spaced parallel plates bounded in a stack with fins connecting adjacent plates, means are provided for relieving columnar stresses within the fins.

3,542,125

WELL APPARATUS

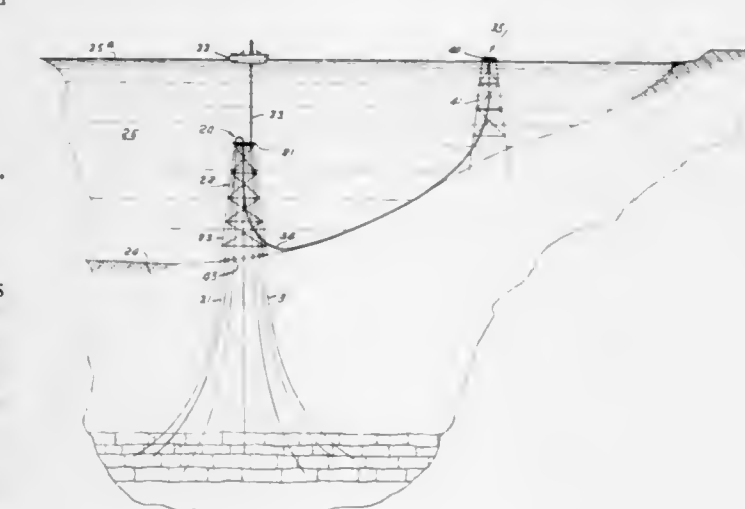
Phillip S. Sizer, Dallas, Texas, assignor to Otis Engineering Corporation, Dallas, Texas a corporation of Delaware

Filed Nov. 12, 1968, Ser. No. 774,632

Int. Cl. E21b 43/01, 33/035

U.S. Cl. 166—6

20 Claims



A subsea wellhead system for servicing a plurality of wells having spaced wellheads supported on a submerged platform

including a movable latch head selectively connectable with any one of the wellheads, and flow conductors connected from the latch head through the platform to a remotely located control and service station so that well tools for servicing a selected one of the wells are pumped between the remote station and the wellhead through the flow conductors and the latch head.

3,542,126

BOTTOM-HOLE SHUT-IN TOOL

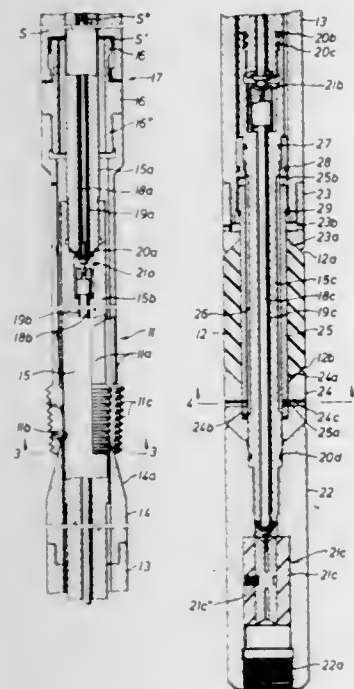
Arthur L. Owen, Houston, Texas, assignor to Electric Wireline Specialties, Inc., Alice, Texas, a corporation of Texas

Filed Oct. 31, 1968, Ser. No. 772,177

Int. Cl. E21b 43/00, 33/12

U.S. Cl. 166—65

23 Claims



A tool having a central mandrel movable axially within an outer body for expanding metal friction locks and an elastomeric packer to anchor the tool and form a pressure seal within a surrounding well conduit. Anchoring and release is assisted by a fluid bypass formed across the packer which is gradually closed or opened by the moving mandrel as the tool is set or released. A slack joint in the outer body accommodates small movements of the mandrel when the tool is anchored to prevent inadvertent release and an insulated electrical conductor extends axially through the bar to energize and monitor a transducer secured below the seal.

3,542,127

REINFORCED INFLATABLE PACKER WITH EXPANSIBLE BACK-UP SKIRTS FOR END PORTIONS

Billy C. Malone, Houston, Texas, assignor to Lynes, Inc., Houston, Texas a corporation of Texas

Filed May 13, 1968, Ser. No. 728,608

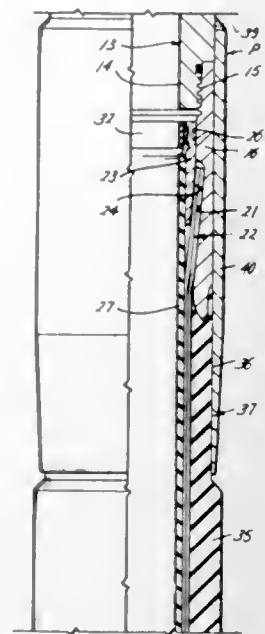
Int. Cl. E21b 33/12, 23/00

U.S. Cl. 166—122

25 Claims

A reinforced inflatable packer with expansible back-up skirts for its end portions which aid in inhibiting extrusion of resilient or semiresilient outer covering on the packer which might tend to flow at higher pressures, the latter being more pronounced at higher temperatures. In addition to increasing the pressure to which an inflatable packer may be inflated before rupture, the back-up skirts serve to armor the rein-

forced packer so that in event of rupturing, after the packer has been inflated and seated, a bridge or anchor is formed at



the location where the packer is placed to form a permanent barrier in an opening, such as a well bore or in a pipe.

3,542,128

RETRIEVABLE BRIDGE PLUG AND PACK-OFF

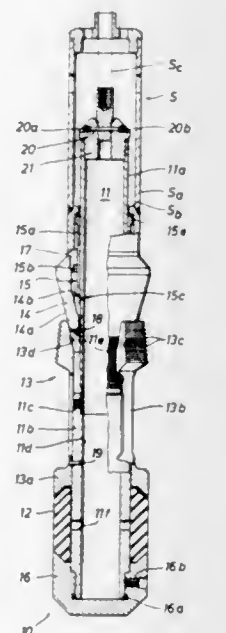
Arthur L. Owen, Houston, Texas, assignor to Electric Wireline Specialties, Inc., Alice, Texas a corporation of Texas

Filed Oct. 31, 1968, Ser. No. 772,120

Int. Cl. E21b 23/00, 33/12

U.S. Cl. 166—123

33 Claims



A tool having a tubular central mandrel movable axially through an outer body which includes a cone spreader, expandable metal anchoring fingers, a locking mechanism and an elastomeric packer. Shear pins extend through the mandrel and sever in sequence when the mandrel is moved upwardly through the body by a setting mechanism to slide the cone under the fingers and compress the packer which sequentially expands the fingers and packer to anchor the tool and seal it against a surrounding well conduit. The last pin to sever releases the tool from the setting mechanism and the locking mechanism engages the mandrel to lock the tool in place. The tool is released by pulling upwardly on the locking mechanism which first releases the packer and subsequently releases the locking fingers to prevent the tool from being blown uphole by differential well pressure. The end of the mandrel may be plugged or open and, a second packer may be employed to pack off a zone in the well conduit.

3,542,129

OIL RECOVERY OF HIGH GRAVITY CRUDES

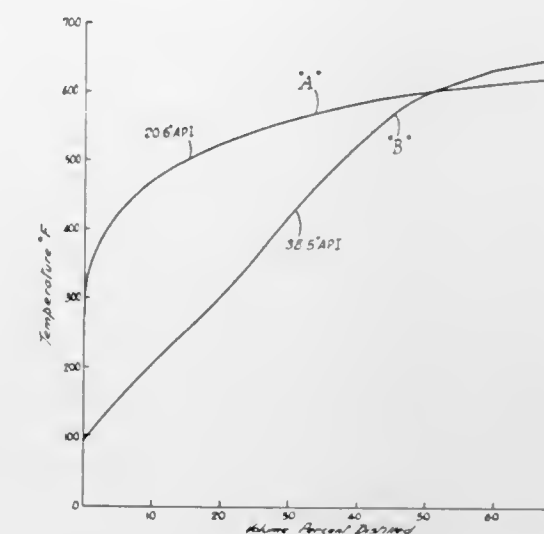
Charles L. Bauer, New York, New York, assignor to Texaco Inc., New York, New York a corporation of Delaware

Filed March 28, 1968, Ser. No. 716,797

Int. Cl. E21b

U.S. Cl. 166—261

4 Claims



Improved recovery of high API gravity crudes from subterranean hydrocarbon-bearing formations is effected by injecting a gas into the formation to sweep the low-boiling components of the crudes from the formation prior to the initiation of in situ combustion.

3,542,130

VALVE FOR REMOVING PARAFFIN FROM OIL WELLS

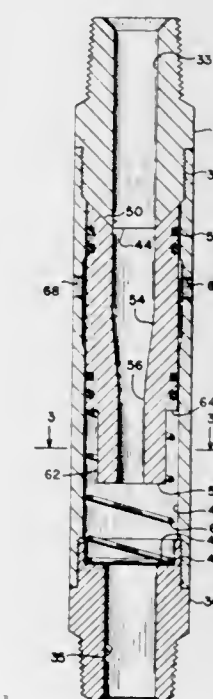
Don W. Stout, Odessa, Texas, assignor to Paraffin Tool and Equipment Company, Inc., Odessa, Texas

Filed April 1, 1968, Ser. No. 717,778

Int. Cl. E21b 43/00

U.S. Cl. 166—224

3 Claims



A valve means placed in series with a string of pipe which vertically depends into an oil well, wherein the string of pipe is used for conducting fluid into the vicinity of the production formation. The valve means includes a barrel having radially disposed ports formed therein with the barrel forming a part of the string of pipe. An elongated hollow valve element is reciprocally received within the barrel with the hollow passageway thereof being tapered. A dissolvable member such as a wax plug is circulated down the pipe where it is received within the tapered hollow passageway, thereby causing the valve element to be forced in a downward direction for a limited distance. This action uncovers the radial ports and allows fluid such as hot oil to be

3,542,131

METHOD OF RECOVERING HYDROCARBONS FROM OIL SHALE

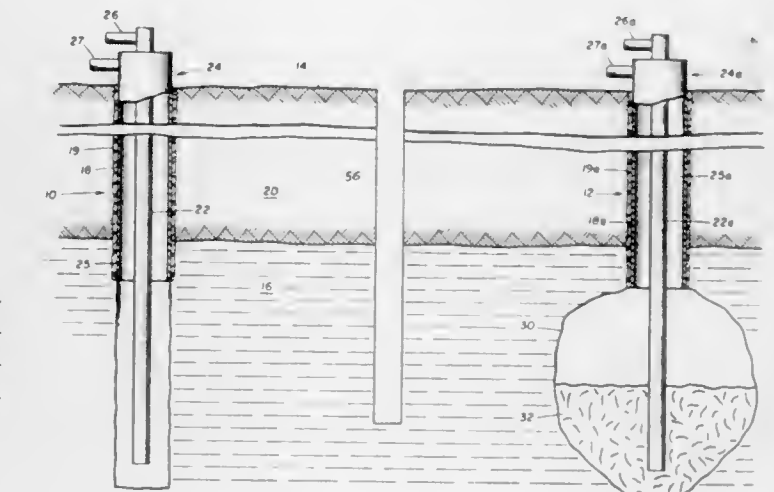
Dean K. Walton, Dallas and Marion L. Slusser, Arlington, Texas, assignors to Mobil Oil Corporation, a corporation of New York

Filed April 1, 1969, Ser. No. 812,223

Int. Cl. E21b

U.S. Cl. 166—257

11 Claims



This specification discloses a method of recovering hydrocarbons from an oil shale formation by the in situ retorting thereof. A well penetrating the formation is heated and gas is injected therein until a pressure buildup within the well is reached due to a decrease in the conductivity of naturally occurring fissures within the formation. Thereafter the well is vented in order to produce spalling of the walls thereof. This results in the formation of an enlarged cavity containing rubblized oil shale. A hot gas then is passed through the rubblized oil shale in order to retort hydrocarbons therefrom and these hydrocarbons are recovered from the well.

3,542,132

METHOD OF SQUEEZE CEMENTING A WELL

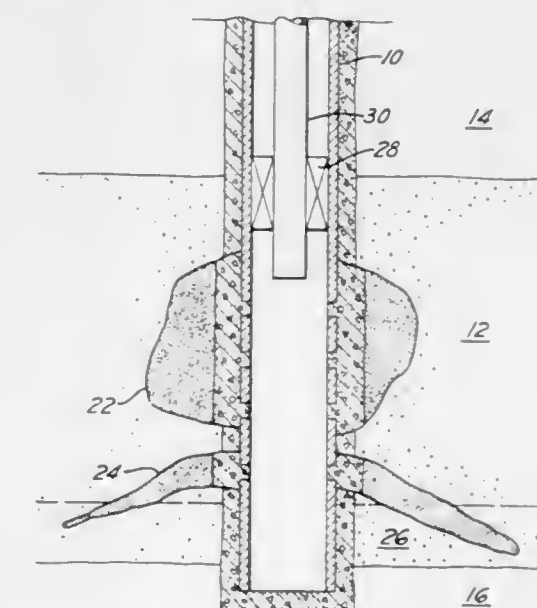
John F. Muirhead, Jr., Oakmont, Pennsylvania, assignor to Gulf Research & Development Company, Pittsburgh, Pennsylvania a corporation of Delaware

Filed April 21, 1969, Ser. No. 817,852

Int. Cl. E21b 43/02

U.S. Cl. 166—276

6 Claims



A well penetrating an unconsolidated formation is treated to prevent flow of unwanted fluids and sand into the well by

squeezing a slurry of gravel and oil into the formation through perforations in the well casing until the pressure increases to just below the fracturing pressure of the formation and thereafter squeezing a small volume of a slurry of cement into the sand pack. After the cement has set the casing is perforated at the desired level in the well. The quantity of cement is controlled so that it can be penetrated by the perforating device.

3,542,133

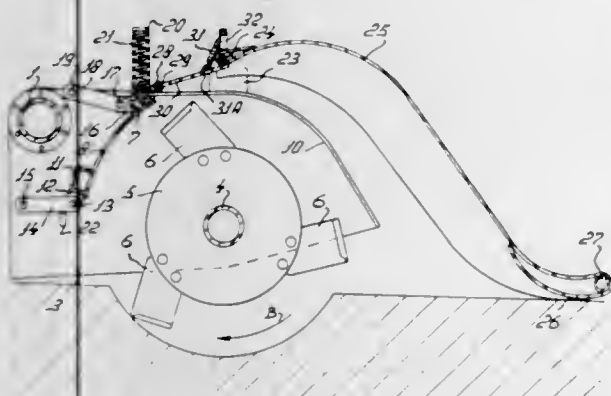
CULTIVATING IMPLEMENTS

Ary Van Der Lely, 10 Weverskade, Maasland, Netherlands
Filed Feb. 16, 1968, Ser. No. 706,006
Claims priority, application Netherlands, Feb. 23, 1967,
6,702,737

Int. Cl. A01b 33/16

U.S. Cl. 172—32

11 Claims



A cultivator with a rotor having soil-working members with an overhead hood and a screening baffle. The screening baffle is deflectable, at least in part, relative to the rotor to allow passage of debris too large to pass through the baffle and thus stoppage and damage are mitigated.

3,542,134

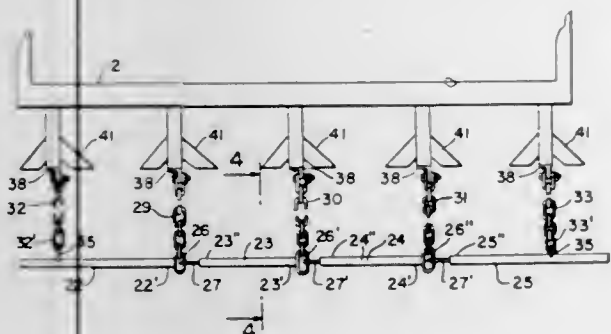
ROD WEEDER DEVICE

Arden A. Wigness, Fortuna, North Dakota
Filed Feb. 12, 1968, Ser. No. 704,923

Int. Cl. A01b 49/02

U.S. Cl. 172—195

3 Claims



The invention comprises a rod weeder and a farm implement. The rod weeder has a plurality of rods placed in end to end relation across the back of the implement. One loop elongated laterally of the length of the rods is fixed to one of the confronting ends of one of the rods, and another loop elongated parallel to the length of the rods is fixed to the confronting end of an adjacent rod and interlooped with the first loop. At least three link chains in spaced relation to one another connect the rods to the implement. At least one of the chains is connected to the rods by being connected to one of said loops.

3,542,135

IMPLEMENT WITH TAIL WHEEL SUPPORT

James E. McCause, Oregon, Illinois, assignor to Wood Brothers Incorporated, Oregon, Illinois a corporation of Delaware, by mesne assignments
Filed May 1, 1968, Ser. No. 725,657

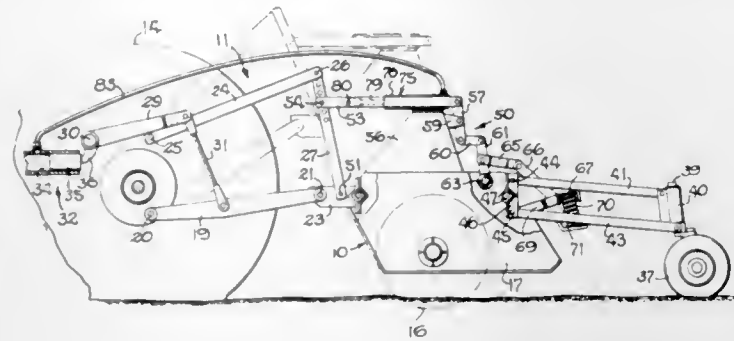
Int. Cl. A01b 63/14

U.S. Cl. 172—319

8 Claims

An agricultural implement adapted for connection to the

three-point hitch of a tractor includes a pivotally mounted tail wheel connected to the upper stabilizer link of the hitch by a linkage mechanism which responds to upward movement of the stabilizer link to lower the tail wheel relative to the implement in such a way that the tail wheel jacks up the rear end of the implement as the front end thereof is lifted by the hitch. A hydraulic actuator connected to the implement



exerts a substantial force on the linkage mechanism in a direction tending to lower the tail wheel relative to the implement and relieving the tension in the stabilizer link thereby reducing the load imposed on the hitch and the rear tractor wheels and increasing the load imposed on the tail wheel and the front tractor wheels to improve the stability and increase the lift capacity of the tractor.

3,542,136

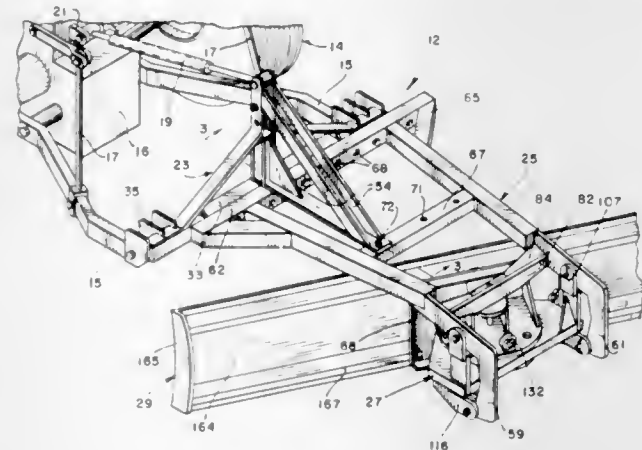
SUPPORT AND ACTUATOR ASSEMBLY FOR BULLDOZER MEANS

John Coontz, P.O. Box 104, Kiowa, Kansas 67070
Filed March 11, 1968, Ser. No. 712,150

Int. Cl. A01b 59/06

U.S. Cl. 172—447

5 Claims



This invention relates to a bulldozer means attachable to a conventional farm tractor and, more particularly, to a support and actuator assembly adapted to receive a bulldozer blade attachable to a tractor for use in earth moving operations. Still, more specifically, this invention relates to a support and actuator assembly including an A-frame assembly attachable to a tractor in a three-point manner; main support means attachable to the A-frame assembly laterally adjustable relative thereto; a blade attachment assembly connected to the main support means and adapted to receive a bulldozer blade thereon; and the blade attachment assembly having an adjustable quick angle device for pivotal movement of the blade relative thereto whereupon any desired height and angular position of blade may be achieved.

3,542,137

DEVICE TO TRAP ANHYDROUS AMMONIA

Hubert Mai, P.O. Box 39, Leoti, Kansas
Filed March 4, 1968, Ser. No. 710,216

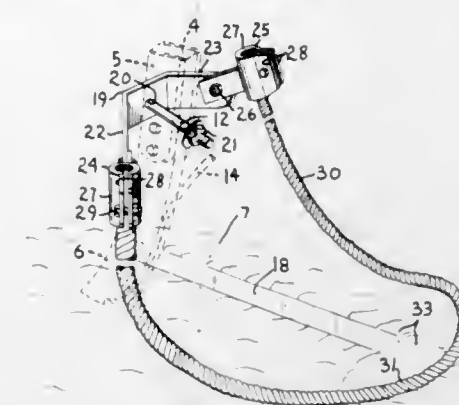
Int. Cl. A01b 35/00; A01c 23/02

U.S. Cl. 172—612

1 Claim

A furrow sealer attachment for use with an anhydrous ammonia depositing blade comprises a clamp supporting opposite ends of a length of relatively stiff wire rope in a

manner whereby the rope forms a loop extending downwardly behind the blade and at an elevation whereat a



portion of the rope slidably engages the ground surface and urges free soil into the furrow.

3,542,138

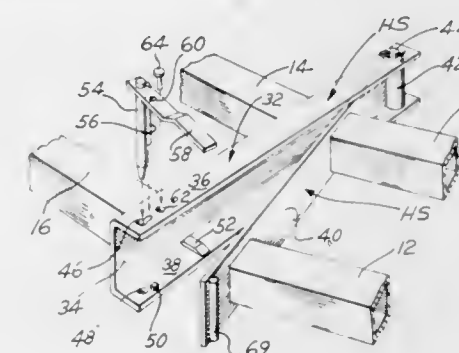
LOCK STRUCTURE FOR FOLDING TOOL BARS

Kenneth C. Fackler, Anchor and Wayne A. Scott, Sauemin, Illinois, assignors to The M & W Gear Co., Inc., Gibson City, Illinois a corporation of Illinois
Filed April 19, 1968, Ser. No. 722,627

Int. Cl. A01b 23/04

U.S. Cl. 172—776

7 Claims



Relatively wide agricultural implements provided with "tool bars" are advantageously folded for decreasing their width for transport through farm gates and on the road. The tool bars are provided with hinges to facilitate the folding operation. A simple and easily operable positive lock structure is provided for certain of these hinges.

3,542,139

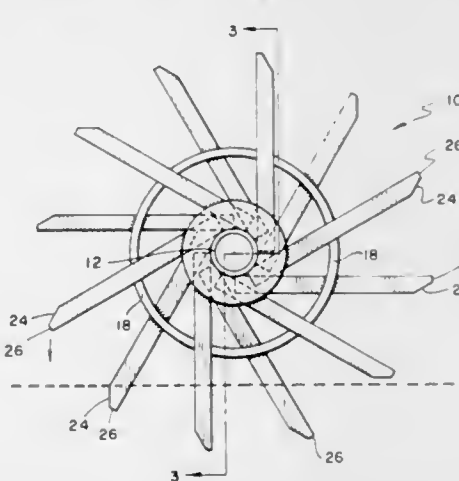
ROTARY HARROW WHEEL

Harry L. Mowbray, 109 S. 3rd St., Medford, Oklahoma
Filed Oct. 8, 1969, Ser. No. 864,637

Int. Cl. A01b 21/02

U.S. Cl. 172—540

7 Claims



The invention is a welded construction spiked-tooth tillage wheel particularly suited for the "stubble mulch" method of farming. The wheel is fabricated in two identical dish-shaped half sections, each carrying one half of the teeth on the wheel. The half sections are joined by a common ring member concentrically spaced between the sections with the

individual teeth members extending outward from their respective hub of each half section to the ring member with all of the teeth having an equal angular spacing around the wheel.

3,542,140

ROTARY APPLIANCE FOR FACILITATING THE DRIVING OR WITHDRAWAL OF PILES, PIT-PROPS AND THE LIKE

Robert Hochstrasser, Saarbruecken, Germany, deceased, by Elisabeth Hochstrasser, and Juergen Hochstrasser, administrators, Kobenhuttenweg 22, Saarbruecken, Germany
Filed Apr. 9, 1968, Ser. No. 719,995

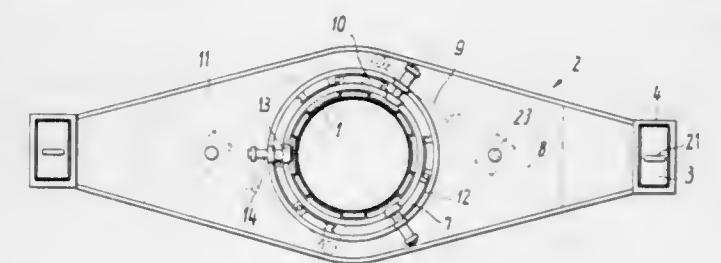
Claims priority, application Germany, April 14, 1967,

1,634,404

Int. Cl. B25d 15/00

U.S. Cl. 173—93

12 Claims



Rotary appliances for driving and withdrawing piles, pit-props and the like, wherein the weights responsible for producing the inertia forces, and the pile or the like which is being driven or withdrawn by it, can all be separated from one another for ease of handling by conventional lifting tackle. The inertial energy developed by the rotary appliance is transformed into torsional hammer blows through coupling arrangements which incorporate elements which are easily exchanged and replaced when wear has taken place.

3,542,141

WELL COMPLETION APPARATUS

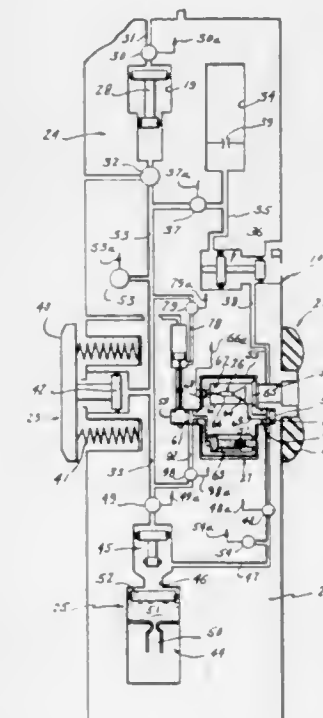
Ulrich E. Voetter, Houston, Texas, assignor to Schlumberger Technology Corporation, New York, New York a corporation of Texas

Original application Aug. 1, 1968, Ser. No. 749,421, now Patent No. 3,498,377, dated March 3, 1970. Divided and this application Oct. 24, 1969, Ser. No. 869,210

Int. Cl. E21b 43/117

U.S. Cl. 175—4.52

20 Claims



This application discloses new and improved apparatus for testing earth formations traversed by a cased well bore and then reliably plugging the resultant perforations in the casing when the tests are completed.

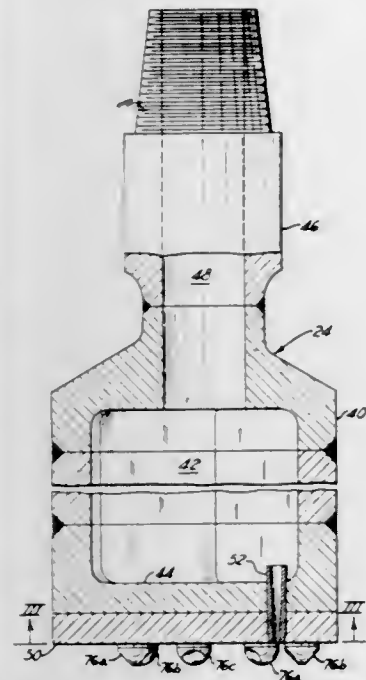
3,542,142

METHOD OF DRILLING AND DRILL BIT THEREFOR
 Horst H. Hamba, Pittsburgh and Joseph H. Messmer, O'Hara Township, Allegheny County, Pennsylvania, assignors to Gulf Research & Development Company, Pittsburgh, Pennsylvania a corporation of Delaware

Filed Sept. 27, 1968, Ser. No. 763,132
 Int. Cl. E21b 7/18; E21c 13/00

U.S. Cl. 175-67

13 Claims



A drilling method and drill bit for the hydraulic jet drilling of wells. In the drilling method a plurality of grooves separated by intervening ridges is cut in the bottom of the borehole of a well by high-velocity streams of abrasive-laden liquid and downwardly tapering rounded loading elements are inserted into the grooves. On the application of downward force the ridges are broken by the lateral surfaces of the loading elements exerting a force in a radial direction that eccentrically loads the ridges to place rock in the ridges under tension. The downwardly tapering loading elements are positioned to ride in grooves cut in the bottom of the borehole by high-velocity streams of abrasive-laden drilling liquid discharged from nozzles in the bit. The maximum radial dimension of the loading elements is larger than the width of the grooves.

3,542,143

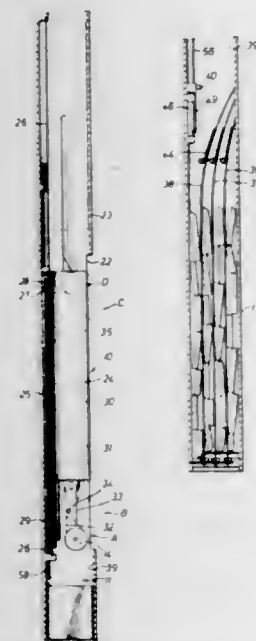
FORMATION-SAMPLING APPARATUS

Harold J. Urbanosky, Houston, Texas, assignor to Schlumberger Technology Corporation, New York, New York a corporation of Texas

Filed Nov. 15, 1968, Ser. No. 776,082
 Int. Cl. E21b 49/06

U.S. Cl. 175-78

21 Claims



The particular embodiment described herein as illustrative of the invention is directed to formation-sampling apparatus

for collecting one or more samples of earth formations traversed by a borehole. To accomplish this, the disclosed borehole apparatus includes means adapted for agitating or vibrating these samples once they are freed from the earth formations to facilitate their continued passage into a sample receiver on the apparatus.

3,542,144

WELL DRILLING BIT

Charles T. White, Quanah, Texas, assignor to Walker-Neer Manufacturing Co., Inc., Wichita Falls, Texas a corporation of Texas

Filed April 29, 1968, Ser. No. 724,742
 Int. Cl. E21b 21/00, 7/00

U.S. Cl. 175-339

4 Claims



Combination of a bit having cone shaped cutters, and a special sub forming an adapter whereby the bit is connected to the lower end of a string of drill pipe. The bit and the sub therefore are intended for use in an arrangement in which a string of tubing is arranged within the drill pipe and drilling fluid is circulated downwardly through the annulus between the drill pipe and the tubing, out through the bit, and up through the tubing.

3,542,145

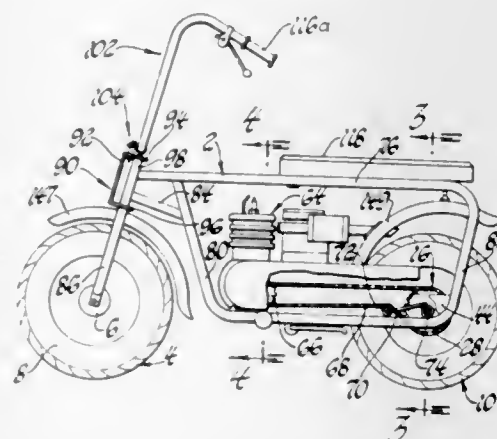
TWO-WHEELED VEHICLE HAVING BALLOON TIRES

Robert J. Proffer, Flushing, Michigan, assignor to Rankin Manufacturing, Inc., Durand, Michigan a corporation of Michigan

Filed Apr. 25, 1969, Ser. No. 819,311
 Int. Cl. B62m 9/00

U.S. Cl. 180-30

17 Claims



A two-wheeled vehicle including a frame with a front-steerable balloon-tired wheel mounted on the frame, and a rear balloon-tired wheel mounted on the frame, and means for transmitting drive to the rear wheel for driving the vehicle.

3,542,146

CHAIN DRIVEN VEHICLES

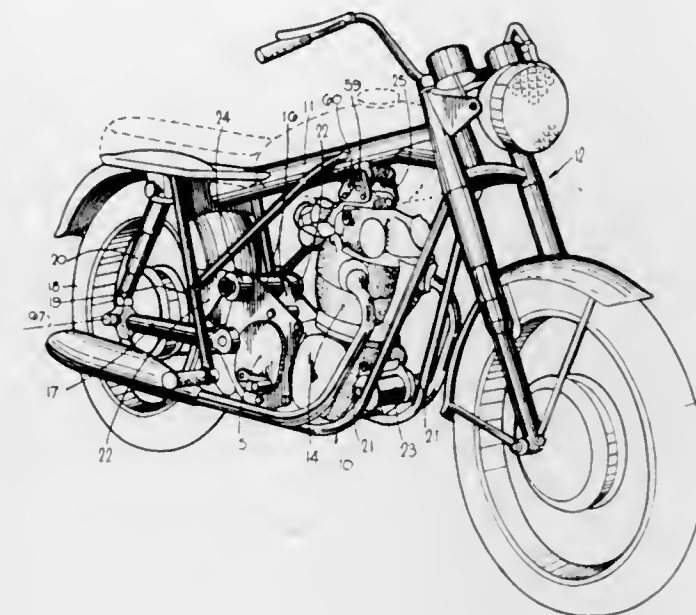
Bernard Hooper, Stourbridge and Robert Victor Trigg, Birmingham, England, assignors to Norton Villiers Limited, Wolverhampton, Staffordshire, England a British company

Filed June 4, 1968, Ser. No. 734,339

Claims priority, application Great Britain, June 8, 1867; 26,433/1967
 Int. Cl. B60k 5/12

U.S. Cl. 180-33

8 Claims



The disclosure describes motorcycles in which the rear road wheel is mounted in a fork swinging on the power unit and connected to springing means. The mounting of the power unit in the frame is such as to allow a greater amplitude of movement in directions radial of the rotary axis of the road wheel than directions parallel to said axis. The power unit is mounted on three resilient mountings located respectively at the apices of a triangle lying in a plane perpendicular to the rotary axis of the road wheel.

3,542,147

MOTOR VEHICLE BODY-CHASSIS SYSTEM

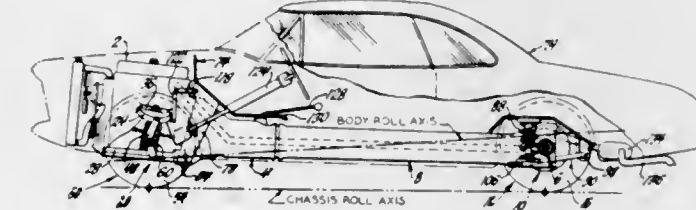
Horacio Shakespear, Troy and Frank J. Winchell, Orchard Lake, Michigan, assignors to General Motors Corporation, Detroit, Michigan a corporation of Delaware

Filed March 5, 1968, Ser. No. 710,489

Int. Cl. B60k 5/12; B62d 27/04

U.S. Cl. 180-64

25 Claims



A motor vehicle body-chassis system in which the engine and transmission are connected to a wheel supporting axle at the opposite end of the vehicle to form a rigid driving aggregate, with the engine elastically and kinematically supported on a front suspension unit, the body being supported entirely on the driving aggregate by longitudinally-spaced elastic mounts located substantially in vertical planes containing the first mode beaming nodal points of the aggregate and having natural frequencies low enough to prevent transmission to the body of substantially all engine induced vibration.

3,542,148

SPEED CONTROL FOR UNMANNED VEHICLES

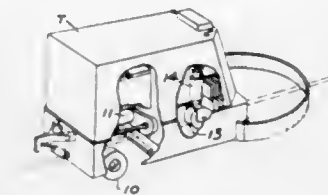
Kenneth A. Wilson, Locust Valley, New York, assignor to American Chain and Cable Company, Inc., New York, New York a corporation of New York, by mesne assignments

Filed Nov. 2, 1967, Ser. No. 680,181

Int. Cl. B60k 31/00

U.S. Cl. 180-105

5 Claims



The vehicle disclosed herein is of the type which is unmanned and is adapted to follow a predetermined path such as a wire embedded in the floor. The vehicle includes a brake circuit which is actuated when the speed of the vehicle exceeds a predetermined value to retard the movement of the vehicle. Magnets are placed on a nontractive wheel of the vehicle and the time interval between successive magnets moving past a sensing device is compared with a predetermined standard to produce the brake energizing signal. The brake is energized for a predetermined time interval which slows the vehicle down. Should the vehicle again exceed the predetermined value the brake will again be energized for the predetermined value.

3,542,149

LOUDSPEAKER

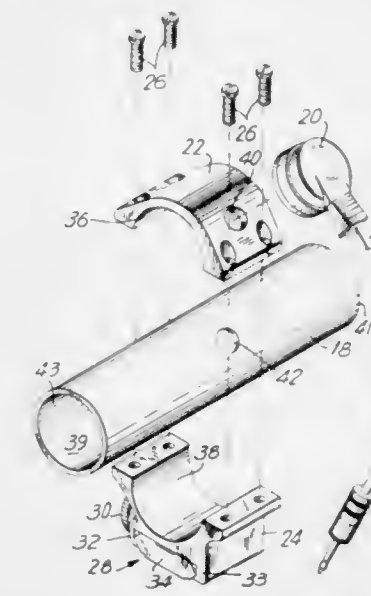
Vaino Ronka, Don Mills, Ontario, Canada, assignor to Geonics Limited, Toronto, Ontario, Canada a corporation

Filed Oct. 11, 1968, Ser. No. 766,931

Int. Cl. G01v 1/00

U.S. Cl. 181.05

6 Claims



A loudspeaker for radiating a relatively narrow band width of acoustical signals about a predetermined frequency. A preferred embodiment of this loudspeaker is made by positioning an earphone between two quarter-wave open ended chambers. Such a loudspeaker advantageously is used with electromagnetic prospecting apparatus and the like.

3,542,150

ACOUSTIC WELL-LOGGING APPARATUS HAVING ANGLED ACOUSTIC TRANSDUCERS

Arthur H. Youmans and James O. Guy, Houston, Texas, assignors to Dresser Industries, Inc., Dallas, Texas a corporation of Delaware

Filed Oct. 10, 1968, Ser. No. 766,410

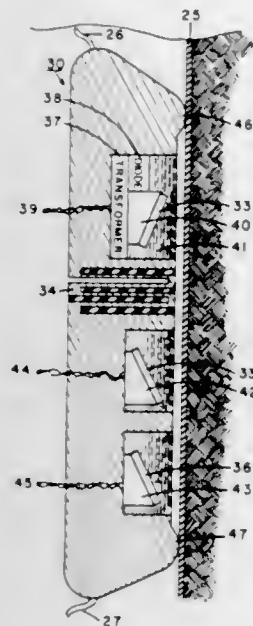
Int. Cl. G01v 1/40

U.S. Cl. 181-0.5

6 Claims

A borehole apparatus having one or more acoustic pad members is arranged for traversing an earth borehole. The

acoustic transducers are mounted at an acute angle from a vertical plane parallel to the borehole axis, the transducers being mounted in a fluid coupling medium having predetermined acoustic transmission properties. In one embodiment,



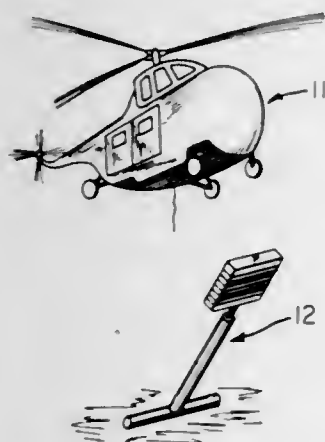
the angle can be adjusted for optimum reinforcement of the acoustic energy while in the borehole. In an alternative embodiment, the fluid coupling interface is adjustable in addition to, or instead of, the transducer itself.

3,542,151 AIRBORNE SEISMIC INPUT WEIGHT DROP DEVICE AND METHOD

Ferris F. Hamilton, 320 High Street, Denver, Colorado
Filed Nov. 21, 1968, Ser. No. 777,637
Int. Cl. G01v 1/04

U.S. Cl. 181—5

7 Claims



In a method and apparatus for seismic operation, a weight drop device including a heavy slablike weight member is supported from a cable carried by an aircraft and is lowered toward the earth's surface at a selected location. Means are provided on the lower end of the weight member to transfer the weight of the load from the aircraft and as it is gradually lowered from the aircraft into contact with the earth's surface and support the weight member in spaced relation above the earth's surface. The cable is released from the device and the weight member will topple over to strike the ground and to generate a seismic input.

3,542,152 SOUND SUPPRESSION PANEL

Arthur P. Adamson; Gordon D. Oxx, Jr. and William R. Morgan, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York

Filed April 8, 1968, Ser. No. 719,559

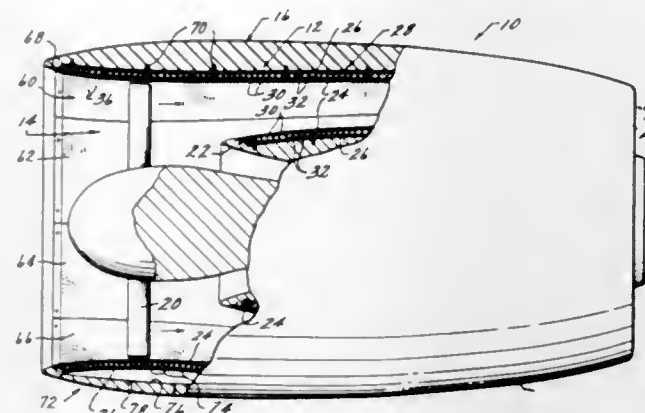
Int. Cl. B64d 33/06; F01n 1/24

U.S. Cl. 181—50

10 Claims

A sound absorbing structural panel for use in turbojet engine air passages and having a plurality of elongated tubular

chambers or resonator cavities substantially transversely disposed to the direction of air flow through the air passages and communicating with the air passages in various series/parallel arrangements through a plurality of apertures. The chambers and apertures are sized to provide broad



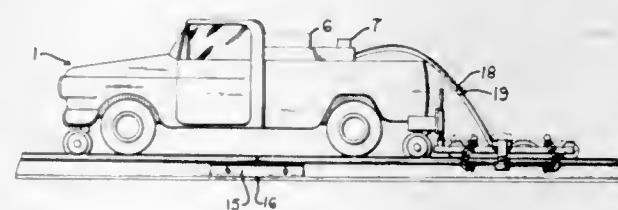
frequency band resonant sound absorption between 500 and 12,000 cycles per second. The tubular chambers are substantially circumferentially continuous about the fan duct axis in a manner which enables free drainage of ingested liquid. Means may be provided adjacent the bottom portion of the cowling to allow drainage therethrough.

3,542,153 AUTOMATIC JOINT OILER

Herman E. Phillips, P.O. Box 133, Allen and Arthur L. Thomason, P.O. Box 8, Dustin, Oklahoma
Filed Nov. 29, 1968, Ser. No. 779,989
Int. Cl. B61k 3/02

U.S. Cl. 184—3

9 Claims



An automatic joint oiler for oiling splice joints in each rail of railroad tracks is carried on a self-propelled mobile vehicle adapted for traveling along the rails of a railroad track and carrying an oil reservoir and an oil pump thereon for supplying oil under pressure to a leading spray bar and to a trailing spray bar, each having a pair of spray nozzles directed toward opposite sides of the respective rail splice joint, in response to operation of a control valve upon an activating wheel engaging a splice bar at the respective rail splice joint. An elongate mobile frame travels along the rails of the track and has the control valve, activating wheel, and leading and trailing spray bars carried thereon, and has a pair of longitudinally spaced support wheels rotatably mounted at opposite ends of the frame to contact each rail and a guide wheel positioned opposite the activating wheel and engaging an interior surface of a ball portion of the respective rail.

3,542,154 LUBRICATING MEANS FOR ENGINE-DRIVEN CHAIN SAWS

Bengt O. J. S. Morner, Olbergsgatan 6A and Gunther Heinrich Wilhelm Dobbertin, Ovre Olskrogsgatan 28, Gothenburg O, Sweden

Filed March 25, 1968, Ser. No. 715,676

Claims priority, application Sweden, March 28, 1967, 4195/1967

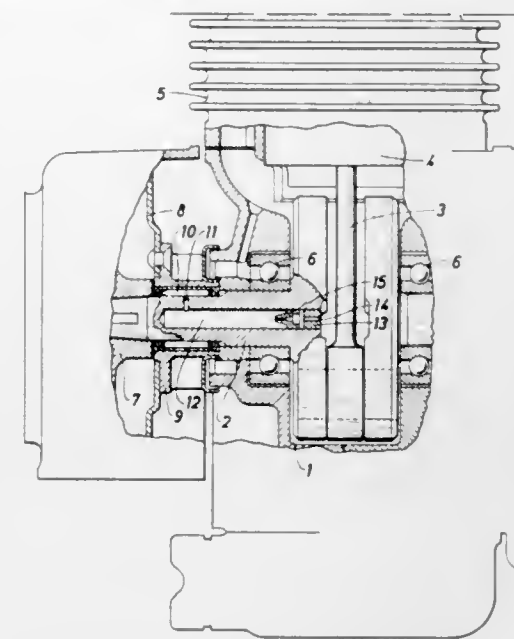
Int. Cl. F01m 1/08; F16n 23/00

U.S. Cl. 184—6

1 Claim

In a portable engine driven chain saw the sprocket for driving the saw chain is rotatably supported by a bearing on the engine crankshaft and channels extend through said crankshaft in communication with the interior of the engine

crankcase and said bearing for supplying a lubricant to the bearing while a plug with a restricted channel is positioned in



said crankshaft channel to restrict the passage of gases from the crankcase through the crankshaft channel.

3,542,155 LUBRICATION FITTING

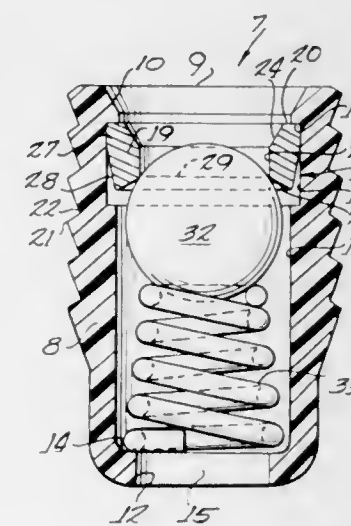
Raymond A. Kern, Indianapolis and James F. Price, Greensburg, Indiana, assignors to FMC Corporation, a corporation of Delaware

Filed May 14, 1968, Ser. No. 729,100

Int. Cl. F16n 21/02

U.S. Cl. 184—105

4 Claims



A ball check valve type of lubrication fitting having a unitary tubular housing formed of a resilient deformable material with a series of axially spaced outwardly extending concentric ribs circumferentially formed on the exterior surface of the housing for engaging the interior wall surfaces of a complementary mounting opening and deforming in a manner to retain the fitting in the opening.

ERRATUM

For Class 187—9 see:
Patent No. 3,542,161

3,542,156 DUAL PURPOSE CONSTRUCTION ELEVATOR

James V. Matlock, 13420 Judicial Road, Burnsville, Minnesota 55378

Filed May 13, 1968, Ser. No. 728,386

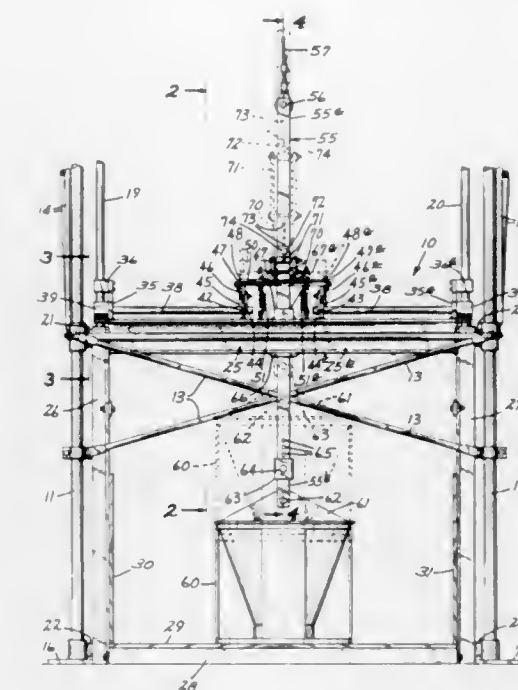
Int. Cl. B66b 15/00

U.S. Cl. 187—96

2 Claims

A construction elevator is provided having a crosshead member and a platform supported thereby, adapted to be

guided in its travel by a pair of guide rails. A hitch member supported by a hoisting cable extends through a vertical opening in the crosshead member and is reciprocable a fixed amount with respect thereto. The hitch member directly supports a concrete bucket in the elevator, above the



platform, during movements of the elevator above ground level, and also supports the elevator itself by means of a stop block attached thereto that engages the crosshead member when the hoisting cable is raised. At ground level the concrete bucket rests on the elevator platform.

3,542,157 AUTOMATIC DOCK WHEEL CHOCK FOR TRAILERS

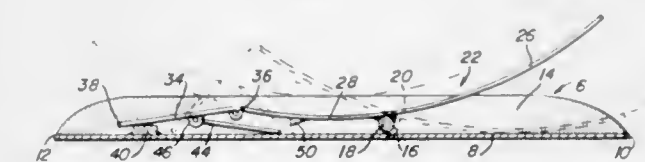
Frederick G. Noah, 1022 Savage Creek Road, Grants Pass, Oregon 97526

Filed Feb. 13, 1969, Ser. No. 798,875

Int. Cl. B60t 3/00

U.S. Cl. 188—32

6 Claims



A portable self-contained wheel actuated trailer chocking device characterized, by a channel-type base, a rocker shaft and a wheel seating and cradling plate perched intermediate its ends atop the rocker shaft. When the trailer wheel rides over and is nested in the concave seating portion, the rearward half-portion of the plate tilts down and the forward half-portion is elevated and blocks retrograde movement of the captive trailer wheel. A pivoted retainer leg drops automatically behind a limit stop block and props the plate up. This plate stays put until intentionally freed by a manually controllable leg tripping latch.

3,542,158 FLEXIBLE LINE GRIPPING DEVICE

Carter H. Arnold, 317 Rocky Point Road, Palos Verdes Estates, California 90274

Filed May 29, 1968, Ser. No. 733,170

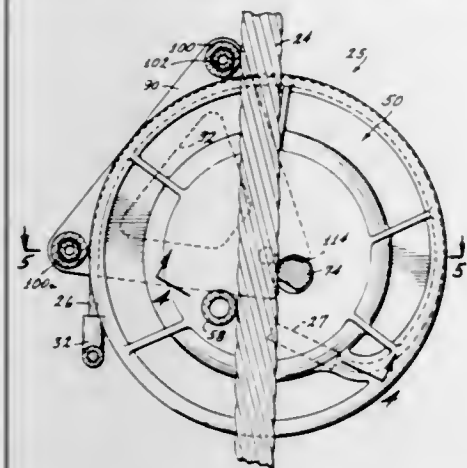
Int. Cl. B65h 59/14

U.S. Cl. 188—65.4

9 Claims

The device of the invention is a mechanism capable of being locked or secured onto a flexible line, such as, for ex-

ample, a rope. The gripping device may be locked to the line at any intermediate point without being threaded on from an end. The device locks onto the line or rope by applying a torque load to it and it releases by releasing the torque load. In a preferred form of the invention it takes the form of spaced members having a pair of pins or stems extending between them. One of these pins is removable and by removing it the rope to be gripped can be placed in the device between the pins. Preferably the side members are circular and swingably pivoted to them are side plates generally trian-



gular in form, with rollers pivotally mounted between them which serve to guide the tension (safety) lines passing over peripheral grooves in the side members, whereby the device is rotated by a load on a safety line into gripping position, wherein the pins are moved in such a way as to form a locking hitch in the line or rope. Upon releasing the torque load on the safety lines (such as by manually applying a counter torque) the device rotates in the opposite direction so as to controllably release the locking hitch and to allow the device to be moved along the line or rope.

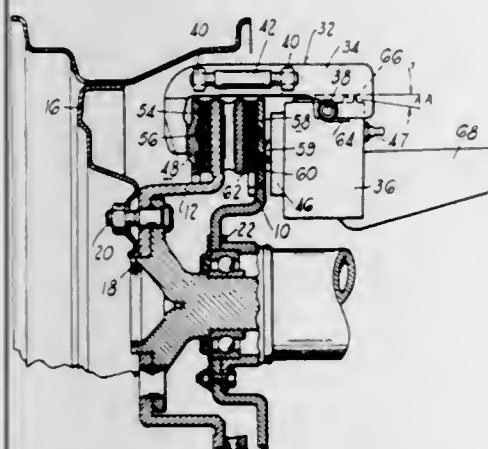
3,542,159

CALIPER TYPE DISC BRAKE INCLUDING PIVOTED SECTIONS

William J. Kestermeier, South Bend, Indiana, assignor to The Bendix Corporation, a corporation of Delaware
Filed Jan. 6, 1969, Ser. No. 789,272
Int. Cl. F16d 55/224

U.S. Cl. 188—72.6

6 Claims



This invention relates to a floating head caliper type disc parking brake, wherein the caliper is comprised of members which are pivotally interconnected so as to permit wrenching of friction elements against said disc in response to mechanical actuation.

3,542,160

REVERSE ROTATION BRAKE MECHANISM

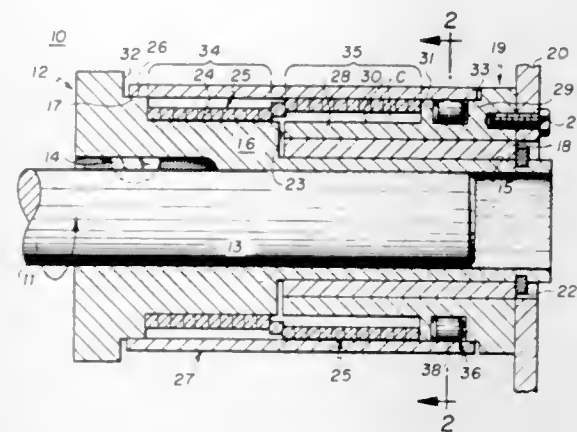
Columbus R. Sacchini, Willowick, Ohio, assignor to The Marquette Metal Products Company, Cleveland, Ohio a corporation of Ohio, by mesne assignment
Filed Nov. 29, 1968, Ser. No. 779,919
Int. Cl. F16d 63/00

U.S. Cl. 188—82.6

4 Claims

A brake mechanism for arresting rotation of a rotary member in a direction counter to a preselected direction of

rotation comprises a shaft journaled for rotation in a fixed hub and a control sleeve supported coaxially on the shaft and the hub. A control spring is disposed to extend in bridging relationship to the shaft and hub and, in the preselected direction of rotation, connected to the shaft and sleeve to provide conjoined rotation of the sleeve and shaft. A one-way clutch means is carried by the hub and coacts with the



3,542,161

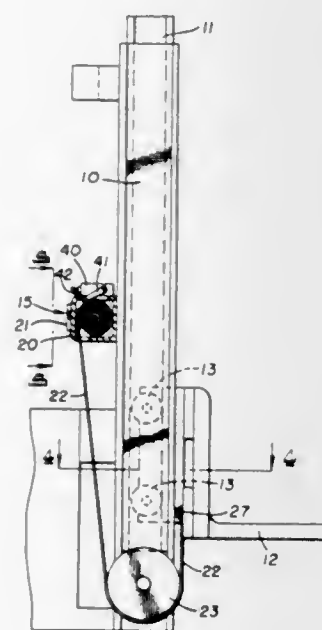
LOAD HEIGHT INDICATOR FOR INDUSTRIAL TRUCKS

Bronislaus I. Ulinski, Palm Beach, Florida, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio a corporation of Ohio
Filed Aug. 23, 1968, Ser. No. 754,843

Int. Cl. B66b 9/20

U.S. Cl. 187—9

12 Claims



An indicator is so positioned in an industrial truck having fixed and movable uprights, and a carriage, as to make possible its operation by a tape or cable to indicate the position of the carriage relatively to the fixed uprights regardless of the position of the movable uprights. The indicator is capable of operating control devices to control means on the truck including the lifting mechanism.

3,542,162

TORQUE LIMITING DEVICE

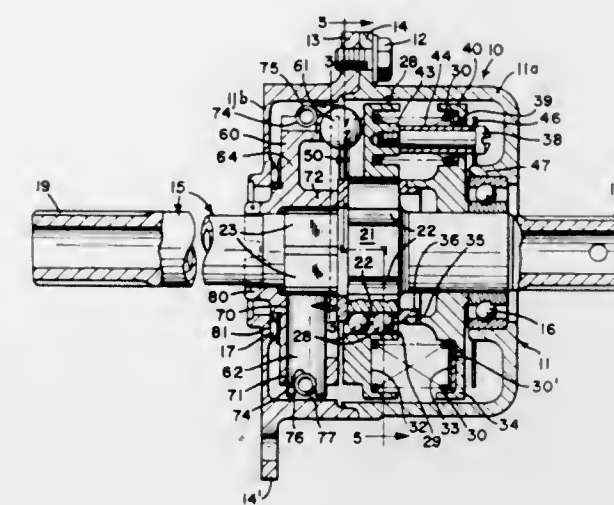
Richard H. Kerr, West Milton and Don D. Durnell, Springfield, Ohio, assignors to Kelsey-Hayes Company, Springfield, Ohio a corporation of Delaware

Filed Nov. 12, 1968, Ser. No. 775,034

Int. Cl. B60t 7/12

U.S. Cl. 188—134

6 Claims



A torque limiting device for preventing transmission of a torque greater than a preset amount so that damage to the associated system cannot occur because of excessive torque. The device operates by transferring the torque between two annular members having a plurality of detent balls interposed therebetween to ride in precisely shaped radial grooves or ramps to effect relative axial and angular movement between the two annular members when the preset torque is reached. This action moves brake shoes into engagement with the housing to lock both the input and output shafts against further rotation until the excess torque is removed. The device is designed for instantaneous operation free from any drag on the system in which it is associated.

3,542,163

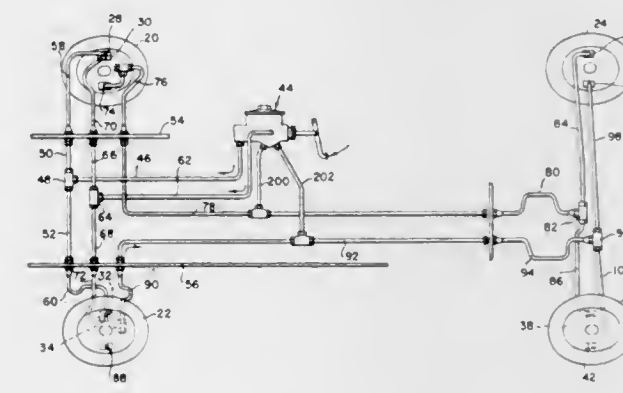
PLURAL BRAKE ACTUATORS AND CIRCUIT MEANS THEREFOR

James C. Cumming, Pleasant Ridge, Michigan, assignor to Rockwell-Standard Company, Pittsburgh, Pennsylvania a corporation of Delaware, by mesne assignment
Filed Dec. 5, 1968, Ser. No. 781,439

Int. Cl. B60t 11/20

U.S. Cl. 188—152

5 Claims



A vehicle brake system in which the braking force developed by the application of primary brakes at one set of wheels is utilized to apply the secondary brakes at another set of wheels. A dual primary actuating circuit energizes the primary brakes and a dual secondary circuit connects the primary brakes to the secondary brakes. The circuits are so arranged that balanced braking is maintained at the primary brakes and the secondary brakes despite failure of any component in either circuit.

3,542,164

SELF-SERVO, TORQUE RESPONSIVE BRAKE VALVING DEVICE

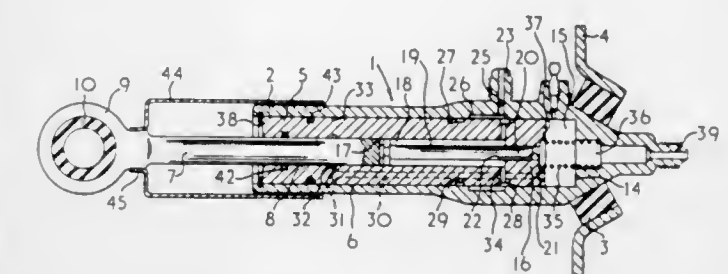
Frank Radcliffe Mortimer, Coventry, England, assignor to The Dunlop Company Limited, London, Fort Dunlop, Erdington, England a corporation of Great Britain
Filed Feb. 19, 1969, Ser. No. 800,602

Claims priority, application Great Britain, Feb. 24, 1968, 9048/68

Int. Cl. B60z 11/34

U.S. Cl. 188—152

9 Claims



Self-servo device for a fluid pressure operated braking system, utilizing torque reaction developed by the brake to amplify the fluid pressure supplied to the brake and incorporating means for preventing an unlimited rise in the fluid pressure supplied to the brake and for adjusting the fluid pressure supplied to the brake so as to maintain a substantially constant torque reaction.

3,542,165

AUTOMATIC WEAR-COMPENSATION DEVICE FOR BRAKES OF ALL TYPES

Rene Lucien, Neuilly sur Seine, France, assignor to Messier, Paris, France

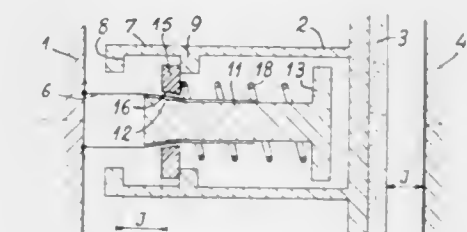
Filed April 12, 1968, Ser. No. 720,818

Claims priority, application France, June 30, 1967, 112,718

Int. Cl. F16d 65/54, 55/18

U.S. Cl. 188—196

4 Claims



An automatic wear-compensation device for a brake mechanism comprises a tube which is made radially elastic by the provision of longitudinal slots therein and which is rigidly fixed to the fixed portion of the brake, the tube being surrounded by a socket having two internal collars spaced apart by the desired clearance when the brakes are released, the socket being rigidly connected to the moving portion of the brake. A rod is slidably mounted within the tube and has a round head at one end and a cylindroconical portion at the other end, there being a ring with a round bore having a profile corresponding to the cylindroconical profile on the rod, the ring being mounted around the tube and between the two collars of the socket. A compression spring is supported against the head of the rod and against the ring, to clamp the ring on the tube and the tube on the rod.

3,542,166

BRAKE DISC AND SUPPORTING MEANS THEREFOR
 Anthony William Harrison, Birmingham, England, assignor to
 Girling Limited, Birmingham, England

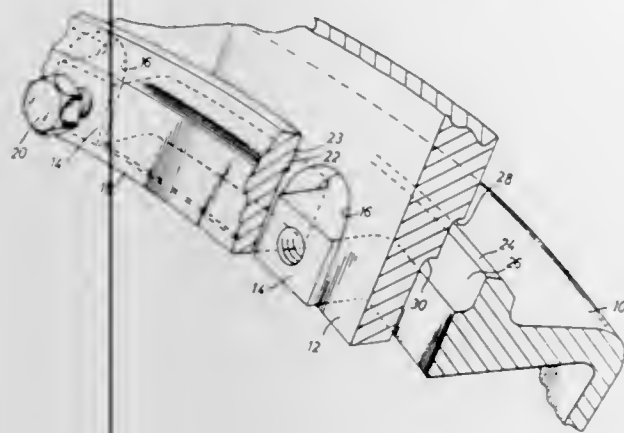
Filed Nov. 7, 1968, Ser. No. 773,998

Claims priority, application Great Britain, Nov. 9, 1967,
 50,960/1967

Int. Cl. F16d 65/12

U.S. Cl. 188—218

9 Claims



A brake disc unit comprises a bell and a separate disc. The bell has axially projecting castellations which fit into corresponding radially directed slots in the disc and has a radial surface separate and spaced from the castellations for locating the disc. The disc and the bell are secured together by a resilient clamping member. Embodiments of the clamping member include a "bellville" or other resilient washer bolted to the tops of the castellations and a "bellville" washer retained in position by a circlip located in a groove cut in the castellations. The invention permits relative radial movement between the disc and the bell.

3,542,167

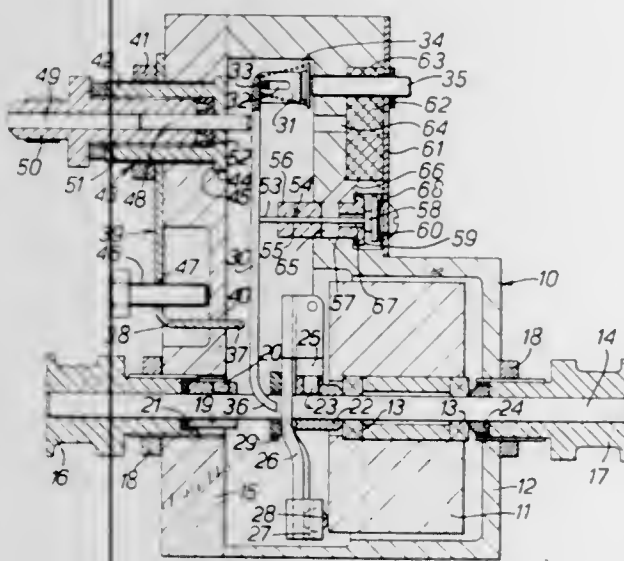
VEHICLE BRAKING SYSTEMS

Alexander J. Wilson, Sutton Coldfield, England, assignor to
 Girling Limited, Birmingham, England a British Company
 Continuation-in-part of application Ser. No. 650,415, June
 30, 1967, now abandoned. This application May 16, 1969,
 Ser. No. 825,154

Int. Cl. B60t 8/16

U.S. Cl. 188—181

16 Claims



In a vehicle braking system a resilient lever transmits a force from an input member to a control member for applying a wheel brake, and means responsive to deceleration of the braked wheel exerts on the resilient lever a force in opposition to a force applied to it by the input force.

3,542,168

HYDRODYNAMIC BRAKE WITH POWER LIMITATION
 Helmut Muller, Heidenheim, Germany, assignor to Voith
 Getriebe KG, Heidenheim (Brenz), Germany

Filed Oct. 29, 1968, Ser. No. 771,589

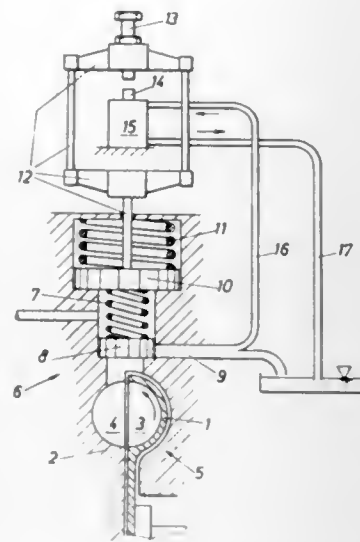
Claims priority, application Germany, Nov. 9, 1967,

1,655,644

Int. Cl. F16d 57/02

U.S. Cl. 188—278

5 Claims



A combined torque limitation and a temperature limitation of a working medium for a hydrodynamic brake to permit a maximum braking limitation. The working chamber of the brake is equipped with a spring loaded pressure valve in which the spring preload is reduced thermostatically with increasing temperature of the working medium.

3,542,169

DAMPING MEANS FOR HYDRO-PNEUMATIC OLEO STRUTS AND THE LIKE

Johannes Ortheil, 10 Allee, Anrath 4151, Germany

Filed Oct. 21, 1968, Ser. No. 769,114

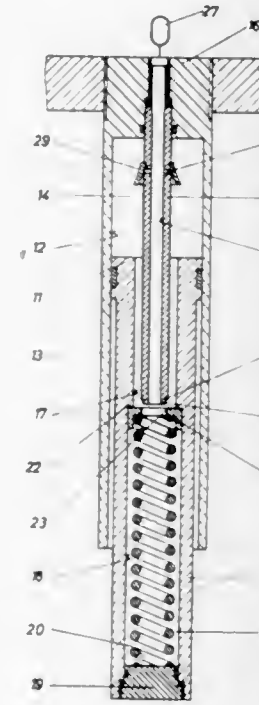
Claims priority, application Germany, Oct. 25, 1967,

P1,625,390

Int. Cl. F16f 9/32

U.S. Cl. 188—285

5 Claims



A line of movement dependent damping means for hydro-pneumatic oleo struts or the like in which a cylinder has a piston therein and a pressure reservoir or accumulator is operably connected with the pressure space of the cylinder having a damping characteristic variable as a function of the position of the piston relative to the cylinder.

3,542,170

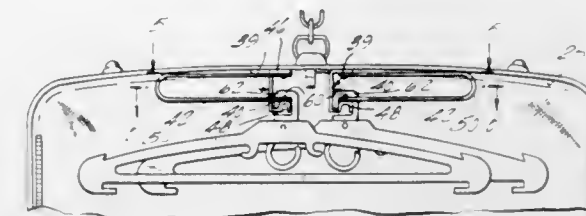
ARTICLE OF LUGGAGE

Walter Bialo, 76 Seacord Road, New Rochelle, New York
 10801

Int. Cl. A45c 3/00

U.S. Cl. 190—41

7 Claims



A portable wardrobe which carries articles of clothing in an extended position upon a locking garment support bar attached to one of its peripheral walls. Means are provided for receiving hangers and for preventing the hangers from accidental disengagement from the support bar.

3,542,171

LUGGAGE CASE

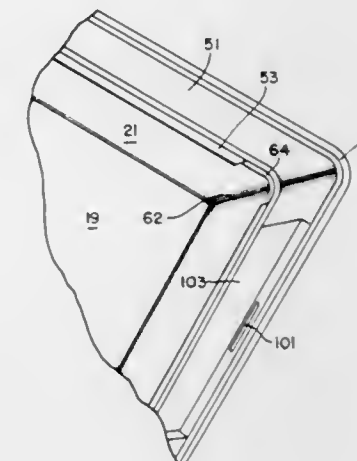
Joseph Eugene March, Chicago, Illinois, assignor to Platt Luggage, Inc., Chicago, Illinois a corporation of Illinois

Filed May 1, 1968, Ser. No. 725,854

Int. Cl. A45c 13/06, 13/36

U.S. Cl. 190—41

7 Claims



Concave sections of a luggage case are formed by securing a rim of a shell in a groove defined between a pair of flanges on one edge of the valences. The valences are bent into substantially rectangular shape and have inner flanges notched at the corners to prevent collapsing of the inner one of the flanges defining the shell-receiving groove. Prior to bending one of the valences, a strip of decorative material is easily slid into a groove formed on the outer side of the valence; and, after bending the valence, the strip is automatically locked in the groove against sliding or shifting.

3,542,172

ELECTRIC CORD-REEL CONSTRUCTION

Adolph Meletti, Philadelphia, Pennsylvania, assignor to
 Vacuum Cleaner Corporation of America, Philadelphia,
 Pennsylvania a corporation of Pennsylvania

Filed July 22, 1968, Ser. No. 746,516

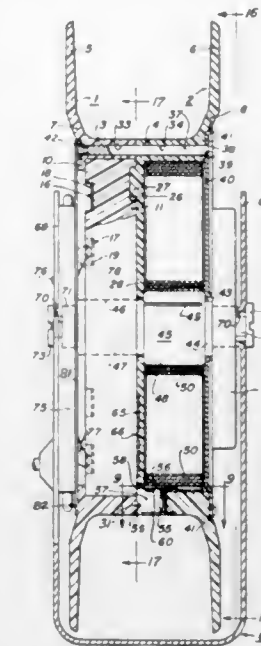
Int. Cl. H02g 11/06

U.S. Cl. 191—12.2

12 Claims

A spring powered electric cord reel includes two plastic hub-and-flange members, one of which form an electrical chamber open at both ends and the other of which forms a spring chamber open at the outer end and closed at the inner end, the abutting edges of the hubs being integrally radially

keyed to each other. A contact carrying electric core fits in the electric chamber, abutting a core-retaining flange on the



outer edge of the electric chamber, keying the closed inner end of the spring chamber.

3,542,173

CONTROLS FOR HYDROSTATIC TRANSMISSION AND BRAKES

Dietrich Kratzenberg, Haibach; Walter Heyl, Kleinumstadt; Karl Matzke, Goldbach and Theodor Abels, Momlingen, Germany, assignors to Linda Aktiengesellschaft, Wiebaden, Germany a corporation of Germany

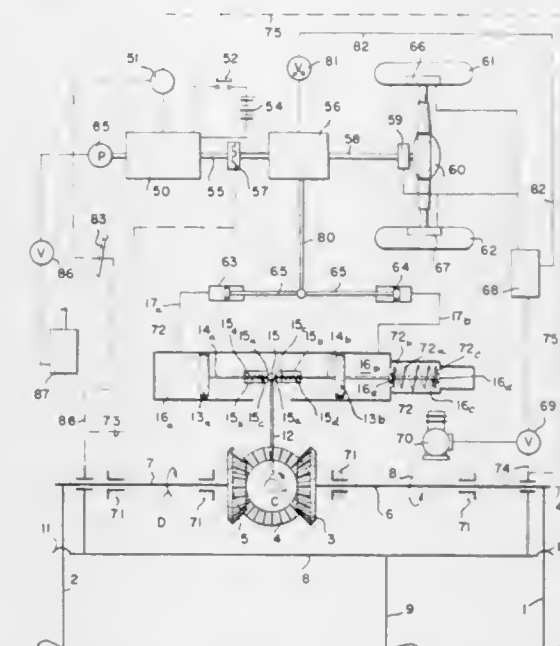
Filed Feb. 26, 1968, Ser. No. 708,039

Claims priority, application Germany, Feb. 24, 1967, L55832
 Belgium, Oct. 30, 1967, PV 50202; Austria, Nov. 13, 1967,
 A 10203

Int. Cl. F16h 57/10

U.S. Cl. 192—4

6 Claims



A control system for a reversible stepless hydrostatic transmission between an internal combustion engine and a load, e.g. the driven wheels of an automotive vehicle or the like, wherein a pair of pedals are pivotally mounted for movement about a common axis to control the respective output direction of the transmission, whereby one of the pedals swings upwardly from its neutral position when the other pedal is depressed and vice versa, the system having a third pedal swingable about an axis parallel to (and preferably coinciding with) the axis of the first two pedals and provided with abutments engageable with the first two pedals to swing them into coplanarity with each other and with the third pedal in the control position whereby the transmission output is essentially brought to zero, the third pedal also operating a brake or other speed control device.

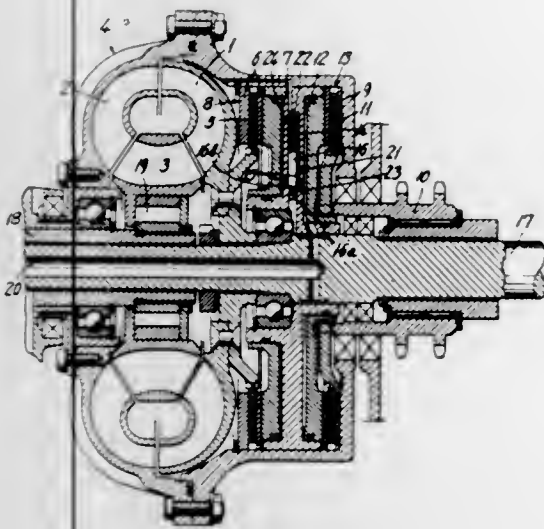
3,542,174

TORQUE CONVERTER CONNECTED TO FLUID OPERATED CLUTCHES

Torao Hattori, Kitaadachi-gun, Saitama-ken, Japan, assignor to Honda Giken Kogyo Kabushiki Kaisha, Tokyo, Japan
Filed March 4, 1969, Ser. No. 804,068
Int. Cl. F16d 25/10

U.S. Cl. 192—3.26

10 Claims



A partition is disposed as a common separation between two chambers, one for operating a direct coupling clutch between a pump and a turbine of a torque converter and the other for operating a main clutch between the turbine and an output shaft. An opening is provided in the partition to establish communication between the chambers and a valve is slidably mounted in a radial cylinder formed in the partition to control opening and closing of said opening in the partition, the valve being subject to centrifugal force related to the speed of rotation of the output shaft whereby to control flow of pressure fluid to the chamber for operating the direct coupling clutch in accordance with the speed.

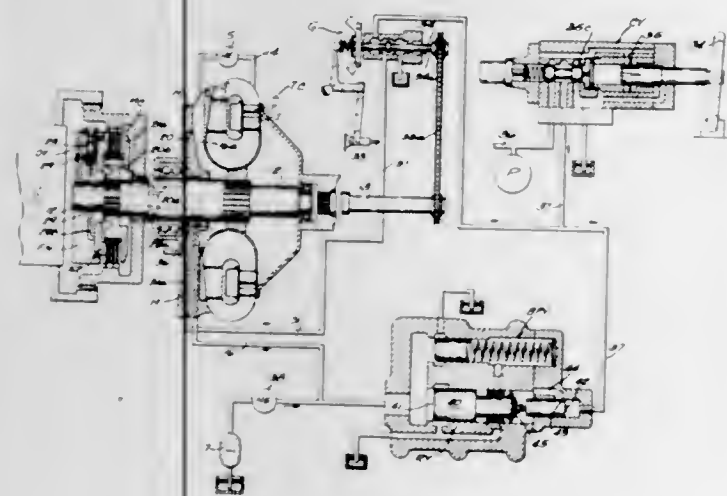
3,542,175

TORQUE CONVERTER AND CLUTCH WITH FLUID PRESSURE CONTROLS

Gordon C. Olson; Raymond C. Schneider and Leonard H. Adams, Rockford, Illinois, assignors to Twin Disc Incorporated, Racine, Wisconsin a corporation of Wisconsin
Filed Dec. 26, 1968, Ser. No. 787,169
Int. Cl. F16d 47/06

U.S. Cl. 192—3.33

6 Claims



A hydrodynamic transmission having a control system including a torque converter and a modulated friction clutch ahead of the torque converter, and means for controlling the internal pressure of the converter and consequently its retarding capacity.

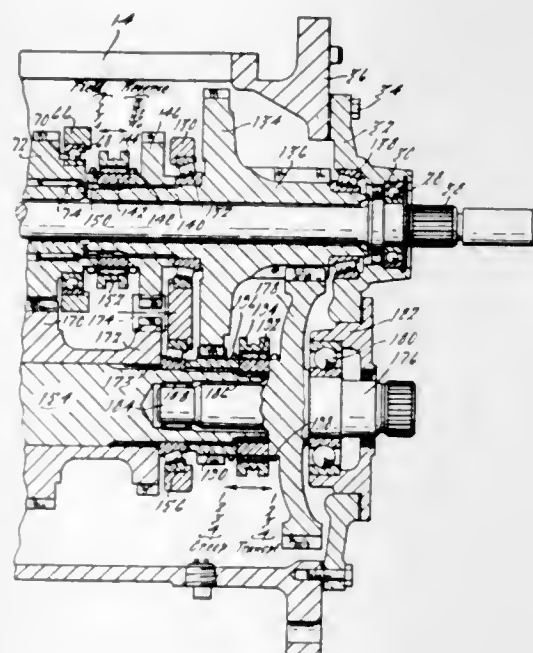
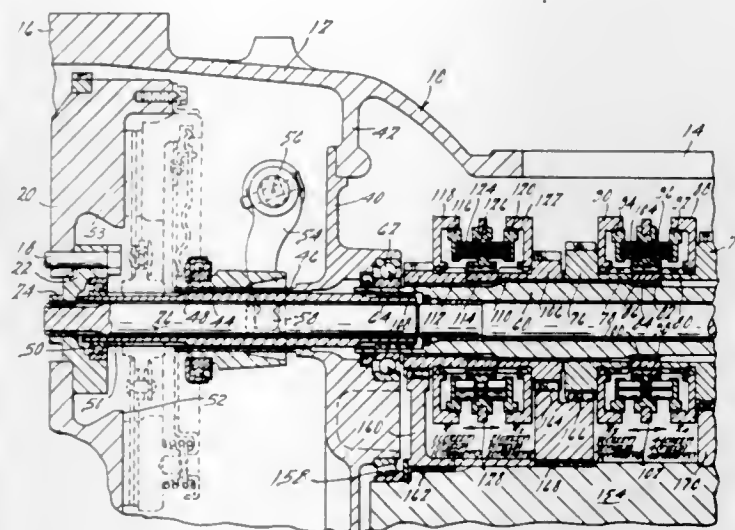
3,542,176

MULTIPLE RANGE POWER TRANSMISSION MECHANISM

William J. Foxwell, Troy and William F. Lomas, Southfield, Michigan, assignors to Ford Motor Company, Dearborn, Michigan a corporation of Delaware
Filed Oct. 28, 1968, Ser. No. 771,221
Int. Cl. F16d 67/00; F16h 3/08, 3/22

U.S. Cl. 192—3.51

4 Claims



A multiple ratio transmission mechanism for agricultural and industrial tractors including a geared range selector assembly capable of providing a low speed creeper operating range, an intermediate speed field operating range, a high speed transport operating range, as well as a reverse drive range, main ratio selecting gearing adapted to provide four transmission drive ratios in each of the selected operating ranges, and independent operators for selecting separately the speed ratios in the operating ranges.

3,542,177

TORQUE CONVERTER CLUTCH WITH FIXED AND STATIONARY MOTORS

Karl Gustav Ahlen, Stockholm K, Sweden, assignor to S. R. M. Hydromekanik, A B, Stockholm-Vallingby, Sweden
Filed Aug. 23, 1968, Ser. No. 754,788
Claims priority, application Great Britain, Sept. 15, 1967, 42099/67

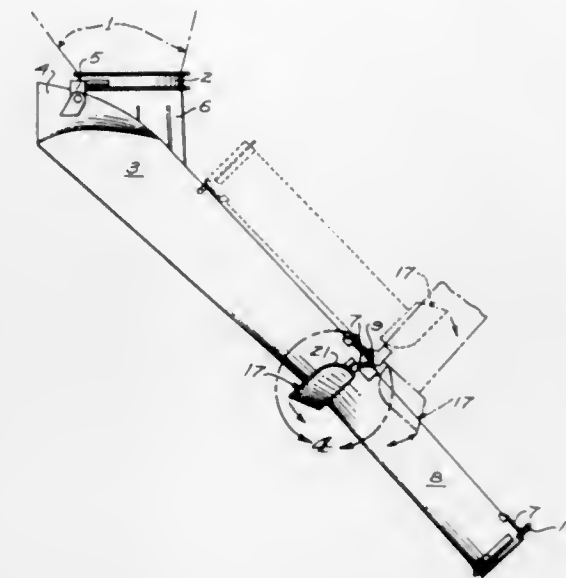
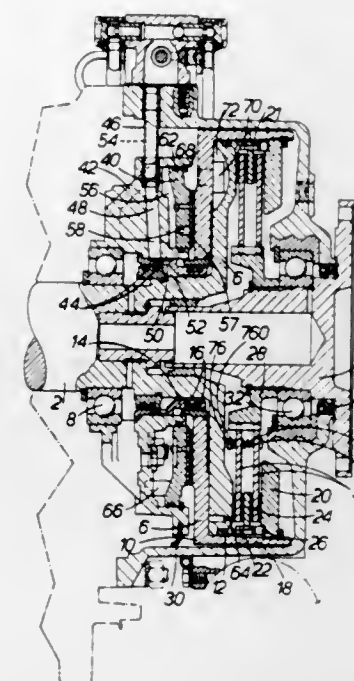
Int. Cl. F16d 25/00

U.S. Cl. 192—86

18 Claims

A friction coupling comprising friction plates normally urged apart. A first servomotor which rotates with the plates, causes engagement of the plates. A second servomotor, non-rotatably mounted and separate from the first servomotor, causes expulsion of pressure fluid from the first servomotor

to permit separation of the plates. An axial thrust bearing separates the first and second servomotors. In a torque converter the servomotors are supplied with fluid from a plurality of different pressure sources.



verter the servomotors are supplied with fluid from a plurality of different pressure sources.

ERRATUM

For Class 192—107 see:
Patent No. 3,542,181

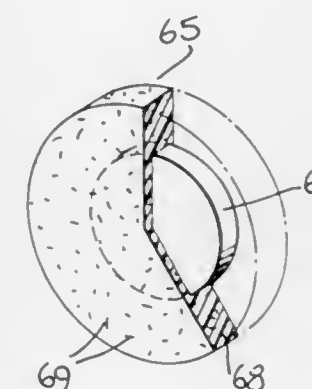
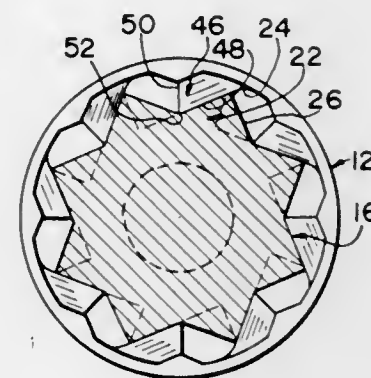
3,542,178

FLEXIBLE COUPLING FOR SEPARABLE SHAFTS

Melvin H. Ripple, North Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Delaware
Filed March 25, 1969, Ser. No. 810,247
Int. Cl. F16d 13/60

U.S. Cl. 192—108

13 Claims



A separable coupling particularly adapted for household blenders including a pair of coupling members having engageable teeth with non-radial working or driving surfaces which are specially shaped to improve self-indexing and self-alignment. One of the pair of coupling members is of soft rubber and has its surface halogenated to reduce friction and improve self-indexing with respect to the other of the pair of coupling members which is of a rigid material, preferably a polyacetal plastic.

3,542,179

SAFETY GUARD FOR HINGED CHUTES

Evan S. Prichard, Newport Beach, California, assignor to Challenge-Cook Bros., Incorporated, Industry, California a corporation of California
Filed Nov. 21, 1968, Ser. No. 777,801
Int. Cl. B65g 11/00

U.S. Cl. 193—5

6 Claims

A safety guard mounted at the hinged juncture between a

pair of concrete discharge chute sections which prevents one's hand or fingers from entering between the chute sections and being crushed as the chute sections are brought into alignment.

3,542,180

COIN OR TOKEN ACTUATED VENDING DEVICE AND DISSOLVABLE TOKEN THEREFOR

David A. Segal, 185 Prospect Park, SW, Brooklyn, New York
Filed March 22, 1968, Ser. No. 715,303
Int. Cl. G07f 1/06

U.S. Cl. 194—4

8 Claims

A vending device, such as a telephone, and tokens to be used therein are disclosed. The vending device and the tokens are designed to remove any incentive from would-be thieves to steal from the vending device. This is accomplished by making the tokens with a metal core and placing plastic in contact with the metal. A solvent capable of dissolving the plastic is in the vending device. The token is deposited in the vending device and if authentic is conducted to the solvent which dissolves the plastic. With the plastic dissolved the token cannot be used again until additional plastic is placed on the metal core making the metal core of the token by itself of limited value and removing the incentive from stealing it from the vending device. The vending device can operate with regular coins as well as with the tokens having a metal core in contact with a plastic.

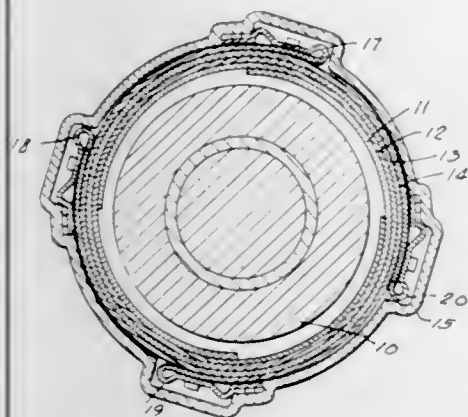
3,542,181 CLUTCH BAND

Sidney L. Schell, Niles, Michigan, assignor to John M. Dodwell

Filed Sept. 15, 1967, Ser. No. 667,911
Int. Cl. F16d 13/60

U.S. Cl. 192—107

3 Claims



A band for one-way V-pulley friction devices having an integral key portion made by crimping and reversely bending an end of the band, lancing the overlapping portion to the band and brazing the thus physically aligned portions.

3,542,182 ROTARY SERIAL PRINTER FOR DATA PROCESSING MACHINES

Helmut Langenberger, Niederstotzingen, Germany, assignor to Walther-Buromaschinen GmbH, Gerstetten-Württemberg, Germany a limited liability company of Germany

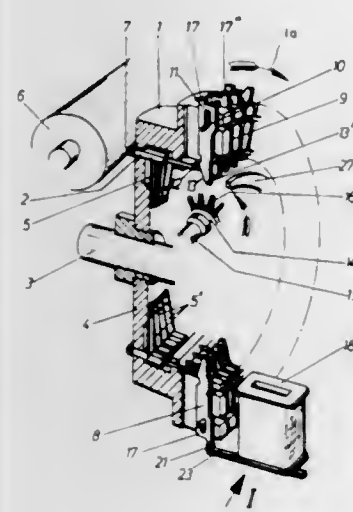
Filed May 24, 1968, Ser. No. 731,798

Claims priority, application Germany, June 1, 1967, W-44093

Int. Cl. B41j 1/26

U.S. Cl. 197—18

6 Claims



A high-speed rotary serial printer wherein a rotating drum having its axis of rotation perpendicular to the printing surface is provided with a plurality of axially extending type bars adjacent its periphery. A corresponding plurality of type hammers are mounted in radial slots on said drum for pivotal movement and limited radial movement. The type bars and hammers are held in inoperative positions by corresponding leaf springs. Predetermined hammers are moved radially inwardly into operative positions by a selector electromagnet with the inner end of the hammer being impacted by an impact wheel having its axis of rotation perpendicular to the axis of rotation of the drum. The impacted hammer moves its respective type bar into the printing position with the relative direction of the impacted hammer being such so as to clear successive impact teeth on the impact wheel.

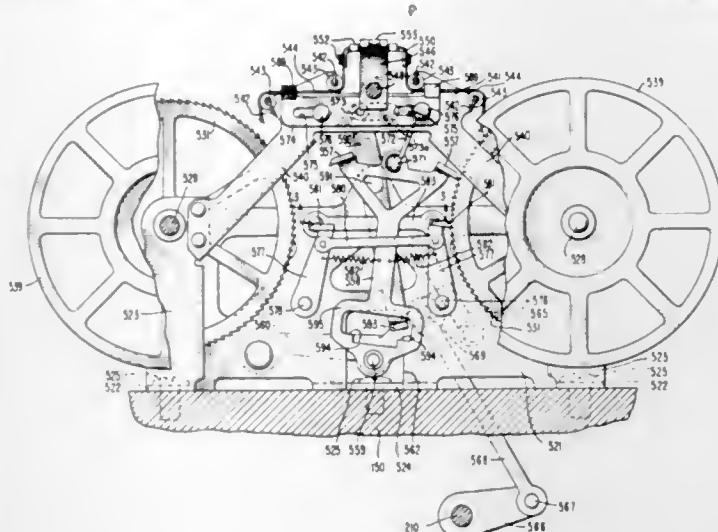
3,542,183 PRINT RIBBON FEED STRUCTURE

Harold F. Stiffler, Scottsville, New York, assignor to The Singer Company, a corporation of New Jersey

Filed Nov. 6, 1967, Ser. No. 680,632
Int. Cl. B41j 33/44

U.S. Cl. 197—165

6 Claims



A print ribbon mechanism for advancing a ribbon from a supply reel to take-up reel and then reversing the direction of travel of the ribbon just before the ribbon is exhausted from the supply reel so that the functions of the two reels are reversed. The take-up reel is driven by a coaxial ratchet wheel which is rotated in discrete increments by a reciprocating and pivotable driving member. The take-up ratchet is restrained from reverse motion by a retaining pawl which is coupled to the driving member. In response to the detection of the near exhaustion of the ribbon from the supply reel a drive reversing lever is pivoted and an interposer portion thereof is placed in a coaxing relationship with the reciprocating and pivotable drive member to cause said last named member to pivot in response to the next reciprocating drive motion thereof. In response to the pivoting of the drive member, the drive pawl which had been driving the take-up ratchet wheel is disengaged therefrom and the ratchet wheel which had been associated with the supply reel is now engaged by a drive pawl and the last named wheel becomes the take-up wheel. The detent member pivots in response to the pivotal motion of the drive member thereby withdrawing the detent from the wheel associated with the former take-up reel and associating the detent with the new take-up wheel.

3,542,184 CONVEYOR APPARATUS

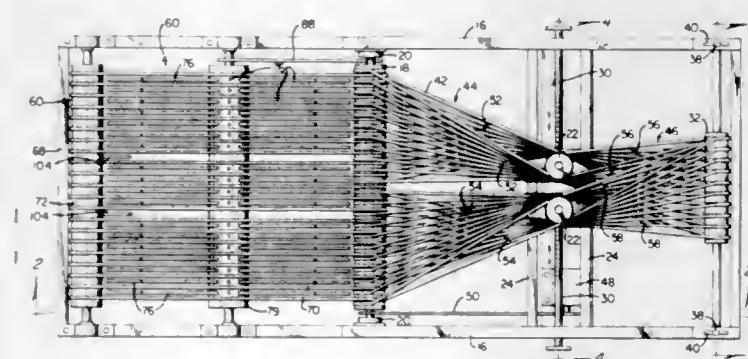
Fredrick Ruckman, 82 Zenobia St., Denver, Colorado 80219

Filed May 2, 1968, Ser. No. 726,011

Int. Cl. B65g 47/24

U.S. Cl. 198—33

13 Claims



A conveyor system for conveying and reorienting articles, including two moving conveyor beds in tandem having their support surfaces oriented linearly along their length to reorient articles carried on them, the conveyor beds comprised of two cooperating series of springs, each series made up of adjacent spaced-apart endless springs rotatably supported at their loop ends by supports mounted in substantially perpendicular planes so that each cooperating series comprises pairs of resilient strands forming a conveyor bed

having a surface of a generally hyperbolic parabolic contour, and power means for rotating or revolving the strands.

3,542,185

METHODS OF SEPARATING ARTICLES

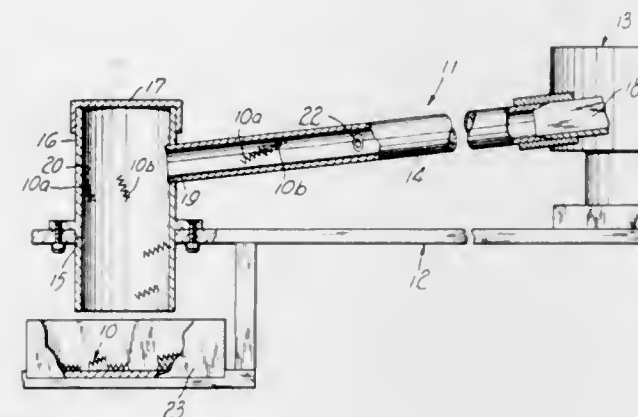
James B. Geyer, Baltimore; Albert A. Gumpert, Middle River; Daniel Hlaston, Baltimore County and William D. O'Brien, Jr., Reisterstown, Maryland, assignors to Western Electric Company, Incorporated, New York, New York a corporation of New York

Filed Feb. 13, 1968, Ser. No. 705,054

Int. Cl. B65g 47/24

U.S. Cl. 198—33

2 Claims



Methods of separating interconnected articles such as, for example, coil-type springs having entangled intermeshed convolutions. Coil-type springs having entangled intermeshed convolutions are fed vibratorily axially to the entrance of a suction tube whereafter the entangled springs are drawn through the tube and propelled at a high velocity and in a random position against a target surface which causes the entangled springs to oscillate to facilitate the spreading apart and working of the convolutions of the springs so that the springs work free of each other.

3,542,186

VIBRATING CONVEYORS

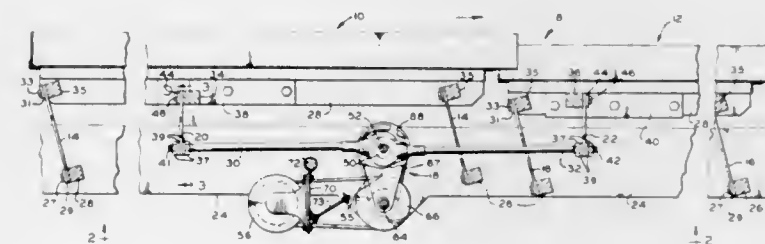
Kenneth M. Allen, Chester H. Harper, and Foye H. Harper, Newberg, Oreg., assignors to Allen-Harper, Inc., Newberg, Oreg., a corporation of Oregon

Filed Mar. 18, 1968, Ser. No. 713,584

Int. Cl. B65g 27/04

U.S. Cl. 198—220

9 Claims



Conveyor beds 10 and 12 (FIGS. 1 to 3) supported by fiberglass struts 14 and 16 are driven 180° out of phase by an eccentric drive 18 through fiberglass coupling flexures 20 and 22 at from 50 percent to 90 percent of the resonant frequency of each conveyor. The lower ends of the coupling flexures 20 and 22 are clamped to pairs of connecting rods 30 and 32 and the upper ends of the flexures are clamped to crossbeams 34 and 36 of drive brackets 38 and 40. In FIG. 4, connecting rods 100 of a drive 102 are clamped to parallel coupling flexures 104 and 106 clamped to crossbeams 108 and 110 fixed to a drive bracket 112 secured to flanges 114 of a conveyor bed 116. In FIG. 5, connecting rods 200 of a drive 202 are connected to struts 204 clamped to crossbeams 206 and 208.

3,542,187

CHIP CONVEYOR

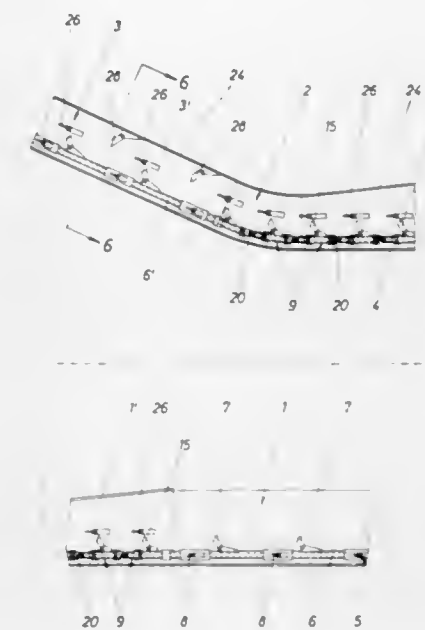
Helmuth Assauer, Wuppertal-Elberfeld, Germany, assignor to Kobo Kohler & Bovenkamp Gesellschaft mit beschränkter Haftung, Wuppertal-Barmen, Germany

Filed March 17, 1969, Ser. No. 807,684

Int. Cl. B65g 25/08

U.S. Cl. 198—225

7 Claims



A chip conveyor having conveyor rods movable back and forth on a stationary guide rail mounted on the base of a conveyor trough. The conveyor rods are provided with pushing blades which occupy only a part of the trough cross section. The conveyor trough is provided with a curved portion which extends in the vertical direction and is also provided with a tapered straight portion which reduces in cross section and is positioned adjacent the entrance end of the curved portion. The conveyor includes a plurality of short hingedly connected coupling members provided in the curved portion of the conveyor trough, which coupling members are hingedly mounted on guide blocks slidable on the stationary rail. The curved portion of the conveyor trough is provided with a cover thereon and the cover and the sidewalls of the curved portion of the conveyor trough are each provided with holding blades thereon, which holding blades are pivotable inwardly toward the wall and the cover in the feeding direction of the conveyor.

3,542,188

ROD REINFORCED TYPE CONVEYOR BELT

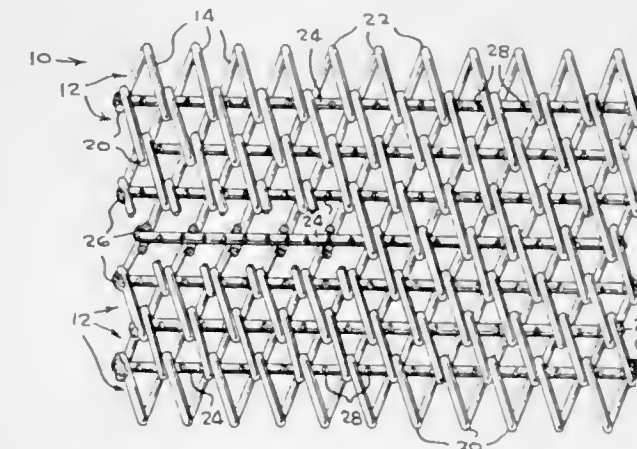
Clark Mills Kinney, Jr., Bells Mill Road, Potomac, Maryland 20854

Filed Oct. 11, 1968, Ser. No. 766,805

Int. Cl. B65g 15/30; F16g 1/18

U.S. Cl. 198—193

9 Claims



A woven wire conveyor belt of the type having a plurality of spiral segments extending transversely thereof and each including plural axially spaced loops, each of the segments being hingedly coupled with the adjacent segments, and a

straight cross rod formed from cylindrical stock extending through portions of the loops at each of the hinged connections having inwardly impressed indentations along the surface portions of the cross rods which face toward the upper and lower surfaces of the belt.

3,542,189

COMPOSITE PACKAGE

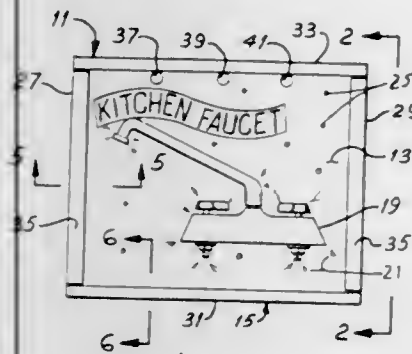
Harold S. Goodman, 51 Marcellus Drive, Newton Centre, Massachusetts 02159

Filed Dec. 18, 1967, Ser. No. 691,386

Int. Cl. B65d 5/22, 65/16, 73/00

U.S. Cl. 206—45.33

14 Claims



This composite package includes a skin-packaged article of merchandise and a carton for supporting and retaining the skin package in position during shipping or display. The carton includes an open-faced frame having a height at least as great as that of the article of merchandise so that a stack of such composite packages will be stable. Holes through the package may be provided so as to permit display of the packaged article in a hanging position.

3,542,190

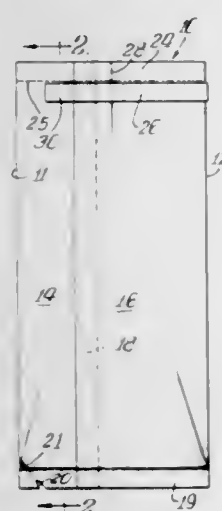
CONVENIENCE PACKAGE FOR FLAT STORAGE AND SHIPMENT, THAT IS FOLDABLE TO A TETRAHEDRONAL SHAPE FOR MIXING AND DISPENSING

Robert G. Keller, Waltham, Massachusetts, assignor to CPC International, Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 739,701, June 25, 1968, now abandoned. This application June 27, 1968, Ser. No. 740,601

Int. Cl. B65d 83/06, 85/72, 77/14

U.S. Cl. 206—46

7 Claims



Covers a convenience package for a substance, such as a concentrated form of an edible material, that is to be mixed with a liquid for ultimate use. The package is constructed so as to retain a substantially flat or pillow form, when a small quantity of the substance is packed inside, and to be easily opened for adding water. It can be resealed in a tetrahedronal shape and used as a shaker to mix the substance and the liquid. A second easily opened closure is also provided, to form a dispensing opening.

3,542,191

MATCHBOOK-TYPE PACKAGE

Richard Scott, Chateaugay Centre, Quebec, Canada, assignor to Church & Dwight Limited, Montreal, Quebec, Canada

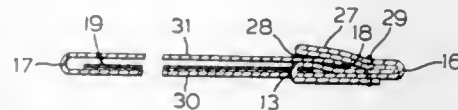
Filed Oct. 16, 1968, Ser. No. 768,100

Claims priority, application Canada, Nov. 1, 1967, 004,056

Int. Cl. B65d 83/00

U.S. Cl. 206—56

1 Claim



A matchbook type package having a double fold end portion and a closure flap engaging with one fold of the double fold end portion, and a multiple of individual packages held in place in the other fold of the double fold end portion by an extension flap passing through slots in the individual packages and secured by a staple passing through the double fold but clear of the end of the closure flap.

3,542,192

BREAKAWAY CASES

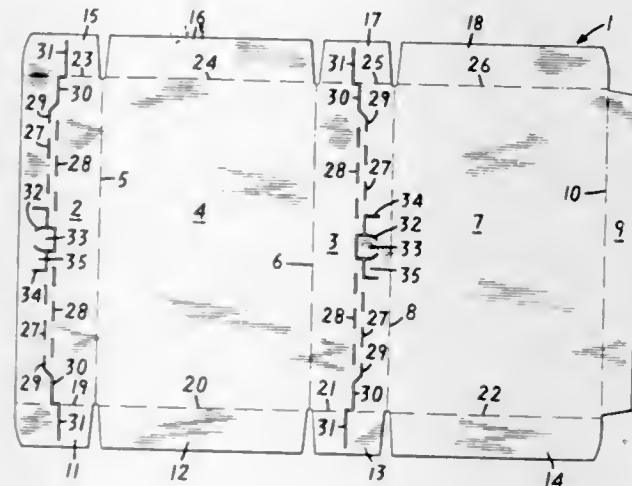
Clyde Oliver Steck, Allison Park, Pennsylvania, assignor to St Regis Paper Company, New York, New York a corporation of New York

Filed Nov. 25, 1968, Ser. No. 778,438

Int. Cl. B65d 5/54, 17/24, 71/00

U.S. Cl. 206—65

10 Claims



Cases for packaging a plurality of cans or similar containers of soup or other comestibles, which cases are formed from a blank of double-face, single-wall corrugated board that is suitably scored with folding and tearing lines. These cases are capable of being readily opened without the use of cutting tools by manually grasping the case at designated regions and tearing it apart into two portions having crenelate edges, the bottom portion of which is a tray on which the entire contents of the case are disposed and on which the contents of the case can be readily price marked and displayed.

3,542,193

PACKAGE

Larry S. Hewlett, Phoenixville and Eugene J. Meierhoefer, Chester, Pennsylvania, assignors to American Home Products Corporation, New York, New York a corporation of Delaware

Filed Oct. 9, 1968, Ser. No. 766,214

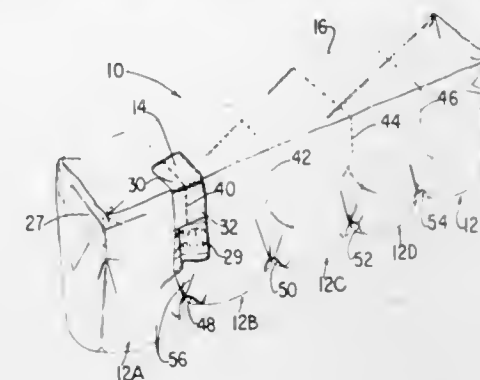
Int. Cl. B65d 71/00, 83/00

U.S. Cl. 206—65

6 Claims

The invention is directed to a multiple unit package of easily separable unit doses of medicaments. The package is made up of a plurality of unit dose containers, a relatively rigid, shallow tray covering the closure ends of the containers and coextensive with them, and a rupturable overwrap of shrinkable plastic enclosing the unit dose containers and the tray and forming them into a unitary mass. The tray has perforations through it at the edges of each of the unit dose containers and the overwrap has slits in it opposite the perfora-

tions. One or more of the unit dose containers may be separated from the remainder by twisting them at an appropriate point to extend the slit in the overwrap, and tearing the tray through its perforations. The remainder stay



together as a unit when one is removed. An intermediate container for the multiple unit packages is also described and consists of a perforated tray containing a number of the packages, and an appropriately slit, shrink film outerwrap.

3,542,194

LIQUID SEPARATORS

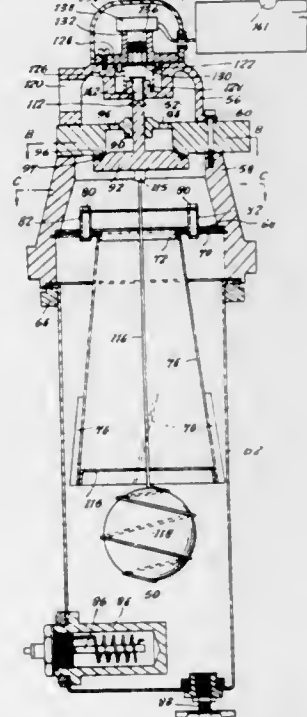
Dick Valentine Gough, Fareham, England, assignor to Plough (Contracts) Limited, Stonehouse, England a company of Great Britain and Northern Ireland a part interest
Continuation-in-part of application Ser. No. 706,123, Feb. 16, 1968, now abandoned. This application Aug. 29, 1969, Ser. No. 854,079

Claims priority, application Great Britain, Aug. 30, 1968, 41,589/68

Int. Cl. B01d 27/10

U.S. Cl. 210—90

14 Claims



A separatory device is provided for separating constituents from liquid-liquid or liquid-solid mixtures such as removing water and/or grit from diesel fuel. This is effected by a partitioned casing having upper and lower chambers with the partition therebetween being valve-controlled and the denser constituent being accumulated in the lower chamber which is divided into float-controlled regions.

3,542,195

FILTER CARTRIDGE

Alfonse J. Soriente, Gillette, New Jersey, assignor to Union Tank Car Company, Chicago, Illinois a corporation of Delaware

Filed Aug. 30, 1968, Ser. No. 756,480

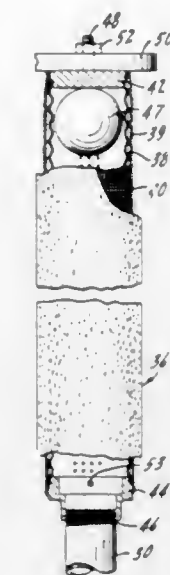
Int. Cl. B01d 27/12

U.S. Cl. 210—108

8 Claims

An improved filter apparatus incorporating cartridges to be coated with a precoat layer of filter medium, including means for cleaning the filters by introducing air and liquid to

the interior thereof, gradually filling the surrounding tank. The improvement of the invention comprises the use of a



float within the interior of the filter cartridges to equalize air pressure within each individual cartridge as well as among several cartridges.

3,542,196

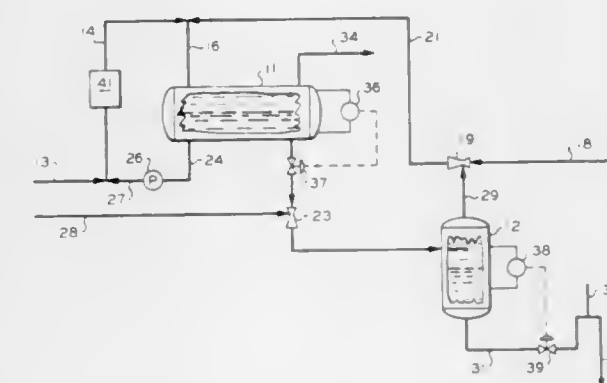
LIQUID SEPARATION

Stuart E. Madlung, Jr., Martinez, California, assignor to 1, Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 694,947

Int. Cl. B01d 17/04

U.S. Cl. 210—71

1 Claim



In a liquid separation system comprising phase separation followed by a vacuum flash of one of the separated components, the vacuum is produced by pumping one of the liquids through an eductor prior to introduction into the phase separation zone.

3,542,197

FLUID SYSTEM WITH SELF-CLEANING FILTER

Nils O. Rosaen, Bloomfield Hills, Michigan, assignor to Universal Filters Inc., Hazel Park, Michigan a corporation of Michigan

Continuation-in-part of application Ser. No. 539,863, April 4, 1966, now Patent No. 3,425,557, which is a continuation-in-part of application Ser. No. 661,968, Aug. 21, 1967, now Patent No. 3,425,558. This application March 14, 1968, Ser. No. 713,018

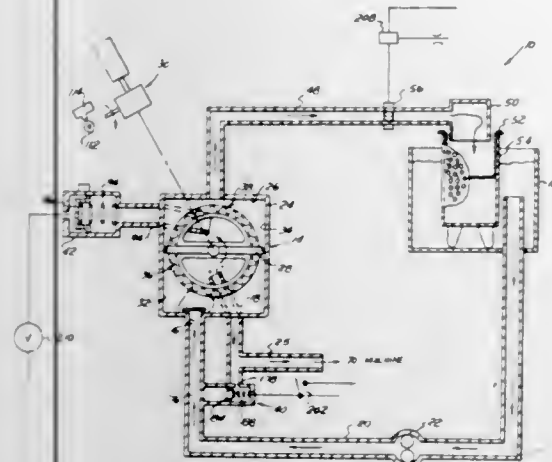
Int. Cl. B01d 35/12

U.S. Cl. 210—108

39 Claims

A fluid system with a self-cleaning filter device having means for automatically exchanging a clogged filter element with a clean filter element without interrupting the fluid flow in the system. The filter device includes a housing having an internal chamber, and a generally planar partition member with vane means engaging the sidewalls of the chamber rotatably mounted in the chamber between a pair of rotated positions 180° apart to subdivide the chamber into a pair of subchambers. One of the subchambers is fluidly connected

with the system for receiving unfiltered fluid and for discharging filtered fluid. The second subchamber is separated from the first subchamber and is connected with a pressure chamber. A pair of filter elements is mounted on the partition with one of the filter elements in each of the



subchambers. When the element in the first subchamber becomes clogged, the partition is rotated to exchange the elements and then a piston in the pressure chamber introduces a reverse flow through the clogged element in the second subchamber.

3,542,198

FILTER UNIT FOR FIBROUS AND SIMILAR MATERIALS

Olov Birger Borjeson, Bromma, Sweden, assignor to A B Puraac, Lund, Sweden a corporation of Sweden

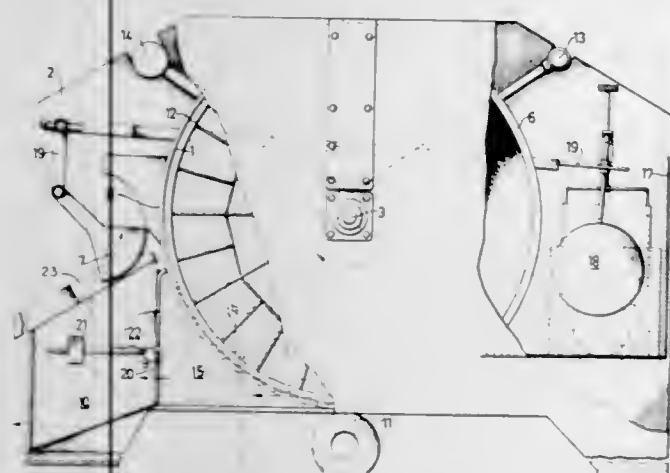
Filed Feb. 26, 1968, Ser. No. 708,307

Claims priority, application Sweden, March 10, 1967, 3322/1967

Int. Cl. B01d 33/28, 33/38

U.S. Cl. 210—111

7 Claims



A filter unit having at least one rotating, circular vertically disposed pair of filter discs between which a suspension is fed at approximately the mid point on one side of the discs, filtrate being removed near the bottom thereof and the residue being removed on the opposite side of the discs from the space between said discs.

3,542,199

REVERSE OSMOSIS WATER PURIFICATION UNIT

Donald T. Bray, 732 Elder Place, Escondido and Ross M. Brown, 372 Via Almar, Palos Verdes Estates, California

Filed July 24, 1969, Ser. No. 844,300

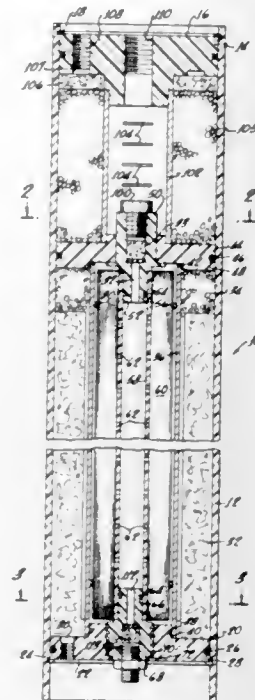
Int. Cl. B01d 31/00

U.S. Cl. 210—116

10 Claims

A reverse osmosis water purification unit has a casing containing a semipermeable membrane cartridge with its brine flow control in the form of a pair of connected restricted conduits. Preferably feed water passes through an annular filter surrounding the cartridge before entering one end of the cartridge. Product water is collected in a central tube in the cartridge and is passed through purifying material before

being withdrawn from the casing outlet. A product water storage tank may be connected to the product water purifying system so that water drawn from this tank or directly from the product water collector passes through the purifying



material before reaching the casing outlet. A connection through a relief valve from the product water collector to the connection between the brine flow control conduits controls pressure in the purified water system.

3,542,200

APPARATUS FOR RECONDITIONING DRYCLEANING FLUID

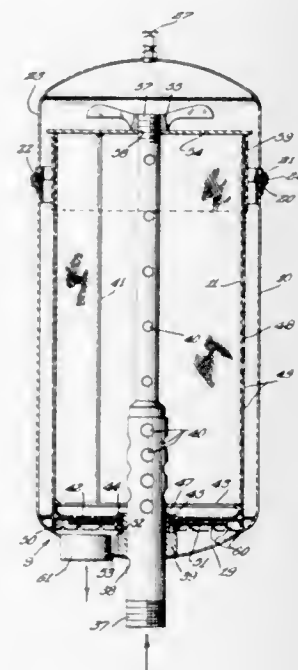
Larry L. Durr, Lebanon, Indiana, assignor to The Carborundum Company, Niagara Falls, New York a corporation of Delaware, by mesne assignments

Filed March 17, 1967, Ser. No. 623,879

Int. Cl. B01d 29/14

U.S. Cl. 210—167

10 Claims



Contaminated drycleaning fluid is pumped from the drycleaning machine into a lint bag of a lint trap, from which the relatively lint-free fluid is delivered to filtering means, and the cleaned fluid is conveyed from the filtering means for reuse in the machine.

3,542,201

PUMP AND STRAINER ASSEMBLY FOR A SWIMMING POOL FILTER SYSTEM

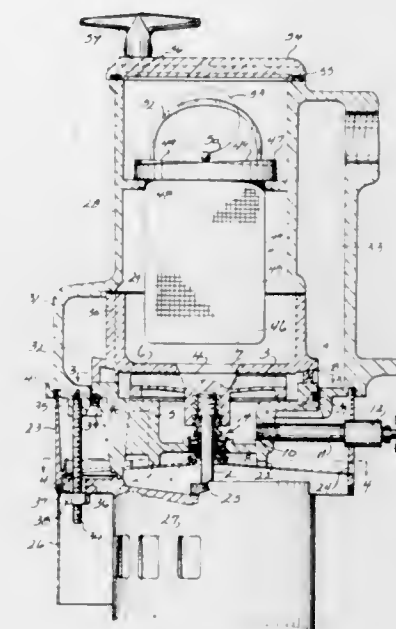
Robert L. Belonger and Samuel F. Berg, Delavan, Wisconsin, assignors to Sta-Rite Industries, Inc., Delavan, Wisconsin a corporation of Wisconsin, a part interest by mesne assignments and Major Pool Equipment Corporation, Clifton, New Jersey a part interest by mesne assignments

Filed March 14, 1969, Ser. No. 807,178

Int. Cl. E04h 3/20

U.S. Cl. 210—169

12 Claims



A pump and strainer assembly for a swimming pool filter system. The assembly includes a housing defining a pumping chamber and having an axial water inlet and an outlet connected to a filter bed. An impeller is disposed within the pumping chamber and is driven by a motor mounted beneath the housing.

A strainer casing is connected to the upper end of the housing and a perforated open-top strainer basket is mounted on a ledge within the casing. Water is drawn into the upper end of the casing and passes through the strainer basket to strain out larger objects and the strained water is then drawn into the inlet of the pumping chamber where the impeller operates to discharge it through the outlet to the filter bed.

3,542,202

FILTER UNIT

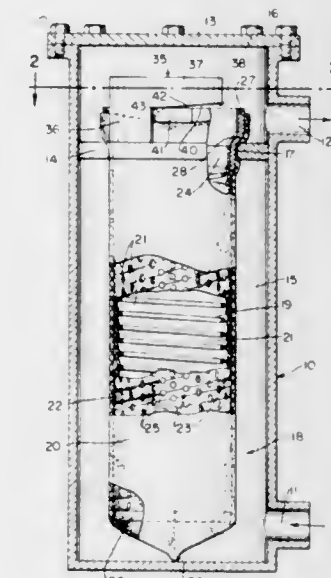
Harry Ball, New Brunswick, New Jersey, assignor to Technical Fabricators, Inc., Nutley, New Jersey a corporation of New Jersey

Filed April 11, 1969, Ser. No. 815,388

Int. Cl. B01d 29/14

U.S. Cl. 210—232

8 Claims



The filter unit comprises a housing and a filter cartridge inside the housing. The filter cartridge is mounted inside the

housing and can be locked therein by a connection operable automatically into locking position when the cartridge is turned relative to the housing in one direction and releasable automatically when the cartridge is turned in the opposite direction to permit removal of said filter cartridge from said housing.

3,542,203

SPIRAL REVERSE OSMOSIS DEVICE

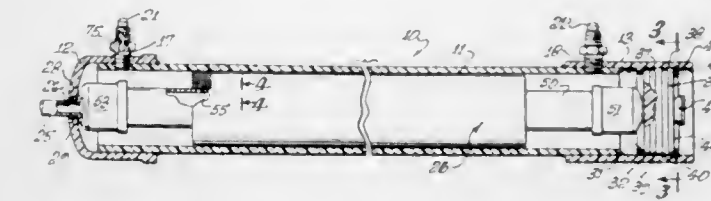
Robert D. Hancock and Donald T. Bray, Escondido, California, assignors to Desalination Systems, Inc., a corporation of California, by mesne assignment

Filed Aug. 29, 1967, Ser. No. 663,998

Int. Cl. B01d 31/00

U.S. Cl. 210—321

3 Claims



Water purification device having a reverse osmosis spiral membrane module with a projecting product water outlet tube. The module is disposed within a container comprising a tubular casing having an openable end formed by a plug detachably secured thereto in pressure-tight relationship, the container being provided with a feed water inlet and outlet and having an aperture through which the module outlet tube projects. An annular gasket is seated within the aperture to effect a seal with the outlet tube so that upon separation of the casing and plug the module can be easily removed.

3,542,204

TUBULAR REVERSE OSMOSIS EQUIPMENT

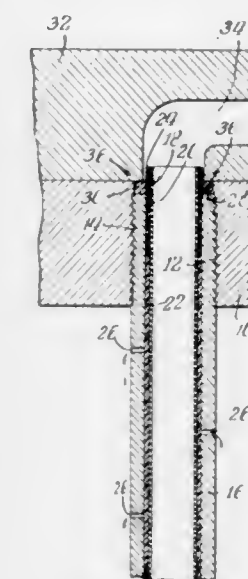
George B. Clark, Waukesha, Wisconsin, assignor to Aqua-Chem Inc., a corporation of Wisconsin

Continuation-in-part of application Ser. No. 678,039, Oct. 25, 1967, now abandoned. This application Jan. 3, 1969, Ser. No. 797,317

Int. Cl. B01d 31/00

U.S. Cl. 210—321

15 Claims



An apparatus for removing dissolved solids from a liquid by reverse osmosis including: a membrane structure of a generally uniform cross section which includes a tubular film formed of semi-permeable membrane material, a rigid tube surrounding the membrane structure to support and preclude the tubular film from rupturing when subjected internally to high pressures, an end cap adjacent to the rigid tube which contains at least one channel communicating with the interior of the tubular film to direct a liquid containing dissolved solids to be removed to the same, a gasket having a greater radial extent than the membrane structure to provide a seal between the membrane structure at one end and the end cap about the periphery of the channel to preclude the liquid in the channel from flowing to the interface of the rigid tube and the membrane structure except by diffusion through the tubular film.

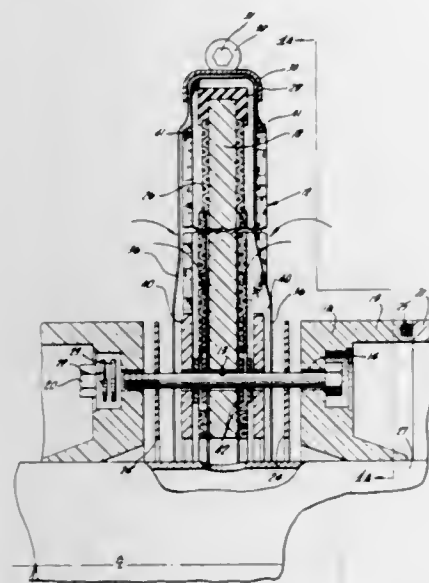
3,542,205 FILTER LEAF

Theodore H. O'Cheskey, Whittier, California, assignor to United States Filter Corporation, Whittier, California a corporation of California

Filed Jan. 22, 1969, Ser. No. 793,126
Int. Cl. B01d 33/26

U.S. Cl. 210—331

12 Claims



An improved filter leaf for an apparatus used in the pressure filtration of liquids wherein a plurality of filter leaves are mounted in adjacent vertical planes on a hollow shaft within a closed drum or filtration tank. The filter leaves comprise a solid fiberglass backing plate, a porous drainage member covering each side of the backing plate, a filtering cloth covering each drainage member and means for sealing the filtering cloth to the periphery of the backing plate.

ERRATUM

For Class 210—380 see:
Patent No. 3,542,767

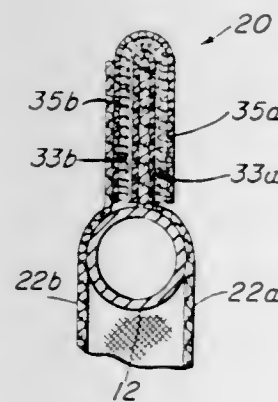
3,542,206 FABRIC FILTER BAG

Rose M. Geister, Berwyn, Illinois, assignor to Industrial Filter & Pump Mfg. Co., Cicero, Illinois a corporation of Illinois

Filed April 29, 1968, Ser. No. 725,071
Int. Cl. B01d 39/08

U.S. Cl. 210—486

3 Claims



A fabric filter bag for a filter leaf used in filtering apparatus includes front and rear walls sewn together to form an opened-mouth bag. A closure device for closing the mouth of the bag comprises a longitudinally folded securing strip composed of tufted material and a complementary securing strip having a plurality of hooks. The folded strip is fitted over and sewn to a marginal edge of the front wall along the mouth of the bag. The other strip is sewn to the inner marginal edge of the rear wall along the mouth having a portion extending beyond the edge of the rear wall to form a flap. The flap folds over and interlocks with the folded strip to close the mouth of the bag.

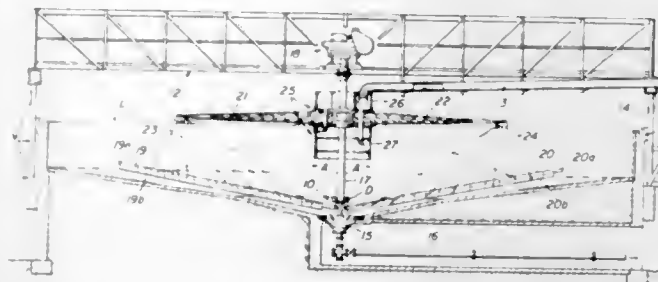
3,542,207 SEDIMENTATION TANK WITH ROTARY SEDIMENT RAKING STRUCTURE

Keith C. Stansmore, Westport, Connecticut, assignor to Dorr-Oliver Incorporated, Stamford, Connecticut a corporation of Delaware

Filed March 10, 1969, Ser. No. 805,568
Int. Cl. B01d 21/24

U.S. Cl. 210—520

11 Claims



A sedimentation tank of the type wherein the rake arms of a rotary rake structure are linked to a central vertical member such as a vertical shaft or cage, with inclined draft or drag elements connecting them to respective drive arms spaced upwardly from the rake arms and fixed to the vertical member. Improved feedwell means are structurally combined with the drive arms, comprising an auxiliary feedwell at an upper level, and main feedwell at a lower level receiving from said upper level streams of feed pulp directed into annular countercurrent paths located one above the other, in such a manner that the influent energy is dissipated, and the feed pulp is distributed radially evenly in all directions, as it enters the surrounding body of liquid undergoing sedimentation.

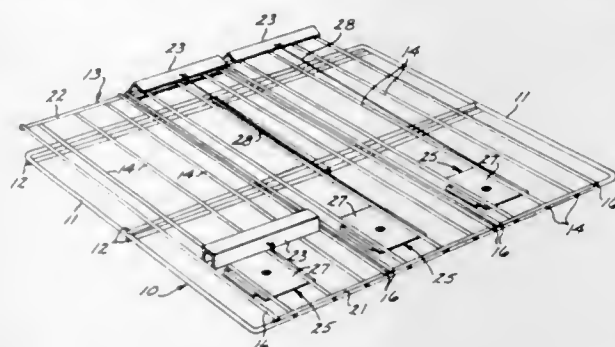
3,542,208 STORAGE AND FEEDING RACK OR SHELF FOR REFRIGERATED BEVERAGE CONTAINERS

Ora Lee Miner, Santa Ana, California, assignor to John Klassen, Midway City, California

Filed March 17, 1969, Ser. No. 807,676
Int. Cl. A47f 7/00

U.S. Cl. 211—49

7 Claims



A storage and feeding rack or shelf for refrigerated beverage containers, such as six-packs of beer and soft drinks. The rack is adapted to be mounted horizontally in a refrigerator in a supermarket, liquor store, etc. Incorporated in the rack are rail means which are spaced apart the distance between edge portions of a six-pack, for example, so that such rail means prevent the six-packs from cocking during forward movement toward the customer in response to actuation by spring-reel devices. Such devices include spring reels mounted on the forward portion of the rack, and which are connected through cords to clip members adapted to seat behind a row of six-packs in order to actuate the same forwardly. In addition, the clip members are adapted to hook over the inner edge portions of the rack during loading by a stocker at the grocery or liquor store.

3,542,209 NUT TOOL RACK

Howard Thompson, 7520 Wayzata Blvd., Minneapolis, Minnesota 55416

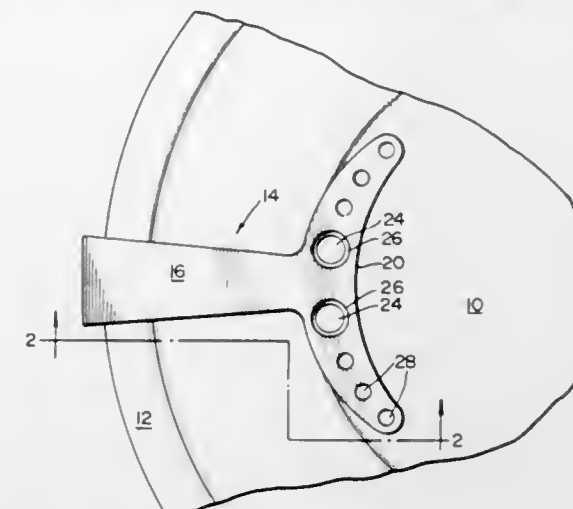
Filed April 5, 1968, Ser. No. 719,091
Int. Cl. A47f 7/00

U.S. Cl. 211—60

7 Claims

A nut tool rack for removable attachment to a receptacle having a rim. The rack comprises a lateral arm having at one

end a plurality of apertures for holding the nut cracking and picking tools and at its other end a hook member for engaging the bowl rim and having a depending leg for engaging an



inner wall portion of the bowl to maintain lateral position of the rack. The apertures are formed to hold the tools in fixed upright position.

3,542,210 TRAY FOR PLANT POTS

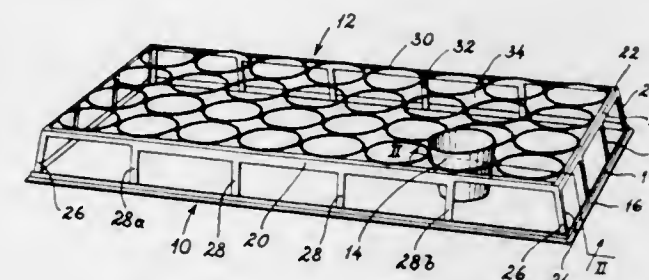
Jens Ole Sorensen, 56 Tornevangsvej, Birkerød, Denmark
Filed Sept. 13, 1968, Ser. No. 759,627

Claims priority, application Denmark, Sept. 18, 1967, 4656/67

Int. Cl. A47b 71/00

U.S. Cl. 211—74

8 Claims



A tray for plant pots has horizontally obliquely angled channel members forming its top and foot, those at the top opening inwardly and downwardly and those at the foot opening outwardly and upwardly. The channel members are interconnected by inclined uprights, and the pots rest on members that in turn rest on the upper channel members.

3,542,211 COUPLER CENTERING ARRANGEMENT

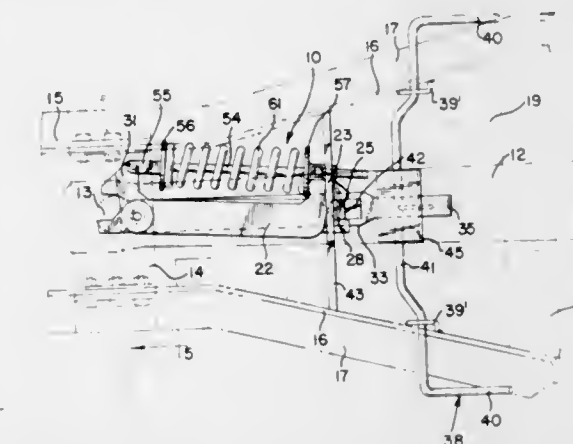
Willis H. Knippel, Palos Park, Illinois, assignor to Pullman Incorporated, Chicago, Illinois a corporation of Delaware

Filed Oct. 15, 1968, Ser. No. 767,768

Int. Cl. B61g 7/12

U.S. Cl. 213—20

9 Claims



A coupler centering device which includes a pair of levers swingably mounted on the center sill of a railway car, with a preloaded spring interconnecting said levers so that said levers exert a force against opposite sides of an abutment as

sociated with the coupler to swing said coupler to a centered position, and a third lever carrying said abutment is also swingably mounted and includes latch means for connecting and disconnecting the device relative to the coupler.

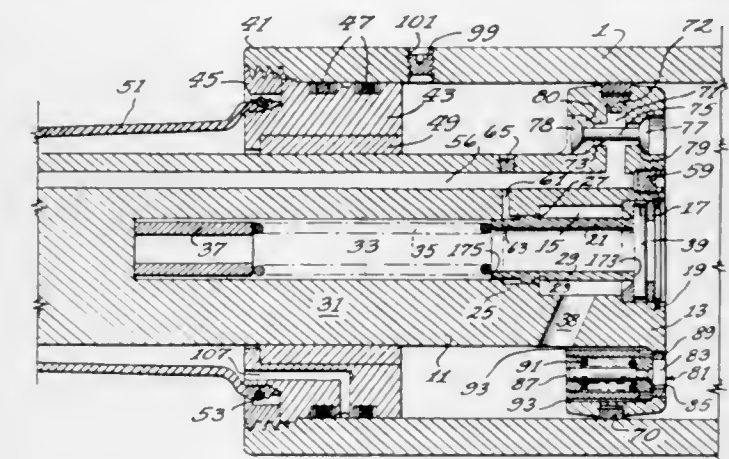
3,542,212

DOUBLE ACTING HYDRAULIC CUSHIONING DEVICE
David W. Daugherty, Jr., Downers Grove, Illinois, assignor to Cardwell Westinghouse Company, a corporation of Delaware

Filed April 3, 1968, Ser. No. 718,551
Int. Cl. 188 88; B61g 9/02, 9/06, 9/12

U.S. Cl. 213—43

15 Claims



A two-way hydraulic unit particularly adapted for use as a cushioning device when mounted on the end of a railroad car, in which a ram is mounted in a closed cylinder fixed to the underside of the car, a slidable box element imposes both buff and draft on the ram mounted in the cylinder, and a metering pin mounted in the ram controls the flow of hydraulic fluid from the high pressure side of the cylinder to the low pressure chamber during both buff and draft. An expansible storage chamber is provided into which fluid can flow through a double acting check valve from the low pressure side only of the cylinder. The unit is provided with springs and spring retaining canisters and bolts at the four corners to return the unit to its neutral position.

3,542,213

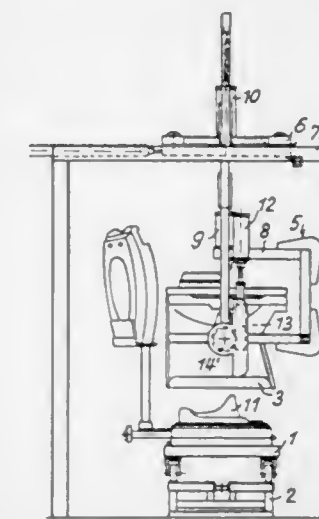
APPARATUS FOR TRANSPORTING CERAMIC MOLDS
Erwin Gram, Wilhelmsburg, Peter Kastl, St. Polten, and Hans Grubl and Josef Schretzmayer, Wilhelmsburg, Austria, assignors to Ospag, Österreichische Sanitär-Keramik-und Porzellan-Industrie Aktiengesellschaft, Goethegasse 3, Vienna I, Austria

Filed April 30, 1968, Ser. No. 725,439

Claims priority, application Austria, July 7, 1967, 6366/67
Int. Cl. B66c 1/42

U.S. Cl. 214—1

7 Claims



Apparatus for automatically removing molds containing ceramic articles from a casting conveyor, depositing them on a forming-out table and then transporting empty molds to the casting conveyor.

3,542,214

STACKING AND TRANSMISSION DEVICE FOR PACKAGES

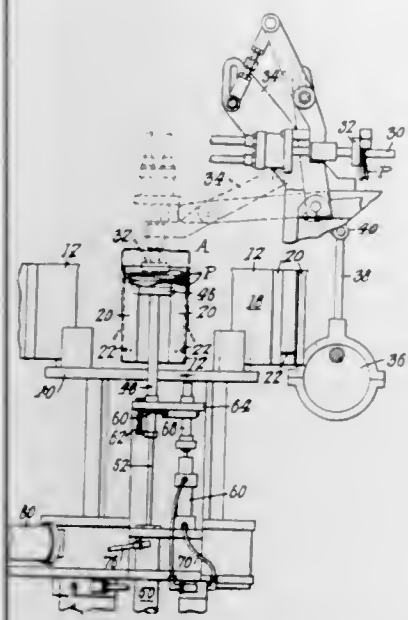
Jan Helms, Sterling, Massachusetts, assignor to Dino DiCarlo, Newton Highlands, Massachusetts

Filed Dec. 23, 1968, Ser. No. 786,308

Int. Cl. B65g 57/04, 57/081

U.S. Cl. 214—6

6 Claims



Stacking device comprising a rotary head, a series of vertical package receiving chutes arranged in mutually spaced relation at the periphery thereof, a package stacking means at a fixed station, a vertically movable package support projectible up through a chute at the package stacking station, and step-by-step descending in timed relation to the stacking of the individual packages in the chute, in combination with means indexing the rotary head when the required number of packages have been stacked and the package support has been retracted therefrom, all under control of a commercial counter mechanism controlling the operation of the stacking and the indexing in timed relation.

3,542,215

ARTICLE SORTING INSTALLATION WITH AN ENDLESS CONVEYOR DISCHARGE MECHANISM

Hans-Georg Fromme, Wetzlar; Ernst Setzer, Stuttgart; Rudolf-Heinrich Reitz, Oberquembach and Kurt Weller, Dutenhofen, Germany, assignors to Fromme Forderanlagen GmbH, Wetzlar, Germany

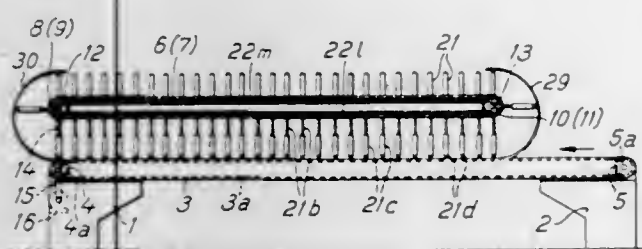
Filed Jan. 14, 1969, Ser. No. 790,967

Claims priority, application Germany, Jan. 17, 1968, 1,556,559; Aug. 3, 1968, 1,756,926

Int. Cl. B65g 43/00

U.S. Cl. 214—11

5 Claims



A sorting installation being arranged above a main conveyor belt and being adapted to move the transported goods sideways off said conveyor belt onto one of a plurality of smaller delivery belts which transport the goods to their final places of destination. The installation includes two endless chains arranged in parallel above the main conveyor belt and rotating vertically with a velocity equal to that of the main conveyor belt. The chains are linked by bars whereon one stripper is arranged slideably on each bar. Guide rails being provided above and along the two sides of the main belt adapted to guide the strippers in lateral direction with junction rails interconnecting said guide rails, and switches being

arranged at each intersection, which switches are controlled electromagnetically. The switches are operated according to a predetermined program, thereby guiding one or more strippers from one guide rail along a junction rail in a transverse movement across the main conveyor belt to the parallel guide rail, thereby pushing a piece of goods off the main conveyor belt onto one of the delivery belt.

3,542,216

METHOD OF AND APPARATUS FOR STORING AND REMOVING SILAGE

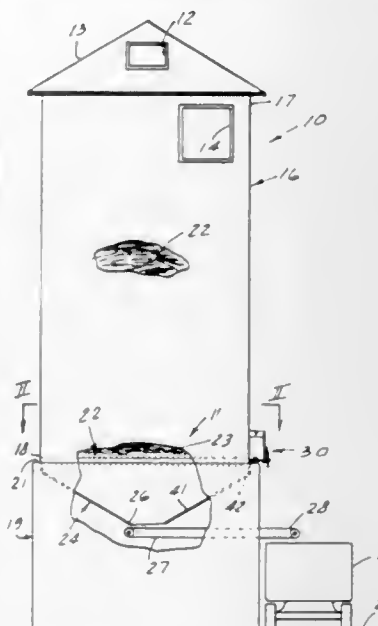
George William Baltz, Rte 4, Pocahontas, Arkansas 72455

Filed July 3, 1969, Ser. No. 838,840

Int. Cl. B65g 65/48

U.S. Cl. 214—17

5 Claims



A silo including an enclosed vertical side wall, an aperture silage-supporting floor extending horizontally across the side wall and silage-loosening means for causing the silage to drop through the floor. In one embodiment the floor comprises a plurality of spaced parallel pipes equipped with radial fingers. The pipes rotatably oscillate on fixed axes. In another embodiment the floor is centrally apertured and rotates about its center. A conveyor auger is mounted on the floor to rotate therewith and to feed silage to the center aperture. In both embodiments the floor driving arrangement is outside the silage-storing zone.

3,542,217

DEVICE FOR INTRODUCING MATERIAL INTO A ROTARY ENCLOSURE

Gerard Deynat, Chalon-sur-Saone, France, assignor to Societe Des Forges Et Ateliers Du Creusot, Paris, France a French company

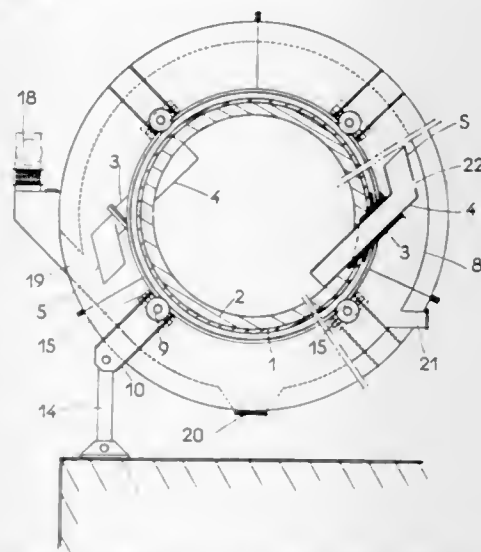
Filed Dec. 10, 1968, Ser. No. 782,639

Claims priority, application France, Dec. 8, 1967, 131,611

Int. Cl. F27b 7/32

U.S. Cl. 214—18

6 Claims



Material is introduced into a rotary kiln through a stationary cover for the kiln. A chute is provided in the cover and the

3,542,218

APPARATUS FOR CLOSING THE COAL HOPPER OUTLET ON A LARRY CAR

Wilfried Herbst, Essen, Germany, assignor to Heinrich Koppers Gesellschaft mit beschränkter, Haftung, Essen, Germany

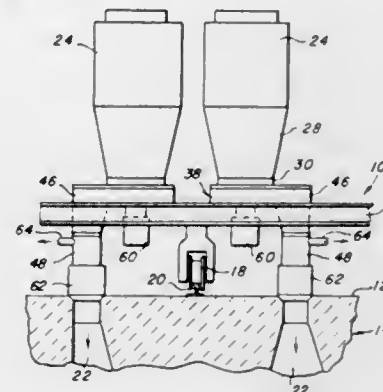
Filed March 25, 1969, Ser. No. 810,204

Claims priority, application Germany, March 26, 1968, 12,92,1,323

Int. Cl. C10b 31/04

U.S. Cl. 214—18

5 Claims



This disclosure relates to apparatus for preventing the flow of coke oven gas from a coke oven into a larry car coal hopper. The larry car has a plurality of coal hoppers that carry the coal from the storage bins to the coke ovens. The coal is discharged from the hopper through a discharge chute into a charging hole in the roof of the coke oven. A turntable serves as the bottom wall of the hopper and upon rotation discharges a controlled amount of coal through a tapered chute that extends from an outlet opening in the hopper side wall. The tapered chute has a depending telescopic sleeve that is positioned in the charging hole of a coke oven. A normally closed check valve is positioned in the discharge chute and closes and seals the outlet opening in the hopper sidewall. The check valve includes a pair of partially overlapped plates pivotally secured adjacent their upper edges to the chute sidewalls. The plates are pivoted upwardly by the stream of coal being discharged through the opening in the hopper side wall and pivot downwardly by gravity to close the opening when the hopper is empty and thus prevent the flow of gas from the coking chamber into the coal hopper. A lever on the check valve actuates a switch to provide a signal that the hopper is empty and may also deenergize the drive for rotating the turntable.

3,542,219

RAW MATERIAL CHARGING APPARATUS IN A SHAFT FURNACE

Kengo Yoshioka, Toshiaki Kuga and Naoto Kishikawa, Kitakyushu, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan

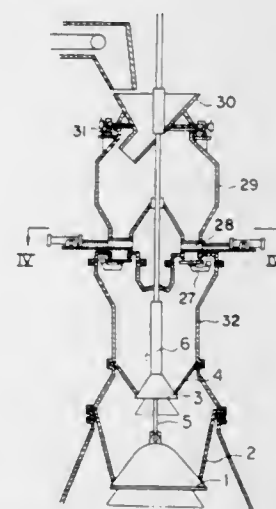
Filed Sept. 6, 1968, Ser. No. 758,068

Claims priority, application Japan, Sept. 9, 1967, 42/57811

Int. Cl. F27b 11/12

U.S. Cl. 214—37

7 Claims



A raw material charging apparatus in a shaft furnace for effecting an ideal charging of raw material into the furnace

characterized by comprising a fixed hopper having several branched discharging ports in the lower part thereof, each of the discharging ports being provided with a material cutoff valve, a bell hopper installed below said fixed hopper, said bell hopper being provided with gas cutoff valves of the same number as said discharging ports and a rotary chute installed in the upper part of said fixed hopper.

3,542,220

ARTICLE HANDLING CART AND CONTAINER THEREFOR

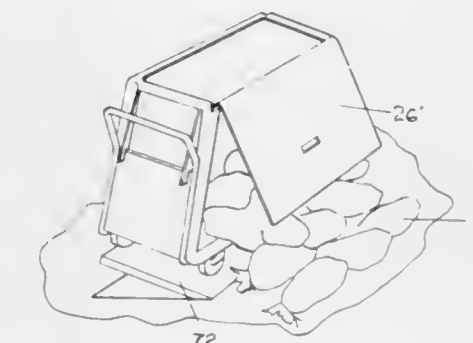
Robert L. Propst, Ann Arbor, Michigan, assignor to Herman Miller, Inc., Zeeland, Michigan a corporation of Michigan

Filed June 10, 1968, Ser. No. 735,802

Int. Cl. B65g 67/02; B62b 11/00

U.S. Cl. 214—38

11 Claims



This disclosure relates to an article handling cart and container for laundry and the like. The container has an open top and open front with a removable door at the front. The door is hinged at the top portion thereof and is removably latched at the bottom to permit the door to remain closed when desirable and to permit opening of the door from the bottom for dumping of the container. The container has a hook engaging means for lifting the container from the cart. Interengaging means between the container and cart prevent lateral movement of the container on the cart but permit the container to be removed from the cart by lifting and permit the container to be dumped by rotation of the cart about a horizontal axis.

3,542,221

APPARATUS FOR DONNING AND DOFFING BOBBINS FOR TEXTILE MACHINERY

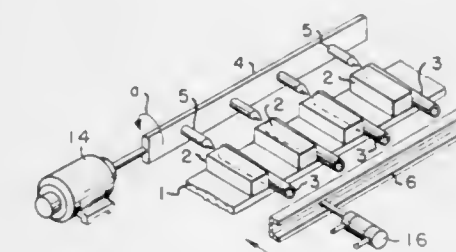
Kiyomi Inata, Oharagun, Shinaneken, and Masaru Osako, Yatukagun, Shimaneken, Japan, assignors to Deering Milliken Research Corporation, Spartanburg, South Carolina a corporation of South Carolina

Continuation-in-part of application Ser. No. 564,077, July 11, 1966, now abandoned. This application June 5, 1968, Ser. No. 734,721

Int. Cl. B65g 47/34

U.S. Cl. 214—91

1 Claim



Loading station apparatus to receive full bobbins from a doffer and to provide empty bobbins to a doffer for placement on the spindles of a spinning frame that has been doffed. Specifically a system has been provided which transfers full bobbins from a vertical position to a horizontal position and empty bobbins from a horizontal position to a vertical position.

3,542,222

MATERIAL HANDLING APPARATUS

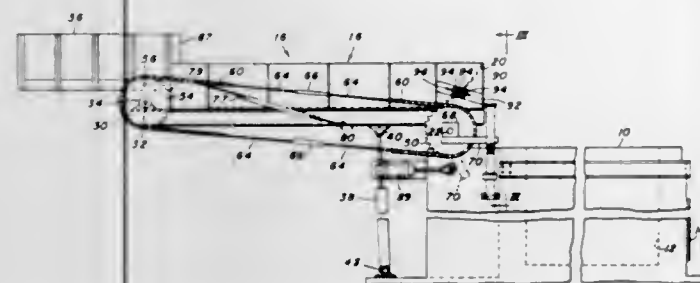
Bertram B. Reilly, 17 Briar Cliff Road, Pittsburgh, Pennsylvania 15202

Filed Nov. 19, 1968, Ser. No. 776,910

Int. Cl. B66c 23/00

U.S. Cl. 214—130

12 Claims



A material handling apparatus comprising a delivery chute pivotally supported at its discharge end for movement in a vertical arc and having a material receiving bucket at its rear end which is pivotally supported thereon for movement in a vertical arc relatively thereto is disclosed. Means are provided for effecting movement of the chute. Means actuated by movement of the chute holds the bucket in a material retaining position when the chute is being raised and moves the bucket from its material retaining position to a material discharge position as the chute reaches its uppermost limit of movement whereupon the contents of the bucket are discharged into the chute.

3,542,223

GUARD FOR HYDRAULIC LINES ON A LOADER BUCKET

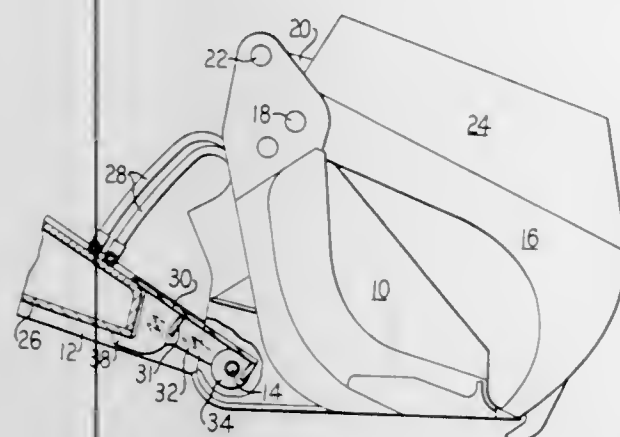
Rueben R. Brunka, Robert E. Carter and Edward A. Walsh, Aurora, Illinois, assignors to Caterpillar Tractor Co., Peoria, Illinois a corporation of California

Filed Jan. 27, 1969, Ser. No. 793,970

Int. Cl. B66f 19/00

U.S. Cl. 214—145

4 Claims



A guard fitting between a loader bucket and the forward ends of the lift arms which support the bucket to prevent debris which is projected upwardly behind the bucket from engaging and damaging hydraulic lines employed to convey fluid under pressure from a source on the loader tractor to the hydraulic jacks carried by the bucket to adjust the parts thereof.

3,542,224

TRANSFERRING ARTICLES FROM A CLOSE ARRANGEMENT TO A SPREAD FORMATION

William H. Warren, West Brookfield, Massachusetts

Filed March 3, 1969, Ser. No. 803,710

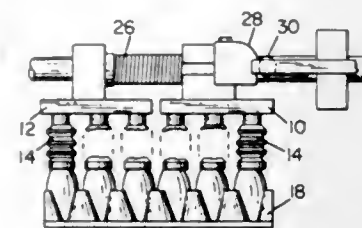
Int. Cl. B65g 47/02

U.S. Cl. 214—309

10 Claims

A pair of plates with chucks on each in three parallel rows

close together for picking up six rows of articles in a close together arrangement, the plates moving to another area in



spread apart condition, and a series of rollers receiving all the articles in six evenly spread out rows.

3,542,225

REFUSE COLLECTING AND DISPENSING VEHICLE

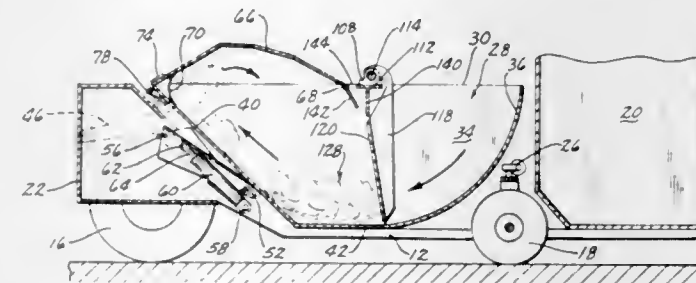
John W. Knight, New Hampton, Iowa, assignor to Sani-Systems Inc., New Hampton, Iowa a corporation of Iowa

Filed Aug. 9, 1968, Ser. No. 751,562

Int. Cl. B60p 1/16

U.S. Cl. 214—508

7 Claims



A refuse collecting and dispensing vehicle including a powered wheeled frame means having a refuse collection box pivotally mounted thereon. A hydraulic cylinder means is connected to the box to pivot the same from a normal collection position to a dispensing position. A packing cover is pivotally mounted on the upper forward end of the box and is operated by a hydraulic cylinder means connected thereto adapted to move the packing cover from an open position with respect to the box to a position in the box. A normally closed second cover means is also pivotally mounted on the upper end of the box forwardly of the packing cover which is opened when the box is pivoted to its dispensing position to permit the refuse in the box to be dumped therefrom.

3,542,226

WIRE POLE HANDLING APPARATUS

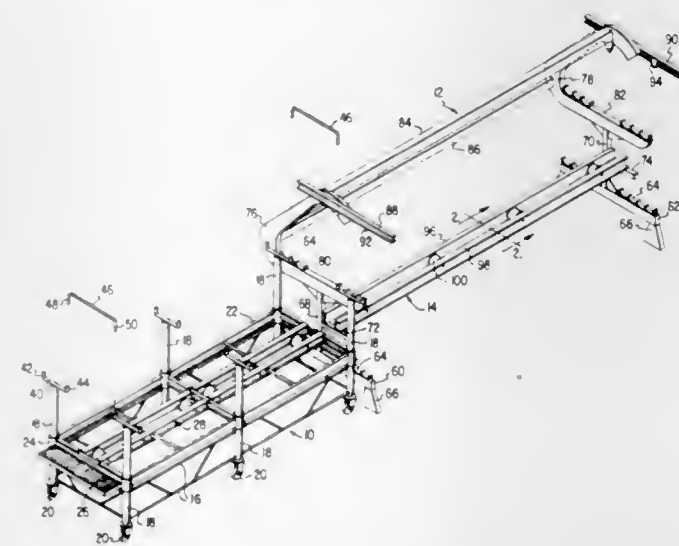
Henry M. Hutton, Jr., Pineville, Louisiana, assignor to Pineville Kraft Corporation, Pineville, Louisiana a corporation of Delaware

Filed Nov. 26, 1968, Ser. No. 779,123

Int. Cl. B60p 1/52

U.S. Cl. 214—512

4 Claims



A portable wire pole carrying dolly is provided with a vertically movable bed having a plurality of pole conveying rollers

lers journaled therein to assist in the loading and unloading of wire poles from the bed of the dolly. The bed may be guided by a plurality of vertical support posts and secured thereto in at least two vertically spaced apart positions for cooperation with a paper making machine and a wire stringing carriage. Additional rack means may be mounted on top of the support posts and a separate wire pole conveyor may be carried by the bed of the dolly for insertion into the wire stringing carriage to form an extension of the conveying device mounted in said bed.

3,542,227

LIFT TRUCK WITH GROUND-ENGAGING MEANS FOR SUPPORTING BASE OF MAST

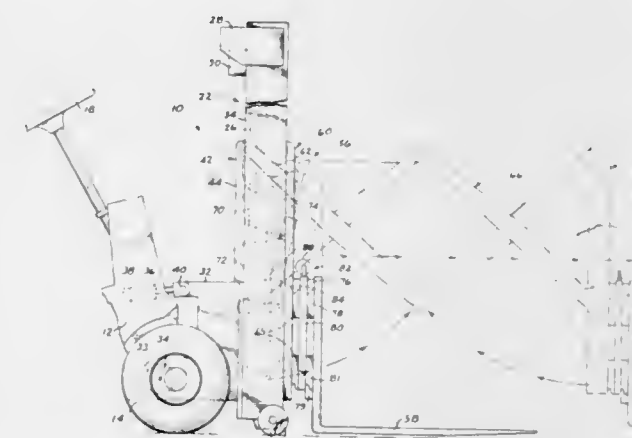
Stanley E. Farmer, Gresham, Oregon, assignor to Cascade Corporation, Portland, Oregon a corporation of Oregon

Filed June 11, 1968, Ser. No. 736,227

Int. Cl. B66f 9/20, 9/14

U.S. Cl. 214—672

3 Claims



A lift truck including a wheel-supported frame and a mast mounted adjacent the forward end of the frame, and beyond the wheels supporting the frame's forward end, for tilting between inclined and upright positions relative to the frame. Wheels are mounted adjacent the base and on opposite sides of the mast. These wheels occupy a position above the ground with the mast inclined, and engage the ground and support the mast with the mast upright.

3,542,228

HYDROSTATIC CONTROL DEVICE FOR LOADER TRACTOR

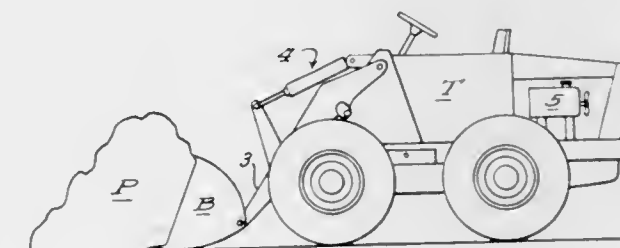
Rudolf Horsch, Burlington, Iowa, assignor to J.I. Case Company, a corporation of Wisconsin

Filed March 8, 1968, Ser. No. 711,695

Int. Cl. E02f 3/70

U.S. Cl. 214—762

8 Claims



A control system is disclosed for a motor vehicle having a hydrostatically driven drive means and auxiliary hydrostatically driven power-consuming equipment which operates off of the same motor as the power train. A conduit leads from a pressurized fluid region of the hydrostatic drive of the auxiliary equipment to an operating chamber of a piston and cylinder arrangement so that the pressure of hydraulic fluid

3,542,229

PLASTIC BOTTLE WITH SHRUNK STRENGTHENING BAND

Ludwig Beyerlein, Waltenhofen, Otto Lachner, Kempen, Peter Limpacher, Neuss, and Winfried Merz, Göttingen-Weende, Germany, assignors to Lever Brothers Company, New York, New York a corporation of Maine

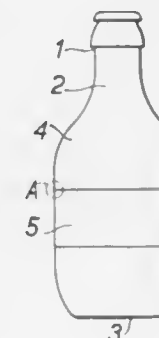
Filed Dec. 11, 1968, Ser. No. 782,954

Claims priority, application Germany, Dec. 15, 1967, 1,607,932

Int. Cl. B65d 23/08

U.S. Cl. 215—1

5 Claims



The bursting strength of a bottle of thermoplastic material is increased by applying about the body of the bottle a shrunk-on band of stretchable heat-shrinkable plastics film which is under tensile stress and prestresses the bottle body.

3,542,230

COSMETIC JAR

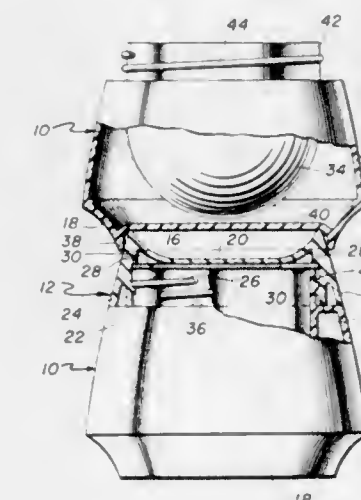
Jack Duncan Campbell, Northport, New York and Edward Charles Kozlowski, Trumbull, Connecticut, assignors to Sterling Drug Inc., New York, New York a corporation of Delaware

Filed Dec. 16, 1968, Ser. No. 784,028

Int. Cl. B65d 21/02, 11/16

U.S. Cl. 215—10

1 Claim



A cosmetic jar including a cosmetic containing member and a screw-on cap both of which are generally circular in

outline, the cap having a projecting rim at its top and the cosmetic containing member having a projecting rim of larger diameter at its bottom, the cosmetic jars being easily stacked in a stable arrangement. The cap has a double or bifurcated annular rib forming two spaced lines of contact with respect to a shoulder on the cosmetic containing member insuring an improved seal.

3,542,231 BOTTLE OPENER

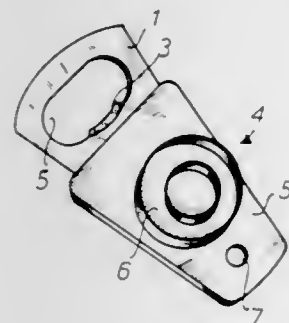
John V. Wettermann, Bandhagen, Sweden; Arne W. Hoili and Lars E. Moili, Lisleby, Norway, assignors to Real Pensel-fabrikk, Lisleby, Norway

Filed May 29, 1968, Ser. No. 733,022

Claims priority, application Norway, May 31, 1967, 168,391
Int. Cl. B65d 51/24; B67b 7/44; B25f 1/00

U.S. Cl. 215—41

2 Claims



A bottle opener having a handle which is coated on all sides by a layer of plastics for comfort and ease of handling the layer also being shock-absorbing and provided with a closing device for a conventional bottle.

3,542,232 VENTING CLOSURE FOR VACUUM AND PRESSURE CONTAINERS

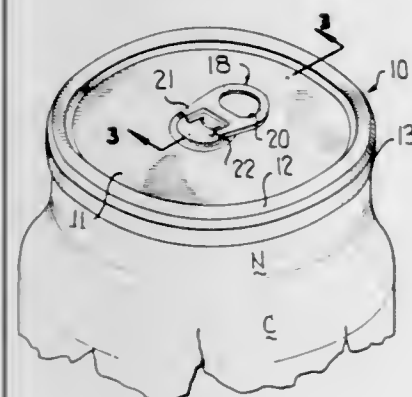
James E. Westfall, Western Springs, Illinois, assignor to Continental Can Company, Inc., New York, New York a corporation of New York

Filed Dec. 3, 1968, Ser. No. 780,808

Int. Cl. B65d 51/16

U.S. Cl. 215—56

16 Claims



This disclosure relates to a venting closure for vacuum containers, the closure including an aperture which is normally closed by a pull tab extension which projects through the aperture and beyond a sealant surrounding the aperture internally of the closure. Upon the removal of the pull tab the extension thereof is removed from the aperture and simultaneously forms an opening in the sealant. If the container with which the venting closure is associated is under vacuum, atmospheric pressure is established internally of the container to permit the removal of the closure.

3,542,233 TELEPHONE CONNECTING BLOCK HAVING IMPROVED COVER LOCKING MEANS

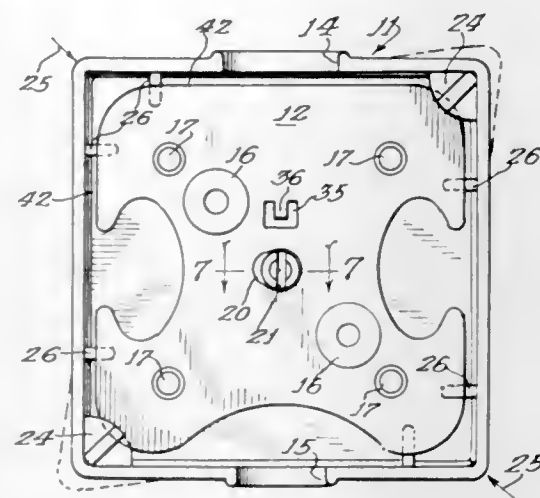
James E. Golden, Evanston, Illinois, assignor to Reliable Electric Company, Franklin Park, Illinois a corporation of Illinois

Filed Feb. 14, 1969, Ser. No. 799,357

Int. Cl. H02g 3/08

U.S. Cl. 220—3.8

8 Claims



A telephone connecting block comprises a base and a loosely fitting cover. The cover is made of high impact polystyrene so that it is slightly resilient. At one set of opposite corners, the cover is provided with locking ledges which engage the lower surface of the base. Pressure applied at the other set of corners will deform the cover to disengage the locking ledges from the base and permit separation. The cover has a split pin extending downwardly through an aperture in the base. A detent formed on one of the legs of said split pin provides a snap action which holds the cover onto the base in addition to the locking ledges.

3,542,234 CONTAINER WITH WALLS COLLAPSIBLE IN A STACKED CONDITION

Antonio Bonomi, 7, Piazza Mercato, Pinzolo, Italy

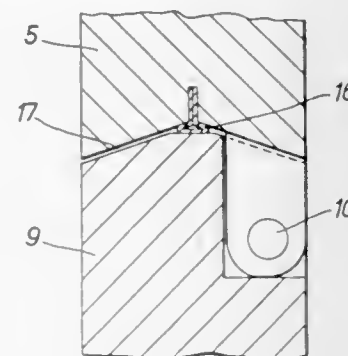
Filed Nov. 19, 1968, Ser. No. 777,131

Claims priority, application Italy, Dec. 7, 1967, 60129/67

Int. Cl. B65d 7/28, 9/18, 9/24

U.S. Cl. 220—7

3 Claims



A freight transport container having a detached lid, side walls collapsible on the bottom panel and provided with locking and hinge means, so as to be collapsed in a stacked inoperative condition of reduced overall dimensions.

3,542,235 SPICE CAN COVER

Walter E. Hidding, 505 Banbury Road, Arlington Heights, Illinois 60005

Filed Oct. 7, 1968, Ser. No. 765,325

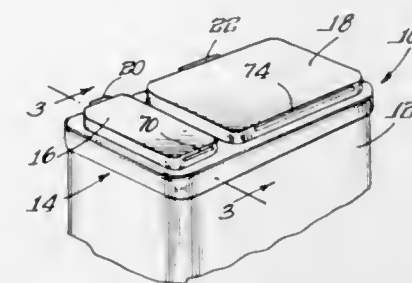
Int. Cl. B65d 51/18, 43/10, 51/00

U.S. Cl. 220—29

5 Claims

A container structure comprises a cover base that is adapted to be assembled to a container body and a cap for the cover base which includes a closure plug. The cover base

is fashioned with a dispensing orifice surrounded by a collar which acts as a first seal upon fitted assembly of the closure plug, and the cover base is provided with a lip adjacent the



lower end of the collar, this lip normally projecting into the orifice and resiliently deforming about the closure plug to act as a second seal.

3,542,236 CONTAINER EQUIPPED WITH TWO SUPERPOSED COVERS AND DETACHABLE HANDLE

Rene Dru, 7 rue du Boccador, Paris, France

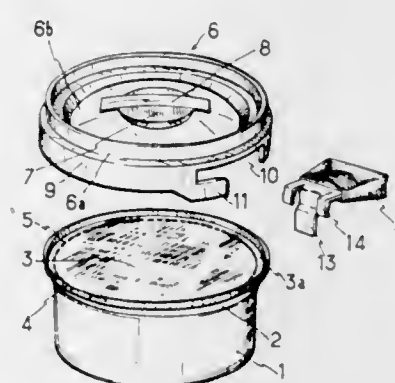
Filed Dec. 30, 1968, Ser. No. 787,930

Claims priority, application France, Jan. 3, 1968, Dec. 9, 1968, 1347431; 177280

Int. Cl. B65d 51/18

U.S. Cl. 220—29

9 Claims



A container comprising a main cover, an auxiliary cover adapted to be carried by said container on a seat one above said main cover, and a detachable handle adapted to be stored in the space between said covers and attached to said container after removal of said covers. The handle is provided with means facilitating the removal of the auxiliary cover and its attachment to the container.

3,542,237 ELECTRICAL FLOOR OUTLET HOUSING

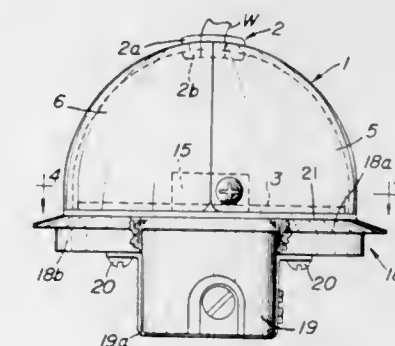
De Forest D. Butler, Lexington, Kentucky, assignor to Square D Company, Park Ridge, Illinois a corporation of Michigan

Filed July 1, 1968, Ser. No. 741,385

Int. Cl. H02g 3/08

U.S. Cl. 220—3.94

4 Claims



Two identical generally quadrispherical shells, each having a flange portion, interfit with each other and with a base plate to provide an easily assembled hemispherical housing for an electrical floor outlet.

3,542,238 COVER FOR BLENDING UNIT

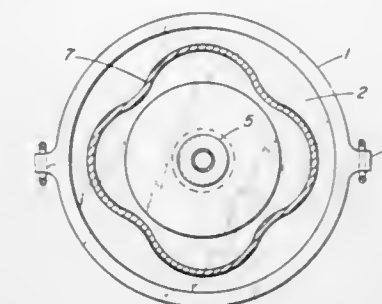
Herbert Bennett Uhl, River Edge, assignor to American Cyanamid Company, Stamford, Connecticut a corporation of Maine

Filed May 13, 1968, Ser. No. 728,393

Int. Cl. A47o 27/08; B65d 25/00; A47o 36/10

U.S. Cl. 220—55

7 Claims



A cover for a blending unit comprises a rigid plate, such as metal and plastic or plastic, with a wide, flat, circular groove filled with resilient material, such as neoprene. The width of the groove is sufficient so that it can contact blenders of different shapes, for example a clover-leaf shape, which is found in a common type of blender. The cover has two or more lugs with grooves which receive toggle clamps attached to the main body of the blender. The toggle clamps are of special design, having a projection on the toggle portion which fits into a slot of a removable extension handle, permitting tight clamping without risk of injuring the hands. The blender top also has a central opening which is tapered to receive a conventional rubber stopper through which a tube can be inserted and at least a portion of the blended material removed without having to open the top clamps.

3,542,239 FUEL TANK VAPOR SEPARATOR SYSTEM

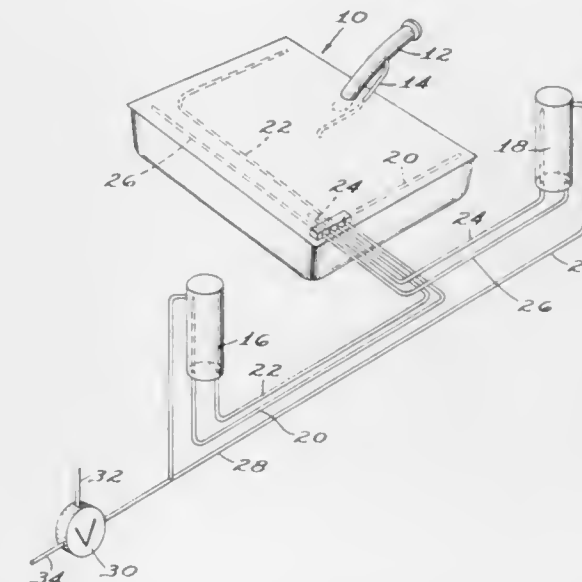
Aale Latvala, Ann Arbor; Myron A. Seiden, Dearborn Heights and Benjamin T. Howes, Birmingham, Michigan, assignors to Ford Motor Company, Dearborn, Michigan a corporation of Delaware

Filed Dec. 18, 1968, Ser. No. 784,764

Int. Cl. B65d 25/00

U.S. Cl. 220—85

15 Claims



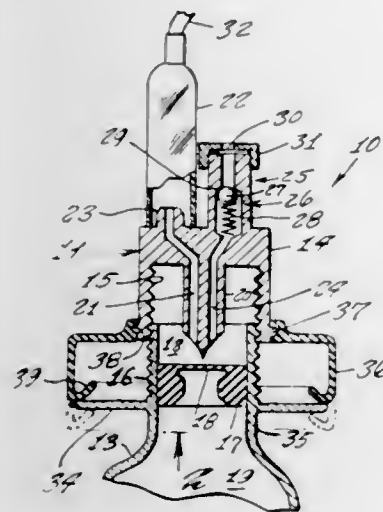
A container is mounted at each end of one side of the fuel tank. Conduits connect the inside of the front container with the upper rear corners of the fuel tank and similar conduits connect the inside of the rear container with the upper front corners of the fuel tank. The conduits connecting the rear side of the tank to each container extend into the upper portion of the container while the conduits connecting the far side terminate near the bottom of the container. A tube connects the upper portion of each container with a vapor storage means.

3,542,240
PARTIALLY ASSEMBLED BULK PARENTERAL SOLUTION CONTAINER AND ADMINISTRATION SET
 Ida Soloway, P.O. Box 34, Fresh Meadows Station, Flushing, New York 11365

Filed Oct. 14, 1968, Ser. No. 767,315
 Int. Cl. B67b 7/24

U.S. Cl. 222-83

4 Claims



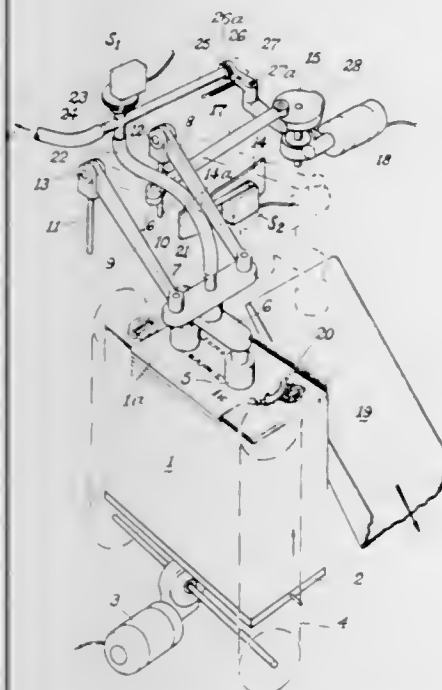
A mechanism for extracting medication from a bottle in a contamination free manner, the mechanism including a movable cap on the neck of a bottle, the cap carrying a needle for puncturing a diaphragm closing the mouth of the bottle, and a flexible sleeve antiseptically sealing the cap to the bottle.

3,542,241
VACUUM FEEDING APPARATUS
 Stanley William Middleditch, Potters Bar, England, assignor to De La Rue Instruments Limited, London, England a corporation

Filed April 14, 1969, Ser. No. 815,847
 Claims priority, application Great Britain, April 26, 1968, 19,862/68

Int. Cl. B65g 59/04; B65h 3/08
 U.S. Cl. 221-211

8 Claims



Apparatus for dispensing articles one at a time from a stack of such articles, characterized in that it comprises the combination of

- a. stack support means,
- b. a suction gripper in a datum position for transferring said articles one by one to an unloading station,
- c. means for advancing said stack support means towards said suction gripper for loading said gripper with the foremost article of said stack,

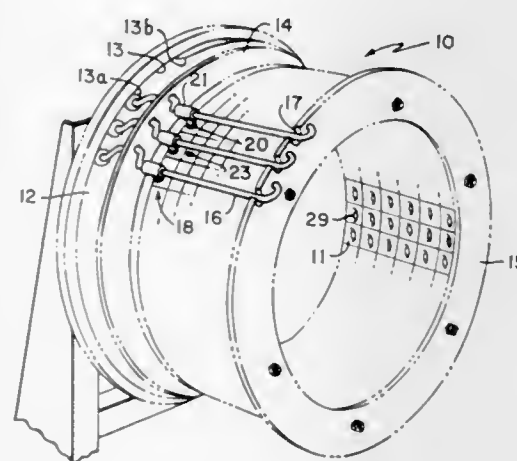
- d. means adapted cyclically to reciprocate said suction gripper between said datum position and said unloading station after loading said suction gripper,
- e. suction-sensitive means operable on loading of said suction gripper for arresting operation of said advancing means, and
- f. control means for preventing reactivation of said advancing means until the suction gripper is returned to the datum position at the end of the cycle.

3,542,242
PRECISION SEED-METERING DEVICE
 Gerald O. Irvine, Coldwater and Ronald J. Fischer, Wapakoneta, Ohio, assignors to Avco Corporation, Coldwater, Ohio a corporation of Delaware

Filed March 3, 1969, Ser. No. 803,924
 Int. Cl. B23q 7/04

U.S. Cl. 221-211

9 Claims



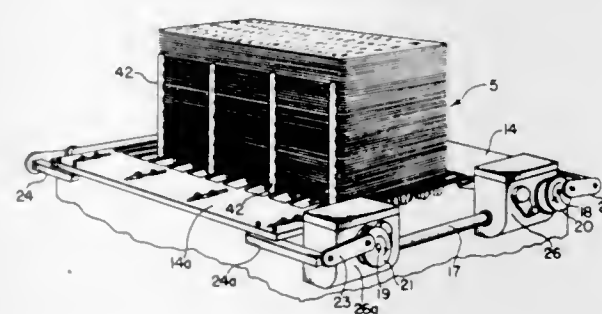
The invention is a rotatable seed-distributing drum for use in a pneumatic system. The drum is constructed of preformed interfitting modules which may be stacked in any convenient number of multiples to form a segment or a ring, a plurality of which may be put together to form the drum. Preforming permits the accurate shaping of the seed-receiving orifices and of the collateral air-conducting conduits and also permits them to be located accurately with respect to each other so that the seed-receiving openings will register with a battery of seed-ejecting plungers.

3,542,243
TRAY DENESTING DEVICE
 William D. Stockdale, Arlington Heights, Illinois, assignor to Illinois Tool Works Inc., Chicago, Illinois a corporation of Delaware

Filed Oct. 2, 1968, Ser. No. 764,447
 Int. Cl. B65h 3/28

U.S. Cl. 221-221

5 Claims



A support and dispensing mechanism for a stack of nested rimmed container assemblies, and including opposed pairs of elements having relatively differential or compound movements disposed adjacent the bottom of the stack at spaced stack-supporting positions with one of said elements of each pair supporting the stack by underlying engagement with bottom most container rims and with other of said elements of each pair movable toward the stack for engagement between

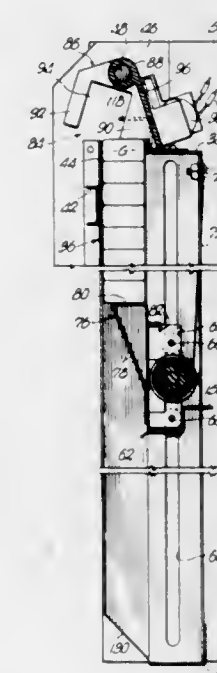
confronting surfaces of the bottommost container rims and the next adjacent lower container rims tending to separate the bottommost container assembly from the stack for dispensing the same while supporting the depleted stack by underlying engagement with the said adjacent lower container rims; and thereafter withdrawing the separating elements and returning the supporting elements to initial positions for a subsequent cycle of operation.

3,542,244
TOP DELIVERY, FIRST-IN FIRST-OUT, ARTICLE DISPENSING AND VENDING APPARATUS
 Kermit W. Dyer, Overland Park, Kansas; LeRoy D. Gore, Independence and Arvil L. Laird, Kansas City, Missouri, assignors to The Vendo Company, Kansas City, Missouri a corporation of Missouri

Filed May 20, 1968, Ser. No. 730,239
 Int. Cl. B65h 1/08

U.S. Cl. 221-227

9 Claims



Top delivery selective dispensing or vending apparatus is housed within a cabinet provided with a window through which the consumer may visually select a desired article. The articles seen by the consumer are at the top of respective dispensing columns and comprise the next articles to be dispensed from such columns. First-in, first-out stock rotation is made possible by bottom loading of the columns which is facilitated by suspending the columns for movement to horizontal dispositions during loading for easy access to the bottoms thereof. A spring-biased elevator supports each stack of articles within the respective column and is provided with a resilient article support which is snapped past a freshly inserted stack of articles and repositioned therebeneath.

A common drive for the article ejecting delivery structures of the columns includes a vend solenoid and a vend spring which cooperate to effect oscillation of a common shaft upon which the various delivery structures are rotatably mounted. Drive arms rigid with the shaft are selectively coupled to respective structures by selector solenoids carried by the latter and energized in response to consumer selection.

3,542,245
BLADE DISPENSER AND MOUNTING FOR SAME
 Paul A. Braginetz, Augusta County, Virginia, assignor to Philip Morris Incorporated, New York, New York a corporation of Virginia

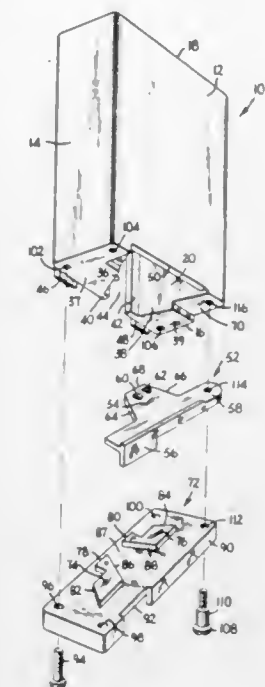
Filed April 19, 1968, Ser. No. 722,597
 Int. Cl. B65h 1/08

U.S. Cl. 221-232

4 Claims

A cutting blade dispenser incorporating a blade withdrawing tray slidably movable into and out of a magazine containing a stack of blades for dispensing an individual blade, the tray being positioned below the stack but free of the weight of the blade stack during the dispensing operation, and the

device as a whole including a support for mounting the magazine in a removable vertical position, the support



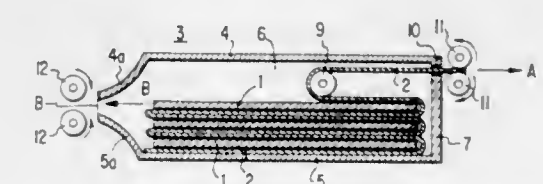
providing means for urging blades into a dispensing position in said magazine.

3,542,246
DISPENSING FILM PACKAGE
 Kenji Kamegaki, Tokyo, Japan, assignor to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

Filed Aug. 1, 1968, Ser. No. 749,551
 Claims priority, application Japan, Aug. 4, 1967, 42/67,254
 Int. Cl. B65g 59/00

U.S. Cl. 221-260

7 Claims



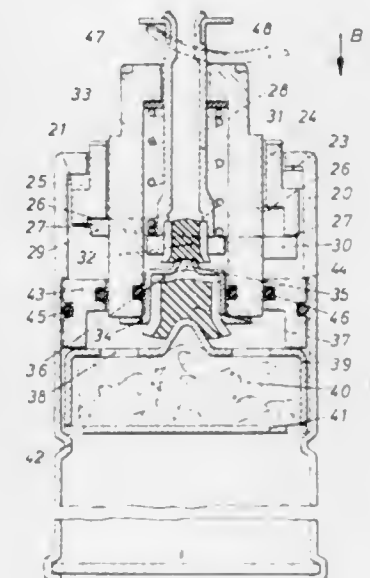
A film package holding a plurality of cut films in respective folds of a paper strip which is folded a plurality of times in accordion fashion.

3,542,247
ADJUSTABLE VALVE ASSEMBLY FOR GAS-FUELED LIGHTERS
 Alfred Racek, Zwerngasse 59, 1170 Vienna, Austria

Filed April 1, 1968, Ser. No. 717,780
 Int. Cl. B67b 7/24

U.S. Cl. 222-3

5 Claims



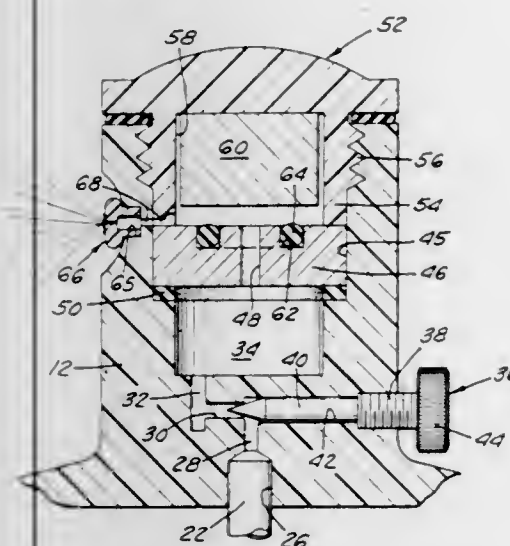
A frame structure defines a liquefied gas reservoir and an outlet passage communicating with said reservoir. A resilient

throttling member is disposed in said outlet passage and compressible in varying degrees to vary the gas flow through said outlet passage. An adjusting member is mounted in said frame structure for adjustment in a predetermined direction to vary the degree of compression of said throttling member. A mating member is mounted in said frame structure. Said adjusting and mating members are mounted in said frame structure to be rotatable relative to each other. At least one of said adjusting and mating members is provided with at least one cam track, which is inclined to a plane that is normal to said predetermined direction. Said cam track is in engagement with the other of said adjusting and mating members. A rotation of said adjusting and mating members relative to each other will cause the adjusting member to move in said predetermined direction relative to said throttling member.

3,542,248
AEROSOL DISPENSER CONTROLLED BY PERMANENT MAGNET
 John J. Mangel, 4501 Ramona Drive, Riverside, California
 Filed Jan. 8, 1969, Ser. No. 789,783
 Int. Cl. B67d 5/08

U.S. Cl. 222-70

6 Claims



An automatic dispenser for periodically discharging a metered amount of fluid from an aerosol container. The pressurized fluid in the container is allowed to leak slowly into a metering chamber, which is closed off from the exit nozzle by a permanent magnet valve. When the pressure acting against the magnet exceeds the magnetic force holding the magnet against its seat, the magnet is abruptly unseated, and the accumulated fluid is allowed to escape through the valve and out the nozzle. With release of the pressure in the chamber, the magnet reseats itself, and the cycle is repeated.

3,542,249
MEDICATED LIQUID DISPENSING APPARATUS FOR POULTRY AND THE LIKE
 Perry S. Martin, P.O. Box 6, Harrisonburg, Virginia, assignor to Annie S. Martin, John R. Martin, and Mary M. King, executors and administrators c.t.a. of said Perry S. Martin, deceased

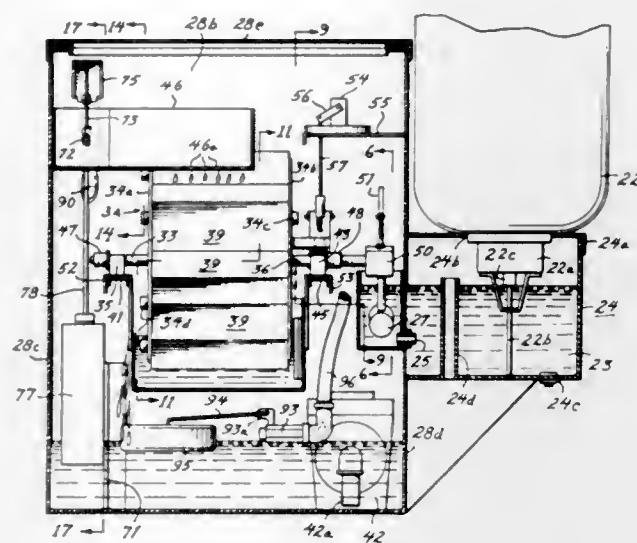
Filed June 14, 1968, Ser. No. 738,378
 Int. Cl. B67d 5/60

U.S. Cl. 222-133

13 Claims

A medicated liquid dispensing apparatus including a rotating combined mixing and metering wheel assembly which comprises a number of liquid receiving cells, or buckets, disposed circumferentially around, and carried by, a central perforated tubular shaft. The shaft has a tubular extension on which a dipper is mounted at right angles to the axis of the tubular shaft. The interior of the dipper communicates with the interior of the shaft through said extension. A controlled valve is automatically opened to deliver enough water to a cell on the wheel to cause the wheel to rotate until the water in the cell referred to is emptied into a basin below the wheel. Liquid delivered to the next cell, or bucket, will again cause the wheel to rotate until the water of the second bucket is emptied into said basin, and so on. For rotation of

the wheel, the dipper dips into a reservoir of medication, or other additive liquid, and delivers the additive liquid through said hollow extension and said hollow shaft, into said basin.

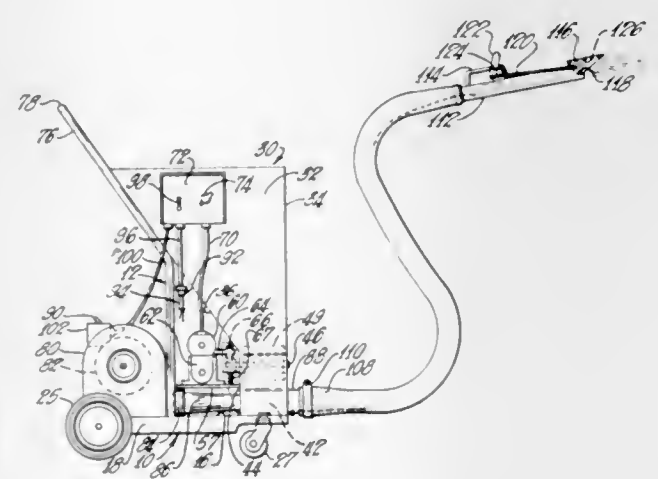


This means that the mixture will always consist of the content of the dipper and the contents of all of the cells or buckets on the wheel.

3,542,250
APPARATUS FOR APPLYING FLAKE MATERIAL TO SURFACES
 Thomas P. McRitchie, 222 Washington St., Port Clinton, Ohio 43452
 Filed June 27, 1968, Ser. No. 740,746
 Int. Cl. B67d 5/54

U.S. Cl. 222-193

10 Claims



The disclosure embraces an apparatus for distributing or applying flakes of material, such as flakes or chips of paint, flakes of plastic film or flakes of metal foil onto a surface, the apparatus including a blower producing an air stream and a variable speed means for feeding flakes of material from a supply into the air stream and delivering the air entrained flakes of material onto surfaces such as floors, walls or ceilings of a room.

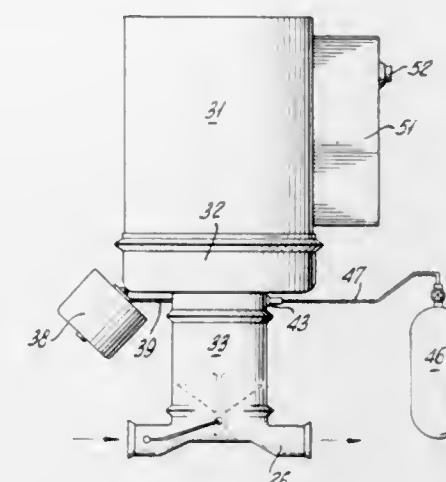
3,542,251
APPARATUS FOR SUPPLYING DRY SOLIDS TO LIQUIDS
 Anton Pfeuffer, 301 E. 78th St., New York, New York 10021
 Filed Feb. 23, 1968, Ser. No. 707,512
 Int. Cl. B65g 3/12

U.S. Cl. 222-195

5 Claims

A screen of determined mesh is shock mounted and vibrated horizontally by a motor coupled to and supported by the screen at the opening of a dry solid material supply

source. A substantially annular member of gas porous material of substantially frustoconical configuration is positioned at the bottom of the supply source in abutment with the wall thereof in a manner whereby it provides an enclosed space

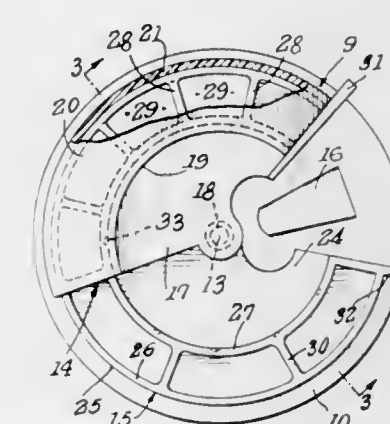


between the member and the bottom of the source. Gas under pressure is supplied to the space provided under the annular member. A funnel supported by the annular member directs the dry solid material to the center of the screen.

3,542,252
DISPENSING DEVICE FOR GRANULAR MATERIAL
 Fredric S. Miller, 15 Mayfair Drive, Wayne, New Jersey 07470
 Filed May 15, 1968, Ser. No. 729,180
 Int. Cl. G01f 11/24

U.S. Cl. 222-284

2 Claims



A dispensing device adapted for permanent attachment to an end of a preferably round container of salt, or similar granular material, said device comprising an arcuate shield or gate that overstands an arcuate opening in the container end, and a volumetric dispenser, in part enclosed by the shield, and rotational on the center of which the curvature of the shield and dispenser are generated, the dispenser having a series of preferably equal openings which fill with material from the container. Said openings, when the volumetric dispenser is moved, consecutively moving out of register with the arcuate opening in the container end and out of enclosure by the shield to, thereby, dispense the material therein consecutively, while the container is inverted. The openings of the dispenser may be refilled by retracting the dispenser to initial position. Upending the container results in return of material from the dispenser to the container.

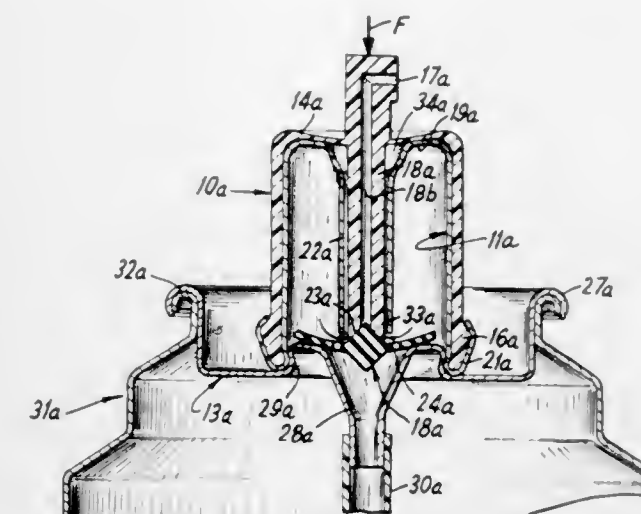
3,542,253
LOW FORCE AEROSOL VALVE WITH METERING CAP
 Robert L. Weber, III, 49 Clapboard Hill Road, New Canaan, Connecticut 06840
 Continuation-in-part of application Ser. No. 552,524, May 24, 1966, now Patent No. 3,401,849. This application June 19, 1968, Ser. No. 738,342
 Int. Cl. B65d 83/00

U.S. Cl. 222-398

8 Claims

An aerosol valve assembly is provided for mounting to an aerosol container holding a fluid under pressure. The assembly comprises a hollow cap having a flexible top portion

and a downwardly extending continuous wall terminating into a peripheral attaching means, the cap having a nozzle associated therewith. The cap has an aerosol-receiving chamber within it communicating with the nozzle and with a centrally located sleeve depending downwardly therefrom through which a vertically movable stem passes with clearance. The cap has associated with it an annular cup which forms the bottom thereof and which has a fluid-coupling means extending therefrom, the cup being con-

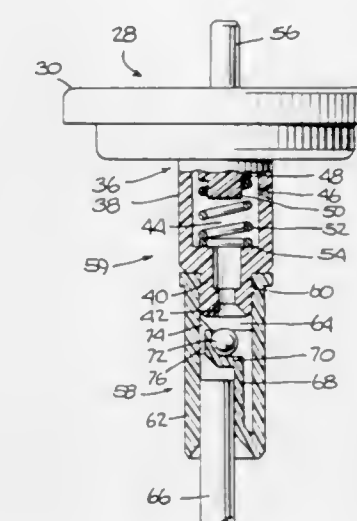


nected and sealed to the bottom of the cap. A valve is provided at the opening of the fluid-coupling means of said cup in sealing contact with the end of said sleeve such that when the flexible portion of the cap is depressed to move the stem downward against the valve, the valve is caused to move out of sealing contact with the sleeve, whereby aerosol fluid under pressure is caused to enter the space between the sleeve and the stem and into the aerosol-receiving chamber for expulsion through said nozzle.

3,542,254
VARIABLE SPRAY APPARATUS
 Leon C. Samuelson; Richard L. Davenport and Philip L. Crowell, Racine, Wisconsin, assignors to S. C. Johnson & Son, Inc., Racine, Wisconsin
 Filed Oct. 31, 1968, Ser. No. 772,208
 Int. Cl. B65d 83/00

U.S. Cl. 222-402.19

19 Claims



Regulators and adaptors for pressurized dispensing containers which permit the discharge of product in any position of the container and in a plurality of different discharge characteristics.

3,542,255

BULK MATERIAL FLOW REGULATING DEVICE
Hans Oetker, St. Gall, Switzerland, assignor to Gebrüder Buhler AG, St. Gall, Switzerland

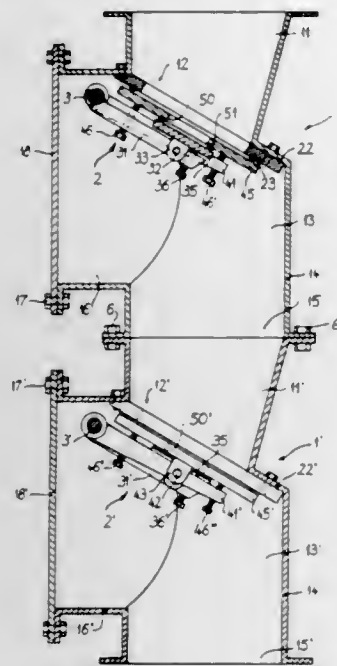
Filed May 28, 1969, Ser. No. 828,459

Claims priority, application Switzerland, June 5, 1968, 8316/68

Int. Cl. G01f 11/26

U.S. Cl. 222-445

20 Claims



A device for facilitating the free flow of bulk goods from a compartment or space at one pressure to a compartment or space at another pressure includes a housing having an intermediate chamber with an inlet connected to the compartment having the goods and a discharge connected to a compartment which is adapted to receive the goods. The intermediate chamber may be closed at the inlet and outlet by a combined action valve mechanism or closing device which includes a closing element which includes an outer annular portion and an inner or central suppressor portion which are separately operable by supporting lever arms. The suppressor portion provides an equalization opening permitting initial communication between the goods contained in the compartment at one pressure and the intermediate chamber and also a similar communication between the intermediate chamber and a compartment at a distinct pressure. The operating mechanism for the closing elements of the inlet and the outlet of the intermediate compartment are interconnected so that they may be operated separately to open the intermediate compartment to receive the goods after effecting the opening of the suppressor opening to equalize the pressure and thereafter the outer annular opening. The same operation is effected in respect to the opening of the discharge.

3,542,256

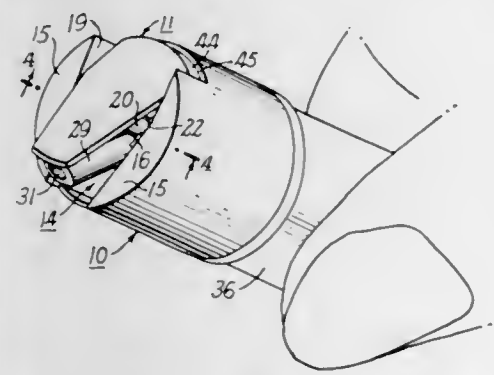
LIQUID CONTAINER DISPENSING CLOSURES
Neil S. Waterman, Stamford, Connecticut, assignor to Atlantic Design & Development Corporation, Stamford, Connecticut

Filed Sept. 16, 1968, Ser. No. 762,294

Int. Cl. B67d 3/00

U.S. Cl. 222-484

6 Claims



A bottle cap for the controlled dispensing of liquid contents is fabricated from two molded plastic parts, one being a

cap member for sealing engagement with the lip of a bottle, and the other being a pivotal cover member mounted in the cap and which pivots with snap action into either closed or open positions by the simple application of finger pressure to the rear portion of the cover member. An orifice in the cap is aligned with a spout opening in the cover when in the open position, and is sealed when the cover is closed. Two embodiments are disclosed, one with and one without a vent port to enable continuous pouring.

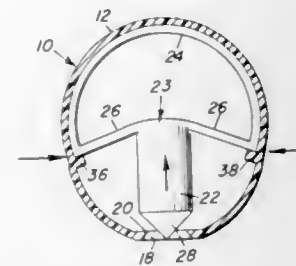
3,542,257

NOZZLE AND MEANS FOR THE ASSEMBLY THEREOF
Frank T. Parish, 313 Brooklawn, Frederick, Maryland 21701

Int. Cl. B67d 3/00

U.S. Cl. 222-509

7 Claims



A two-piece plastic nozzle which is readily affixed to a flexible or rigid container and a machine for the assembly of such a nozzle having means for deforming one of its pieces for insertion into the other.

3,542,258

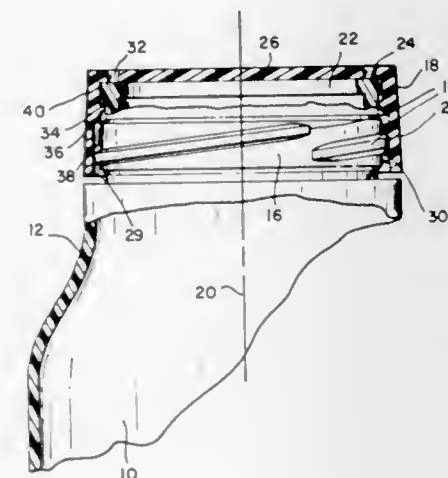
LUG SEAL POWDER CLOSURE
Paul A. Marchant, Kansas City, Missouri, assignor to Container Company, Kansas City, Missouri a corporation of Delaware, by mesne assignment

Filed Dec. 26, 1967, Ser. No. 693,295

Int. Cl. B65d 41/20, 41/04

U.S. Cl. 222-520

1 Claim



A container and dispensing closure means comprising a container body having an extending neck on which a cap is helically openable and closable and whereon the cap is maintained in captive position when in open dispensing position.

3,542,259

CONTAINER DISPENSER FOR NONFLOWING POWDERS

Cesare N. Marchesani, Union City, New Jersey, assignor to Colgate-Palmolive Company, New York, New York a corporation of Delaware

Filed Oct. 29, 1968, Ser. No. 771,575

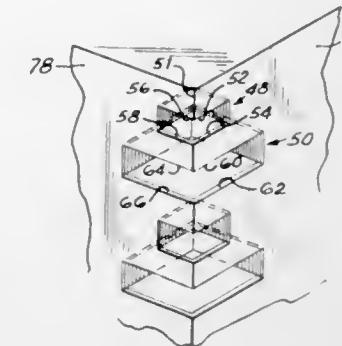
Int. Cl. B65d 47/10

U.S. Cl. 222-541

8 Claims

This invention relates to a container for dispensing freely flowing or nonflowing materials by shaking the materials from openings formed in a corner of the container. Weaken-

ing means in a vertically extending position are provided in each of the walls adjacent a corner, and horizontal perforate means are located in each wall, each intersecting the weakening means in that wall and extending to the corner where



DOUBLE SECTION CAP WITH INTEGRATED DISPENSING VALVE

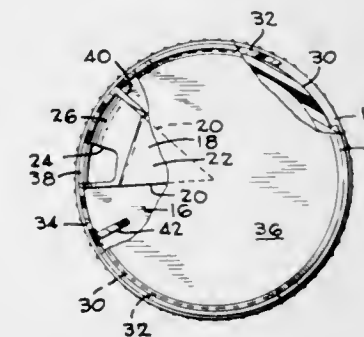
Augustine A. Souza, San Jose, California, assignor to Design Engineering Concepts Manufacturing Company, San Jose, California a corporation of California

Filed Dec. 19, 1968, Ser. No. 785,127

Int. Cl. B65d 47/00

U.S. Cl. 222-548

2 Claims



A dispensing cap including a cup-shaped connector section arranged for screwed connection to the top of a container and a control section releasably attached to said connector section for relative rotation, said sections having a cooperating valve arrangement enabling dispensing upon appropriate relative rotation of said sections.

3,542,261

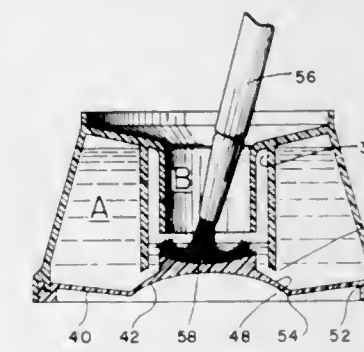
SPILL-PROOF CONTAINER
Allen A. Greenberg, Cincinnati, Ohio, assignor to Rainbow Crafts, Inc., a corporation of Delaware

Filed Feb. 28, 1969, Ser. No. 803,385

Int. Cl. B43l 25/02; B65d 1/24

U.S. Cl. 222-576

9 Claims



A container for holding a liquid such as paint, colored dye, marking ink or the like, which is especially practical for use

by children because the contents cannot be spilled from the container. The container is designed in such a manner that it can be tipped or inverted without spilling the contents onto the user, the work project, or the work area. A brush or other implement must be used for removing the contents from the container.

3,542,262

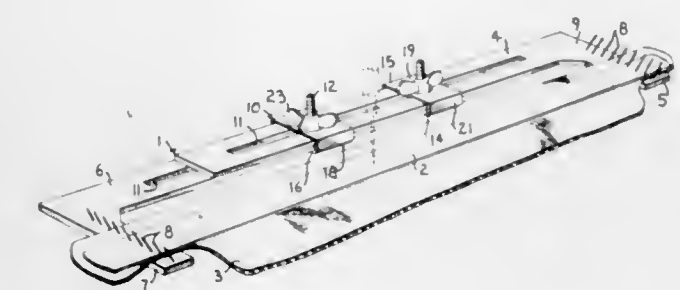
ELASTIC HOLDER AND SEWING APPLIANCE
Fred H. Ewert, 2104 Shady Lane Drive, Gladstone, Missouri 64118

Filed Oct. 21, 1968, Ser. No. 769,058

Int. Cl. D05b 21/00

U.S. Cl. 223-61

3 Claims



An elastic holder and sewing appliance for applying elastic braid to cloth material and having elongate planar bars engaged in an overlying relation and each having an arm extending laterally from one each thereof with the arms being in spaced opposed relation thereby defining a generally U-shaped structure with one of the bars being movable longitudinally relative to the other and a plurality of point projections mounted on each of the arms and extending upwardly from an upper face of each arm with the projections on one arm being inclined in an opposite direction to the projections on the other arm. A plurality of pairs of jaws engage the bars for maintaining same in a clamped engagement for retaining the arms in selected spaced relation while the elastic braid and material are in an extended condition.

3,542,263

SAFETY WALLET FOR WAIST BELT

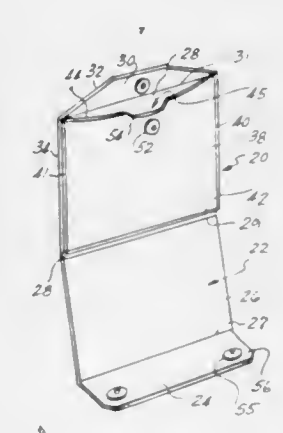
George J. Callahan, 315 Ovington Ave., Brooklyn, New York 11209

Filed Aug. 19, 1968, Ser. No. 753,669

Int. Cl. A45c 1/06

U.S. Cl. 224-26

7 Claims



A safety wallet or purse for money, keys and other small articles is formed with a plurality of panels so that it can be folded around a waist belt. Snap fasteners detachably engage the panels together to keep a compartment in the wallet doubly locked. The waist belt may have snap fasteners engaging mating snap fasteners on the wallet to prevent lateral movement of the wallet on the belt and to provide a third lock for the compartment.

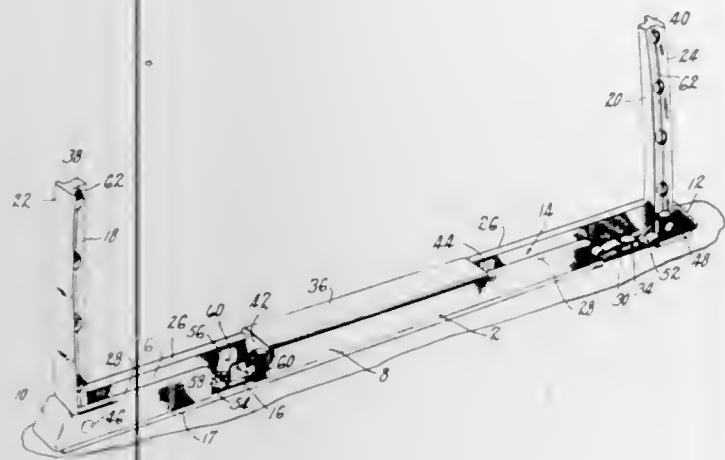
3,542,264

COMBINATION TRIM AND CARRIERS

Engelbert A. Meyer, Union Lake and Donald J. Reid, Pleasant Ridge, Michigan, assignors to Warren Fastener Corporation, Clemens, Michigan a corporation of Michigan
Filed April 30, 1968, Ser. No. 725,375
Int. Cl. B60r 9/00

U.S. Cl. 224—42.34

3 Claims



A trim member for attachment to automotive vehicles and the like, the trim member comprising movable trim means which may be positioned in such a manner as to convert the trim to carrier means or, alternatively, to a support on which various carriers may be mounted.

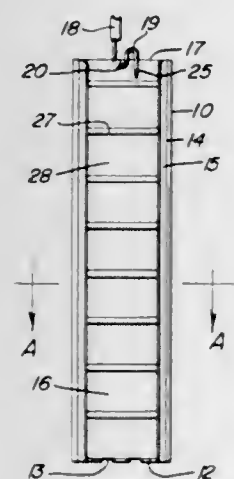
3,542,265
CAN RACK

John B. Peterson, Madison, Wisconsin, assignor to W. R. Grace & Co., New York, New York a corporation of Connecticut

Filed Nov. 6, 1968, Ser. No. 773,790
Int. Cl. B65d 21/00

U.S. Cl. 224—45

2 Claims



A holder for cans containing biological material which must be frozen with great rapidity in liquid air or nitrogen, comprising a sheet of metal approximately semicircular in cross section, having intumed vertical marginal portions and intumed bottom tabs. The combination includes a handle which engages a hole punched near the top of the holder, and includes an insulating portion of fiber glass or fabric-reinforced plastic, long enough to protect the hands of an operator from spatter. The open front permits reading essential indicia on each can. Spring margins permit the insertion or withdrawal of cans without disturbing others.

3,542,266

METHOD OF PRODUCING A PLURALITY OF SEPARATE SEMICONDUCTOR COMPONENTS FROM A SEMICONDUCTOR CRYSTAL BODY

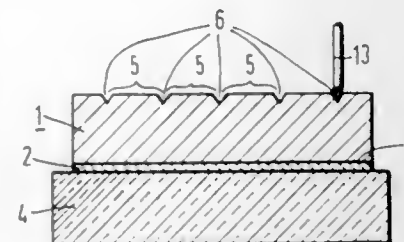
Rudolf Woelfle, Gilching near Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany a corporation of Germany

Filed April 1, 1968, Ser. No. 717,690
Claims priority, application Germany, May 29, 1967, 110,050

Int. Cl. B26f 3/00

U.S. Cl. 225—2

8 Claims



Lines are scratched in the surface of a semiconductor crystal body opposite and spaced from the surface thereof having a p-n junction extending therealong. The lines are scratched to form grooves to a depth of approximately 5 micrometers in the surface of the crystal body and bound a plurality of separate semiconductor components. The components are mechanically separated from each other along the lines by rolling the surface having the p-n junction with a hard roller.

3,542,267

METHOD AND DEVICE FOR SPLITTING YARN

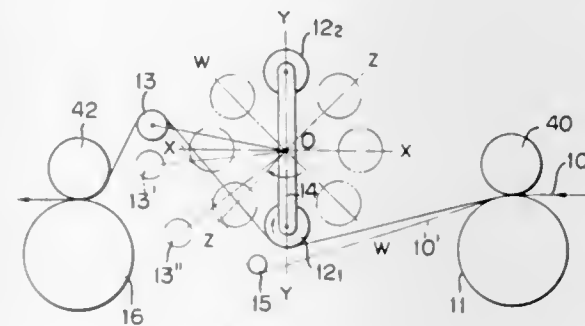
Saburo Ida, Yoshimitsu Tsutsui, and Shigeo Tsutsui, Nagoya-shi, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan

Filed Feb. 6, 1968, Ser. No. 703,304
Claims priority, application Japan, Feb. 9, 1967, 42/8,453

Int. Cl. B26f 3/00

U.S. Cl. 225—3

15 Claims



An apparatus for splitting fibrous yarn from film and yarn material such as polypropylene, polyester polyethylene and the like, includes two spaced sets of feed rollers each defining a nip between which the yarn is fed in the form of a tape. The forward roller set is driven at a faster speed than the rear set in order to provide a tensioning of the yarn. A feature of the construction is that two sets of splitting rollers are arranged for selective orientation with the tape. In one embodiment, after one splitting roller is positioned in a direction toward the tape, it may be engaged tightly by the tape by deflecting a guide roller in a direction to press the tape into engagement with the splitting roller. In the one embodiment, the splitting rollers are carried at respective ends of a rotatable arm which may be rotated to position a selected one of the splitting rollers into association with the tape which is being processed while the other one may be positioned in a standby position in readiness for use, if desired. In the other embodiment, the splitting rollers are located in spaced relationship and the yarn is deflected to one or both of the rollers as desired.

The apparatus also includes a supporting bar which may be moved outwardly under the tape to pick up any tape which has become cut away so that it may be replaced manually into engagement with the guide rollers and feeding rollers.

3,542,268

FILM DISPENSER WITH SERRATED PIERCING BLADE

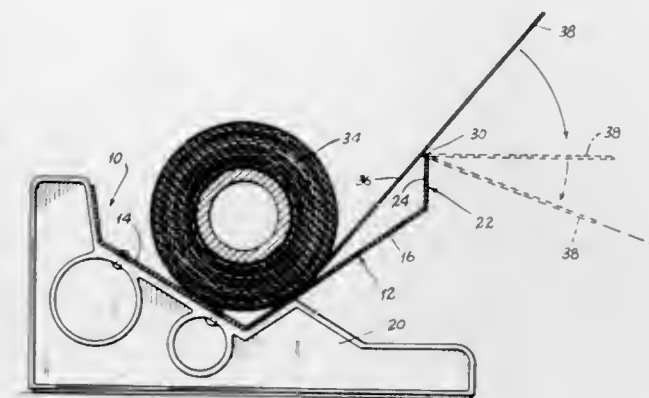
Richard F. Schramm, St. Louis, Missouri, assignor to Speed Equipment Incorporated, St. Louis, Missouri a corporation of Missouri

Filed May 31, 1968, Ser. No. 733,501

Int. Cl. B26f 3/02

U.S. Cl. 225—9

2 Claims



A dispenser for tearing sheets of a desired length from a roll of aluminum foil or plastic wrapping film. The dispenser is constructed of a trough receiving the roll of film and a forward wall with a serrated cutter extending from one side of the wall to the other. The serrated cutter has converging sides so as to present a generally triangular configuration with a central piercing means or point adapted to cut in to the center of the web and start the tear along the serrated teeth. The serrated cutting element is angled with respect to the front wall to provide an acute angle presentation of the web material to facilitate the serrating operation.

3,542,269

APPARATUS FOR BREAKING OR FORCING OUT THE FOOT PORTIONS OF PATTERN SINKERS FOR JACQUARD KNITTING MACHINES

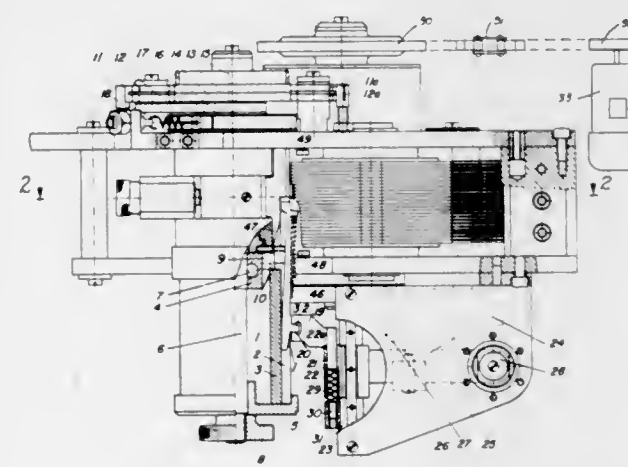
Tilo Knorr, Karl-Marx-Stadt and Ingo Ziprian, Mittweida/Saxony, Germany, assignors to VEB Strickmaschinenbau, Karl-Marx-Stadt, Germany

Filed June 13, 1968, Ser. No. 736,688

Int. Cl. B26f 3/00

U.S. Cl. 225—97

25 Claims



An apparatus for breaking out the foot portions of sinkers for use in knitting machines, with a plurality of tools movably arranged adjacent each other and a control device for mov-

ing only selected ones of the tools into operative position, which comprises a storing drum with a plurality of slots for respectively receiving the sinkers, a transport or feeding device associated with the drum for automatically successively feeding the sinkers into the range of operative movement of the tools, and a holding device for temporarily clamping the sinkers in the apparatus.

3,542,270

PREPARATION OF A CONFECTIONERY PRODUCT OF IMPROVED TEXTURE

Gian-Franco Schubiger, La Tour-de-Peilz and Roger Pilloud, Orbe, Switzerland, assignors to Societe d'Assistance Technique Pour Produits Nestle S.A., Lausanne, Switzerland a corporation of Switzerland

No Drawing, Filed Dec. 27, 1966, Ser. No. 604,635
Claims priority, application Switzerland, Dec. 30, 1965, 18042/65

Int. Cl. A23g 1/00

U.S. Cl. 99—23

11 Claims

Process for the preparation of a confectionery product wherein a mixture of solid and liquid fat is aerated and combined with the other ingredients of the product.

3,542,271

STITCHER HEADS FOR SIGNATURE MACHINES

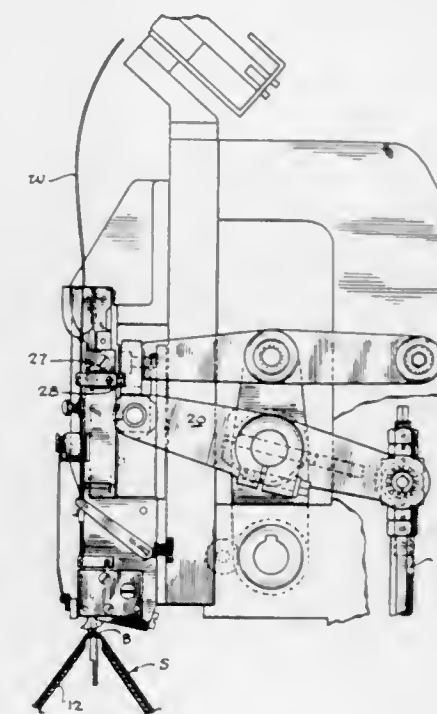
Lawrence J. Werstler and Jerome T. Jablonski, Jr., Chicago, Illinois, assignors to Chicago Machinery Laboratories, Inc., Chicago, Illinois a corporation of Illinois

Filed Aug. 13, 1968, Ser. No. 752,260

Int. Cl. B25c 5/08

U.S. Cl. 227—90

2 Claims



Operation of a stitching head in a signature machine for a no-stitch or stop-stitch circumstance is improved, and certain parts in the prior construction are eliminated by a minor but nonetheless effective alteration in the known driver bar.

3,542,272

PIN SETTER

David J. Lemal, Rockledge and Samuel J. Greger, Glenside, Pennsylvania, assignors to Standard Pressed Steel Co., Jenkintown, Pennsylvania a corporation of Pennsylvania

Filed Feb. 29, 1968, Ser. No. 709,252

Int. Cl. B25c 5/06

U.S. Cl. 227—114

10 Claims

An automated high-speed pin setter which directs spring pins, dowel pins and the like from a vibratory continuous

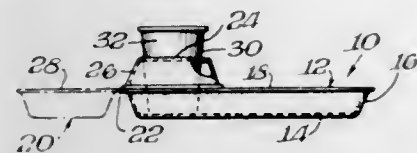
ton from the sleeve, without destroying the locking tab. One sidewall of the sleeve is in the form of a tear strip, the opposite edges of which extend along the adjacent corners of the sidewall and are defined by the corners of the closure sleeve.

3,542,280

SERVING TRAY WITH HINGED CUP RETAINER
Kenneth L. Crabtree, Fairfield, Maine, assignor to Keyes Fibre Company, Waterville, Maine a corporation of Maine
Filed Feb. 11, 1969, Ser. No. 798,417
Int. Cl. B65d 3/24, 81/06

U.S. Cl. 229-15

8 Claims



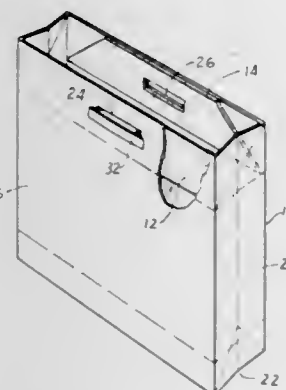
Serving tray comprises receptacle having bottom wall, upwardly extending side wall connected to bottom wall, and peripheral rim or edge. Cup retainer hingedly connected to receptacle has cup-supporting platform spaced from and above peripheral rim of receptacle when retainer is moved about hinge into covering relationship with portion of receptacle. Aperture in cup-supporting platform of retainer is arranged to receive and thereby stabilize cup to prevent it from tipping over.

3,542,281

BOX AND HANDLE FOR SAME
Allen I. Field, 147 Valley Stream Rd., Larchmont and Sidney P. Field, 126 Beach 134th St., Belle Harbor, New York
Filed July 2, 1968, Ser. No. 741,996
Int. Cl. B65d 25/22, 51/46

U.S. Cl. 229-52

10 Claims



The handle is a single molded body of plastics material, and comprises a base, a flexible carrying strap, and connections between the ends of the strap and the base. The base is wider and stiffer or thicker than the strap. The connections between the strap and the base are preferably relatively straight connections which slope inwardly from the ends of the strap to the base. The junctions at the ends of the strap and at the base act as hinges which permit the strap to move toward or away from the base. The strap bends convexly upward but may be flattened and stored compactly when not in use. The box has overlapping panels with slots which come into registration, and which have a length and width which is smaller than that of the base of the handle, but large enough for the strap of a handle to be passed therethrough.

3,542,282

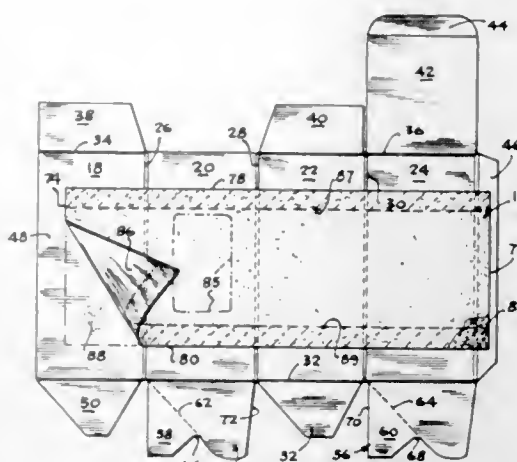
CUSHIONED FOLDING CARTON
John S. Troth, Greenville, Delaware, assignor to Potlatch Forests, Inc., Chicago, Illinois a corporation of Delaware.
Filed April 15, 1968, Ser. No. 721,452
Int. Cl. B65d 5/08, 5/56, 25/14

U.S. Cl. 229-38

4 Claims

A flat-foldable carton with a foamed elastomeric resin sheet on the inside surface to provide cushioning for an arti-

cle deposited within the formed carton, and to also provide a fictional surface against rotation and lateral displacement of



3,542,283

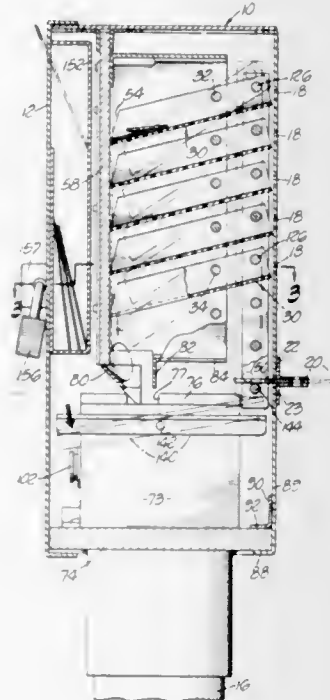
COIN COLLECTION BOX
Harlan Knox Perrill, 359 S. Westgate Ave., Los Angeles, California 90049

Filed March 25, 1968, Ser. No. 715,595

Int. Cl. G07b 15/00

U.S. Cl. 232-1

2 Claims



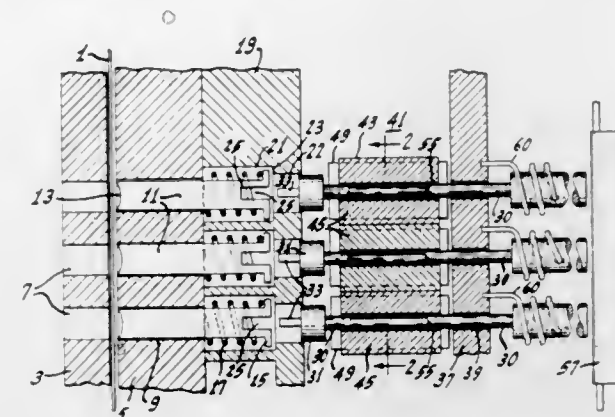
The invention is a coin collection box or receptacle for use in parking lots to receive deposits of coins of individuals parking vehicles in the lots. The box or receptacle contains coin-receiving means in the form of chutes associated with slots, the individual chutes being manipulatable to discharge coins into a vault or strong box in the bottom of the receptacle. The device possesses the characteristic of versatility in that the coin-receiving chutes can be set by way of a latch bar to either retain the coins to be manually dumped after inspection; to cause them to be automatically dumped when they accumulate; or permit them to immediately transfer into the coin vault as they are deposited.

3,542,284

ELECTROMECHANICAL COUPLING
Joseph C. Meagher, Northridge, California, assignor to RCA Corporation, a corporation of Delaware
Filed Oct. 8, 1968, Ser. No. 767,923
Int. Cl. G06k 1/05

U.S. Cl. 234-115

13 Claims



A punch mechanism having a force coupling structure using a punch element with a transverse slot across one end thereof and a separate punch drive element having a ridge across one end thereof lying adjacent to the slot. The slot has a characterized shape capable of mating with the ridge. The drive element is movable along an axis toward the punch element by an actuating means. A resilient means is used to establish a normally mating orientation of the slot and the ridge, while an electromagnetic means is arranged to selectively disrupt the mating orientation of the slot and the ridge by rotating the drive element with respect to the punch element. In the normal orientation, the movement of the drive member is isolated from the punch member by the mating of the slot and the ridge, while in the rotated orientation, the movement of the drive element is transmitted to the punch element by a contact between the ridge and the end of the punch element.

3,542,285

TABULATING DEVICE FOR AN ACCOUNTING OR LIKE MACHINE

Alessandro Cortona, Banchette and Piero Musso, Ivrea, Italy, assignors to Ing. C. Olivetti & Co., S.p.A., Torino, Italy a corporation of Italy

Filed Jan. 10, 1969, Ser. No. 790,291

Claims priority, application Italy, Jan. 10, 1968, 50065/68

Patent 825,550

Int. Cl. G06c 23/06

U.S. Cl. 235-60.46

30 Claims



A tabulating mechanism for an accounting or like machine comprising: a carriage shiftable transversely of the machine, a support for paper, a printing device mounted on the carriage, the relative position of the device with respect to the support being changeable upon shifting of the carriage; a first storage unit for indicating the current position of the carriage, a second storage unit for indicating the desired position of the carriage, means for comparing the indications

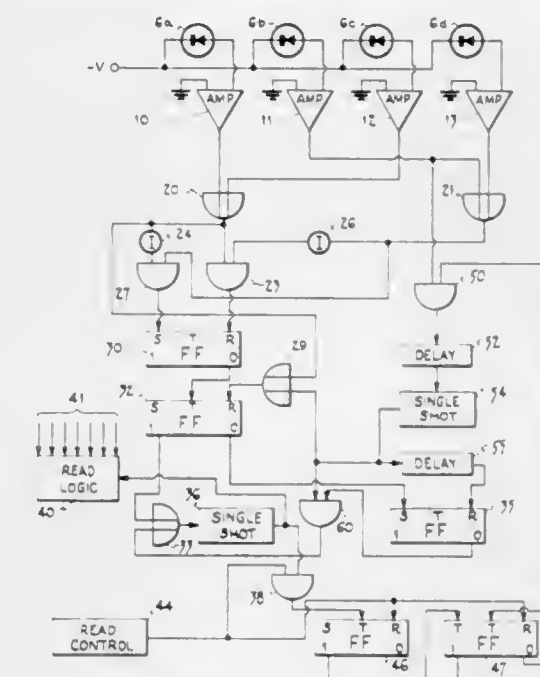
provided by the first and second storage units, and driving means controlled by the comparing means for shifting the carriage so that the indication provided by the first storage unit will be equal to the indication provided by the second storage unit.

3,542,286

TIMING SYSTEM FOR READOUT OF STORED DATA
Bill W. Binkley, Medford; Donald C. Lavalley, Magnolia and Carl C. Spagnoli, Marlton, New Jersey; said Binkley assignor to RCA Corporation, a corporation of Delaware
Filed Oct. 6, 1967, Ser. No. 673,484
Int. Cl. G06r 7/016

U.S. Cl. 235-61.11

7 Claims



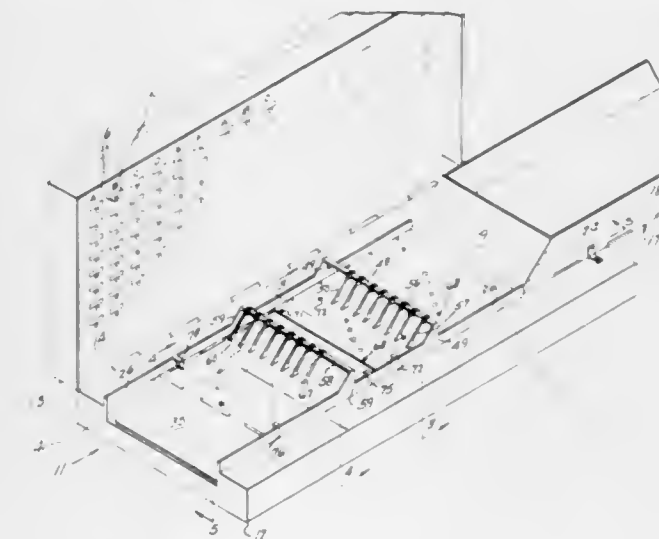
A timing system for triggering the readout of stored data from a storage member by transducers responsive to the stored data which is effective to synchronize the readout operation with the sensed sequence of a plurality of timing signals derived from the storage member and related to the position of the stored data.

3,542,287

INVALID BALLOT DETECTOR
Richard A. Schena, 189 Lowell Ave. and David Margaretos, 15 Rosedale Ave., Haverhill, Massachusetts 01830
Filed Aug. 2, 1968, Ser. No. 749,834
Int. Cl. G06k 5/00; G09b 7/06

U.S. Cl. 235-61.7

16 Claims



A device for counting ballots, or test scores, and for detecting excessively marked ballots or test cards. The device consists of a housing having an endless belt conveyor and a magazine to feed ballots or test cards to the conveyor. Two spaced transverse rows of pairs of feeler electrodes are mounted on the housing over the belt conveyor, adapted to engage the choice-marking positions of the successive cards. Also, the housing is provided with a plurality of photo sensors

located over the side marginal portions of the belt conveyor in positions to respond to markings on the cards. The first row of feeler electrodes actuates a group of step relays to select the proper category of choice and also to detect an excessive number of marks on the ballot or test card. An invalid stamping solenoid responds to the detection to mark the detected card invalid. The second row of feeler electrodes detects the choice markings and transmits the markings to associated counters, and if a ballot or card is marked invalid, a photosensor detects this, prevents counting or sensing thereof, and actuates a solenoid which swings a ramp upwardly in the path of movement of the invalid card, causing it to be segregated.

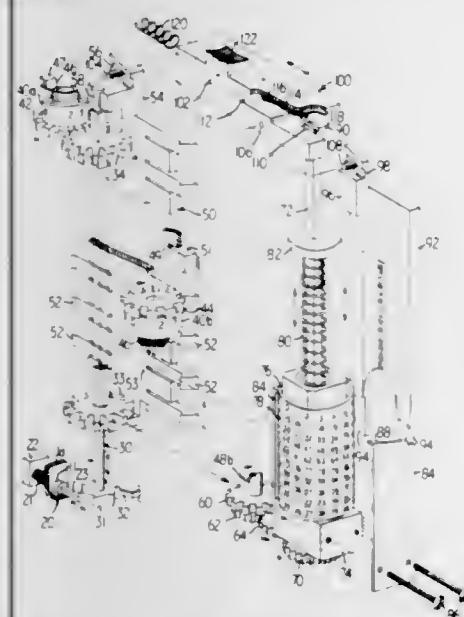
3,542,288

SUBTOTALLING AND GRANDTOTALLING TALLY
William J. Uhan, Saskatoon, Saskatchewan, Canada, assignor to Uhan & Goertzen Manufacturing Limited, Saskatoon, Sask., Canada, a corporation of Saskatchewan
Filed Dec. 18, 1968, Ser. No. 784,595

Int. Cl. G06c 15/42

U.S. Cl. 235—144

13 Claims



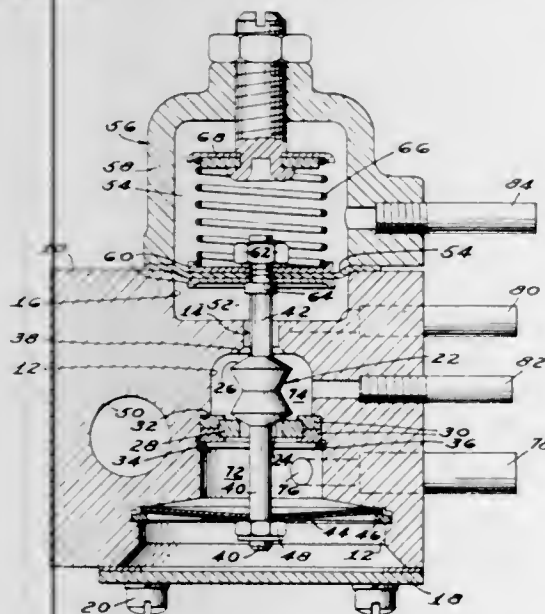
A zeroing device for use with a subtotalling and grandtotalling tally disconnects a mechanical connection between a plurality of subtotalling registers and a grandtotalling register to return all registers to zero simultaneously.

3,542,289

SNAP ACTION THERMALLY RESPONSIVE VALVE
William K. Ojala, Dearborn Heights, and Michael L. Ulrich, Rochester, Michigan, assignors to Ford Motor Company, Dearborn, Michigan, a corporation of Delaware
Filed Sept. 24, 1968, Ser. No. 762,003
Int. Cl. G05d 23/10; F16k 31/56, 11/02

U.S. Cl. 236—48

1 Claim



A two position valve alternately supplies vacuum to or bleeds vacuum from a line as a function of the level of a

trigger vacuum and the restraining force of a magnetic seat for the valve, the valve movement being further controlled by a thermally responsive, overcenter-type spring.

3,542,290

THERMOSTATIC GAS VALVE

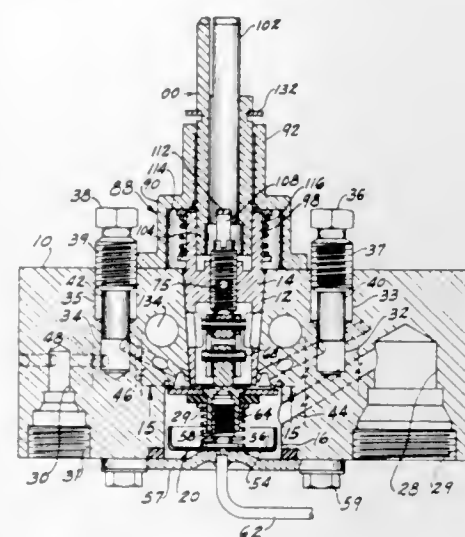
Thomas P. Fleer, Sunset Hills, Missouri, assignor to Aurora Corporation, Cleveland, Ohio a corporation of Illinois

Filed Oct. 28, 1968, Ser. No. 771,116

Int. Cl. C05d d23/02; 005 g/06

U.S. Cl. 236—99

5 Claims



A thermostatic gas valve with manual plug cock for domestic oven temperature control of particularly compact and economical construction in which the valve body is constructed of a short length of mill rolled rectangular bar stock, in which the oven temperature to be maintained is selected by variably positioning the thermostatically controlled valve relative to a fixed seat and in which the thermostatically controlled valve is variably positioned by rotation of the plug cock.

3,542,291

STREAMING

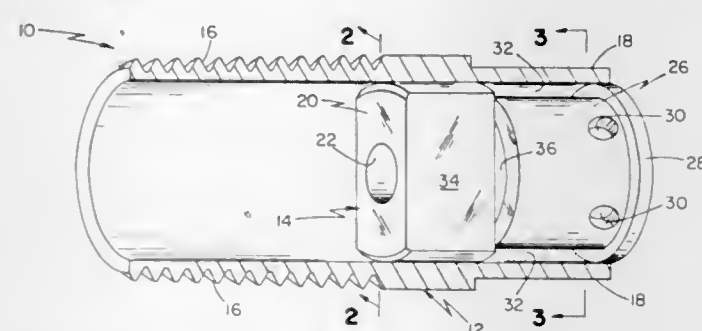
Nathaniel Hughes, Beverly Hills, California, assignor to Energy Sciences, Inc., El Segundo, California a corporation of California

Filed June 3, 1968, Ser. No. 734,089

Int. Cl. B05b 3/14

U.S. Cl. 239—8

4 Claims



Streaming to supersonic speeds with small nozzles using boundary layers to define effective nozzle surfaces and inlet end implosion of gas at greater than environmental pressure to intensify shock power at the nozzle outlet.

3,542,292

FOUNTAIN DISPLAY HAVING A MOVING SPRAY
Robert P. Chase, Port Ewen, New York, assignor to Unique Fountain Displays, Inc., New York, New York a corporation of New York

Filed Oct. 11, 1968, Ser. No. 766,708

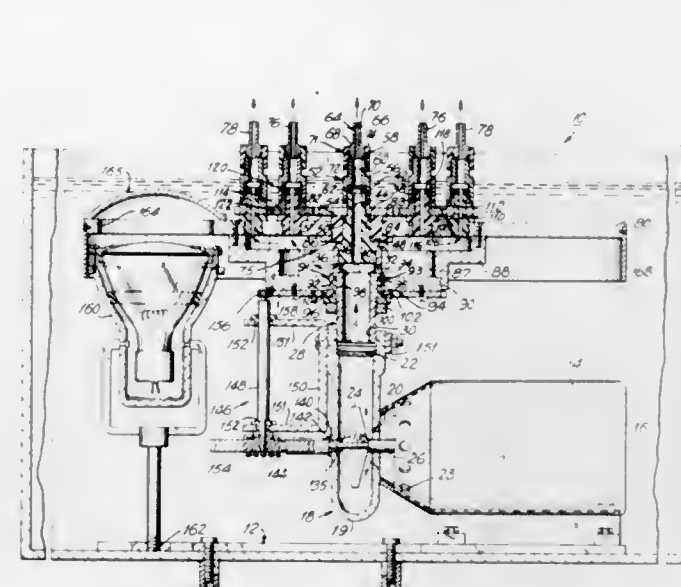
Int. Cl. F12p 7/00

U.S. Cl. 239—20

12 Claims

A pool fountain display consists of a primary central nozzle around which a plurality of secondary nozzles orbit in con-

centric relation thereto. Water is supplied from the bottom of the pool to a water pump and from the pump it is forced directly to the central nozzle and simultaneously to all of the secondary nozzles by means of a plenum chamber. A motor



drives the pump and simultaneously rotates the secondary nozzles about the central nozzle. All of the nozzles have individual angularly adjustable heads. Some of the secondary nozzles rotate about their own axes as they travel concentrically around the central nozzle, this by means of a sun and planetary gear arrangement, and others are rotated about their own axes by the rotating planetary gears. Colored lenses rotate about the central nozzle along with the secondary nozzles. Stationary lights, mounted below the lenses, illuminate the moving fountain spray through the rotating lenses.

3,542,293

FUEL INJECTOR

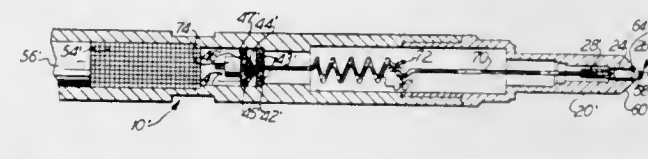
Irving N. Bishop, Farmington, and Michael A. Choma, and Laszlo Hideg, Dearborn Heights, and Richard G. Mosher, Dearborn, and Alador O. Simko, Dearborn Heights, Mich., assignors to Ford Motor Company, Dearborn, Michigan, a corporation of Delaware

Filed Aug. 1, 1968, Ser. No. 749,429

Int. Cl. F02m 45/10

U.S. Cl. 239—95

17 Claims



An axially movable, outwardly opening valve member seats on an outwardly tapered seat portion in the tip of the fuel injector about 0.005 inch upstream of the seat outer edge. A tension spring located within the fuel passage urges the valve member to its seat and also holds the valve member on the center line of the injector. The spring is designed to resonate the valve member at 250—1,200 cycles per second in stationary air. A rotator fastened to the upstream end of the tension spring utilizes the dynamics of the fuel injection to rotate the valve member.

3,542,294

SPRINKLER SUPPORT

Jesse Roy Tucker, 3529 SE. Lambert, Portland, Oregon 97202

Filed Aug. 19, 1968, Ser. No. 753,556

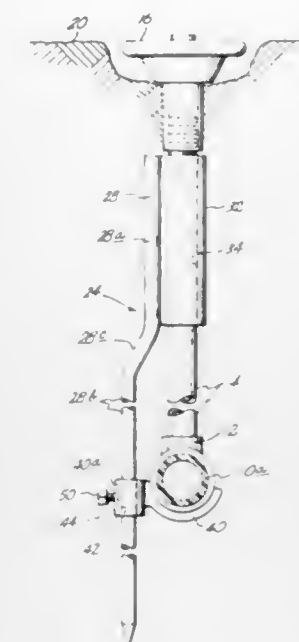
Int. Cl. A01g 25/00

U.S. Cl. 239—201

4 Claims

A support device for a horizontal main and a riser assembly projecting upwardly therefrom in a lawn sprinkler

system. The support device includes a riser support sleeve snugly receiving the riser assembly and a post extending



downwardly from the sleeve adapted to be driven into the ground. A saddle movably mounted on the post below the sleeve provides vertical support for the main.

ERRATUM

For Class 239—230 see:
Patent No. 3,543,013

3,542,295

EJECTOR NOZZLE FOR JET ENGINES

Erich W. Weigmann and Wolf Rosiger, Munich, Germany, assignors to Entwicklungsring Sud Gmbh, Munich, Germany

Filed April 26, 1968, Ser. No. 724,538

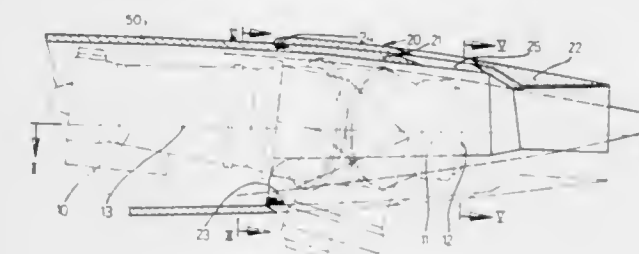
Claims priority, application Germany, April 28, 1967, E33

902

Int. Cl. B64c 15/04

U.S. Cl. 239—265.35

5 Claims



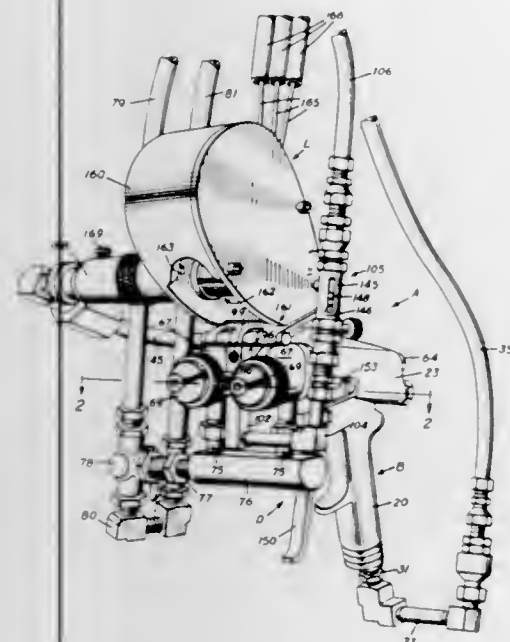
The exhaust jet of the illustrated aircraft propulsion means may be selectively directed in a downward direction to provide the vertical thrust necessary for takeoff and landing of the aircraft. Positioned about the primary exhaust nozzle of the engine is a secondary nozzle which comprises a pair of nested cylindrical segments. A first cylindrical segment is secured to the airframe of the aircraft and defines a longitudinally oriented elongated opening which is downwardly directed to permit passage of the primary nozzle therethrough during vertical flight. A second cylindrical segment similarly defines an elongated opening and is rotatable about its axis with respect to the first cylindrical segment. During vertical flight, the openings are placed in registration, and the primary nozzle is positioned therethrough. During cruise flight, the second cylindrical segment is rotated with respect to the first segment to provide a continuous shield about the primary nozzle.

3,542,296

APPARATUS FOR FORMING PLASTIC ARTICLES
Richard C. Bradley, Fort Lauderdale, Florida, assignor to Ransburg Electro-Coating Corp., Indianapolis, Indiana a corporation of Indiana
Filed Aug. 28, 1968, Ser. No. 755,910
Int. Cl. B05b 7/08

U.S. Cl. 239—306

3 Claims



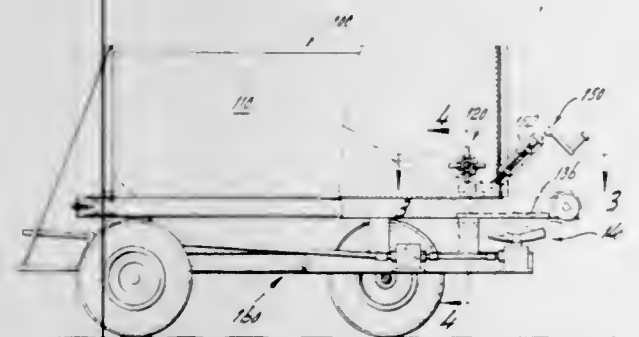
For the spray depositing of synthetic resins, a spray gun having a pair of outboard nozzles and a central nozzle which provide an intersecting spray pattern, the outboard nozzles receiving and spray emitting a promoted resin and the central nozzle receiving and spray emitting a catalyst for the promoted resin.

3,542,297

APPARATUS FOR SPREADING CHICKEN FERTILIZER AND LITTER THEREOF
Billy L. Wyrick, Rte. 1, Box 592, Calhoun, Louisiana 71225
Filed Nov. 7, 1968, Ser. No. 774,074
Int. Cl. E01c 19/20

U.S. Cl. 239—672

1 Claim

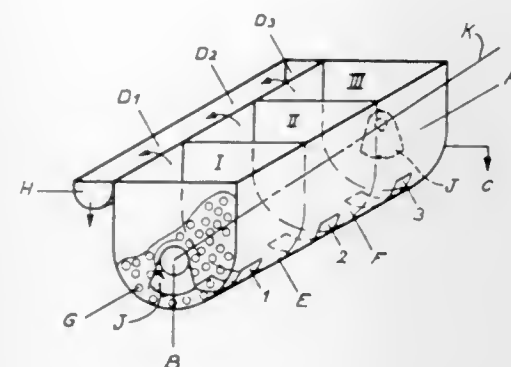


A machine for broiler house and commercial chicken fertilizer spreading, characterized by the controlled combination of hopper, unique flatbed feeding and rotating conveyor distributor wherein the feed flow is regulated from the hopper by novel means.

METHODS AND APPARATUS FOR TREATMENT OF A RAW MATERIAL
Siegfried Kiesskalt, Aachen, Germany, assignor to Siebtechnik GmbH, Mulheim, Ruhr, Germany
Filed Oct. 16, 1967, Ser. No. 675,462
Claims priority, application Germany, Oct. 14, 1966, S 106508
Int. Cl. B02c 17/10

U.S. Cl. 241—19

4 Claims



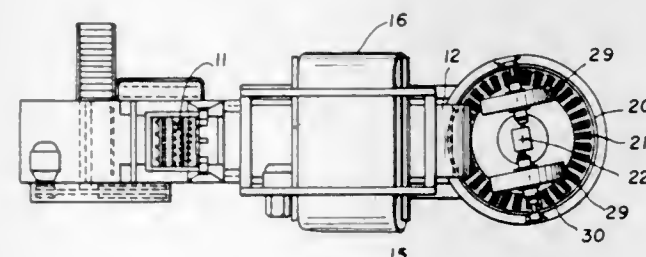
A method and apparatus for treatment of a raw material whereby the material is passed through a vibrating mill while being subjected to a flotation separation.

3,542,299

FOUNDRY SAND RECOVERY METHODS
Samuel A. Sholl, Clearfield, Pennsylvania, assignor to Clearfield Machine Company, a corporation of Pennsylvania
Filed July 11, 1968, Ser. No. 744,073
Int. Cl. B02c 15/00, 23/00

U.S. Cl. 241—24

5 Claims



A method is provided for reclaiming used foundry molds and cores by the steps of reducing them to a size less than 4 inches, removing free iron particles and subjecting them to a rubbing action between two relatively moving surfaces having simultaneously a parallel and a tangential component of motion relative to one another and spaced apart at least one-fourth inch.

3,542,300

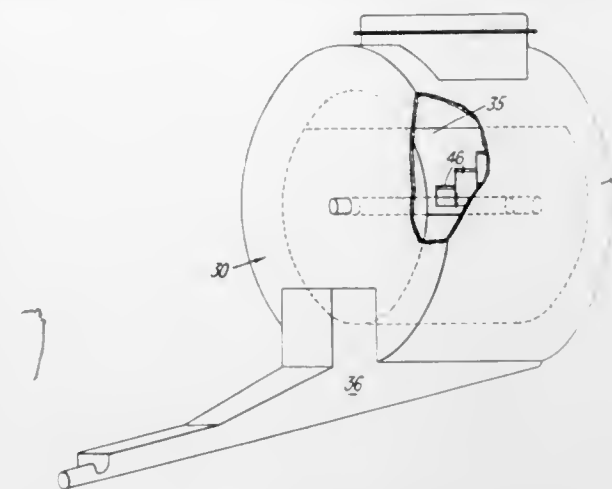
BALL HOPPER FOR BALL MILLS
Kenneth F. Brecknell and Ronald Arthur Ashdown, London, England, assignors to Foster Wheeler Corporation, Livingston, New Jersey a corporation of New York
Filed Jan. 11, 1968, Ser. No. 697,046
Claims priority, application Great Britain, Jan. 4, 1968, 805/67
Int. Cl. B02c 17/18, 23/02; B65g 1/08

U.S. Cl. 241—101

6 Claims

This disclosure relates to those pulverizing mills known as ball mills, to the charging of new balls to such mills and to a

ball-charging hopper. The new balls are held in a hopper and are fed to the mill a few at a time. They enter the mill by



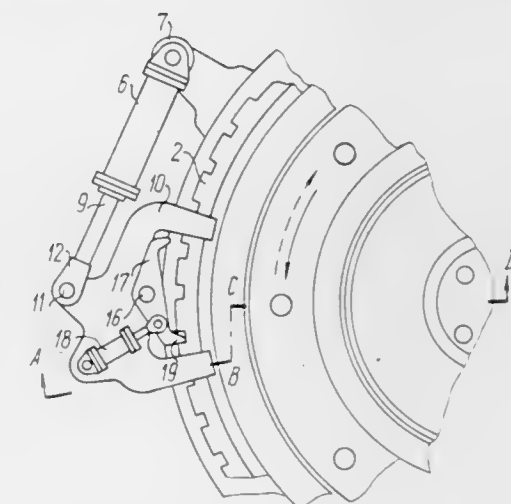
rolling directly into the scroll feeding device of the mill where they join the raw material and pass into the drum.

3,542,301

CONE CRUSHER WITH ADJUSTABLE BOWL
Evgeny Vasilievich Trifonov, Ul. Leningradskaya, 6, kv. 4; Marat Alexandrovich Subbotin, Ul. Zhilina 28, kv. 8; and Khaim Isakovich Simin, Ul. Nosova 5, kv. 2 all of Kuibyshevskoi, Oblasti, Toliatti, and Vyacheslav Genadievich Sokhin, Pl. Dzerzhinskogo 16, kv. 4, Poltava, U.S.S.R.
Filed Dec. 20, 1967, Ser. No. 692,178
Int. Cl. B02c 2/04

U.S. Cl. 241—207

4 Claims



A crushing bowl of a cone crusher is adjustable to vary the discharge slot formed between the bowl and an inner crushing cone. The bowl is connected to an adjusting ring which is threadably mounted within a supporting ring. A toothed rim is mounted on a casing carrying the adjusting ring and bowl, and the rim is turned by a hydraulic cylinder through a pivotal pusher mounted on a slide block. The turning of the ring causes the adjusting ring to travel in the supporting ring and adjust the size of the discharge slot. The pusher is actuated by a second hydraulic cylinder mounted on the slide block to engage the toothed rim during an adjusting operation and to disengage from the rim when the first hydraulic cylinder idles to an initial position.

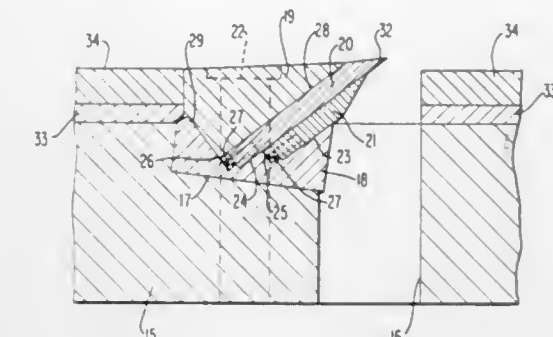
3,542,302

WOOD CHIPPER DISC AND KNIFE MOUNTING
Frank Louis Salzmann, Jr., 1713 Lomb Ave. W. P.O. Box 3885, Birmingham, Alabama
Filed Sept. 11, 1968, Ser. No. 758,984
Int. Cl. B02c 7/12; B27g 13/08

U.S. Cl. 241—298

6 Claims

A chipper disc assembly wherein the chipper knives are



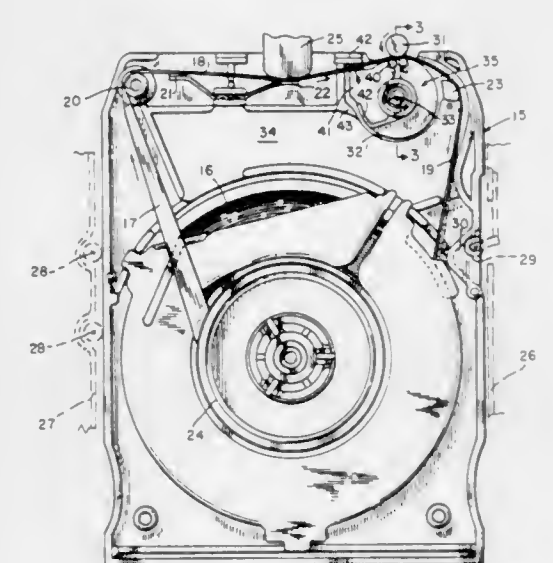
between adjacent knives on the disc, rendering maintenance economical and reducing the need for knife adjustment.

3,542,303

PINCH MEMBER FOR MAGNETIC TAPE TRANSPORT
Samuel H. Auld, Newport Beach, California, assignor to Lear Jet Industries, Inc., Wichita, Kansas a corporation of Delaware
Filed Aug. 8, 1967, Ser. No. 659,183
Int. Cl. B65h 17/48, 23/32; G03b 1/50

U.S. Cl. 242—55.19

12 Claims



The conventional pinch roller or tire is herein replaced by a member that does not rotate in the function of pressing magnetic tape against a drive capstan in its record or playback operation. One embodiment fits onto the post of the roller it replaces. It automatically adjusts to the capstan, and has inherent high lubricity for smooth tape transport with very low "wow" or flutter. Other embodiments have the same characteristics, one being with an elastic mounting.

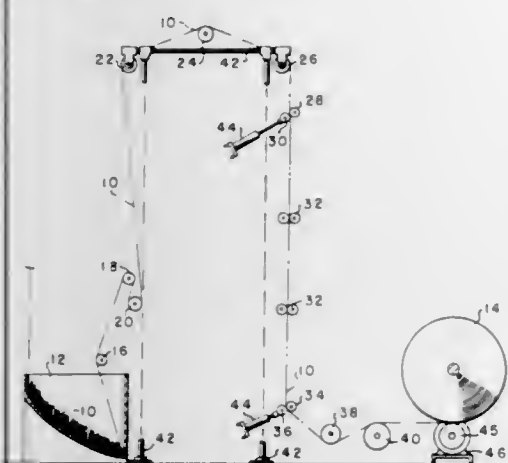
3,542,304

FABRIC TAKE-UP APPARATUS

Ernest P. Hudson, Spartanburg, South Carolina, assignor to Deering Milliken Research Corporation, Spartanburg, South Carolina a corporation of South Carolina
 Filed Nov. 21, 1967, Ser. No. 684,861
 Int. Cl. B65h 25/16, 15/32

U.S. Cl. 242-57

1 Claim



This invention is directed to a detector which will detect the presence of metal objects in a moving web of material and automatically stop the takeup of such material so that the detected metal can be removed by the operator.

3,542,305

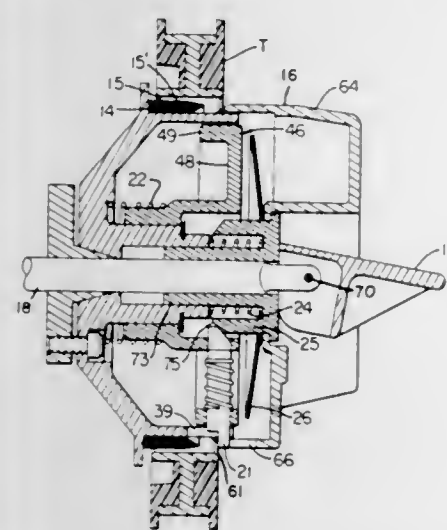
SELF-POSITIONING REEL LATCHING APPARATUS

Louis B. Feinabend, Boulder, Colorado, assignor to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed Oct. 29, 1968, Ser. No. 771,596
 Int. Cl. B65h 17/02

U.S. Cl. 242-68.3

12 Claims



Axial positioning and alignment of a magnetic tape reel on a motor driven reel hub is brought about automatically by an improved reel positioning mechanism in which a shiftable camming device positively urges a plurality of radial positioning members outwardly beyond the inner surface of the reel, and a floating carrier for the positioning members is spring-loaded to drive the extended positioning members back against the reel into accurate alignment with the reel hub prior to latching of the reel to the reel hub.

3,542,306

CARTRIDGE FOR ROLL OF WEB MATERIAL

John J. Bundschuh, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

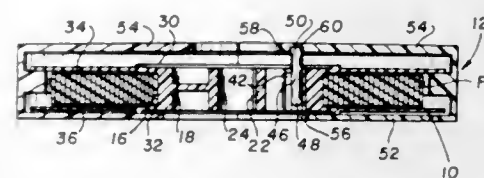
Filed Jan. 7, 1969, Ser. No. 789,564
 Int. Cl. G03b 1/04

U.S. Cl. 242-71.1

8 Claims

A cartridge adapted to rotatably contain a reel of web material includes means cooperative with the reel to prevent

rotation of the reel when the reel is improperly oriented in the cartridge. In a preferred embodiment the reel includes an abutment member or pin extending axially therefrom adjacent a hub portion of the reel and the cartridge includes an



arcuate slot subtending an angle of less than 360° in a sidewall of the cartridge. The slot in the cartridge is adapted to receive the pin to prevent rotation of the reel in the cartridge when the reel is improperly oriented in the cartridge.

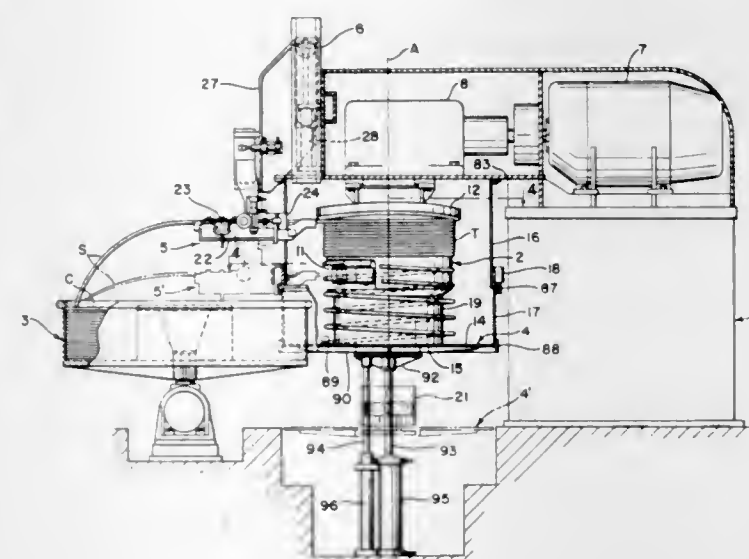
3,542,307

RECEIVING TRAY FOR STRAND MATERIAL

James W. Schuetz and Edward I. Taylor, Jr., Pittsburgh, Pennsylvania, assignors to Blaw-Knox Company, Pittsburgh, Pennsylvania a corporation of Delaware
 Filed Oct. 22, 1968, Ser. No. 769,568
 Int. Cl. B21c 47/00

U.S. Cl. 242-83

14 Claims



Apparatus for drawing strands such as tubing or rods in which the strand is drawn from a source, such as a coil, through a die onto a capstan rotatable about a generally vertical axis, after which turns of the strand drop onto a receiving tray that during the drawing operation is in an elevated position where it rotates with the lower portion of the capstan so that it receives in a coil the turns of strand dropped from the capstan. A guard encircles the lower portion of the capstan and the coil of discharged strand, and preferably rotates with the receiving tray and capstan. After the desired amount of strand has been drawn and deposited on the tray, the receiving tray is lowered and the coil of drawn strand is removed.

3,542,308

METAL REEL

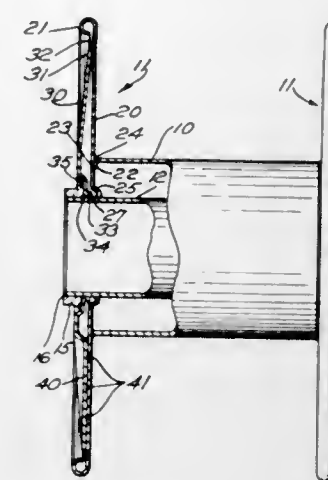
Everett O. Starratt, Cumberland, Rhode Island, assignor to Wanskuck Company, a corporation of Rhode Island
 Filed July 8, 1968, Ser. No. 743,135
 Int. Cl. B65h 75/14

U.S. Cl. 242-118.8

3 Claims

A metal reel for wire having a barrel with heads at its op-

posite ends, which heads are reinforced to prevent outward deflection by the pressure of wire being wound thereon by a runway of the film located inside the cartridge under an ob-



disc having ribs which increase in width radially outward from the center thereof.

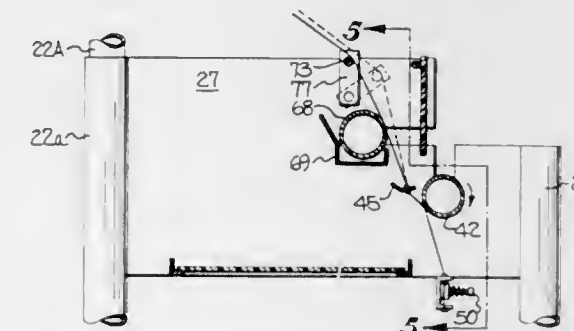
3,542,309

TEXTILE YARN STORAGE AND ADVANCING APPARATUS AND METHOD

David M. Willis and William O. Young, Jr., Spartanburg, South Carolina, assignors to Jonathan Logan, Inc., Spartanburg, South Carolina a corporation of Delaware
 Continuation-in-part of application Ser. No. 748,787, July 30, 1968, now abandoned. This application Jan. 30, 1969, Ser. No. 795,274
 Int. Cl. B65h 49/02; D02h 1/00; D03j 5/08

U.S. Cl. 242-131

22 Claims



Apparatus for storing a plurality of packages of yarn and for furnishing ends of yarn from the packages under controlled tension conditions, wherein the ends of yarn have predetermined tensioning forces applied thereto by tensioning means and have the tension therein reduced by a predetermined ratio to compensate for and reduce variations in tension in the yarns, and a method of supplying yarns under controlled tension conditions.

3,542,310

FILM-FEEDING DEVICE

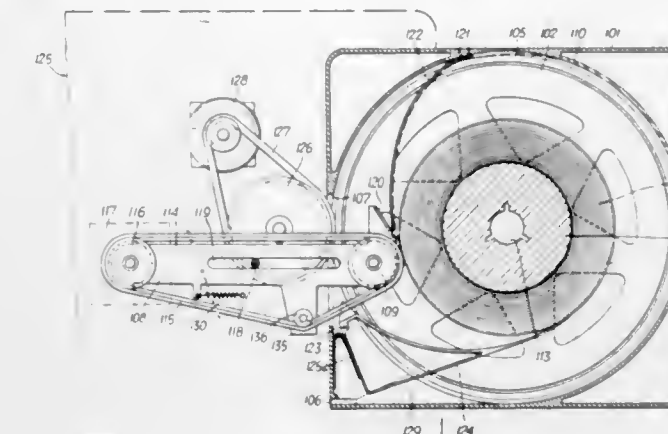
Eduard Keznickl, Heinz Wilhelm Broeckl, Alfons Valoh, Harald Schmidt, and Michael Drahonovsky, Vienna, Austria, assignors to Karl Vockenhuber, Vienna, Austria and Raimund Hauser, Vienna, Austria both citizens of Austria
 Filed May 6, 1968, Ser. No. 726,813
 Claims priority, application Austria, May 16, 1967, March 22, 1968, A4583/67; A2889/68

Int. Cl. G03b 1/04; G11b 15/32

U.S. Cl. 242-192

7 Claims

A film-feeding device, especially for film cartridges with a supply reel and opening in the cartridge wall, in which a friction roller is arranged to thread the film and at least one guiding roller spaced a distance from the friction roller and connected with a belt together propping in the operative position immediately against the circumference of the film coil. At least one third roller is looped by the belt and the central points of the three rollers lie at the corner points of a fictitious triangle, whereby preferably, upon threading the leading film end out of the cartridge, the portion of the belt



tuse angle, of which the opening is opposite the runoff direction of the film.

3,542,311

REEL ADAPTOR

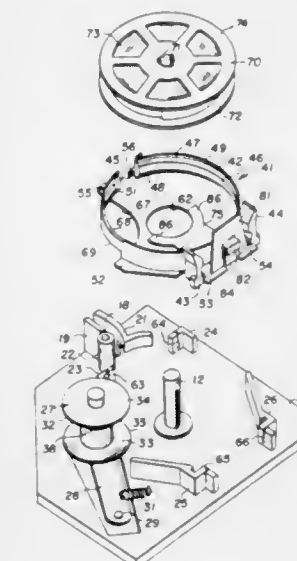
Elmer O. Wangerin, Rochester, New York, assignor to Eastman Kodak Company, Rochester, New York a corporation of New Jersey

Filed May 20, 1968, Ser. No. 730,270

U.S. Cl. 242-197

12 Claims

Int. Cl. G03b 1/04; G11b 15/32, 23/04



A film-handling device provided with film-threading means which cooperate with film guide elements defined by the magazine structure of magazine-loaded film supply reels is converted to accommodate unenclosed film supply reels by an adaptor unit removably mounted to the device to provide analogous film guide elements for an unenclosed film reel installed in the adaptor unit.

3,542,312

WEB TRANSPORT DRIVE STRUCTURE

Leif O. Erickson, Little Canada, Minnesota, assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minnesota a corporation of Delaware

Filed June 21, 1968, Ser. No. 738,966

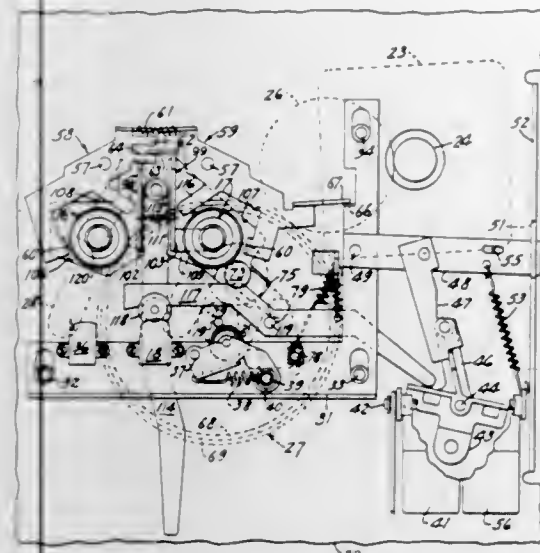
Int. Cl. B11b 15/32; G03b 1/04

U.S. Cl. 242-202

12 Claims

A drive system for a web transport which utilizes a

pair of spindles, each having a built-in slip clutch structure, means for opening the cooling apertures on the side having mounted for movement along their axes to afford the greatest temperature difference, whereby electronic in-



selective frictional driving engagement with a driving member.

3,542,313

KEEPER CLOSURE

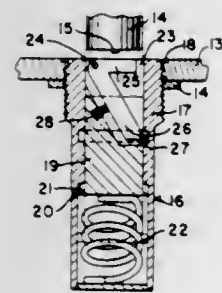
Henry Knox Bryson, P.O. Box 6624, St. Petersburg Beach, Florida and Milford A. Juten, 4008 61st St., Washington, District of Columbia

Filed July 29, 1969, Ser. No. 845,812

Int. Cl. F05b 15/02

U.S. Cl. 292—341.14

6 Claims



To prevent the small heels of ladies' shoes being caught in the openings in a strike or keeper in a threshold of a door frame, which keepers cooperate with lock bolts in a door, a closure is provided to make the bolt-receiving opening in the keeper substantially closed and flush with the threshold and the present invention provides an automatic latching structure to retain a closure member so that its outer surface is substantially flush with a threshold and a small heel of a lady's shoe cannot enter the bolt-receiving opening in the keeper.

3,542,314

TEMPERATURE REGULATOR FOR SATELLITES

Reimund Bey, Friedrichshafen, Germany, assignor to Dornier System G.m.b.H., Friedrichshafen, Germany, a corporation of limited liability of the Federal Republic of Germany

Filed Sept. 28, 1967, Ser. No. 671,415

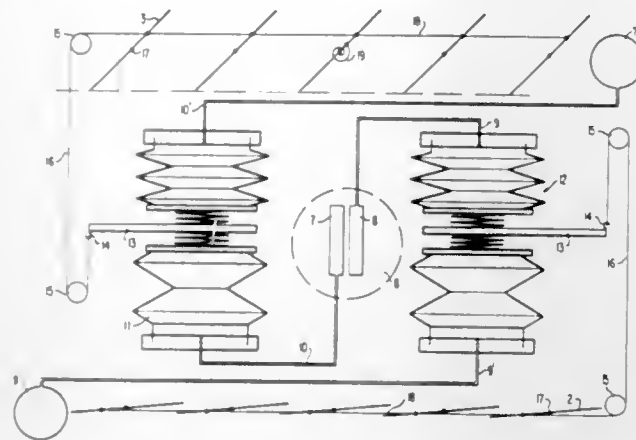
Claims priority, application Germany, Nov. 10, 1966, D51506

Int. Cl. B64g 1/10

U.S. Cl. 244—1

6 Claims

This invention relates to a temperature regulating apparatus for a satellite having variable cooling apertures in the exterior sheathing thereof which apparatus comprises means for measuring the temperature difference with respect to the interior of the satellite on two opposite sides thereof and



struments contained within the satellite are not adversely affected by extreme temperature changes.

3,542,315

INSTRUMENT DISPLAY UNIT

Erich A. Eberl, Bruckmühl, and Manfred Schmid, Munich, Germany, assignors to Entwicklungsring Sud G.m.b.H., Munich, Germany

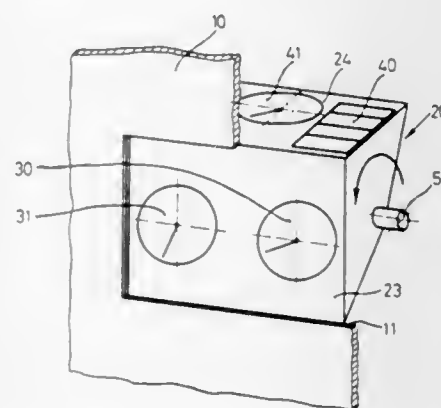
Filed March 5, 1968, Ser. No. 710,466

Claims priority, application Germany, March 7, 1967, E 33534

Int. Cl. B64d 43/00

U.S. Cl. 244—1

5 Claims



An instrument display unit particularly adapted for aircraft applications. The unit includes a pair of instrument display surfaces upon which various measuring devices are mounted. Means are provided for rotating the unit about a common axis parallel to the plane of each of the display surfaces. The unit is mounted adjacent to the rear surface of a conventional instrument panel and positioned so that each of the display panels may be selectively positioned in registration with a viewing cutout defined by the instrument panel.

3,542,316

MICROWAVE PLATFORM SYSTEM

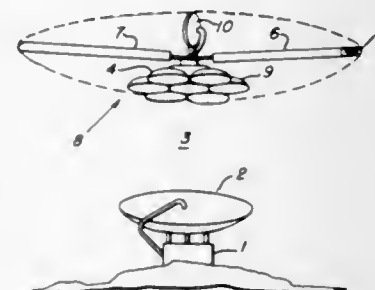
Harold M. Hart, Wellesley, Massachusetts, assignor to Raytheon Company, Lexington, Massachusetts a corporation of Delaware

Filed Dec. 1, 1961, Ser. No. 156,318

Int. Cl. B64c 27/00

U.S. Cl. 244—17.11

10 Claims



An energy summing system, comprising a plurality of means for guiding microwave energy, means for terminat-

ing said guiding means, means in each of said terminations to convert said microwave energy into thermal energy, and means for summing said thermal energy.

3,542,317

MODERNIZED HELICOPTER

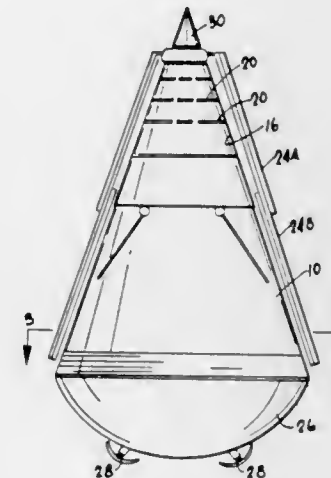
James Edward Irby, Rte 3, Box 145, Spartanburg, South Carolina 29301

Filed April 25, 1968, Ser. No. 724,036

Int. Cl. B64c 27/00, 27/50

U.S. Cl. 244—17.17

5 Claims



An aircraft of novel shape and design which functions efficiently as a helicopter and can be landed either on land or in water.

3,542,318

APPARATUS FOR ROTATING AIRCRAFT WHEELS PRIOR TO LANDING

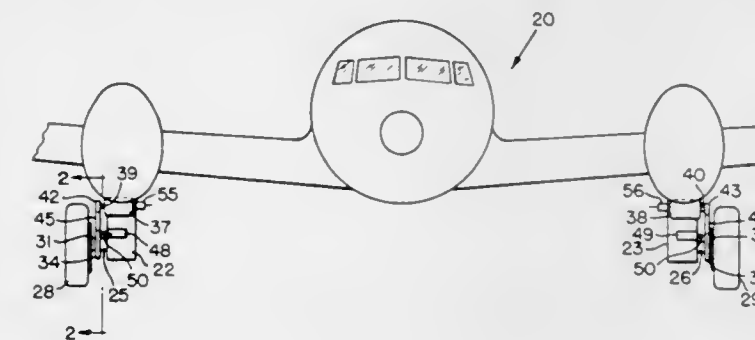
Ralph G. Ellsworth, 185 Falstaff Road, Rochester, New York

Filed Sept. 9, 1968, Ser. No. 758,273

Int. Cl. B64c 25/40

U.S. Cl. 244—103

2 Claims



The wheels of a retractable landing gear are drivingly connected to the armatures of two motors, which are automatically energized, when the gear begins to lower just prior to the landing of the aircraft, and which are deenergized, as soon as the gear is fully lowered, and while the craft is still airborne. Warning lamps indicate when the gear is fully lowered; and speedometers connected to the wheels indicate the r.p.m. thereof. A rheostat in series with the motors is adjustable by the pilot to vary the power to the motors so that the r.p.m. of the wheels can be adjusted in relation to the air speed of the craft. The speedometers may be of the type which develop a voltage corresponding to the speed of the wheels; and means may be used to compare this voltage with that applied to the motors, and to deenergize the motors when the voltages are equal.

3,542,319

ADJUSTABLE EJECTION SEAT WITH CANOPY BREAKERS

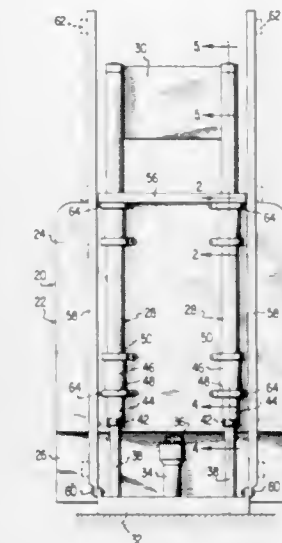
James W. Duncan, Arden, and Fred B. Stencel, Asheville, North Carolina, assignors to Stencel Aero Engineering Corporation, Arden, North Carolina a corporation of North Carolina

Filed Feb. 27, 1968, Ser. No. 708,702

Int. Cl. B64d 25/10

U.S. Cl. 244—122

19 Claims



An ejection seat for use in aircraft wherein a catapult system is used for propelling the seat upwardly out of the aircraft when the catapults are actuated. The catapults are attached to the back of the seat by means of a sleeve concentrically surrounding a portion of the catapult tube, and along this portion of the tube, a piston means is formed. Thus, by controlling the introduction of fluid pressure into the sleeve to react against the piston portion of the catapult tube, the seat can be selectively adjusted in height so that the occupant's eyeline will be at a proper level. By limiting the pressure which can be contained in the upper part of the sleeve, it is possible to restrict to a predetermined value, the maximum downward force which can be exerted on the seat. When this predetermined value is exceeded, the seat will adjust downward at a controlled rate thereby limiting downward acceleration on the seat occupant to a physiologically tolerable level and thus lessening the possible injuries which could be inflicted upon the occupant in the event of a crash.

The catapults themselves include telescoping inner and outer tube members which are normally locked together adjacent the upper end thereof, and additionally, a canopy breaker is provided at the upper end of each set of catapult tubes. When the catapults are actuated or energized, the fluid pressure therein serves to unlock the inner and outer catapult tubes to permit the same to telescope relative to one another, and additionally, such pressure energizes the canopy breaker to drive the same upward for shattering the canopy.

3,542,320

AIRCRAFT MAIN SPAR MODIFICATION

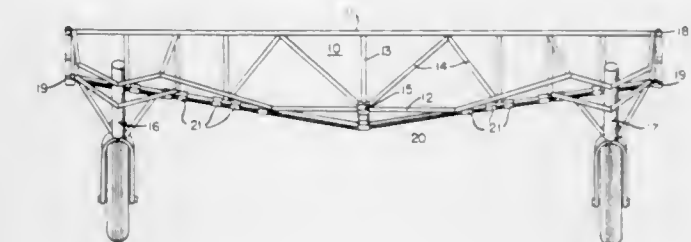
Durrel U. Howard, 306 Krameria Drive, San Antonio, Texas

Filed Aug. 30, 1968, Ser. No. 756,556

Int. Cl. B64c 3/18

U.S. Cl. 244—123

11 Claims



A modification for the main wing spar of aircraft, particularly the aircraft designated as Beechcraft Model 18, comprising an elongate strap which is affixed to the lower spar cap, but is external of the skin on the belly of the aircraft. The auxiliary strap is placed in tension, thereby compressing

the lower spar cap so that in response to positive gravity loads on the wings, the lower spar cap is subjected to tension forces substantially only one-half of that normally encountered. To stabilize the forces at the end of the auxiliary strap, an L-shaped member is employed, whose longer lever arm is secured to the top wing attach bolt. Means are also provided to minimize bending moments on the lower spar cap, resulting from the affixing thereto of the auxiliary strap.

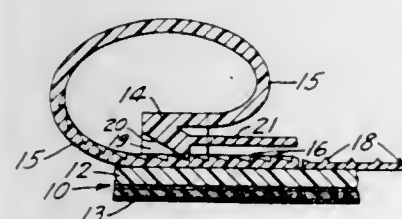
3,542,321
TIE

Richard D. Kahabka, Burnsville, Minnesota, assignor to Minnesota Mining and Manufacturing Company, Saint Paul, Minnesota a corporation of Delaware

Filed May 29, 1968, Ser. No. 733,749
Int. Cl. F16l 3/14, 3/22

U.S. Cl. 248-68

12 Claims



A tie for retaining and supporting a bundle of wires includes a flexible serrated strap terminating in a strap-receiving loop fitted with a strap-securing flexible pawl carrying a release member, for insertion into, or unitary with, an adherent mounting plate.

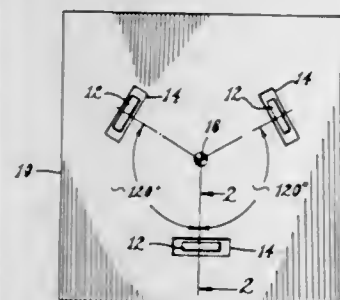
3,542,322
VIBRATION ISOLATION SYSTEM AND ISOLATOR THEREFOR

Martin Dvorin, Brighton, New York, assignor to Bausch & Lomb Incorporated, Rochester, New York a corporation of New York

Filed May 16, 1968, Ser. No. 729,737
Int. Cl. F16f 3/00

U.S. Cl. 248-22

6 Claims



A vibration isolation system which includes one or more tiers of three-point isolation loading. Each tier thereof includes three vibration isolators held in recesses in the base of the upper structure to be isolated. The isolators are constructed of lengths of tubular resilient material. In the vibration isolation system, the axes of the separate isolators are inclined to each other by approximately 120°.

3,542,323
HOLDER FOR DIAL INDICATORS

James W. Arnold, Riverside, California, assignor to A/S Tool Design & Manufacturing, Riverside, California

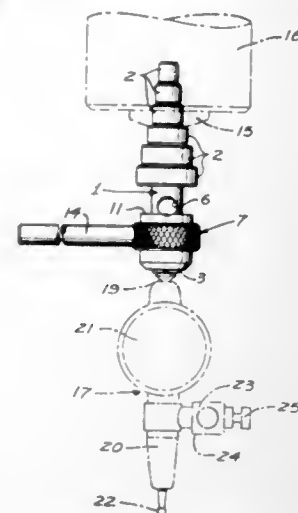
Filed Jan. 27, 1969, Ser. No. 794,033
Int. Cl. B23b 29/00

U.S. Cl. 248-205

4 Claims

A holder for dial indicators which includes a shaft, one end of which has a set of mandrels to be received in collets of different diameters and the other end is provided with a longitudinal bore and a transverse bore, and a collar screwthreaded

on the shaft to clamp a rod in the longitudinal bore or the transverse bore for the purpose of supporting a dial indicator



in essentially coaxial relation to said shaft or in laterally offset relation thereto.

3,542,324

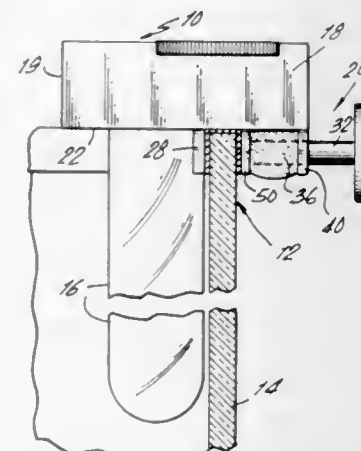
AQUARIUM HEATER-MOUNTING DEVICE

Allan H. Willinger, New Rochelle, New York, assignor to Metaframe Corporation, Hawthorne, California a corporation of Delaware, by mesne assignments

Filed Dec. 7, 1967, Ser. No. 688,748
Int. Cl. B25b 5/00

U.S. Cl. 248-360

6 Claims



The invention is directed to novel means for springingly mounting an aquarium heater upon the rim of an aquarium tank by providing a mounting device on the heater, which device comprises a resilient member acting in association with a stationary member upon the rim of the tank interposed therebetween, with the result that the heater is springingly engaged with the rim of the tank.

3,542,325

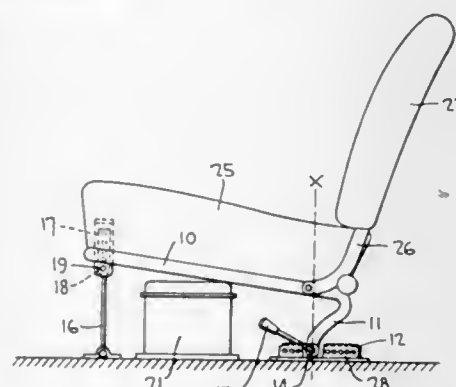
ADJUSTABLE FRONT SEAT FOR MOTOR VEHICLE

Kurt Schwenk, Wolfsburg, Germany, assignor to Volkswagenwerk Aktiengesellschaft, Wolfsburg, Germany a corporation of Germany

Filed Feb. 13, 1968, Ser. No. 705,221
Int. Cl. B60n 1/08

U.S. Cl. 248-393

2 Claims



A vehicle seat with a seat frame having a front edge member and a pair of rear supports with a track member for

each support. A front support is secured to the front edge member of the frame.

3,542,326

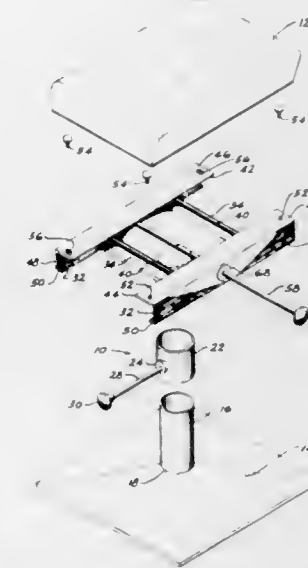
ADJUSTABLE CHAIR SLIDE MECHANISM

Alfred G. Reapsummer, 1411 Southwest 15th Ave., Fort Lauderdale, Florida

Filed Aug. 21, 1968, Ser. No. 754,410
Int. Cl. F16m 11/28

U.S. Cl. 248-413

6 Claims



Slide mechanism for an adjustable chair including plate means attaching the seat and slideably mounted in relation to a platform secured to a pedestal. A body of low friction material is disposed between the opposed surfaces of the plate means and the platform to enhance the relative sliding between the members and a rotational rod is operatively attached to the plate means for locking the members together in selectively adjusted positions.

3,542,327

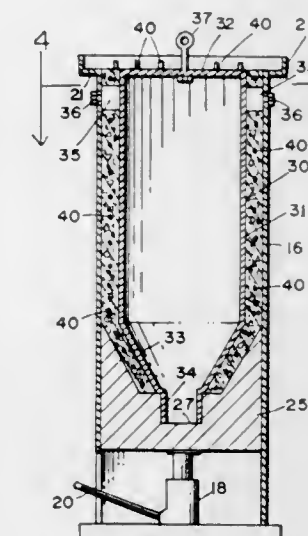
APPARATUS FOR PRODUCING PRECAST MONOLITHIC MANHOLES

Joseph F. Herzog, 11525 W. Biscayne Canal Road, Miami, Florida 33161

Filed June 5, 1968, Ser. No. 734,786
Int. Cl. B28b 7/10, 21/82

U.S. Cl. 249-65

4 Claims



Apparatus for producing precast monolithic manholes having an outer cylindrical form with an offset portion mounted at the upper end, a lower inner form slidably supported within the outer form by a jack and a main inner form centered on the lower form; the spaces between the forms forming the cylindrical and tapered portions of the manhole and upon being poured and set, the main inner form is removed

3,542,328

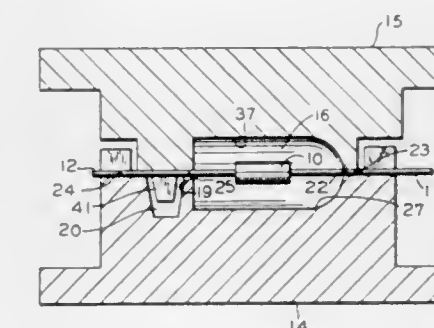
MOLD HAVING V-SHAPED GUIDES TO PREVENT PINCHING A LEAD ON A COMPONENT DURING AN ENCAPSULATION PROCESS

Rollin E. Deitrick, Winston-Salem, North Carolina, assignor to Western Electric Company, Incorporated, New York, New York a corporation of New York

Filed Feb. 19, 1969, Ser. No. 800,438
Int. Cl. B22d 19/04

U.S. Cl. 249-95

8 Claims



A pair of mold halves have extending and cooperating guide members, one on each mold half, with opposed V-shaped notches for positioning a lead within a passageway when the mold halves are closed. One guide member extends into a runner formed in the opposite mold half for directing molded plastic to cavities in the mold.

3,542,329

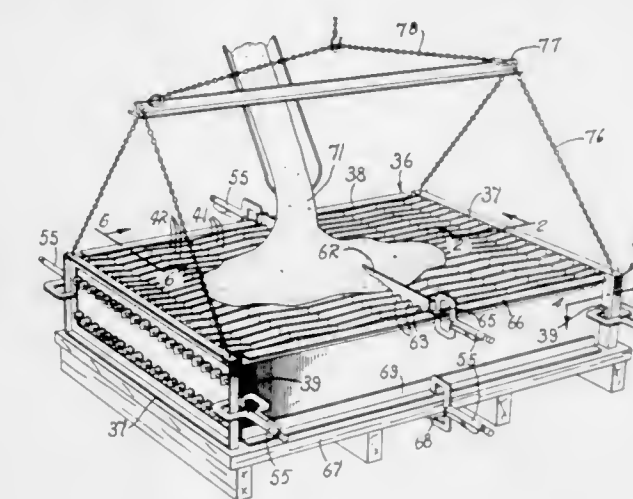
MOLDING APPARATUS FOR FORMING A PLURALITY OF STRUCTURAL ELEMENTS

Derrel J. Ridenour, 4646 Lewis Ave., Fresno, California
Continuation-in-part of application Ser. No. 576,581, Sept. 1, 1966, now abandoned. This application Nov. 13, 1968, Ser. No. 777,997

Int. Cl. B28b 7/24

U.S. Cl. 249-129

11 Claims



A molding apparatus for forming a plurality of elongated structural elements which provides a plurality of spaced partitions adapted to be rested upon a support surface and to receive a flowable hardenable material therebetween with the partitions having opposite ends individually including outwardly extended camming means and a partition lifting and element stripping frame circumscribing the partitions providing opposite end members having a plurality of openings therethrough for receiving said camming means of the partitions in sliding engagement to cause limited horizontal and vertical relative movement between the partitions and the end members automatically to release the structural elements from the forming apparatus after curing incident to raising of said end members from the support surface.

3,542,330

VENTING STRUCTURE FOR BATTERY GRID MOLD
John Wirtz, Port Huron, Michigan, assignor to Wirtz Manufacturing Co., Inc., Port Huron, Michigan a corporation of Michigan

Filed May 8, 1968, Ser. No. 727,604
Int. Cl. B29c 1/14; B22c 23/00

U.S. Cl. 249-141

12 Claims



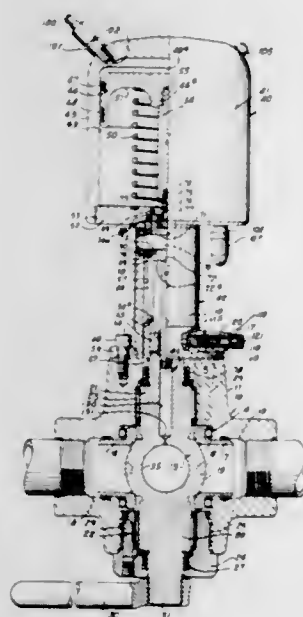
A battery grid mold having a vent bar set into a channel extending across the mold face. The edges of the bar contacting the sides of the channel being relieved at spaced points to provide vent passageways sufficiently large to permit venting of air therethrough but sufficiently small to prevent the flow of molten metal into said passageways. The rear side of the channel communicating with a passageway in the mold leading to a port at the edge of the mold for exhausting air through the vent passageways or for supplying pressurized air to the vent passageway when the mold face is being sprayed with a mold coat.

3,542,331
VALVES

Carlos R. Canalizo, Dallas, Texas, assignor to Otis Engineering Corporation, Dallas, Texas a corporation of Delaware
Filed May 17, 1968, Ser. No. 730,102
Int. Cl. F16k 31/14, 31/16

U.S. Cl. 251-14

12 Claims



An actuator for a rotary-type valve having booster means for assuring actuation of the valve and which is failsafe and automatically operative to close the valve.

3,542,332

AIR OPERATED POPPET SEAT VALVE

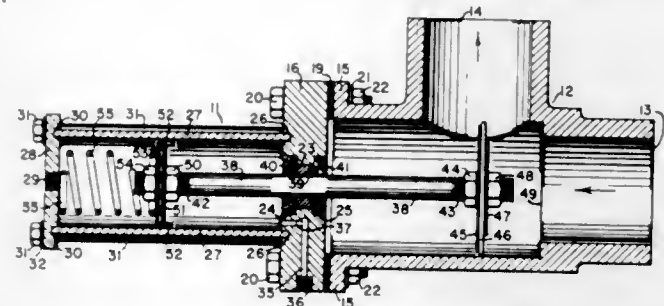
Alain A. Chevalier, 11307 Mystery Drive and Edgar R. Wilhoit, 527 E. Palfrey, San Antonio, Texas
Filed Nov. 22, 1968, Ser. No. 778,199
Int. Cl. F16k 31/12

U.S. Cl. 251-63.6

6 Claims

An air operated poppet seat valve consisting of a body of desired configuration to which an air chamber detachably connects. A cup in said air chamber is spring biased whereby the valve is in either normally open or normally closed condition.

tion. A source of air or other gas supplied to the opposite side of the said cup at a pressure sufficiently great to overcome the force exerted by the spring causes the valve to close or open, respectively.



3,542,333

VALVE INCLUDING AT LEAST ONE FLOATING FLAP
Harald Stampfli, Petit-Saconnex, Switzerland, assignor to Lucifer S.A., Carouge-Geneva, Switzerland, a company of Switzerland

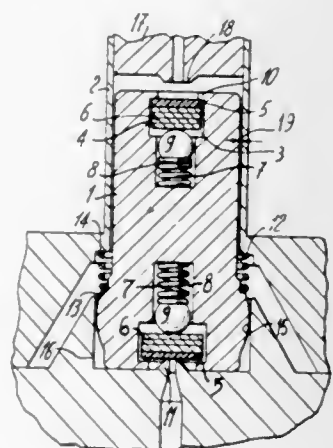
Filed Dec. 31, 1968, Ser. No. 788,142

Claims priority, application Switzerland, Jan. 19, 1968, 890/68

Int. Cl. F16k 25/00, 31/06

U.S. Cl. 251-85

8 Claims



A valve of the type including at least one flap valve floatingly carried inside a movable member and urged by a spring against its seat wherein the thrust of the spring is caused to be aligned with the seat axis as obtained by inserting between the spring and the flap an intermediate member such as a ball or a sliding piston, provided with a convex surface engaging the flap at a point aligned with the axis of said seat.

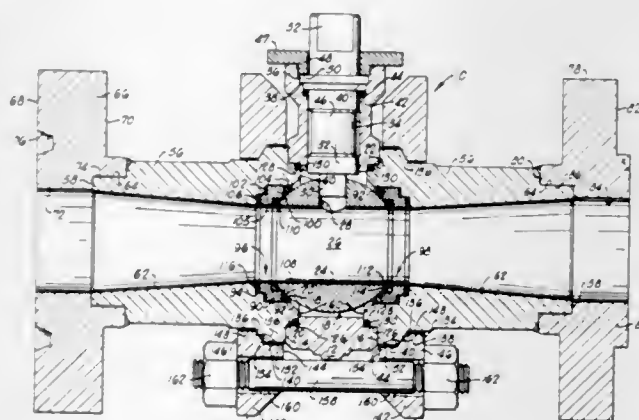
3,542,334

HIGH PRESSURE VALVE ASSEMBLY

Domer Scaramucci, 3245 S. Hattie, Oklahoma City, Okla.
Filed Jan. 9, 1969, Ser. No. 790,127
Int. Cl. F16k 5/06

U.S. Cl. 251-152

23 Claims



A valve assembly generally disposed between a pair of connectors and held in an assembled relationship therebetween by a plurality of bolts which extend through a pair of separate flange rings, wherein the flange rings and connectors are constructed such that the flange rings may swivel or tilt with respect to the respective connector, and thus compensate for the uneven tightening of the bolts and therefore the resulting uneven tension.

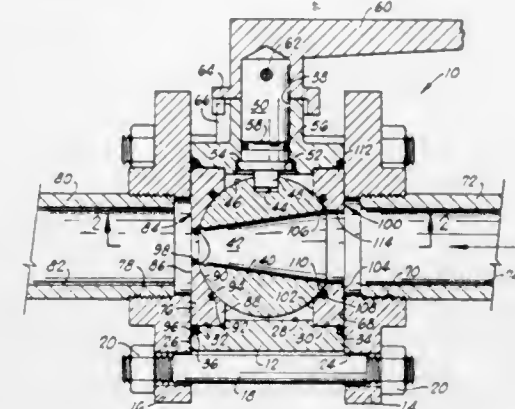
3,542,337

THROTTLING VALVE WITH PROTECTED SEALS
Domer Scaramucci, 3245 S. Hattie, Oklahoma City, Oklahoma

Filed July 29, 1968, Ser. No. 748,372
Int. Cl. F16k 5/06

U.S. Cl. 251-209

6 Claims



An improved throttling valve wherein the annular seal means is disposed, with respect to the flow port of the valve member, whereby said annular seal means is protected from the erosive effect of the fluid flow at all times during the movement of the valve member from a position wherein the flow passageway through the throttling valve is fully open to a position closing said flow passageway, thus providing a valve capable of functioning effectively as a throttling valve and capable of providing a positive seal during shutoff or while in the closed position.

3,542,338

THROTTLING VALVE

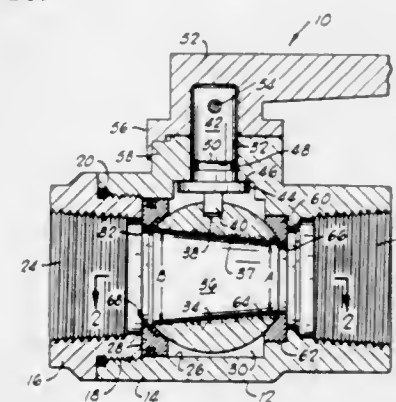
Domer Scaramucci, 3245 S. Hattie, Oklahoma City, Oklahoma 73127

Continuation-in-part of application Ser. No. 547,926, May 5, 1966, now abandoned. This application July 29, 1968, Ser. No. 756,078

Int. Cl. F16k 5/06

U.S. Cl. 251-209

9 Claims



An improved throttling valve wherein the flow passageway therethrough is so defined as to concentrate the erosive effect of the fluid flow on the downstream seat assembly, and having an upstream seat assembly which functions as an upstream seal when the valve is in the closed position, thus enabling the valve to function effectively as a throttling valve and as a shutoff valve.

3,542,339

VALVE ASSEMBLY

Richard T. Cornelius, Minneapolis, Minnesota, assignor to The Cornelius Company, Anoka, Minnesota a corporation of Minnesota

Continuation-in-part of Ser. No. 497,417, Oct. 18, 1965, now Patent No. 3,455,332. This application March 21, 1969, Ser. No. 809,226

Int. Cl. F16k 1/16, 51/00

U.S. Cl. 251-303

6 Claims

A valve assembly includes a sealing ring clamped between a pair of blocks and encircling a fluid passage, a valve seat in said passage opening into a chamber between said blocks, a rigid actuating arm formed integral with the sealing ring and projecting radially inwardly to a point opposite the valve seat

tors are constructed such that the flange rings may swivel or tilt with respect to the respective connector, and thus compensate for the uneven tightening of the bolts and therefore the resulting uneven tension.

3,542,335

DOWNSTREAM SEALING BALL VALVES

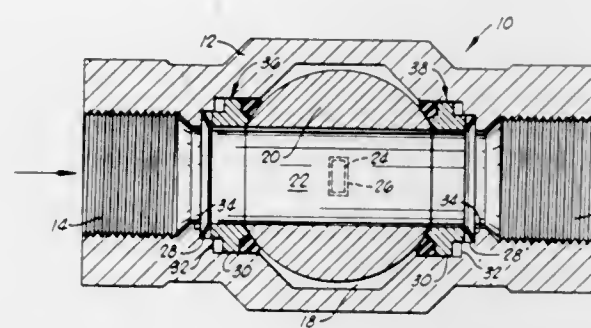
Domer Scaramucci, 3245 S. Hattie, Oklahoma City, Oklahoma 73129

Filed Aug. 7, 1968, Ser. No. 750,946

Int. Cl. F16k 5/20

U.S. Cl. 251-172

17 Claims



An improved valve having a seat assembly which is continually biased toward the valve member during all stages of operation of the valve. The upstream seat assembly is responsive to pressure in the valve chamber for relieving body pressure. The effectiveness of the seal between the valve member and the downstream seat assembly and between the valve body and the downstream seat assembly is increased proportionally with an increase in the pressure in the valve chamber. The improved valve thus provides effective downstream sealing thereby reducing the torque usually required with valves utilizing upstream sealing means, and yet will function to effectively relieve excessive buildup in body pressure, thereby eliminating the danger resulting from such buildup.

3,542,336

PLUG FAUCET

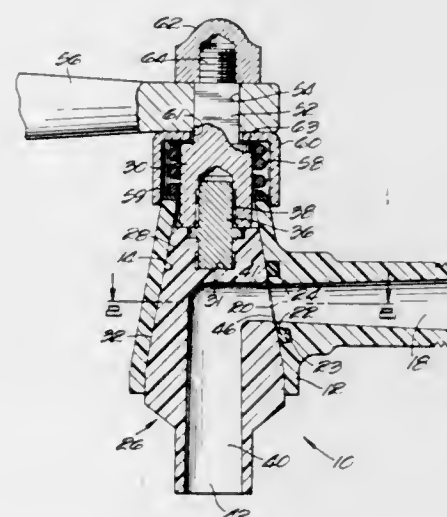
Elroy J. Giese, Cleveland, Ohio, assignor to Tomlinson Industries Inc., Cleveland, Ohio a corporation of Ohio

Continuation-in-part of application Ser. No. 645,260, June 12, 1967, now abandoned. This application May 22, 1968, Ser. No. 736,523

Int. Cl. F16k 25/00

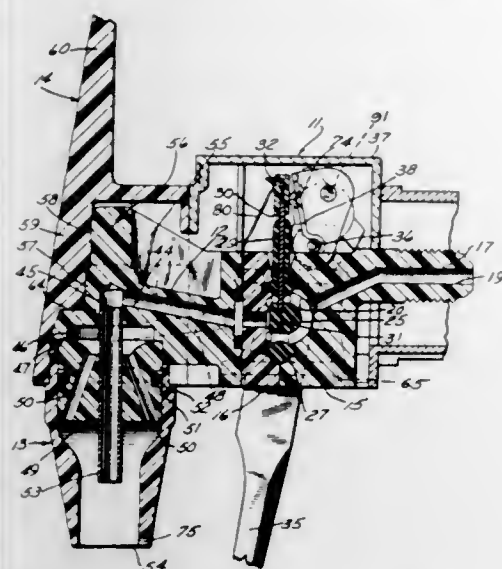
U.S. Cl. 251-181

11 Claims



A faucet having a body with a tapered central bore adapted to receive a tapered plug. An elastomer sealing ring surrounds an oval port in the body. The plug is spring biased into the bore of the body permitting limited longitudinal movement of the plug relative to the body so as to provide relief of such binding as may occur between the seal ring and the plug as the faucet is opened and closed.

and projecting radially outwardly beyond the blocks, and a valve member of elastomeric material softer than the



elastomeric material of the sealing ring, carried on the inner end of the rigid actuating arm.

3,542,340

APPARATUS FOR THE CONTROL AND EXAMINATION OF WHEEL TYRES

Johann Peisl, Wetzikon, Switzerland, assignor to Mondo Pneuhandel Gummiverwertungs AG Wetzikon, Wetzikon, Switzerland

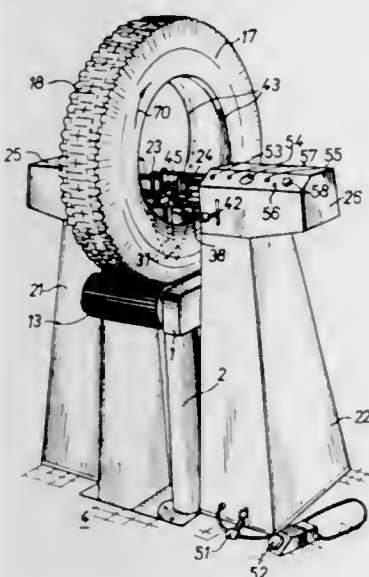
Filed Aug. 21, 1968, Ser. No. 754,253

Claims priority, application Switzerland, Aug. 24, 1967, 11886/67

Int. Cl. B60c 25/14

U.S. Cl. 254—50.3

14 Claims



Apparatus for examination of the condition of used wheel tyres comprises a vertically movable table with two parallel spaced motor driven rollers for receiving a tyre to be examined placed in vertical position with the tread surface on the rollers which transmit rotary motion to the tyre. Clamping and spreading devices are placed on the top of two pedestals arranged on either side of the table. The clamping and spreading devices carry tools which can be moved towards each other against the side walls of the tyre placed on said rolls, or engaged in the interior of the tyre and moved away from each other to spread the side wall of the tyre apart from each other.

3,542,341

HOIST HAVING LOAD REGULATION

Howard C. Stevens, Jr., Muskegon, Michigan, assignor to Dresser Industries Inc., Dallas, Texas a corporation of Delaware

Filed Nov. 15, 1968, Ser. No. 776,193

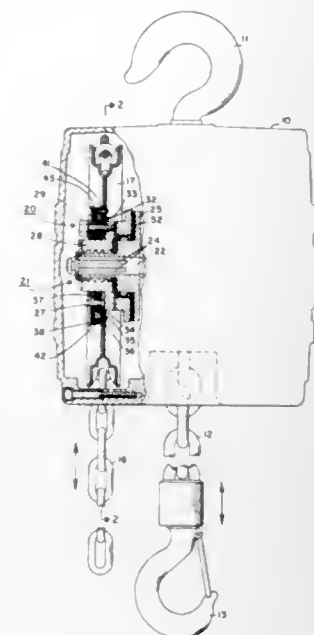
Int. Cl. B66d 1/00

U.S. Cl. 254—169

10 Claims

A hoist having a regulator to limit load raising capacity to a predetermined maximum. The regulator is operably

mounted between the hoist input by which a load is raised or lowered and the hoist output on which a load is to be contained. In the event of an applied load in excess of the predetermined limit set by the regulator, the hoist is rendered



inoperable for raising the load but continues operable to lower the load. With the existence of the latter condition, an attempt to raise the load produces an audio and sensual signal transmitted to the operator instantly alerting him to the condition.

3,542,342

APPARATUS FOR MIXING PULVERULENT MATERIAL WITH LIQUID

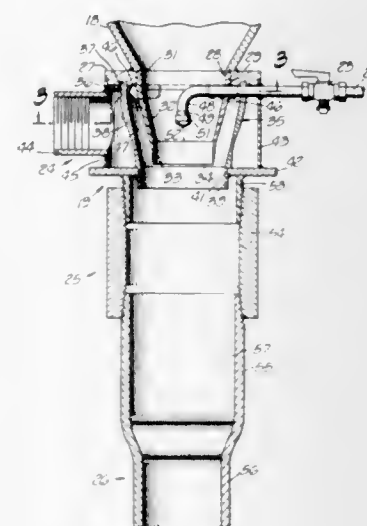
Charles D. Barron, Huntington Beach, California, assignor to Byron Jackson Inc., Long Beach, California a corporation of Delaware

Filed Sept. 6, 1968, Ser. No. 757,976

Int. Cl. B01f 15/02

U.S. Cl. 259—4

5 Claims



An apparatus having no moving parts and wherein powder or pulverulent material is mixed with liquid in a nozzle device in which the mixing operation is assisted by a stream of gas.

3,542,343

SHAKE MIXER

Carl R. Stoelting, Kiel, Wisconsin, assignor to Stoelting Brothers Company, Kiel, Wisconsin a corporation of Wisconsin

Filed Feb. 27, 1969, Ser. No. 802,844

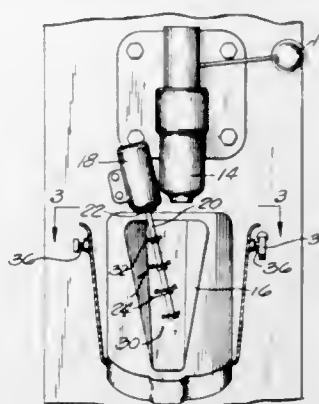
Int. Cl. B01f 7/00

U.S. Cl. 259—22

8 Claims

The mixer has spaced impellers which rapidly mix suitable flavors into a soft serve product dispensed into the cup. In order to position the cup the operators forearm will raise the splash guard and this will close a switch starting the

mixer/impeller and starting the refrigeration compressor (bypassing the refrigeration system thermostat). Upon



with associated interrelated parts whereby the contents of both syringe and vial, or vial alone, may be ultrasonically mixed in the vial and then the vial contents aspirated into the syringe for administration of the syringe contents to a patient. The invention also discloses both the method and apparatus for transmitting to the vial the ultrasonic mechanical vibrations and the construction of the vial to properly transmit same to the materials contained therein.

3,542,346

CARBURETOR FAST IDLE CAM CONSTRUCTION

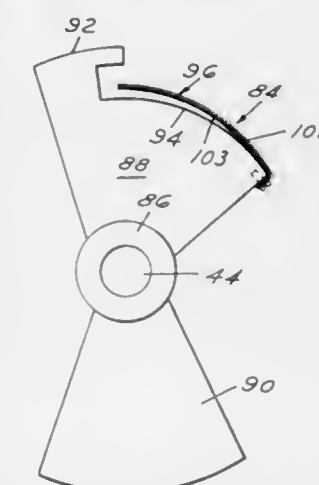
Timothy R. Keenon, Dearborn Heights, Michigan, assignor to Ford Motor Company, Dearborn, Michigan a corporation of Delaware

Filed Oct. 7, 1968, Ser. No. 765,510

Int. Cl. F02m 3/06

U.S. Cl. 261—39

6 Claims



removal of the cup the splash guard drops to block spray from the impeller. Mixing is extremely vigorous and fast.

3,542,344

METHOD AND APPARATUS FOR MIXING FLOWABLE MATERIALS IN CLOSED CONTAINERS

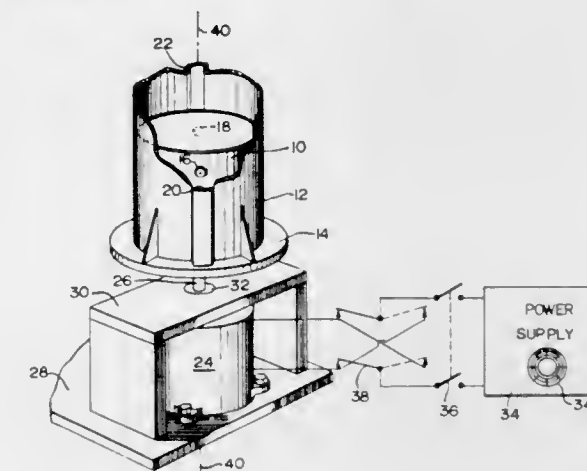
Charles J. Oberhauser, Watertown, Massachusetts, assignor to Dynatech Corporation, Cambridge, Massachusetts

Continuation-in-part of application Ser. No. 743,835, July 10, 1968, now abandoned. This application July 9, 1969, Ser. No. 840,254

Int. Cl. B01f 11/00

U.S. Cl. 259—75

13 Claims



Materials capable of flow are mixed in a closed container by rapidly accelerating and decelerating the container about an axis. Through the combination of shear forces and the recurrent creation and destruction of a vortex in the material, rapid, thorough mixing results.

3,542,345

ULTRASONIC VIALS AND METHOD AND APPARATUS FOR MIXING MATERIALS IN SAME

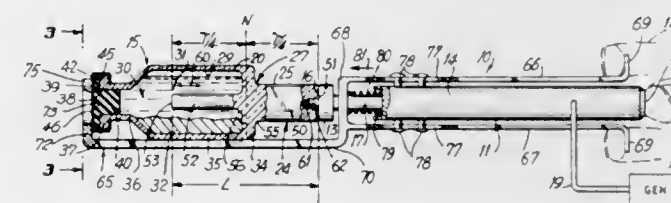
Arthur Kuris, Riverdale, New York, assignor to Ultrasonic Systems, Inc., Plainview, New York a corporation of Delaware

Filed June 13, 1968, Ser. No. 736,797

Int. Cl. B01f 11/02

U.S. Cl. 259—114

49 Claims



The invention relates to receptacles, both of the reusable and disposable type, that are constructed in a manner to obtain a dispersion or mixture of liquid or liquids and solids, contained therein, to form suspensions, emulsions, and the like, under the influence of ultrasonic vibrations. The receptacle may be in the form of a vial forming part of a syringe

A motor vehicle carburetor includes, in addition to the automatic choke thermostatic spring, a thermally sensitive element on the fast idle cam face to progressively vary the engine idle r.p.m. as a function of ambient temperature changes and, of which the following is a specification.

ERRATUM

For Class 263—19 see: Patent No. 3,542,373

3,542,347

FLUID BED HEATING OF DISCRETE MATERIAL

Lance Herbert Goldney, Prospect, Ronald Escott Wilmshurst, Torrens Park, and Frank Ramsay Hartley, Burnside, South Australia, assignors to Christmas Island Phosphate Commission, Melbourne, Victoria, Australia

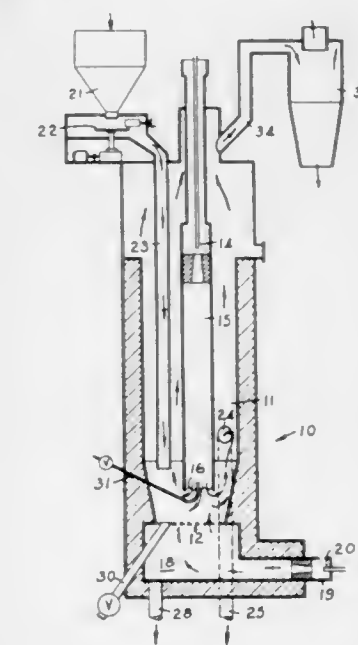
Filed Feb. 1, 1967, Ser. No. 613,306

Claims priority, application Australia, Feb. 2, 1966, 1150/66

Int. Cl. F27b 15/00

U.S. Cl. 263—21

7 Claims



The method and means for heating discrete material which consists in the use of a burner tube depending into a fluid bed and terminating in the fluid bed whereby the burner tube

constitutes conduit means to guide a gas flow which is heated directly into the fluid bed whereby at least the major portion of the heat is discharged directly into the fluid bed while a lesser proportion of the heat may be supplied by an independent gas flow upwardly through a grate into the fluid bed.

3,542,348

DIRECTLY HEATED ROTARY DRYING DRUM

Gerhard Jahn, Hoffnungsthal and Jakob Hinterkeuser, Menden, Germany, assignors to Klockner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany a corporation of Germany

Filed Dec. 16, 1968, Ser. No. 784,008

Claims priority, application Germany, Dec. 21, 1967,

K64,279

Int. Cl. F27b 7/00

U.S. Cl. 263—33

6 Claims



An unlined rotary drying drum provided at one end with a replaceable cylindrical sheet metal shell therein which extends within the range of an open flame used for heating.

3,542,349

RADIATION-TYPE HEATING FURNACE WITH ATMOSPHERE REGULATION

Ryo Ando, Teruo Shimotsuma, Tsutomu Fukushima, and Kazuo Kunioka, c/o Gijutsu Kenkyusho, Nippon Kokan Kabushiki Kaisha, 2730, Minami Watarida-cho, Kawasaki-shi, Japan

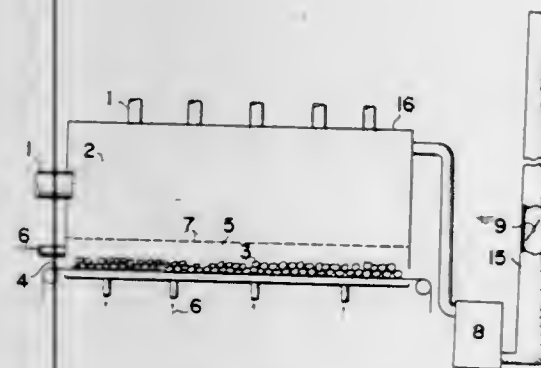
Continuation-in-part of application Ser. No. 775,060, Nov. 12, 1968, now abandoned. This application Jan. 2, 1970, Ser. No. 111

Claims priority, application Japan, Nov. 11, 1968, 42/72,249

Int. Cl. F27b 9/04

U.S. Cl. 263—40

10 Claims



A radiation type heating furnace with atmosphere regulation has a combustion region using an oxidizing flame having high temperature and an atmosphere regulating region surrounding a substance to be heated with a heat radiative partition therebetween. The atmosphere is regulated in order to give it a reducing, neutral or oxidizing nature with small heat loss and high efficiency.

3,542,350

APPARATUS FOR CONTINUOUS METAL MELTING AND REFINING

William Lyon Sherwood, 2678 Marine Drive, West Vancouver, British Columbia, Canada

Continuation of application Ser. No. 369,523, May 22, 1964,

This application Nov. 6, 1967, Ser. No. 681,032

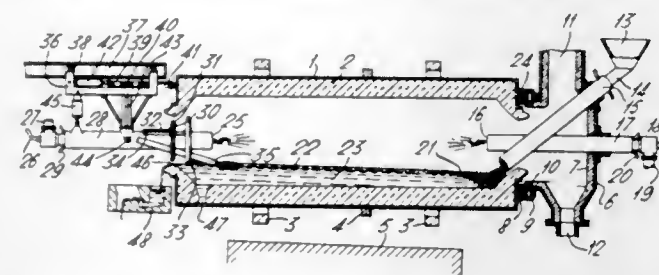
Int. Cl. C21b 11/06, 13/08; C22b 7/00

U.S. Cl. 266—11

9 Claims

Liquid nonferrous metals of controlled temperatures and composition, such as copper and aluminum alloys, are produced continuously by introducing pieces of metal, along with fluxes and alloys as required into an elongated rotary

furnace. The charge is melted by means of heat from a burner directed through the furnace charge opening to form a metal bath and a layer of slag floating on it, and the metal formed is continuously refined by means of slag-metal interaction under the agitating and advancing action of the rotary furnace walls, with controlled heat for refining being supplied by a second burner directed through the rotary furnace discharge opening.



3,542,351

SPRAY REFINING

Malvern John Rhydderch, Firbeck, near Worksop, England, assignor to The British Iron and Steel Research Association

Filed May 22, 1967, Ser. No. 640,121

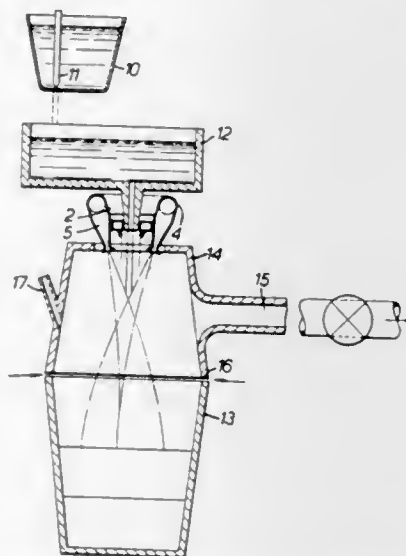
Claims priority, application Great Britain, May 23, 1966,

July 5, 1966, 22790/66; 30198/66

Int. Cl. B05b 1/26

U.S. Cl. 266—34

7 Claims



A method and apparatus for refining metal in which a thin wide stream of molten metal is fed to a vessel when it is shattered by streams of oxidising gas directed at the major faces of the stream.

3,542,352

APPARATUS FOR THE CONTINUOUS SMELTING AND CONVERTING OF COPPER CONCENTRATES TO METALLIC COPPER

Nickolas J. Themelis, Beaconsfield, Quebec and Paul Spira, Montreal, Quebec, Canada, assignors to Noranda Mines, Limited, Toronto, Ontario, Canada

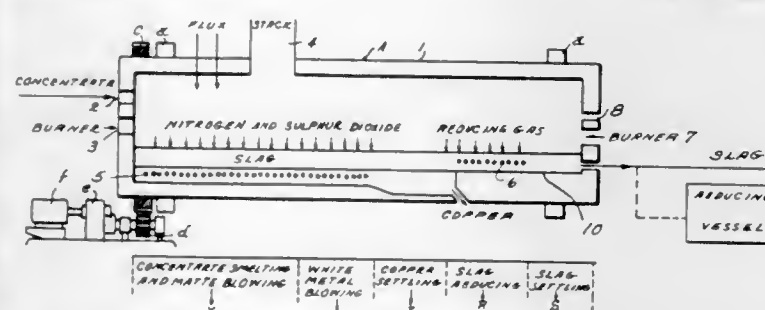
Original application Jan. 4, 1965, Ser. No. 423,257, now Patent No. 3,437,475, dated April 8, 1969. Divided and this

application Sept. 23, 1968, Ser. No. 794,833

Int. Cl. C21c 5/50; F27b 7/06

U.S. Cl. 266—36

6 Claims



Apparatus is provided for a continuous process for smelting and converting copper concentrates to metallic copper and cleaning the slag resulting therefrom. The apparatus

comprises a generally horizontally disposed furnace including a smelting zone, a converting zone and a slag-settling zone; means for rotating the furnace about its longitudinal axis; a charging port formed in said furnace; means for introducing an oxidizing gas into the furnace; and wherein the means is shaped and dimensioned to ensure the introduction of a sufficient volume of oxidizing gas to effect gradual oxidation of the matte and subsequent conversion to metallic copper; a copper-settling section provided in the base area of the furnace; an area of the furnace which is remote from the charging port being shaped to form a reducing section for slag resulting from the process; and discharge ports for the copper and slag.

3,542,353

COMPRESSION RUBBER SPRING

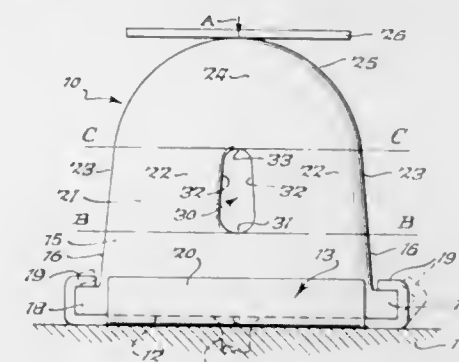
Albert F. Hickman, 8009 N. Gowanda State Road, Eden, New York

Filed May 7, 1968, Ser. No. 732,799

Int. Cl. F16f 1/36

U.S. Cl. 267—63

8 Claims



Whether made by extrusion or conventional molding, the friction free rubber body has a central through opening generally parallel with its mounting face to provide a base and integral body side walls connected by an integral top arch against which the force is impressed through the side body walls and base against the mounting face. The base, side body walls and top arch are preferably generally rectangular in section transversely of the line of force to permit of varying the capacity of the spring by merely making it longer or shorter and the central opening, in addition to (1) providing forced ventilation and cooling in use permits of (2) making large heavy duty springs without excessive wall thickness, (3) providing springs having the optimum response characteristics in service and (4) eliminating bond stress at the mounting face.

3,542,354

NONDISTORTIVE WORK HOLDING FIXTURE

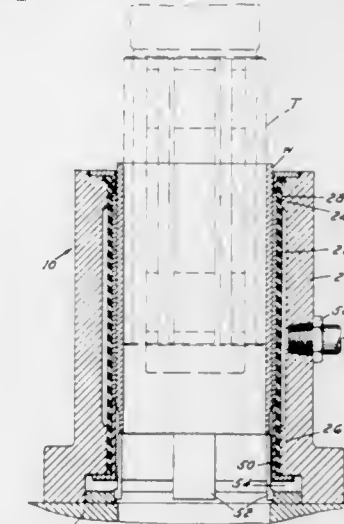
Paul Fitzpatrick, Bloomfield Hills, Michigan, assignor to Micromatic Hone Corporation, Detroit, Michigan

Filed June 12, 1968, Ser. No. 736,435

Int. Cl. B23g 3/08

U.S. Cl. 269—22

3 Claims



A work holding fixture adapted to minimize clamp distortion of a workpiece by providing a movable metallic collet

encompassing the workpiece, and a nonmetallic gland which expands upon pressure to press upon the collet to squeeze the workpiece.

3,542,355

FIXTURES FOR MACHINE TOOLS

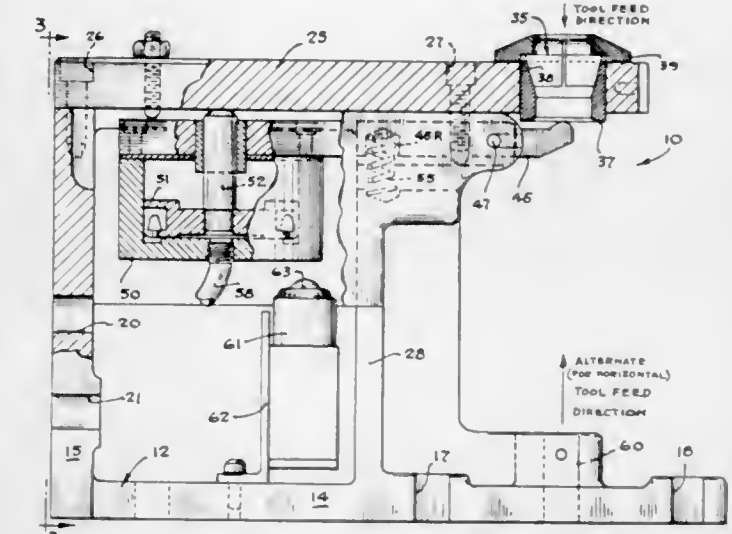
Adolph V. Klancnik, 1020 Glenview Road, Glenview, Illinois

Filed April 9, 1968, Ser. No. 726,271

Int. Cl. B25b 1/18; B23g 3/02

U.S. Cl. 269—87.3

2 Claims



A fixture for facilitating use of a tool includes a plate supporting a work piece holder (collet-type) of a form to grip the work piece when a contracting force is applied thereto. The contracting force is exerted by one end of a lever actuated in turn by fluid under pressure in a cylinder. The end of the plate presents means for locating a tool guide in any one of several different positions, depending upon the nature of the work piece or the portion of the work piece to be engaged by the tool.

3,542,356

WEB FOLDING APPARATUS AND METHOD

Charles A. Lee, Knoxville, Tennessee; Eduards Spravniks, Weston, Ontario, and James A. Murphy, Toronto, Ontario, Canada, assignors to International Paper Company, New York, New York a corporation of New York, by mesne assignments

Continuation-in-part of application Ser. No. 569,671, Aug. 2, 1966, now Patent No. 3,472,504. This application June 14,

1968, Ser. No. 737,034

Int. Cl. B65h 45/22

U.S. Cl. 270—40

16 Claims



An apparatus and method for interfolding a succession of webs into a continuously moving stack of webs. In an illustrative embodiment, there is provided a plurality of folding devices which are effective to interfold successive pairs of tissue webs by turning over an edge portion of one of the webs

substantially simultaneously with an edge portion of a previously laid down web. At least one of the edge portions being interfolded by each device is maintained in a substantially flattened condition during the turning over thereof so that its cross section forms a substantially straight line. The folding devices are of identical construction and include guide elements having spiral-shaped surfaces which are similar in several respects to the surfaces of a propeller blade. These surfaces direct the edge portions of the webs along gradually curving paths during the interfolding operation.

3,542,357

SHEET FEEDER

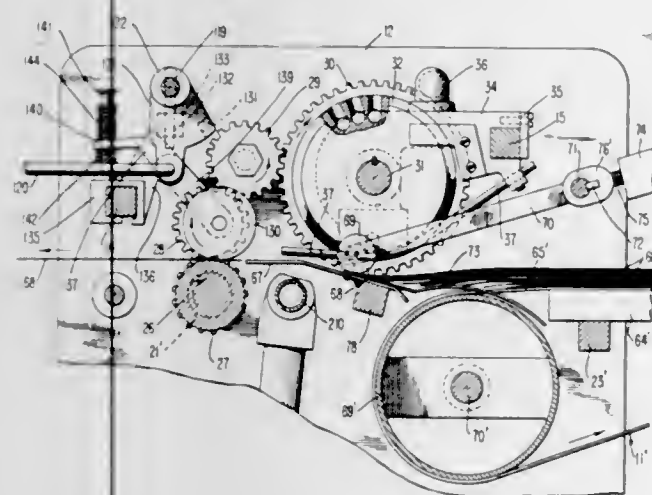
Stanley T. Stoothoff, Glen Rock, New Jersey, assignor to North American Rockwell Corporation, Pittsburgh, Pennsylvania a corporation of Delaware, by mesne assignments

Filed May 14, 1968, Ser. No. 729,054

Int. Cl. B65h 7/00

U.S. Cl. 271-8

19 Claims



Apparatus for feeding sheets in sequence. In the illustrative embodiment, the apparatus feeds sheets one by one from a conveyor to a sheet processing apparatus. The first and second illustrative embodiments of apparatus include sheet feeding means including an intermittently driven conveyor, constantly driven means for grasping and conveying one at a time sheets presented thereto by the conveyor, and a third sheet feeding means such as a pinch roll set receiving sheets from the sheet grasping and conveying means. The apparatus includes a clutch interposed between all of the feeding means and the driving means therefor whereby all parts of the feeding means may be stopped simultaneously. The apparatus also includes means which detects the presence or absence of sheets at the sheet grasping feeding means and which renders the incremental driving means for the conveyor operative when the number of sheets at the sheet grasping feeding means falls below a predetermined desired minimum value and which renders it inoperative when the sheets at the sheet grasping feeding means equals or exceeds such predetermined minimum number.

In a third illustrative embodiment of apparatus, which is otherwise of the same general construction as the first two embodiments, the conveyor is driven by a motor at such speed as to tend to maintain a desired number of sheets at the sheet grasping and conveying means at all times. The speed of driving of the conveyor is determined by manual adjustment of a variable speed driving mechanism therefor. The motor which drives the conveyor is controlled by a mechanism which includes a sheet detecting means. The motor-controlling mechanism is so constructed and arranged that when the number of sheets at the sheet grasping means equals or exceeds a predetermined desired number the conveyor-driving motor is stopped.

3,542,358
SHEET DRUM FOR A SHEET PRINTING PRESS
Siegfried Schuhmann, Offenbach am Main, Germany, assignor to Roland Offsetmaschinenfabrik Faber & Schleicher AG, Offenbach am Main, Germany a corporation of Germany

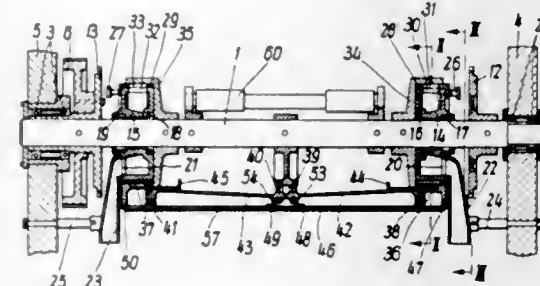
Filed Feb. 28, 1968, Ser. No. 708,878

Claims priority, application Germany, March 16, 1967, R45518

Int. Cl. B65h 5/06

U.S. Cl. 271-51

5 Claims



There is disclosed a sheet drum of a sheet printing press in which adjacent to the peripheral wall of the drum an air cushion is formed by feeding pressure air into the drum and causing the air to escape from the drum through an air permeable peripheral wall portion thereof. The lifting force of the cushion effects a smooth and uniform separation of the sheets from the peripheral wall of the drum. The area of the air cushion and the lifting force thereof can be conveniently regulated in accordance with the specific requirements of the work to be performed.

3,542,359

SHEET FEEDING MECHANISM

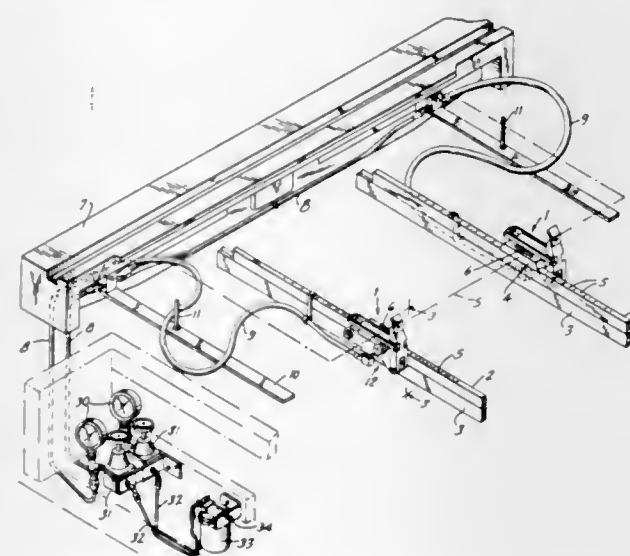
Harry Pilitz, Glendale, New York, assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pennsylvania a corporation of New York, by mesne assignment

Filed Feb. 14, 1968, Ser. No. 705,531

Int. Cl. B65h 5/04, 29/46

U.S. Cl. 271-54

6 Claims



A mechanism for use in metal decorating presses to push the sheets to be fed into the machine up to the front stops and grippers of a printing couple. A plurality of pneumatic cylinders exerting pressure on the back edge of the sheet. The amount of force exerted by the cylinders is adjustable so that proper feeding of the sheets takes place regardless of the weight or thickness of the sheet.

3,542,360

SHEET-FEEDING APPARATUS

Carl M. Carey, Dayton, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio a corporation of Delaware

Filed May 9, 1968, Ser. No. 727,770

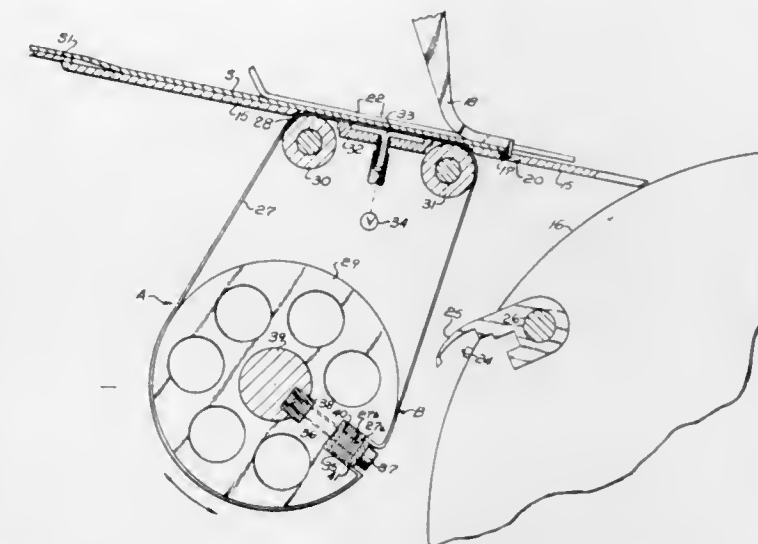
Int. Cl. B65h 5/04

U.S. Cl. 271-54

17 Claims

The present sheet feeding apparatus has transfer belts for rapidly transferring a sheet onto the press cylinder after the

sheet has been registered against front stops in the feeding apparatus and while the sheet is held on the belts by vacuum. Each transfer belt has a sheet-engaging portion which extends between rear and front idler rolls, and the belt extends down around these idler rolls for attachment of its opposite



ends to a rotatable drive pulley at a single location. The transfer belt is wrapped around the drive pulley for substantially less than 360°, and the transfer of a sheet onto the press cylinder is effected by turning the drive pulley through substantially less than 360°.

3,542,361

SHEET SEPARATING APPARATUS

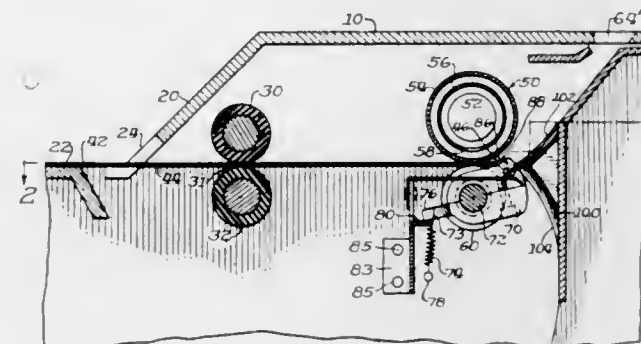
Daniel D. Call, Arlington Heights, Illinois, assignor to Bell & Howell Company, Chicago, Illinois a corporation of Illinois

Filed May 6, 1968, Ser. No. 726,796

Int. Cl. B65h 29/66

U.S. Cl. 271-64

20 Claims



Mechanical apparatus for separating superimposed sheets having congruent leading edges. The apparatus includes a separating member pivotally mounted on an axis coincident with a transport roller axis, and having sheet arresting means extending into the transport path of only one of the superimposed sheets.

3,542,362

STACKING APPARATUS FOR USE WITH BAG-MAKING MACHINES

Friedrich Franz Brockmüller, Lengerich and Karl Haupt, Wolbeck, Westphalia, Germany, assignors to Windmoller & Holscher, Munsterstrasse, Germany

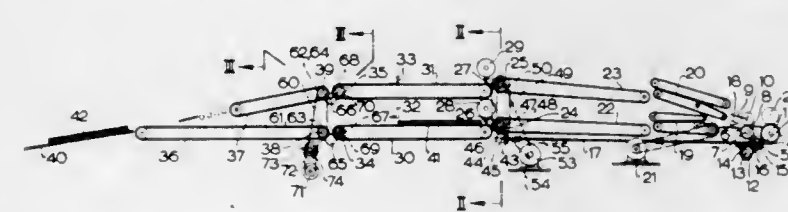
Filed May 13, 1968, Ser. No. 728,569

Claims priority, application Germany, May 26, 1967, W44056

Int. Cl. B65h 29/34

U.S. Cl. 271-75

13 Claims



The discharged workpieces are charged by means of a deflector in alternation in a predetermined number to an

upper shingling conveyor belt and in the same number to a lower shingling conveyor belt. The shingling conveyor belts revolve in normal operation at a speed which is lower than the machine speed and forward the workpieces to respective upper and lower collecting conveyor belts, which are provided with devices for forming stacks of workpieces. When the machine is running at a low speed, the shingling belts are driven at a low speed, which ensures a satisfactory conveyance to the stack-forming device and is independent of the speed of the machine. Said low speed of the shingling belts is so selected that the workpieces arriving on the shingling belts are spaced apart by a distance d and the workpieces are shingled on the shingling belts when the machine is running at a higher speed. The speed of the shingling belts is automatically controlled in such a manner that after an increase of the speed of the machine from a low value almost to a value at which the workpieces would closely succeed each other on the shingling belts the speed of the latter is suddenly reduced to such a value that the workpieces are shingled on the shingling belts, whereas a deceleration of the machine from a high speed almost to a value at which the shingling of the workpieces on the shingling belts would cease results in a sudden increase of the speed of the shingling belts to such a value that the workpieces arriving on the shingling belts are spaced apart.

3,542,363

SQUEEZE BULB EXERCISING DEVICE FOR THE HANDS AND THE LIKE

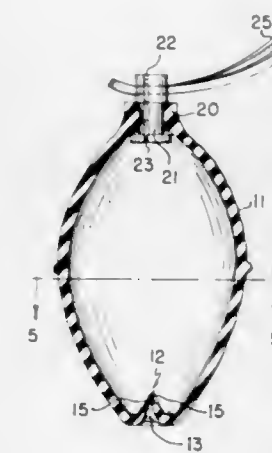
Kenneth J. Bishop, 8840 Gulf Blvd., St. Petersburg Beach and Edgar B. Smith, 5308 3rd Ave. N., St. Petersburg, Florida

Filed Dec. 19, 1967, Ser. No. 691,895

Int. Cl. A63b 21/30

U.S. Cl. 272-68

1 Claim



A hand exerciser device comprises a hollow deformable bulb of resilient material and of a size and shape adapted to be alternately gripped and released by the hand of a person by which the bulb is compressed from a normally expanded condition to a collapsed condition, the bulb having air flow control means between the interior and exterior thereof which permits relatively rapid intake of air when the bulb expands and offers resistance to the expulsion of air from the bulb so as to provide a yielding resistance to the collapse of the bulb proportional to the squeezing forces applied thereto. A loop is attached to an air flow control member to receive the finger of the hand squeezing the exerciser device to position the device in the hand.

The present invention relates to a device for exercising the hands of persons by providing a form which can be gripped and squeezed to a compressed condition and then released for return to its normal form so as to exercise the muscles and joints of the hand.

3,542,364

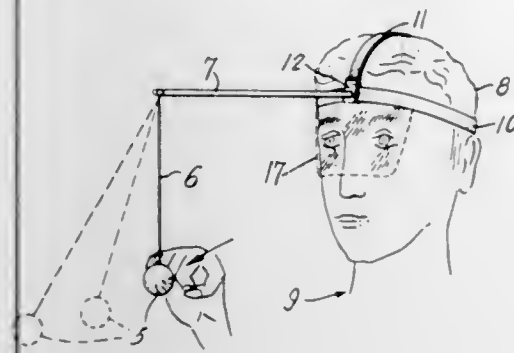
HEAD MOUNTED TETHERED TARGET

Jean Claude Gaumond, 931 Casot St., Quebec 6, Quebec, Canada

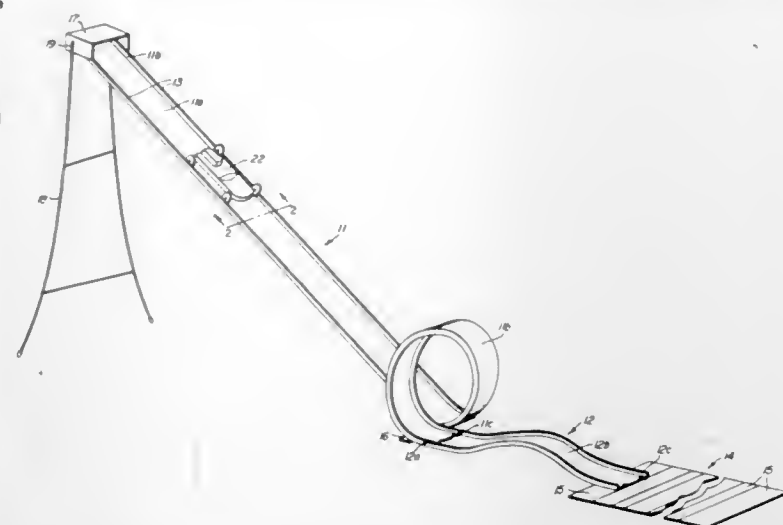
Filed June 27, 1968, Ser. No. 740,677
Int. Cl. A63b 69/00

U.S. Cl. 272-78

1 Claim



A game apparatus or toy comprising a target supporting member secured to a portion of the body of the user and a target connected to and suspended from said target supporting member so that said target is disposed in front of the user and in a position such that the target may be struck by the hands of the user in substantially the same manner that a tethered punching bag is struck by a boxer.



loop in an intermediate segment of its length. A scoring mat is provided for placement in juxtaposition with the end of the track.

3,542,367

TWO PLAYER OPERATED GAME WITH COMMON TARGET

Russel A. Morehouse, 23217 100th W., Edmonds, Washington

Filed April 3, 1968, Ser. No. 718,546
Int. Cl. A63d 3/02

U.S. Cl. 273-122

3 Claims

3,542,365

TARGET SHIELD

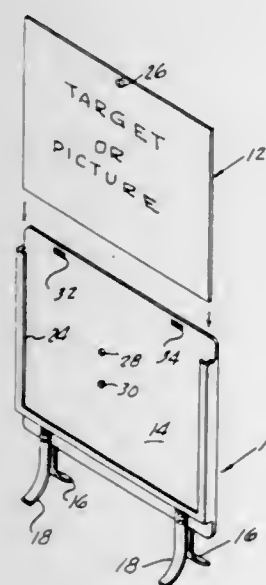
Emmett J. Gantz, 1007 S. 14th St., Burlington, Iowa 52601

Filed March 22, 1968, Ser. No. 715,216

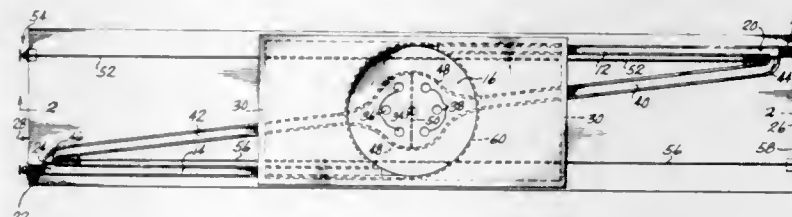
Int. Cl. F41j 1/10

U.S. Cl. 273-102

6 Claims



A game apparatus which includes a transparent shield, an upwardly open rectangular frame formed of channel members rigidly secured to the rear side of the shield for slidably receiving and removing a target placard, and legs depending below the bottom of the shield. The shield further has central and upper portions detachably receiving a handgrip and alternate supports for supporting the shield from an elevated surface of an article of furniture, such as a television set.



A game device is disclosed having two ascending ramps meeting at a midportion concave surface having holes therethrough. A ball may be shot up either of said ramps and will drop through one of said holes. The concave surface is surrounded by a circular side wall having entrance passageways from said ramps and the entrance passageways to said concave surface are preferably tangent to said circular side wall and are diametrically oppositely disposed. Below the concave surface are declining ramps to return the ball to one end or the other of the game board depending upon the hole in the concave surface through which the ball drops. One of said holes is centrally located and a knife edge is in registration therewith so that chance or lot determines to which end of the game board the ball is returned.

3,542,368

COMBINATION JIGSAW PUZZLE AND BINGO GAME APPARATUS

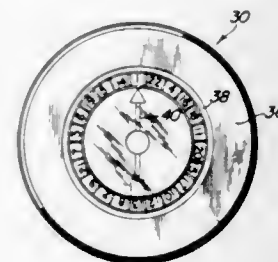
James N. Ashley, Nashville, Tennessee, assignor to Kusan, Inc., Nashville, Tennessee a corporation of Kentucky

Filed Dec. 21, 1967, Ser. No. 692,497

Int. Cl. A63f 3/00

U.S. Cl. 273-135

13 Claims



3,542,366

COMBINATION WHEELED VEHICLE, SLOPING TRACK, LOOP, AND SCORING MAT

Herman H. Schocker, 220 Elizabeth Ave., Salt Lake City, Utah 84102

Filed Nov. 29, 1968, Ser. No. 779,879

Int. Cl. A63b 67/00

U.S. Cl. 273-108

1 Claim

A toy, including a wheeled vehicle in combination with an elongate track. The track includes a wheel-accommodating

A game apparatus comprising a plurality of groups of numbered playing pieces, in which the playing pieces of the

3,542,371

COMBINATION PLAYER FOR DISCS AND TAPE-CARTRIDGES

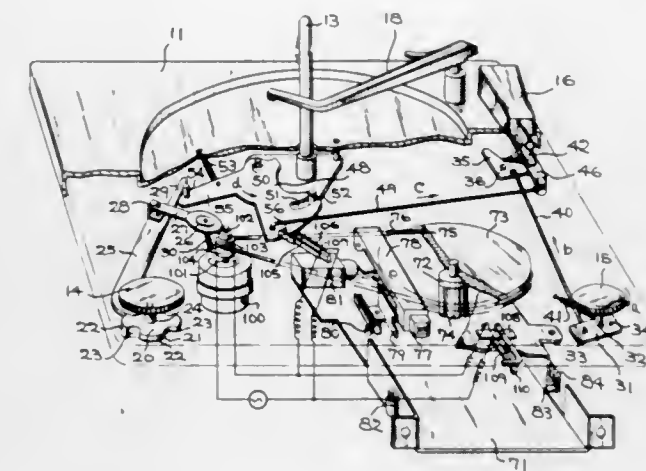
Takashi Saito, Tokyo, Japan, assignor to Victor Company of Japan, Limited

Filed July 1, 1968, Ser. No. 741,447

Claims priority, application Japan, June 30, 1967, 42/41,550
Int. Cl. G11b 5/00, 25/04

U.S. Cl. 274-4

1 Claim



A combination player for discs and tape-cartridges comprising a disc playback section for reproducing disc recordings, a tape playback section for reproducing tape recordings, common drive means, a disc playback operation change-over mechanism, and a switch mechanism operative in conjunction with insertion into or withdrawal of a tape cartridge from said tape playback section. When a disc recording is to be reproduced the disc playback operation change-over mechanism is actuated so as to transmit power from the drive means to the disc playback section, but when a tape recording is to be reproduced a tape-cartridge is inserted into the tape playback section and the switch mechanism is actuated so as to transmit power from the drive means to the tape playback section.

3,542,369

GOLF PRACTICE MAT

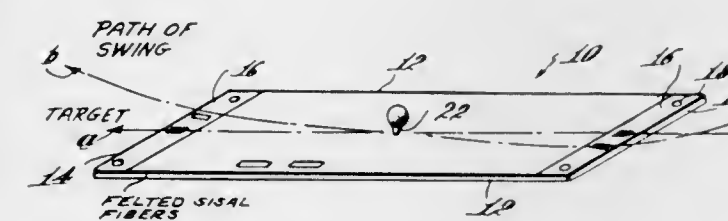
Kenneth W. Anderson, 23 Avon Road, Wellesley, Massachusetts 02181

Filed April 3, 1968, Ser. No. 718,529

Int. Cl. A63 69/36

U.S. Cl. 273-186

1 Claim



A portable practice mat made of felted sisal fibers has its ends faced by a plastic material. A tee with a wide base extends upward through a centrally located hole in the mat. Indicia on the plastic material shows the direction of the target and the path that the head of the club should follow to drive a ball from the tee to said target. Additional indicia shows the proper position of the golfers feet.

3,542,370

LOADING MECHANISM FOR TAPE CARTRIDGE PLAYER

Friedrich Laa, Vienna, Austria, assignor to U.S. Philips Corporation, New York, New York a corporation of Delaware, by mesne assignment

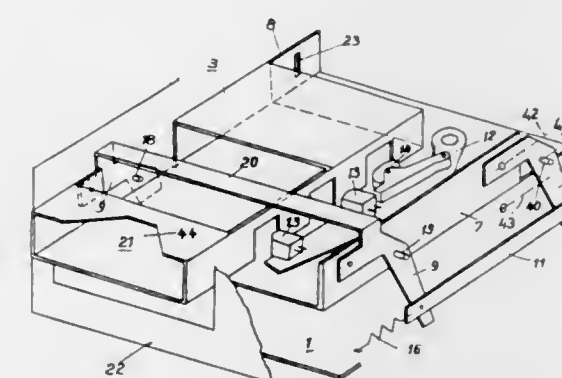
Filed Nov. 1, 1967, Ser. No. 679,879

Claims priority, application Austria, Nov. 3, 1966, A10188/66

Int. Cl. G11b 15/24, 23/04

U.S. Cl. 274-4

4 Claims



A loading holder for containing a tape magazine used in a tape transducing apparatus. The sheathlike holder is attached to the apparatus by a mechanical linkage so as to permit its movement to one of two positions located in parallel planes. The tape magazine is inserted in the holder when in one of said positions and will be engaged by the tape driving spindles when the holder is then lowered to the second of said positions.

3,542,372

PROCESS FOR SEALING ABOUT THE ROTARY SHAFT OF A TOOL

Svante Roland Edwardson, Solna, Sweden, assignor to AB Dentatus, Hagersten, Sweden a corporation of Sweden

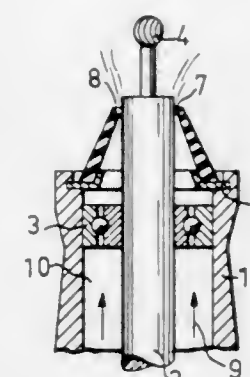
Filed July 2, 1969, Ser. No. 842,798

Claims priority, application Sweden, Jan. 14, 1966, 517/66

Int. Cl. F16j 9/00; E21b 33/00

U.S. Cl. 277-1

1 Claim



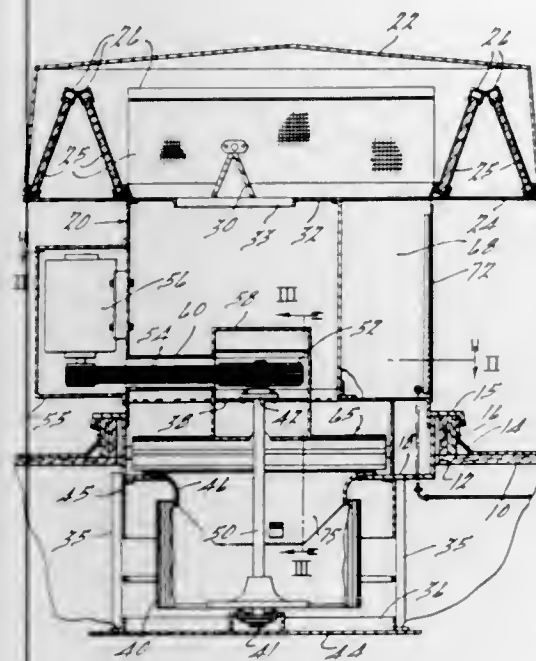
Solid particles are prevented from moving back along the rotary shaft of a tool, by surrounding the shaft of the tool with a generally conical sleeve of elastic deformable material which is secured to the casing of the tool shaft and which normally yieldably bears against the shaft with the sleeve converging toward the tool end of the shaft, and forcing a fluid along the shaft toward the tool end of the shaft and past the sleeve between the sleeve and the shaft.

3,542,373 SPACE HEATING APPARATUS

James V. Dirkes, 1631 Acacia NW, Grand Rapids, Michigan
Filed Feb. 17, 1969, Ser. No. 799,640
Int. Cl. F231 9/04

U.S. Cl. 263—19

9 Claims

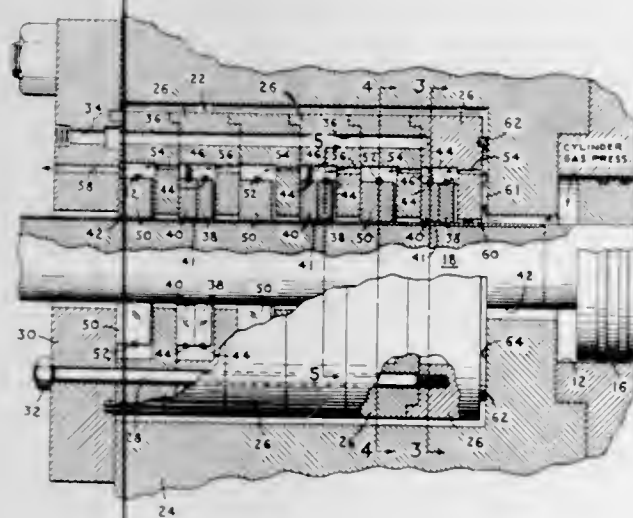


Apparatus for heating the space within a building consists of a sheet metal cabinet supported by the roof and projecting downwardly through an opening in the roof as well as upwardly above the roof and defining a hooded inlet for fresh air. The unit contains a burner above the roof, a centrifugal fan on a vertical axis below the roof and depending from the ceiling into the building. Fresh air is drawn from above the roof into the top of the cabinet, downwardly through a burner contained therein and laterally in all directions within the interior of the building space.

**3,542,374
PACKING FOR PISTON RODS IN HIGH PRESSURE NON-LUBE RECIPROCATING COMPRESSORS**
Kenneth E. Neilson, Buffalo and Emile F. De Wilde, Hamburg, New York, assignors to Worthington Corporation, Harrison, New Jersey a corporation of Delaware
Filed April 24, 1968, Ser. No. 723,798
Int. Cl. F16j 15/00, 15/54

U.S. Cl. 277—22

9 Claims



A nonlube, high-pressure compressor piston rod packing is provided which incorporates means enabling the holding of the loading of individual packing rings within acceptable limits to maximize packing ring life. In addition, a plurality of cooling and/or improved heat transfer means are provided to lower packing operating temperatures and thus make the packing particularly suitable for use in high-pressure and temperature, self-lubricated compressors.

3,542,375 JOINT SEALING COMPOSITE WITH HEAT ACTIVATING COMPONENT

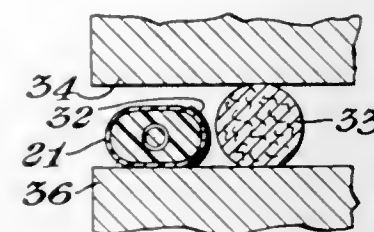
William C. Renwick, Midland, Michigan, assignor to Dow Corning Corporation, Midland, Michigan a corporation of Michigan

Original application Aug. 10, 1966, Ser. No. 571,487, now Patent No. 3,476,842. Divided and this application April 9, 1969, Ser. No. 841,643

Int. Cl. F16j 15/16; B29c 27/00

U.S. Cl. 277—22

3 Claims

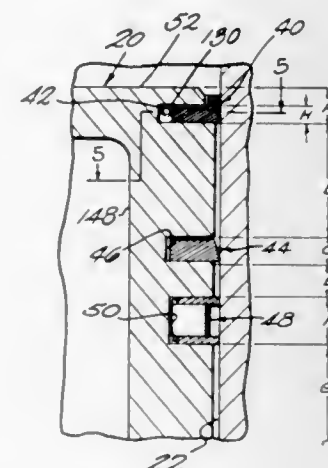


There is disclosed a composite for sealing joints, particularly building joints. A flat tape is formed into a U-shape, and an uncured elastomer with a blowing agent is extruded into the tape. The tape is placed into the joint to be sealed, and heat is applied to activate the blowing agent causing expansion of the elastomer to fill the joint. An electrical resistance element can be included in the elastomer for applying heat thereto.

**3,542,376
PISTON AND RING CONSTRUCTION**
Roger D. Dykehouse, Spring Lake, Michigan, assignor to Sealed Power Corporation, Muskegon, Michigan a corporation of Michigan
Filed March 14, 1968, Ser. No. 713,026
Int. Cl. F16j 9/02

U.S. Cl. 277—58

9 Claims



An internal combustion engine piston grooved in the usual manner to receive the customary oil control ring assembly in the lowermost groove and the usual second compression ring in the middle groove, but having a third and uppermost ring groove disposed adjacent the top of the piston head land which receives an L-shaped head land ring. The upper end of the axial leg of the head land ring is disposed flush with or very close to the top surface of the piston and an annular clearance space between the axial leg and groove back wall communicates at all times directly with the combustion chamber. The head land ring is a split ring having a very small working gap and essentially zero self-biasing tension at operating diameter, and under high load conditions in four-cycle engines is primarily actuated by gas pressure forces existent during operation of the engine, and is very effective in reducing blowby. Under light load conditions the head land ring may be assisted in maintaining oil control by providing an expander spring behind it and/or the second compression ring, by increasing the tension of the oil ring and/or by likewise modifying the head land ring. Various preferred cross sectional configurations and dimensional ratios for the head land ring are disclosed, as well as expanders to be used

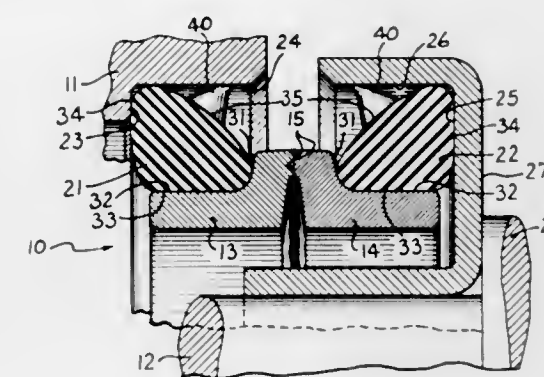
in conjunction with the head land ring. The head land ring may also be used superposed with the usual three ring set of a top compression ring, middle compression and oil ring.

3,542,377 SECONDARY SEAL WITH SPRAGS

Robert M. Voitik, Glenview, Illinois, assignor to Rex Chain-belt Inc., a corporation of Wisconsin, by mesne assignment
Filed March 18, 1968, Ser. No. 713,593
Int. Cl. F16j 15/54

U.S. Cl. 277—92

4 Claims

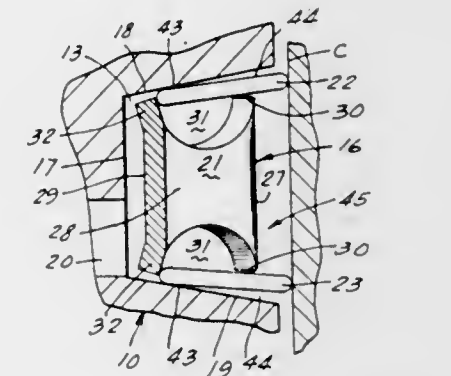


A secondary seal ring for loading and sealing a large diameter radial sealing member, with the ring having integral sprags for releasably locking the ring and the sealing member it supports within an annular mounting seat.

**3,542,378
KEYSTONE MULTIPIECE OIL CONTROL RING**
Herbert F. Prasse, Town and Country, Missouri, assignor to Ramsey Corporation, St. Louis, Missouri a corporation of Ohio
Filed March 22, 1968, Ser. No. 715,354
Int. Cl. F16j 9/06

U.S. Cl. 277—139

6 Claims



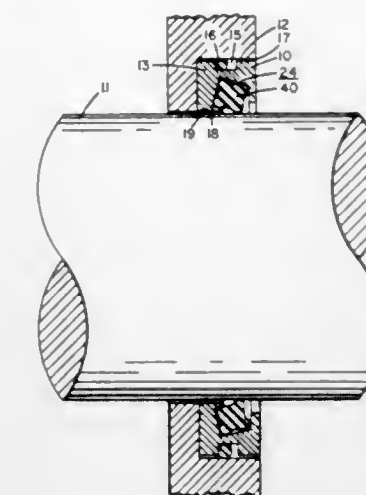
A keystone ring groove and multipiece side-sealing piston ring assembly effective to minimize high mileage sticking in internal combustion engine installations. The piston has an oil ring groove with diverging sidewalls receiving in sealed relation therewith a pair of thin rails or ring segments supported on a spacer-expander ring therebetween. The spacer-expander ring dishes the rails or ring segments and loads them in side sealing engagement with the diverging sidewalls while at the same time radially expanding the rails into sealed engagement with the wall of the cylinder in which the piston operates.

**3,542,379
SHAFT SEAL MEANS**
George V. Woodling, 22077 W. Lake Road, Rocky River, Ohio 44116
Filed June 5, 1968, Ser. No. 734,669
Int. Cl. F16j 9/00; F16r 41/00

U.S. Cl. 277—172

13 Claims

A fluid seal for a shaft mounted in an annular groove surrounding the shaft. The fluid seal comprises an O-ring of rubberlike material having substantially a square cross section



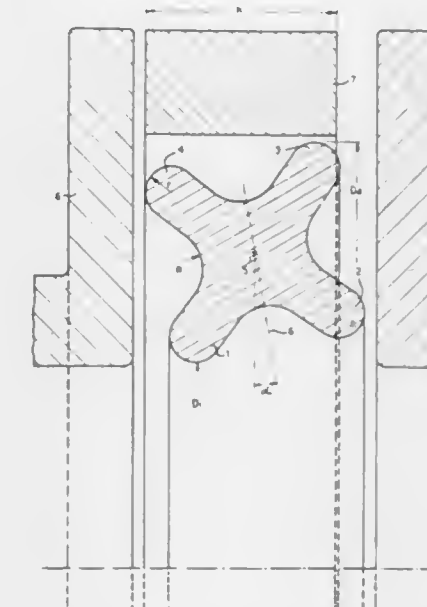
the shaft which reduces the friction and the resultant amount of heat generated.

**3,542,380
RING SEAL**
Klaus Klein, Cheglio Di Taino (VA) and Luc Verheyden, Ispra, Italy, assignors to European Atomic Energy Community (Euratom), Brussels, Belgium
Filed Aug. 13, 1968, Ser. No. 752,346
Claims priority, application Germany, Oct. 4, 1967, 1,625,993

Int. Cl. F16l 19/02; F16j 19/02

U.S. Cl. 277—180

4 Claims



A ring seal with an X-shaped profile, one symmetry axis of which, when in the relaxed state is inclined with respect to the sealing plane by an angle of about 10°. When sealing pressure is applied this angle becomes zero by elastically deforming the total seal structure and not only the lips.

**3,542,381
SEALED JOINT FORMED WITH AROMATIC POLYIMIDE**
Paul W. Hait, Los Altos, California, assignor to Varian Associates, Palo Alto, California a corporation of California
Filed Oct. 24, 1966, Ser. No. 589,101
Int. Cl. F16j 15/10

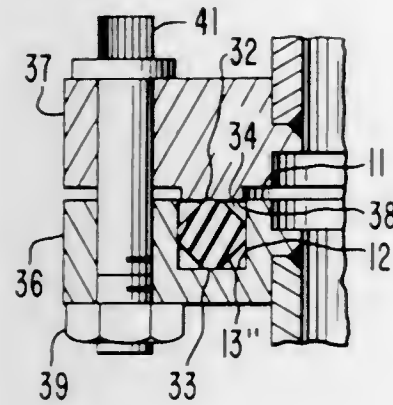
U.S. Cl. 277—207

4 Claims

A high vacuum field joint assembly is described which is inexpensive and simply constructed but yet provides a dependable and bakable high vacuum seal. The assembly includes vacuum component flanges having opposed sealing surfaces confronting one another and one of which is provided with a gasket keeper recess. An aromatic polyimide gasket having a generally diamond shape in cross section

with flattened peaks is disposed within the recess with opposed flattened peaks thereof in engagement with respective ones of said sealing surfaces. The other opposed flattened

collapsing during the welding process, initial clamping force is predominantly applied by the inner chuck while clamping



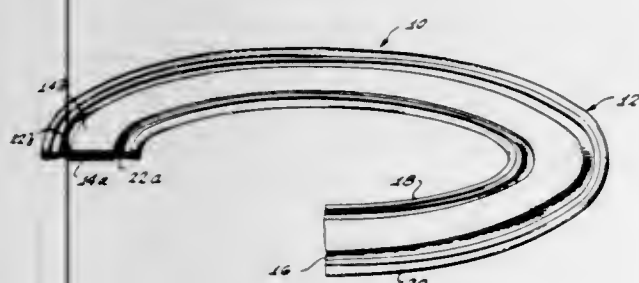
3,542,382 SEAL

Foster M. Hagmann, Los Angeles, California, assignor to Susan S. Monselle, a part interest; Amanda D. Lang, a part interest; Marlene A. Hagmann, a part interest and Waldron A. Easton, a part interest

Filed April 26, 1968, Ser. No. 724,469
Int. Cl. F16j 15/02

U.S. Cl. 277—211

17 Claims



A seal embodying a ringlike retainer with, in cross section, a central web and resistibly deformable ridges at the inner and outer peripheries of the web. The retainer defines a pair of oppositely facing grooves that receive in confining relationship a pair of deformable sealing elements. The volumes of the elements are initially less than the voids of their respective grooves and the resistance to deformation of the elements is less than that of the ridges. During seal installation, the ridges are flattened out under pressure and the voids of the grooves are progressively reduced until they are substantially equal to the volumes of their respective elements, and the elements are forcefully urged into sealing contact with the faces of the parts.

3,542,383

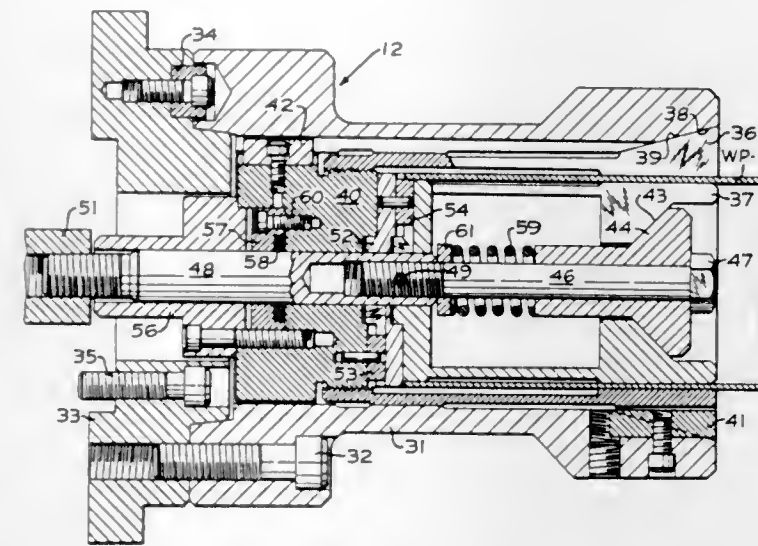
DUAL CHUCK ASSEMBLY FOR INERTIA WELDING
James L. Farley; Eugene R. Martin, East Peoria and Ira H. Sage, Peoria, Illinois, assignors to Caterpillar Tractor Co., Peoria, Illinois a corporation of California

Filed Sept. 30, 1968, Ser. No. 763,900
Int. Cl. B23b 31/40

U.S. Cl. 279—2

3 Claims

A chuck assembly for securing a tubular workpiece in an inertia welding machine comprising a restrictable outer chuck and an expandable inner chuck. To avoid distortion of the workpiece and to prevent it from buckling, twisting or



force of the outer chuck is increased in response to interaction of the workpieces.

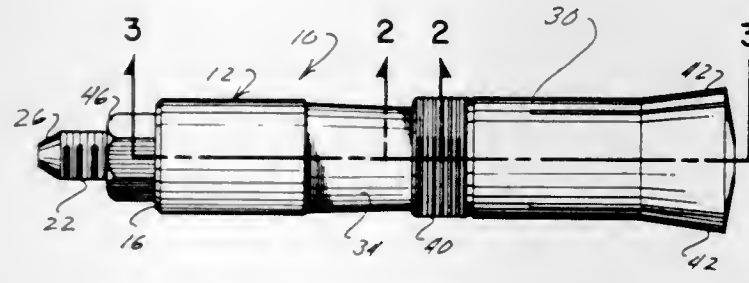
3,542,384 COLLET STOP

Kenneth O. Speed, 7021 Beechfield Drive, Palos Verdes Peninsula, California

Filed July 22, 1968, Ser. No. 746,604
Int. Cl. B23b 13/12

U.S. Cl. 279—46

7 Claims



A collet stop is disclosed. This stop includes an elongated housing having opposed first and second ends. A cavity extends into the housing from the first end. A rod is threaded through a bore in the second end of the housing so as to extend from the exterior of this second end into the cavity towards the first end. The exterior of the housing adjacent to the first end is provided with a tapered, stepped surface having its smallest end adjacent to the first end of the housing. This surface is composed of a plurality of narrow cylindrical sections joined to adjacent sections by shoulders. The base of a collet is adapted to be secured to this surface by being pressed over a correspondingly dimensioned one of these sections against one of these shoulders.

3,542,385

CHUCK FOR SHANK TYPE TOOLS
Karl Seitter, Thielenbrucher Allee 36, Cologne-Dellbrück, Germany

Filed July 26, 1968, Ser. No. 748,104
Claims priority, application Germany, July 28, 1967, P1627115.1

Int. Cl. B23b 31/10

U.S. Cl. 279—51

9 Claims

This disclosure provides a chuck for shank type tools which has an adapter sleeve and a clamping element. The adapter sleeve engages the shank of the tool being operated and is actuated through the use of an eccentric shaft located

in the chuck housing and in a direction normal to the longitudinal axis of the chuck. A flexible member is placed between

3,542,387 BODY-POSITIONING SUSPENSION SYSTEM FOR AUTOMOTIVE VEHICLES

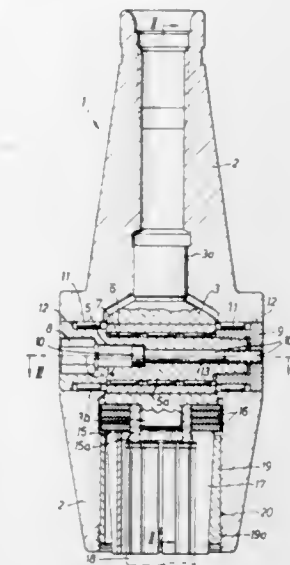
Leopold F. Schmid, Stuttgart, Germany, assignor to Firma Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

Original application July 11, 1966, Ser. No. 564,149, now Patent No. 3,414,278. Divided and this application May 13, 1968, Ser. No. 739,605

Claims priority, application Germany, Aug. 2, 1965, G37,486
Int. Cl. B60g 17/00

U.S. Cl. 280—6

2 Claims



the eccentric shaft and the adapter sleeve to provide tensioning for the operation of the chuck.

3,542,386

POWER-OPERATED JAW CHUCK

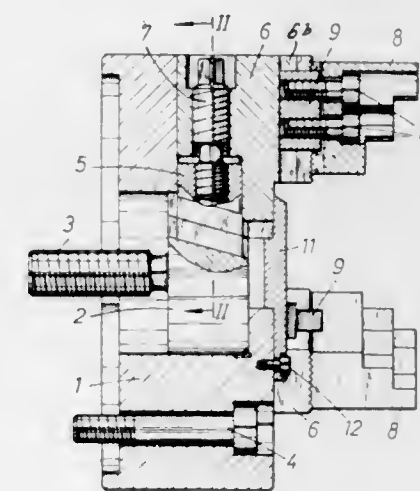
Wolfgang Becker, Dusseldorf, Germany, assignor to Paul Forckardt Kommanditgesellschaft, Dusseldorf, Germany

Filed July 2, 1968, Ser. No. 741,973

Claims priority, application Germany, July 3, 1967, F52844
Int. Cl. B23b 31/16

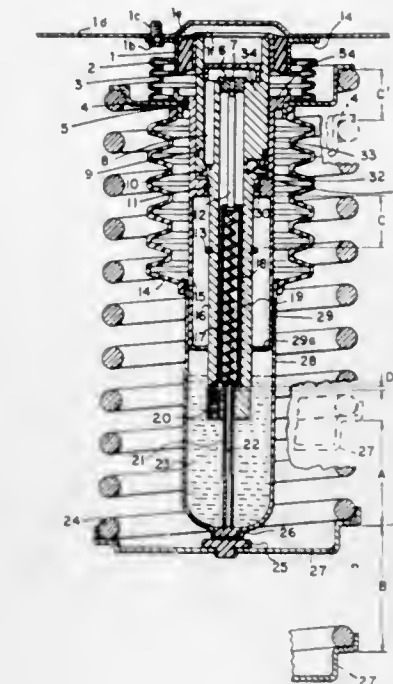
U.S. Cl. 279—121

3 Claims



A power-operated chuck for machine tools with driving jaws operable by a central piston and engaging wedge grooves of said piston, while individually and manually adjustable chuck carriers are connected to said driving jaws, said jaw carriers carrying jaws, said driving jaws and said jaw carriers being arranged in pairs in radial passage means with the jaw carriers located radially outwardly with regard to said driving jaws, and means steplessly adjustable and interconnecting the respective driving jaw and jaw carrier pertaining to one and the same pair.

SSO O.G.—50



A self-leveling suspension device is located between the differential housing of a rigid axle structure and the chassis along the longitudinal axis of the vehicle while spring suspensions are disposed symmetrically on opposite sides thereof.

3,542,388

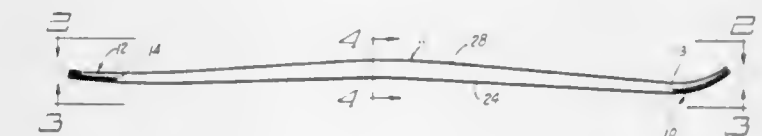
GLASS FIBER REINFORCED SNOW SKI AND METHOD OF MAKING

Leo J. Veneko, Fredonia, New York, assignor to Veneko Products Inc., Jamestown, New York a corporation of New York

Filed July 5, 1968, Ser. No. 742,781
Int. Cl. A63c 5/12

U.S. Cl. 280—11.13

11 Claims



A ski comprising a core assembly, and a top assembly and bottom assembly bonded thereto. The core assembly comprises a lightweight wood member surrounded on all sides by a waterproof plastic shell housing. The top assembly comprises an upper top layer of colored plastic material, a strip of metal edge attached adhesively along each side of the upper layer and underneath thereof, a "V"-shaped front metal section, and a lower layer of fiberglass-reinforced plastic. The bottom assembly comprises a bottom layer of plastic material, an L-shaped steel edge attached adhesively along each side of the bottom layer, a "V"-shaped front metal section, and a top layer of fiberglass-reinforced plastic.

3,542,389

WINGED SKI APPARATUS

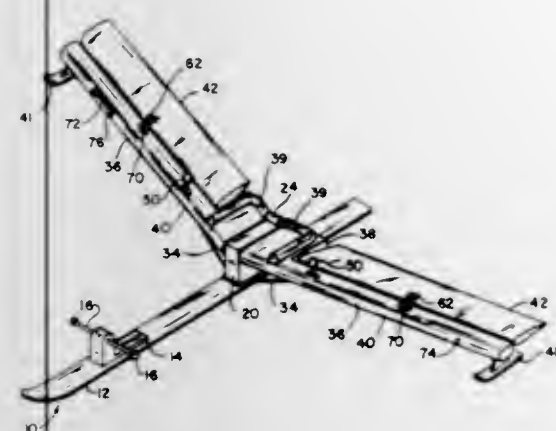
Paul F. Stiller, 4730 Schurr Road, Clarence, New York 14031

Filed June 26, 1968, Ser. No. 740,122

Int. Cl. B62d 13/08; B62b 15/00

U.S. Cl. 280-16

8 Claims



A winged ski having a pair of wings mounted on a ski, located in a plane above the plane of the ski and control sticks for causing the wings to pivot about a longitudinal axis thereof in opposite directions.

3,542,390

TRAILER WITH REAR WHEEL STEERING SYSTEM

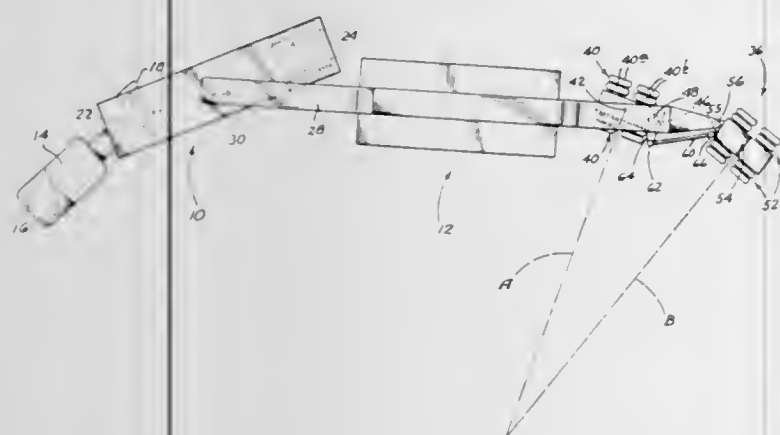
Tyman H. Fikse, Enumclaw, Washington, assignor to Page & Page, a division of Dura Corporation, Oak Park, New York a corporation of New York

Filed Sept. 9, 1968, Ser. No. 758,517

Int. Cl. B62d 53/06

U.S. Cl. 280-81

6 Claims



A trailer adapted to be drawn by a hauling unit including a forward and a rear set of opposed lateral support wheels supporting the rear end of the trailer. Each set of opposed lateral support wheels are steerable, and on the trailer making a turn, the rear set are angularly displaced to a greater degree than the forward set. The forward and rear set of opposed lateral support wheels are each supported on a separate dolly and on the trailer making a turn, the two dollies are swung to opposite sides of the longitudinal axis of the trailer.

3,542,391

VELOCIPED AXLE JOURNALING

Janvier F. O'Hara, 757 Idle Hour Lane, Sierra Madre, California 91024

Continuation-in-part of application Ser. No. 732,199, May 27, 1968, now abandoned. This application Oct. 16, 1969, Ser. No. 867,052

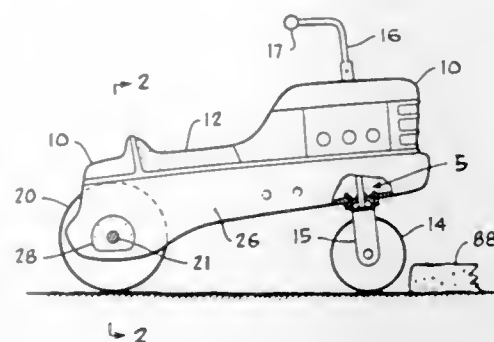
Int. Cl. B62k 7/00, 9/02

U.S. Cl. 280-87.02

4 Claims

A velocipede having its carriage made as a thin-walled hollow shell and of a thermoplastic material, in which the carriage includes a wall segment having a wheel axle journaled

in the segment. The segment is capable of transmitting axial and thrust loads from the axle and into the relatively weak carriage shell for producing a condition of reduced mechanical stress in the shell. The wall segment may also be employed at the journaling of a steering post, and may include axle and post bearings if preferred.



3,542,392

STEERING MECHANISM

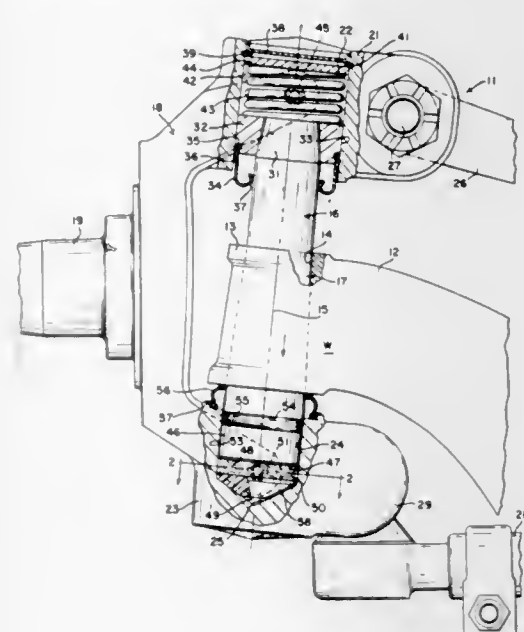
James C. Cumming, Pleasant Ridge, Michigan, assignor to Rockwell-Standard Company, Pittsburgh, Pennsylvania a corporation of Delaware, by mesne assignment

Filed Oct. 14, 1968, Ser. No. 767,125

Int. Cl. B62d 7/18

U.S. Cl. 280-96.1

10 Claims



A vehicle-steering axle incorporates kingpins on opposite ends of an axle beam pivotally connected to steering knuckles mounting the wheels, each kingpin having a cylindrical lower end rotatably and axially displaceably mounted within a cylindrical bore or chamber on the steering knuckle in end abutment with a supporting body of grease or like lubricant that serves as a thrust bearing and is also continuously displaced by vehicle weight to radially lubricate the kingpin lower end.

3,542,393

SUSPENSION

Sam C. Verdi, 15444 Blue Skies Ave., Livonia, Michigan

Filed April 29, 1968, Ser. No. 724,782

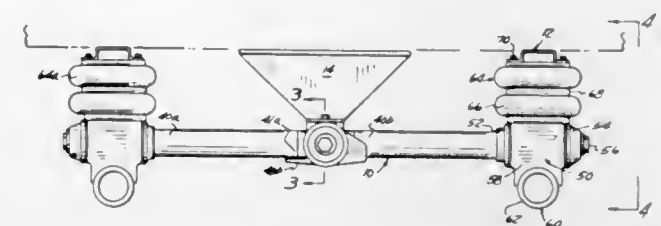
Int. Cl. B60g 5/06

U.S. Cl. 280-104.5

15 Claims

This invention relates to suspensions for motor vehicles and trailers. It provides for a pair of beams suspended from a common central pivot cylinder of trunnion tube. Each of a pair of axles in tandem array are fixed to an opposite end of one of the respective beams. Air bags are provided between these ends of the beams and frame of the vehicle. Flanges are provided underneath the beams near the trunnion tube.

These flanges limit the downward translation of the beam to a horizontal level position. Each of these flanges also act as a



lever on the other beam to lift the other beam when air pressure on an air bag is lowered.

3,542,394

STABILIZING MEANS FOR A TRAILER

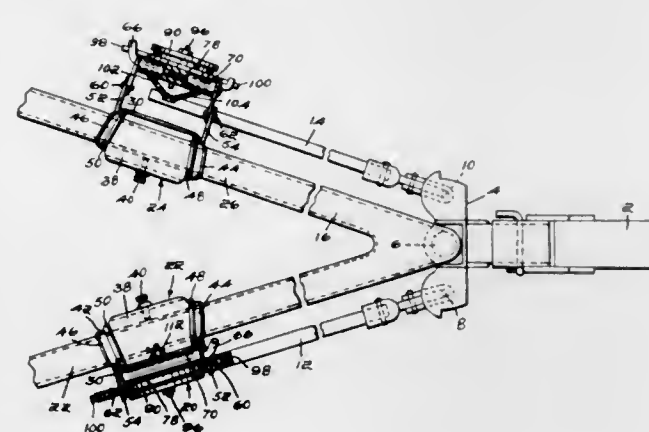
Carl Palage, 8 Maple Road, Winchester, Massachusetts

Filed Feb. 13, 1969, Ser. No. 798,899

Int. Cl. B60d 1/06

U.S. Cl. 280-406

6 Claims



Means for connecting the rear end of the spring bar of a tractor trailer hitch with the trailer frame so that when the tractor turns to the right or left with respect to the trailer to cause longitudinal movement of the spring bars relative to the trailer frame, such movement will be permitted but strongly resisted by the connecting means. This causes better tracking of the trailer behind the tractor. The connecting means also acts through the spring bar to resist any back and forth rolling tendency of the trailer relative to the tractor.

3,542,395

TRAILER HITCH

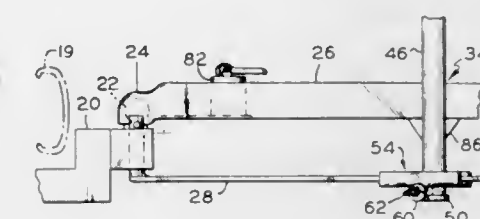
Benson U. Millikan, 1651 S. Holladay Ave., Seaside, Oregon

Filed Sept. 13, 1968, Ser. No. 759,610

Int. Cl. B62d 53/00

U.S. Cl. 280-406

9 Claims



A trailer hitch including stabilizer arms for transferring a part of the load of a trailer to the front wheels of the towing vehicle is provided with vertically disposed hydraulic cylinder and piston means located at either side of the trailer tongue for controllably upraising the stabilizer arms. The hydraulic cylinder and piston means are hydraulically coupled and under the control of a common pump.

3,542,396

SECTIONAL TRAILER

Delmer James Hill, Grosse Pointe Woods, Michigan (3133

Cortland Drive, Vestal, NY 13850)

Continuation-in-part of application Ser. No. 684,434, Nov.

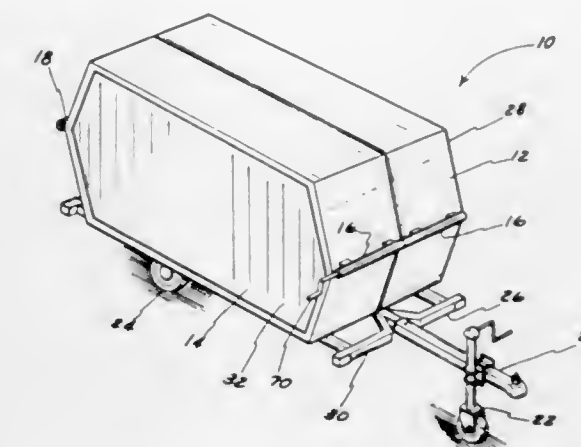
20, 1967, now Patent No. 3,495,865. This application Oct.

30, 1968, Ser. No. 771,826

Int. Cl. B60p 3/02

U.S. Cl. 280-411

12 Claims



A trailer structure formed of mobile trailer sections locked in side-by-side relationship for transport by a towing vehicle. Each section is independently mobile when separated from the other trailer sections, and has a sufficiently narrow width that allows its passage through a 36-inch wide passageway.

3,542,397

TRUCK HITCH ARM ARTICULATING ROLLER

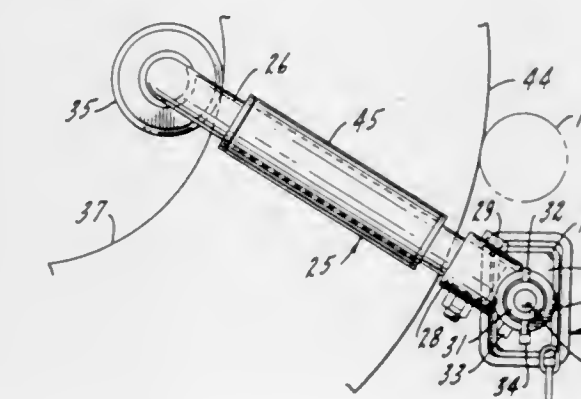
Thomas I. Files, 917 Oklahoma, Mattoon, Illinois, assignor to Blaw Knox Company, Pittsburgh, Pennsylvania a corporation of Delaware

Filed Jan. 23, 1969, Ser. No. 793,375

Int. Cl. B60d 3/00

U.S. Cl. 280-460

5 Claims



A truck hitch for connecting a lead vehicle, such as an asphalt truck, to a trailing vehicle, such as an asphalt paver, having truck wheel rim-engaging rollers which are always in live contact with the wheel rim, the rollers being mounted to their carrying arms by a spherical-bushing assembly.

3,542,398

HITCH WITH CABLE AND WINCH

Irving L. Melroe, Lisbon, North Dakota 58054

Filed Aug. 26, 1968, Ser. No. 755,331

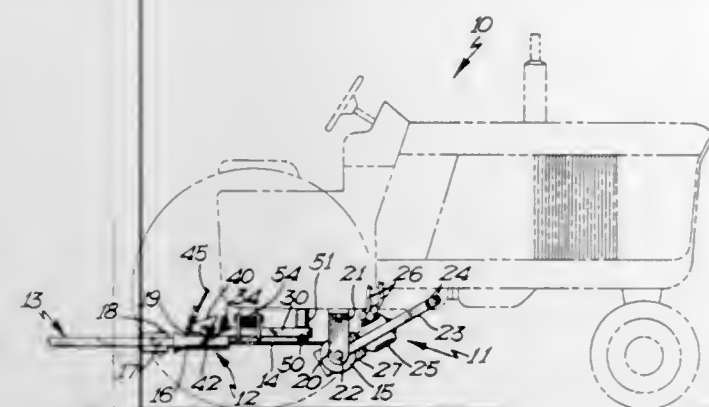
Int. Cl. B60d 1/18; B62d 53/00

U.S. Cl. 280-477

5 Claims

Apparatus for hitching an implement to a prime mover. A cable, wound around a winch, passes through a hitch seat and is attached to a removable hitch bar. The hitch bar may be removed from the hitch seat as the cable unwinds, attached to the implement, and then drawn into seated position by reeling-in the cable to thereby pull the implement to the

prime mover. Releaseable means is provided for locking the hitch bar in its seated position. Removable stop means is provided for preventing the hitch from being drawn completely through the hitch seat as the cable is reeled-in.



vided for preventing the hitch from being drawn completely through the hitch seat as the cable is reeled-in.

3,542,399

TRACTOR IMPLEMENT HITCH

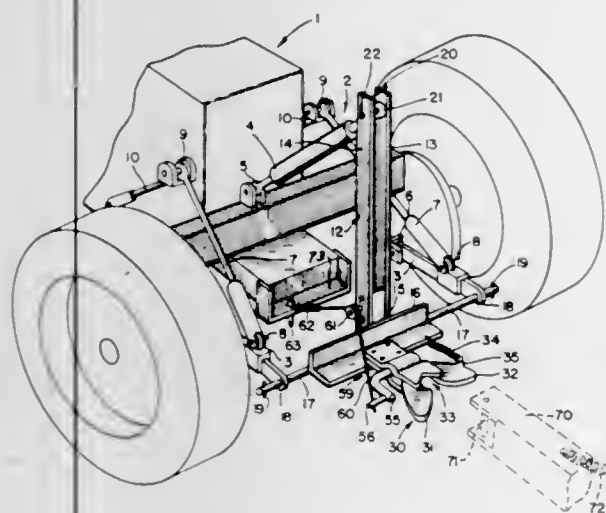
Richard C. Meyers, R.R. 1, Blue Mound, Illinois 62513

Filed July 5, 1968, Ser. No. 742,842

Int. Cl. B60d 1/04

U.S. Cl. 280—479

10 Claims



Implement hitch attachment for an assembly including a three-point hitch having an implement coupling device operative in response to vertical movement of the hitch.

3,542,400

UNIVERSAL TRAILER COUPLING

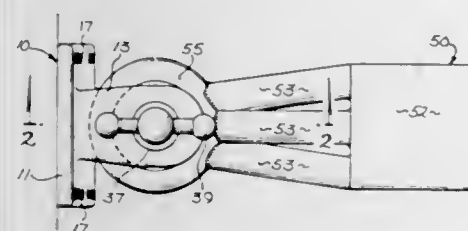
Wylie A. Mason, Jr., Thousand Oaks, California, assignor to Wells Industries Corporation, Hollywood, California a corporation of California

Filed May 24, 1968, Ser. No. 731,908

Int. Cl. B60d 1/06

U.S. Cl. 280—492

5 Claims



A coupling is disclosed herein for interconnecting a self-propelled or leading vehicle with a trailer or following vehicle which includes a locking bolt interconnected between a pair of bracketed lugs adapted to be attached to a towing vehicle by means of a ball carried on a trailer or following vehicle tongue adapted to be attached to a trailing vehicle. The ball is connected to the bolt at a position between the lugs to permit limited universal relative movement between the trailing and towing vehicles.

3,542,401

QUICK HITCH DEVICE

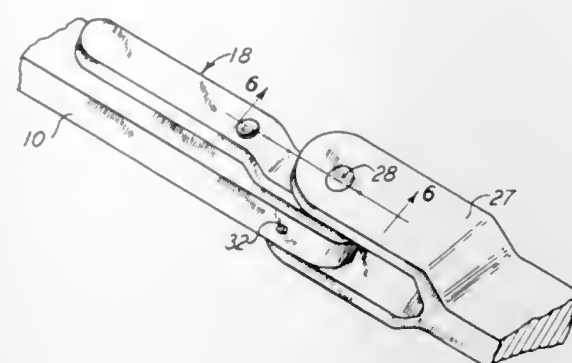
Maurice J. Forkert, 3630 W. State St., Fort Wayne, Indiana

Filed June 24, 1969, Ser. No. 835,997

Int. Cl. B60d 1/00

U.S. Cl. 280—504

3 Claims



A quick hitch device including a first member having a pin-receiving socket, and a second member having a pin which is movable into and out of the socket so that the two members can be connected and disconnected relative to each other. A latch is rotatable on the first member, and a portion of the latch is snugly disposed within the socket, and the latch also includes a handle for rotating the latch portion received in the socket so that the pin can be releasably retained in the socket on the first member. The socket and the latch portion therein are both circularly shaped for rotation of the latch in the socket to provide maximum leverage and holding force relative to the pin.

3,542,402

JOINING ARTICLES OF THERMOPLASTIC RESINS

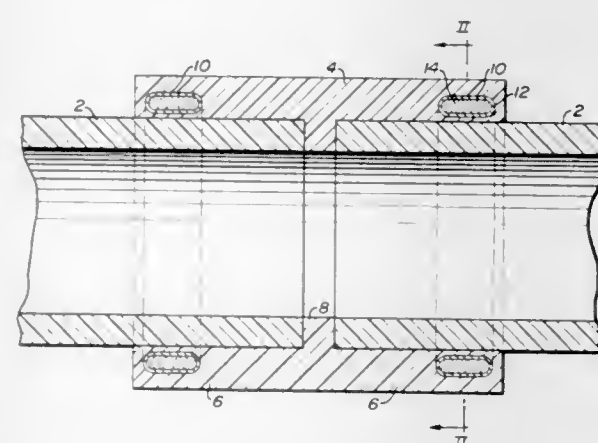
Allen S. Caples, Baltimore and Davis T. Breckenridge, Owings Mills, Maryland, assignors to Catalyst Research Corporation, Baltimore, Maryland a corporation of Maryland

Filed April 2, 1969, Ser. No. 824,017

Int. Cl. F16l 13/02

U.S. Cl. 285—21

9 Claims



A metal tube containing pyrotechnic material that liberates substantially no gas on burning is imbedded in and adjacent a mating surface of an article of thermoplastic resin. The article is joined to another article of thermoplastic resin having a mating surface by bringing the mating surfaces together and igniting the pyrotechnic, forming a fused joint between the mating surfaces. A preferred pyrotechnic contains aluminum, boron, barium chromate and aluminum oxide.

3,542,403

CONNECTION ASSEMBLY FOR GAS METERS

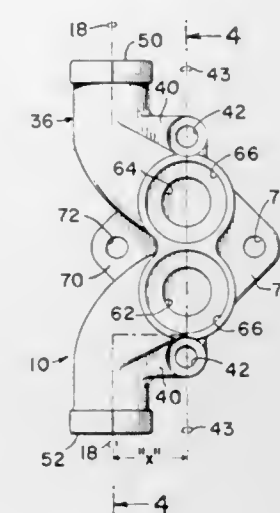
Robert R. Douglas, Philadelphia, Pennsylvania, assignor to The Singer Company, a corporation of New Jersey

Filed May 13, 1969, Ser. No. 824,070

Int. Cl. F16l 35/00

U.S. Cl. 285—30

3 Claims



This disclosure relates to a connection assembly for meters, such as gas meters, having a supply main and discharge main in axial alignment with each other so as to permit the separate interconnection of the supply main to the gas meter and the gas meter to the discharge main.

3,542,404

CONTROL TUBING

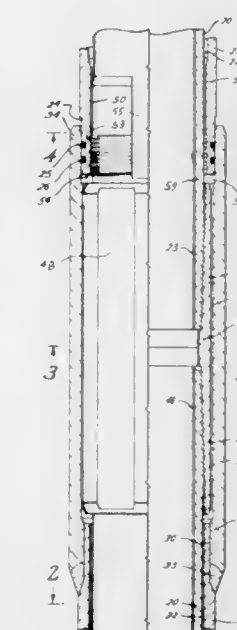
Henry Moak Rollins, Austin; Ralph La Verne Henry; Sam Tribble Crews and James Wendell Dixon, Midland, Texas, assignors to Smith International, Inc., a corporation of California

Filed Feb. 1, 1968, Ser. No. 702,321

Int. Cl. F16l 47/00

U.S. Cl. 285—133

13 Claims



That portion of well tubing extending from surface to below mudline of offshore well includes flow passage for control fluid normally maintaining in open position a check valve that closes in well if water level part of tubing is accidentally broken off, e.g. by ice or shipping. The flow passage is located between concentric tubular members which are rigidly connected to each other at each end.

3,542,405

TUBULAR COUPLING

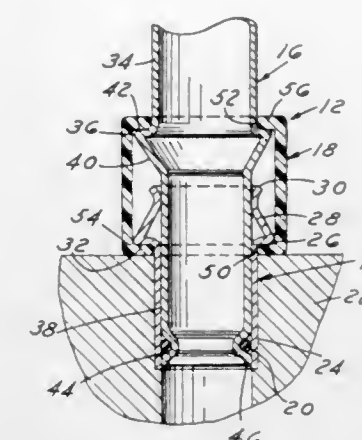
Edward C. Nalodka, Allen Park, Michigan, assignor to Ford Motor Company, Dearborn, Michigan a corporation of Delaware

Filed Feb. 26, 1969, Ser. No. 802,523

Int. Cl. F16l 3/04

U.S. Cl. 285—158

2 Claims



A tubular coupling which includes a pair of telescopically joined tube portions each having an enlarged portion protruding radially outwardly from the normal diameter of the tube portion, and an elastically deformable retaining means that fits about the tubular portions and axially encloses the enlarged portions thereby maintaining the axial connection of the tube portions.

3,542,406

CONNECTOR AND METHOD

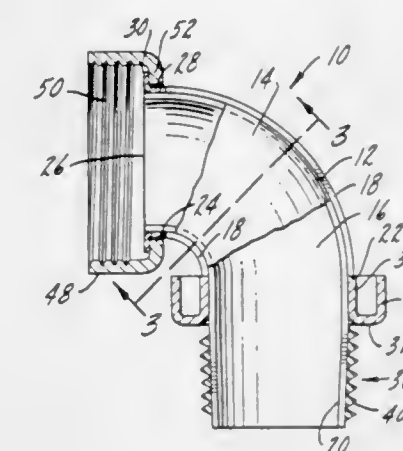
Irving R. Metcalf, St. Charles, Illinois, assignor to Ideal Industries, Inc., Sycamore, Illinois a corporation of Delaware

Filed March 26, 1969, Ser. No. 810,566

Int. Cl. F16l 15/00

U.S. Cl. 285—183

5 Claims



A connector for joining flexible conduit, for example of the metallic type, which is made of stamped sheet metal parts and furnace brazed with the threads being formed of a coiled wire so that deburring is unnecessary and the thickness of the metal under the threads will be insured.

ERRATUM

For Class 287—20 see:
Patent No. 3,542,980

3,542,407

CONNECTING MEANS FOR JOINING TUBULAR MEMBERS

Kenneth Brown, Streetly, Sutton Coldfield, England, assignor to Square Tube Systems Limited, Mount Pleasant, Bilston, England a British company

Filed June 7, 1968, Ser. No. 735,263

Claims priority, application Great Britain, June 24, 1967, 29,251/1967

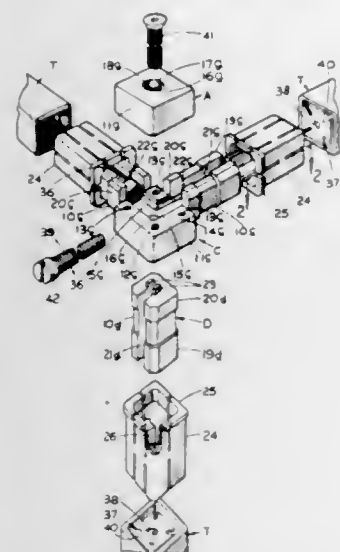
Int. Cl. F16h 7/00

U.S. Cl. 287—54

7 Claims

Connection means for joining tubular members together including a connection piece comprising a body which is

separable on a plane into two body elements. The body elements may have either one or two arms integrally formed therewith and extending in the plane of separation. Body elements without arms are also provided as well as structurally separate arms for assembly with the body elements to extend in a direction transverse to the plane of separation. From these four components eight different types of connection



3,542,408

SWAB MANDREL

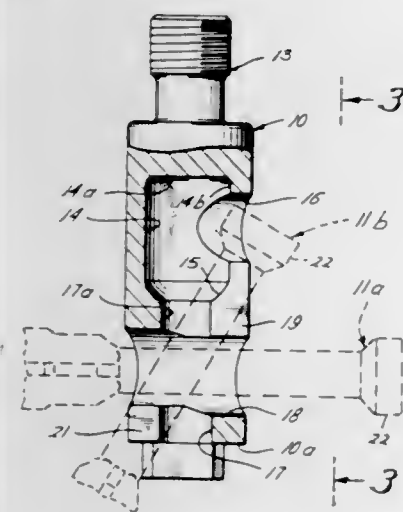
George Lowrey, deceased, late of Liberty, Tex., by Mrs. George Lowrey, Community survivor, Liberty, Texas, assignor to Mission Manufacturing Company, Houston, Texas, a corporation of Delaware

Filed Sept. 13, 1968, Ser. No. 759,830

Int. Cl. F04b 21/04; F01b 1/10

U.S. Cl. 287-89

4 Claims



This patent discloses a swabbing assembly for swabbing wells. The swab rubbers are carried on a mandrel which is supported in a knuckle joint body of the quick detachable type to permit the swab rubbers to be readily interchanged.

3,542,409

DRAWSTRING BAG INLINE KNOTTING APPARATUS

Norman G. Baize, Aurora and Charles L. Stockstrom, Creve Coeur, Missouri, assignors to Chase Bag Company, a corporation of Delaware

Filed Jan. 14, 1960, Ser. No. 795,401

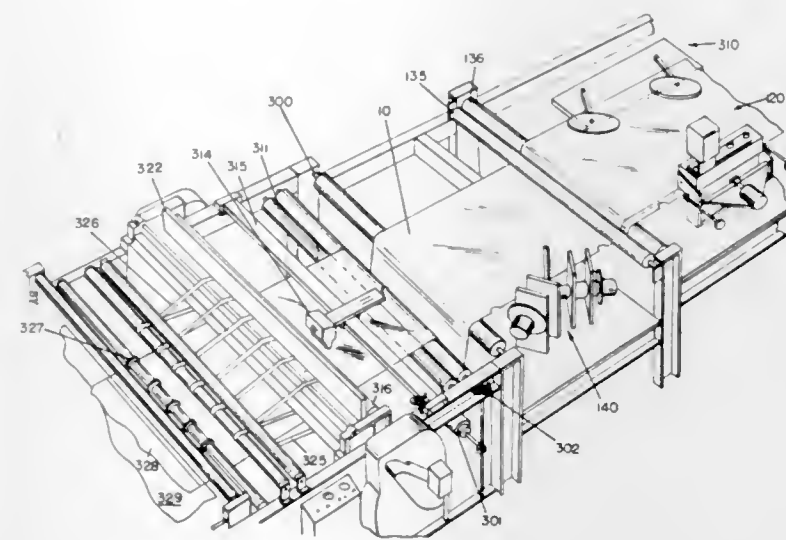
Int. Cl. B65h 69/04

U.S. Cl. 289-18

23 Claims

An apparatus for making bags from a continuous double web joined along one longitudinal edge is provided with a knotting apparatus for forming knots at the ends of the

drawstrings for each bag. The knotting apparatus operates only after superimposed continuous hems have been formed along the other longitudinal edges of the web, notches are made in the hems spaced at bag width intervals and a continuous string is inserted in each of the hems to be exposed



through the notches. The web is moved intermittently and while the web is stopped between successive feeding operations the knotting apparatus pulls the strings exposed in a notch outwardly into the shape of a V, forms a knot in each leg of the V, and cuts the strings between the knots.

3,542,410

MEANS FOR MINIMIZING INCOMPLETE SECURING OF FLUSH LATCHES

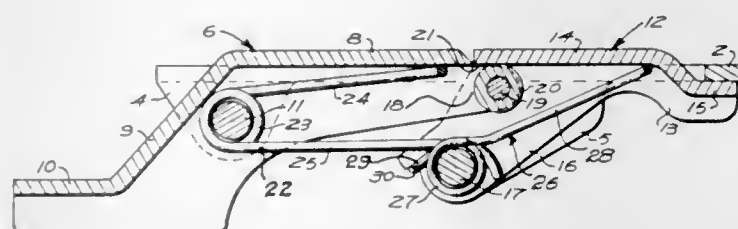
Lloyd Richard Poe, Beverly Hills, California, assignor to Hartwell Corporation, Los Angeles, California a corporation of California

Filed Aug. 13, 1968, Ser. No. 752,340

Int. Cl. E05c 19/12

U.S. Cl. 292-113

15 Claims



A means for minimizing incomplete fastening of flush latches of the type disclosed in U.S. Pat. Nos. 2,476,268 and 2,639,178; as well as the types of flush latches disclosed in U.S. Pat. Nos. 2,721,750, 2,712,955 and 2,833,582; these latches having in common a trigger lever and a keeper subject to forces exerted by two springs, the lever and keeper incorporating mutually engaging surfaces which move past a mutually abutting condition on pivotal movement of the trigger lever at which position forces are balanced and the latch is held in a partially secured condition; more particularly, the means for minimizing this condition involves the use of two springs in which the force of one is sufficiently greater than the other that the region in which such partially secured condition can occur is minimized, and the frictional contact between the mutually engaging surfaces is also minimized; to the end that the probability of a hang-up is so remote and the condition of balance so unstable that, for practical purposes, such partially secured condition is avoided.

ERRATUM

For Class 292-341.14 see:
Patent No. 3,542,313

3,542,411

SOAP HOLDER

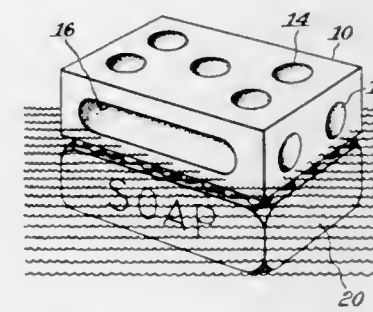
Joseph J. Filas, Wilmington, Delaware, assignor to The Raymond Lee Organization, Inc., New York, New York a corporation of New York, a part interest

Filed March 18, 1968, Ser. No. 713,651

Int. Cl. A47b 97/00

U.S. Cl. 294-64

1 Claim



A portable holder for soap which can be held by hand with a cake of soap detachably secured thereto for use in washing, bathing and the like, especially for bathing children and invalids.

3,542,412

SUCTION LIFTER ENABLING THE SIMULTANEOUS LIFTING OF A PLURALITY OF ITEMS

Heinrich Koch, Bad Sulzungen and Kurt Hermesmeier, Obernebeck, Germany, assignors to Paul R. Kuhl, Sr. and Henry Y. Kuhl, by mesne assignments

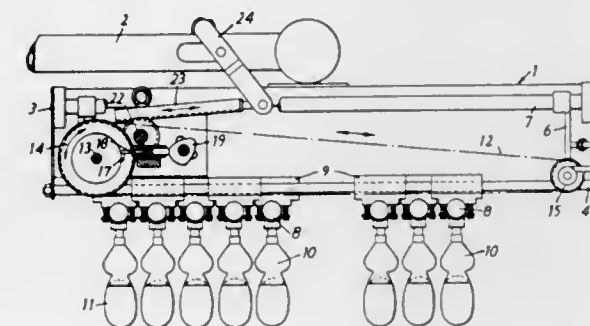
Filed May 10, 1968, Ser. No. 728,199

Claims priority, application Germany, May 12, 1967, P1,506,964.4

Int. Cl. B65g 47/26

U.S. Cl. 294-65

8 Claims



A suction lifter enables the simultaneous lifting of a plurality of items, such as eggs, arranged in rows. The lifter has suction heads arranged along the underside of a plurality of parallel tubes which are themselves mutually displaceable perpendicular to their length. This enables their position to be adjusted so as to allow items picked up from continuous rows on a conveyor to be replaced in a different, and variable, configuration.

3,542,413

APPARATUS FOR STORING SPARE WHEELS UNDER VEHICLES

James W. Hardison, 4910 Rickey Road, Yakima, Washington

Filed Nov. 20, 1968, Ser. No. 777,245

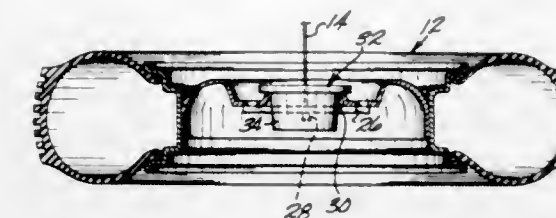
Int. Cl. E66c 1/10

U.S. Cl. 294-86

6 Claims

An improvement is disclosed for those apparatus which store a spare wheel at a raised site under a vehicle by means of a cable which is suspended from the site so that the wheel can be raised and lowered with respect thereto by shortening and extending the effective length of the cable. According to the improvement, the wheel is detachably connected to the cable by means of a pair of separable members, one of which is connectable to the cable and has an inoperative disposition in which it is adapted to pass through the axle opening of the

wheel while connected to the cable, and an operative disposition in which it is adapted to lift the wheel in response to shortening the length of the cable. The other member is



adapted to be interposed in the axle opening between the cable and the wheel to center the cable therein during the lifting operation.

3,542,414

CAMPER AND TRUCK COMBINATION

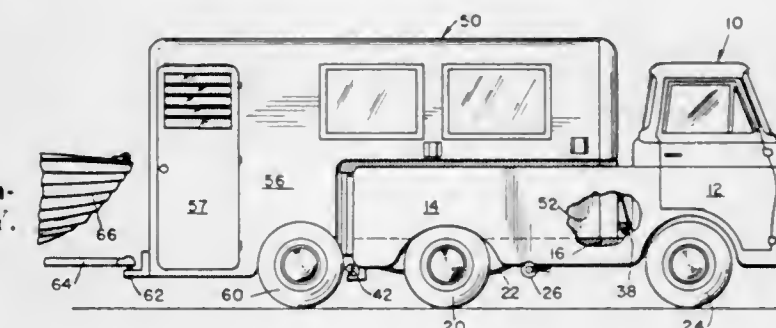
Ralph R. Nelson, 436 Lingle Ave., Lafayette, Indiana

Filed April 3, 1968, Ser. No. 718,526

Int. Cl. P60p 3/32

U.S. Cl. 296-23

10 Claims



A camper for mounting in the bed of a pickup truck is releasably locked to the truck on a horizontal axis at the front of the floor of the truck by a lock which permits upward pivotal movement of the rear of the camper. The lock combines with guide blocks at the rear to prevent lateral swinging of the camper. Wheels on the camper close behind the truck support part of the weight of the camper and normally act in tandem with the drive wheels of the truck, so that the camper and truck combine for operation as a unit with two rear axles. The camper wheels permit substantial enlargement of the camper compared with a fully truck-supported camper; while the permissible vertical movement of the camper prevents the camper wheels from acting to lift the truck rear wheels and thereby ensures adequate ground engagement of the rear drive wheels of the truck under all conditions. By releasing the lock, and installing supplemental supports at the front of the camper, the camper becomes self-supporting for camp use on its wheels and such supports, and the truck can be removed for independent use.

3,542,415

APPARATUS FOR RAISING AND LOWERING A TELESCOPIC TRAVEL TRAILER

Rudy J. Ratcliff, 234 N. Ann St., Marengo, Illinois, assignor to Ratcliff Industries, Inc., Marengo, Illinois a corporation of Illinois

Continuation-in-part of application Ser. No. 673,731, Oct. 9, 1967, now abandoned. This application Feb. 14, 1968, Ser. No. 705,396

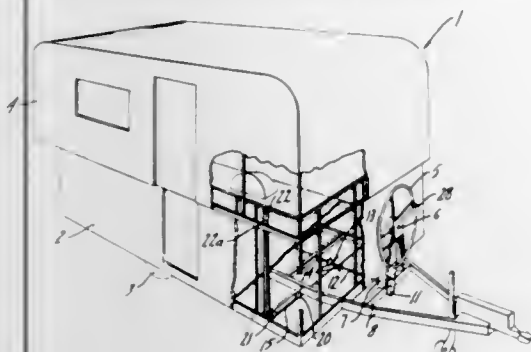
Int. Cl. B60p 3/34

U.S. Cl. 296-27

9 Claims

The invention relates to a telescopic travel trailer including an upper trailer section which can be telescoped vertically with respect to a lower trailer section. The upper trailer section is raised and lowered by manual rotation of a handwheel operating through a cable system. A brake or sprag roller is mounted on a hand lever pivotally connected to the frame of the trailer. The roller is adapted to freely ride

on the periphery of the handwheel when the wheel is turned in a direction to raise the upper trailer section, and the roller is arranged to automatically engage the wheel as a sprag when turning of the wheel is stopped to thereby hold the upper trailer section in a given raised position.



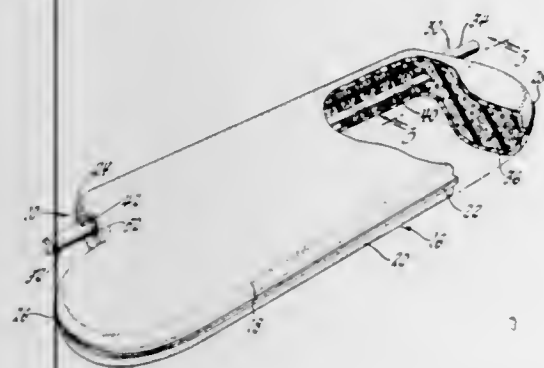
By moving the lever to a neutral position the handwheel can rotate freely in either direction, and by pivoting the hand lever upwardly pressure can be applied through the roller against the periphery of the handwheel to slow down the descent of the upper trailer section.

3,542,416

SUPPORT ROD FOR FOAM-FILLED SUNSHADE
Edward C. Nelson, Lake Orion and Paton M. Zimmerman, Detroit, Michigan, assignors to General Motors Corporation, Detroit, Michigan a corporation of Delaware
Filed July 8, 1968, Ser. No. 743,105
Int. Cl. B60j 3/00

U.S. Cl. 296-97

4 Claims



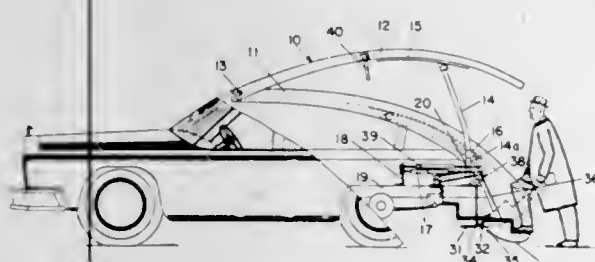
A sunshade assembly including a sunshade body filled with a semirigid foam material and having a support rod embedded in the foam material adjacent one longitudinal edge of the sunshade assembly for pivotally supporting the latter above the windshield of a vehicle. The support rod is characterized in that it includes a pair of end portions which project out of the sunshade body and each end portion is formed with a passage leading from the interior of the sunshade body to the exterior thereof, with one of the passages serving as a fill conduit and the other as a vent when the sunshade is being filled with the foam material.

3,542,417

REAR ENTRY DOOR FOR AUTOMOBILES
Bruce B. Mohs, Rte 1, Waunakee, Wisconsin 53597
Filed Oct. 7, 1968, Ser. No. 765,393
Int. Cl. B60j 5/10

U.S. Cl. 296-146

4 Claims



A safety door for automobiles extending upwardly and forwardly from the rear of the automobile between two laterally spaced cantilevered roof beams and forming part of the roof. The door pivots upwardly from a closed position to an open

position with the aid of a spring mechanism. A step platform at the rear of the automobile pivots up against the door in closed position and pivots down to an open position to permit entry into the automobile. The platform pivots in response to the opening and closing of the door.

3,542,418

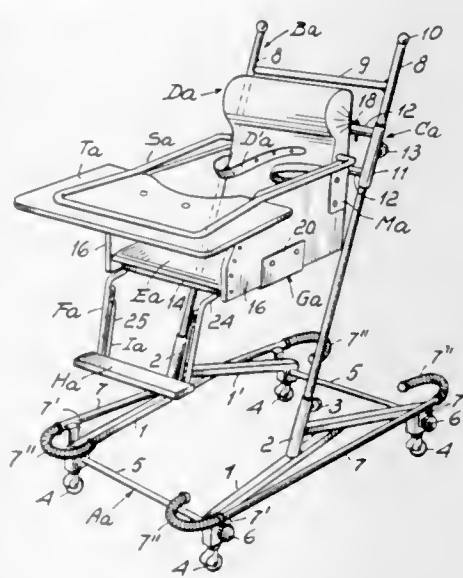
WITHDRAWN

3,542,419

CHILD'S CONVERTIBLE CHAIR
Ercle Spinola, Milan, Italy, assignor to Giuseppe Perego, Arcore Milan, Italy, a corporation
Filed Dec. 3, 1968, Ser. No. 780,785
Claims priority, application Italy, Jan. 12, 1968, 11,472A/68; Sept. 13, 1968, 21,216A/68
Int. Cl. A47c 13/00

U.S. Cl. 297-130

10 Claims



A child's high chair is constructed of disengageable components, and includes a chair-stabilizing base framework and a supporting framework extending upwardly from the base framework. A slide is adjustably mounted on the supporting framework, and a relatively small armchair is provided with first means for engaging the slide to support the armchair on the supporting framework and with second hook means engageable with the back of a car seat. The armchair includes a back, a pair of sides, a seat support frame and a seat, and the seat is mounted on its support frame for adjustment longitudinally of the latter. A foot rest support is disengageably secured to the armchair and mounted on the sides thereof for adjustment longitudinally of the sides. The foot rest may be vertically adjustably mounted on its support, and the armchair may be provided with rear support leg means whereby the armchair may be set on the floor in supported relation above the floor.

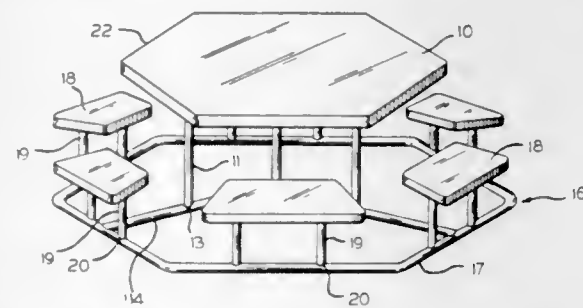
3,542,420

PICNIC TABLES

Herbert E. Priewe, 429 S. Whiton St., Whitewater, Wisconsin
Filed March 11, 1968, Ser. No. 712,118
Int. Cl. A47b 39/00

U.S. Cl. 297-157

5 Claims



A picnic table which includes benches in an integral unit. The integral benches are spaced apart from each other to enable users to be able to sit at the table without climbing over any of the benches.

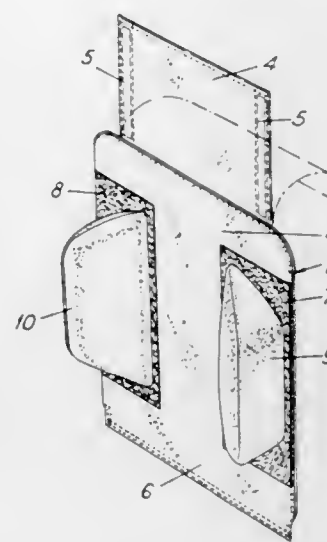
3,542,421

BACK SUPPORTS

Henry Ambrose, The Garden Cottage, Warfield Park, Bracknell, Berkshire, England
Filed June 20, 1968, Ser. No. 738,552
Claims priority, application Great Britain, June 23, 1967, July 6, 1967, 29353-67; 31178-67
Int. Cl. A47c 7/02

U.S. Cl. 297-230

3 Claims



A back support comprising; carrier means adapted to be affixed to the back supporting face of a back rest of a seat or chair; a back supporting bolster; means for releasably interconnecting said bolster to said means to enable same to be placed in any one of a number of adjacent positions; such bolster forming, with the carrier means and the back rest, a cradle into which a portion of the back of a person may snugly lie.

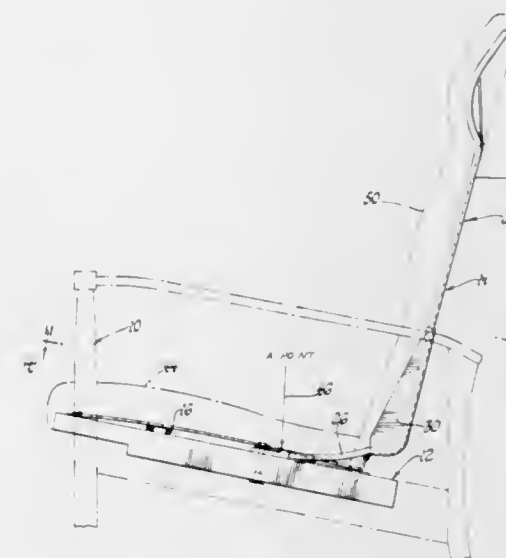
3,542,422

UNISON ACTION RECLINER

Hyland C. Flint, 3551 Walnut Lake Road, Orchard Lake, Michigan 48033
Filed June 10, 1968, Ser. No. 735,843
Int. Cl. A47c 3/00

U.S. Cl. 297-300

9 Claims



In a preferred form, the present invention relates to reclining type seating structures wherein a resilient backrest is utilized both to absorb some of the seating load as well as to resiliently support the back of a person when the recliner is either in an upright or in a reclined position. A formed spring wire member provides a border frame for the backrest and has an intermediate rigid portion between two resilient areas, the rigid portion having attached thereto a portion of the seating structure so that one resilient area of the backrest

serves to resiliently support the seating load and another resilient area resiliently supports the back of a person sitting in the chair.

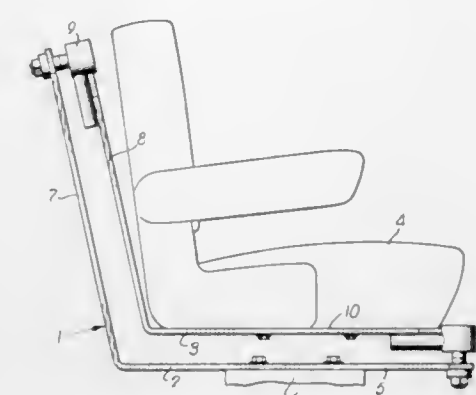
3,542,423

SELF LEVELING TRACTOR SEAT MOUNT

Leland Berton Lawrence, Hilda, Missouri
Filed March 11, 1968, Ser. No. 712,179
Int. Cl. A47c 3/00

U.S. Cl. 297-314

4 Claims



A tractor seat mount comprised of two substantially L-shaped members overlying each other in a vertical plane and swingably connected at their outermost ends by ball joints. The seat mount is secured to the tractor by the lowermost L-shaped member and the seat is attached to the upper L-shaped member.

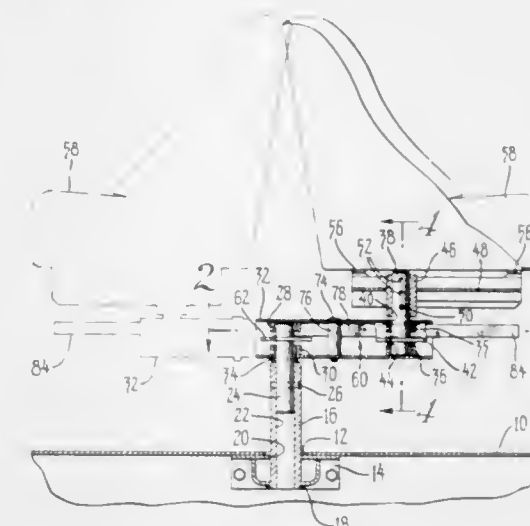
3,542,424

MOVABLE SEAT ASSEMBLY

George W. Bingley, Stow and Nazir M. Khan, Cuyahoga Falls, Ohio, assignors to Massey-Ferguson Inc., Des Moines, Iowa, a corporation of Maryland
Filed Nov. 26, 1968, Ser. No. 779,028
Int. Cl. A47c 1/02

U.S. Cl. 297-349

9 Claims



A movable seat assembly includes a seat pivoted to a support which is pivotally mounted on a vehicle. Latch means are provided for permitting pivotal movement of the seat only or combined pivotal movement of the seat and the support to enable the seat to assume several different spaced and pivoted positions.

3,542,425

LINEAR RETRACTOR CONSTRUCTION

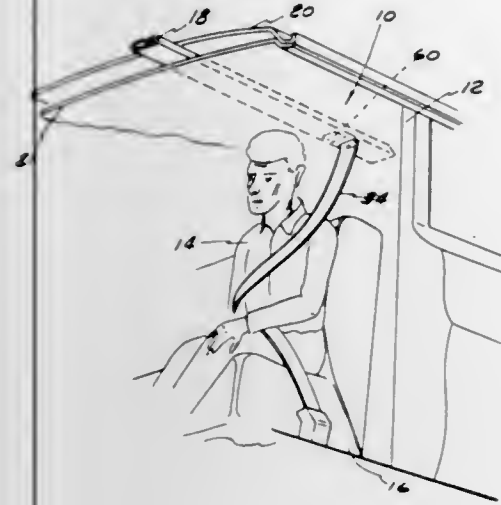
William L. Pringle, Grosse Pointe, Michigan, assignor to Jim Robbins Seat Belt Co., Troy, Michigan
Filed Aug. 12, 1968, Ser. No. 752,037
Int. Cl. A62b 35/00; B60r 21/10

U.S. Cl. 297-388

11 Claims

A safety seatbelt retractor is disclosed in which the belt is anchored by a bracket mounted adjacent an opening at one end of an elongated one-piece housing through which the

belt moves as it is extended and retracted from within the housing. The belt extends from the bracket in a linear section toward a spring-biased yoke, is doubled around the yoke and then extends in a second linear section toward the opening. Motion of the yoke away from the bracket urges the outer



free end of the belt toward the opening while motion toward the bracket allows the belt to be extended from the housing. A one-piece sheet metal latch mounted on the housing catches the yoke when the belt is fully extended to prevent its retraction until the latch is manually released.

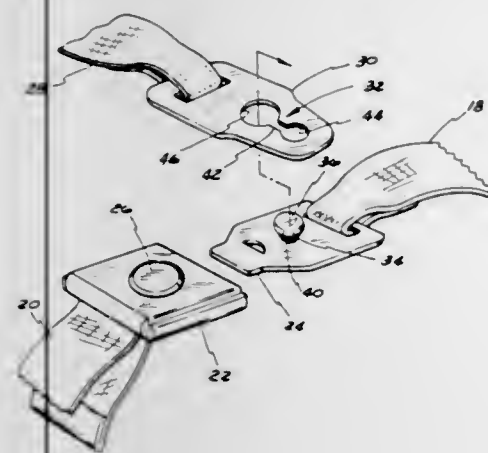
3,542,426

SHOULDER HARNESS CONNECTOR

Donald G. Radke, Troy, Michigan, assignor to Jim Robbins Seat Belt Co., Troy, Michigan
Filed Oct. 8, 1968, Ser. No. 765,768
Int. Cl. A62b 35/00

U.S. Cl. 297—389

4 Claims



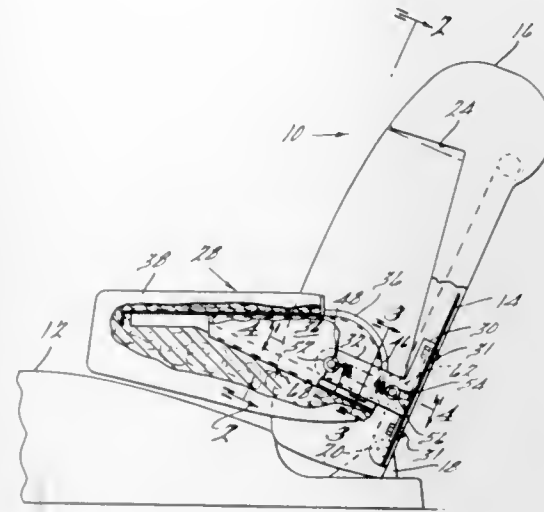
A safety seatbelt system is disclosed having a quick disconnect coupling for connecting a shoulder belt to a pair of lap belts. The coupling includes a post fixedly mounted on a tongue carried on one of the lap belts that is engagable with a buckle on the other lap belt. The post has an enlarged head and a neck with a resilient collar between the head and the tongue. The shoulder belt carries a plate on its free end with a slot connecting a pair of openings. One opening has a diameter larger than the head and the other opening has a diameter smaller than the head and the with the sides of the slot being spaced a distance greater than the diameter of the neck but less than the collar. The shoulder belt is connected to the lap belts by passing the post through the large opening so the neck and the plate are on opposite sides of the tongue and then moving the neck through the slot toward the small opening. The collar is compressed as the neck is moved through the slot so that it restrains the return motion of the post from the smaller opening, except by an intentional effort applied by the user.

3,542,427
VEHICLE SEAT ASSEMBLY WITH MOVABLE ARMRESTS

Donald R. Herpel, Southfield and Vincent Rotole, Detroit, Michigan, assignors to Ford Motor Company, Dearborn, Michigan a corporation of Delaware
Filed Sept. 12, 1968, Ser. No. 763,482
Int. Cl. A47c 7/54

U.S. Cl. 297—417

1 Claim



A seat assembly for a vehicle passenger compartment including a pair of spaced-apart armrests secured to the upright seat back structure. The armrests are movable from substantially horizontal positions to substantially vertical positions and are interconnected by a yieldable friction coupling. This coupling allows movement of the armrests either in unison or individually.

3,542,428

SEAT IN PARTICULAR FOR MOTOR VEHICLES, WITH ADJUSTABLE HEAD REST OF TOTALLY VANISHING TYPE

Ivo Colucci, Milan, Italy, assignor to Alfa Romeo S.P.A., Milan, Italy a company of Italy
Filed July 23, 1968, Ser. No. 746,910
Claims priority, application Italy, Aug. 2, 1967, 19141 A/67
Int. Cl. A47c 7/38

U.S. Cl. 297—410

2 Claims



A seat having an adjustable head rest which, in its inoperative position, forms part of the back of the seat and, in its operative position, is raised and adjusted in height.

3,542,429

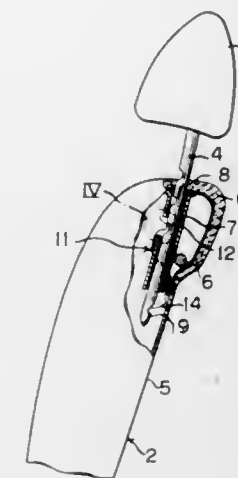
ADJUSTABLE HEAD REST FOR VEHICLE SEAT

Masahiko Inoue and Katsuo Sakurai, Toyota-shi, Japan, assignors to Toyota Jidosha Kogyo Kabushiki Kaisha, Toyota-cho, Toyota-shi, Aichi-ken, Japan
Filed Aug. 5, 1968, Ser. No. 750,208

Claims priority, application Japan, Aug. 26, 1967, 42/72849
Int. Cl. A47c 7/36

U.S. Cl. 297—410

6 Claims



An adjustable headrest for a vehicle seat is formed by a tubular support member attached to the frame in the back of the seat, a support rod slidably fitted within the support member, and a headrest affixed to the upper end of the support rod. A plate spring is attached to the support member and is arranged to engage grooves in the support rod for adjustably positioning the headrest. An additional retainer groove is located in the rod for engagement with the spring plate to prevent the upward displacement of the support rod from the support member.

ERRATUM

For Class 299—36 see:
Patent No. 3,542,435

3,542,430

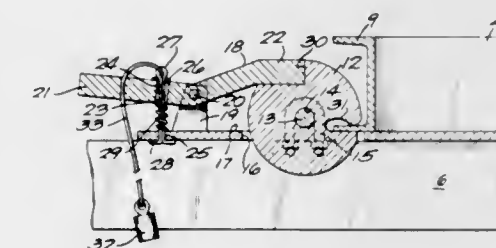
TILT BED TRAILER SAFETY HITCH

Daniel K. Mavroff, 17565 Oak Park Row, Brookfield, Wisconsin 53005

Filed Sept. 3, 1968, Ser. No. 756,994
Int. Cl. B60p 1/00

U.S. Cl. 298—38

4 Claims



An improved tilt bed trailer safety hitch for tilt bed trailers which are used to transport construction vehicles between job sites. Only a single operator is required to load and unload the trailer. A spring-loaded trip lever is normally biased to engage a cam which locks the forward end of the tilt bed in a horizontal "travel" position. To unlock the tilt bed for unloading, a steel pin is provided which is wedged between the trip lever and the cam to allow rotation of the cam during unloading and to permit tilting of the tilt bed. Only a single operator is necessary for each load and unload operation, and the tilt bed locks into the safety hitch automatically when the construction vehicle is reloaded on the tilt bed.

3,542,431

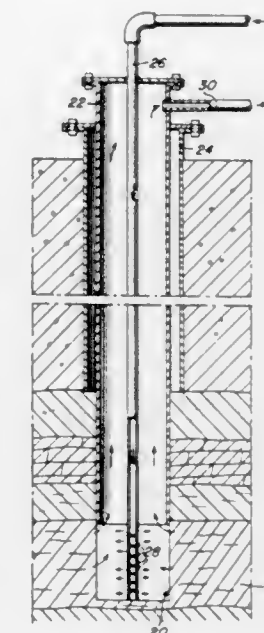
BACTERIOLOGICAL MINING OF SULPHUR BEARING DEPOSITS

Clarence J. Johnson, 923 N. 23rd St.; William G. Mouat, 825 Parkhill Drive and Arthur G. Davidson, 2522 Howard Ave., Billings, Montana 59102

Filed March 21, 1969, Ser. No. 809,144
Int. Cl. E21b 43/22

U.S. Cl. 299—5

5 Claims



A method of recovering the sulphur moiety of a naturally occurring subterranean gypsum bearing stratum which comprises introducing inorganic sulphur compound metabolizing organisms into the stratum and removing sulphur in the form of hydrogen sulphide or dilute sulphuric acid.

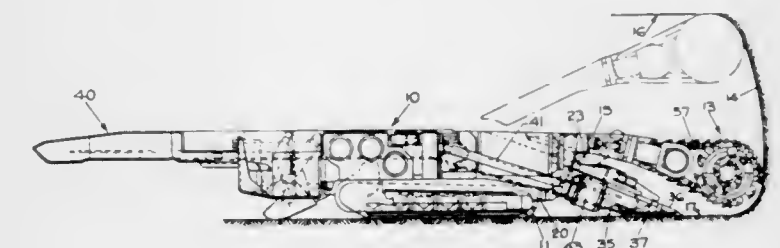
3,542,432

METHOD FOR MINING MATERIAL FROM THE ENTIRE FACE

William E. McCracken, Groveport and Fay E. Munger, Upper Arlington, Ohio, assignors to Jeffrey Galion, Inc., a corporation of Ohio
Filed Oct. 28, 1968, Ser. No. 770,914
Int. Cl. E21c 27/24

U.S. Cl. 299—18

6 Claims



A method of mining material from the entire mine face with a rotary mining head that has hemiovalate ends. The rotary mining head is advanced into the mine face for a major part of the head, and traversed through the material of the mine face to cut and break the material out of the mine face. This leaves cusps of material behind the rotary mining head. The mining head is retreated to the cusps of material, which are removed by traversing the rotary mining head through the cusps of material. This last traversing movement positions the rotary mining head for the next advance into the mine face and the next mining operation.

3,542,433

APPARATUS FOR REMOVING ROOFING

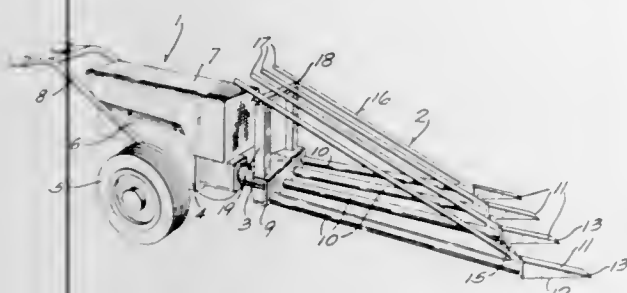
John F. Probst, Hartland, Wisconsin, assignor to P.A.L. Development Corp., Butler, Wisconsin a corporation of Wisconsin

Continuation-in-part of application Ser. No. 710,018, March 4, 1968, now abandoned. This application June 11, 1969, Ser. No. 840,100

Int. Cl. B25d 17/00

U.S. Cl. 299—37

11 Claims



The invention relates to a self-propelled apparatus for removing roofing, including a small tractor and a roof removing attachment extends forwardly of the tractor. The roof removing attachment comprises a frame member which terminates in a sharpened head adapted to wedge under the roofing and pry the roofing up as the tractor moves across the roof. The dislodged roofing is progressively moved up an inclined shield, which extends upwardly and to the rear from the head, and the dislodged roofing can be readily removed by workmen from the shield.

3,542,434

METHODS OF AND ARRANGEMENTS FOR FEEDING TEXTILE FIBROUS MATERIAL TO CARDS

Donald B. Harrison, Rossendale and Robert Lane, Accrington, Great Britain, assignors to T.M.M. (Research) Limited, Oldham, England a British company

Filed March 26, 1968, Ser. No. 716,125

Claims priority, application Great Britain, March 31, 1967, 14,905/67

Int. Cl. B65g 53/04

U.S. Cl. 302—28

11 Claims



This invention relates to a conveying system wherein a plurality of cards are each provided with a feed chute supplied with fibrous material by an air stream. Each feed chute has a reciprocal wall and these walls on the different chutes are reciprocated at different rates.

3,542,435

CURB AND GUTTER SECTION EXTRACTOR

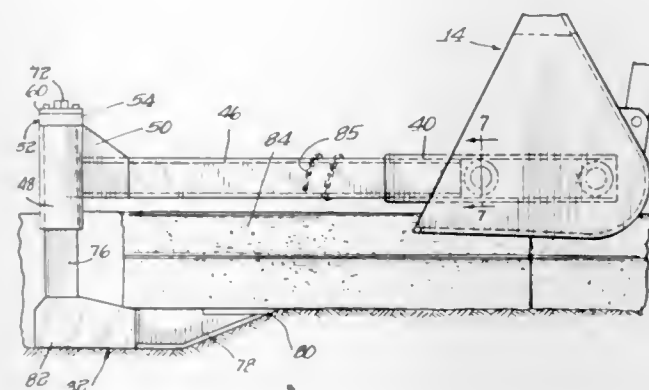
George E. Herrmann, 1164 S. Lombard St., Oak Park, Illinois 60304

Filed Oct. 27, 1967, Ser. No. 678,588

Int. Cl. E21c 47/00

U.S. Cl. 299—36

4 Claims



A curb and gutter section extractor having a boom which has one end adapted for attachment to a bucket of power earth moving equipment, such as a loader, and an adjustable column fixed to the other end of the boom. The column has an elongated tapered wedge fixed to one end thereof, which wedge extends toward the bucket and is substantially parallel to the boom for holding a curb and gutter section between the wedge and the boom.

3,542,436

METHODS AND APPARATUS FOR TRANSPORTING POWDER MATERIAL

Neil Rudolph Wallis, Cariad, Goring-On-Thames, Oxfordshire, England

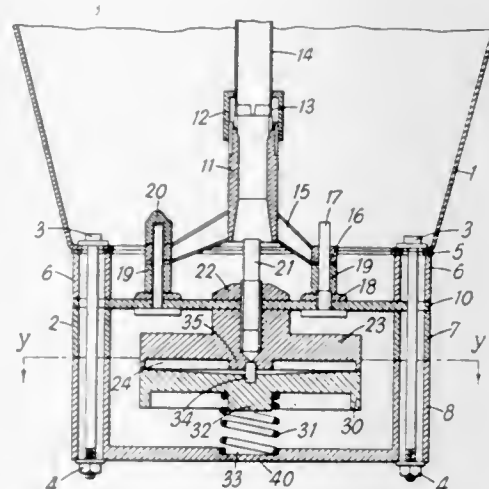
Filed July 3, 1967, Ser. No. 651,025

Claims priority, application Great Britain, July 8, 1966, 30678/66

Int. Cl. B65g 53/40

U.S. Cl. 302—56

17 Claims



A method and apparatus for transporting powder material wherein a container for the powder material has a conduit extending downwardly thereinto and a jet extending upwardly thereinto to adjacent the lower end of the conduit, and means connected to vibrate at least a portion of the conduit in the vicinity of the lower end to enhance the flow of gas-entrained powder.

3,542,437

BRAKE CONTROL SYSTEM FOR PREVENTING WHEEL LOCKING

Heinz Leiber, Leimen and Hartwig Steusloff, Edingen, Germany, assignors to Teldix Gesellschaft mit beschränkter Haftung, Heidelberg-Wieblingen, Germany

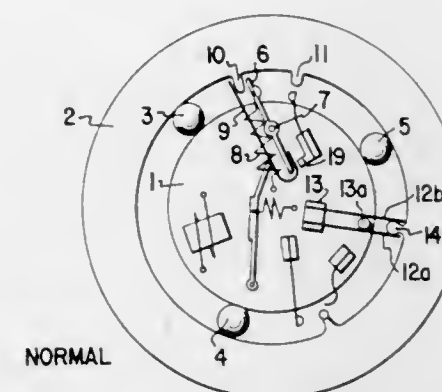
Filed July 9, 1968, Ser. No. 743,400

Claims priority, application Germany, Aug. 3, 1967, T 34 493

Int. Cl. B60t 8/08

U.S. Cl. 303—21

14 Claims



An improvement in a fluid actuated brake system for applying a braking force to a wheel in such a way as to prevent wheel locking. The system includes a source of fluid pressure connected to a wheel brake, a sink of fluid pressure connected to the wheel brake, an inlet valve connected between the source and the wheel brake for selectively preventing the fluid pressure from the source from reaching the wheel brake, an outlet valve connected between the sink and the wheel brake for selectively permitting the fluid pressure from the wheel brake to escape to the sink, and control means connected to the inlet valve and to the outlet valve for selectively closing the inlet valve and opening the outlet valve to selectively hold constant and reduce the braking force applied to the wheel. The improvement includes the provision, in the control means, of a bistable device, switchable between two stable states, for closing the inlet valve and opening the outlet valve when in a first state to reduce the braking force applied to the wheel, as well as means for switching the bistable device into the first state when the rotational deceleration of the wheel exceeds a first threshold and means for switching the bistable device into the second state when the rotational acceleration of the wheel exceeds a second threshold.

3,542,438

CONTROL VALVE

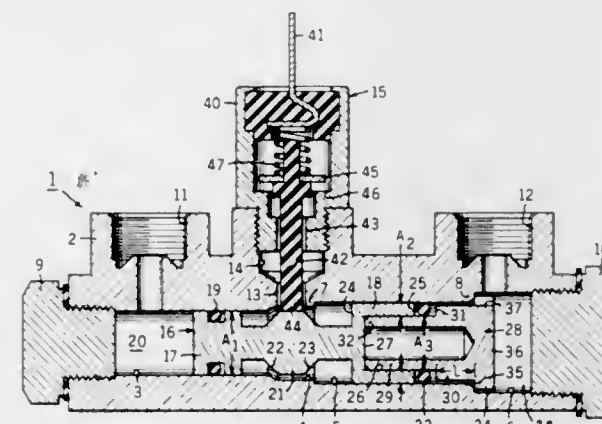
Edward J. Falk, St. Louis, Missouri, assignor to Wagner Electric Corporation, Newark, New Jersey a corporation of Delaware

Filed April 7, 1969, Ser. No. 814,103

Int. Cl. B60t 17/22

U.S. Cl. 303—84

16 Claims



A control valve or driver-warning mechanism for use in a split-braking system and having a single centering piston for

effecting automatic centering of the switch actuating piston when subjected to the fluid pressures of said split system subsequent to the correction of a failure of the fluid pressure in one of said split systems.

3,542,439

APPARATUS FOR PREVENTING DAMAGE TO PAVED SURFACES BY CLEATED, VEHICULAR DRIVING MEMBERS

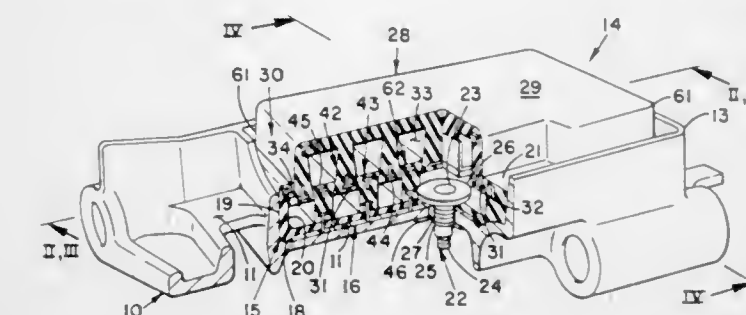
Henry A. Joos, Mount Clemens, Michigan, assignor to LTV Aerospace Corporation, Dallas, Texas a corporation of Delaware

Filed March 28, 1969, Ser. No. 811,285

Int. Cl. B62d 55/26

U.S. Cl. 305—34

18 Claims



An apparatus having a pad is adapted for mounting on the cleated track shoe or driving wheel of a vehicle. The apparatus is convertible between a pad-exposed mode for operation over paved surfaces and a grouser-exposed mode for operation in undeveloped terrain.

3,542,440

HIGH LOAD CAPACITY BEARING ASSEMBLY

Karl Brand and Franz Kessler, Ebern, Germany, assignors to Kugelfischer Georg Schafer & Co., Schweinfurt, Georg-Schaferstr., Germany

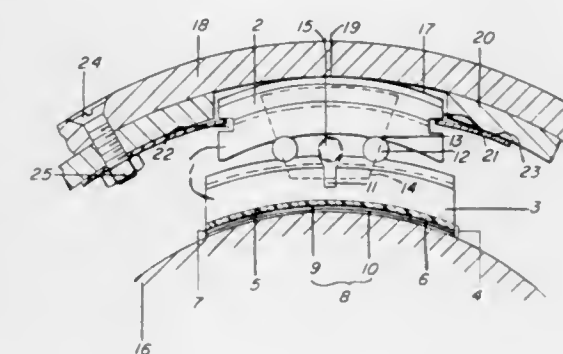
Filed Dec. 27, 1967, Ser. No. 693,807

Claims priority, application Germany, Dec. 27, 1966, K 61,032

Int. Cl. F16c 33/12

U.S. Cl. 308—73

13 Claims



A high load capacity bearing assembly for supporting a rotating member, including a plurality of bearing members in contact with the rotating member, the bearing surfaces of the bearing members being resilient and being adapted to form a thin film of lubricant between the bearing members and the rotating member upon rotation of the latter.

3,542,441

CONTROLLED CLEARANCE SELF-ALIGNING BEARING

Donald R. Nixon, Monroeville, Pennsylvania, assignor to Westinghouse Electric Corporation, Pittsburgh, Pennsylvania a corporation of Pennsylvania

Filed March 28, 1968, Ser. No. 716,807

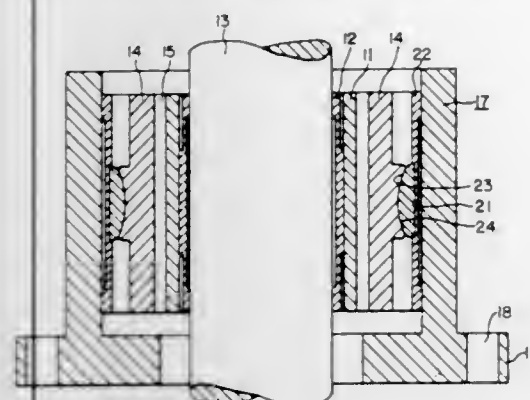
Int. Cl. F16c 41/02

U.S. Cl. 308—73

10 Claims

In a self-aligning bearing having a journal sleeve mounted on a spring cage on a shaft and a plurality of segmented bearing pads or shoes surrounding the journal sleeve, a substan-

tially constant running gap or clearance between the pads and the sleeve is maintained over a wide operating temperature range by encircling the pads with a pivot ring of low ex-



pansion material which is flexibly mounted on a spring cage in the bearing housing. The ring and the pads are machined to permit the pads to tilt vertically.

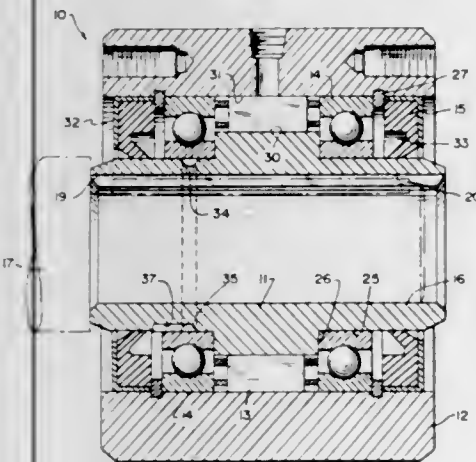
3,542,442

VENTED MECHANICAL DEVICE

Bryan P. Kent, Ithaca, New York, assignor to Borg-Warner Corporation, Chicago, Illinois a corporation of Delaware
Filed Dec. 6, 1968, Ser. No. 781,806
Int. Cl. F16c 1/24

U.S. Cl. 308—187

1 Claim



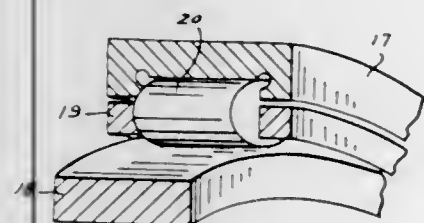
An overrunning clutch is disclosed herein providing a structure whereby a drive and driven member are interconnected to provide a driving situation therebetween in one direction and an overrunning situation therebetween in the other direction. Substantial temperature gradients are created during operation of the clutch, particularly during the overrunning situation. Seals are provided to retain lubricant in the bearings which rotatably interconnect the drive and driven members of the clutch. The clutch is provided with a vent structure to vent the bearing enclosure during overrunning conditions.

3,542,443

UNLUBRICATED BALL AND ROLLER BEARINGS

Phillip R. Eklund, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
U.S. Cl. 308—187

5 Claims



A relatively thin, mono-molecular type of fluorocarbon film deposited on the rolling contact elements of a ball or

roller bearing member to thereby form substantially frictionless bearing surfaces that inhibit excessive wear, skidding and galling. A teflon composition retainer is used in combination therewith to insure a continual redeposit or resupply of film to the bearing rolling contact elements, and thus significantly increase the normal operating life thereof.

3,542,444

MODULAR CABINET STRUCTURE

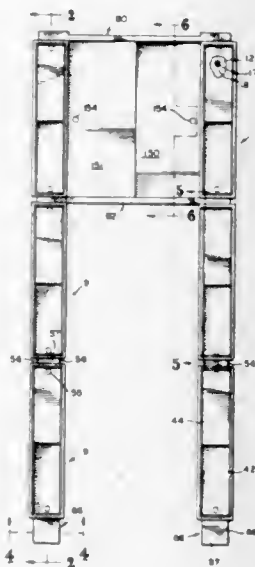
Clayton R. Hume, Louisville, Kentucky, and Thomas G. Webb, Columbus, Indiana, assignors to Hamilton Cosco, Inc., Columbus, Indiana, a corporation of Indiana

Filed Dec. 20, 1968, Ser. No. 785,475

Int. Cl. F16b 12/00

U.S. Cl. 312—111

15 Claims



A modular cabinet structure in which there is a pair of laterally spaced columns formed by a plurality of vertically stacked cabinets. Each cabinet is formed from a pair of side walls interconnected by top, bottom, and back walls. A locator assembly projects upwardly from the top wall into engagement with the bottom wall of the next higher cabinet for disposing adjacent pairs of cabinets in vertically spaced relation, and said pairs of adjacent cabinets are rigidly interconnected by fasteners. Fasteners are also provided for connecting the back walls of the cabinets to a supporting structure. Guides project inwardly from the side walls to slidably support at least one door for closing the front of each cabinet. Upper and lower shelves are provided with end portions lockingly receivable over the locator assemblies on a pair of vertically spaced cabinets on each of the two columns for thus interconnecting the columns. Said shelves are also provided with guide means which slidably support a pair of doors. A panel extends between said shelves at the rear thereof for mounting a plurality of transverse vertically spaced shelves within the cabinet structure formed by said upper and lower shelves and the laterally spaced columns of cabinets.

3,542,445

CLOSURE MEMBER

William R. Donker, Silver Creek Township, Cass County, Michigan, assignor to Econo-Cover Company, Dowagiac, Michigan a corporation of Michigan

Filed Jan. 23, 1969, Ser. No. 793,525

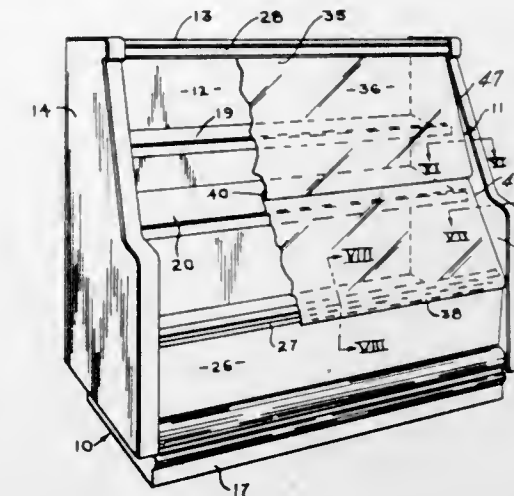
Int. Cl. A47f 3/04

U.S. Cl. 312—116

5 Claims

Sheet means folded upon itself along a line approximately midway between two substantially opposite edges to provide two overlapping portions, the sheet means being prestressed so that it will roll upon itself around an axis parallel with the fold line with the two said edges adjacent the outside of the roll. The prestressing of the sheet means is such that the roll is self supporting in a rolled position when it is suspended from one of said edges. The sheet means has a plurality of

relatively small and relatively evenly distributed openings therethrough. The sheet means is adapted to be mounted



along said opposite edges upon an open food freezer adjacent opposite edges of the access opening therein.

3,542,446

CONTAINER FOR STORAGE BINS

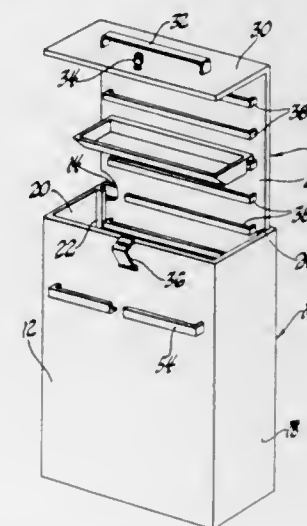
James E. Joyce, 878 Darien Circle, Rochester, Michigan 48063

Filed Feb. 11, 1969, Ser. No. 798,350

Int. Cl. A47b 57/06; A47f 5/08

U.S. Cl. 312—244

16 Claims



A container for a plurality of removable storage bins including a vertically slidable rack member adapted to carry the bins in a vertically stacked array. Additional bin support means are disposed on the outer face of the front wall of the container to carry a bin for temporary convenient access.

3,542,447

DRAWER CONSTRUCTION

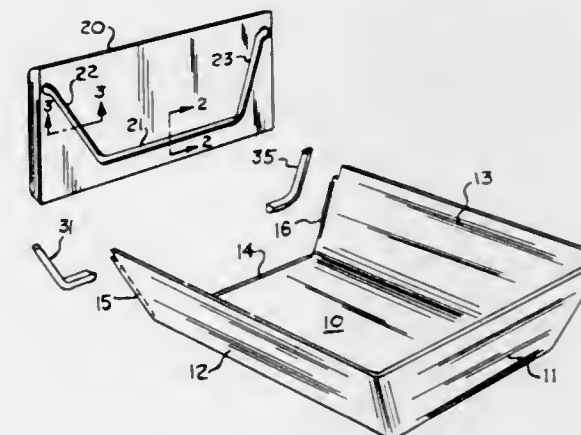
Louis E. Himelreich, Louisville, Kentucky, assignor to H. J. Scheirich Company, Louisville, Kentucky a corporation of Kentucky

Filed Dec. 17, 1968, Ser. No. 784,437

Int. Cl. A47b 88/00

U.S. Cl. 312—330

6 Claims



A drawer having a preformed body portion detachably locked to a drawer front which furnishes the front wall for the assembled drawer.

3,542,448
HOLOGRAPHIC RECORDING AND READOUT OF DIGITAL INFORMATION

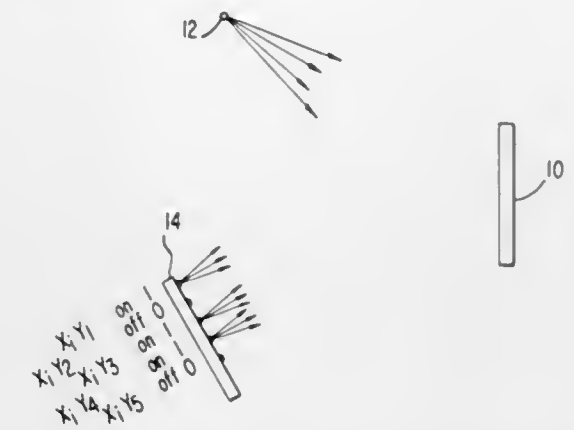
Jerry L. Reynolds, Wappingers Falls; Rodman S. Schools, Poughkeepsie and Glenn T. Sincerbox, Wappingers Falls, New York, assignors to International Business Machines Corporation, Armonk, New York a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,062

Int. Cl. G02b 27/00

U.S. Cl. 350—3.5

10 Claims



A method of storing digital information holographically. A matrix of light sources, which supplies the information to be stored, is placed in the signal plane and illuminates the photographic medium. A reference beam floods the photographic medium causing interference with the light from the light sources resulting in a hologram of the matrix of light sources. To detect whether any particular light source of the matrix was "ON" during storage, the developed hologram is flooded with light from the particular light source at the same position occupied by the particular light source during storage. A photodetector, placed at the image point of the reference source detects the reconstructed reference beam which occurs only if the particular light was "ON" during storage. Many matrices of "ON-OFF" data light sources may be stored on a single photographic plate, each matrix occupying a subarea of the photographic plate. A plurality of reference light sources are used, each being at a different angular position with respect to the storage medium and each being focused on a different subarea of the medium. A single matrix of light sources floods the entire medium and is used to store information in all of the subareas. The recording of the several matrices of information is sequential in that at any one time a single reference beam is energized and a plurality of the data sources are energized forming a hologram of the information in a subarea. Next, a new reference source is energized and a new plurality of the same data light sources are energized thereby forming a hologram of the new matrix of information in a new subarea. After development of the photographic storage medium, a given data position in all holographically stored matrices may be read out simultaneously by flooding the entire hologram with light from a light source at said given data position. In response to the light interrogation, the subareas will cause either a reconstruction of the reference beam or no reconstruction of the reference beam depending upon whether the data light source at the position of interest was "ON" or "OFF" during recording. Photodetectors, one for each reference source, are placed at the image points of the reference sources respectively, thereby determining, for each matrix, whether the data source was "ON" or "OFF".

3,542,449

HIGH DENSITY HOLOGRAPHIC INFORMATION STORAGE AND RETRIEVAL DEVICE

Raoul F. Van Ligten, Worcester, Massachusetts, assignor to American Optical Corporation, Southbridge, Massachusetts a corporation of Delaware by mesne assignments
Continuation-in-part of application Ser. No. 415,262, Dec. 2, 1964, now abandoned. This application Aug. 5, 1968, Ser. No. 754,124

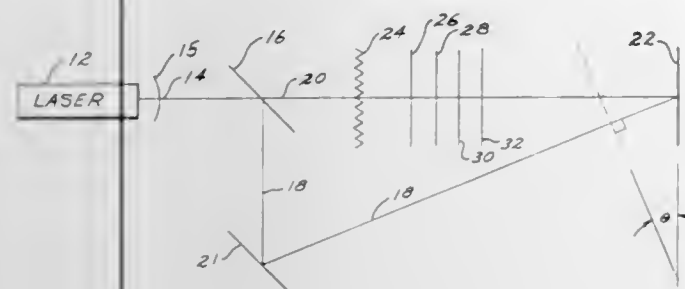
Int. Cl. G02b 27/00

U.S. Cl. 350—3.5

8 Claims

A number of independent holograms of different objects can be sequentially recorded one at a time on a single area of

film with each hologram recording occupying the entire area and the information from each of the objects independently derived one at a time by passing a ray of coherent light through the record onto a receiving screen and selectively varying the radius of curvature of the wave front of the ray to reproduce first one object and then the other. In contrast to the recording of a three-dimensional object wherein it is



desired to reproduce information from the entire volume of the object at one time each object in the present arrangement is two-dimensional and is reproduced individually. High order interference effects would cause interference information from adjacent objects when one object is being reproduced but by using a reference beam for recording which is about ten times the intensity of the object beam, such interference patterns are eliminated.

3,542,450

HEAT Baffle ASSEMBLY FOR ENVELOPE-COVERED OPERATING MICROSCOPE

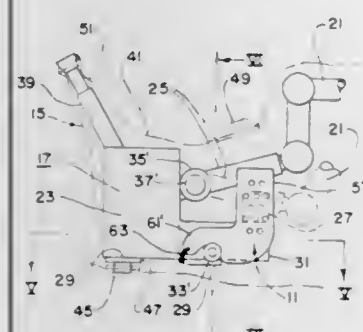
Wallace I. Terhune, Rye, New York, assignor to Richards Manufacturing Company, Memphis, Tennessee a corporation of Delaware

Filed Feb. 13, 1969, Ser. No. 799,068

Int. Cl. G02b; G03b 11/04

U.S. Cl. 350—65

5 Claims



A heat baffle assembly adapted to be secured on the head assembly of operating microscope apparatus and adapted to be used in conjunction with sheet plastic envelope cover means covering the microscope apparatus. The heat baffle assembly is a U-shaped strip of sheet metal material, and including a pair of hornlike projections and tension spring means adapted to detachably mount the baffle assembly on the camera attachment and objective housing structure of the microscope apparatus. The primary function of the baffle device is to prevent the thin sheet plastic envelope cover means from engaging the lamp housing or other lamp-heated parts of the microscope, and to prevent damage to the plastic microscope envelope by engagement with the heated parts of the microscope apparatus.

3,542,451 WEAR-RESISTANT ENCAPSULATED FIBER OPTICAL ASSEMBLY

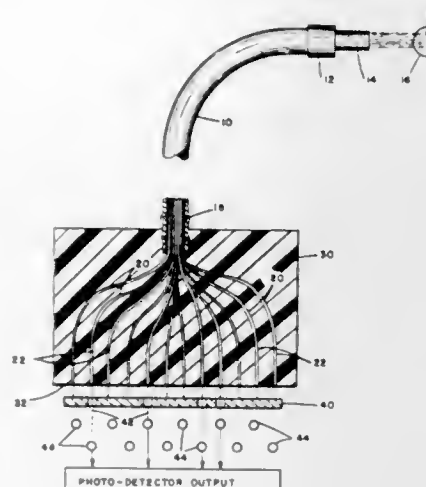
Wirt E. Washburn, Irondequoit, New York, assignor to Bausch & Lomb Incorporated, Rochester, New York a corporation of New York

Continuation of application Ser. No. 548,580, May 9, 1966, now abandoned. This application June 6, 1969, Ser. No. 834,211

Int. Cl. G02b 5/16

U.S. Cl. 350—96

1 Claim



A fiber optical assembly is disclosed for use in automatic data-processing equipment in which the perforated data cards are optically scanned. One end of the assembly is formed by encapsulating the fiber elements in a ceramic filled thermosetting resin material. This encapsulation is performed in a single application. The assembly is thus better able to withstand the constant abrasion of the punch cards over the face of the assembly.

3,542,452

TRANSITORY HOLOGRAM APPARATUS

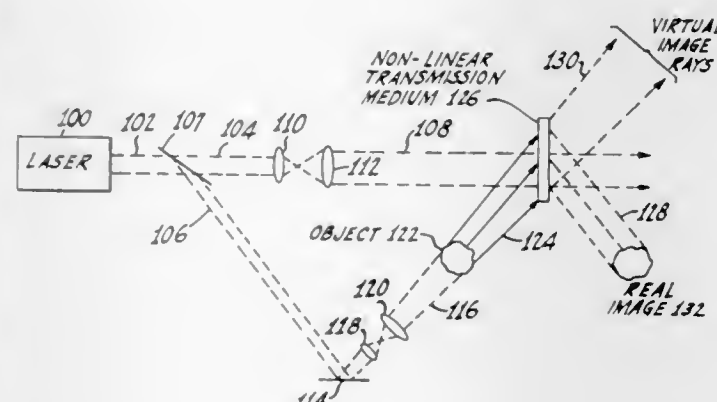
Hendrik J. Gerritsen, Princeton Junction and Henry S. Sommers, Jr., Princeton, New Jersey, assignors to RCA Corporation, a corporation of Delaware

Filed March 20, 1967, Ser. No. 624,334

Int. Cl. G02b 27/00

U.S. Cl. 350—3.5

9 Claims



A medium having a short persistence nonlinear transmission characteristic is utilized in the present invention for simultaneously making and reconstructing transitory holograms in real time.

The present invention permits light amplification as well as up or down frequency conversion to take place between the making and reconstruction of the transitory holograms.

3,542,453

GRATING DEVICE COMPOSED OF ELONGATED LAYERS

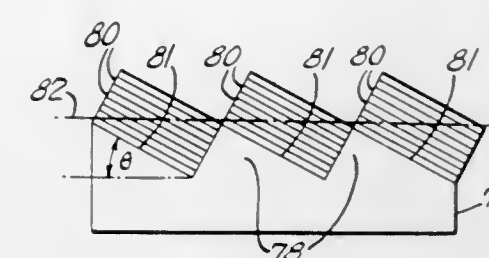
Frederick W. Kantor, 610 W. 114 St., New York, New York

Filed Oct. 25, 1967, Ser. No. 678,104

Int. Cl. G02b 5/18

U.S. Cl. 350—162

13 Claims



The grating device comprises a body composed of elongated layers which end at a terminal surface transverse to the layers. Portions of the ends of certain ones of the layers are removed so that elongated recesses are formed in the terminal surface. Alternatively, selected layers are made of a material of relatively high radiation scattering ability while others are made of materials of low scattering ability. The pattern of the recesses or the highly scattering layers forms the body into a diffraction grating, or a zone plate, a diffusion mask, or an optical slit. The layers are located with extreme precision with respect to one another. The fabrication method comprises forming a body by "layering"; that is, by building the body out of layers of materials deposited sequentially one upon the other. Then the body is cut transversely through the layers, thus producing a terminal surface having bands defined by the exposed terminal edges of the layers. In one embodiment, some layers are made of a substance which is eroded relatively rapidly by a certain etching fluid, whereas other layers are made of material which is eroded very slowly by the same fluid. Then, the entire terminal surface is subjected to the etching fluid. By this means, the surface is given a relief pattern defined by the exposed edges of the layers. Alternatively, the layers can be made of materials having different radiation scattering abilities so that no grooving of the terminal surface is required.

3,542,454

WIDE ANGLE PHOTOGRAMMETRIC OBJECTIVE

Edgard Hugues, Courbevoie and Jean Soyer, Fontenay-aux-Roses, France, assignors to Centre de Recherches et de Calculs Optiques C.E.R.C.O., Bis, avenue du Chateau, Neuilly, France

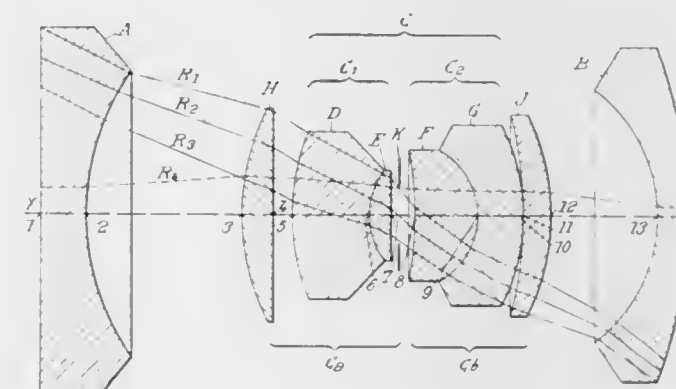
Filed July 3, 1967, Ser. No. 650,982

Claims priority, application France, Oct. 5, 1966, 78,888

Int. Cl. G02b 9/62

U.S. Cl. 350—176

1 Claim



Wide-angle objective comprising a front diverging lens unit, a back diverging lens unit, and a lens assembly disposed in between said front and back units. The lens assembly comprises two portions, and a diaphragm is disposed between these two portions thereby dividing the objective into a front and a back part. The objective is asymmetrical about the diaphragm, the front part of the objective having a focal length comprised between 0.6 F and 1.3 F where F is the focal length of the objective taken as a whole.

3,542,455

DAY-NIGHT OUTSIDE REARVIEW MIRROR ASSEMBLY

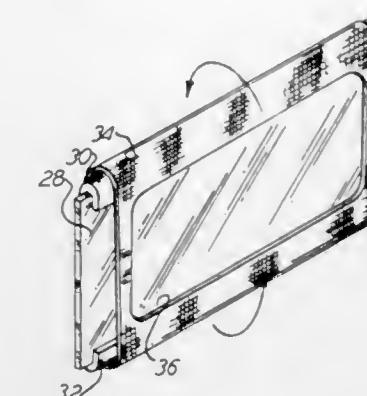
Peter L. Jensen, Livonia, Michigan, assignor to Ford Motor Company, Dearborn, Michigan a corporation of Delaware

Filed March 12, 1968, Ser. No. 712,481

Int. Cl. G02b 17/00

U.S. Cl. 350—280

10 Claims



A day-night rearview mirror assembly adapted to be positioned exteriorly of the passenger compartment of a motor vehicle. A transparent glass panel is positioned in a housing between a mirror and the area to be viewed. The mirror is surrounded by a movable, opaque shade having a window formed therethrough that may be brought into and out of registry with the reflective surface of the mirror. In the night viewing position, the window is out of registry with this reflective surface and an opaque shade material overlies the latter, thus preventing the reflection of environmental light sources such as commercial or street lights by the mirror as well as dimming the glare from the headlights of following vehicles.

3,542,456

AUXILIARY REAR VIEW MIRRORS FOR AUTOMOBILES AND THE LIKE

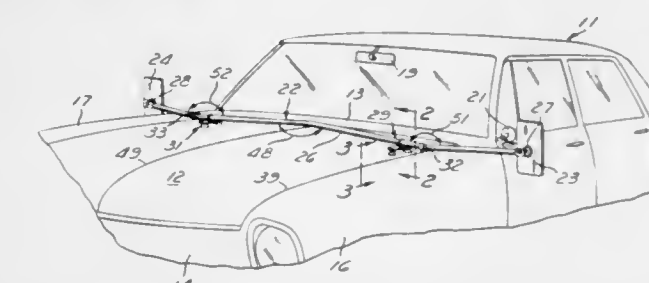
Roger W. Hoge, 8576 Fair Road, Strongsville, Ohio 44136

Filed April 8, 1968, Ser. No. 719,651

Int. Cl. G02b 5/08

U.S. Cl. 350—307

1 Claim



An auxiliary rearview mirror structure for temporary use on an automobile when towing a trailer or other conveyance. A mirror is adjustably mounted on each end of a tubular frame member which extends laterally across the hood of the automobile. The tubular member is arched to insure clearance over a crown in the hood and is fastened to each side of the hood by two suction cups and by a strap which extends between the hood and the fender and under the hood to attach to a structural member of the hood. Since the auxiliary mirror structure is supported entirely by the hood, it permits the hood to be raised and lowered with it mounted thereon.

3,542,457

ELECTRONIC EYE MOTION RECORDER SYSTEM

George H. Balding, Los Altos; Jonathan J. Stinehelfer, Sunnyvale and David H. Ziegler, Palo Alto, California, assignors to Kaiser Aerospace & Electronics Corporation, Oakland, California a corporation of Nevada

Filed Aug. 6, 1968, Ser. No. 750,588

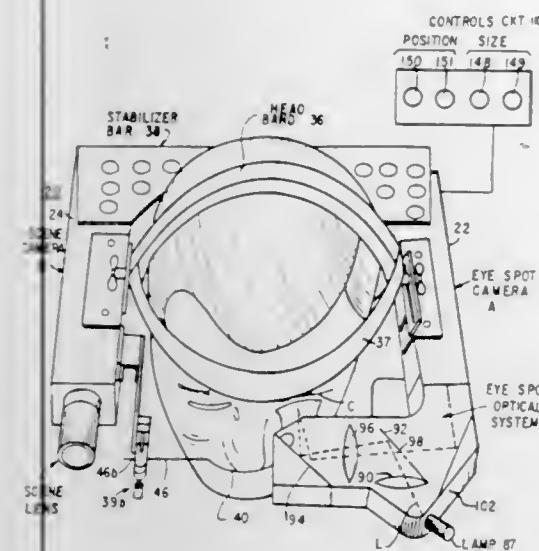
Int. Cl. A61b 3/14

U.S. Cl. 351—7

14 Claims

A head-mounted television eye motion recorder of the corneal reflex type used to measure eye movements. The

recorder comprises a head mounting carrying two television cameras mounted on opposite sides of the subject's head, one camera responding to the scene which is being viewed, and the other camera responding to a spot of light which is



reflected from the cornea of one eye so as to be responsive to eye movement. This eye spot is superimposed on the scene being viewed, and is electronically mixed therewith. The eye movements can be observed in real-time direct viewing on a video monitor, and also from data recorded on video tape.

3,542,458

METHOD FOR MEASUREMENT OF THE SHAPE AND CURVATURE OF A CORNEA

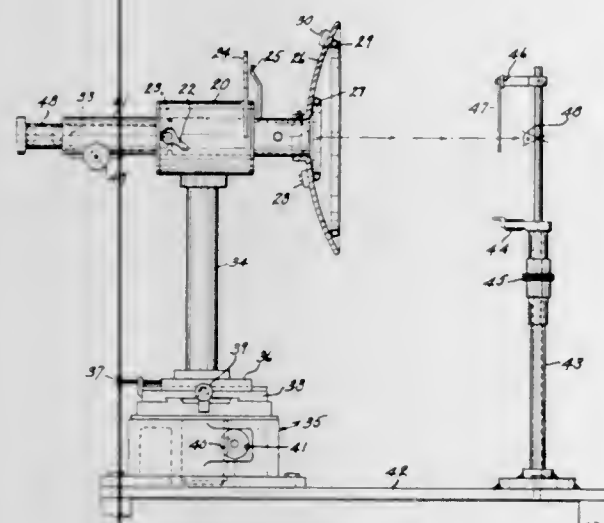
David Volk, 3336 Kersdale Road, Pepper Pike, Ohio

Filed March 5, 1968, Ser. No. 710,557

Int. Cl. A61b 3/00, 3/10

U.S. Cl. 351—39

1 Claim



A method and apparatus are provided for measuring the apical radius of curvature and eccentricity of a conicoid surface, such as a cornea or lens, by supporting larger and smaller circular targets concentric to the optical axis of a telescope which has its optical axis aligned with the optical axis of the conicoid surface. The telescope is focused on the reflected image of the smaller target which is measured to determine the apical radius of curvature of the conicoid surface. The telescope is then focused on the reflected image of the larger target which is measured, and its size and the determined apical radius of curvature are used to determine the eccentricity of the conicoid surface.

3,542,459 SAFETY ATTACHMENT MEANS FOR SPECTACLE LENSES

Evert P. Lindstrom, 20835 Martha St., Woodland Hills, California

Filed June 11, 1969, Ser. No. 832,399

Int. Cl. G02c 9/00

U.S. Cl. 351—47

7 Claims



Safety attachment means for spectacle lenses and comprising two pairs of transparent, frame mounted safety shields, a pair for each of the lenses, with the safety shields overlying the front and rear surfaces of the lenses to protect the wearer's eyes from accidental shattering of the lenses. The shields are removably fitted into their frames for rapid replacement, the frames are resiliently biased toward one another for detachably clamping onto the spectacles, and the frames are held together by a transverse yoke which permits the frames to be adjusted transversely to fit different sizes of spectacles.

3,542,460

OPHTHALMIC MOUNTING WITH REMOVABLE LENSES

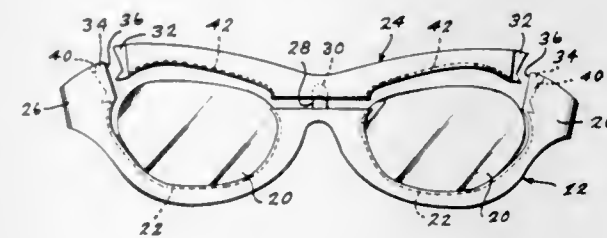
Roland L. Smith and Esther T. Smith, Rte. 1, York, South Carolina 29745

Filed Oct. 2, 1967, Ser. No. 672,119

Int. Cl. G02c 1/04, 5/10

U.S. Cl. 351—92

3 Claims



An ophthalmic mounting which supports a pair of lenses that can be readily removed and replaced comprising a support element having a center portion and resilient projecting arm portions that carry the lenses and that can be flexed outwardly to receive a detachable lens retaining member which is anchored at the center portion of the support and extends between the projecting ends of the arm portions, the retaining member being held in place by an interlocking connection which holds it in place until the arm portions are flexed to release it. Preferably, the retaining member has a lengthwise extent which is slightly greater than the normal spacing of the end parts so as to maintain the arm portions in a slightly flexed condition when the retaining member is in place.

3,542,461

CONTACT LENS HAVING AN INDEX OF REFRACTION APPROXIMATING THAT OF HUMAN TEARS

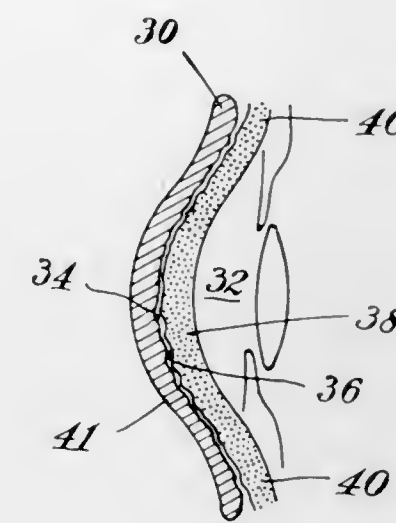
Louis J. Glrard; Whitney G. Sampson and Joseph W. Soper, Houston, Texas, assignors to E. I. du Pont de Nemours & Company, Wilmington, Delaware a corporation of Delaware

Filed Nov. 20, 1967, Ser. No. 684,364

Int. Cl. G02c 7/04

U.S. Cl. 351—160

11 Claims



A wettable contact lens of the type applied to the human eye to correct vision deficiencies, said lens formed of a transparent, dimensionally stable, solid material characterized by an index of refraction approximating that of the human tears.

3,542,462

AUTOMATIC EXPOSURE CONTROL DEVICE FOR PHOTOGRAPHIC CAMERAS

Wilhelm Bertram, Grafelfing near Munich, Germany, assignor to Ernst & Wilhelm Bertram, Fabrik Phototechn, Messgerate, Grafelfing near Munich, Germany

Filed Oct. 9, 1968, Ser. No. 766,169

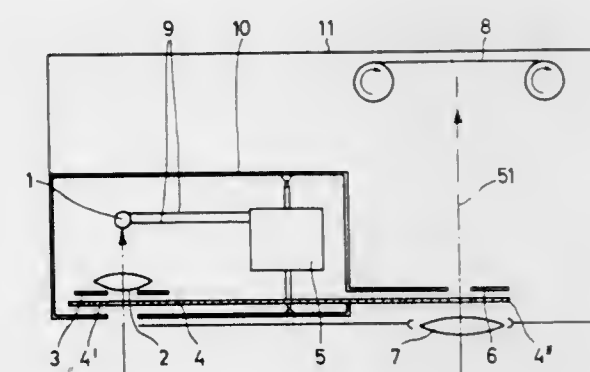
Claims priority, application Germany, Oct. 11, 1967,

1,597,123

Int. Cl. G03b 19/18, 9/02

U.S. Cl. 352—141

9 Claims



An automatic light exposure control device, particularly for use in a motion picture camera. The device consists of a housing having an electromagnetic interpreting unit in the form of a galvanometer. The galvanometer is provided with a double diaphragm arrangement having two leaves, one of which controls the light passing through a field lens of the camera and the other of which controls the light passing through a precision lens on the housing which is aligned with a photoresistive element connected in the galvanometer circuit. The housing is adapted to be attached to a camera to control the exposure of the film contained therein.

3,542,463

TRANSPARENCY POSITIONER FOR PROJECTOR STAGE

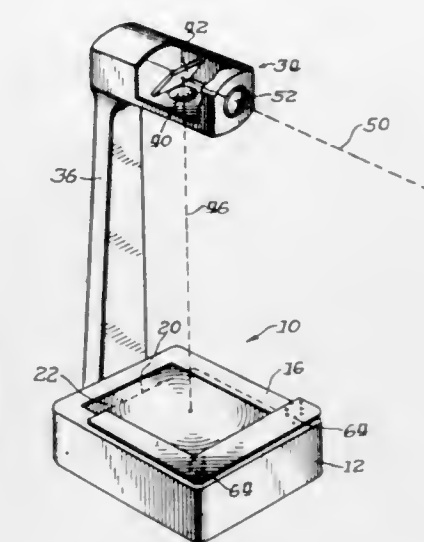
Robert A. Klein, Skokie, Illinois, assignor to Bell & Howell Company, Chicago, Illinois a corporation of Illinois

Filed March 7, 1968, Ser. No. 711,427

Int. Cl. G03b 21/00

U.S. Cl. 353—122

6 Claims



A transparency positioner is provided for locating the center of any of several sizes of transparencies substantially over the optical center of an overhead projector stage. The positioner has "L"-oriented legs, in one of which legs, aligning holes are provided to enable selective positioning of the positioner on locators secured in the stage for proper positioning of the size of transparency to be projected.

3,542,464

COMPACT AUTOMATIC SLIDE PROJECTOR

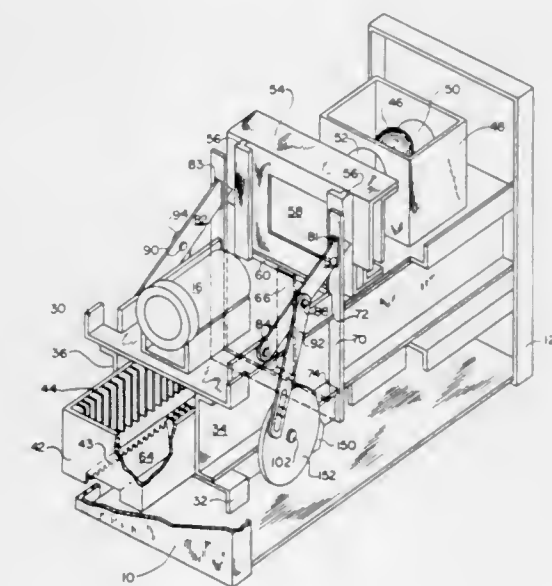
Panayotis Constantine Dimitracopoulos, P.O. Box 458, Outremont, Montreal 154, Quebec, Canada

Filed April 19, 1968, Ser. No. 722,775

Int. Cl. G03b 21/18

U.S. Cl. 353—57

14 Claims



An automatic slide projector whose frame is also its magazine tunnel, and whose principal slide-changing element is a U-shaped member straddling the magazine tunnel.

3,542,465

CAMERA WITH DEVELOPMENT MEANS

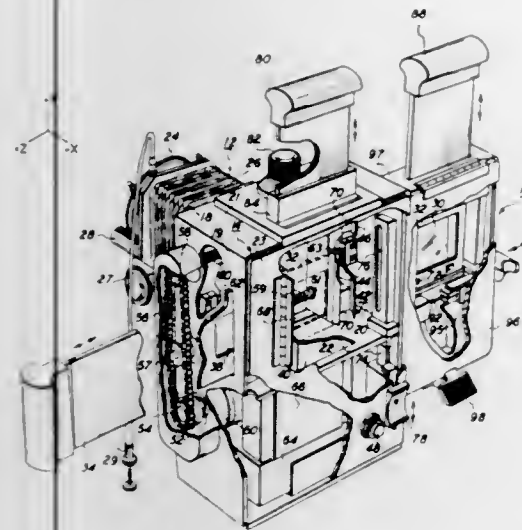
Arnold L. Pundsack, 47 Aspen Dr., Rochester, and Raymond Egnaczak, 658 East Town Line Road, Williamson, New York, assignors to Xerox Corporation, Rochester, New York a corporation of New York

Filed Sept. 1, 1967, Ser. No. 665,050

Int. Cl. G03g 15/00, 15/10

U.S. Cl. 355—3

18 Claims



A camera to expose and develop an imaging member having fractureable material in an electrically insulating softenable layer. The camera has a charging device, exposure apparatus with optional components for providing contact optical screening, and a compartment to develop the exposed imaging member.

3,542,466

DEVELOPMENT APPARATUS

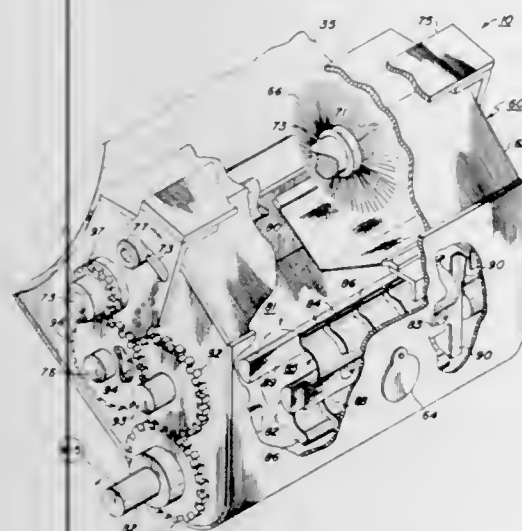
Carol A. Fox, Rochester; Merton R. Spear, Jr., Penfield and Armistead Wharton, Henrietta, New York, assignors to Xerox Corporation, Rochester, New York a corporation of New York

Filed Dec. 21, 1967, Ser. No. 692,335

Int. Cl. G03g 15/08

U.S. Cl. 355—3

5 Claims



Apparatus for the development of an electrostatic latent image which includes a housing having a sump area for containing a supply of electroscopic toner powder and a brush member for receiving the electroscopic toner powder charged to a polarity opposite that of an electrostatic latent image to be developed and delivering the electroscopic marking particles into contact with the surface of the electrostatic latent image. To affect the loading of the brush member, the electroscopic toner particles are scooped from the sump area and propelled in the direction of the brush member by a rotating plate member having finger elements which finger elements have a cup portion arranged at their extremity for scooping out a predetermined amount of toner powder from the sump portion of the housing. Each of the finger elements is formed with an arcuate shape from a

resilient material in contact with interference member in the path of the fingers causing the fingers to flex and then return to an original position thereby propelling the toner powder toward the brush member. To effect proper charging of the toner particles, a screen member is positioned intermediate the brush member and the finger elements and is made out of a material characterized by an electrostatic property removed in triboelectric series from the toner particles thereby causing the particles to be properly charged when passed through the screen and before being received onto the brush member.

3,542,467

XEROGRAPHIC REPRODUCING APPARATUS

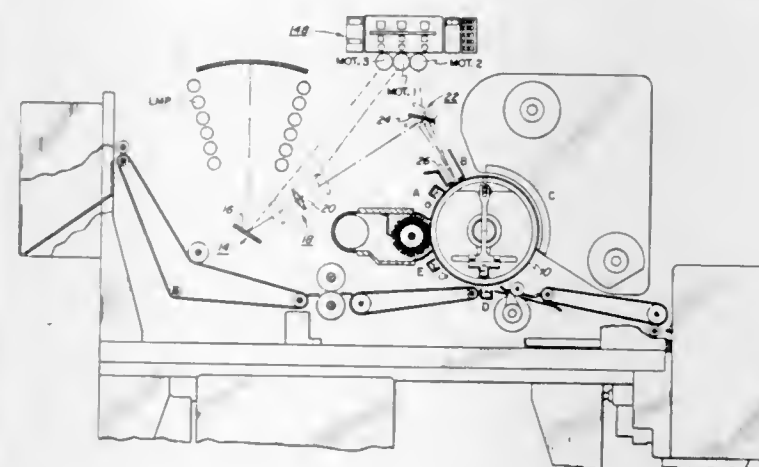
Lawrence A. Ferguson, West Webster, Robert K. Jones, Palmyra and Donald W. Bates, Fairport, New York, assignors to Xerox Corporation, Rochester, New York a corporation of New York

Filed April 15, 1968, Ser. No. 721,321

Int. Cl. G03b 27/34, 27/42

U.S. Cl. 355—8

5 Claims



Automatic xerographic apparatus for reproducing documents at one of a plurality of optical reduction rates. The apparatus includes an image mirror, lens and object mirror to project an image of a stationary original onto a moving xerographic surface. The image mirror and lens are selectively shiftable to vary the conjugate length of the optical system to thereby produce the desired optical reduction. The object mirror is oscillatory at one of several scan rates correlated to the conjugate length to produce undistorted reproductions of the original documents at the preselected reduction rate.

3,542,468

MICROFILM ENLARGER-COPIER

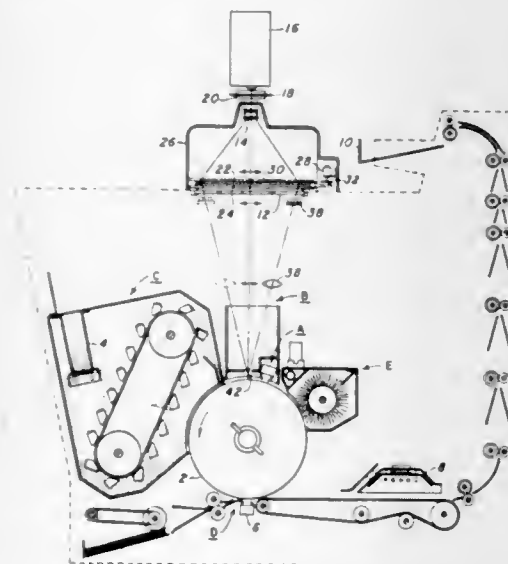
James H. Blow, Jr., Rochester, New York, assignor to Xerox Corporation, Rochester, New York a corporation of New York

Filed April 1, 1966, Ser. No. 539,400

Int. Cl. G03b 27/32

U.S. Cl. 355—18

9 Claims



A microreproduction system including a xerographic copier system for ordinary one-to-one reproduction and a second

3,542,469

PHOTOGRAPHIC PRODUCTION OF SEMICONDUCTOR MICROSTRUCTURES

Klaus Hennings, Heilbronn/near, Germany, assignor to Telefunken Patentverwertungsgesellschaft G.m.b.H. Ulm Danube, Germany

Filed June 13, 1968, Ser. No. 736,671

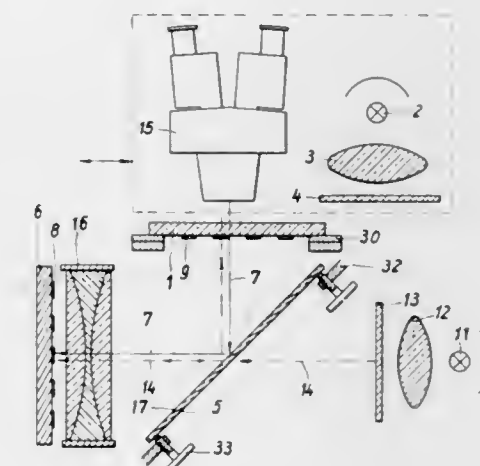
Claims priority, application Germany, Sept. 30, 1967,

1,597,431; 1,597,430

Int. Cl. G01b 11/26

U.S. Cl. 355—46

20 Claims



An arrangement for producing microstructures on a substrate surface by forming an image of mask containing a microstructure pattern on a photosensitive layer provided on such surface, the system including a semireflecting mirror oriented to reflect light passing through the mask toward the layer and to reflect light from the layer toward the mask, and an objective lens arranged for forming an image of the mask on the layer, the lens being optimally corrected to have the same longitudinal and lateral aberration with respect to two different light wavelengths, light having one of these wavelengths being used for forming an image of the mask on the layer and light of the other of these wavelengths being reflected from the layer for permitting an alignment to be effected between the mask and the layer.

3,542,470

AUTOMATIC COMPUTING DENSITY RANGE COUPLED LIGHT INTEGRATOR

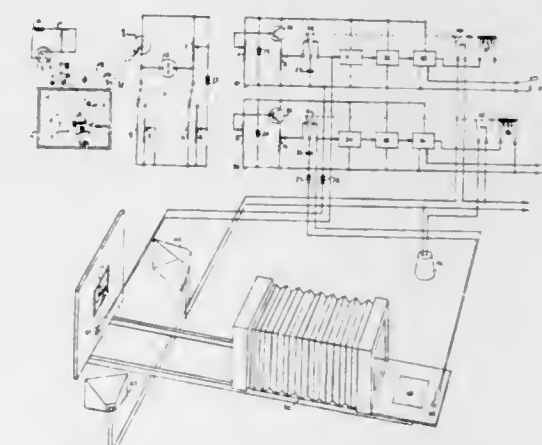
Clarence Samuel Ost, 118 N. Mansfield Ave., Margate City, New Jersey 08402

Filed Dec. 4, 1968, Ser. No. 781,229

Int. Cl. G03b 27/76

U.S. Cl. 355—68

23 Claims



A photographic apparatus for producing screened reproductions consisting of a camera or enlarger system with

optical system capable of introducing a microfilm size input for reproduction with the copier system. The second optical system includes a Fresnel lens positioned in the focal plane of the copier optical system so as to be scanned, and oscillatory movement is imparted to the Fresnel lens in a direction skewed to the direction on scan.

A copy support and an easel for photosensitive material. Exposure lamps are provided to illuminate the copy. The exposure lamps are energized by a control circuit including a photo-electrically operated selectively settable light integrator which is reset from one adjustable balancing arm of a bridge circuit. Another arm of the bridge circuit includes a light-responsive resistor probe which can be placed at different portions of the copy to respond to the densities thereof. The balancing arm can be adjusted for balance at a value corresponding to a selected highlight density area of the copy, or to the screen range minus a selected shadow density area, to thus respectively cause the integrator to provide in each case a corresponding amount of light flux from the exposure lamps. The bridge circuit includes another balancing arm which can be automatically adjusted in accordance with the screen density range capability, and still another balancing arm which can be set to represent excess density, which is automatically computed while a selected shadow density area of the copy is being observed by the light-responsive resistor probe. The system includes a flash lamp adjacent the easel, energized by another selectively settable light integrating circuit which is reset in accordance with the setting of the last-named balancing arm so as to provide a flash exposure having an amount of light flux corresponding to the excess density of the copy density range relative to the screen density range capability.

3,542,471

FILM HOLDER FOR A PROJECTION APPARATUS

Ladislav Dubny, Prerov, Czechoslovakia, assignor to Meopta, narodni podnik, Prerov, Czechoslovakia

Filed March 27, 1967, Ser. No. 626,239

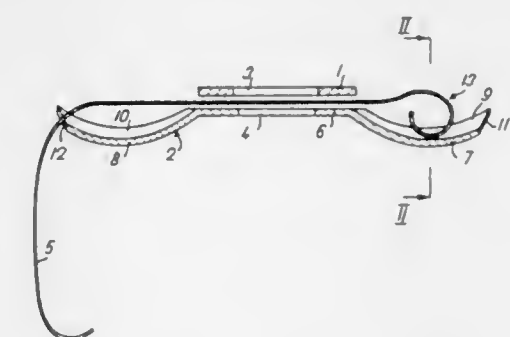
Claims priority, application Czechoslovakia, March 26, 1966,

PV 2,024/66

Int. Cl. G03b 27/62

U.S. Cl. 355—75

3 Claims



A film holder for a projection printer of the type in which one frame of an elongated strip of film is exposed while clamped horizontally between two apertured plates. The lower of the plates carries an axially extending storage receptacle for the film ends which have concave spherically curved receiving surfaces. The film makes edge point contact with the receiving surfaces which have an arcuate line of intersection with any plane intersecting the longitudinal axis of the film.

3,542,472

DISTANCE MEASURING APPARATUS

William Reid Smith-Vaniz, Darien, Connecticut, assignor to The Perkin-Elmer Corporation, Norwalk, Connecticut a corporation of New York

Filed Jan. 10, 1967, Ser. No. 608,443

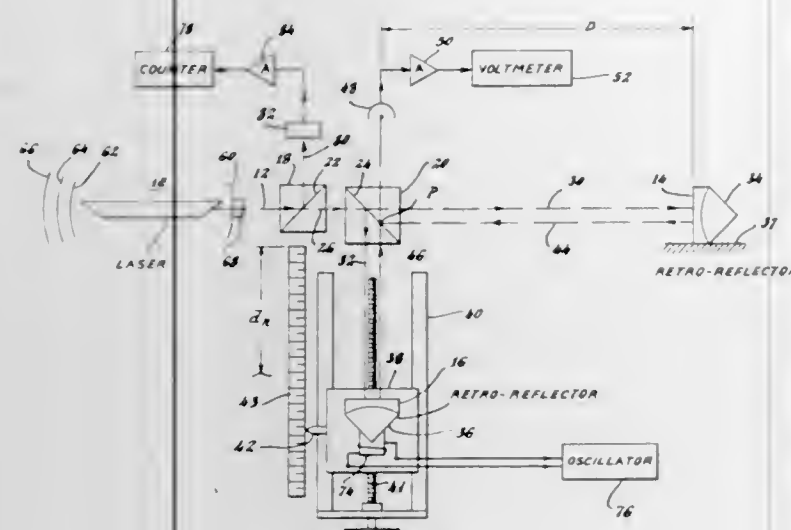
Int. Cl. G01c 3/08

U.S. Cl. 356—4

11 Claims

A distance measuring apparatus comprises a laser light source arranged for generating a light beam having simultaneously occurring components at two or more differing frequencies. Portions of the light beam are projected at a remotely positioned target reflective surface and at a locally positioned reference reflective surface. The distance measuring apparatus is arranged for combining beams reflected from these surfaces and for generating a field which varies in contrast in accordance with the displacement of the

reference reflective surface from a reference point in the apparatus. The laser light source further includes means for altering a resonant cavity length thereof for varying f where f is the difference in frequency between the component frequen-



cies. A knowledge of the frequency differential f and a corresponding distance of the reference surface from the reference point provides sufficient data for the solution of simultaneous equations for indicating the distance of a remote target.

3,542,473

FIZEAU PLATE FOR USE IN MULTIPLE BEAM INTERFEROMETERS

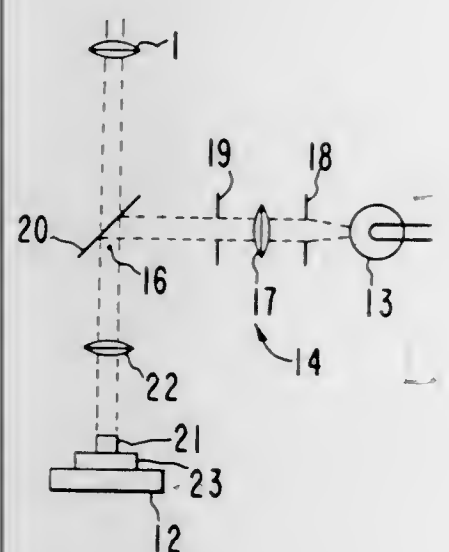
Lawrence F. Herte, Palo Alto and Frank R. Kloss, San Francisco, California, assignors to Varian Associates, Palo Alto, California, a corporation of California

Filed March 27, 1967, Ser. No. 626,155

Int. Cl. G02b 21/06; G01b 9/02

U.S. Cl. 356—109

2 Claims



A Fizeau plate for use in optical interferometers. A portion of the Fizeau plate has a reflective coating while the remainder is transparent to permit direct viewing for identification of an adjacent region of the specimen whose surface variations are being observed.

3,542,474 INTERFEROMETRIC MACHINE FOR MEASURING ANGULAR MOTION

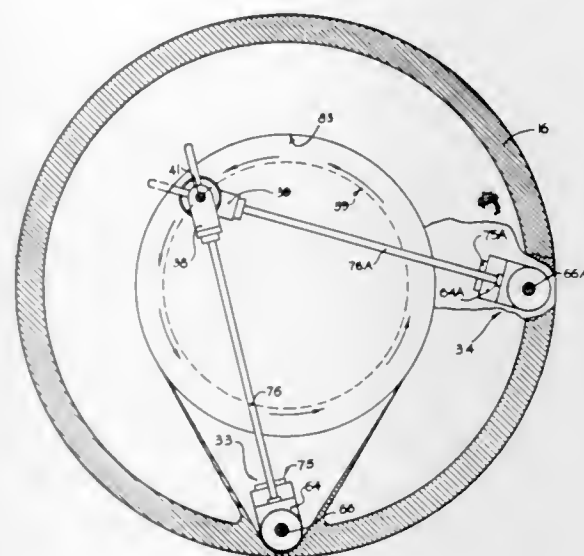
Wallace Edward Brainard, New Berlin, Wisconsin, assignor to Kearney and Trecker Corporation, West Allis, Wisconsin a corporation of Wisconsin

Filed Feb. 23, 1967, Ser. No. 619,515

Int. Cl. G01b 9/02

U.S. Cl. 356—110

14 Claims



This invention comprises an angular measurement apparatus for determining positional movement of a rotatable table indexable throughout a full 360°. To accomplish this, two rectilinear measuring devices are operatively interconnected between spaced apart portions of a support frame and a common reference member depending from the table for bodily rotational movement therewith. During rotation of the table, corresponding rotational movement of the common depending reference member actuates both rectilinear measuring devices, thereby providing measured linear motions which are the functions of the sine and cosine of an angle indicative of angular table position.

3,542,475

OPTICAL FOCUSING

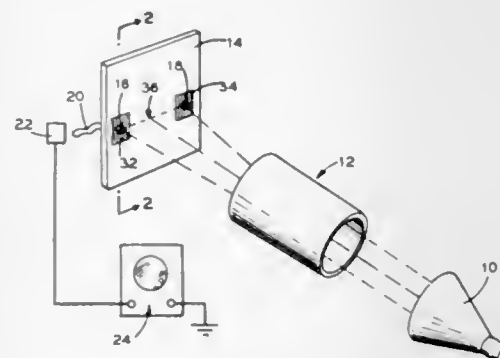
Ronald F. Cooper, Plainview, New York, assignor to Alphameric, Incorporated, Lake York, New York a corporation of Delaware

Filed Aug. 9, 1968, Ser. No. 751,553

Int. Cl. G01j 1/00; G01b 9/00

U.S. Cl. 356—122

5 Claims



This invention relates to the method and apparatus of determining when a projected image is in focus by moving the projected image relative to and across an optical grating to modulate the projected image, the amplitude of the differential between the maximum level of light and the minimum level of light of the modulated image indicating the focus of the projected image.

3,542,476 INTERFEROMETRIC TYPE OF LENS ALIGNMENT APPARATUS

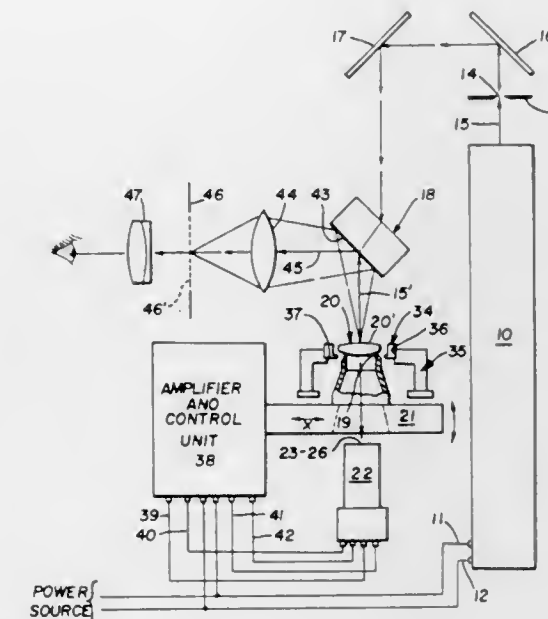
Donald D. Nord, Rochester, New York, assignor to Bausch & Lomb Incorporated, Rochester, New York a corporation of New York

Filed Feb. 9, 1968, Ser. No. 704,297

Int. Cl. G01b 9/00

U.S. Cl. 356—124

3 Claims



A lens alignment method and apparatus of the interferometric type which utilizes the intense beam provided by a laser device for defining a reference axis and for precisely aligning a lens therewith by creating an interferometric fringe pattern in space upon reflection of said beam from the surfaces of the lens, the fringe pattern being concentric about the optical axis which connects the centers of curvature of each lens surface, the tilt of the lens being controlled by positioning the fringe pattern concentrically about the reference axis as defined by the laser beam. In the laser beam beyond the lens is arranged an electronic directional detector having a central null response point on which said beam is normally incident when the lens is not in place or when it is perfectly aligned with said beam. The directional error signal generated by the detector is fed through control circuits to two servo motors which actuate in two directions normal to each other a lens holding mechanism on which the lens is carried, the two-lateral corrective movements being thereby automatically fed to the lens so as to align its optical axis with said beam, the lens being freely and adjustably held within its stationary lens cell during the aligning process. An eyepiece is focused on said fringe pattern and a comparison reticle which is centered on said beam to indicate any tip or tilt of the lens axis.

3,542,477

HEMISPHERIC SEARCH DETECTOR

David S. Grey, Lexington and Robert Clark Jones, Cambridge, Massachusetts assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 28, 1958, Ser. No. 711,758

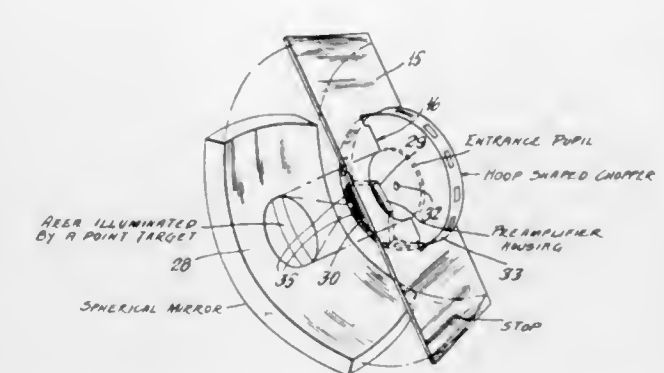
Int. Cl. G01s 3/78; G01b 11/26; G01c 1/00

U.S. Cl. 356—141

16 Claims

In a hemispheric search detector, a scanning and detecting device comprising a housing, means mounting the housing for rotation about an approximately vertical axis, means for rotating said housing continuously about its said axis, said housing having an outwardly exposed wall disposed at an

acute angle to both the vertical and the horizontal with a pupillike window in the wall, a spherical concave mirror disposed behind said wall in said housing and facing said window, whereby radiant energy rays entering said housing through said window may impinge on said mirror and be reflected by the mirror to a focus in front of the mirror, an arcuate convex row of individual detectors, each sensitive to radiant energy rays and operable to vary electric currents in proportion to the intensity of the radiant rays incident thereon, said detectors being disposed in said housing and facing said mirror with the row in a plane normal to said wall,



and each at the focus of the mirror for radiant energy rays entering said housing through said window in directions substantially parallel to said plane and at selected inclinations, whereby said rays incident on the mirror will be reflected thereby to an approximate focus upon that one of said detectors in said row depending on the angle of inclination of said rays, and electric circuit connections to each of said detectors of said row, during rotation of said housing, whereby currents from said detectors may be compared, and the inclinations of the detected rays and the azimuth of the source of such rays determined.

3,542,478

LASER AUTOCOLLIMATOR

Benjamin Dessus, Paris, France, assignor to Compagnie Generale D'Electricite, Paris, France

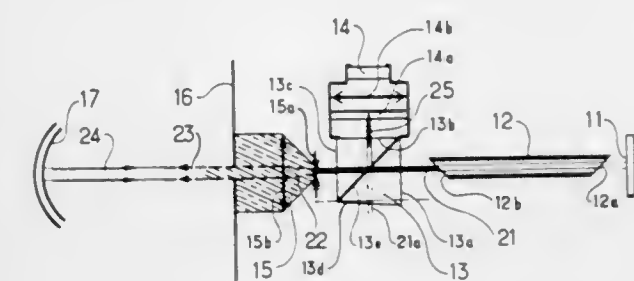
Filed July 7, 1967, Ser. No. 651,928

Claims priority, application France, July 11, 1966, 69,040

Int. Cl. G01g 11/27; H01s 3/05

U.S. Cl. 356—153

10 Claims



Autocollimating setup wherein an optical device bringing about both transmission and deviation has a face common with an optical cavity containing a laser tube and another face common with an ocular.

3,542,479

DENSITOMETER

Dan Sibalis, Brooklyn, New York, assignor to Berkey Photo, Inc., New York, New York

Filed Feb. 5, 1968, Ser. No. 703,100

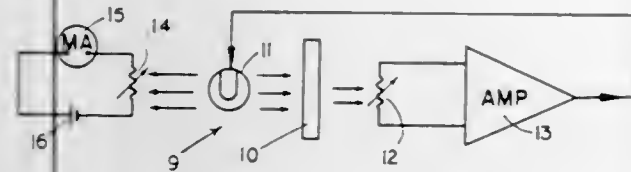
Int. Cl. G01n 21/06; E04g 17/06

U.S. Cl. 356—202

10 Claims

An instrument is disclosed for measuring the reflectance or the density of an article, or either of these characteristics. Under operation to measure reflectance a variable light

source is positioned to illuminate the article, the light being transmitted to the article by an apertured mirror. First light-responsive means is positioned so as to receive light reflected



from the article through the aperture. Control means is used to vary the light source output to a predetermined value, the control means being actuated by the first light-responsive means. A second light-responsive means is positioned to receive light from the source and to control indicating means the reading of which is related to the intensity of light reflected from the article.

Under operation to measure density, the first light-responsive means is positioned to receive light transmitted through the article and the meter indicates the intensity of light passed through the article.

In construction to measure either reflectance or density a pair of light-responsive means is provided, one being positioned to receive light reflected through the apertured mirror, the other being positioned to receive light transmitted through the article, the pair of light-responsive means being connected through a double throw switch for alternative use.

3,542,480

SPECTROPHOTOMETERS

Michael Alan Ford, Slough, England, assignor to Perkin-Elmer Limited, Beaconsfield, Buckinghamshire, England a British company

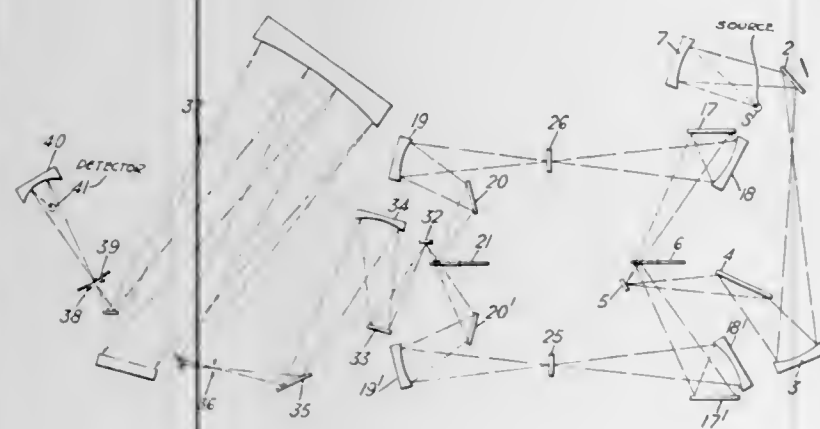
Filed Aug. 9, 1966, Ser. No. 571,279

Claims priority, application Great Britain, Aug. 11, 1965, 34,398/65

Int. Cl. G01j 3/42; G01n 21/22

U.S. Cl. 356-205

7 Claims



In a double-beam optical-testing instrument, for example, a infrared spectrophotometer, a first rotating beam splitter alternately presents the radiation from a single source to the sample and reference paths. A second rotating beam recombiner causes the radiation from the two paths (after passing through the sample and reference respectively) to be combined into a single, timed-sequence beam, falling on a single detector. The switching rates and relative phase of the first beam splitter and the second beam recombiner are chosen to cause the final beam reaching the detector to present four substantially equal stages. Specifically, the detector receives: 1) source radiation transmitted through the sample plus sam-

ple path reradiation; 2) source radiation transmitted through the reference plus reference path reradiation; 3) sample reradiation only (the source radiation being excluded from the sample path during this stage); and 4) reference reradiation only (again, no source radiation). The sample and reference reradiation in the detector output signal from this sequence is readily removed, since it has a zero signal contribution after synchronous rectification at the frequency corresponding to the entire four-stage cycle. Additionally, the sample transmitted radiation (free of sample reradiation) and the reference transmitted radiation (similarly, free of reference reradiation) are readily extracted separately, since they are in quadrature. A relatively simple synchronous demodulator can be used therefore to obtain a true ratio of sample transmission to reference transmission (both free of reradiation and similar background effects).

3,542,481

SAMPLING ARRANGEMENT FOR RAMAN SCATTERING CELLS

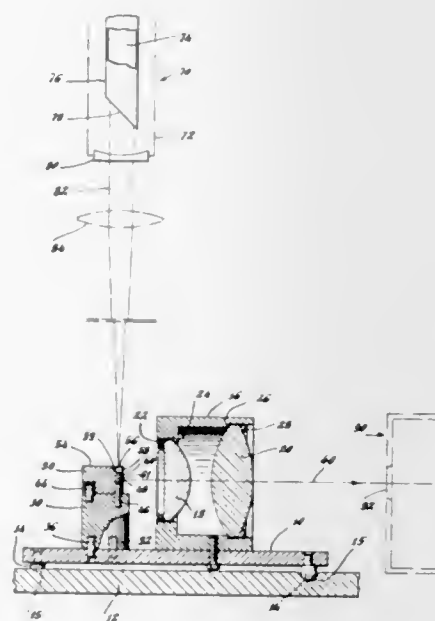
Albert F. Slomba, Ridgefield, Connecticut, assignor to The Perkin-Elmer Corporation, Norwalk, Connecticut a corporation of New York

Filed Jan. 23, 1967, Ser. No. 611,009

Int. Cl. G01n 21/16

U.S. Cl. 356-244

7 Claims



A Raman sample cell arrangement, suitable for laser excitation of powdered samples, includes a long, thin sample-receiving bore surrounded by reflective walls, except for a laser beam entry aperture and a Raman exit slit. A relatively high ratio of Raman-to-excitation energy at the small exit slit is therefore obtained. The two-piece cell may be filled by introducing and tamping down the powdered material through the laser beam entrance aperture.

3,542,482

VARIABLE ANGLE INTERNAL REFLECTION ATTACHMENT

Paul A. Wilks, Jr., Darien, Connecticut, assignor to Wilks Scientific Corporation, South Norwalk, Connecticut a corporation of Connecticut

Filed Nov. 8, 1967, Ser. No. 681,472

Int. Cl. G01n 21/16; G01j 3/00

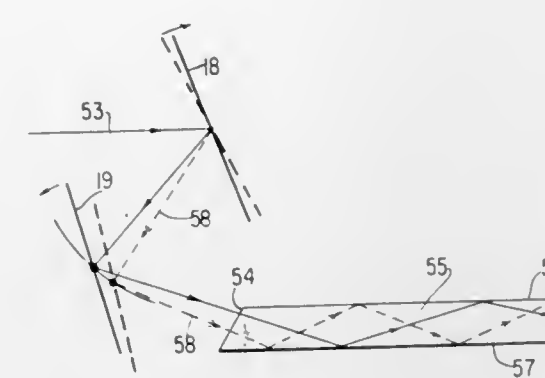
U.S. Cl. 356-244

2 Claims

An attachment for reflecting a beam of radiation into and out of a sample mounted in a movable internal reflection

means through four reflecting surfaces with the four reflecting surfaces and sample being movable in synchronism so

loadings on the vane passes through the thrust bearing so that tilting moments need not be carried by the stem. Conven-



that the beam is held in focus at the entrance of the sample at varying angles of incidence.

3,542,483

TURBINE STATOR STRUCTURE

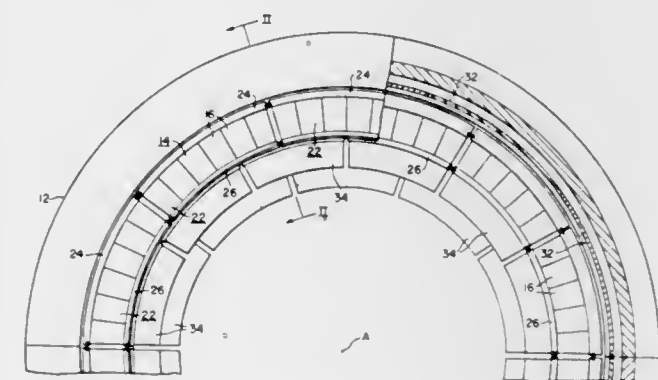
Frank J. Gagliardi, Paschall, Pennsylvania, assignor to Westinghouse Electric Corporation, Pittsburgh, Pennsylvania a corporation of Pennsylvania

Filed July 17, 1968, Ser. No. 745,535

Int. Cl. F01d 9/04, 11/00

U.S. Cl. 415-136

2 Claims



In a turbine stator structure a blade ring supports diaphragm assemblies including a plurality of vane segments disposed between rows of rotor blades, and a plurality of rows of ring segments which encircle the rotor blades. The blade ring is divided into two semicircular halves with each half supporting a plurality of rows of vane segments as well as the rows of ring segments. Axial and radial seal members at the joints between segments are so constructed that the radial members retain the axial members in position and the radial members are retained by the axial members and the blade ring.

3,542,484

VARIABLE VANES

George W. Mason, Indianapolis, Indiana, assignor to General Motors Corporation, Detroit, Michigan a corporation of Delaware

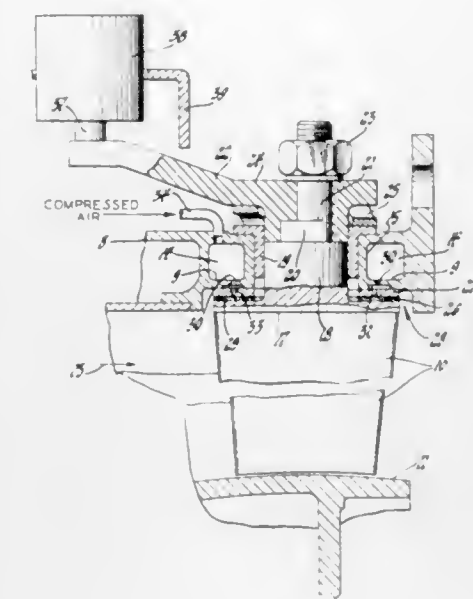
Filed Aug. 19, 1968, Ser. No. 753,462

Int. Cl. F01d 9/02

U.S. Cl. 415-160

9 Claims

A variable vane ring for a turbine includes cantilevered vanes each of which has a stem mounted in a bushing in the outer shroud of the turbine nozzle. A gas-lubricated porous metal thrust bearing disposed between the vane and the shroud is of sufficient size that the resultant force from the



3,542,485

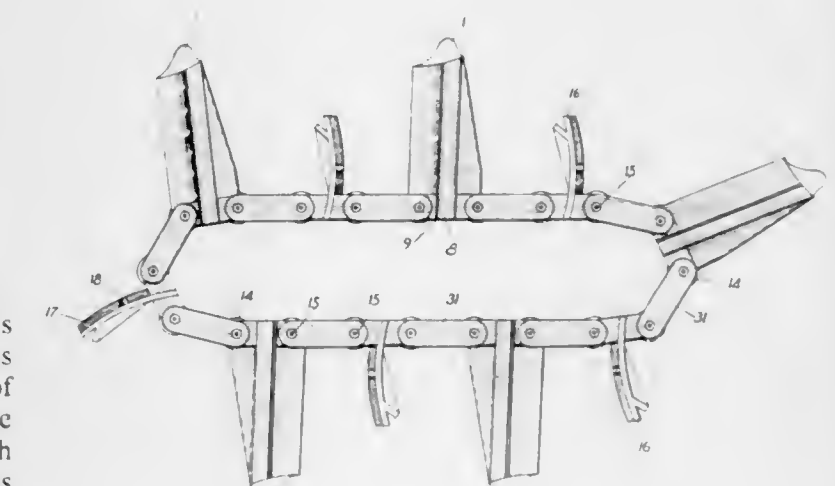
PROPULSION CHAIN AND CONSTRUCTION METHOD
Frederick Blanchard Romero, 5520 Wayne Ave., Philadelphia, Pennsylvania 19144

Continuation-in-part of application Ser. No. 356,183, March 31, 1964, now abandoned. This application Feb. 20, 1968, Ser. No. 718,650

Int. Cl. B63h 1/34

U.S. Cl. 416-7

6 Claims



The object of this invention is to provide an endless propulsion chain including a combination of metallic and nonmetallic materials and a construction method for constructing the chain with a ratio of weight to strength wherein exists a minimum of chain weights with sufficient strength for the great durability in its rotary motions used in the shifting of relatively large weights of water, within short periods of time, from beneath floating marine vessels fitted and equipped with this endless chain; and thereby, making possible surprisingly great forward speeds of those marine vessels provided with the endless chain propeller suspended and rotated on a quadruple of paralleled five-toothed sprocket wheels, being in pairs perpendicularly fixed and equidistantly spaced on paralleled axles and approximately half-submerged in the water of floatation of those marine vessels. Another object of this invention is also to provide, a properly constructed endless propulsion chain made to rotate by force of

currents of water, when it is suspended on a quadruple of sprocket wheels approximately half-submerged in water of floatation of marine vessels floating and held in fixed positions; and thereby, the endless chain is recognized as being an impeller.

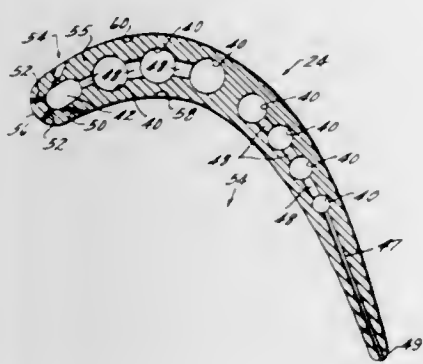
3,542,486

FILM COOLING OF STRUCTURAL MEMBERS IN GAS TURBINE ENGINES

David M. Kercher; Armando J. Quinones and Eugene F. Adiatori, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Sept. 27, 1968, Ser. No. 763,423
Int. Cl. F01d 5/08

U.S. Cl. 416-90

9 Claims



A structural member, having an external surface exposed to a high temperature source and varied static pressures, is provided with a common plenum chamber for containment of a cooling media, a plurality of passages of generally uniform cross section to deliver the cooling media from the chamber to the higher pressure portion of the external surface and a plurality of passageways of nonuniform cross section to deliver the cooling media to the low pressure portion of the external surface for effective and efficient film cooling of the member. The nonuniform passageways are formed with a flow rate metering portion adjacent the plenum chamber and a diffuser portion adjacent the external surface.

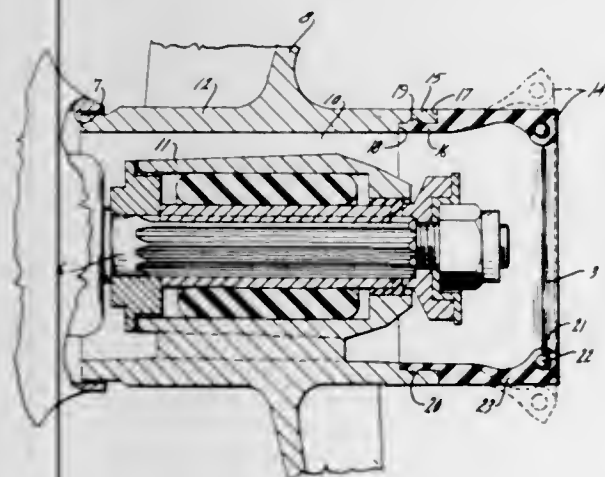
3,542,487

CENTRIFUGALLY VARIABLE DIFFUSER FOR MARINE PROPELLER

Carl Knuth, Fond Du Lac, Wisconsin, assignor to Brunswick Corporation, Chicago, Illinois, a corporation of Delaware
Filed Sept. 8, 1969, Ser. No. 856,000
Int. Cl. B63h 1/16, 1/14

U.S. Cl. 416-93

7 Claims



A centrifugally variable diffuser portion is disclosed for a marine propulsion propeller of the type adapted to receive and conduct engine exhaust products through the hub for

discharge rearwardly thereof through the exhaust discharge opening defined by the diffuser portion.

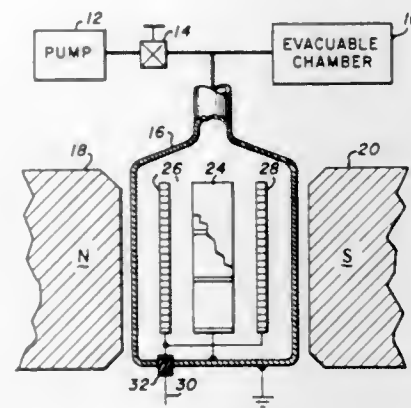
3,542,488

METHOD AND APPARATUS FOR PRODUCING ALLOYED GETTER FILMS IN SPUTTER-ION PUMPS

Lewis D. Hall, Palo Alto, California, assignor to Andar/ITI, Inc., Palo Alto, California a corporation of California
Filed Oct. 28, 1968, Ser. No. 771,240
Int. Cl. F04b 37/02

U.S. Cl. 417-49

16 Claims



A sputter-ion pump in which the cathodes are constructed of at least two different reactive and slow sputtering elements, one or more of the elements being a transition metal such as titanium and the other element being a transition metal of another reactive metal or semiconductor. The relative amounts of the two elements being such that the cathodes contain not less than 10 percent and not more than 90 percent of transition metal by effective surface area.

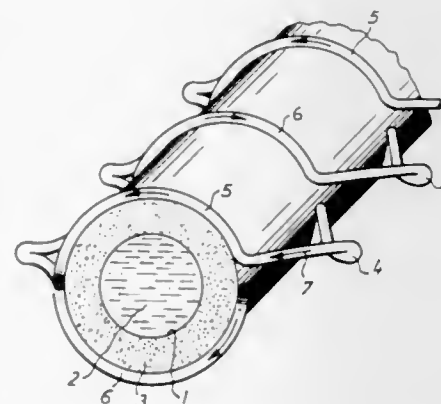
3,542,489

ELECTROMAGNETIC INDUCTION PUMP FOR THE TRANSPORT OF LIQUID METALS

Axel Von Starck, Remscheid-Luttringhausen, Germany, assignor to AEG-Elotherm G.m.b.H.
Filed Nov. 12, 1968, Ser. No. 774,797
Claims priority, application Germany, Dec. 12, 1967, P 1,653,807
Int. Cl. F04b 19/00

U.S. Cl. 417-50

3 Claims



Electrical efficiency is increased by a novel arrangement of the turns of a straight line, polyphase, alternating current winding employed for subjecting molten metal in a channel to a translational magnetic field. Partial cancellation of the radial component of the electromagnetic traveling field, for inducing inductive currents in the liquid metal, is overcome by dividing each winding into pairs of semicircular conductors with the semicircular conductors at the top half of the winding, offset 180° in electrical space phase from the corresponding semicircular conductors at the lower half of the winding, and so connecting them electrically that the mag-

netic field from each semicircular conductor at a given position of the liquid metal channel flows in the same direction through the molten metal.

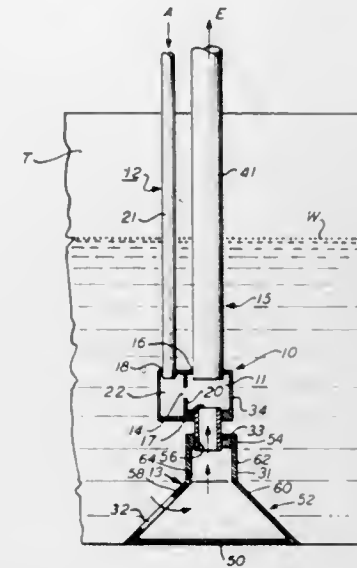
3,542,490

WATER AIR LIFT DEVICE

Morris R. Gare, Hillside, New Jersey (c/o Eureka Products Co., 4 Bruen St., Newark NJ 07105)
Filed Aug. 15, 1968, Ser. No. 752,915
Int. Cl. F04f 1/00, 5/00, 5/44

U.S. Cl. 417-108

3 Claims



An air flow adapter, having structural features for efficient and continuous air lifting of water from a tank to a discharge point such as a filtration apparatus for efficient utilization and direction of air and entry thereof into a water area in a positive directional lifting action, preventing dissipation and loss of air, and backup of air and water and providing a smooth, efficient air lift water system.

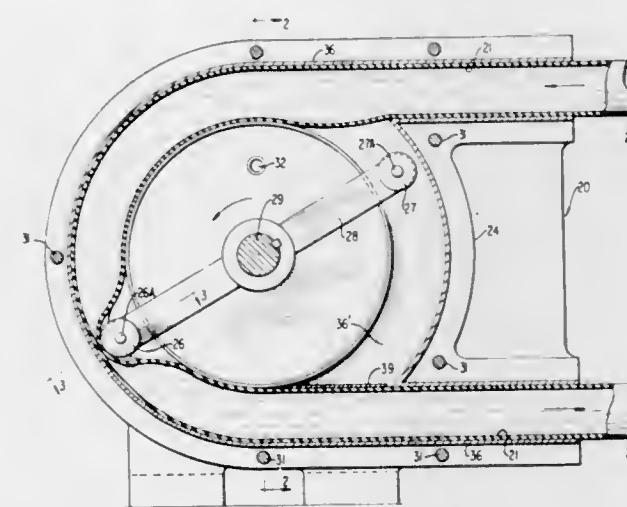
3,542,491

FLUID PUMP

Joseph W. Newman, 3062 Pickell Drive, Mobile, Alabama
Continuation-in-part of application Ser. No. 695,036, Jan. 2, 1968, now abandoned. This application May 27, 1969, Ser. No. 830,209
Int. Cl. F04b 43/08

U.S. Cl. 417-295

20 Claims



A fluid pump having a deformable chamber which can be expanded and contracted to pump the fluid wherein the chamber is contained in a housing maintained under a high degree of vacuum. The vacuum permits the chamber to expand rapidly on the intake cycle since it does not have to act against the restraint of air pressure, thus permitting higher operating speeds and resultant increases in capacity. The chamber is enclosed in a retainer which prevents the tube from bursting under high pressure. When the chamber is in the shape of a tube, the tube is provided with inwardly projecting shoulders on the inside thereof to prevent the tube from being overstressed as it is deformed.

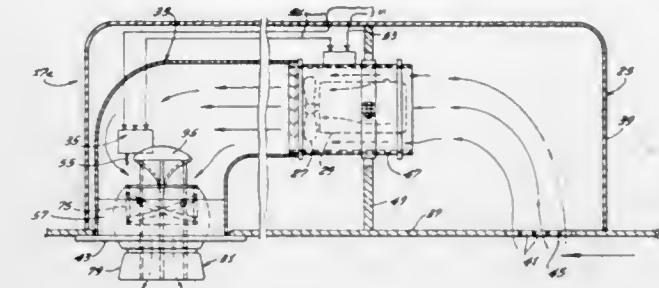
3,542,492

BLOWER DIFFUSER ASSEMBLY

Thomas J. Muella, Monterey Park, California, assignor to Sargent Industries, Los Angeles, California a corporation of Delaware
Continuation of application Ser. No. 760,614, Sept. 18, 1968, now abandoned. This application Nov. 10, 1969, Ser. No. 871,662
Int. Cl. F04b 49/06; B60l 1/20

U.S. Cl. 417-316

24 Claims



This disclosure describes a blower-diffuser assembly including a fan and a diffuser both mounted on a supporting structure and interconnected by suitable duct means. The fan is driven by an electric motor. The electric motor is controlled by a switch mounted closely adjacent the diffuser. The diffuser is movably mounted on the supporting structure so that movement of the diffuser or a portion thereof can operate the switch to thereby control the fan motor and the fan.

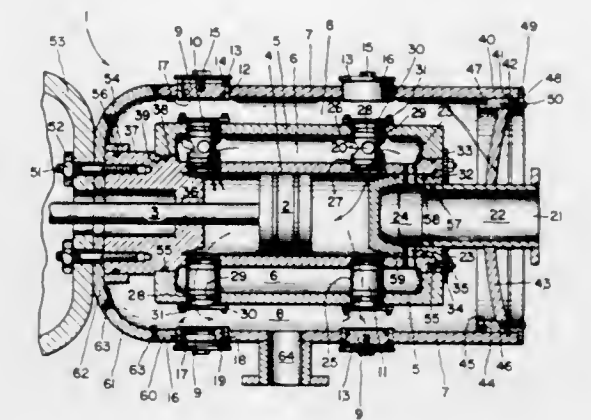
3,542,493

COMPRESSOR

William T. Alderson, Brookside, New Jersey, assignor to Ingersoll-Rand Company, New York, New York a corporation of New Jersey
Filed Jan. 28, 1969, Ser. No. 794,621
Int. Cl. F04b 39/00

U.S. Cl. 417-312

19 Claims



A piston-type compressor having spaced apart coaxial cylinders spacially enclosed in a housing, with the one space providing an intake passage and the other space providing a "pulsation bottle" or plenum chamber and discharge passage.

3,542,494

CANNED MOTOR PUMP

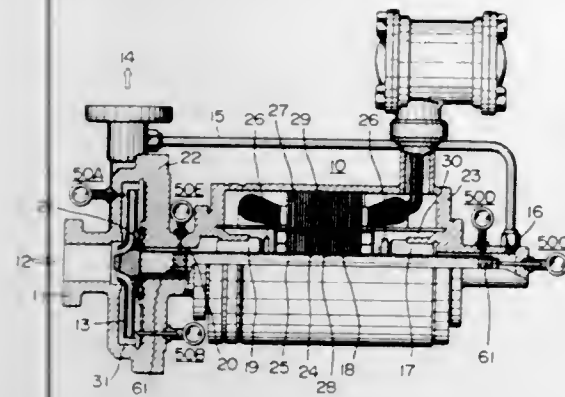
Ryuichi Sato and Akihiko Agata, Tokyo, Japan, assignors to Nikkiso Co., Ltd. (formerly Nippon Kikai Keiso Kaisha Ltd.)
Filed Nov. 5, 1968, Ser. No. 773,569
Claims priority, application Japan, Nov. 9, 1967, 42/71,634; Dec. 16, 1967, 42/80,526; Dec. 18, 1967, 42/81,088
Int. Cl. F04d 13/02; F16c 17/00

U.S. Cl. 417-321

6 Claims

A canned motor pump in which bearing means carry a rotating shaft for an impeller and a rotor. Should the bearing

means become worn beyond permissible limits due to thrust and radial loads exerted on the shaft, the impeller and rotor could make contact with the pump housing and stator can, thereby damaging the pump and motor. There is provided a bearing wear checking device in which a pressure gauge has



a pipe filled with an inert gas with the pipe being fitted closely to the pump housing in such manner that the tip of the pipe is arranged at a spacing with the moving parts so as to register the wear limit before the parts can be irrevocably damaged.

3,542,495

RECIPROCATING ELECTRIC MOTOR

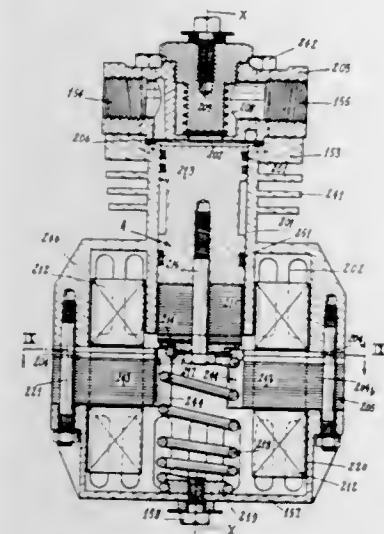
Maurice Barthalon, 78 Avenue Henri Martin, Paris, France

Continuation-in-part of application Ser. No. 767,888, Aug. 30, 1968, now Patent No. 3,461,806, which is a continuation-in-part of Ser. No. 581,060, filed Sept. 21, 1966, now abandoned. This application Feb. 20, 1969, Ser. No. 801,127 Claims priority, application France, Sept. 24, 1965, 32,529; Feb. 23, 1968, 141,037

Int. Cl. F04b 17/04; H02k 33/00

U.S. Cl. 417-416

24 Claims

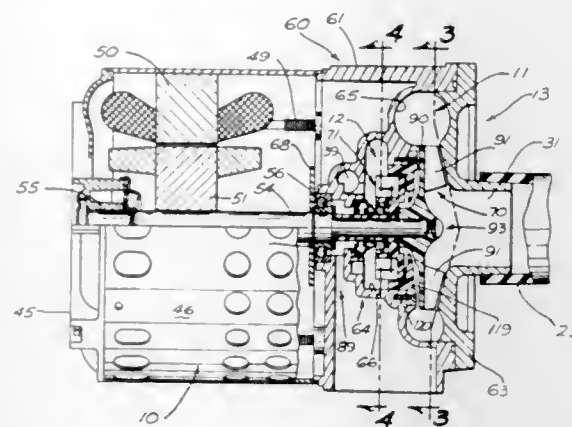


A reciprocating machine having an electric motor and a device such as a pump or compressor driven by the motor. The motor has an electromagnetic circuit with a pair of spaced-apart poles defining an air gap and at least one field coil adapted to generate a magnetic field across the air gap, and a magnetic armature mounted for reciprocating movement along an axis disposed transversely to the magnetic field and coupled to the driven device. The motor field coil is supplied with a succession of unidirectional electric current pulses, the power supply including current control elements that prevent the current from reversing direction in the field generating coil at the end of each current pulse and that initiate each pulse only when the supply voltage is of proper polarity. Upon each current pulse, the armature is pulled into the air gap by the forces exerted on it by the electromagnetic field. The armature is driven in a direction to move it entirely out of the air gap by forces created by a return means distinct from the force on the armature produced by the magnetic field. Other features include means to provide for high initial current flow through the field coil, and an arrangement of elastic means acting on the armature to provide for greater overall efficiency and a favorable power to weight ratio.

3,542,496
DISHWASHER PUMP
Richard P. Bergeson, Lamb's Grove; Charles W. Burkland and Thomas R. Smith, Newton, Iowa, assignors to The Maytag Company, Newton, Iowa a corporation of Delaware
Filed June 19, 1968, Ser. No. 738,282
Int. Cl. F04b 17/00, 1/00

U.S. Cl. 417-423

10 Claims



A pumping apparatus is disclosed that includes a housing defining a pump cavity having a central axis and an inlet and outlet spaced apart axially and extending substantially tangentially from radially outwardly disposed portions of the cavity. An impeller is rotatably operable within the cavity for pumping fluid from the inlet along a ramp means in a spiral-like path toward the outlet. This pump is useful in a reversible dual pumping assembly in turn useful in a dishwashing pumping system where the pump, embodying the features of the instant invention, is operable for effecting a relatively low positive pressure head at the outlet in one direction of rotation and a relatively high pressure head at the outlet in the opposite direction of rotation while the other pump effects unidirectional fluid flow therethrough in both directions of rotation.

3,542,497

ROTARY AIR COMPRESSOR

Henri Chapuis, 26 rue des Renaudes, Paris, France

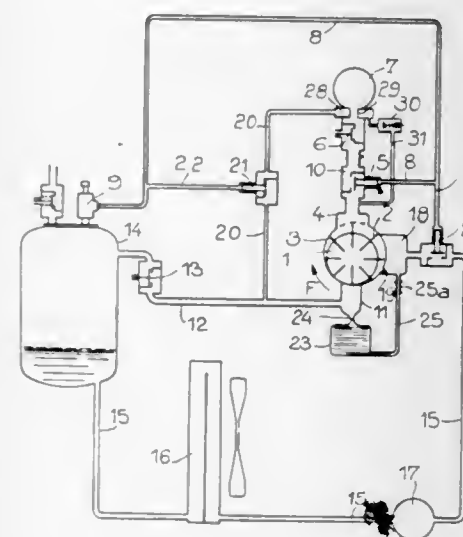
Filed June 17, 1969, Ser. No. 834,031

Claims priority, application France, July 17, 1968, 159,493

Int. Cl. F04c 29/02; F01m 1/00

U.S. Cl. 418-84

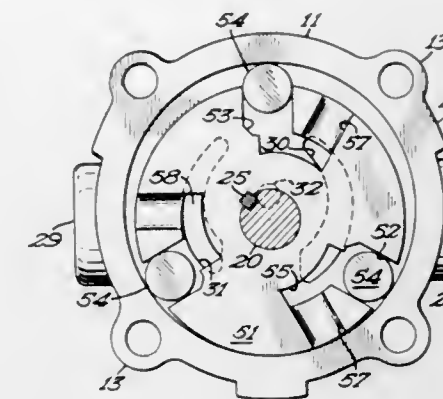
8 Claims



A rotary air compressor having a rotor and a stator, a suction pipe connected to the stator and connected to atmosphere by a valve controlled by a pilot circuit, a delivery pipe connected to a reservoir, and an admission pipe connected between the suction and delivery pipes, the delivery pipe being connected to atmosphere by a normally closed valve controlled by the pilot circuit and the admission pipe being connected to an auxiliary lubricant reservoir and to a pressurized principal lubricating circuit.

3,542,498
ROLLER PUMP
Harry J. Sadler, North St. Paul, Minnesota, assignor to Hypro, Inc., St. Paul, Minnesota a corporation of Ohio
Filed Sept. 23, 1968, Ser. No. 761,479
Int. Cl. F04c 1/00, 3/00, 17/00
U.S. Cl. 418-225

9 Claims

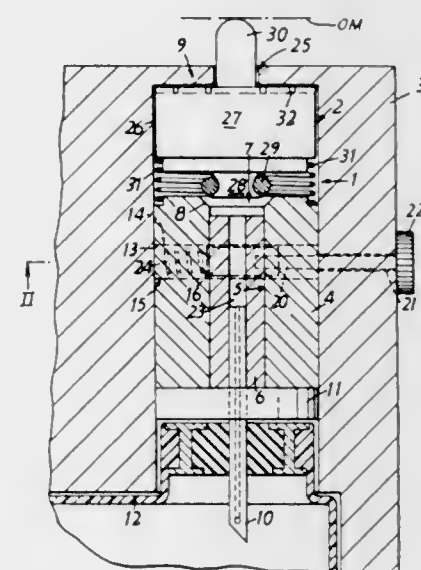


An improved roller pump having a rotor and a housing therefore, the axis of the rotor being offset from the axis of the housing so as to form a pumping chamber therein, the housing having porting formed along the end walls thereof so as to accommodate fluid flow therethrough. The rotor is provided with roller receiving slots having a support base therein for limiting radial travel of the roller, along with a depth extension thereof, the depth extension continuing radially inwardly and communicating directly with the openings to the porting. In addition, the rotor is provided with radially extending reservoir channels disposed adjacent to the roller receiving slots, the reservoir channels being disposed so as to be in common communication with the port openings during a substantial coincidental period of time with its adjacent roller and roller receiving slot.

3,542,499
CIGARETTE LIGHTERS
Frederick J. Karran, 19 Falbro Crescent, Hadleigh, Essex, England
Filed Aug. 9, 1968, Ser. No. 751,571
Claims priority, application Great Britain, Aug. 11, 1967, 37062/67
Int. Cl. F23d 15/00

U.S. Cl. 431-344

8 Claims

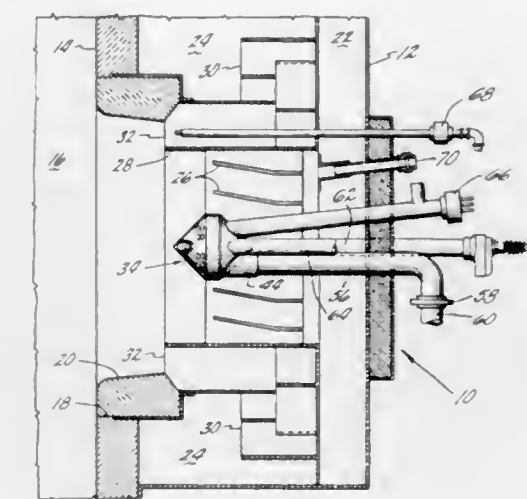


A gas-operated cigarette lighter having a variable control valve comprising a gas flow passage with a deformable wall through which gas flows to a burner nozzle, and an inclined operating surface provided with means for longitudinal adjustment which acts to adjust the position of the deformable wall to vary the cross-sectional area of the passage.

3,542,500
GAS NOZZLE FOR MULTI-FUEL BURNER ARRANGEMENTS
William R. Norcross, West Suffield, Connecticut and Robert H. Solomon, West Springfield, Massachusetts, assignors to Combustion Engineering, Inc., Windsor, Connecticut a corporation of Delaware
Filed Dec. 18, 1968, Ser. No. 784,644
Int. Cl. F23c 5/08

U.S. Cl. 431-181

8 Claims

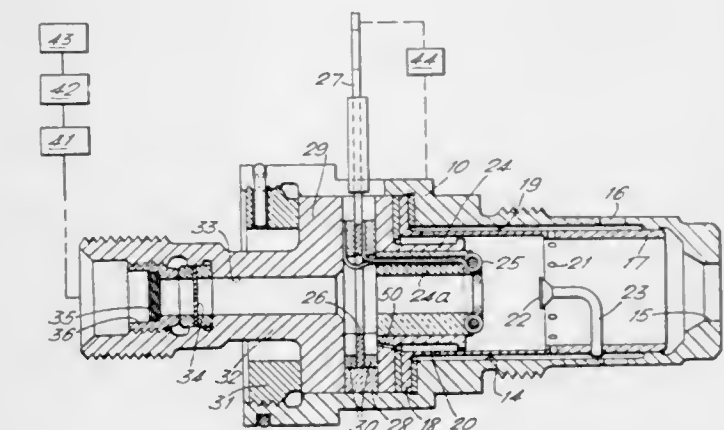


A multi-fuel burner arrangement having a hollow aerodynamically shaped gas nozzle with an opening in the rear face thereof for the admission of a gaseous fuel to the interior of the nozzle and particularly placed ports in the front face thereof for uniform gas distribution within the burner. The nozzle has a plurality of integral passages extending therethrough for the purpose of positioning supplemental burner structure relative to the nozzle, the additional structure including plural oil guns for selective continuous oil firing and an ignitor.

3,542,501
IGNITERS FOR GAS TURBINE ENGINES
Cyril Charles Jones, Stanmore and William Roger Vanryne, Bourne End, England, assignors to Rotax Limited, London, England a British company
Filed Aug. 5, 1968, Ser. No. 750,287
Claims priority, application Great Britain, Aug. 4, 1967, 35954/67
Int. Cl. F23q 7/06

U.S. Cl. 431-258

7 Claims



An igniter for igniting air/fuel mixtures in combustion chambers and comprising a sleeve member in which is mounted a target against which a jet of fuel impinges thereby to atomize the fuel, the atomized fuel being mixed with an annular air stream flowing in the same direction as the jet of fuel and the air/fuel mixture being ignited by an electric heating element disposed internally of the airstream and upstream of the target plate.

CHEMICAL

3,542,502

MODIFIED POLYOLEFINS

Giuliana C. Tesoro, Dobbs Ferry, N.Y., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed June 22, 1965, Ser. No. 471,496
Int. Cl. D06

U.S. Cl. 8—115.5

19 Claims

14. The method comprising the steps of providing polyolefin fibers whose polymer consists essentially of a homopolymer of an α -olefin having from 2 to 4 carbons incorporating amino-reactive radicals selected from the group consisting of halogen radicals, sulfonyl radicals and phosphonyl radicals which are chemically bonded to the structure of the polyolefin; introducing into the polyolefin fibers a polymerizable monomer having a molecular weight of no greater than about 600 and containing at least one amino nitrogen; and subjecting the fibers to reaction conditions to polymerize and insolubilize said monomer within the polyolefin fibers.

3,542,503

PROCESS FOR IMPARTING WRINKLE RESISTANCE AND RECOVERY PROPERTIES TO COTTON STRETCH FABRICS

Russell M. H. Kullman, Metairie, Joseph S. Bruno, Chalmette, and Robert M. Reinhardt, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed June 23, 1966, Ser. No. 559,724
Int. Cl. D06m 13/14, 13/40, 13/54

U.S. Cl. 8—116.3

6 Claims

The process of this invention comprises the steps of treating cellulosic material with aqueous alkali and subsequently reacting the alkali treated material with an alkali catalyzed resin or crosslinking agent.

3,542,504

BIOCIDAL TEXTILE FINISHING

Arthur Schofield, Middleton, and John B. Lawton, Ripponden, Halifax, England, assignors to The Calico Printers' Association, Ltd., Manchester, England, a corporation of Great Britain
No Drawing. Filed Nov. 7, 1966, Ser. No. 592,346
Claims priority, application Great Britain, Nov. 11, 1965, 47,829/65

Int. Cl. D06m 13/26, 13/38, 13/54

U.S. Cl. 8—116.2

5 Claims

Biocidal properties are imparted to cellulosic textile materials, e.g., filaments, yarns, ropes, fabrics, etc., made of cotton, rayon, etc., by treatment with an inorganic or organic polybasic acid, salt or equivalent acid group reagent to fix acid groups in the fiber molecule and then with a biocidal metal or metal compound to form the corresponding metal salt fixed to the textile material.

3,542,505

TREATMENT OF TEXTILES WITH AZIRIDINE-MODIFIED POLYURETHANES

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Oct. 13, 1967, Ser. No. 675,038
Int. Cl. D06m 13/48

U.S. Cl. 8—127.6

14 Claims

Polyurethanes containing isocyanate groups are reacted with alkylene imines to prepare aziridine-modified polyurethanes useful for application to textile materials to improve their properties, e.g., to impart shrink resistance and durable press qualities. Typical example: A

polyether polyurethane containing free NCO groups is reacted with ethylene imine to yield an aziridine-modified polymer which is formed into an emulsion and applied to a textile material. The treated textile may be directly cured or the curing operation may be delayed until the fabric is manufactured into a finished garment, the latter system being preferred to attain permanent creases.

3,542,506

TEXTILE PROCESSING

John William Case and John Shaw, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Sept. 13, 1967, Ser. No. 668,992
Int. Cl. D061 1/00, 1/02

U.S. Cl. 8—142

12 Claims

This invention relates to the processing of textile materials and particularly to an improved treatment to remove volatile organic liquids from textile materials.

3,542,507

RECOVERY OF TIN FROM TIN BEARING SOLUTIONS

Jerome J. Ross, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Dec. 1, 1967, Ser. No. 687,094
Int. Cl. G01g 19/00, 19/02

U.S. Cl. 23—53

12 Claims

A process for the recovery of tin existing as ionic or free tin in a tin bearing solution wherein the tin bearing solution is treated with a stoichiometric amount, based on the tin content and acid value of the solution if any, and preferably an excess thereof, of an aqueous alkali metal hydroxide solution with subsequent recovery of tin as a tin salt.

3,542,508

OXIDATION OF FERROUS COMPOUNDS AND REDUCTION OF FERRIC COMPOUNDS

Eric John Sercombe, Kenton, Middlesex, and Gary James Keith Acres, Harrow, Weald, Middlesex, England, assignors to Johnson Matthey & Co. Limited, London, England, a British company
No Drawing. Filed Nov. 22, 1967, Ser. No. 684,944
Claims priority, application Great Britain, Nov. 23, 1966, 52,377/66

Int. Cl. G01g 49/10, 49/14

U.S. Cl. 23—87

9 Claims

This invention relates to a continuous method of oxidizing ferrous compounds to ferric compounds and of reducing ferric to ferrous compounds. These reactions offer a route to the recovery of iron contained in, for example, sulphuric and hydrochloric acid solutions. This invention affords a continuous method of converting iron in acid solution from one valency state to another, thereby facilitating the recovery of iron from liquors hitherto regarded as waste material.

3,542,509

PROCESS FOR CHARGING OF ION-EXCHANGERS

Helmuth Fürtig, Jessnitz, Friedrich Wolf, Leipzig, Manfred Weber, Wolfen, Udo Hädicke, Dessau-Haideburg, and Herbert Knoll, Dessau, Germany, assignors to VEB Farbenfabrik, Wolfen, Germany
Filed Feb. 27, 1968, Ser. No. 708,697
Int. Cl. C01b 33/28; B01j 11/40

U.S. Cl. 23—112

4 Claims

A process for the charging of ion exchangers with certain ions in a definite amount by ion exchange in liquid media, which comprises contacting said ion exchanger with

NOVEMBER 24, 1970

CHEMICAL

1389

a solution containing the ions to be introduced into the exchanger, the supply of such ions in said solution being larger than that which is necessary for reaching the desired degree of charging in accordance with the known equilibrium method, and interrupting the charging operation when the desired degree of charging is reached, by suddenly supplying to the exchange solution ions of the same type which are given off by the exchanger.

3,542,510

PRODUCTION OF HIGHLY CONCENTRATED NITRIC ACID

Daniel J. Newman, Jackson Heights, N.Y., and John S. Negra, South Plainfield, and Stephen J. Sawyer, Fords, N.J., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 14, 1968, Ser. No. 713,058
Int. Cl. C01b 21/40

U.S. Cl. 23—160

11 Claims

Highly concentrated nitric acid having a nitric acid content higher than the 68% nitric acid content of the water-nitric acid azeotrope is produced by cooling a process gas stream containing nitrogen oxides and water vapor, to selectively condense a liquid phase consisting essentially of nitric acid and nitrogen oxides. The process gas stream is, for example, derived as a portion of the main process gas stream passing to the nitrogen oxides absorber in a conventional nitric acid production facility. The condensed liquid phase is contacted with a small amount of air to yield a gaseous mixture with a high concentration of nitrogen oxides. After providing sufficient time to complete oxidation of the nitric oxides, the resulting gas mixture is contacted with liquid nitric acid of a lower strength generally in the range of 50% to 65% nitric acid content. Product concentrated nitric acid solution containing in the range of about 70% to 99% nitric acid content is removed from the bottom of the contact zone.

3,542,511

REMOVAL OF SULFUR DIOXIDE FROM WASTE GASES

Indravadan S. Shah, Forest Hills, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 27, 1969, Ser. No. 794,215
Int. Cl. C01b 17/72, 17/00

U.S. Cl. 23—168

7 Claims

A waste gas stream containing sulfur dioxide is scrubbed with aqueous sodium sulfite solution to dissolve sulfur dioxide and form sodium bisulfite in solution. A portion of the resulting solution is reacted with sodium carbonate to convert bisulfite to sulfite, and the sodium sulfite is reacted with a carbon-containing reducing medium to form a sodium sulfide smelt or solid particles of sodium sulfide, which is dissolved in water and reacted with a gas stream containing carbon dioxide, to form a gaseous stream containing hydrogen sulfide and regenerate sodium carbonate for recycle. The hydrogen sulfide is recovered in the form of a valuable sulfur-containing product such as elemental sulfur or sulfuric acid.

3,542,512

PREPARATION OF LITHIUM AMIDE

Sammy C. Honeycutt, Gastonia, N.C., assignor to Lithium Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 13, 1968, Ser. No. 705,255
Int. Cl. C01c 1/00; C07c 87/16; C09k 3/00

U.S. Cl. 23—190

9 Claims

Preparation of lithium amide in finely divided form comprising contacting lithium metal with liquid ammonia

to form a lithium metal-liquid ammonia solution, and introducing the solution into a heated, inert liquid medium such as mineral oil to effect an immediate reaction between the lithium metal and the liquid ammonia to form a finely divided precipitate of lithium amide.

3,542,513

HEXARUTHENIUM OCTADECACARBONYL AND ITS METHOD OF PREPARATION

Piero Pino, Franco Piacenti and Mario Bianchi, Pisa, Italy, assignor to Lonza Ltd., Gampel, Valais, Switzerland
No Drawing. Filed June 11, 1968, Ser. No. 735,984
Claims priority, application Switzerland, June 16, 1967, 8,610/67

Int. Cl. C01g 55/00

U.S. Cl. 23—203

4 Claims

Hexaruthenium octadecacarbonyl ($Ru_6(CO)_{18}$) is prepared by heating trimeric ruthenium tetracarbonyl in a substantially oxygen-free atmosphere at a temperature of 150 to 250° C. and maintaining the carbon monoxide partial pressure during the reaction at 0.2 to 2 atmospheres.

3,542,514

PREPARATION OF ZINC HYDRIDE

Guenther Fritz Lengnick, Manitou Beach, Mich., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 408,750, Nov. 4, 1964. This application May 9, 1968, Ser. No. 728,051

Int. Cl. C01b 6/02

U.S. Cl. 23—204

4 Claims

Zinc hydride is produced by reaction of a zinc halide or zinc cyanide with an alkyl aluminum hydride.

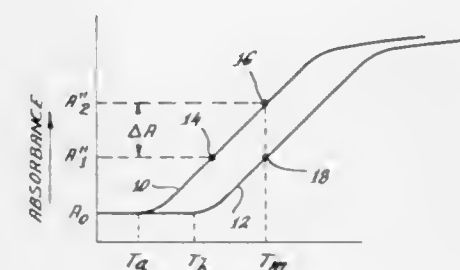
3,542,515

DETERMINING REACTION RATES BY SIMULTANEOUS TWO-POINT MEASUREMENTS

Roderic M. Scott, Stamford, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Aug. 6, 1968, Ser. No. 750,725
Int. Cl. G01n 21/02

U.S. Cl. 23—230

18 Claims



In certain types of chemical analysis, e.g., enzyme chemistry, the rate of reaction is the most significant data. The present technique determines this rate of reaction by measuring, as by absorption spectroscopy or colorimetry, the extent of reaction of two otherwise identical samples in which the reactions have started, as by adding an activator, at two different times. This effectively provides a simultaneous measurement of the same reaction at two different points in time of the continuing reaction. In this manner, the instrumentation is utilized a minimum amount of time for each sample, allowing many samples to be run, say, per hour, no "memory" storage of one set of partial data is required, and the simultaneous measurement is substantially free of variable random fluctuations and errors. Where the reaction is such that

the measured quantity, e.g., absorbance, varies linearly with time, a relatively extensive (in time) measurement may be made, and the results averaged, to improve the signal-to-noise ratio, since the difference in absorbance of the two reacting samples is invariable with time, being the constant ordinate difference between two parallel straight line segments on an absorbance versus time graph.

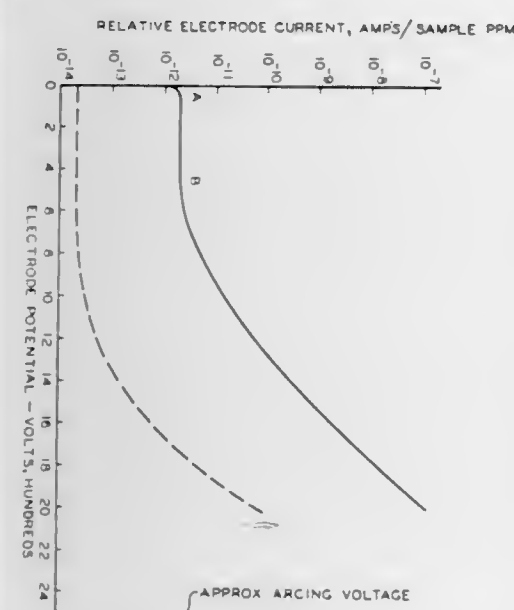
3,542,516

FLAME IONIZATION DETECTION

Edwin K. Clardy, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 9, 1968, Ser. No. 766,224
Int. Cl. G01n 31/12

U.S. Cl. 23—232

12 Claims



In a flame ionization detection system, increased signal to noise ratios and increased signal currents are obtained by operation of the detection system using electrode voltages in the range between saturation and arcing which is higher than the normally used saturation voltage range.

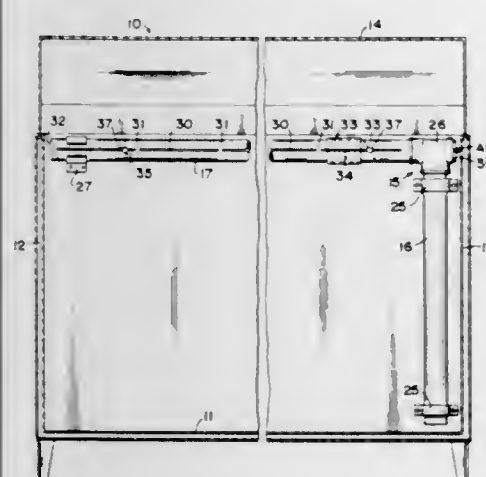
3,542,517

CORROSION TESTING APPARATUS

Thomas R. Gill, Pompano Beach, Fla., assignor to G S Equipment Company
Filed Feb. 12, 1968, Ser. No. 704,903
Int. Cl. B01f 3/04; B05b 7/02; F24h 3/14

U.S. Cl. 23—253

27 Claims



Apparatus especially constructed for corrosion testing including a precipitation flow tube adapted to extend crosswise at a test enclosure above its floor, a solution reservoir, and an aspirator nozzle arranged to siphon a

test solution from the reservoir and to emit an atomized fluid spray into the flow tube, the flow tube having outlet means formed along its length from which a fog mist is emitted into the enclosure.

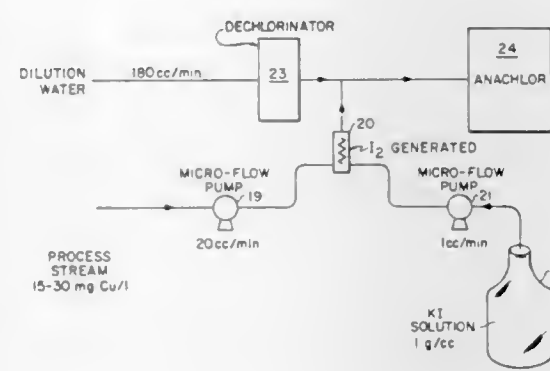
3,542,518

CONTINUOUS ANALYZER FOR ACID CONTENT

James J. Morrow, Norristown, Pa., assignor to Fischer & Porter Co., Warminster, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 603,504, Dec. 21, 1966. This application Aug. 5, 1968, Ser. No. 750,124
Int. Cl. G01n 27/00, 27/02

U.S. Cl. 23—253

12 Claims



A system for determining the concentration of a soluble constituent in an aqueous solution, which constituent is capable of liberating a halogen when the solution is reacted with a reagent including a halide and a halate salt. The system includes an amperometric device responsive to halogens to generate a current in proportion to the concentration of the applied halogen.

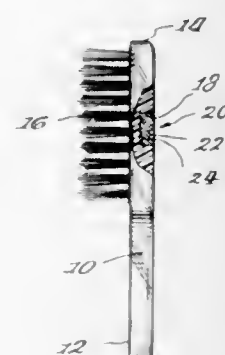
3,542,519

TOOTHBRUSH TIME-USAGE INDICATOR

Francis J. Montalto, Chicago, Ill., and W. Kedzie Teller, deceased, late of Sarasota, Fla., by Virginia R. Teller, administrator, Sarasota, Fla., assignors to Francis J. Montalto, Chicago, Ill.
Continuation-in-part of application Ser. No. 674,698, Oct. 3, 1967. This application Feb. 18, 1969, Ser. No. 800,836
Int. Cl. G01d 21/00

U.S. Cl. 23—253

9 Claims



A composition is included on an instrument. When used with a toothbrush the composition is placed near the toothbrush bristles. Then composition changes color, volume or appearance with the passage of a predetermined time period of toothbrush usage, so that upon expiration of the period a suitable indication is given the user to discard the toothbrush and use a new one.

3,542,520

MODIFIED "DEACON" PROCESS

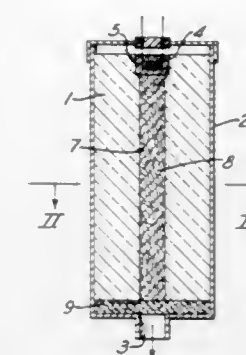
Walter L. Borkowski, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Dec. 27, 1967, Ser. No. 693,755
Int. Cl. C01b 7/04

U.S. Cl. 23—219

2 Claims

A method of increasing the rate of reaction in the production of chlorine by the "Deacon" process wherein a volume of water not greater than the volume of oxygen to be reacted is introduced into the reaction along with the oxygen.

means for igniting the candle disposed at the opposite end of the passage. The passage is filled with a filter ma-



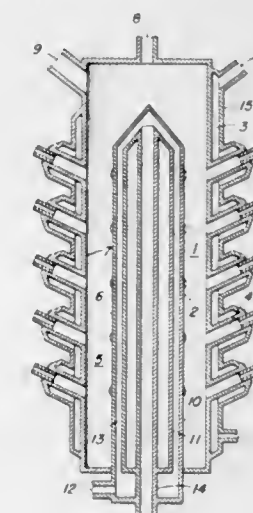
3,542,521

DEVICE FOR THE MANUFACTURE OF ALUMINUM CHLORIDE

Achim Kulling, Opladen, Hans Steinbach, Bergisch-Gladbach, and Hans Thumm, Leverkusen, Germany, assignors to Titangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany
Filed June 21, 1968, Ser. No. 738,968
Claims priority, application Germany, July 10, 1967, T 34,281
Int. Cl. C01f 7/58

U.S. Cl. 23—277

6 Claims



This invention is concerned with apparatus for the manufacture of aluminum chloride from aluminum metal and chlorine. The apparatus comprises a vertical reactor embodying heat exchangers to control the temperature of reaction between chlorine gas and a static bed of aluminum metal particles the chlorine being introduced into the reaction zone of the reactor through a plurality of nozzles mounted in the vertical walls of the reactor whereby local overheating is prevented. In such an apparatus low cost granular aluminum metal may be used as the bed material.

terial, whereby said filter will be exposed progressively to the oxygen produced by the candle as it burns away.

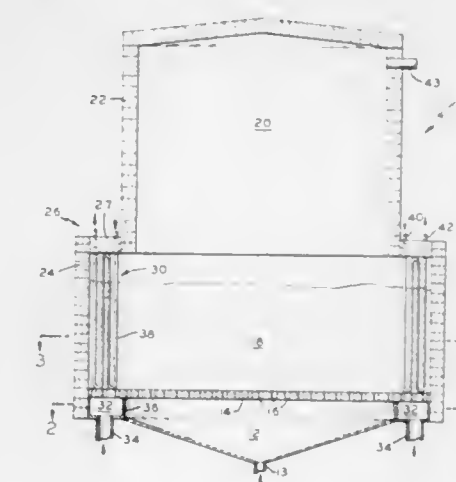
3,542,523

REACTOR DESIGN

Clarence J. Wall, Westport, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Sept. 8, 1967, Ser. No. 666,298
Int. Cl. B01j 1/00, 9/18

U.S. Cl. 23—284

13 Claims



A fluidized bed reactor having an expanded bed relative to the freeboard, a plurality of circumferentially disposed cooling coils positioned in pockets in the expanded portion of the bed and a separately operable peripheral windbox underlying each pocket.

3,542,524

OXYGEN GENERATING APPARATUS FOR AQUARIUMS AND OTHER OXYGEN REQUIREMENT SYSTEMS

Harry E. Kimble, 2101 Juniper Road, Knoxville, Tenn. 37912, and Paul W. Reinhardt, Rte. 3, Box 92A, Kingston, Tenn. 37763
Filed Oct. 10, 1967, Ser. No. 674,316
Int. Cl. B01j 7/02; B65d 47/00

U.S. Cl. 23—282

13 Claims

A hydrogen peroxide decomposition oxygen generating apparatus which may be submerged in a liquid such as water to permit egress of oxygen therefrom while precluding ingress of liquid thereinto without the use of valves or the like. This is made possible by the employment of a water-impervious, oxygen-pervious material interposed in the oxygen discharge passage.

A second form of the invention is directed to an infinitely variable control for a hydrogen peroxide decomposition oxygen generator.

GAS GENERATING DEVICE USING AN OXYGEN PRODUCING CANDLE

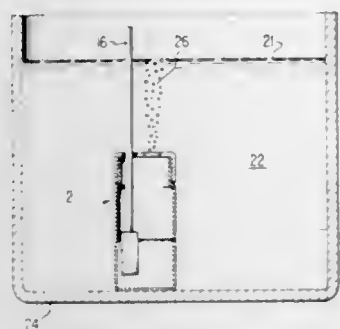
John W. Mausteller, Evans City, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 8, 1968, Ser. No. 696,346
Int. Cl. B01j 7/00; C01b 13/08

U.S. Cl. 23—281

3 Claims

An oxygen generating device comprising a closed container having an oxygen outlet at one end and an oxygen producing candle disposed within the container and in tight engagement with the sidewall thereof. Preferably, the candle has an axial passage therethrough in communication with said outlet at one end of the passage with a

Both forms of the invention employ a highly porous catalyst in contact with the hydrogen peroxide to catalyze



the following reaction:



3,542,525

CYCLING ZONE ADSORPTION PROCESS

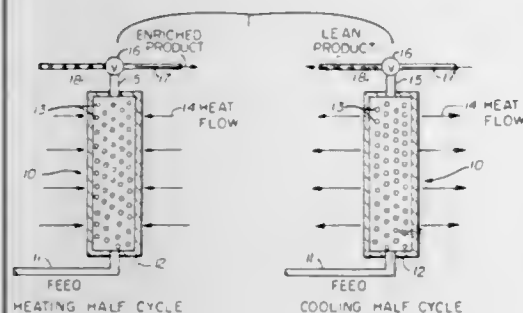
Robert L. Pigford, El Cerrito, and Burke Baker III, and Dwain E. Blum, Berkeley, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 24, 1969, Ser. No. 801,390

Int. Cl. B01d 15/06

U.S. Cl. 23—311

6 Claims



A method for separating one or more components from a fluid mixture wherein a fluid mixture of two or more components is allowed to flow continuously through a tube filled with a powdered solidly packed adsorbent. Introduction or removal of heat through the tube wall causes the temperature of the solid to cycle and causes the composition of the effluent stream to fluctuate about the feed composition. Separation of the effluent into portions richer and leaner than the feed accomplishes a separation. The effect can be multiplied by using several stages, the heating and cooling being out of phase in adjacent stages. Alternately, the heat can be supplied cyclicly to the feed stream of fluid, the packed sections of the adsorber tube being thermally insulated. Furthermore, interstage heat regenerators can be used to re-use heat in subsequent stages, thereby increasing thermal efficiency. Cyclic variations in pressure or in electrical charge can be substituted for the variations in heat supply. A series arrangement of stages can be employed to yield nearly complete recovery of the components.

3,542,526

CADMIUM SULFO-SELENIDE PIGMENTS

Terry Roy Peterson, Glens Falls, N.Y., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 26, 1968, Ser. No. 779,242

Int. Cl. C01g 11/00; C01b 19/00

U.S. Cl. 23—315

3 Claims

An essentially transparent cadmium sulfo-selenide pigment which has a cubic crystalline structure is described.

The cubic crystalline form of the pigment is obtained by heating an aqueous slurry of crude cadmium sulfo-selenide at 90 to 160° C. in the presence of 1000 to 2000% of an alkali metal hydroxide and 50 to 150% of an alkali or alkaline earth metal nitrate, carbonate, sulfate, halide or aluminate, by weight of dry crude.

3,542,527

ALKALI METAL PENTABORANE-8 AND PROCESS FOR PRODUCTION THEREOF

Sheldon G. Shore and Russell A. Geanangel, Columbus, Ohio, assignors to The Ohio State University Research Foundation, Columbus, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 13, 1967, Ser. No. 690,064

Int. Cl. C01b 6/22

U.S. Cl. 23—364

12 Claims

Stable ether solutions of alkali metal pentaborane-8 ($\text{M}^+\text{B}_5\text{H}_8^-$, wherein M=alkali metal) and process for production of same by low-temperature reaction of pentaborane-9 with alkali metal hydride, alkyl lithium, sodium methylacetylide or lithium methylacetylide. Products are useful in preparing B_5H_8 -derivatives and other boron derivatives such as hexaborane-10 and decaborane-14.

3,542,528

END MILL WITH VARIABLE CUTTING DIAMETER

Jorgen Bech, Dyregaardsvej 6, Kgs. Lyngby, Denmark

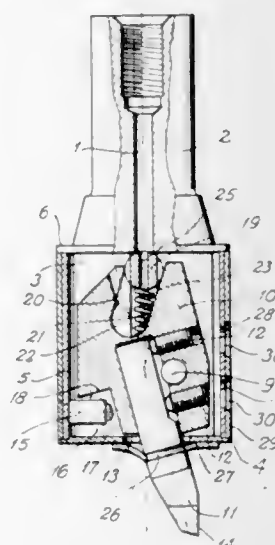
Filed Mar. 29, 1968, Ser. No. 717,249

Claims priority, application Germany, Nov. 21, 1967, B 73,564

Int. Cl. B26d 1/12

U.S. Cl. 29—103

6 Claims



The invention provides a variable diameter end mill, especially for routing and trimming printing plates, such end mill having a casing adapted to be secured to a rotary driving spindle, and a tool bit holder mounted in the casing for pivoting movement about an axis at right angles to the rotary axis of the end mill and carrying a tool bit projecting from the end face of the casing, means being provided for pivoting the tool holder during operation of the end mill to adjust the tool bit to various cutting diameters. In order that this adjustment of the tip of the tool bit may take place substantially in a plane at right angles to the axis of rotation of the end mill, the pivot axis of the tool bit holder is placed at a distance from the rotary axis approximately equal to the average of the greatest and the smallest cutting radius of the tool bit. These radii are

defined by means of adjustable abutments which are accessible through suitably covered holes in the wall of the casing.

ERRATUM

For Class 29—182.5 see:
Patent No. 3,541,659

3,542,529

METAL BONDED ALUMINA-CARBIDE COMPOSITIONS

Horacio E. Bergna and Alma U. Daniels, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 687,591, Dec. 4, 1967. This application June 14, 1968, Ser. No. 737,223

Int. Cl. C22c 29/00

U.S. Cl. 29—182.7

15 Claims

Dense compositions having a grain size smaller than 10 microns and containing from 20 to 90 volume percent alumina, 5 to 79 volume percent titanium, hafnium or zirconium carbide and 1 to 20 volume percent of metal consisting of 5 to 90 weight percent iron, cobalt or nickel and 10 to 95 weight percent tungsten or molybdenum are exceptionally effective tools for cutting steel and cast iron.

3,542,530

NICKEL OR COBALT BASE WITH A COATING CONTAINING IRON CHROMIUM AND ALUMINUM

Frank P. Talboom, Jr., Glastonbury, and Johannes Grafwallner, South Glastonbury, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed May 23, 1968, Ser. No. 731,650

Int. Cl. B32b 15/00

U.S. Cl. 29—183.5

4 Claims

A coating composition consisting of iron, chromium, aluminum and yttrium is provided to impart superior high-temperature oxidation, sulfidation, erosion and thermal shock resistance to the nickel-base and cobalt-base superalloys.

ERRATUM

For Class 44—66 see:
Patent No. 3,541,723

3,542,531

PETROLEUM DISTILLATE FUELS GELLED WITH COPOLYMERS OF ETHYLENE

Gordon D. Hiatt and Oliver W. Kaul, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 1, 1968, Ser. No. 725,903

Int. Cl. C101 7/02

U.S. Cl. 44—7

5 Claims

The present invention provides petroleum distillate fuel compositions comprising a petroleum distillate fuel having a gelling agent selected from the group consisting of ethylene-ethylacrylate, and ethylene-vinyl acetate copolymers dispersed therein, which compositions are gelled at room temperature and liquid at elevated temperatures of about 55° C. The invention further provides a method for producing the above-described petroleum distillate fuel compositions; comprising the steps of: (1) dispersing the above-described gelling agents in the petroleum distillate fuel, (2) warming the resulting mixture at elevated temperatures to form a gellable fuel dispersion, and (3) cooling the fuel dispersion.

ERRATUM

For Class 48—94 see:
Patent No. 3,541,729

3,542,532

PROCESS FOR THE PRODUCTION OF HYDROGEN FROM PETROLEUM COKE

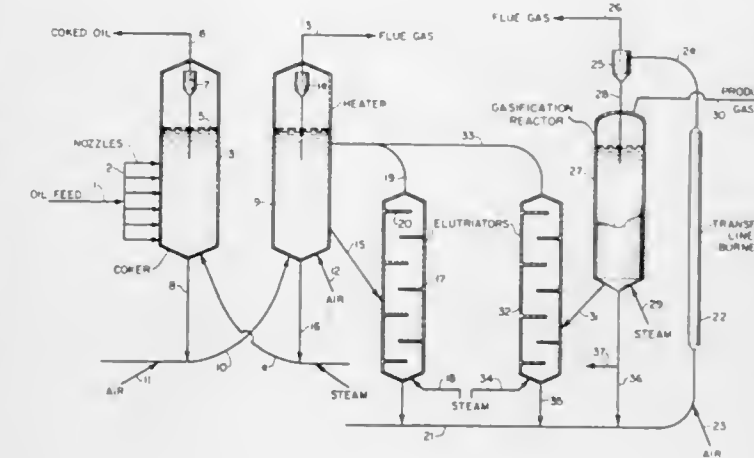
Russell R. Johnson, Mountainside, N.J., and Charles N. Kimberlin, Jr., Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 11, 1968, Ser. No. 697,171

Int. Cl. C01b 2/02; C10j 3/00

U.S. Cl. 48—202

5 Claims



In an integrated fluid petroleum coking process, hydrogen is produced from petroleum coke by contacting coke of a particular size with steam in a moving bed gasification reactor.

ERRATUM

For Class 51—295 see:
Patent No. 3,541,739

3,542,533

ROTOR CONSTRUCTION FOR CENTRIFUGAL ROTOR FIBERIZATION

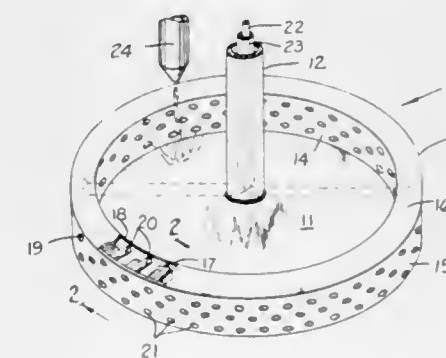
Walter Kasper Hesse, Martinsville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed July 23, 1968, Ser. No. 746,991

Int. Cl. C03b 37/04

U.S. Cl. 65—15

9 Claims



An improved rotor construction for centrifugal formation of filaments of thermoplastic material in fiberization systems wherein the peripheral wall of the rotor having radial directed orifices for filament ejection is constructed as a double walled closed annular chamber for circulation of coolant.

3,542,534

PROCESS FOR PELLETIZING GLASSMAKING MATERIALS

Junnosuke Yamamoto, 49 3-chome, Ogikubo, Tokyo, Japan
Continuation-in-part of application Ser. No. 486,546, Sept. 10, 1965. This application Mar. 10, 1969, Ser. No. 805,643

Int. Cl. C03b 5/16, 3/04

U.S. Cl. 65—27

4 Claims

3,542,536

METHOD OF FORMING OPTICAL WAVEGUIDE BY IRRADIATION OF DIELECTRIC MATERIAL

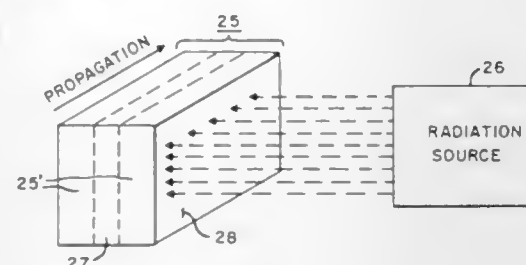
Richard P. Flam, Smithtown, and Eugene R. Schineller, Huntington Station, N.Y., and Donald W. Willmot, Nashua, N.H., assignors to Hazeltine Research, Inc., a corporation of Illinois

Filed Sept. 1, 1967, Ser. No. 665,112

Int. Cl. C03c 19/00

U.S. Cl. 65—111

21 Claims



A method of fabricating optical waveguides by irradiating a block of a single continuous quantity of solid optical dielectric material so as to produce atomic displacements in an interior localized region, with a dose sufficient to produce a change in the refractive index of this interior localized region of the dielectric. A beam of protons of sufficient energy causes an increase in the refractive index in this interior localized region of a block of fused silica. This area of increased refractive index serves as the core while the remainder of the block serves as the cladding of the waveguide. Several discrete waveguides can be fabricated in one block of dielectric material by masking the irradiated surface to form several separate sections of higher refractive index for a beam of given energy and/or separate waveguides can be formed at different depths of the dielectric material by varying the incident energy of the protons in discrete steps.

3,542,537

NITRIFICATION INHIBITING FERTILIZER COMPOSITION

Roger Gordon Hanson, West Lafayette, Ind., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 28, 1966, Ser. No. 582,485

Int. Cl. A01n 7/00

U.S. Cl. 71—1

12 Claims

A fertilizer composition for the control of soil nitrification contains a nitrogen delivering compound and a soil treatment nitrification inhibiting agent. The nitrogen delivering compound is an organic or inorganic nitrogen compound. The nitrification inhibiting agent is a 6-trihalomethyl-s-triazine compound.

3,542,538

METHOD OF RETARDING PLANT GROWTH WITH HETEROCYCLIC QUATERNARY AMMONIUM SALTS

Johann Jung, Limburgerhof, Pfalz, and Heinrich Scholz, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 22, 1967, Ser. No. 692,675

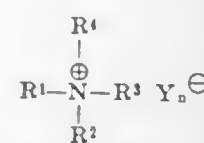
Claims priority, application Germany, Jan. 4, 1967, B 90,597

Int. Cl. A01n 5/00, 9/12, 9/22

U.S. Cl. 71—76

3 Claims

Agents for retarding the growth of plants and changing their habits which contain a compound having the formula



in which R¹ and R² denote an alkyl radical, in particular a lower alkyl radical, for example a methyl or ethyl

3,542,535
MULTI-FOCAL LENS WITH INDEX GRADIENT
Joseph R. Hensler, Rochester, and Charles H. Rosenbauer, Irondequoit, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Nov. 15, 1967, Ser. No. 683,282

Int. Cl. C03b 11/08, 15/00

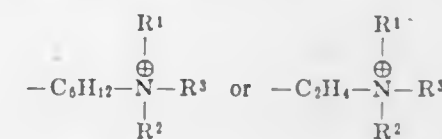
U.S. Cl. 65—30

4 Claims

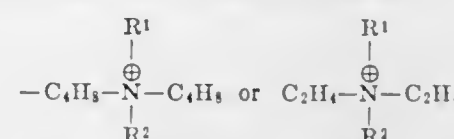


An improved method for making a fused multi-focal lens of the type wherein there is provided a gradual change in the index of refraction from that of the major lens member to that of the minor lens member. The shape of the beginning of the diffused zone is essentially a straight line.

radical, R¹ and R² together denote an alkylene radical, in particular a butylene or hexylene radical or, together with the nitrogen atom whose substituents they are, a morpholine radical, R³ and R⁴ denote a methyl, ethyl or propyl radical which may be substituted by chlorine or hydroxy, R⁴ also denotes the



radical and R³ and R⁴ together denote the



radical or, together with the nitrogen atom whose substituents they are, a morpholine, 2,6-dimethylmorpholine or thiomorpholine radical, R¹, R² and R³ having the meanings given above, Y denotes an anion and n denotes the integer 1 or 2. The agents improve the standing ability of cereals.

3,542,539

PROCESS FOR CONTROLLING THE REFINING OF A MOLTEN FERROUS BATH IN A BASIC OXYGEN FURNACE

Frederick A. Mihalow, Allentown, Fred A. Achey, Ronald J. Fradeneck, and David G. Boltz, Bethlehem, and David W. Kern, Slatedale, Pa.; said Mihalow, Achey, and Fradeneck assignors to Bethlehem Steel Corporation, a corporation of Delaware

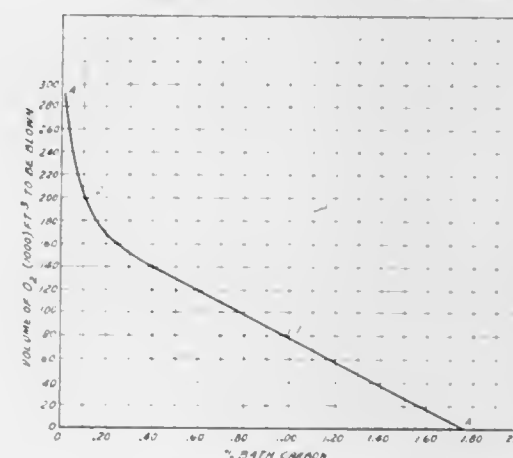
Filed July 25, 1968, Ser. No. 747,526

Int. Cl. C21c 5/32

U.S. Cl. 75—60

2 Claims

DECARBURIZATION CURVE FOR A 35%
PROCESS-INTERMITTENT BATH CARBON CONCENTRATION



A process for controlling the refining of a molten ferrous bath in a basic oxygen furnace in which injection of a preliminarily determined amount of oxygen into the bath is interrupted at a predetermined point to determine the carbon content of the bath after which oxygen injection is resumed and a volume of oxygen, necessary to decrease the carbon content determined at process-intermittent to the final desired carbon content, is determined by a specific equation and injected into the molten ferrous bath.

3,542,540

CARBANION LEACHING OF HEAVY METAL ORES

Harold J. Heinen, Reno, Judith A. Eisele, Verdi, Don H. Baker, Jr., Reno, and Bernard J. Scheiner, Sparks, Nev., assignors to the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Oct. 30, 1968, Ser. No. 771,997

Int. Cl. C22b 11/08, 15/08, 23/011

U.S. Cl. 75—101

4 Claims

Gold or other heavy metals such as silver, copper, nickel, cobalt, zinc or cadmium are leached from their

respective ore materials with an aqueous solution of a compound which forms, in solution, carbanions that are derived by the loss of a proton from a saturated carbon, which carbanion has the formula CR₃⁻ or CHR₂⁻ where no C—R bond is broken during ionization, where each R group is the same or different and where each is a negative inductive group such as CN, COOH, CONH₂, etc. Malononitrile, potassium cyanoform and bromomalononitrile are exemplary compounds which supply such carbanions. The pH of the mixture of leach solution and ore is maintained at at least 7.

3,542,541

WHISKER REINFORCED ALLOYS AND METHOD OF MAKING THE SAME

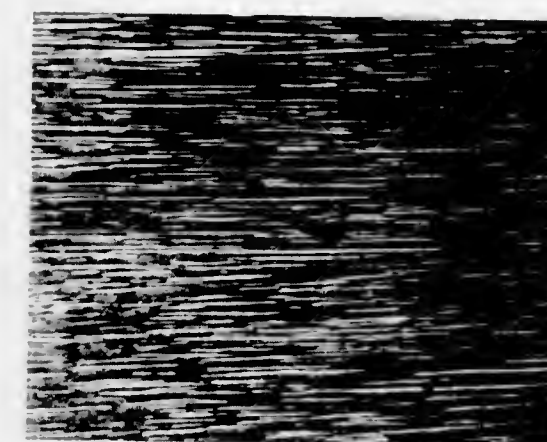
Franklin D. Lemkey, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Mar. 15, 1966, Ser. No. 534,338

Int. Cl. C22b; C22c

U.S. Cl. 75—122.5

9 Claims



LONGITUDINAL SECTION
MAGNIFICATION 200X
MARGOLIN-ENCE ETCHANT

A polyphase alloy composition characterized by a microstructure of a eutectic composition embedded in a matrix and method of making the same. The microstructure includes needle-like lamellae of eutectic composition having a length to diameter ratio in excess of about 40 with the average non-length dimensions being not in excess of 25 microns.

3,542,542

MAGNETIC PERMEABILITY MATERIAL

Hozumi Hirota, Nara, and Yasumasa Komatsu, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Apr. 5, 1968, Ser. No. 719,097

Int. Cl. C22c 19/00

U.S. Cl. 75—170

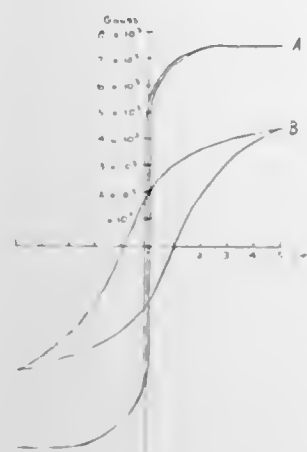
6 Claims

Ferromagnetic material with a Cr₂₃C₆ type of crystal structure comprising approximately, in atomic percentages:

Cobalt	51.0—59.0
Iron	49.0—17.0
Titanium	0.02—1.0
Aluminum	6.5—11.2
Boron	17.0—25.9

said crystal structure having such an atom arrangement that point positions "f" and "h" of Fm3m are occupied by cobalt, iron and titanium atoms, point positions "a"

and "c" of $Fm3m$ are occupied by aluminum atoms, and point position "e" of $Fm3m$ is occupied by boron



atoms, is useful, e.g., in the manufacture of magnetic heads for video tape recorders.

3,542,543

NICKEL BASE BRAZING ALLOY

Reed E. Yount and Donald L. Keller, Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York

No Drawing. Filed Jan. 2, 1969, Ser. No. 788,601

Int. Cl. C22c 19/00

U.S. Cl. 75—171

3 Claims

A nickel base-Cr—Si type brazing alloy particularly useful with nickel base superalloys includes Mo and Fe for solid solution strengthening in a careful balance which avoids inclusion of Co at more than about 2 weight percent to maintain the brazing temperature in a range lower than about 2300° F. The elements B and Pd are avoided to inhibit erosion of the base metal and W is avoided because of its effect on melting temperature in this combination.

3,542,544

PHOTOCONDUCTIVE ELEMENTS CONTAINING ORGANIC PHOTOCONDUCTORS OF THE TRIARYLALKANE AND TETRAARYLMETHANE TYPES

Edward J. Seus and Martin Goldman, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 624,233, Mar. 20, 1967. This application Apr. 3, 1967, Ser. No. 627,857

Int. Cl. G03g 5/06

U.S. Cl. 96—1.5

16 Claims

Photoconductive elements containing amino-substituted 1,1,1-triarylalkanes and tetraarylmethanes as photoconductors are described. The described photoconductors can be sensitized and charged either negatively or positively.

3,542,545

FROST OR RELIEF WRINKLING OF AN IMAGING ARTICLE COMPRISING AN ELECTRICALLY PHOTOSENSITIVE LAYER AND A DEFORMABLE LAYER

William L. Goffe, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 520,423, Jan. 13, 1966. This application Jan. 2, 1968, Ser. No. 695,074

Int. Cl. G03g 13/22

U.S. Cl. 96—1.1

20 Claims

An imaging member comprising an overlayer of material preferably photosensitive, on a softenable, electrostatically deformable layer is imaged by frost or relief

wrinkling the deformable layer. In a preferred mode, where the overlayer is photosensitive wrinkling is caused by uniformly electrostatically charging the member, exposing said member to an imagewise pattern of radiation



actinic to said overlayer of photosensitive material and softening the softenable, electrostatically deformable layer to cause it to wrinkle thereby effecting the overlayer in a variety of ways to produce a variety of imaged members.

3,542,546

ORGANIC PHOTOCONDUCTORS CONTAINING THE >N—N< NUCLEUS

Charles J. Fox, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 597,562, Nov. 29, 1966. This application Oct. 9, 1967, Ser. No. 673,962

Int. Cl. G03g 5/06

U.S. Cl. 96—1.5

29 Claims

Certain organic compounds having a >N—N< nucleus are useful as photoconductors in xerographic systems.

3,542,547

PHOTOCONDUCTIVE ELEMENTS

Charles V. Wilson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 536,994, Mar. 24, 1966, which is a continuation-in-part of application Ser. No. 261,206, Feb. 26, 1963. This application May 1, 1967, Ser. No. 634,908

Int. Cl. G03g 5/06

U.S. Cl. 96—1.6

17 Claims

Photoconductive elements containing stable organic photoconductors, such photoconductors being triaryl-methane leuco bases containing, in addition to amino substituents, other substituents such as alkyl, alkoxy, halogen, hydroxyl, etc., in at least the ortho positions or two phenyl moieties.

3,542,548

NOVEL CYANINE DYES FOR THE SENSITIZATION OF ORGANIC PHOTOCONDUCTORS

John D. Mee, Donald W. Heseltine, and Wilbur S. Gaugh, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 12, 1968, Ser. No. 721,105

Int. Cl. G03g 5/00

U.S. Cl. 96—1.6

33 Claims

Organic photoconductors are spectrally sensitized with a cyanine dye having a pyrrolo[2,3-b]quinoxaline nucleus or a pyrrolo[2,3-b]pyrazine nucleus, joined at the 3-carbon atom thereof, to the methine linkage of the cyanine dye.

3,542,549

2,4,6-TRICHLOROPYRIMIDINE HARDENING AGENTS FOR GELATIN

Salvatore Emmi, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 16, 1967, Ser. No. 616,499

Int. Cl. G03c 1/30

U.S. Cl. 96—63

4 Claims

Hardening agents for gelatin coating compositions comprising tri-halo-pyrimidine compounds.

3,542,550

PHOTOSENSITIVE GLASS TECHNIQUE FOR FORMING CONTACT HOLES IN PROTECTIVE GLASS LAYERS

Ernest E. Conrad, Clinton Corners, Ronald P. Esch, Red Hook, Robert L. Hallen, Poughkeepsie, Richard A. Leonard, Red Hook, and William A. Pliskin, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 30, 1966, Ser. No. 583,262

Int. Cl. G03c 5/00; H05k 3/28

U.S. Cl. 96—34

4 Claims

A technique for forming contact holes in glass layers which serve to encapsulate and protect electronic components such as semi-conductor devices. In accordance with the preferred form of the technique a thin uniform film of glass on a substrate having the required contact holes is achieved by applying to the substrate a layer of fine particles in intimate contact with a photo-sensitive agent, exposing the layer to a predetermined pattern of light to sensitize the photo-sensitive agent in selected areas only, subjecting the layer to a developer for said photo-sensitive agent whereby the sensitized agent is developed and whereby the glass particles at said selected locations are removed, and heating the remaining glass particles to coalesce the same to form said film except for the areas from which the particles have been removed.

3,542,551

METHOD OF ETCHING PATTERNS INTO SOLID STATE DEVICES

Edward J. Rice, Los Angeles, Calif., assignor to TRW Semiconductors, Inc., Lawndale, Calif., a corporation of Delaware

Continuation of application Ser. No. 650,394, June 30, 1967. This application July 1, 1968, Ser. No. 752,537

Int. Cl. G03c 5/00

U.S. Cl. 96—36.2

19 Claims

An improved method for fabricating solid state devices using photoresist etching techniques wherein a simplified method of utilizing photoresist masks is employed. Two or more individual patterns are put onto a single photoresist mask with high precision. The multiple pattern is transferred to a photoresist layer disposed on top of a protective layer such as silicon dioxide, ethyl silicate, or silicon nitride which is itself disposed upon a semiconductor wafer. The transfer is accomplished using current photoresist technology. The multiple patterns are exposed and the protective layer beneath the unexposed photoresist layer is partially etched away. A second photomask is then employed which need be only crudely aligned with the original pattern as partially etched. This second mask covers all elements of the original pattern except that element or elements which can be completely etched through until the underlying semiconductor surface is exposed. A diffusion step can then be undertaken with the exposed semiconductor surface. A third mask is then imposed upon the wafer. This mask completely covers the completed element which has just been diffused and uncovers another element of the original pattern which can now also be etched completely through until the underlying semiconductor surface is exposed. In an alternative embodiment the protective layer can be completely etched through to the silicon in all elements of the multiple pattern, then a second protective layer is deposited over the wafer including the recesses made by the etching of the first pattern. A second photomask is then employed. This photomask covers all the elements etched in the first etching operation except one, and this element may now be etched all the way through the second protective layer until the underlying semiconductor material is exposed. A diffusion step can then be undertaken. A third photomask may then be employed which need be only crudely aligned with the pat-

terns etched by the first two masks and which covers the element which has been diffused and allows etching of the other element through the second protective layer to expose the underlying semiconductor surface. This area may then be subjected to a diffusion step. This process may be repeated across the entire width of the wafer thus facilitating production of hundreds of devices by the use of only three or four photomasks.

3,542,552

COLOR DEVELOPER FOR COLOR PHOTOGRAPHY

Shiro Kimura, Atsuki Arai, Kimio Kishimoto, and Isao Shimamura, Kanagawa, Japan, assignors to Fuji Photo Film Co., Ltd., Kanagawa, Japan

Filed Dec. 28, 1967, Ser. No. 694,260

Claims priority, application Japan, Dec. 28, 1966,

42/439

Int. Cl. G03c 7/30, 7/32

U.S. Cl. 96—55

2 Claims

The present invention relates to a color developer suitable for application in color photography and more particularly to a color developer containing a novel cyan coupler and an aromatic primary amine developing agent.

3,542,553

INHIBITING BIOLOGICAL GROWTHS IN ACIDIC PHOTOGRAPHIC PROCESSING SOLUTIONS WITH NITRO ALCOHOLS

Margaret S. Beach and Robert L. Roudabush, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 15, 1967, Ser. No. 668,217

Int. Cl. G03c 5/24, 5/32, 5/38

U.S. Cl. 96—60

5 Claims

Biological growth in photographic processing solutions such as ferricyanide bleach solutions is inhibited by the use of nitro alcohols.

3,542,554

MERCAPTO-SUBSTITUTED HYDROQUINONE DEVELOPING AGENTS

Truman R. McMurtry, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 30, 1967, Ser. No. 686,823

Int. Cl. G03c 5/38

U.S. Cl. 96—61

13 Claims

Monobaths containing certain mercapto-substituted hydroquinone developing agents and mercaptan stabilizing agents for developing and stabilizing photosensitive elements have improved stability and increased useful processing life.

3,542,555

PHOTOGRAPHIC SILVER HALIDE ELEMENTS CONTAINING TETRAKISAZO DYES

Jonas J. Chechak, Brockport, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 15, 1967, Ser. No. 668,174

Int. Cl. G03c 1/40

U.S. Cl. 96—73

4 Claims

Certain tetrakisazo dyes are readily bleached in the presence of a silver image, and when they are coated on a support contiguous to the silver halide of at least one light-sensitive silver halide emulsion layer, a photographic element results which can be processed by known dye-bleach techniques to provide positive, colored dye images.

3,542,556

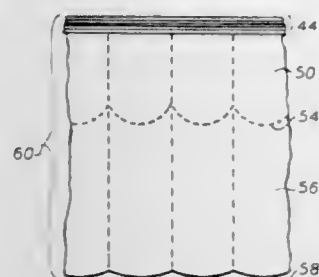
PHOTOSENSITIVE LENTICULATED FILM WITH SEPARABLE MULTI-ELEMENT LENS OVERLAY
Harry S. Jones, Monmouth Beach, N.J., assignor to Chrom-Tronics, Inc., New York, N.Y., a corporation of New York

Filed June 27, 1967, Ser. No. 649,309

Int. Cl. G03c 1/84, 7/14

U.S. Cl. 96—81

3 Claims



Camera apparatus for securing three dimensional photographic images wherein equivalent relative displacement between the subject to be photographed and the camera to effect deposition of a continuous series of images on a photosensitive film through a multiple-element lens overlay adjacent thereto is optically effected by interposition of displaceable light reflecting means intermediate the camera and subject and a photo-sensitive film construction wherein the photosensitive emulsion is integrally superposed on a multi-element lens overlay of selectively variable character.

3,542,557

SUPERATMOSPHERIC PRESSURE USED TO IMPROVE THE SENSITIVITY OF SILVER HALIDE EMULSIONS

Bernard D. Illingsworth and Robert F. Motter, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 22, 1966, Ser. No. 581,165

Int. Cl. G03c 1/08

U.S. Cl. 96—107

11 Claims

An improved method for making a photographic silver halide emulsion, the improvement comprising subjecting the liquid silver halide emulsion to a superatmospheric pressure of at least 30 p.s.i. for at least 0.5 hour before coating said emulsion on a support.

3,542,558

HARDENERS FOR PHOTOGRAPHIC GELATIN EMULSIONS

Donald M. Burness and Burton D. Wilson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application May 22, 1964, Ser. No. 369,629, now Patent No. 3,396,127. Divided and this application Feb. 2, 1968, Ser. No. 702,512

Int. Cl. G03c 1/30

U.S. Cl. 96—111

13 Claims

Bis(alpha carbonyloxyalkyl quaternary nitrogen) salts and polymeric analogs thereof are useful for hardening photographic compositions, such as gelatin compositions. The hardener compounds and the compositions containing them are believed to be novel.

3,542,559

PREPARATION OF HIGH-PROTEIN PRODUCTS FROM SAFFLOWER

Alan E. Goodban, Walnut Creek, and George O. Kohler, El Cerrito, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Dec. 4, 1967, Ser. No. 687,500

Int. Cl. A23j 1/14; A23k 1/00; C11b 1/10

U.S. Cl. 99—42

14 Claims

Safflower seeds or residues from the extraction of oil therefrom are treated to isolate compositions of enhanced

protein/fiber ratio. Typically, the safflower material is milled in hexane, the liquid phase is separated from the milled product, and finely-divided material suspended in the liquid phase is recovered—usually, by centrifugation or filtration—yielding a high protein composition useful in animal feeds. Oil may be recovered from the liquid phase to integrate production of oil with production of the proteinous composition.

ERRATUM

For Class 99—23 see:
Patent No. 3,542,270

3,542,560

INFANT FORMULA WITH FAT COMPOSITION LIKE HUMAN MILK

Rudolph M. Tomarelli, Chester, and Finn W. Bernhart, Radnor, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 6, 1967, Ser. No. 688,326

Int. Cl. A23c 11/00

U.S. Cl. 99—63

2 Claims

An infant formulation substantially approximating human milk in fat assimilability is prepared by adding to a poorly fat-assimilable milk product, a fat having a high content of beta-palmitic acid until the beta-palmitic acid content of the formulation is at least 25 percent by weight of the total palmitic acid content.

3,542,561

MULTICHAMBER INFUSION BAG

Adolf Rambold, Alter Kirchweg 39, Buderich, near Dusseldorf, Germany

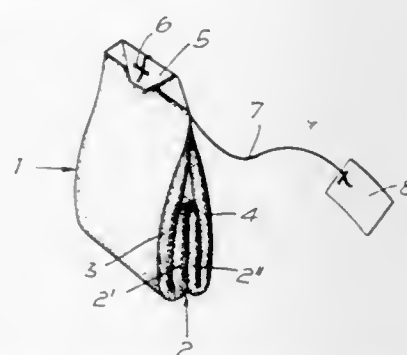
Filed Aug. 29, 1966, Ser. No. 575,884

Claims priority, application Germany, Aug. 31, 1965, R 41,438

Int. Cl. B65b 29/02

U.S. Cl. 99—77.1

8 Claims



An infusion bag comprising at least three chambers all containing infusible substance with the two outer chambers connected by a closure. At least one of the chambers has a transverse bend so as to allow the bag to be packaged in a flat condition. During use the bag is in a generally polygonal ring-like form with the lateral chambers spread apart.

3,542,562

MAKING SOYA FLOUR FUNCTIONAL IN PREPARED CULINARY MIXES

Robert R. Cooke, Evendale Village, John E. Hunter, Springfield Township, Hamilton County, and Robert W. Mitchell, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Dec. 21, 1967, Ser. No. 692,342

Int. Cl. A21d 2/28

U.S. Cl. 99—94

5 Claims

Soya flour is treated with an optimum amount of SO₂ gas in order to solubilize it so that it can serve as a protein source in prepared culinary mixes.

3,542,563

MANUFACTURE OF CHEDDAR CHEESES USING A MILK COAGULATING ENZYME COMPLEX

Edward Donald Murray and Volker Ekkehard Gruetzner, London, Ontario, and Donald McLean Irvine, Guelph, Ontario, Canada, assignors to John Labatt Limited, London, Ontario, Canada

No Drawing. Filed June 21, 1967, Ser. No. 647,627

The portion of the term of the patent subsequent to Dec. 9, 1986, has been disclaimed

Int. Cl. A23c 19/02

U.S. Cl. 99—116

5 Claims

In manufacturing Cheddar cheese using as a milk coagulating agent an enzyme complex, the moisture content and firmness of the cheese can be maintained within the desirable limits generally obtained with rennet if during the holding of the curd at 102–104° F. a flash of heat of short duration is applied which quickly raises the temperature of the curd to about 110° F., the curd is held at this temperature for a short period of time and then quickly cooled to the regular holding temperature.

3,542,564

METHOD FOR PREPARING COAGULATED MEAT CHUNKS

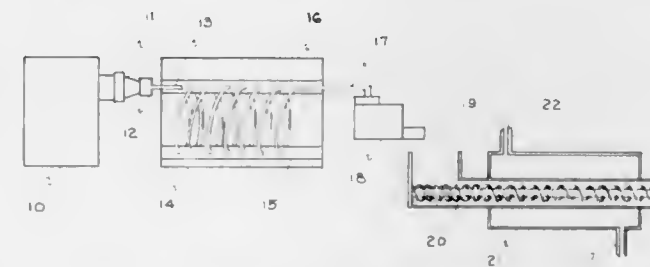
Edmund H. Cornwell, Oak Lawn, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Delaware

Continuation-in-part of application Ser. No. 603,896, Dec. 22, 1966. This application Feb. 12, 1969, Ser. No. 798,691

Int. Cl. B02c 18/00

U.S. Cl. 99—108

7 Claims



A continuous method of preparing coagulated meat pieces or chunks suitable for incorporation into canned foods including the steps of coarse grinding fresh meat with optional ingredients and forcing the ground meat through an elongated forming zone and simultaneously coagulating the compacted meat particles with a heat source surrounding the forming zone, comminuting the meat to the desired size, and passing the comminuted meat and the original liquid fat and meat juices through a heat exchanger to congeal the liquids about the coagulated meat chunks in the ratio of the fresh meat.

3,542,565

MAYONNAISE STABILIZED WITH PEANUT LIPOPROTEIN

Clyde E. Stauffer, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 24, 1967, Ser. No. 685,296

Int. Cl. A23l 1/24

U.S. Cl. 99—144

3 Claims

Mayonnaise stabilized with peanut lipoprotein against emulsion thinning or breakdown due to mechanical shear.

3,542,566

COLLAPSIBLE CONTAINER PACKAGE FOR CONCENTRATES

Harold Donavon Wakefield, Houston, Tex., assignor to The Coca-Cola Company, New York, N.Y., a corporation of Delaware

Filed May 21, 1968, Ser. No. 730,823

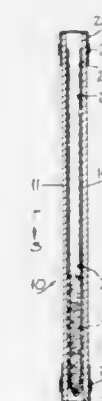
Int. Cl. B65d 5/40, 5/60, 85/72

U.S. Cl. 99—171

7 Claims

An inexpensive collapsible and unfoldable sealed container package for concentrates which is substantially flat

and which may be opened and unfolded to permit ready conditioning of the concentrate directly within the unfolded opened package by introduction of an additive without transfer to another container comprising a foldable open-ended container body provided with sealing removable end closures and within which an open-mouthed expansible pouch or envelope designed to receive and retain the concentrate is mounted, the lips of the mouth of the pouch or envelope being permanently secured to inner walls of the container. The pouch is of pliant, liquid-proof material and inert to its prospective contents which can be collapsed to small compass together with its concentrate content within the collapsed enclosure defined by the flat folded container and end closures and retained



therein indefinitely prior to use. When the concentrate is to be used, the end covers are removed and the container unfolded, the pouch then drops automatically through the bottom end of the opened unfolded container to an expanded larger volume. Thereafter, an additive such as a diluent necessary to condition the concentrate to desired useful state is introduced directly into the expanded pouch to be mixed with the concentrate therein via the upper open end of the container without any necessity for transfer of the concentrate to another larger container. The mixing may then be effected directly in the expanded pouch and the so-conditioned concentrate then poured as desired from the open upper end of the unfolded container which thereafter may be discarded.

3,542,567

CONTAINER FOR ASEPTIC PACKAGING OF FLUID FOOD PRODUCTS

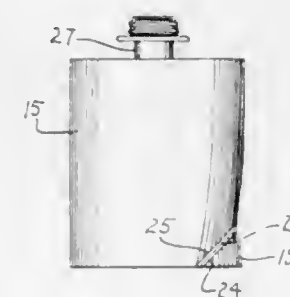
Roy D. Finley and James D. Flanagan, Greenville, Ill., and Eldred W. Bowen, Brentwood, Mo., assignors to Pet Incorporated, St. Louis, Mo., a corporation of Delaware

Original application Mar. 18, 1965, Ser. No. 440,829, now Patent No. 3,301,043, dated Sept. 10, 1968. Divided and this application Apr. 29, 1968, Ser. No. 738,742

Int. Cl. B65d 25/00

U.S. Cl. 99—171

4 Claims



A flexible walled container for aseptically packaging fluid food products having a detachable sealed segment holding a representative sample of the container contents.

The segment is heat sealed from the rest of the container such that it may be removed for testing without contaminating the remainder of the container contents.

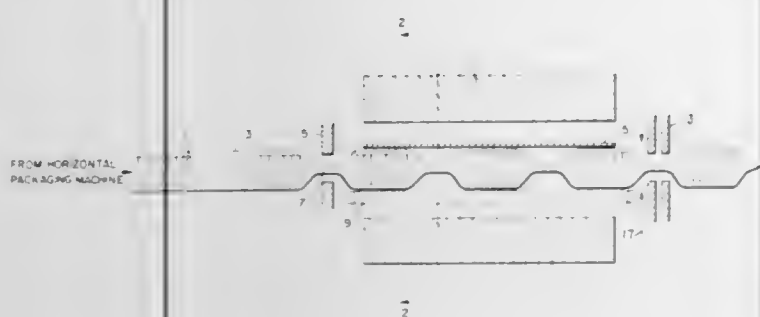
3,542,568 PROCESS FOR PACKAGING AND STERILIZATION OF BREAD

Michel Bouyer, Le Vesinet, France, assignor to La Cellophane Société Anonyme, Paris, France, a corporation of France

Filed Apr. 29, 1968, Ser. No. 724,797
Claims priority, application France, June 12, 1967,
109,911

Int. Cl. B65b 25/18
U.S. Cl. 99—173

7 Claims



A process for the continuous packaging and sterilization of hygroscopic food products, e.g. bread, wherein the products to be packaged are disposed in a spaced relationship in a tube of thermosealable plastic, such tube of thermosealable plastic with such food product disposed therein passing through a sterilization station at the outlet of which the tube is sealed between the individual food products. Prior to passage through the sterilization station, the thermosealable plastic is provided with individual units of hygroscopic food product by means of a transverse seal that furnishes a communicating passage between the units.

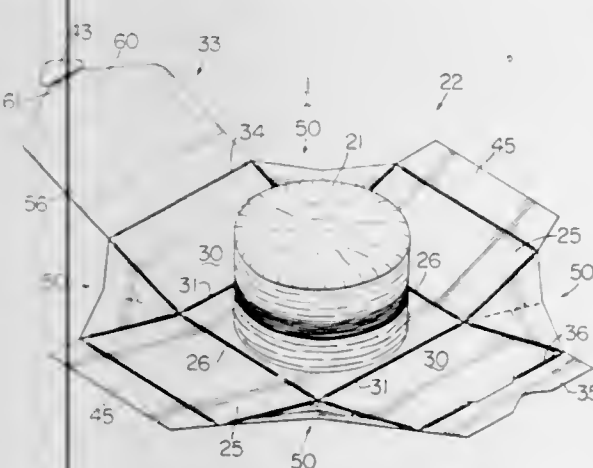
3,542,569 CARTON AND BLANK FOR MAKING SAME

Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Nov. 21, 1968, Ser. No. 777,620
Int. Cl. B65b 5/08, 55/00

U.S. Cl. 99—174

17 Claims



A carton for a food product and blank for making same wherein such carton has a bottom wall, a pair of side walls adjoining opposite side edges of the bottom wall, a pair of end walls adjoining opposite end edges of the bottom wall, and a top wall extending from one of the end walls. The carton also has a plurality of

interconnecting walls each interconnecting an end wall and a side wall, each interconnecting wall being folded to define a pair of adjoining overlapped panels with each pair of panels being arranged between an associated end wall and the food product to thereby effectively use the food product to hold the carton assembled, and upon unfastening the top wall and removing the food product the walls of the carton fall outwardly and the resulting structure defines a serving tray for the food product.

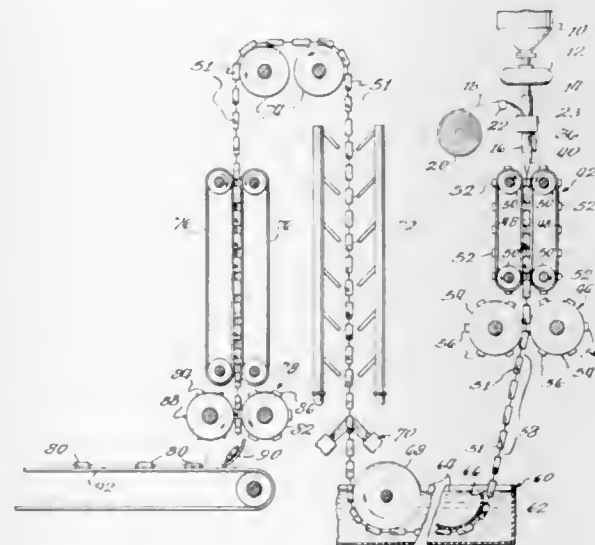
3,542,570 PROCESS OF MANUFACTURING INDIVIDUALLY WRAPPED SLICES OF EXTRUDABLE PRODUCTS

Robert G. Bush and Gilbert H. Hannon, Green Bay, Wis., assignors to L. D. Schreiber Cheese Company, Inc., a corporation of Wisconsin

Filed Feb. 10, 1967, Ser. No. 615,121
Int. Cl. A23c 19/16

U.S. Cl. 99—178

7 Claims



A method for making individually wrapped slices of extrudable products including the steps of forming a wrapper into a tube, forcing product into the tube, transversely sealing the tube at spaced intervals to form individually wrapped packets, appropriately treating the packets and severing the packets to form individually wrapped slices sealed at opposite ends and containing product in intimate contact with the wrapper.

3,542,571 PROCESS FOR PREPARING FERRIC TITANATE

William E. Smith, Sylvania, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 517,839, Dec. 30, 1965. This application Nov. 12, 1968, Ser. No. 775,199

Int. Cl. C04b 35/00, 35/46

U.S. Cl. 106—39
There is disclosed a molten state process for preparing iron titanate crystal containing compositions of superior electrical properties and which are highly suitable and ideal for use in electrical devices at elevated temperatures. The process comprises homogeneously melting a composition containing TiO₂ and iron in the ferric valence state, rapidly quenching the homogeneous melt, and then heat treating in the presence of oxygen to form ferric titanate crystals. In a specific embodiment, the composition containing TiO₂ and ferric iron is prepared by oxidation of a ferrous containing material, e.g., a natural mineral such as ilmenite. The resulting product contains at least 9 percent by weight ferric titanate crystals.

3,542,572 GERMANIA-SILICA GLASSES

Robert H. Dalton, Corning, and Eugene F. Riebling, Horseheads, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed June 24, 1968, Ser. No. 739,211
Int. Cl. C03c 3/04, 5/02; C23d 5/00

U.S. Cl. 106—52

1 Claim

This invention relates to glass compositions consisting essentially of GeO₂ and SiO₂ which are especially suitable as protective insulating surface layers on silicon semiconductor devices.

3,542,573 USE OF OXALIC ACID DIARYLAMIDES AS LIGHT FILTERS

Hans Rudolf Biland, Basel, Max Duennenberger, Frenken-dorf, and Christian Luethi, Muenchenstein, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

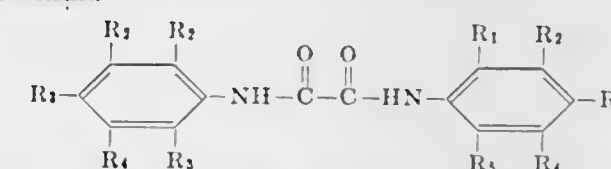
No Drawing. Filed Dec. 6, 1966, Ser. No. 599,363
Claims priority, application Switzerland, Dec. 8, 1965,
16,894/65; Aug. 12, 1966, 11,666/66

Int. Cl. C08b 21/04; C08g 45/60, 51/60

U.S. Cl. 106—186

37 Claims

Compositions comprising an organic material having incorporated therein an ultraviolet absorbing agent in a proportion sufficient to protect said organic material from the influence of ultraviolet light, said ultraviolet absorbing agent being a symmetrical oxalic acid diarylamide of the formula

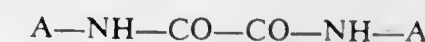


wherein R₁ to R₅ each represents a member selected from the group consisting of a hydrogen atom, halogen atom and a substituent, containing up to 20 carbon atoms, being selected from the group consisting of alkyl, substituted alkyl, benzene residue, benzyl group, a nitrile group, a possibly substituted alkoxy group, alkenyloxy group, an aliphatic acyl group, an aromatic acyl group, a group —O—CO—NH—X, —CO—NHX, —SO₂—NH—X (where X stands for hydrogen, alkyl or aryl), a group —COOY, a group —SO₂Y (where Y stands for hydrogen, alkyl, aryl, or a salt-forming cation), a nitro group, an amino group and an acylamino group, and the substituents R₁ and R₂ or R₂ and R₃ together with the benzene ring to which they are attached may form a fused-on six-membered carbocycle, and

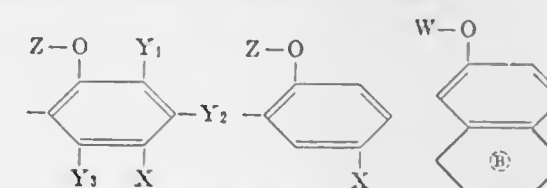
- each benzene nucleus contains at most two substituents selected from the group consisting of —O—CO—NH—X, —CO—NH—X, —SO₂—NH—X, —COOY, —SO₂Y, alkoxy and alkenyloxy,
- each benzene nucleus contains at most three other substituents different from hydrogen, and
- at least one of the substituents R₁ to R₅ is different from hydrogen,

as well as the use of said oxalic acid diarylamides as ultraviolet absorbing agents.

Also included are the novel oxalic acid diamides of the formula



in which A represents one of the residues



and in these residues Z represents a member selected from the group consisting of an alkyl group with 1 to 18 carbon atoms, an acyl group containing 1 to 12 carbon

atoms, a benzyl group, a carbalkoxyalkyl group with a total of up to 12 carbon atoms, an allyl group and a halogenalkyl group with up to 8 carbon atoms; X represents a member selected from the group consisting of an alkyl group with up to 12 carbon atoms which is preferably branched, a halogen atom, a phenyl and a cyclohexyl group; Y₁ to Y₃ each stands for hydrogen, an alkyl or alkoxy group with 1 to 8 carbon atoms, or Y₂ may also represent a phenyl group; W represents an alkyl group with 1 to 18 carbon atoms or a carbalkoxyalkyl group with 1 to 8 carbon atoms, and B in the fused-on six-membered ring of the above partial formula indicates that this ring may be aromatic or hydroaromatic.

3,542,574 ORGANOSILICON OVEN RELEASE COMPOSITIONS

George R. Payne, Kernersville, N.C., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Apr. 22, 1968, Ser. No. 723,315
Int. Cl. C08h 17/50

U.S. Cl. 106—287

5 Claims

Compositions particularly suitable for release of food from the interior of ovens consisting of a mixture of (1) a copolymer of a trifluoropropylmethylsiloxane and an aminoalkylsiloxane, (2) a dimethylpolysiloxane fluid and (3) a phenylmethylpolysiloxane fluid. An example of such a composition is a mixture of a copolymer of

- (1) NH₂CH₂CH₂CH₂SiO₃/2, Me₂SiO and CF₃CH₂CH₂SiO
- (2) a 1,000 cs. dimethylpolysiloxane fluid and (3) a 500 cs. phenylmethylsiloxane fluid.

3,542,575 TITANIUM DIOXIDE FOR USE IN COATING COMPOSITIONS

John E. Nelson, Phoenix, Ariz., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 15, 1967, Ser. No. 690,735
Int. Cl. B02c 1/00, 19/06

U.S. Cl. 106—300

4 Claims

The present invention relates to a titanium dioxide pigment having improved wettability in coating compositions and is characterized by coating the titanium dioxide pigment particles with small but effective amounts of an esterified styrene-maleic anhydride copolymer.

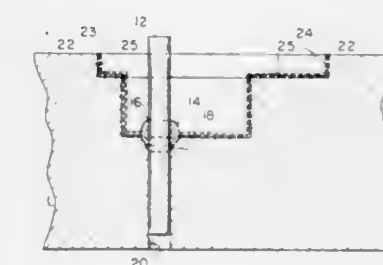
3,542,576 FIXTURE FOR MAKING GLASS-TO-METAL SEALS AND METHOD OF MAKING THE SAME

Arthur T. Johnson, Providence, R.I., assignor to GTI Corporation, a corporation of Rhode Island

Filed Oct. 4, 1967, Ser. No. 672,846
Int. Cl. B44d 1/14; C04b 41/06; C03c 27/02

U.S. Cl. 117—2

9 Claims



A high temperature ceramic fixture is disclosed for employment in holding metal and glass components in proper position for fusing of glass-to-metal seals therebetween. The life of the fixture and the quality of the glass-

to-metal seals are improved by a unique method of depositing a uniformly adherent coating of carbon on the fixture at relatively low temperatures. The carbon-coated ceramic fixture is more durable and its coating can be periodically replenished during usage without the necessity of refiring or replacing the fixtures.

3,542,577

METHODS FOR SEVERING A PROTECTIVE COATING ON COATED MEMBERS

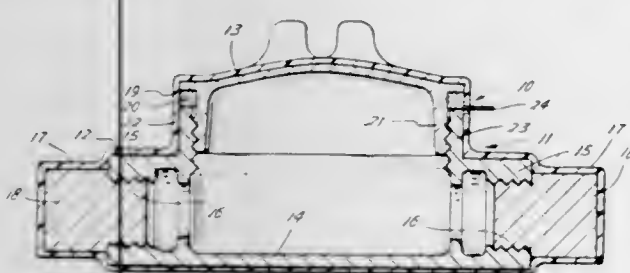
René J. Al, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Dec. 18, 1967, Ser. No. 691,523

Int. Cl. B44d 1/094

U.S. Cl. 117-4

10 Claims



The particular embodiments described herein as illustrative of the present invention relate to the selective severing of protective coatings on members that have been coated. More particularly, the present invention as disclosed herein is directed to methods for severing a protective coating that has been applied continuously over inter-fitted members by one of the several fusion-coating techniques using pulverulent particles of a fusible thermoplastic or thermosetting coating material. After the members have been coated and the coating has at least firmed, a severing member movably disposed therebetween is moved in such a manner as to leave a well-defined termination of the coating on each coated member, with these terminations in some instances preferably being raised in relation to the adjacent portions of the coating to provide a mating sealing surface for similar terminations extending from the other or another coated member when the two members are ultimately connected.

3,542,578

METHOD OF PREVENTING STATIC CHARGES IN PRINTING

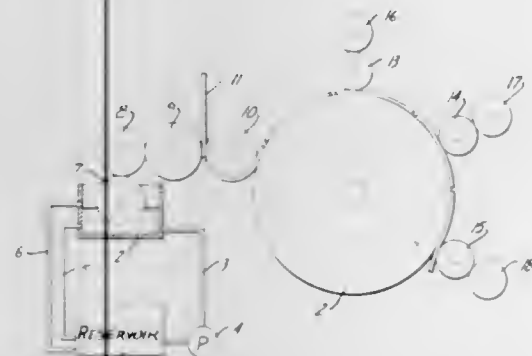
Frank C. Lang, 9733 W. Hampton, Apt. 11, Milwaukee, Wis. 53225

Continuation of application Ser. No. 524,002, Feb. 1, 1966. This application May 7, 1969, Ser. No. 824,747

Int. Cl. H05f 1/02

U.S. Cl. 117-14

9 Claims



A method of eliminating static charge on blanks during printing by applying an evaporable organic liquid to a surface of the blank. The liquid has a spot drying time in the range of 4 to 7 minutes and provides a liquid film between the metallic impression roller and the blank during printing to eliminate the static charge on the blanks during the

printing operation. The liquid film remains for a short period of time after stacking of the blanks to aid in setting up the printing.

3,542,579

ELECTROSTATIC IMAGE DEVELOPMENT

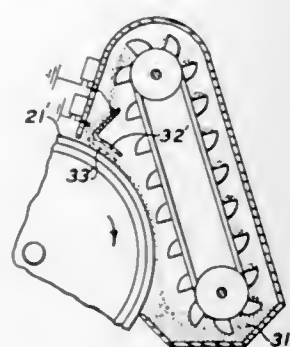
Robert W. Gundlach, Victor, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 421,297, Dec. 28, 1964. This application Sept. 25, 1968, Ser. No. 762,451

Int. Cl. G03g 13/08, 13/22, 15/08

U.S. Cl. 117-17.5

15 Claims



The method and apparatus for the development of electrostatic images wherein xerographic developer material is applied to a photoreceptive surface bearing a latent electrostatic image by a combination of cascade and powder cloud development.

3,542,580

METHOD OF MAKING AN INTEGRATED PROJECTION SCREEN

Richard H. Vetter, Pacific Palisades, Calif., assignor to D-150, Inc., Los Angeles, Calif., a corporation of California

Original application July 6, 1965, Ser. No. 469,385, now Patent No. 3,383,153, dated May 14, 1968. Divided and this application Apr. 3, 1968, Ser. No. 748,883

Int. Cl. B44c 1/06; G03b 21/56

U.S. Cl. 117-26

4 Claims



A method of making a projection screen comprising applying a layer of transparent beads to a base, and then obscuring less than the full exposed surface of the layer in a random pattern by spattering thereupon an opaque, light-diffusing material having the inherent surface quality of a matte screen, the said beads comprising directionally reflective means, and the opaque material comprising diffusely reflective means.

3,542,581

METHOD OF DE-AGGREGATING OXONOL DYE-CONTAINING GELATIN LAYERS

James L. Graham and David G. France, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 5, 1968, Ser. No. 773,411

Int. Cl. G03c 1/84

U.S. Cl. 117-33.3

1 Claim

Gelatin compositions comprising an oxonol dye are enhanced by incorporating an amphoteric surfactant to raise the extinction coefficient. The surfactant has the formula:



or



wherein R represents an alkyl radical of from 8 to 20 carbon atoms, $x=1$ or 2, and M is a member selected from the group consisting of hydrogen and cations which contribute to the water solubility of the surfactant. Addition of the surfactant causes deaggregation of the dye and a return to the molecular absorption as seen with the dye in alcohol.

3,542,582

PREPARATION OF CARBON CLOTH

Edward R. Degginger, Convent Station, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 17, 1968, Ser. No. 768,494

Int. Cl. D06m 11/04, 13/16

U.S. Cl. 117-46

7 Claims

A process for preparing fibrous carbonaceous mats or cloth comprising the steps of impregnating a fibrous cellulosic substrate with an aqueous solution containing borate and polyvinyl alcohol, allowing the aqueous component of said solution to evaporate from said impregnated cellulosic substrate, and then igniting said substrate.

3,542,583

PROCESS FOR PREPARING A PLATINUM COATED NICKEL-IRON-CHROMIUM ALLOY ARTICLE

Owen M. Small, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 500,349, Oct. 21, 1965. This application Jan. 7, 1969, Ser. No. 792,897

Int. Cl. B05b 5/06

U.S. Cl. 117-50

9 Claims

There is disclosed a process for coating the surface of a nickel-chromium-iron alloy with platinum. The surface of the alloy is first cleaned to remove all oxides and foreign material and then heated to a temperature of about 500° F. Molten platinum is then sprayed onto the surface at a sufficiently elevated velocity to rupture any oxides formed on the surface of the base alloy and to metallurgically bond the platinum to the alloy. In this way a tenacious bond between the alloy and platinum is achieved.

3,542,584

CHROMATOGRAPHIC SUPPORT

Daniel Marvin Ottenstein, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Dec. 27, 1966, Ser. No. 604,898

Int. Cl. B44d 1/20

U.S. Cl. 117-54

8 Claims

A chromatographic packing material and support therefor made of acid-washed, silanized, low surface area diatomaceous silica, heat treated at a temperature of 325° C. for a period of time ranging between 0.5-6.0 hours.

3,542,585

METHOD FOR ADHERING ACRYLATE FINISHES TO SILICONE IMPREGNATED LEATHER AND RESULTING ARTICLE

Roger J. Heit, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Feb. 23, 1968, Ser. No. 707,457

Int. Cl. B44d 1/14, 1/32

U.S. Cl. 117-76

6 Claims

Interpolymers of ethylacrylate, methylmethacrylate, glycidyl acrylates and gamma-acryloxypropylsilanes are used as primers for the adhesion of commercial acrylate finishes to silicone impregnated leather. An example of such a primer is an interpolymer of 60 parts of ethylacrylate, 20 parts methylmethacrylate, 10 parts glycidyl methacrylate, 10 parts gamma-methacryloxypropyltrimethoxysilane in 100 parts of ethylacetate.

3,542,586

RADIATION CURABLE PAINT CONTAINING A VINYL BINDER RESIN HAVING PENDANT MONOESTER GROUPS

Elihu J. Aronoff, Southfield, and Ernest O. McLaughlin, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

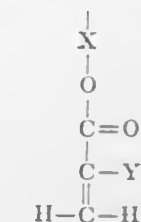
No Drawing. Filed July 1, 1968, Ser. No. 741,288

Int. Cl. C08f 15/10

U.S. Cl. 117-93.31

4 Claims

A radiation-curable paint comprising a vinyl monomeric component and a vinyl polymeric component having two or more monoester side chains of the following structural formula:



wherein X is a divalent radical and Y is a hydrogen or methyl radical, and a substrate painted therewith.

3,542,587

RADIATION CURABLE PAINT CONTAINING A VINYL ESTER BINDER RESIN HAVING PENDANT DIESTER GROUPS

Elihu J. Aronoff, Southfield, and Ernest O. McLaughlin, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

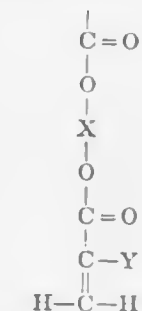
No Drawing. Filed July 1, 1968, Ser. No. 741,315

Int. Cl. C08f 15/10

U.S. Cl. 117-93.31

2 Claims

A radiation-curable paint comprising a vinyl monomeric component and a vinyl polymeric component having two or more diester side chains of the following structural formula:



wherein X is a C_2-C_{10} alkyl, C_5-C_6 cycloalkyl, or C_2-C_{10} polyalkyleneoxy divalent radical and Y is a hydrogen or methyl radical, and a substrate coated therewith.

3,542,588

DURABLE, READY TO USE PLATES FOR THIN LAYER CHROMATOGRAPHY AND METHOD FOR THEIR PRODUCTION

Wilhelm Heidbrink, Rotes Schlossle, Germany, assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Dec. 8, 1965, Ser. No. 512,517

Int. Cl. C03c 17/00, 21/00

U.S. Cl. 117-124

3 Claims

An improvement is described in the method of applying the absorbent to plates used in thin layer chromatography. The improvement involves applying the absorbent to the plates in the form of an aqueous slurry which contains either one or more chloride, sulfate, phosphate, chlorate, perchlorate or borate salts of an alkali metal or, in lieu thereof, a relatively soluble alkaline earth metal hydroxide which reacts with the carbon dioxide in the air to form the corresponding carbonate.

3,542,589

MAGNETIC RECORDING MEDIA HAVING HIGH ABRASION RESISTANCE

Job-Werner Hartmann and Georg Schnell, Ludwigshafen (Rhine), Erwin Schmidt, Frankenthal, Pfalz, and Friedrich Gress, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Mar. 27, 1968, Ser. No. 716,342
Claims priority, application Germany, Apr. 3, 1967, 1,278,514

Int. Cl. H01f 10/02

U.S. Cl. 117—235

2 Claims

The magnetizable layer of a magnetic recording medium consisting essentially of the magnetizable pigment and a binder and which has been applied to non-magnetic backing, contains an acetal as a lubricant or slip additive to increase its abrasion resistance.

3,542,590

PROCESS OF EXTRACTING SUGAR FROM DRIED ALKALI METAL OR ALKALINE EARTH METAL SULFITE LYE RESIDUE

George Juri Paabo and Ants-Michael Uesson, Malmö, Sweden, assignors to Sydkemi Aktiebolag, Malmö, Sweden

No Drawing. Filed Jan. 10, 1968, Ser. No. 696,701
Claims priority, application Sweden, May 5, 1967, 6,348/67

Int. Cl. C13d 1/14

U.S. Cl. 127—44

3 Claims

A process of extracting from a powder of dried alkali metal or alkaline earth metal salt sulfite lye deriving either from hardwood or softwood, a sugar fraction to recover sugars present in the sulfite lye leaving a sugar-free residue in the original powder form. The extraction is carried out by gravity packing of an extractor with the powder plus a solvent, by circulating fresh solvent in a closed extractor system, and by removing impurities from the extract obtained by treatment with potassium carbonate.

3,542,591

PURIFICATION OF SUGAR JUICE

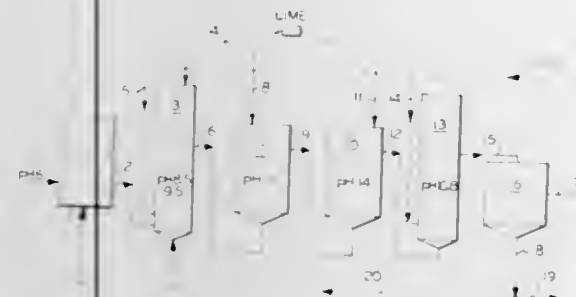
Wilhelm Haberich and Hans-Joachim Berndt, Brunswick, Germany, assignors to Braunschweigische Maschinenbauanstalt, Brunswick, Germany

Continuation of application Ser. No. 656,199, July 26, 1967, which is a continuation-in-part of application Ser. No. 450,637, Apr. 26, 1965. This application May 14, 1969, Ser. No. 827,100

Int. Cl. B01d 15/00; C13d 3/00, 3/06

U.S. Cl. 127—51

4 Claims



Raw sugar juice is passed sequentially through a one-step predefecation-saturation to which carbon dioxide and about 40 percent of the total lime requirement is added and in which a pH of 8.5 to 9.5 is maintained, and subsequently through main liming and first saturation stages. In this way, the same or better results are obtained than in the Braunschweig juice purification with a considerably smaller amount of lime.

3,542,592

METHOD AND APPARATUS FOR CLEANING MEMBERS WITH FLUIDS

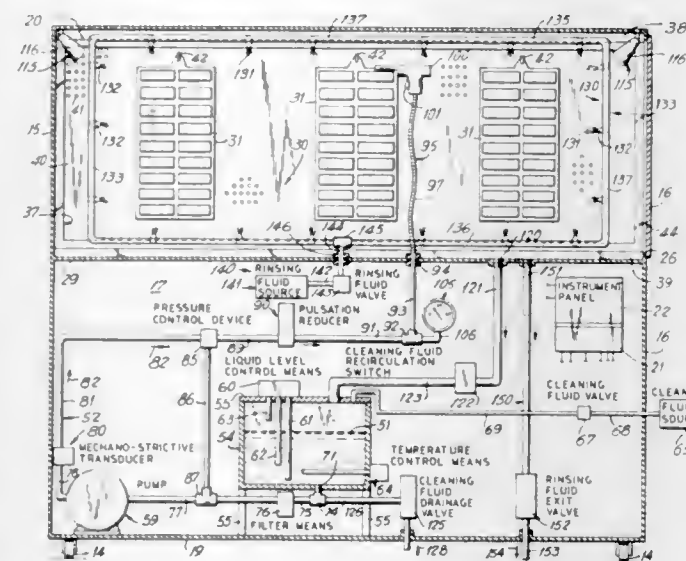
Leon A. Zweig, North Bellmore, N.Y., assignor to Bell Tech Systems, Inc., Chicago, Ill., a corporation of New York

Filed May 2, 1968, Ser. No. 726,081

Int. Cl. B08b 7/02

U.S. Cl. 134—1

13 Claims



Method and apparatus for cleaning a variety of objects, such as printing plates or dies, having thereon foreign deposits, with a cleaning fluid. The equipment includes a chamber within which the member to be cleaned is supported and sequentially sprayed with cleaning fluid under controlled pressure and any remaining foreign deposits removed by a rinsing fluid. The fluids are supplied by means of nozzles either mounted in fixed spaced relation to the supported member or manually controlled by a spray gun for directing the fluid. Means for continually supplying the cleaning and rinsing fluids through the nozzle of the spray gun or fixed mounted nozzles is provided with a complete system which automatically controls the relationship of the temperature, pressure, supply, recirculating and other automatically interrelated operations of the system. The cleaning fluid may also be energized with sonic energy waves to further enhance its cleaning effectiveness.

3,542,593

METHOD AND APPARATUS FOR CLEANING A BEDDED RESIDUE FROM THE FLOOR OF A TANK

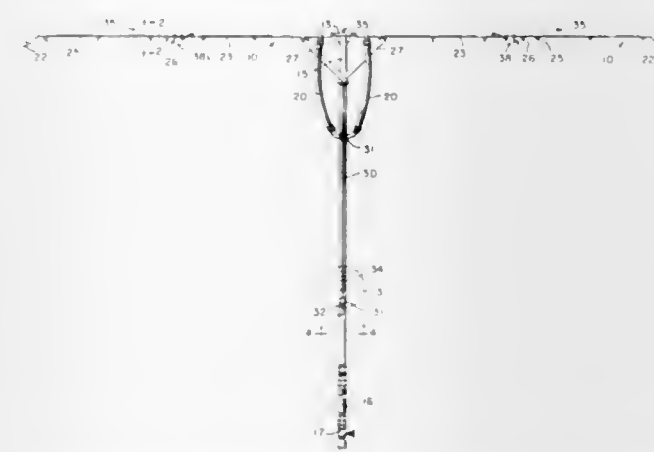
Frederick G. Pribbernow, Bellevue, Wash., assignor to Sicks' Rainier Brewing Co., Seattle, Wash., a corporation of Washington

Filed Apr. 12, 1968, Ser. No. 720,970

Int. Cl. B08b 9/08, 3/02, 3/18

U.S. Cl. 134—24

10 Claims



A method and device for removing bedded yeast from emptied fermentation tanks of a brewery. Arms are provided from which pressure jets of water are sprayed and

3,542,596

BATTERY SEPARATOR

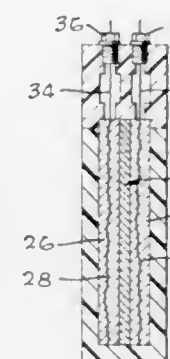
Frank C. Arrance, Costa Mesa, Calif., assignor to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Oct. 18, 1967, Ser. No. 676,223

Int. Cl. H01m 3/02

U.S. Cl. 136—6

16 Claims



Production of a separator on a battery electrode, preferably by dip-coating an electrode such as a silver or zinc electrode in a mixture of a major portion of an inorganic or ceramic separator material, a minor portion of potassium titanate in short fiber form, and a minor portion of an organic polymer, e.g., polyphenylene oxide, dissolved in a suitable solvent such as chloroform. The electrode is placed in the mixture preferably maintained under vibration, and stirred; the electrode and applied coating are removed from the mixture, and the coating is air-dried to remove solvent and is cured at elevated temperature. The resulting porous, substantially inorganic separator is securely attached to the electrode, and has low resistivity, is smooth and uniform in thickness, and is flexible. Alternatively, such a separator can be formed on any suitable supporting surface, such as a glass plate, and the resulting flexible separator stripped from such plate to produce a flexible porous, substantially inorganic separator membrane for incorporation between the electrodes of a battery.

3,542,597

FUEL CELL WITH AUTOMATIC MEANS FOR FEEDING REACTANT AND METHOD

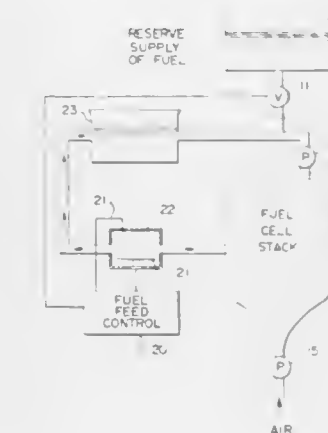
John O. Smith, Swampscott, and Kurt W. Klunder, Reading, Mass., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

Filed Dec. 4, 1967, Ser. No. 687,850

Int. Cl. H01m 27/12

U.S. Cl. 136—86

2 Claims



A fuel cell reactant feed system including means for circulating a fuel or oxidant dissolved in an electrolyte

3,542,594

FLUID CONTROL SYSTEM

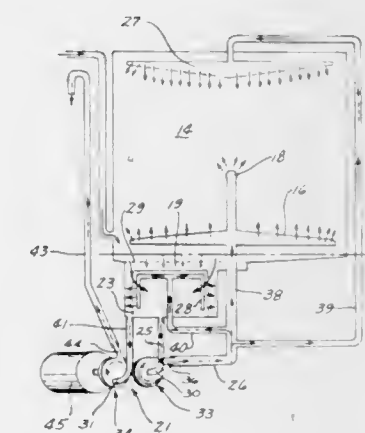
Thomas R. Smith and Stewart W. Faust, Newton, Iowa, assignors to The Maytag Company, Newton, Iowa, a corporation of Delaware

Filed June 19, 1968, Ser. No. 738,277

Int. Cl. B08b 3/02

U.S. Cl. 134—25

7 Claims



A fluid control system for a dishwashing apparatus includes a reversible two-cavity pump assembly with each of the cavities having an inlet in open fluid communication with the washing chamber and with the first cavity having an outlet in open fluid communication with the fluid distribution means and the second cavity having an outlet in open fluid communication with an external drain conduit. An impeller is disposed within each of the cavities and a divider is positioned between the cavities for defining an annular orifice therebetween. Operation of the impellers in a first direction effects pumping of fluid from said chamber to the fluid recirculation means with the first pump while the second pump maintains a substantially static low pressure head at the outlet thereof to prevent drainage of fluid from said chamber while preventing suction of fluid from the drain. The pumps are operable in the opposite direction to initially continue recirculation of fluid with the first pump while the second is operable for draining fluid from the chamber and pumping it toward an external drain.

3,542,595

SHUTTLE CLEANING METHOD

Robert W. McCullough and Grady H. Sanders, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of South Carolina

Filed Nov. 26, 1968, Ser. No. 778,979

Int. Cl. B08b 9/00

U.S. Cl. 134—34

1 Claim



Method to clean the accumulated trash and lint from the interior of a gripper shuttle for automatic high speed looms by blowing fluid through the shuttle.

through a fuel cell, means for holding a pair of detector electrodes in the electrolyte-reactant solution at a current density corresponding to a desired reactant concentration, means for sensing the voltage difference between the electrodes, and means for adding fuel or oxidant to the circulating electrolyte responsive to changes sensed in that voltage.

3,542,598

SEA WATER BATTERY EMPLOYING ELECTROLYTE RECIRCULATION CIRCUIT

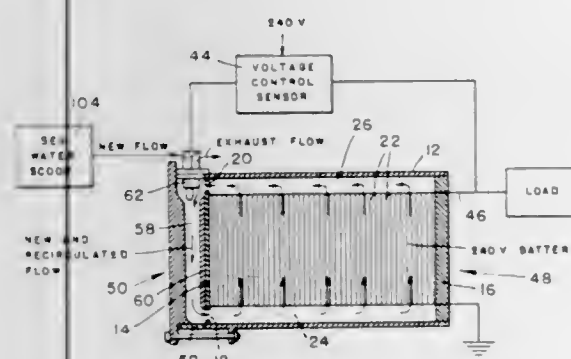
William D. White, Pasadena, James H. Green, Sierra Madre, and Carl D. Runge, Pasadena, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Feb. 5, 1969, Ser. No. 796,670

Int. Cl. H01m 17/00, 11/00

U.S. Cl. 136—100

7 Claims



A sea water battery, including a battery casing having inlet and outlet ports; a series of plates mounted within the casing and spaced therefrom to form inlet and outlet manifolds which communicate with the casing's inlet and outlet ports; passageway means mounted at one end of the battery casing for communicating the outlet and inlet ports; a jet nozzle having an inlet port for receiving new electrolyte flow from the ocean; the jet pump being mounted within the passageway for causing venturi action between the new flow and an old electrolyte battery outlet flow from the outlet port; electrically operated valve means for controlling new electrolyte flow to the jet nozzle; and means connected between an output lead to the battery and said valve means for closing the valve means when the battery voltage falls below a predetermined level.

3,542,599

DEFERRED ACTION BATTERY

Ronald M. Fiandt, Menomonee Falls, Wis., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware

Filed Sept. 5, 1968, Ser. No. 757,611

Int. Cl. H01m 17/06, 17/00

U.S. Cl. 136—112

15 Claims

A deferred action battery adapted for activation by immersion in an electrolyte, such as salt water, a typical embodiment of the battery having a nonconductive tubular jacket with grooves on its inside surface and a nonconductive tubular core member, smaller than the jacket, with grooves on its outside surface. Means, such as a radial arm spider bracket, serves to maintain the core member and jacket in spaced coaxial relationship with respect to one another, and a plurality of rectilinear, platelike electrodes are disposed in radial array within the grooves of the core member and the jacket. Means preferably in the form of a pair of coaxial conductor rings conduct electric current from the electrodes.

3,542,600

METHOD OF FILLING POROUS ELECTRODE MATRIXES WITH ACTIVE FILLING MATERIAL

Reimar Pohlmann, Darmstadt, Germany, assignor to Varta Aktiengesellschaft, Frankfurt am Main, Germany

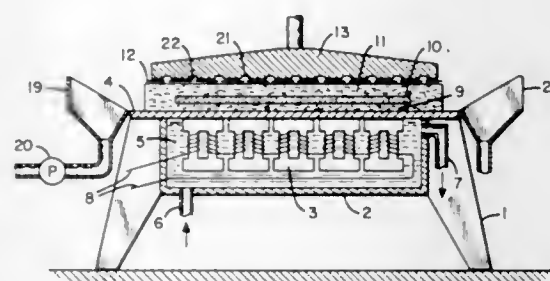
Filed Sept. 1, 1966, Ser. No. 576,745

Claims priority, application Germany, Sept. 25, 1965, V 29,398

Int. Cl. H01m 13/00

U.S. Cl. 136—120

12 Claims



1. A method of filling porous electrode matrixes, such as sinter plates, with active material for the use in batteries and the like, comprising the steps of: applying a pasty filling material in a thin even layer over an ultrasonic oscillator, laying the electrode matrix on the thin layer, covering over the matrix with another layer of filling paste and then treating the entire combination with ultrasonic energy while under pressure.

3,542,601

ELECTROCHEMICAL GENERATOR WITH NON-AQUEOUS ELECTROLYTE

Jean-Paul Gabano, Poitiers, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Pont de la Folie, Romainville, Seine-Saint-Denis, France, a French company

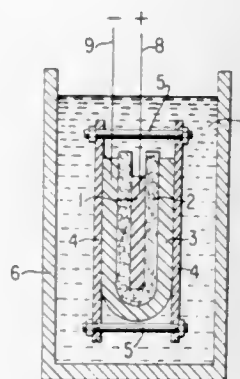
Filed June 6, 1967, Ser. No. 643,946

Claims priority, application France, June 23, 1966, 66,740, Patent 1,490,726

Int. Cl. H01m 11/00

U.S. Cl. 136—155

11 Claims



A non-aqueous electrolyte of high solvating power for electrochemical generators or cells which include a cathode that is a halide or a sulfide, for example, cupric chloride or cupric sulfide, a separator and an anode of strongly electronegative metal such as an alkali or alkaline earth metal, said electrolyte comprising in combination a solvent of high solvating power which is a heterocyclic organic compound with a saturated cycle selected from the group containing sulfur and oxygen and having electron dissymmetry causing a dipole moment of non-null value, being, for example, tetra-hydrofuran, tetra-hydropyran or 4,4-dimethyl-1-3-dioxane, containing dissolved therein a

non-hydrated inorganic salt of low lattice energy and high capability of solvation comprising a large anion and a cation of small radius as, for example, a perchlorate selected from the group consisting of lithium, magnesium and potassium perchlorates, or a nitrate selected from the group consisting of lithium, sodium and potassium nitrates, or potassium hexafluorophosphate, the concentration of inorganic salt in the organic compound being in the range of from 0.25 mole to 2 moles of inorganic salt per liter of the organic compound and preferably in the range between 0.5 mole to 1.4 moles of inorganic salt per liter of the organic compound.

3,542,602

METHOD OF PREPARING NONAQUEOUS ELECTROLYTES PARTICULARLY FOR PRIMARY GENERATORS, THE ELECTROLYTES RESULTING FROM SAID METHOD AND PRIMARY GENERATORS CONTAINING THE SAID ELECTROLYTES

Jean-Paul Gabano, Poitiers, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Pont de la Folie, Romainville, France, a company of France

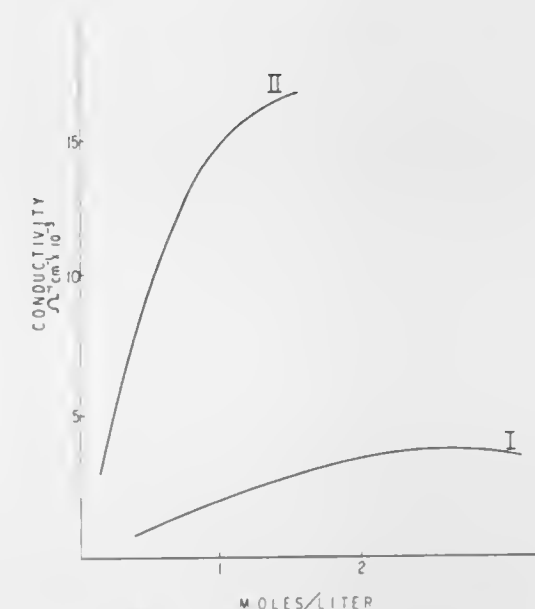
Filed Dec. 26, 1967, Ser. No. 693,320

Claims priority, application France, Dec. 30, 1966, 89,645

Int. Cl. H01m 11/00

U.S. Cl. 136—155

11 Claims



A nonaqueous electrolyte constituted by an aprotic organic solvent of the Lewis base type in which there is dissolved an ionizable addition complex constituted by an inorganic compound and an inorganic salt having a common constituent, a method for preparing such an electrolyte and in addition an electrochemical generator using such electrolyte.

3,542,603

CELL HOLDER

Horst Simon, Fellbach, near Stuttgart, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 22, 1968, Ser. No. 731,057

Claims priority, application Germany, June 10, 1967, K 58,006, K 58,007, K 58,008

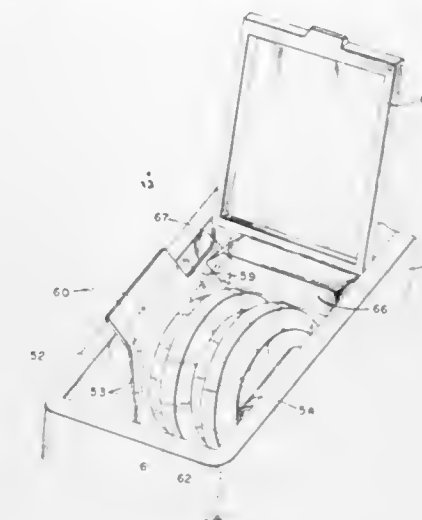
Int. Cl. H01m 1/04

U.S. Cl. 136—173

5 Claims

A device for holding one or more electrical cells in connection with an associated circuit includes at least one cell-connecting contact that is movable toward and away from an inserted cell by a force applied to an extended portion of the movable contact, thus facilitating insertion and removal of the cell from the device. In one em-

bodiment, the extended portion is engageable by hand to effect manual movement of the contact. In another embodiment, the extended portion is engageable by a camming surface on a movable cover to effect automatic



movement of the contact upon opening or closing of the cover. In either embodiment, the movable contact may be provided with a beveled surface to further facilitate insertion of a cell in the device.

3,542,604

THERMAL BATTERY

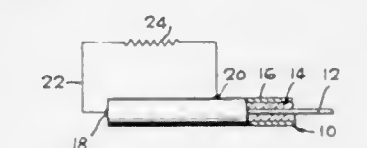
Frank C. Arrance, Costa Mesa, and Carl Berger, Santa Ana, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

Filed Feb. 24, 1965, Ser. No. 434,971

Int. Cl. H01c 7/04; H01b 1/06; H01v 3/00

U.S. Cl. 136—205

1 Claim



Thermal battery comprising according to one embodiment, a wire, ribbon or strip, formed of a metal such as iron or aluminum, a glass or enamel coating containing a lithium-bearing substance such as lithium carbonate, over the wire, ribbon or strip, and a coating of a conductive metal over the glass or enamel coating, the last mentioned metal being different from the metal of such wire, ribbon or strip, e.g., silver, such thermal battery having small weight and volume and high capacity and high power output.

3,542,605

BONDING POLYOLEFINS TO METAL WITH CHROMIUM TRIOXIDE

George R. Harvey, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed May 3, 1968, Ser. No. 726,545

Int. Cl. C23f 7/26

U.S. Cl. 148—6.2

11 Claims

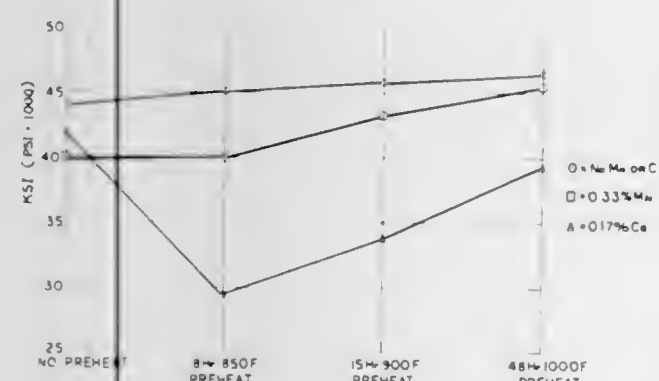
Polyolefins are bonded to metal by treating the surface of the metal with chromium trioxide, or concentrated aqueous solutions thereof, with or without a heavy mineral acid, such as sulfuric, nitric or hydrochloric acid, and in the case of aqueous solutions drying the metal surface, and in all cases then heating the metal surface and/or the polyolefin above the melting point of the polyolefin but below the temperature of decomposition of the chromium compound, applying the polyolefin as a coating to the metal surface in the form of a plastic sheet, an extrusion in plastic to molten form, a fluidized bed of polyolefin

particles, or a moving pile of polyolefin particles, and finally heating the coated metal above the decomposition temperature of the chromium trioxide.

3,542,606
HOT WORKED METAL ARTICLE OF ALUMINUM BASE ALLOY AND METHOD OF PRODUCING SAME
Edwin J. Westerman, Veradale, and Maurice C. Fetzner, Spokane, Wash., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Mar. 13, 1968, Ser. No. 712,856
Int. Cl. C21d 1/32; C22f 1/04
U.S. Cl. 148—12.7 44 Claims

EFFECTS OF PREHEATING CONDITIONS AND MINOR ALLOYING ADDITIONS ON THE YIELD STRENGTH OF A 4.3% ZN-17% Mg ALLOY, AIR COOLED AND ARTIFICIALLY AGED AS 1 NCH PLATE



A hot worked metal article, and a method for producing the article, of certain Al-Zn-Mg-Mn alloys which are Cu-free and Cr-free and which exhibit a low quench-rate sensitivity thereby permitting the fabrication of articles to be hot worked above about the solvus temperature followed by air cooling and subsequent aging to obtain high strength and a high resistance to stress corrosion cracking.

3,542,607
METHOD OF REFINING ALLOYS
Cedric Charles Edward Colley, Wheatley, England, assignor to Pressed Steel Fisher Limited, Cowley, Oxford, England, a corporation of Great Britain
No Drawing. Filed Jan. 19, 1968, Ser. No. 699,057
Claims priority, application Great Britain, Jan. 25, 1967, 3,713/67
Int. Cl. C21d 1/04

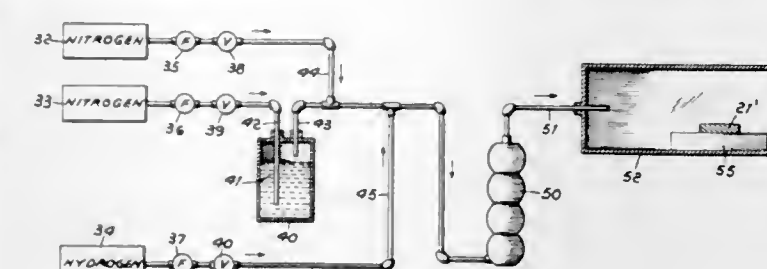
U.S. Cl. 148—12.9 4 Claims
The structure of superplastic zinc base eutectoid or near eutectoid alloys is refined and the superplasticity is increased by subjecting the alloy to ultrasonic vibrations during the transformation period when the alloy transforms from a high temperature solid phase state to the eutectoid or partial eutectoid state after quenching from above the eutectoid temperature.

3,542,608
METHOD FOR STIMULATING THE DRIFT OF LITHIUM THROUGH GERMANIUM CRYSTALS
Elmer W. Jensen, Mount Vernon, and Joseph F. Thiel, Yonkers, N.Y., assignors to Geoscience Instruments Corporation, Mount Vernon, N.Y., a corporation of New York
No Drawing. Filed Apr. 1, 1968, Ser. No. 717,974
Int. Cl. H01l 7/48

U.S. Cl. 148—186 7 Claims
A method for preparing germanium crystals exhibiting an intrinsic region for nuclear radiation detector applications includes preparing single lattice germanium crystals having a gallium dopant therein. Lithium is then drifted at a relatively rapid rate through the crystal by effecting the drifting operation in the presence of infrared radiation.

3,542,609
DOUBLE DEPOSITIONS OF BBR₃ IN SILICON
Hugh M. Bohne, Shrewsbury, Mass., and Cecil B. Shelton, North Palm Beach, Fla., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware

Filed Nov. 22, 1967, Ser. No. 685,060
Int. Cl. H01l 7/36, 7/44
U.S. Cl. 148—188 5 Claims



An improvement in the vapor-solid diffusion process of providing a boron impurity distribution in silicon. The conventional process employs a boron compound such as e.g., boron tribromide to react with oxygen so as to form a borosilicate glaze on the surface of the silicon body into which the boron is to be diffused. The slice is subsequently heated to diffuse boron from the glaze into the silicon body. The improvement involves the combination of doping silicon from boro-silicate glass formations and doping silicon from outgassing surfaces to prevent the boron from reacting with silicon to produce objectionable silicon-boron compounds.

3,542,610
COMPOSITION FOR THE PYROTECHNIC DISSEMINATION OF SCREENING OIL SMOKES
George A. Lane and Erwin M. Jankowiak, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 21, 1969, Ser. No. 792,796
Int. Cl. C06b 1/00

U.S. Cl. 149—20 9 Claims
The present invention is a non-flowable combination of a heat producing means and a fog oil which when ignited produces an oil smoke screen. The heat producing means, when ignited, produces sufficient heat to vaporize the fog oil but insufficient heat to ignite it.

3,542,611
GELLED BLASTING OILS AND PROCESSES
John Leslie Fanala, Frank, Pa., assignor of twenty percent each to Glenn Edmundson, Elizabeth, William C. Lacy, Buena Vista, William A. Lewis, Jr., Bunola, and Daniel J. Arico, Elizabeth, Pa.
No Drawing. Filed Apr. 19, 1968, Ser. No. 722,546
Int. Cl. C06b 3/02

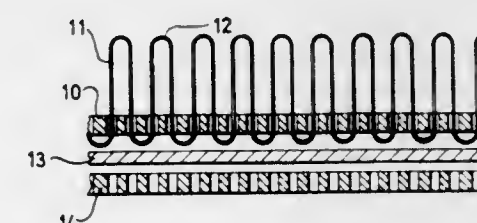
U.S. Cl. 149—101 17 Claims
My disclosure includes a gel of an explosive material, said gel comprising a quantity of said explosive admixed with a quantity of gelatin.

3,542,612
PHOTOLITHOGRAPHIC MASKS AND METHODS FOR THEIR MANUFACTURE
George R. Cashau, Phillipsburg, N.J., and James W. George, Allentown, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 11, 1967, Ser. No. 659,896
Int. Cl. C23f 1/02

U.S. Cl. 156—13 11 Claims
Masks for use in photolithographic and etching processes are prepared by the vapor deposition of a metal,

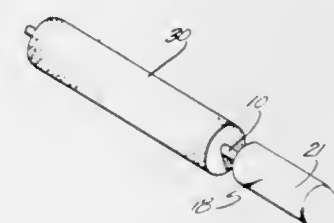
such as chromium, onto a transparent plate. The deposition is conducted in two steps that are separated by an intermediate surface abrading operation. The masks so prepared are substantially pinhole-free and are particularly well suited for use in the manufacture of semiconductor devices and integrated circuits where fine resolution is required.

3,542,613
METHOD OF MAKING WOVEN PILE FABRIC CARPETS
Ian W. Fox and Roy Clark, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate and politic
Filed June 6, 1967, Ser. No. 644,008
Claims priority, application Canada, June 26, 1966, 963,919/66
Int. Cl. D03d 27/00; D04h 1/74; B32b 31/20
U.S. Cl. 156—72 12 Claims



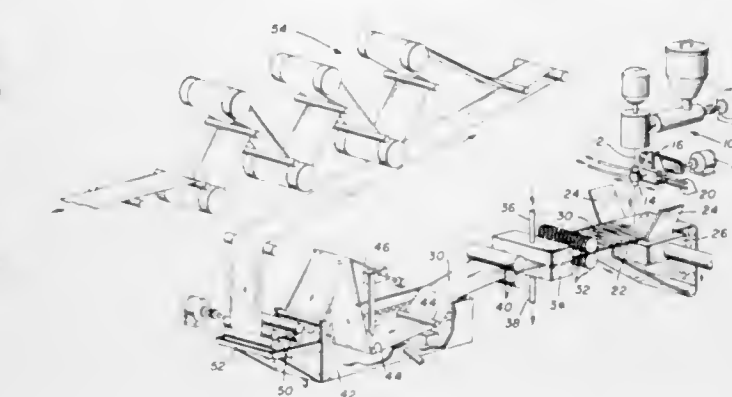
A method of making carpets comprises applying to the pile fibres non-permanently attached to the primary jute, a thermoplastic film, preferably a film of a thermoplastic rubber, in a heat softened but self supporting condition, and cooling the film in contact with both the pile fibres and the primary jute.

3,542,614
DEVICE FOR THE REPAIR OF PUNCTURES IN TUBELESS TIRES
William B. Hopkins, 600 Park Ave., Muscatine, Iowa 52761
Filed Apr. 11, 1968, Ser. No. 720,716
Int. Cl. B29n 5/16; B60c 21/06, 25/16
U.S. Cl. 156—97 2 Claims



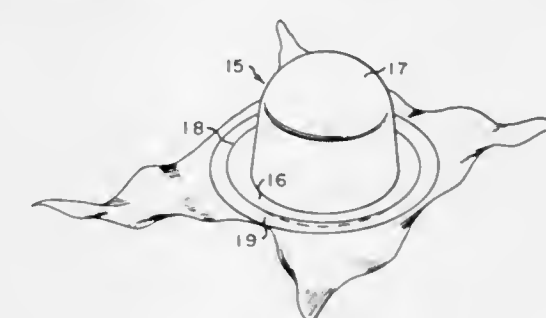
A device for repairing punctured tubeless tires in which there is a bar or rod member having a tough, cured rubber wedge portion disposed on one end thereof, a coating of uncured vulcanizable rubber compound over the said wedge, a coating of paraffin rubbed on to said vulcanizable rubber compound at the time the device is used to act as a lubricant and later to serve as a cleaning agent when melted and as a rubber softening agent when absorbed into the rubber compound coating, and an electric heating element or fuel mass disposed on the remaining portion of said bar or rod to be used to heat the rod for causing the cured rubber wedge to soften slightly and assume the shape of the puncture and for securing the wedge into the punctured tubeless tire by vulcanization of the coating.

3,542,615
PROCESS FOR PRODUCING A NYLON NON-WOVEN FABRIC
Emerick J. Dobo, Cary, and Dong W. Kim and William C. Mallonee, Chapel Hill, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,720
Int. Cl. D04h 3/12
U.S. Cl. 156—181 14 Claims



A process for producing self-bonded non-woven fabrics from polyamides in a continuous operation employing an activating gaseous medium such as hydrogen chloride gas to promote the bonding and apparatus for carrying the process to completion.

3,542,616
MOLDED ARTICLES OF WEARING APPAREL
James P. Cain, Spartanburg, and John H. Cross, Anderson, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Mar. 27, 1967, Ser. No. 627,251
Int. Cl. B29c 3/00
U.S. Cl. 156—224 10 Claims



A molded article of wearing apparel having improved shape retention and recoverability properties prepared from a composite fabric which comprises at least one layer of a synthetic thermoplastic composition having a fixed structure such as a film or an open weave pattern, at least one layer of a textile fabric containing keratin fibers which have been contacted with a reducing agent and an aldehyde-generating compound prior to molding, and an adhesive composition between the thermoplastic and textile fabric layers to bond said layers together. These molded articles are prepared by placing the composite fabric in a mold for the article and thereafter applying heat and pressure to effect the desired shape.

3,542,617
METHOD FOR PRODUCING A LEATHER-LIKE MATERIAL
George A. Watson, Charlotte, N.C., assignor to Fiber Industries, Inc., a corporation of Delaware
Filed June 8, 1967, Ser. No. 644,699
Int. Cl. B32b 27/36
U.S. Cl. 156—247 6 Claims

A method for producing a leather-like material by applying a relatively thick film of a viscous solution of a

polyurethane elastomer to a flexible substrate, particularly a fibrous substrate wherein the resin is at least partially hardened by the evaporation of the solvent. A release sheet is applied to the partially hardened elastomer to form a



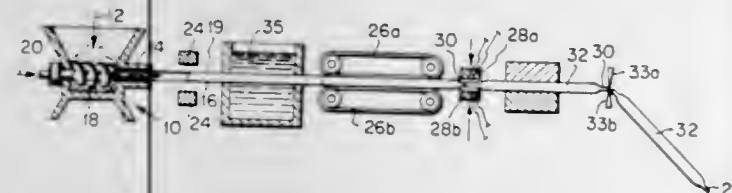
laminate, the laminate being subsequently passed through a compression zone prior to the final curing of the polyurethane and the release sheet is removed after curing the polyurethane.

3,542,618

METHOD OF PRODUCING STERILE TEST TUBES
Donald H. DeVaughn, 106 Ridgewood Drive,
San Rafael, Calif. 94901
Filed Sept. 25, 1967, Ser. No. 678,766
Int. Cl. B23b 31/02

U.S. Cl. 156—250

1 Claim



A method of producing test tubes having sterile interiors without separate sterilization treatment, which comprises extruding tubing from plastic material at a sterilizing temperature while injecting a gaseous substance at a sterilizing temperature into the tubing as it is being formed to maintain said tubing in an inflated condition, subjecting the leading end of the emerging tubing to compression while it is still at a sterilizing temperature to fuse the flattened walls of said end and thus seal said end hermetically, subjecting succeeding axially spaced sections, of limited axial length, of the emerging tubing to compression to fuse said sections and thus convert the tubing into a sequence of separate compartments having hermetically-sealed ends, and severing said compartments from each other by cutting across said fused sections without impairing the seals formed by said fused sections.

3,542,619

METHOD OF MOUNTING A WINDSCREEN OR WINDOW IN A SURROUNDING FLANGE
Michael John McManus, Coventry, England, assignor to Draffex Limited, Coventry, England, a British company

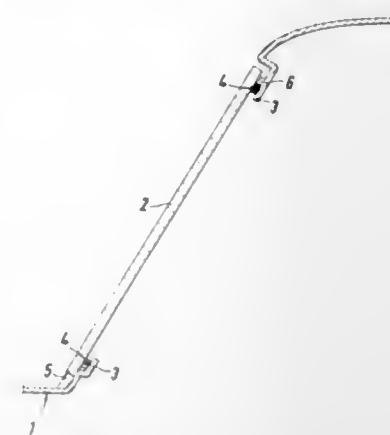
Filed Nov. 8, 1967, Ser. No. 681,324
Int. Cl. B29c 19/06

U.S. Cl. 156—275

2 Claims

A method of mounting a member, for example a windscreen in a structure, for example a vehicle, wherein a

flange is arranged to receive the member and overlaps the member and wherein a strip of thermoplastic material is applied to the flange and has embodied therein a heat-



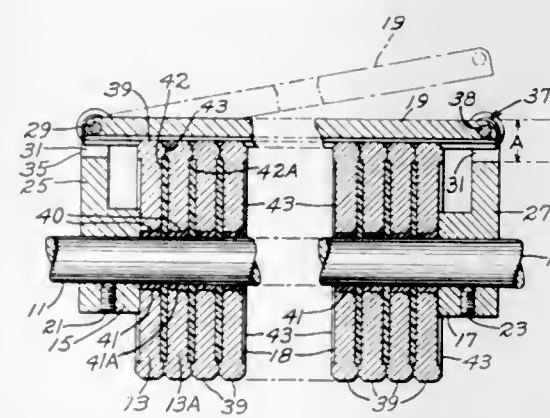
ing element capable of softening the material such that the plastic material forms a bond with the member and flange.

3,542,620

FABRICATION OF A PRINTER DRUM
Frank G. Dedek, Westland, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 15, 1967, Ser. No. 683,188
Int. Cl. B32b 31/00

U.S. Cl. 156—293

1 Claim



A method of fabricating a printing drum comprising a shaft and a plurality of type-carrying discs axially mounted thereon. Each disc carries a plurality of type characters spaced around its periphery. Each disc is bonded to the shaft by a layer of bonding material, such as an epoxy, between the disc and the shaft. Each disc is further bonded by an adhesive film placed between adjacent discs. Both the bonding material and the adhesive film are then cured. Before curing, corresponding type characters on each disc are aligned to every other disc. Alignment is performed at the type characters to assure accuracy.

3,542,621

METHOD AND APPARATUS FOR CONTINUOUSLY LAMINATING A SHEET OF MATERIAL TO EACH SIDE OF ANOTHER SHEET OF MATERIAL

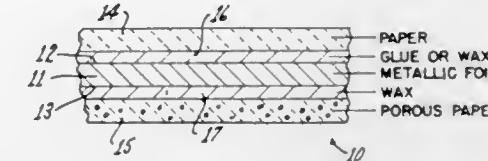
Clinton W. Calhoun, Jr., Henrico County, and Frank B. Hart, Jr., Richmond, Va., and Lloyd C. Eberhard, Jr., Louisville, Ky., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Continuation of application Ser. No. 324,704, Nov. 19, 1963. This application July 26, 1968, Ser. No. 749,911
Int. Cl. B32b 31/04; B65h 23/32; C09j 5/00

U.S. Cl. 156—324

17 Claims

This disclosure relates to a moisture-barrier packaging material having an intermediate layer of metallic foil secured on opposite sides thereof to a pair of sheets of

paper by adhesive means so that the foil sheet is protected by the paper sheets from subsequent scuffing and cracking encountered during the manual and/or machine handling of the packaging material, the packaging material being formed by continuously laminating a first sheet of



paper to one side of the metallic foil while that one side is facing in one direction and thereafter continuously turning over the lamination of the two sheets of material so that the other side of the foil sheet faces in that one direction and the second sheet of paper can be continuously laminated to that other side of the foil sheet.

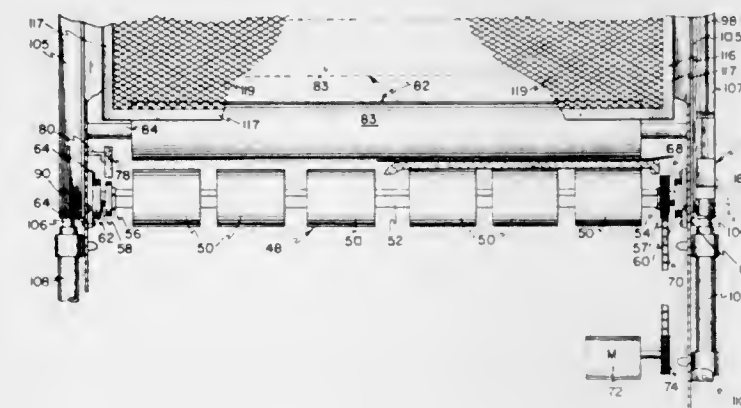
3,542,622

LAMINATING METHOD USING A SEGMENTED PRESSURE ROLLER

Lloyd D. Brinkman, Dallas, Tex., assignor, by mesne assignments, to Royal Industries, Pasadena, Calif., a corporation of Delaware
Original application Mar. 9, 1967, Ser. No. 621,908, now Patent No. 3,498,215. Divided and this application Apr. 28, 1969, Ser. No. 835,850
Int. Cl. B30b 3/00

U.S. Cl. 156—324

2 Claims



A pinch roller bonding method wherein opposed pressure is exerted upon a laminated workpiece by opposed spaced roll mechanisms as the workpiece is displaced between the roll mechanisms to affect the adhesion between laminae. Gathering or selectively locating the individual ones of a series of axially displaceable separate rollers comprising at least one of the roll mechanisms accommodates easy passage of workpiece protrusions through the roll mechanism between spaced rollers.

3,542,623

APPARATUS FOR PRODUCING SYNTHETIC RESIN PANELS

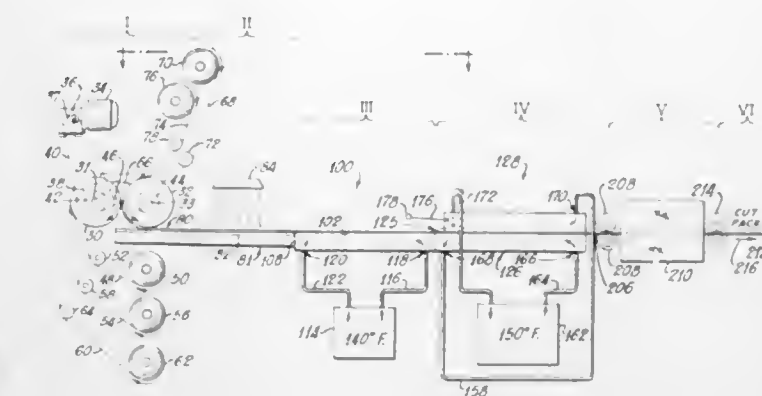
Ralph H. Sonneborn, Fernando Alvarez de Toledo, and Ronald Z. Bell, Huntingdon, Pa., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application Apr. 4, 1963, Ser. No. 270,727, now Patent No. 3,291,672, dated Dec. 13, 1966. Divided and this application Aug. 9, 1966, Ser. No. 585,214
Int. Cl. B29g 5/00; B32b 31/12

U.S. Cl. 156—380

2 Claims

Apparatus for forming a continuous synthetic resin panel including a pair of spaced rolls providing a nip into

which cover films, liquid resin and other components are fed under controlled conditions to provide a continuous



lay-up which is converted into a rigid panel. An important feature is the retention of the resin pool within the width of the cover films.

3,542,624

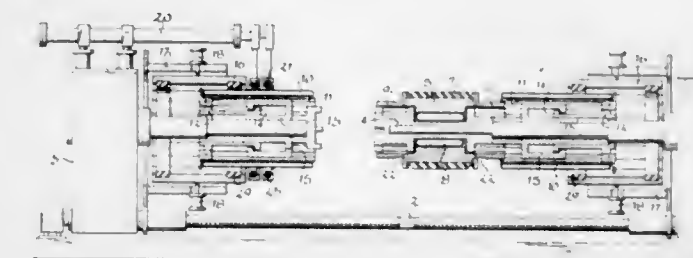
APPARATUS FOR BUILDING UP PNEUMATIC VEHICLE TIRES

Heinrich Nädler, Hagen, and Hilmar Gesch, Hannover, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Mar. 6, 1967, Ser. No. 620,910
Claims priority, application Germany, Mar. 8, 1966, C 38,425

U.S. Cl. 156—401

Int. Cl. B29h 17/22

10 Claims



Expansible drum type tire building machine with inflatable bodies at the ends of the drum to receive the margins of fabric layers on the drum and expansible cylinders surrounding the inflatable bodies to grip the fabric margins thereto and rollingly supported on the inflatable bodies when the latter are inflated so as to be moveable axially over the drum to fold the fabric margins over bead cores on the drum.

3,542,625

DEVICE FOR FORMING SUCCESSIVE FOLDS FROM A WEB OF TEXTILE ELEMENTS

André Antoine Vernier, 6 Rue du Chateau, Tourcoing, France
Filed Feb. 20, 1967, Ser. No. 617,302
Claims priority, application Belgium, Feb. 21, 1966, 24,316

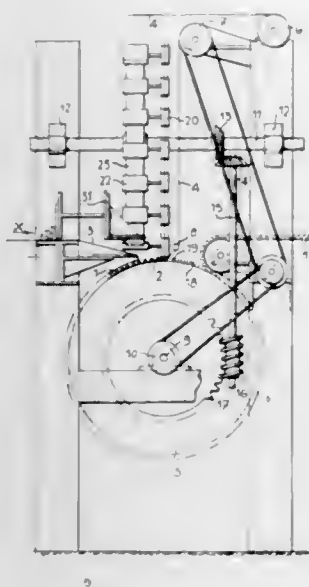
U.S. Cl. 156—435

17 Claims

Device for forming successive folds from a web of natural or synthetic textile elements, notably for the manufacture of carpets or velvets.

The elements of the web are pushed successively between the blades of a grooved cylinder by means of a folding roller acting as a folding member and moving

parallel to the blades from one edge to the opposite edge of the web of textile elements, between adjacent blades



at a given distance from the bottom of the grooves formed by said blades in the cylinder.

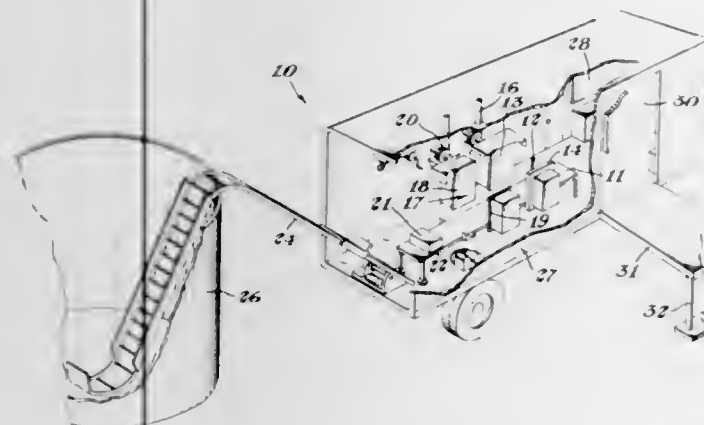
3,542,626

TOWER PACKING FABRICATING APPARATUS
Edward V. Dettmer, Bay City, and Arthur L. Leasher, Freeland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 6, 1967, Ser. No. 628,953

Int. Cl. B32b 31/20

U.S. Cl. 156—498

9 Claims



An apparatus is described for assembling and flanging convoluted sheets into tower packing bundles employing opposed heated platens which engage a stacked bundle of sheets on opposite sides and simultaneously flange and fuse adjacent edges together.

3,542,627

APPARATUS FOR FUSING TOGETHER TWO PIECES OF STRIP MATERIAL
Jerome S. Osmalov and Richard N. Thomson, Richmond, Va., Roger M. Casavant, Thompsonville, Conn., and Richard L. Panici, Westfield, Mass., assignors to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia

Filed Aug. 2, 1967, Ser. No. 657,963

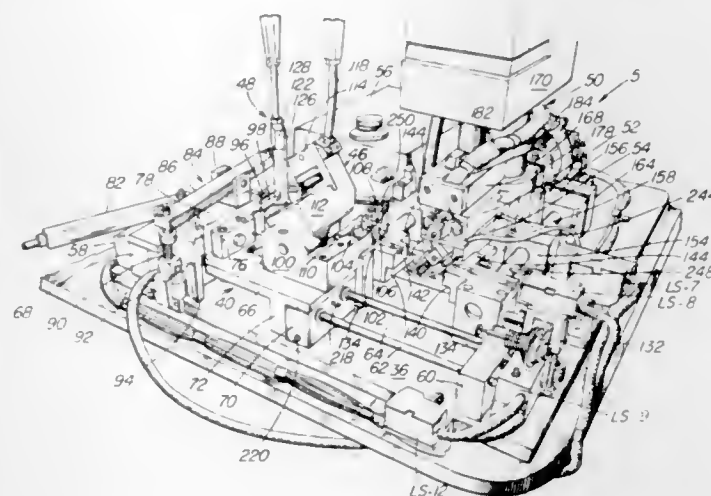
Int. Cl. B31f 5/00; B32b 31/00

U.S. Cl. 156—502

12 Claims

Apparatus for joining together the tail end of a strip of plastic as it leaves a depleted supply reel supplying stock to a continuous operating article forming apparatus to the lead end of a like strip on a full supply reel, in

which a clamp grabs and holds the tail end while the lead end is positioned adjacent thereto and held in that position by a second clamp, the two ends thereafter being positioned by shifting a carriage on which the clamps are mounted to a position alongside a heater assembly, the carriage being constructed such that the shifting thereof produces a slight overlap of the tail end on the lead end and also triggers devices which initiate movement of the heater assembly to move heating anvils forming part of the heater assembly into contact with the overlapped ends for applying heat and pressure thereto



3,542,628

TAPE APPLICATOR HAVING NON-STICK SURFACE

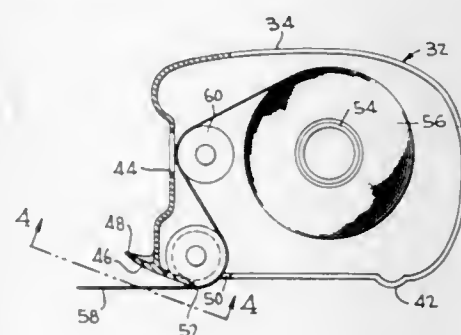
John F. Fink, Jr., 15407 Compton Road, Centreville, Va. 22020

Continuation-in-part of application Ser. No. 457,735, May 21, 1965. This application Sept. 30, 1968, Ser. No. 763,504

Int. Cl. B31b 1/20

U.S. Cl. 156—527

11 Claims



A tape applicator comprising a body having a spindle attached thereto for supporting a roll of tape, guide means for feeding the tape from the spindle to tape dispensing means having an upturned pressure lip and a serrated edge for cutting the tape. The dispensing means includes surfaces of a non-stick substance such as Teflon whereby both single-side adhesive tape and double-side adhesive tape may be accurately and precisely deployed.

3,542,629

METHOD AND APPARATUS FOR PRODUCING AND TRANSPORTING SINGLE- AND MULTI-LAYER CHIPBOARDS

Wolfgang Burkner, Darmstadt, Germany, assignor to Carl Schenck Maschinenfabrik GmbH, Darmstadt, Germany, a corporation of Germany

Filed Apr. 9, 1968, Ser. No. 719,924

Claims priority, application Germany, Apr. 11, 1967, Sch. 40,517

Int. Cl. B29j 5/08; B32b 31/20

U.S. Cl. 156—558

14 Claims



Method of producing chipboards includes conveying elongated cauls end-to-end sequentially past a material-dispensing device, forming a mat of the dispensed material on the cauls, severing the severed mat lengths together with the cauls into a heating press and heating and compressing the same to form chipboards, withdrawing the chipboards and cauls together from the heating press and separating them from one another, and continuously re-conveying the cauls past the material-dispensing device.

In apparatus for carrying out the method, an endless conveyor for conveying the cauls end-to-end has entrainer dogs engageable with abutment rods on the cauls for advancing the cauls in a substantially horizontal conveying direction along an upper run of the conveyor located below the material-dispensing device.

3,542,630

COLOR CHANGEABLE EMBOSSABLE SHEET MATERIAL

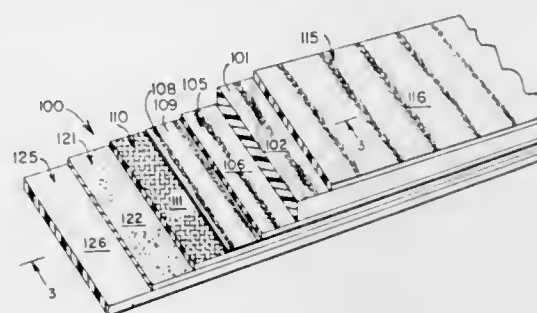
Robert H. Pfiffner, Oakland, Calif., assignor to Dymo Industries, Inc., Berkeley, Calif., a corporation of California

Filed Mar. 12, 1965, Ser. No. 439,343

Int. Cl. B32b 7/06, 27/08; B44f 1/08

U.S. Cl. 161—6

5 Claims



There is disclosed an embossable sheet material including an embossable base sheet of plastic, a transparent top coat having a flattening agent therein on the front surface of the base sheet and a transparent primer coating having a flattening agent therein on the back surface thereof, an open pattern of a first color on the back surface of the primer coat and a layer of plastic of a second color bonded to the back surface of the primer coat, the open pattern and the color in the plastic providing a pattern visible through the base sheet and the top coat and the primer coat, a layer of pressure sensitive adhesive on the rear surface of the colored plastic layer, and a backing sheet covering the exposed surface of the adhesive.

3,542,631

RUG HAVING AN EMBROIDERED DECORATIVE DESIGN

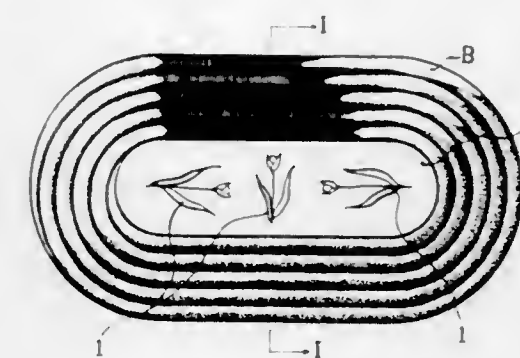
Heizaburo Inoue, 76-4 Aza-Hamada, Minami-Hana, Muya-cho, Naruto, Tokushima, Japan

Continuation-in-part of application Ser. No. 659,430, Aug. 9, 1967. This application Oct. 16, 1967, Ser. No. 675,630

Int. Cl. D04h 11/00

U.S. Cl. 161—35

3 Claims



A rug comprises a central base section formed of cover cloth of suitably colored cloth having embroidered designs at a desired portion thereof. An outer frame section is formed of a tube wound around said central base section up to a desired width. On the rear surface of said cover cloth a sheet formed of cloth or synthetic resin is integrally and inseparably provided.

3,542,632

FIBRILLATED FABRICS AND A PROCESS FOR THE PREPARATION THEREOF

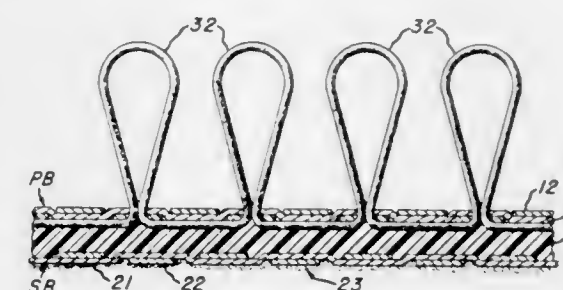
Henry Louis Eickhoff, Hazelhurst, Ga., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Feb. 28, 1969, Ser. No. 803,205

Int. Cl. D05c 17/02

U.S. Cl. 161—65

9 Claims



Woven oriented polyolefin fabrics are disclosed which have been fibrillated after weaving to exhibit improved hand, softness, quietness, and adhesive qualities. The fibrillation may be performed by mechanical abrading, grit blasting or barbed needling. The fabrics are useful, inter-alia, as primary and secondary backing for tufted pile fabrics.

3,542,633

ELECTRICALLY CONDUCTIVE ANTISTICK CONVEYOR BELT

Robert Goldsmith, South Orange, N.J., assignor to General Plastics Corporation, Bloomfield, N.J., a corporation of New Jersey

Filed Aug. 13, 1968, Ser. No. 752,309

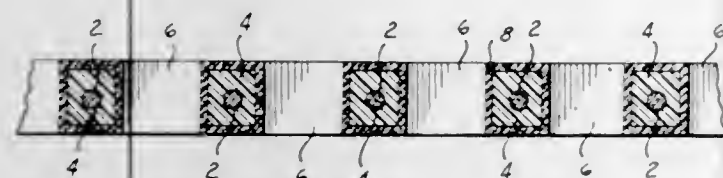
Int. Cl. B32b 5/28; B65g 15/34; H05f 3/00

U.S. Cl. 161—87

7 Claims

A conveyor belt is formed of glass fiber cloth and impregnated with a fluorocarbon polymer to provide a foraminous belt having a nonstick surface. In order to

prevent electrostatic charges from building up on the face of the belt and interfering with the articles being carried by it through process zones, the belt is provided with a thin coating of a fluorocarbon polymer resin through which there has been dispersed a finely divided conductive material. The thin conductive coating extends



from the face of the belt through the interstices of its foraminous structure so that electrostatic charges may be conducted from the belt face to a grounded backing plate over which the back of the conveyor belt passes.

3,542,634

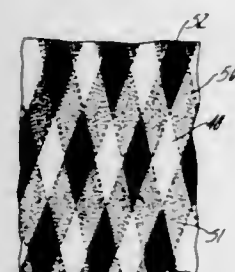
APERTURED, BONDED, AND DIFFERENTIALLY EMBOSSED NON-WOVEN FABRICS

John J. Such, Wrentham, and Arthur R. Olson, Walpole, Mass., assignors to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 801,681, Feb. 24, 1969, which is a division of application Ser. No. 524,931, Feb. 3, 1966, which in turn is a continuation-in-part of application Ser. No. 492,644, Oct. 4, 1965. This application June 17, 1969, Ser. No. 834,064

Int. Cl. B32b 3/24, 5/08; C09j 7/04

U.S. Cl. 161—88

12 Claims



Deformable sheets of textile fibrous material are reformed by passing them through rolls engraved in a pattern of lands and grooves in such a way that a repeating pattern of three degrees of compression are effected; high compression where a land has traversed a land; intermediate compression where a land has traversed a groove; and little or no compression where a groove has traversed a groove. The areas affected by the three degrees of compression are discrete and spaced apart areas of rhomboidal shape. The high compression areas may be bonded, for example, by the presence of thermoplastic fibers which are fused during embossing, or the high compression areas may be in the form of actual apertures in the fabric. In other embodiments the fabric may have film or fibrous backings or may have an embossed adhesive coating to form adhesive tapes.

3,542,635

CORRUGATED THERMOPLASTIC ARTICLES

Philip H. Parker, San Rafael, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Apr. 5, 1968, Ser. No. 719,147

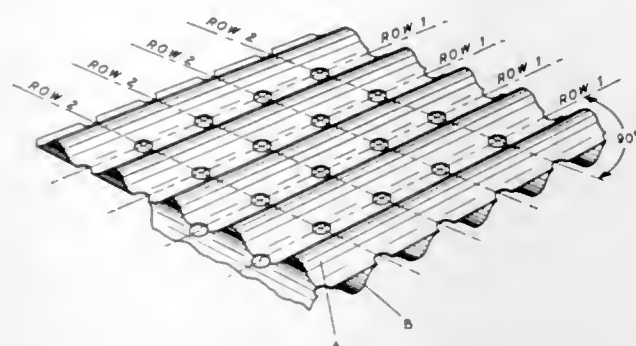
Int. Cl. B32b 3/10

U.S. Cl. 161—109

10 Claims

Corrugated thermoplastic articles comprising at least two-uniaxially oriented sheets of crystalline polymer, said

sheets being cross lapped at an angle of at least 10° relative to their orientation directions, perforated in closely spaced parallel rows which run substantially along the



bottoms of the corrugation grooves and fusion bonded at the periphery of each perforation. These corrugated articles are useful in packaging applications.

3,542,636

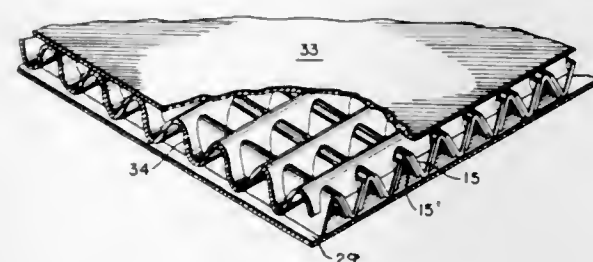
CORRUGATED BOARD

Kurt Wandel, R.D. 1, Downingtown, Pa. 19335
Original application July 28, 1965, Ser. No. 475,402, now Patent No. 3,449,157. Divided and this application Aug. 22, 1968, Ser. No. 793,625

Int. Cl. B32b 3/10, 3/28

U.S. Cl. 161—114

5 Claims



A corrugated member comprising a plurality of strips of elongated material folded into trough-shapes longitudinally thereof and secured together with the trough-shaped sides of alternate strips facing in opposite directions.

3,542,637

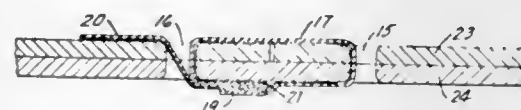
EASY-OPEN SEAL OF ADHESIVE TAPE

Anthony John Zoia, St. Anthony Village, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Int. Cl. B32b 7/08, 3/10; B65d 51/00

U.S. Cl. 161—115

5 Claims



The present invention concerns an easy-open seal of adhesive tape or tape which can be made to be adhesive to itself or to sheet material to which it is attached. The seal is formed from a length of such tape in attaching the tape to sheet material having two adjacent apertures formed therein. One of the ends of the length of tape is inserted through one of the apertures and a portion of the length of tape which is intermediate the ends thereof is inserted through the other aperture, and that end and intermediate portion are then adhered to each other or to the sheet material located between the aperture on one side of the sheet material, to form a seal between the apertures on the other side of the sheet material. The other end of the length of tape can then be adhered to

the other side of the sheet material in such position that it can be disadhered and pulled to cause the intermediate portion to become disadhered from the first end of the length of tape or the sheet material when it is desired to open the seal.

3,542,638

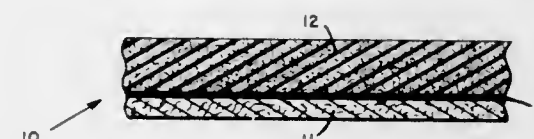
ACOUSTICAL SURFACE COVERING

Joseph A. Kenny, Greenwich, Conn., assignor to GAF Corporation, a corporation of Delaware
Filed May 7, 1968, Ser. No. 727,250

Int. Cl. B32b 5/18; G10k 11/04

U.S. Cl. 161—159

9 Claims



A surface covering having acoustic damping characteristics composed of a felt facing attached to a foam backing material.

3,542,639

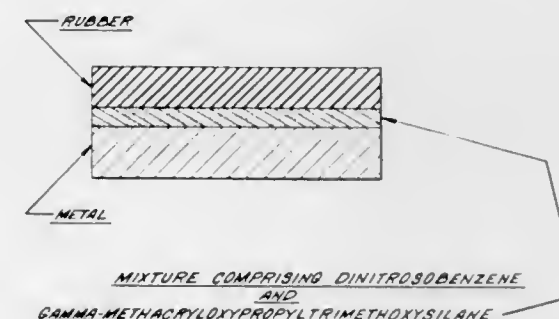
RUBBER-TO-METAL ADHESIVE AND ITS USE

Louie G. Manino, Erie, Pa., assignor to Lord Corporation, Erie, Pa., a corporation of Pennsylvania
Filed Jan. 26, 1967, Ser. No. 611,878

Int. Cl. B32b 13/06, 15/08; C07d 103/02

U.S. Cl. 161—186

33 Claims



A mixture comprising gamma-methacryloxypropyltrimethoxysilane and dinitrosobenzene for bonding rubber to metal. In preferred embodiments a chlorine-containing polymer, a polyisocyanate or epoxylated novolak, or combinations thereof are incorporated in the mixture.

3,542,640

METHOD FOR DRYING A WET FOAM CONTAINING CELLULOSIC FIBERS

Norman D. Friedberg, Cincinnati, and Frank S. Adams, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 23, 1967, Ser. No. 625,367

Int. Cl. D21d 3/00

U.S. Cl. 162—101

4 Claims

An improved method for drying a wet foam containing randomly dispersed fibers by drying the wet foam in a series of steps to produce a low density, absorbent, fibrous paper or sponge-like material. The foam is deposited as a uniform sheet on a moving foraminous support where most of the water is removed by drainage. The remaining water in the foam is removed by phase change. Significant improvement in the drying rate may be achieved by heating the foam above room temperature. Water removal by phase change may include one or the other or both of the steps of impinging a hot gas normal to at least one surface of the wet sheet and/or blowing a hot gas through the sheet.

3,542,641 METHOD OF MAKING WATER LAID, STAINED WOOD SHEET

Merle J. Showalter and Richard J. Hohenwarter, Lancaster, Pa., assignors to Armstrong Cork Co., Lancaster, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1967, Ser. No. 687,282

Int. Cl. D21f 11/00

U.S. Cl. 162—134

3 Claims

Method, and product, of making a patterned wood sheet by forming a sheet of wood fibers from an aqueous slurry and impressing a pattern into one face of the sheet by embossing with a die having lands and valleys to produce the desired pattern. The patterning step produces regions of increased density in the sheet. There is then applied over the entire surface of the sheet a liquid stain adapted to be absorbed to a different extent in the regions of reduced density as opposed to the regions of higher density. A color differential is thus produced. If necessary, excess stain is removed from the surface of the sheet. The resulting patterned and stained sheet is then subjected to pressure to flatten the stained surface to the desired extent.

3,542,642

QUENCHING THE FLUORESCENCE OF OPTICAL BRIGHTENER COMPOUNDS IN PAPER BY MEANS OF HYDROXYMETHYLAMINO ACETONITRILE

Donald V. Speese, Arlington Heights, and Chester B. Brown, Chicago, Ill., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Filed Mar. 1, 1968, Ser. No. 709,782

Int. Cl. D21d 3/00; D21f 11/00; D21h

U.S. Cl. 162—158

6 Claims

The fluorescent effect of optical brightener compounds on substrates employed in paper making is effectively quenched by the application to the substrate of from about one-quarter part to about 5 parts by weight, for every part of optical brightener compound present, of the compound hydroxymethylamino acetonitrile from an aqueous solution.

3,542,643

TRANSVERSE DIVIDING SHEARS FOR METAL PLATES

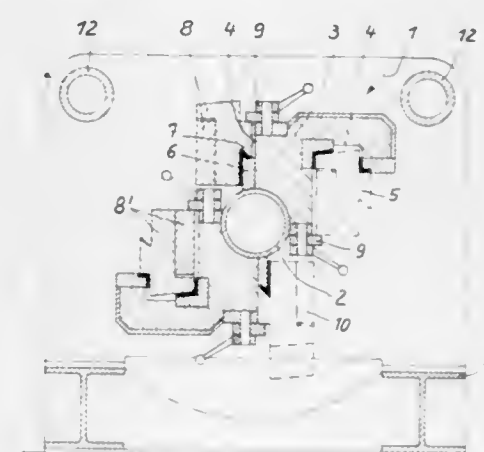
Josef Schiffrers, Monchengladbach-Rheindahlen, Germany, assignor to Schloemann Aktiengesellschaft, Düsseldorf, Germany, a German company
Filed May 8, 1968, Ser. No. 727,642

Claims priority, application Germany, May 11, 1967, Sch 40,690

Int. Cl. B26d 7/26

U.S. Cl. 83—698

4 Claims



A transverse dividing shear for metal plates and sheets, comprising: upper and lower cutter blocks, each consisting of a filler bar and a blade beam, slidably guided in upper and lower shear saddles, and being preferably actuated by cables wound upon cable drums, and a rotatable

receiving body, corresponding in length and in longitudinal direction with the shear blade, the shear and the rotatable receiving body both being formed with receiving ducts, to be brought into alignment with one another, preferably with funnel-shaped entrance apertures, for the cutter blocks.

3,542,644

WET STRENGTH PAPER COMPRISING STARCH CARBAMOYLETHYL ETHERS

Herbert E. Smith, Sherald H. Gordon, and Herbert C. Katz, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Aug. 9, 1968, Ser. No. 751,341

Int. Cl. D21h 3/28

U.S. Cl. 162—175

1 Claim

Papers prepared from pulps containing 5 percent additions of carbamoyl ethyl ethers of starch or wheat flour that have then been crosslinked with sodium hypochlorite exhibit greatly increased wet tensile strength accompanied by less spectacular but significantly improved dry tensile and burst values.

3,542,645

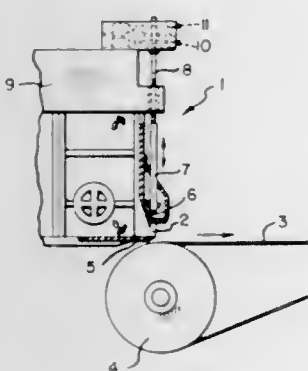
WEB MACHINE ADJUSTMENT MECHANISM AND INDICATOR RECORDING MEANS THEREFOR

Howard B. Mehlman and James H. Thompson, Millinocket, Maine, assignors to Great Northern Nekoosa Corporation, a corporation of Maine
Filed June 30, 1967, Ser. No. 650,466

Int. Cl. D21f 7/06

U.S. Cl. 162—259

4 Claims



A web producing machine adjustment mechanism having a plurality of adjustment screws with two actuators for each screw to rotate the screw in opposite directions where each actuator has a ratchet wheel on the screw and a solenoid operated pawl for engaging and rotating the ratchet wheel and screw. Recording means for indicating the relative rotational position of each of a plurality of adjustment screws on a chart where the same recording means can also record characteristics of the web being produced.

3,542,646

PROCESS FOR FRACTIONALLY OBTAINING UROKINASE AND BLOOD COAGULATION ACCELERATOR IN HUMAN URINE

Nobuo Aoki, Denver, Colo., and Toshio Asada, Tokyo, Japan, assignors to The Green Cross Corporation, Osaka, Japan, a corporation of Japan
No Drawing. Filed Nov. 15, 1967, Ser. No. 683,157

Claims priority, application Japan, Nov. 22, 1966, 41/76,615

Int. Cl. C07g 7/026

U.S. Cl. 195—66

10 Claims

Process for obtaining urokinase and/or blood coagulation accelerator from human urine: Barium sulfate is added to fresh human urine adjusted to pH 4.5, and the

adsorbates are eluted with 5% sodium citrate. Ammonium sulfate is added to this eluate, and the precipitate is dissolved in distilled water, dialyzed and precipitated at isoelectric point. Using phosphate buffer, the precipitate is dissolved, dialyzed, and subjected to a hydroxylapatite column chromatography and eluted in step-wise using 0.05, 0.15, 0.2, 0.3 and 0.4 mol-phosphate buffer. Urokinase exists in 0.3 mol fraction, blood coagulation accelerator in 0.2 and 0.3 mol fractions.

3,542,647

METHOD FOR PRODUCING L-ASPARAGINASE

Peter P. K. Ho, Carmel, and La Verne D. Boeck, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed Aug. 14, 1968, Ser. No. 752,466

Int. Cl. C07g 7/028

U.S. Cl. 195—66

1 Claim

An improved method for producing L-asparaginase by fermentation, comprising aerobically fermenting *E. coli* in a nutrient medium for a period of about 6–10 hours, then anaerobically aging the fermentation mixture for about 1 hour prior to harvest of the asparaginase-containing cells.

3,542,648

PRESERVATION OF YEAST

John James Miller, Hamilton, Ontario, Canada, assignor to Canadian Patents and Developments Limited, Ottawa, Ontario, Canada, a corporation of Canada
No Drawing. Filed May 31, 1967, Ser. No. 642,322

Claims priority, application Canada, June 18, 1966, 963,300

Int. Cl. C12c 11/00

U.S. Cl. 195—82

5 Claims

Yeast cells are fed with acetic acid under controlled pH in two stages to give improved viability on desiccation and storage. Improved spore production is achieved after acetic acid treatment, followed by adding a nontoxic acid such as sulfuric, hydrochloric or citric acid to a controlled pH.

3,542,649

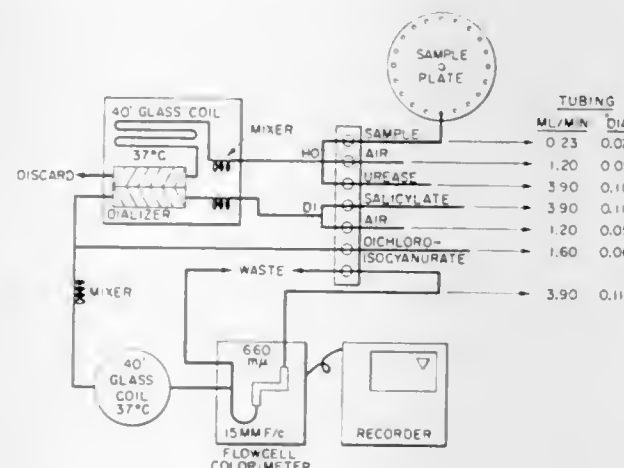
COLOR DEVELOPING COMPOSITION CONSISTING OF AN ENZYME, A SALICYLATE AND A HYPOCHLORITE DONOR

Ronald L. Searcy, Upper Montclair, N.J., assignor to Hoffman-La Roche Inc., Nutley, N.J., a corporation of New Jersey
Filed Apr. 7, 1967, Ser. No. 629,204

Int. Cl. G01n 31/14

U.S. Cl. 195—103.5

3 Claims



The present invention relates to an automated system for the analytical determination of urea nitrogen in blood serum, plasma or in urine and to a color developing composition useful in the system consisting of an

enzyme, a salicylate, preferably an alkali metal salicylate, and a hypochlorite donor, preferably sodium or potassium dichloroisocyanurate.

3,542,650

METHOD OF LOADING CHARGE MATERIALS INTO A HORIZONTAL COKE OVEN

Nikolai Konstantinovich Kulakov, Kharkov, U.S.S.R., assignor to Gosudarstvenny Vsesojuzny Institut PO Proektirovaniu Predpriyati Koksohimicheskoi Promyshlennosti, Kharkov, U.S.S.R.
Filed Dec. 18, 1967, Ser. No. 691,422

Claims priority, application U.S.S.R., Dec. 17, 1966, 1,117,021

Int. Cl. C10b 31/04

U.S. Cl. 201—40

1 Claim

OPERATION SEQUENCE	INLET DOOR SETTING	VALVE SETTING	DOOR #14	DOOR #13	DOOR #12
I	OPEN	5 OPEN	OPEN	CLOSED	CLOSED
II	OPEN	4 OPEN	CLOSED	CLOSED	OPEN
III	OPEN	3 OPEN	CLOSED	OPEN	CLOSED

A method is provided for loading charge materials into the coking chamber of a horizontal coke oven by successively opening only the doors at the opposite sides of the chamber, while gas outlets are subjected to suction at respective opposite sides to cause the gases in the chamber evolved upon charging to travel the length thereof in opposite directions. After charging has been completed at the side doors, the central doors of the chamber are opened and suction is produced at both outlets at the opposite sides of the chamber.

3,542,651

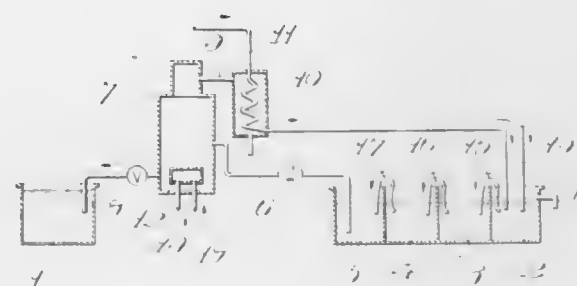
UNIT FOR RECOVERY OF PLATING SOLUTION

Aisaburo Yagishita, 5-2 Shinpo-cho 4-chome, Chigusa-ku, Nagoya, Japan
Filed Oct. 18, 1966, Ser. No. 587,607

Int. Cl. B01d 5/00; B05c 11/10

U.S. Cl. 202—169

3 Claims



For reclaiming plating wastes containing chromic acid and the like, a plurality of wash tubs are provided into which plated articles are dipped successively to rinse off the plating solution. The tub water from the tub, into which the articles are first dipped, is sucked into a tower heated by steam to concentrate the tub water to plating strength; and this water is returned to the plating tank. Water is siphoned from the other tubs successively back to the first tub. The vapor in the tower is used in a condenser to heat water flowing to the tub most remote from said first tub, to replenish the system. The tower has an inner container; and the tower proper and the space between this container and the tower proper is held under vacuum.

3,542,652

PROCESS FOR MAKING SUBSTANTIALLY ALKANDIOL-FREE ALKANOLS

Billy J. Williams, Donald R. Napier, and Peter A. Schwab, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Apr. 24, 1967, Ser. No. 632,949

Int. Cl. B01d 3/34; C07c 141/04; C10m 1/28

U.S. Cl. 203—38

1 Claim

Alkanols substantially free of alkandiol are prepared by reacting metal alkoxides, or compounds capable of forming a metal alkoxide in the presence of an alkanol, with an alkandiol or mixture thereof. The reaction product is fractionated to yield a distillate relatively free of alkandiol.

3,542,653

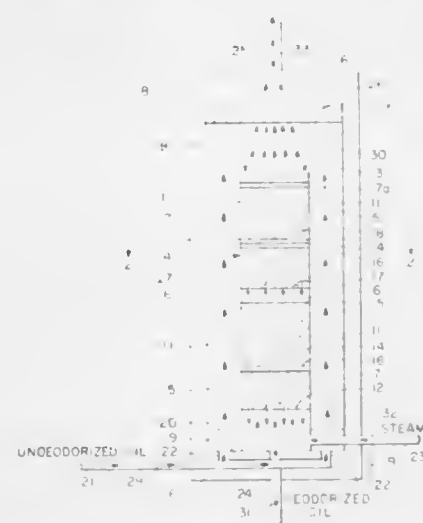
APPARATUS AND PROCESS FOR CONTINUOUS HEAT-BLEACHING AND HIGH TEMPERATURE STEAM DEODORIZATION OF EDIBLE OILS

Erlend R. Lowrey, Greenhills, and Richard F. Durchholz, Symmes Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 22, 1968, Ser. No. 722,921

Int. Cl. B01d 3/10; C09f 5/10

U.S. Cl. 203—92

11 Claims



An apparatus and process for continuous high temperature (350–500° F.) heat-bleaching and steam deodorization of edible oils in an integrated unit. The apparatus contains a packed deodorization chamber in its center, which is surrounded by and shares a common wall with an annular heat-bleaching chamber. Hot oil to be heat-bleached and deodorized is fed into the lower portion of the heat-bleaching chamber and is forced upward by the addition of new oil. After the oil reaches the top of the heat-bleaching chamber, it is transferred to the top of the central packed deodorization chamber into which it flows downward and is deodorized by contact with a counter-current stream of hot steam.

3,542,654

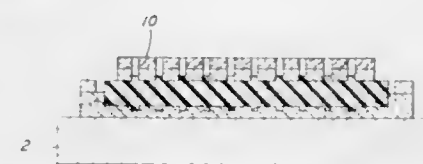
PROCESS OF MAKING AN RC CIRCUIT AND CALIBRATING SAME

William H. Orr, Allentown, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Sept. 16, 1966, Ser. No. 579,953

Int. Cl. C23b 5/48, 9/00

U.S. Cl. 204—15

10 Claims



This disclosure describes a basic method for precise frequency response adjustment of a thin film distributed

RC structure, and sets forth typical structures produced in accordance with the invention which exhibit the desired characteristics.

3,542,655

ELECTRODEPOSITION OF COPPER

Otto Kardos, Ferndale, Hugh B. Durham, Southfield, Arthur J. Tomson, Novi, and Donald A. Arcilesi, Sterling Township, Utica, Macomb County, Mich., assignors to M&T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 29, 1968, Ser. No. 725,209

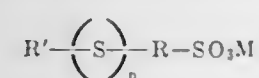
Int. Cl. C23b 5/20, 5/46

U.S. Cl. 204—52

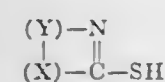
33 Claims

According to certain of its aspects, this invention relates to novel compositions and to a process for electrodepositing bright, strongly leveled, ductile copper from an aqueous acidic copper plating bath containing chloride ions and at least one member from each of the following groups:

- (1) a polysulfide compound of the formula



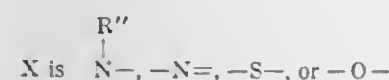
- (2) a heterocyclic compound of the formula



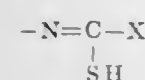
and/or tautomers thereof; and

- (3) a polyether, containing at least 5 ether oxygen atoms per molecule;

wherein each R is independently a divalent aliphatic or aromatic non-heterocyclic group of 1-10 carbon atoms; R' is hydrogen, a metal cation, a monovalent aliphatic or aromatic organo group of 1-20 carbon atoms, or the groups $-R-SO_3M$ or $-R-(S)_q-RSO_3M$ wherein q is an integer 2-5; M is a cation;



R'' is hydrogen or an alkyl, hydroxyalkyl or aminoalkyl group of 1-6 carbon atoms; Y is a divalent organo group of 1-10 carbon atoms which forms a 5-6-membered cyclic ring structure with the group



and n is an integer 2-5 inclusive.

3,542,656

PRODUCTION OF CYCLOHEXADIENE DICARBOXYLIC ACIDS

Hubert Suter, Heinz Nohe, Fritz Beck, Werner Bruegel, and Heinz Aschenbrenner, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Jan. 8, 1968, Ser. No. 696,136
Claims priority, application Germany, Jan. 11, 1967, 1,618,078

Int. Cl. B01k 1/00; C07b 1/00

U.S. Cl. 204—73

10 Claims

Production of 3,5-cyclohexadiene-1,2-dicarboxylic acid or 2,5-cyclohexadiene-1,4-dicarboxylic acid by electrochemical hydrogenation of o-phthalic acid or terephthalic acid

at a temperature of up to 80° C. and with a current density of from 1 to 40 A./dm.² in mixtures of dilute aqueous sulfuric acid and an inert organic solvent which is liquid at low temperature and which is selected from the group consisting of ethers, carboxylic amides and nitriles. The products are suitable for the production of varnishes.

3,542,657

ELECTROLYTIC REDUCTION OF NITRATE FROM SOLUTIONS OF ALKALI METAL HYDROXIDES

Albert B. Mindler, Princeton, and Sidney B. Tuwiner, Baldwin, N.J., assignors to Hydronics Corporation, Metuchen, N.J.

No Drawing. Filed Apr. 16, 1968, Ser. No. 721,588

Int. Cl. C01b 13/04; C01d 1/06

U.S. Cl. 204—98

6 Claims

Alkali metal hydroxide solutions are treated in electrolytic cells in accordance with this invention. In this treatment nitrates are converted into nitrites, and nitrites are converted to hydroxides. Oxygen gas is generated at the anodes while at the cathodes nitrate is converted to nitrite and nitrite is converted to ammonia and nitrogen gas in addition to alkali hydroxide.

Under less favorable conditions ammonia and nitrite are, in part, reoxidized by means of an anode reaction which supersedes the oxygen gas-forming reaction, thus reducing the ampere efficiency. Ammonia may also be oxidized at the anode to nitrogen gas.

3,542,658

ELECTROLYTIC BATH CONTAINING AMMONIUM NITRATE AND A PHENOL

Horst Dillenberg, Haan, Germany, assignor to Bergische Metallwarenfabrik Dillenberg & Co. KG, Gruiten, Germany, a corporation of Germany

No Drawing. Filed Apr. 19, 1968, Ser. No. 722,554

Claims priority, application Germany, Apr. 27, 1967, B 92,263; Dec. 6, 1967, B 95,716

Int. Cl. B01k 3/06

U.S. Cl. 204—146

7 Claims

An aqueous electrolytic stripping bath to remove nickel coatings from ferrous metal articles comprising ammonium nitrate as the sole stripping component in an amount of from 50-400 grams per liter and a water-soluble phenol as the sole accelerator in an amount of from 1-20 grams per liter. In the absence of the phenol accelerator complete stripping of complex shapes having deep corners at a current density of 8 amperes per square decimeter takes many hours while in the presence of the critical amount of phenol, complete stripping is accomplished in as little as 10-20 minutes at a pH of 4-6. The phenol is consumed during the course of the stripping and the invention contemplates replenishing it in order to maintain the concentration between the level of 1-20 grams per liter. Illustratively, 800 grams of phenol may be needed during the stripping of one kilogram of semi-lustrous nickel or of mat nickel coating.

3,542,659

PROCESS FOR THE PREPARATION OF ANHYDROUS HYDRAZINE

Gilbert Gaussens, Saint-Mande, France, assignor to Commissariat a l'Energie Atomique, Paris, France

Filed Nov. 15, 1966, Ser. No. 594,473

Claims priority, application France, Nov. 19, 1965, 39,146; Oct. 7, 1966, 79,240

Int. Cl. B01j 1/00, 1/10

U.S. Cl. 204—157.1

10 Claims

Anhydrous hydrazine is prepared by irradiating liquid ammonia in the presence of acetone. The hydrazine is

then separated from the mixture. The amount of acetone and the intensity of irradiation are controlled. Hydrogen atom interceptors are used.

3,542,660

PROCESS FOR THE POLYMERIZATION OF PER-FLUOROALKYL SUBSTITUTED TRIAZINES AND PRODUCTS THEREOF IN THE PRESENCE OF ULTRAVIOLET RADIATION

George A. Grindahl and Ogden R. Pierce, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

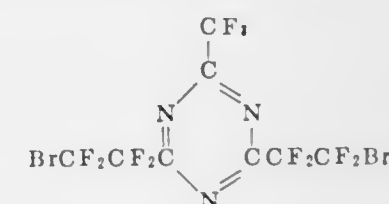
No Drawing. Application June 12, 1967, Ser. No. 645,523, now Patent No. 3,453,275, which is a continuation-in-part of application Ser. No. 535,694, Mar. 21, 1966. Divided and this application Feb. 26, 1969, Ser. No. 802,677

Int. Cl. C07d 55/50; C08g 33/02

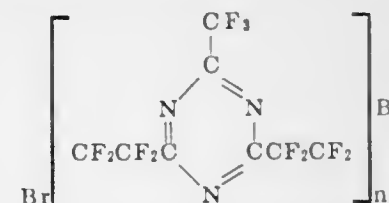
U.S. Cl. 204—159.11

7 Claims

Polymeric triazines are made by condensing bromo- or iodo-perfluorotriazines with mercury at temperatures of 30° C. or above, in the presence of ultraviolet light. For example,



was heated at 100° C. and irradiated with ultraviolet light for 16 hours with mercury to give a polymer of the formula



which has excellent thermal and oxidative stability.

3,542,661

RADIATION CURABLE, GLASS FIBER FILLED POLYVINYL CHLORIDE COMPOSITIONS

Oskar E. Klopfer and Edwin D. Hornbaker, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 7, 1968, Ser. No. 711,229

Int. Cl. G08f 1/24

U.S. Cl. 204—159.17

13 Claims

A cross-linked, reinforced, heat-stable vinyl halide resin and a process for preparing said resin comprising irradiating a mixture of (A) a polyvinyl halide, (B) a polyunsaturated monomer, and (C) a reinforcing quantity of chopped glass fibers. Resultant cured, reinforced polyvinyl halide resins have heat deflection temperatures in excess of 90° C. when irradiated at dose levels of at least 1.0 megarad.

3,542,662

ENZYM E ELECTRODE

George P. Hicks and Stuart J. Updike, Madison, Wis., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 18, 1967, Ser. No. 631,717

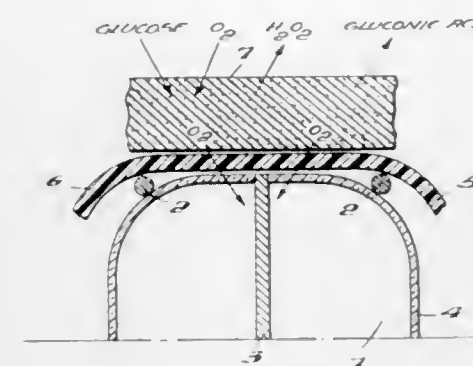
Int. Cl. G01n 27/46

U.S. Cl. 204—195

13 Claims

An electrochemical transducer, suitable for in vivo biomedical applications, constructed by polymerizing a

gelatinous membrane of an enzyme gel, e.g., a polycarylamide matrix having glucose oxidase molecules interspersed therein, over the measuring surface of an oxygen-sensing device, such as a polarographic oxygen



electrode. The oxygen sensing device may contain a single cathode or a pair of cathodes capable of performing differential measurements by deactivating the enzyme adjacent one of the cathodes.

3,542,663

ANODE FITTING

Sam Alewitz, South Euclid, Ohio, assignor to Perfection Corporation, Madison, Ohio, a corporation of Ohio

Filed June 6, 1968, Ser. No. 734,940

Int. Cl. C23f 13/00

U.S. Cl. 204—197

14 Claims



Disclosed is an anode fitting for use in hot water tanks, pipelines or the like wherein an interior metallic surface undergoes corrosion when exposed to electrolytic fluids such as air and water. The fitting provides for cathodic protection of the interior metallic surface against corrosion by the introduction of an electrode comprised of a metal that is higher in the electrochemical series than the metal defining the metallic surface. The electrode is electrically connected to the metallic surface. The difference in activity of the two metals induces a current to flow between them producing corrosion of the more active metal and furnishing cathodic protection to the less active metallic surface.

The fitting is comprised of a hollow nipple or connector member adapted to be threadedly received within an

opening of the water tank, pipeline or the like. A tubular intermediate member is telescoped within the nipple, said members being rolled together to provide for electrical contact therebetween. A cylindrical electrode is telescoped within the tubular intermediate member and is secured thereto. An impervious plastic covering is provided on the external surface of the tubular intermediate member in order to reduce corrosion of this member and physically separate the external surface of the electrode from the external surface of the connector member. In one embodiment of the anode fitting, an impervious fluid passageway is provided within the tubular intermediate member and the connector member such that the anode fitting may be used either as a combination anode and fluid outlet or additionally in combination with a relief valve or other member requiring protection.

3,542,664

OZONE-PRODUCING APPARATUS

Jean Guillerd, Paris, Jacques Reinmann, Courbevoie, and Roger Camberlyn, Sarcelles, France, assignors to Societe Anonyme dite: Compagnie des Eaux et de l'Ozone, Paris, France

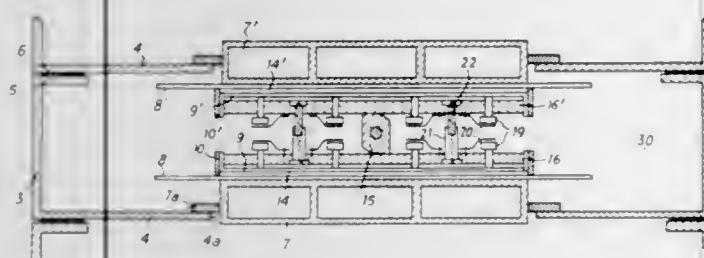
Filed Apr. 2, 1968, Ser. No. 718,174

Claims priority, application France, Apr. 6, 1967, 101,724

Int. Cl. C01b 13/12

U.S. Cl. 204—322

3 Claims



This invention relates to ozone-producing apparatus that can comprise a number of individual elements stackable together so that any desired output from the apparatus may be obtained, depending upon the number of elements used. Each element comprises a parallelepipedic casing whose major opposed faces are open and a water-cooled, hollow ground electrode is supported by fins on the internal edges of these opposed faces, a high voltage electrode constituted by a pair of thin metal plates, a thin dielectric member being applied against said high voltage electrode. Means may be actuated from outside the casing to apply the dielectric member against the ground electrode and the casing is apertured at its opposite ends for input or output of ozonised air or ozone.

3,542,665

PROCESS OF CONVERTING COAL TO LIQUID PRODUCTS

Milton M. Wald, Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed July 15, 1969, Ser. No. 841,843

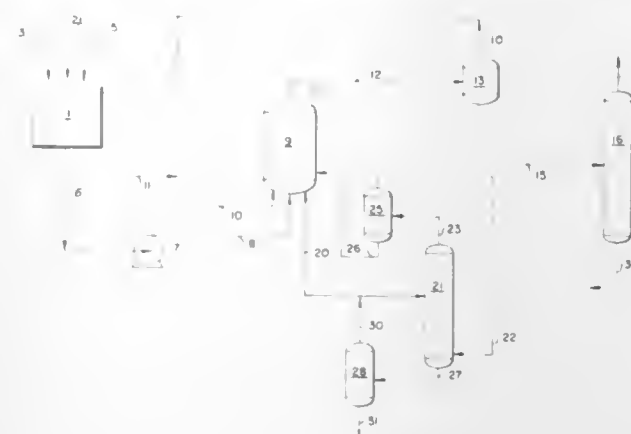
Int. Cl. C10g 1/06

U.S. Cl. 208—10

8 Claims

Coal is converted to liquid hydrocarbon products by passing it through a continuous phase catalyst system selected from antimony trichloride, tribromide or triiodide; bismuth trichloride or tribromide; or arsenic triiodide; maintained at a temperature between 200 and 550° C. and under hydrogen partial pressure of at least 250 p.s.i. whereby the catalyst system performs the functions of

acting as a hydrogenation catalyst, acting as a cracking catalyst, and providing a medium for maintaining the re-



actants in suitable relation to one another to promote reactions and obtain beneficial product distribution.

3,542,666

ADJUSTMENT OF pH IN THE FILTRATION OF TAR SAND SOLVENT-WATER SYSTEMS

Warren C. Simpson, Berkeley, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 20, 1968, Ser. No. 714,692

Int. Cl. C10g 1/00

U.S. Cl. 208—11

7 Claims

In the solvent extraction of tar from tar sands by slurring the tar sands in a hydrocarbon solvent and a minor amount of water and then filtering the fat solvent from the tar-depleted sand, the filtration rate of fat solvent through the tar sand bed is greatly accelerated by adjusting the pH of the aqueous phase in contact with the tar sands by the addition of a base.

3,542,667

PROCESS FOR THE PRODUCTION OF AROMATIC AND OLEFINIC HYDROCARBONS

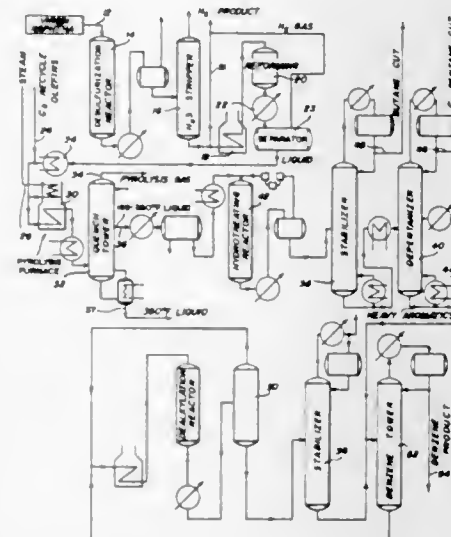
Joseph F. McMahon, Clinton, and John J. LoPorto, Brookside, N.J., and George F. Adams and Dana L. Smith, Tulsa, Okla.; said McMahon and said LoPorto assignors to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York; said Adams and said Smith assignors to Sun Oil Company, Tulsa, Okla., a corporation of New Jersey

Filed Mar. 21, 1968, Ser. No. 714,869

Int. Cl. C10g 23/00

U.S. Cl. 208—66

14 Claims



A process for the production of ethylene and benzene from a naphtha feed stock wherein the naphtha is subjected to reforming and the reformate is then subjected to high temperature and high severity pyrolysis under such conditions as to produce an olefinic stream and a

separate aromatic stream predominantly aromatics containing a small amount of non-aromatics of C₅ or less which can be separated from the aromatics by simple distillation.

3,542,668

CATALYTIC CRACKING PROCESS

Joe Van Pool, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 19, 1967, Ser. No. 676,646

Int. Cl. G01g 37/00

U.S. Cl. 208—67

3 Claims

A normally gaseous olefin, and particularly butene-1, is charged with the hydrocarbon oil feed to a catalytic cracking operation to increase the yield of unsaturates therefrom for higher quality alkylate production.

3,542,669

ARSENIC REMOVAL

Richard J. DeFeo, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 4, 1968, Ser. No. 764,997

Int. Cl. C10g 25/00

U.S. Cl. 208—91

11 Claims

The removal of arsenic and its derivatives and in particular arsine from admixture may be accomplished by contacting the mixture with a lignite-based activated carbon.

3,542,670

CATALYST COMPRISING SILICA-ALUMINA, SEPARATE PHASE ALUMINA AND CRYSTALLINE ALUMINO SILICATE

Henry Erickson, Park Forest, Ill., and Robert A. Sanford, Louisville, Ky., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 540,827, Apr. 7, 1966. This application May 7, 1968, Ser. No. 727,332

Claims priority, application Canada, May 21, 1965, 931,320; June 7, 1965, 932,666

Int. Cl. C10g 11/02; B01j 11/40

U.S. Cl. 208—120

11 Claims

A hydrocarbon cracking catalyst which is highly selective yet unusually resistant to steam deactivation is prepared by admixing (a) a silica-alumina hydrogel with (b) an amorphous hydrous alumina or an alumina monohydrate having a crystallite size of up to about 50 Å, or mixtures of the foregoing and (c) a crystalline alumino silicate having pores in the 8 to 15 Å size range and a silica-to-alumina mole ratio of greater than 3:1, followed by drying the admixture to convert the silica-alumina hydrogel to xerogel form. On a dry weight basis, the catalyst contains about 45 to 90% of the silica-alumina xerogel, about 5 to 50% of the alumina and about 1 to 50% of the alumino silicate.

3,542,671

HYDROISOMERIZATION OF OLEFINS TO ISOPARAFFINS

Ernest L. Pollitzer, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 598,214, Dec. 1, 1966. This application May 9, 1968, Ser. No. 728,048

Int. Cl. C10g 35/06; C07c 5/24

U.S. Cl. 208—136

7 Claims

Light aliphatic olefins, admixed with hydrogen, are contacted with a catalytic composite of an active metallic component and a carrier material having an acidity factor greater than about 40 at 400° C. Contacting conditions include a temperature of 350° F. to 900° F. and a pressure of 200 to 1,000 p.s.i.g. The carrier material may be a crystalline alumino-silicate, a porous refractory inorganic oxide, mixtures thereof, and may contain halogen.

3,542,672

METHOD FOR DESULFURIZING GASIFORM AND LIQUID HYDROCARBONS

Pierre Lhonore, Douai, and Jacques Quibel, Paris, France, assignors to Societe Chimique de la Grande Paroisse (Azote et Produits Chimiques), Paris, France, a corporation of France

No Drawing. Continuation-in-part of application Ser. No. 480,187, Aug. 16, 1965. This application Apr. 18, 1968, Ser. No. 722,157

Claims priority, application France, Aug. 17, 1964, 985,400

Int. Cl. C10g 23/04

U.S. Cl. 208—217

1 Claim

Gaseous and liquid hydrocarbons are desulfurized with hydrogen and steam at 250–280° C. with a catalyst containing 0.2–4% palladium supported on alumina and further characterized by the inclusion of 0.2 to 1% of either sodium or potassium incorporated in the catalyst with the palladium metal. The catalyst has a specific active surface of 30 to 150 square meters/gram. The catalyst does not require the well known regeneration with steam.

3,542,673

RECOVERY OF C₃-C₅ CONSTITUENTS FROM NATURAL GAS BY COMPRESSING COOLING AND ADIABATIC AUTOREFRIGERATIVE FLASHING

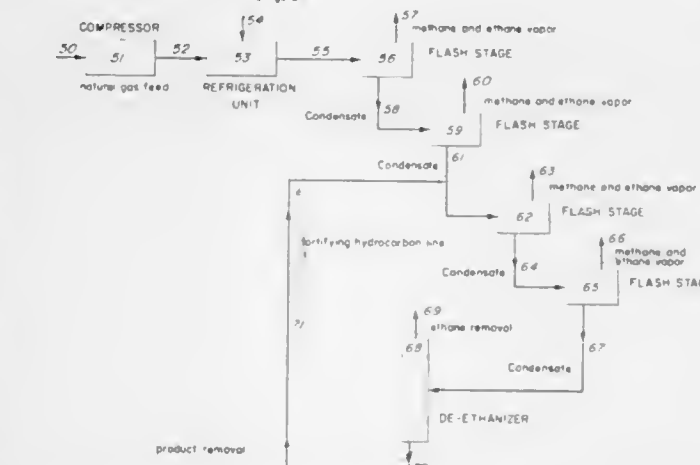
William H. Ringler, Morristown, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed May 22, 1967, Ser. No. 639,996

Int. Cl. C10g 5/00; F25j 1/00

U.S. Cl. 208—340

8 Claims



A process for the recovery of light hydrocarbons from natural gas is described. The process requires the compression of a natural gas mixture into the region of the critical pressure of the gas mixture; the temperature of the mixture is then reduced and the mixture is further chilled via autorefrigeration by successive adiabatic flash stages. Simultaneous with the chilling, methane and ethane are removed from the mixture so that a C₃ to C₅ fraction may be readily recovered.

3,542,674

METHOD FOR REMOVING SOLIDS SUSPENSIONS IN LIQUIDS

George R. Machlan, Newark, Ohio, assignor to Owens-Corning Fiberglass Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 670,373, Sept. 25, 1967. This application July 22, 1968, Ser. No. 746,591

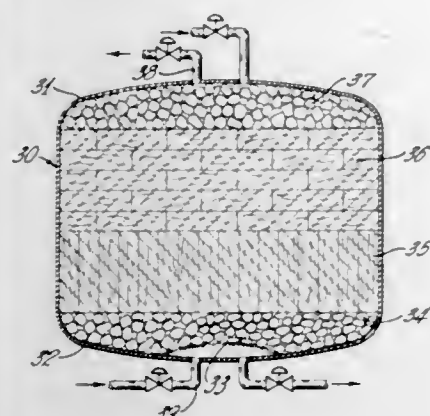
Int. Cl. C02b 1/20

U.S. Cl. 210—42

21 Claims

Removal of solids suspended in liquids by the flocculation of the solids in situ in a bed of fibers having a pore

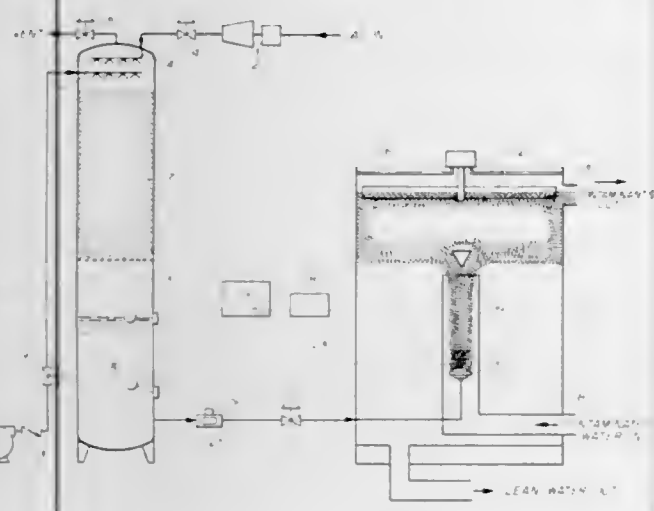
size more than approximately 10 times that of the smallest particles being removed. The fibers have a zeta potential



which causes the solids of the suspension to floc when under the influence of the zeta potential of the fibers.

3,542,675 WATER TREATMENT

Isaac P. Mail and James R. Kennett, Tulsa, Okla., assignors to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed July 26, 1968, Ser. No. 748,106
Int. Cl. B03d 1/00
U.S. Cl. 210—44 6 Claims



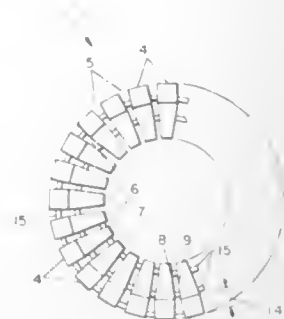
Contaminated liquid having particles of solid foreign matter suspended therein flows through a container. Liquid saturated with gas is flowed into the container and through a venturi structure which reduces the pressure on the saturated liquid to enable bubbles of gas to form in the liquid. The flow rate of the gasified liquid is controlled to maintain a predetermined ratio to the flow rate of the contaminated liquid flowing through the container.

3,542,676 SELF-CLEANING SCREEN BASKET

Edward N. Colburn, Minneapolis, Henry E. Benson, Long Lake, and Rueben E. Paulson, Fridley, Minn., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 787,486, Dec. 27, 1968. This application Aug. 21, 1969, Ser. No. 852,062
The portion of the term of the patent subsequent to Jan. 27, 1987, has been disclaimed
Int. Cl. B01d 35/22
U.S. Cl. 210—380 5 Claims

A self-cleaning conical shaped screen basket adaptable for centrifuge operations which embodies a slotted con-

struction to provide a self-cleaning V slot that enlarges in the outward radial direction. The slot forming, rectangular-shaped rods are tapered so that the resulting



slot opening on the inner periphery of the screen is uniform in width throughout. In the preferred embodiment, a support wire is wound continuously around the rods and fused to them so as to hold them in a rigid manner.

3,542,677 POLYISOPRENOID MATERIALS

Ernst T. Theimer, Rumson, N.J., assignor to International Flavors & Fragrances Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 16, 1965, Ser. No. 433,174
Int. Cl. A24b 13/00; C09k 3/00
U.S. Cl. 252—1 7 Claims

Tobacco products are enhanced in flavor by the addition of polyisoprenoid hydrocarbons and mixtures thereof with polyisoprenoid esters or polyisoprenoid alcohols. A mixture of polyisoprenoid hydrocarbons and polyisoprenoid esters is obtained directly by the polymerization of isoprene in alkanolic acid.

3,542,678 LUBRICANT AND FUEL COMPOSITIONS CONTAINING ESTERS

John F. Bork, Timberlake, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 13, 1968, Ser. No. 712,627
Int. Cl. C10m 1/24, 1/32; C10I 1/18
U.S. Cl. 252—51.5 25 Claims

Esters of monocarboxylic acids and polyhydric or aminoalcohols useful as additives for lubricants and fuels. The esters of a monocarboxylic acid having at least about fifty aliphatic carbon atoms exclusive of the carboxyl carbon atom and polyhydric alkanols constitute preferred embodiments.

3,542,679 AMINE SALTS OF PHOSPHINIC ACID OR CARBOXYLIC ACID ESTERS THEREOF AS ANTIOXIDANTS FOR ORGANIC MATERIALS

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Original application Oct. 7, 1965, Ser. No. 493,918. Divided and this application May 29, 1968, Ser. No. 732,900
Int. Cl. C10m 1/46, 5/24
U.S. Cl. 252—32.5 7 Claims

Stabilizing hydrocarbon oil, grease or synthetic lubricant against oxidative deterioration by incorporating therein an amine salt of bis-(hydroxyalkyl)-phosphinic acid or ester thereof.

3,542,680 OIL-SOLUBLE CARBOXYLIC ACID PHENOL ESTERS AND LUBRICANTS AND FUELS CONTAINING THE SAME

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Continuation of application Ser. No. 722,152, Apr. 18, 1968, which is a continuation-in-part of application Ser. No. 567,320, July 22, 1966, which in turn is a continuation of application Ser. No. 274,905, Apr. 23, 1963. This application Oct. 3, 1969, Ser. No. 866,081
The portion of the term of the patent subsequent to July 22, 1983, has been disclaimed
Int. Cl. C10m 1/26 12 Claims

Esters of high molecular weight carboxylic acids with hydroxy aromatic compounds such as phenols and naphthols. An exemplary group of esters are the monoesters, diesters, and mixtures thereof prepared from polyisobutenyl-substituted succinic acid or anhydride and monohydroxy or polyhydroxy phenols. The esters are especially useful as additives in fuels and lubricants.

3,542,681 NEGATIVE WORKING ELECTROSTATIC TONERS

Thomas D. Mutaffis, North Plainfield, N.J., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 10, 1968, Ser. No. 743,592
Int. Cl. G03g 9/04 9 Claims

A negative-working electrostatic toner composition capable of providing a reverse black and white image in an electrostatic reproduction process comprising an electrically insulating carrier liquid, a pigment or coloring agent, e.g. carbon black, and a polymeric material capable of imparting the negative-working characteristics to the electrostatic toner composition. Such a polymeric material preferably comprises an alkylated polymer of a heterocyclic N-vinyl monomer.

3,542,682 LIQUID TONERS FOR ELECTROSTATIC PRINTING

Thomas D. Mutaffis, North Plainfield, N.J., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 19, 1968, Ser. No. 738,127
Int. Cl. G03g 9/04 9 Claims

A positive-working liquid toner composition comprising in an electrically insulating carrier liquid, a pigment, e.g. carbon black, a metal soap and a dispersing agent comprising an alkylated polymer of a heterocyclic N-vinyl monomer.

3,542,683 PIEZOELECTRIC CERAMIC COMPOSITIONS

Hiromu Ouchi and Masamitsu Nishida, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan
Filed Sept. 4, 1968, Ser. No. 757,339
Claims priority, application Japan, Nov. 4, 1967, 42/71,261
Int. Cl. C04b 35/00; H01v 7/02 5 Claims

Ceramic compositions of the formulae:

$$\text{Pb}(\text{Co}_{1/3}\text{Ta}_{2/3})_{0.030}\text{Ti}_{0.625}\text{Zr}_{0.345}\text{O}_3$$

$$\text{Pb}(\text{Co}_{1/3}\text{Ta}_{2/3})_{0.250}\text{Ti}_{0.625}\text{Zr}_{0.125}\text{O}_3$$

$$\text{Pb}(\text{Co}_{1/3}\text{Ta}_{2/3})_{0.500}\text{Ti}_{0.375}\text{Zr}_{0.125}\text{O}_3$$

$$\text{Pb}(\text{Co}_{1/3}\text{Ta}_{2/3})_{0.500}\text{Ti}_{0.125}\text{Zr}_{0.375}\text{O}_3$$

$$\text{Pb}(\text{Co}_{1/3}\text{Ta}_{2/3})_{0.250}\text{Ti}_{0.125}\text{Zr}_{0.625}\text{O}_3$$

$$\text{Pb}(\text{Co}_{1/3}\text{Ta}_{2/3})_{0.030}\text{Ti}_{0.345}\text{Zr}_{0.625}\text{O}_3$$

are particularly useful in the manufacture of transducer elements.

SSO O.G.—52

3,542,684 VOLTAGE STABILIZED POLYOLEFIN DIELECTRIC COMPOSITIONS USING LIQUID-AROMATIC COMPOUNDS AND VOLTAGE STABILIZING ADDITIVES

George H. Hunt, West Newton, Mass., assignor to Simplex Wire and Cable Company, Cambridge, Mass., a corporation of Massachusetts
No Drawing. Continuation-in-part of application Ser. No. 649,355, June 27, 1967, now Patent No. 3,445,394, which is a continuation of application Ser. No. 367,718, May 15, 1964. This application Oct. 2, 1968, Ser. No. 764,651
Int. Cl. H01b 3/18 49 Claims

A dielectric composition is disclosed consisting of a solid phase polyolefin, e.g., polyethylene having dispersed therein a blend of a normally liquid aromatic compound and a voltage stabilizing additive. The voltage stabilizing additives include the halogenated polycyclic aromatic compounds and substituted aromatic hydrocarbon compounds characterized by having an electron acceptor group and an electron donor group potentially hydrogen bonded together by a reversibly transferable proton. Suitable electron acceptor groups include $-\text{NO}_2$, $-\text{CO}$, $-\text{CN}$, phenyl and polycyclic aryl; and suitable electron donor radicals include amino, lower alkyl and fluoro. The voltage stabilizing additive is present in amounts ranging from 5 to 50 parts by weight per 100 parts by weight of aromatic oil, and the total amount of the oil and additive blend present in the polyolefin ranges from 1 to 10 percent by weight based on the polyolefin. Suitable aromatic liquids include quinaldine, quinoline, isoquinoline, indene, polychlorinated biphenyl and orthonitrotoluene.

3,542,685 METHOD OF PRODUCING SPINEL TYPE FERRITES

Keizo Iwase, Toshio Takada, and Masao Kiyama, Kyoto, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed July 1, 1966, Ser. No. 562,751
Int. Cl. C04b 35/26, 35/38 12 Claims

An organo salt of iron and other bivalent metal powders is produced characterized by the formation of the powder such as metallic oxalate containing ferrous ions and at least one kind of bivalent metal ion by pulverizing and mixing the solid mixture obtained by mixing with the crystal of a hydrated ferrous salt (causing incongruent melting) such as ferrous sulfate $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ and ferrous nitrate $\text{Fe}(\text{NO}_3)_2 \cdot 2\text{H}_2\text{O}$, at least one kind of hydrated salt crystal of a bivalent metal (also causing incongruent melting) such as $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$, $\text{MnSO}_4 \cdot 7\text{H}_2\text{O}$, $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$, $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$, $\text{Mn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$, $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ or $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ and further mixing in the crystals of organic acids such as oxalic acid $\text{H}_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ or formic acid HCOOH or the crystals of hydrated organic alkali salts such as $(\text{NH}_4)_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$, $\text{Na}_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ or $\text{K}_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ in solid state. These powders can be further decomposed to form ferrite powders of less than three microns.

3,542,686 CORROSION INHIBITING SALT COMPOSITIONS CONTAINING SODIUM TRIPOLYPHOSPHATE, ALUMINUM SULFATE, AND A SOLUBLE FERROCYANIDE

Howard C. Miller, Mount Prospect, Ill., assignor to Morton International, Inc., Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 27, 1967, Ser. No. 656,353
Int. Cl. C23f 11/00; C09k 3/18 7 Claims

A crushed rock salt composition for snow and ice control having reduced corrosion characteristics comprising

at least about 96.5% of crude crushed rock salt, from about 0.05 to 3% sodium tripolyphosphate, from about 0.05 to 3% of a sulfate selected from the group consisting of zinc and aluminum sulfate and a small amount of a soluble ferrocyanide.

3,542,687

COMPOSITIONS AND PROCESSES FOR CLEANING BEARINGS

Harry C. Shannon and Charles L. Worboys, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 29, 1967. Ser. No. 671,596

Int. Cl. C09d 9/00; C11d 7/50; C23g 5/02

U.S. Cl. 252—170

14 Claims

Aliphatic ketones containing 3 to about 13 carbon atoms (especially as part of flushing compositions containing, additionally, one or more organic diester-type high temperature lubricants) have the ability to "free" bearings that are caused to stick by the accumulation of a residue (of products of the decomposition of an organic diester-type high temperature lubricant) when the bearings are lubricated over a long period of time with certain high temperature lubricants.

3,542,688

FLOCCULANT CONSISTING OF THE CONDENSATION PRODUCT OF A POLYHALOGENATED ORGANOPHOSPHATE AND A POLYAMINE

Leo E. Crowley, Wakefield, Mass., assignor to Amicon Corporation, Lexington, Mass., a corporation of Massachusetts

No Drawing. Filed Apr. 18, 1968. Ser. No. 722,203

Int. Cl. C02b 5/06; C23f 11/16, 14/02

U.S. Cl. 252—180

7 Claims

Novel flocculating agents prepared by the controlled condensation reaction of (1) at least one polyhalogenated phosphorous-bearing compound such as tris β -chloroethylphosphate and (2) a polyamine of the formula



wherein x has an average value from 1 to 6 and y is an integer from 2 to 8. These novel flocculants preferably have average molecular weights of at least 1000 and are most useful in the form of aqueous solutions.

3,542,689

SPUN POLYMER FILAMENT OPTICALLY BRIGHTENED WITH 7-v-TRIAZOLYL-COUMARIN COMPOUNDS

Rudolf Kirchmayr, Binningen, Hansjörg Heller, Riehen, and Jean Rody, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed Feb. 12, 1968. Ser. No. 704,589

Claims priority, application Switzerland, Feb. 16, 1967, 2,319/67

Int. Cl. C09k 1/00; C07d 55/02, 55/04

U.S. Cl. 252—301.2

5 Claims

A process for the production of optically brightened filaments of spinnable synthetic organic polymers, wherein certain 7-v-triazolyl-coumarin optical brighteners are added to the spinning melt of such polymer and filaments are spun from the brightener-containing melt.

3,542,690 GADOLINIUM ACTIVATED YTTRIUM PHOSPHATE, BORATE AND GERMANATE ULTRAVIOLET EMITTING PHOSPHORS

Hans J. Borchardt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 28, 1968. Ser. No. 755,788

Int. Cl. C09k 1/36, 1/54, 1/66

U.S. Cl. 252—301.4

3 Claims

Ultraviolet emitting phosphors having the formula



wherein x is 0.002 to 0.1 and A is P_2O_5 , B_2O_3 or 2GeO_2 can be made by heating intimate mixtures of the calculated quantities of the respective oxides to temperatures of 500 to 1500° C. The phosphors are particularly useful for cathode ray tube printout systems.

3,542,691

ONE-STEP PROCESS FOR PREPARING A LIQUID N-ALKYL-N'-PHENYL-PARA-PHENYLENE-DIAMINE SYSTEM

William Budd, Cuyahoga Falls, and Albert H. Olzinger, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed May 8, 1968. Ser. No. 727,659

Int. Cl. C08f 45/60

U.S. Cl. 252—401

8 Claims

A one-step process for providing a liquid N-alkyl-N'-phenyl-para-phenylenediamine age resister system for polymers.

3,542,692

LIQUID MIXTURE OF N-4-METHYL-2-PENTYL-N'-PHENYL-PARA-PHENYLENEDIAMINE AND N-5-METHYL-2-HEXYL-N'-PHENYL-PARA-PHENYLENEDIAMINE

Ronald B. Spacht, Hudson, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed May 8, 1968. Ser. No. 727,660

Int. Cl. C08f 45/60

U.S. Cl. 252—401

4 Claims

Liquid N-sec-alkyl-N'-phenyl-para-phenylenediamine age resister system for polymers.

3,542,693

CATALYTIC SYSTEM CONTAINING DISUBSTITUTED CARBAMATES

John A. Price, Swarthmore, Pa. (% Avisun Corporation, Marcus Hook, Pa. 19061), and Marco A. Achon, Marques de Urquijo u° 4, Madrid, Spain

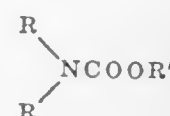
No Drawing. Filed Dec. 13, 1967. Ser. No. 690,095

Int. Cl. C08f 15/04

U.S. Cl. 252—429

6 Claims

A coordination catalyst system for the copolymerization of ethylene with other polymerizable unsaturated hydrocarbons consisting of the product obtained by mixing in an inert solvent, a vanadium salt, an alkyl aluminum dihalide and a N,N-disubstituted carbamate having the general formula



wherein R and R' are hydrocarbon radicals which contain no unsaturation other than that derived from aromatic radicals.

3,542,694

PLATINUM ALKYLATION CATALYST

Frederic N. Schwettmann, Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 15, 1965, Ser. No. 487,582, now Patent No. 3,384,664, dated May 21, 1968. Divided and this application Nov. 3, 1967, Ser. No. 709,509

Int. Cl. C07c 87/58, 87/52; B01j 11/74

U.S. Cl. 252—430

10 Claims

A catalyst for the alkylation of nitroaniline or phenylenediamine comprising a carrier oxide of Group III to Group VIII metals containing 0.1–10 weight percent of a platinum metal, the activity of said catalyst being enhanced by pretreatment with a liquid aliphatic hydrocarbon and a sulfur compound of hydrogen sulfide or organic sulfur soluble in said hydrocarbon.

3,542,695

PREPARATION OF POLYMERIZATION CATALYST BY REACTING DODECA-2,6,10-TRIENE-1,12-DIYL NICKEL, TRIFLUOROACETIC ACID AND OXYGEN

François Dawans, Bougival, Jean Pierre Durand, Rueil-Malmaison, and Philippe Teyssie, Le Vesinet, France, assignors to Institut Francais du Pétrole des Carburants et Lubrifiants, Rueil-Malmaison, France

No Drawing. Filed Apr. 11, 1968. Ser. No. 720,467

Claims priority, application France, Apr. 13, 1967, 102,671; Sept. 15, 1967, 121,277

Int. Cl. C08d 1/22

U.S. Cl. 252—431

23 Claims

A polymerization catalyst is manufactured by treating a zero-valent nickel compound, such as dodeca-2,6,10-triene-1,12 diyl nickel (trimer of butadiene) with molecular oxygen either before or during the reaction of the nickel compound with trifluoroacetic acid. The molecular oxygen may be added to the nickel compound in molar ratio from about 0.05 to 0.9 gram molecules of oxygen per gram atom of nickel, while the molar ratio of trifluoroacetic acid to the nickel compound may be from about 0.5 to 50.

3,542,696

HYDROCRACKING CATALYST

Bernard F. Mulasky, Pinole, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Continuation-in-part of application Ser. No. 742,321, July 3, 1968, which is a continuation-in-part of application Ser. No. 645,855, June 8, 1967, which in turn is a continuation-in-part of application Ser. No. 568,536, July 28, 1966. This application Oct. 14, 1968, Ser. No. 767,239

Int. Cl. B01j 11/74, 11/78

U.S. Cl. 252—439

10 Claims

A novel catalyst composition comprising nickel, or compounds thereof, associated with a coprecipitated composite of tin, or compounds thereof, and a siliceous oxide.

3,542,697

TEMPERATURE SENSITIVE CONDUCTIVE METAL OXIDE MODIFIED VANADIUM DIOXIDES

Bertrand L. Chamberland, Chadds Ford, Pa., and Donald B. Rogers, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 6, 1968. Ser. No. 735,013

Int. Cl. H01b 1/08

U.S. Cl. 252—518

15 Claims

Metal oxide modified vanadium dioxides are prepared by heating a mixture of a metal oxide and a vanadium oxide at temperatures of about 500–1400° C. and at pressures up to 65 kilobars. These metal oxides are tem-

perature-sensitive electrical conductors that are useful as the working element of a temperature-sensitive switch



and as a component of a bistable resistor device in a computer storage element.

3,542,698

POLYMERS FROM OLEFIN OXIDES AND SULFIDES

Joginder Lal, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 9, 1968. Ser. No. 751,355

Int. Cl. C08g 23/00

U.S. Cl. 260—2

20 Claims

Olefin oxides (or sulfides) may be polymerized with a catalyst system comprised of a mixture of (A) metal alkyl (1–10C) and (B) metal alkyl thiocarbonates, metal thiocarbamates, or metal thiocarboxylates (molar ratio between .05 and 5.0). Zn or Al are the preferred metals of (A); Zn or Cd the preferred metals of (B). The resulting polymers have a higher mol. wt. than polymers produced using the catalyst materials of (B) alone.

3,542,699

CROSSLINKED POLYMERS OF 2-HYDROXY-ALKYL OR ALKENYL OXAZINES AND OXAZOLINES

Alan J. Levy and Morton H. Litt, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Original application Dec. 7, 1966, Ser. No. 599,691. Divided and this application Apr. 2, 1969, Ser. No. 828,053

Int. Cl. C08g 33/02, 33/06

U.S. Cl. 260—2

4 Claims

This invention relates to novel crosslinked polymers prepared by polymerizing oxazines and oxazolines having hydroxyl-terminated alkyl or alkenyl groups in the 2-position.

3,542,700

PROCESS OF MAKING A RUBBER LATEX COMPOSITION; THE SHAPED VULCANIZED COMPOSITION; THE FOAMED COMPOSITION THEREFROM

George Hilditch, Frank Laidlaw White, and Raymond Almer Stewart, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate and politic

No Drawing. Filed Oct. 18, 1965, Ser. No. 497,459

Claims priority, application Canada, June 21, 1965, 933,823

Int. Cl. C08d 7/00, 7/16, 13/08

U.S. Cl. 260—2.5

18 Claims

Latex blends of a hydrocarbon polymer and a copolymer of isoprene and an acrylic nitrile are used to pro-

duce elastic shaped articles of improved tensile properties by a process involving shaping the latex blends, gelling to preserve shape and vulcanizing.

3,542,701

ELEMENTARY SULFUR AS FLAME-RETARDANT IN PLASTIC FOAMS

Gerrit W. van Raamsdonk, Delft, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1967, Ser. No. 671,113
Claims priority, application Great Britain, Nov. 29, 1966, 53,441/66

Int. Cl. C08f 33/02, 45/00, 47/08

U.S. Cl. 260—2.5

5 Claims

Inflammability of foamed synthetic macromolecular substances is decreased by the addition of elementary sulfur under such conditions that in a layer of the cellular structure extending along the surface or part thereof and 1 mm. deep, a content of elementary sulfur of at least 2% by weight is left.

3,542,702

METHOD OF MAKING CROSS-LINKED POLYPROPYLENE RESIN FOAMS

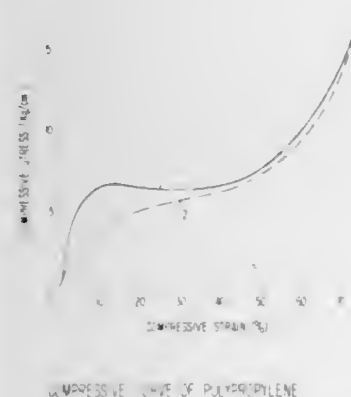
Hiroshi Okada, Isamu Tamai, Atsushi Osakada, Minoru Oyama, Masaaki Yamada, and Shunji Ohkubo, Ohtsu-shi, Japan, assignors to Toray Industries Inc., Tokyo, Japan

Filed Dec. 28, 1967, Ser. No. 694,157

Int. Cl. C08j 1/18; C08f 47/10; C08d 13/10

U.S. Cl. 260—2.5

17 Claims



The formation of a polypropylene resin foam having uniform and fine cells therein by utilizing as a base a polypropylene resin cross-linked with from 0.05–20% by weight of divinylbenzene.

3,542,703

PREPARATION OF POLYIMIDE FOAMS

Ralph E. De Brunner, Kettering, Ohio, assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Dec. 20, 1966, Ser. No. 603,179. Divided and this application Apr. 28, 1969, Ser. No. 833,239

Int. Cl. C08g 20/32, 53/08

U.S. Cl. 260—2.5

6 Claims

The method of preparing a foamed polyimide by heating a mixture of a bis(dialkylaminoalkyl) ester of an aromatic tetracarboxylic acid, an aromatic diamine, and an inert organic liquid solvent at a temperature of about 150–500° C.; said foamed polyimide being useful as an insulating material or heat shield.

3,542,704

POLYURETHANE COMPOSITIONS INCLUDING AROMATIC SULFONES

Milton R. Radcliffe, Marblehead, and Paul J. Tillman, Peabody, Mass., assignors to USM Corporation, Flemington, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 611,829, Jan. 26, 1967. This application July 7, 1969, Ser. No. 839,707

Int. Cl. C08g 22/04, 41/00, 51/46

U.S. Cl. 260—2.5

8 Claims

The specification discloses polyurethane compositions including therein aromatic sulfones. The compositions may be either cellular or noncellular products. The sulfones act as flexibilizing plasticizers for the noncellular products and improve the compressive strength of the cellular products.

3,542,705

RECONSTITUTED LEATHERBOARD COMPRISING LEATHER FIBERS AND ALKYL-SUBSTITUTED NITRILE/CARBOXYL CONTAINING RUBBER

Colin P. Mason and Ernest G. Pole, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate and body politic

No Drawing. Filed Nov. 3, 1967, Ser. No. 680,315

Claims priority, application Canada, Nov. 21, 1966, 975,948

Int. Cl. C08d 7/08

U.S. Cl. 260—8

8 Claims

A composition, suitable for use as leatherboard, comprises an admixture of leather fibres and a carboxyl-containing synthetic rubber comprising 50 or more percent of a conjugated alkadiene and 50 or less percent of an olefinically-unsaturated nitrile monomer characterized in that it has an alkyl-substituent containing 1 to 2 carbon atoms.

3,542,706

ADHESIVES COMPRISING AN AQUEOUS DISPERSION OF POLYVINYL ACETATE, THERMOSETTING CROSS LINKING RESIN AND A CRITICAL AMOUNT OF METHYL CELLULOSE

Peter S. Columbus, Whitestone, N.Y., and Carl R. Erikson, Maywood, N.J., assignor to Borden, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 18, 1968, Ser. No. 698,705

Int. Cl. C08g 37/18, 37/32

U.S. Cl. 260—14

3 Claims

The instant invention relates to non-bubbling, heat curable water-based polyvinyl acetate thermosetting resin adhesives comprising, in addition to the resins noted, water-soluble methyl cellulose in an amount sufficient to form a non-elastic continuous film on the adhesive surface when exposed to curing temperatures.

3,542,707

FILM-FORMERS COMPRISING STARCH, CATIONIC POLYMER AND ALIPHATIC DIALDEHYDE

Ralph L. Wilkinson, Downers Grove, Ill., assignor to CPC International Inc., a corporation of Delaware

No Drawing. Filed Mar. 20, 1968, Ser. No. 714,401

Int. Cl. C08g 37/22

U.S. Cl. 260—17.3

11 Claims

Covers improved film-formers comprising a starch based system which includes starch, a cationic polymer and a polyaldehyde. Also, covers their use in treating surfaces such as in coating cellulosic fibrous articles, including paper and textiles. Specifically, is involved with paper coating compositions and their use in increasing paper wet-rub resistance after coating a paper article therewith.

3,542,708

STARCH POLYETHYLENIMINO THIURETHANE REINFORCED RUBBERS

Judith A. Douglas, Peoria, and George G. Maher, Dunlap, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Nov. 13, 1968, Ser. No. 775,526

Int. Cl. C08d 9/06

U.S. Cl. 260—17.4

3 Claims

Synthetic rubbers coprecipitated from latices containing added starch polyethylenimino thiourethanes, obtained by reacting low D.S. starch xanthate and polyethylenimine, comprise tan colored, easily dewatered crumbs that can be sheeted and then vulcanized with unexpected rapidity to provide highly reinforced rubber stocks that possess greatly improved strengths and abrasion resistances comparable to those obtained with conventional reinforcing agents that are incapable of shortening the vulcanization time or of yielding lightly colored rubber.

3,542,709

METHOD FOR PREPARING A POLYURETHANE ELASTOMER SOLUTION

Seiji Kazama, Suita, Osaka, and Masamitsu Nakabayashi, Ibaraki, Osaka, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed Apr. 4, 1969, Ser. No. 813,698

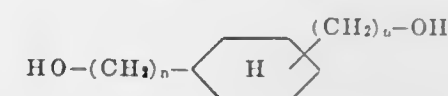
Claims priority, application Japan, Apr. 8, 1968, 43/23,222

Int. Cl. C08g 22/06, 22/40

U.S. Cl. 260—22

7 Claims

Polyurethane elastomer solution useful as finishing agent for fibrous materials is prepared by allowing a polyester diol of molecular weight ranging from 500 to 1,500, a compound of the formula



(wherein n is 0, 1 or 2, and the one $\text{HO}-(\text{CH}_2)_n$ -group attaches to the cyclohexyl ring at para- or meta-position relative to the other $\text{HO}-(\text{CH}_2)_n$ -group) in an amount of 0.5 to 3 mole parts per mole of the polyester diol and ω,ω' -diisocyanate dimethylbenzene in an amount of 0.475 to 0.55 mole per OH group in the polyester diol and the compound of the above formula to react with one another in the presence of tetrahydrofuran, cyclohexanone, dioxane, methylethyl ketone, methyl acetate, or a mixture of two or more thereof in such an amount that a weight ratio of the solvent to the reactants falls within 40:60 to 70:30, and diluting the resultant with one or more of the above-mentioned solvents so as to adjust the polymer content of the resultant to 15 to 30 weight percent.

3,542,710

COLORLESS TRANSPARENT THERMOPLASTIC SHEET BASED ON VINYL CHLORIDE POLYMER

Flaviano Glatti, Mestre, Venice, Italy, assignor to Montecatini Edison S.p.A., Milan, Italy

Filed Dec. 20, 1966, Ser. No. 603,388

Claims priority, application Italy, Dec. 12, 1965, 28,344/65

Int. Cl. A01g 9/14; C08f 29/18, 45/56

U.S. Cl. 260—23

7 Claims

A plant enclosure for controlling the growth of vegetables, flowers and fruit consists of a tinted polymeric sheet material of translucent character, essentially a composition of vinylchloride polymer, a thermal stabilizer, an ultraviolet absorber, a plasticizer, a lubricant and a dye.

3,542,711

PROCESS FOR PREPARING POLYEPOXIDE/THERMOPLASTIC RESIN FLUIDIZED BED COATING COMPOSITIONS AND RESULTING PRODUCTS

Joseph P. Manasia, Union, and Roy A. Allen, Iselin, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 459,421, May 27, 1965, which is a continuation-in-part of application Ser. No. 332,943, Dec. 23, 1963. This application Nov. 6, 1967, Ser. No. 680,960

The portion of the term of the patent subsequent to Jan. 9, 1984, has been disclaimed

Int. Cl. C08f 19/14, 21/04; C08h 9/00

U.S. Cl. 260—23

9 Claims

Homogeneous epoxy/thermoplastic agglomerates which are suitable for use in fluidized bed processes are prepared by pulverizing (1) a polyepoxide resin, (2) at least one thermoplastic resin, (3) a benzophenone tetracarboxylic dianhydride and (4) a stannous salt of a monocarboxylic acid in a pebble mill containing high density grinding media.

3,542,712

COATING COMPOSITION OF ETHYLENE-VINYL ACETATE COPOLYMER AND ARTICLES COATED THEREWITH

Bert Sorelle Gorton, Kennett Square, Pa., and Paul Edward Sample, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 5, 1968, Ser. No. 695,840

Int. Cl. C08f 37/18

U.S. Cl. 260—23

8 Claims

A moisture insensitive and heat-sealable coating composition is provided which comprises an aqueous dispersion of an ethylene/vinyl acetate copolymer, wax, a wood rosin ester and hydrolyzed polyvinyl acetate.

3,542,713

FOG RESISTANT FILMS OF VINYL CHLORIDE POLYMERS

Mario Gillio-Tos, Rho, Milan, and Helmut Kessler, Como, Italy, assignors to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut

No Drawing. Filed Apr. 26, 1968, Ser. No. 724,599

Claims priority, application Great Britain, May 4, 1967, 20,738/67

Int. Cl. C09k 3/18

U.S. Cl. 260—23

15 Claims

A vinyl chloride polymer having good anti-fogging properties can be prepared by incorporating in the polymer before it is formed into a film the combination of two compounds which are: (A) a polyoxyalkylene monoesterified with a fatty acid containing 8 to 24 carbon atoms and (B) a poly-alcohol containing at least 2 free hydroxyl groups and at least 1 hydroxyl group esterified with a fatty acid containing 8 to 24 carbon atoms.

3,542,714

PAINTABLE METHYLSILOXANE ELASTOMERS

Norman T. Metters, Greensboro, N.C., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 493,538, Oct. 6, 1965. This application Nov. 21, 1968, Ser. No. 777,874

Int. Cl. C08j 3/26

U.S. Cl. 260—24

4 Claims

Dimethylpolysiloxane rubbers are made paintable by incorporating therein from .5 to 10% by weight rosin.

3,542,715 FOAMED STRAND OF AN ORGANIC POLYMERIC MATERIAL

James Rushton White, Chapel Hill, N.C., and Herbert Blades, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 227,361, Oct. 2, 1962. This application Jan. 24, 1964, Ser. No. 341,484

The portion of the term of the patent subsequent to Jan. 4, 1983, has been disclaimed

Int. Cl. B29h 7/20; C08f 47/08; C08j 1/16

U.S. Cl. 260—2.5

6 Claims



1. A foam strand of a fiber-forming synthetic organic polymeric material which foam is composed predominantly of wall material generally having a thickness of less than about 2 microns, said wall material having a polyhedral configuration, and defining longitudinally elongated closed cavities.

3,542,716 POLYMERIZATION PROCESS

Albert R. Muller, Tallmadge, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 30, 1968, Ser. No. 701,561

Int. Cl. C08d 9/12

U.S. Cl. 260—27

5 Claims

A process is disclosed of polymerizing butadienes by means of a lithium based catalyst in which the polymer chain growth of the polybutadiene is terminated with polyfunctional terminators having three or more functional or reactive groups. This type of termination produces a polybutadiene having branched chains which greatly reduce the cold flow tendencies of finished polybutadiene.

3,542,717 ADHESIVE COMPOSITIONS CONTAINING COPOLYMERS OF ALPHA OLEFINS HAVING 11-20 CARBON ATOMS AND 4-20 CARBON ATOMS AND LAMINATES FORMED THEREFROM

Roger D. A. Lipman, Yonkers, N.Y., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 621,441, Mar. 8, 1967. This application Apr. 24, 1968, Ser. No. 723,872

Int. Cl. C09j 3/26

U.S. Cl. 260—27

8 Claims

Adhesive compositions containing copolymers of alpha olefins having (a) 11-20 carbon atoms and (b) 4-20 carbon atoms per molecule are used to form laminates

with various substrates. The adhesive is usually a liquid composition which can be made by dissolving suitable copolymers in organic solvents, preferably hydrocarbon solvents and can be compounded with tackifying resins, e.g., glycerol ester of hydrogenated rosin.

3,542,718 URETHANE COMPOSITIONS

Murray Lloyd Davis, Hockessin Hills, Del., and Bernardas Brizgys, Southgate, and Edward S. Mylis, Trenton, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Aug. 15, 1966, Ser. No. 572,175

Int. Cl. C08g 37/52, 41/04

U.S. Cl. 260—31.4

22 Claims

A curable one-component polyurethane composition of matter that is stable at room temperature which constitutes a blend of

- (1) prepolymer having terminal hydroxyl groups which is the reaction product of
 - (a) polyoxyalkylene polyol with
 - (b) organic polyisocyanate,
- (2) alkoxyalkylamino compound, and
- (3) acid catalyst.

3,542,719 PROCESS FOR PREPARING POLY(1,4-BENZ-AMIDE) IN SITU IN A POLYACRYLIC SOLUTION

Harold Pollack, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 24, 1968, Ser. No. 747,124

Int. Cl. C08f 37/18; C08g 20/08, 51/44

U.S. Cl. 260—32.6

10 Claims

Process for preparing poly(1,4-benzamide) in situ in a polyacrylic solution by polymerizing para-aminobenzoyl chloride hydrochloride therein. Preferred liquid media, salts, neutralizing agents, and polymerization conditions are disclosed. The resultant polymeric dope is useful in preparing poly(1,4-benzamide) reinforced, polyacrylic matrix, shaped articles. In particular, fibers so prepared, have a significantly improved hot-wet initial modulus.

3,542,720 COMPOSITIONS OF ANIONICALLY POLYMERIZED POLYCAPROLACTAM AND POLY(11-AMINOUNDECANOIC ACID)

John M. Kolyer, Convent, Albert A. Kveglis, Pine Brook, and Norman Sherman, Rockaway, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 4, 1968, Ser. No. 757,491

Int. Cl. C08g 41/04; C08k 1/40

U.S. Cl. 260—32.6

7 Claims

The impact strength of compositions of anionically polymerized polycaprolactam may be improved by carrying out the polymerization reaction in the presence of poly(11-aminoundecanoic acid).

3,542,721 METHOD FOR TREATING SYNTHETIC RUBBER

Saburo Minekawa, Yokohama, Koretaka Yamaguchi, Kawasaki-shi, Kazuo Toyomoto, Yokohama, and Kuniaki Sakamoto, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a Japanese corporation

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,101

Claims priority, application Japan, Dec. 27, 1965, 41/80,056; Nov. 5, 1966, 41/72,588

Int. Cl. C08d 9/00

U.S. Cl. 260—33.6

5 Claims

A method for producing a synthetic rubber substantially free from gel and having excellent processability

by heat treating a solution-polymerized synthetic rubber containing more than 10% by weight of 1,3-butadiene with 0.005 to 2 parts by weight of maleic anhydride and/or maleic acid and 0.05 to 10 parts by weight of azobisisobutyronitrile per 100 parts by weight of the synthetic rubber at a temperature of 20° to 150° C. for a period of 10 min. to 200 hrs. In said treatment, an organo aluminum mono- and/or di-chloride may be added to enable the treatment to be effectively completed at a lower temperature in a shorter time.

3,542,722

GLASS-REINFORCED COPOLYMERS OF TRIOXANE AND PROCESS FOR MAKING THEM

Karl-Heinz Häfner, Bad Orb, and Günther Roos, Kelheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Mar. 26, 1968, Ser. No. 715,999

Claims priority, application Germany, Apr. 8, 1967, F 52,070

Int. Cl. C08g 51/04; C08k 1/02

U.S. Cl. 260—37

6 Claims

The invention provides glass-reinforced copolymers of trioxane produced by cationic polymerization of trioxane with cyclic ethers or cyclic acetals in admixture with impregnated glass fibers.

3,542,723

METHOD OF MOLDING AGGREGATE PRESSURE RELEASE MATERIAL

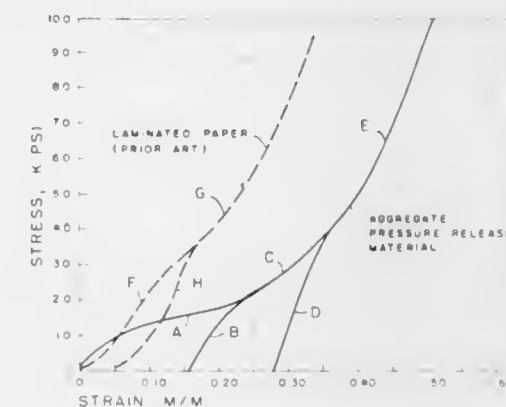
Shelby F. Sullivan, Arcadia, Harper John Whitehouse, Hacienda Heights, and Carl R. Johansen, La Verne, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed Aug. 21, 1968, Ser. No. 754,267

Int. Cl. C09k 3/00

U.S. Cl. 260—38

13 Claims



A process for producing a linearly elastic pressure release material for use in water containing particles of a silica in a binder. The material, if in plastic form, is molded, or if obtained in bulk form, sintered into a desired shape, and subjected to a prestress having a magnitude greater than the value of the pressures at which the pressure release material is subsequently to be used. The resulting product becomes stronger structurally than before prestressing and has its acoustic properties, such as the acoustic impedance, desensitized with depth, that is, independent of the depth of the water at which the pressure release material is to be used.

3,542,724

POLYMERS STABILIZED WITH COMBINATIONS OF A SULFUR-CONTAINING COMPOUND AND A PHOSPHITE

Stanley B. Mirviss, Stamford, Conn., and Carl C. Greco, Bronx, N.Y., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

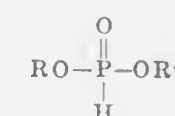
No Drawing. Filed June 3, 1968, Ser. No. 733,827

Int. Cl. C08f 45/58, 45/62

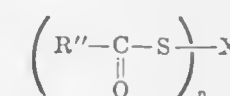
U.S. Cl. 260—45.7

10 Claims

A solid polymeric composition consisting essentially of a solid polymer selected from the class consisting of a hydrocarbon, a substituted hydrocarbon, a polystyrene, a vinyl polymer and copolymers and terpolymers thereof, stabilized against color degradation by incorporating therein a stabilizing quantity of a stabilizer consisting of a mixture of a dialkyl phosphite ester composition and a sulfur-containing composition. The phosphite ester having the following formula:



wherein R and R' can each be selected from the group consisting of an aryl or arylalkyl group each having from 1 to 50 carbon atoms. The sulfur-containing composition having the formula:



wherein R'' is a hydrocarbyl group containing from 3 to about 21 carbon atoms, n is an integer having a value of from 1 to 2, X is selected from the group consisting of hydrogen, alkali metal, alkaline earth metal, and acyl moieties having a hydrocarbyl essentially hydrocarbon residue and containing from about 1 to about 17 carbon atoms inclusive.

3,542,725

PLASTIC COMPOSITIONS CONTAINING SULFITE AND THIOL STABILIZERS

Adam F. Kopacki, Westwood, N.J., Stanley B. Mirviss, Stamford, and Sheldon F. Gelman, Danbury, Conn., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

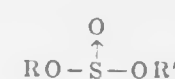
No Drawing. Filed June 3, 1968, Ser. No. 733,816

Int. Cl. C08f 45/62; C08g 51/62

U.S. Cl. 260—45.75

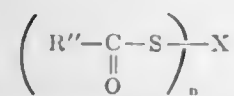
9 Claims

A polymeric composition consisting essentially of a polymer selected from the class consisting of hydrocarbon, a substituted hydrocarbon, a polystyrene, a vinyl polymer and copolymers and terpolymers thereof, stabilized against color degradation by incorporating therein a stabilizing quantity of a stabilizer consisting of a mixture of a sulfite ester or salt composition and a thiol acid anhydride. The sulfite ester has the following formula:



wherein R can be selected from the group consisting of an alkyl group having from 1 to 24 carbon atoms, an aryl group, an alkylaryl group, an arylalkyl group, a metallic cation, and mixtures thereof, and R' can be selected from the group consisting of hydrogen, an alkyl group having from 1 to 24 carbon atoms, an aryl group, an alkylaryl group, an arylalkyl group, a metallic cation and

mixtures thereof. The thiol acid anhydride has the following formula:



wherein R' is a hydrocarbyl group containing from 3 to about 21 carbon atoms, n is an integer having a value of from 1 to 2, X is selected from the group consisting of hydrogen, alkali metal, alkaline earth metal, and acyl moieties having a hydrocarbyl essentially hydrocarbon residue and containing from about 1 to about 17 carbon atoms inclusive.

3,542,726 POLYESTER RESINS STABILIZED WITH DISULFIDES

Mary J. Stewart, Media, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Apr. 23, 1968, Ser. No. 723,598
Int. Cl. C08g 51/58

U.S. Cl. 260—45.7 7 Claims
A thermal stabilized polyester comprising a highly polymeric linear polyester and a compound selected from those represented by the formula R₂S₂ wherein R is a radical selected from the group consisting of lower alkyl and phenyl.

3,542,727
SULFUR-MODIFIED POLYMERS OF CHLOROPRENE CONTAINING BORIC ACID
Rowland Whincup Saville, Loughborough, England, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 8, 1968, Ser. No. 751,049
Claims priority, application Great Britain, Feb. 23, 1968, 8,943/68
Int. Cl. C08d 3/14, 5/02

U.S. Cl. 260—45.7 4 Claims
Initial rapid decline heretofore experienced in the polymer viscosity of sulfur-modified polymers of chloroprene upon aging is inhibited by adding to the polymer, after termination of its preparatory polymerisation reaction, about from 0.3 to 1.0 part of boric acid per 100 parts of polymer.

3,542,728
ALIPHATIC ESTERS OF DIALKYL SALICYLIC ACIDS AS UV STABILIZERS FOR THERMOPLASTICS
Hans R. Gersmann, Hendricus A. Oosterhof, and Aart Strang, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 1, 1968, Ser. No. 709,811
Claims priority, application Great Britain, Mar. 1, 1967, 9,703/67
Int. Cl. C08f 45/58; C08g 51/58

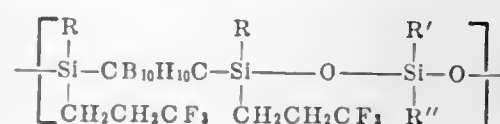
U.S. Cl. 260—45.85 7 Claims
Thermoplastic compositions comprise as stabilizers against actinic radiation certain esters of mono- or polyvalent saturated non-aromatic alcohols with certain 2-hydroxybenzoic acids having an alkyl or alkoxy substituent in the ring in the 3-position, the 5-position, or both.

3,542,729
STABILIZATION OF SYNTHETIC POLYMERS
Keisuke Murayama, Syoji Morimura, Tomoyuki Kurumada, and Ichiro Watanabe, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan
No Drawing. Filed June 19, 1968, Ser. No. 738,105
Claims priority, application Japan, Mar. 19, 1968, 43/17,876
Int. Cl. C08f 45/60; C08g 51/60

U.S. Cl. 260—45.8 5 Claims
Synthetic polymers such as polyolefin, polyurethane polyamide and the like are stabilized against the photo-

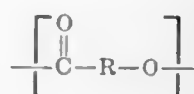
deterioration thereof by having incorporated therein a compound selected from the group consisting of piperidine-spiro-imidazolidine derivatives, piperidine-spirohydantoin derivatives and piperidine-spiro-oxazolidine derivatives, in a sufficient amount to effectively prevent such deterioration, usually in the order of about 0.005–2.0% by weight based upon the weight of the polymer employed.

3,542,730
FLUORINE-CONTAINING POLY-M-CARBORANYLENE-SILOXANES
Stelvio Papetti and Hansjürgen A. Schroeder, Hamden, and Santad Kongpricha, North Haven, Conn., assignors to Olin Corporation, a corporation of Virginia
No Drawing. Filed Aug. 16, 1968, Ser. No. 753,060
Int. Cl. C08f 11/04
U.S. Cl. 260—46.5 5 Claims
Fluorine - containing poly - m - carboranylenesiloxanes comprising recurring units having the formula



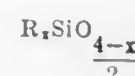
wherein R is alkyl, fluoroalkyl or aryl and R' and R'' are independently selected alkyl, fluoroalkyl, cyanoalkyl or aryl are prepared by the condensation of a 1,7-bis(halo- or alkoxy)-alkyl(or aryl)-3,3,3-trifluoropropylsilyl-m-carborane with an appropriate dihalosilane or dialkoxysilane in the presence of ferric chloride. These poly-m-carboranylenesiloxanes are suitable for the preparation of solvent resistant, thermally stable coatings.

3,542,731
HETEROCYCLIC AROMATIC POLYESTERS
Billy M. Culbertson, Burnsville, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Continuation of application Ser. No. 603,757, Dec. 22, 1966. This application Oct. 2, 1969, Ser. No. 863,317
Int. Cl. C08g 17/02
U.S. Cl. 260—47 5 Claims
Aromatic polyesters represented by repeating units having the formula



wherein R is a divalent heterocyclic aromatic radical have been prepared through self-condensation of hydroxy and acyloxy heterocyclic substituted carboxylic acid. The polymers are useful as adhesives, molding resins and in the formation of fibers and films.

3,542,732
ORGANOPOLYSILOXANES STABILIZED WITH TETRACYANOETHYLENE
John D. Austin and Ronald H. Baney, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 28, 1968, Ser. No. 755,818
Int. Cl. C08g 51/60
U.S. Cl. 260—45.9 3 Claims
Tetracyanoethylene is added as a stabilizer to organopolysiloxanes of general formula



where R is a monovalent hydrocarbon or halogenated hydrocarbon radical and x has a value of from 0 to 3; x having an average value of at least 0.5.

3,542,733
METHOD OF PREPARING POLY (HYDROXY-ETHERS) BASED POLYESTERS
Sachio Nishimura, Naoaki Hata, and Yasuji Nakamura, Tokyo, Japan, assignors to Asahidenka Kogyo Kabushiki Kaisha, Tokyo, Japan, a Japanese corporation
No Drawing. Filed Aug. 22, 1966, Ser. No. 573,846
Claims priority, application Japan, Aug. 20, 1965, 40/50,653, 40/50,654; Jan. 12, 1966, 41/1,486, 41/1,487; Jan. 21, 1966, 41/3,447; Mar. 28, 1966, 41/19,076
Int. Cl. C08g 17/08, 17/13, 33/10
U.S. Cl. 260—47 5 Claims
The invention relates to novel linear thermoplastic poly (hydroxy-ether) polyesters having relatively high molecular weights and suitable for coating, laminating, film making and molding, prepared by reacting an alicyclic dicarboxylic acid halide with a poly(hydroxyether) prepolymer in the presence of an acid accepting agent and a basic catalyst.

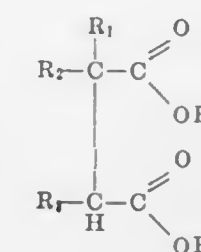
3,542,734
POLYAMIDES CONTAINING THE DIVALENT 9,10-TRIPTYCENE RADICAL
Wallace Larimer Rippie, Louisville, Ky., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 17, 1967, Ser. No. 623,808
Int. Cl. C08g 20/00
U.S. Cl. 260—47 1 Claim
Fiber and film forming polyamides containing the divalent 9, 10-triptycene radical.

3,542,735
METHOD OF PREPARING POLYIMIDES IN ALKANOIC ACIDS SOLVENTS
Eric Royle Lynch, Llangollen, Wales, assignor to Monsanto Chemicals Limited, London, England, a British company
No Drawing. Filed Apr. 10, 1968, Ser. No. 720,335
Claims priority, application Great Britain, Apr. 14, 1967, 17,269/67
Int. Cl. C08g 20/32
U.S. Cl. 260—47 7 Claims
Process for making thermal and oxidation stable fluorine-containing polyimides by dehydrating a solution comprising an aromatic dianhydride and an aromatic diamine, the aromatic rings of either or both reactants being fluorinated, the solvent containing at least 40% by volume of an ether, ketone, or alkanolic acid or mixtures thereof, the remainder being an inert organic solvent.

3,542,736
POLYURETHANE FIBERS DERIVED FROM 1,4-DIETHYLBENZENE-β,β'-DIISOCYANATE
Karl W. Rausch, Jr., Hamden, and Adnan A. R. Sayigh, North Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 447,865, Apr. 13, 1965. This application May 14, 1968, Ser. No. 728,924
Int. Cl. C08g 22/26
U.S. Cl. 260—75 4 Claims
Polyurethane (spandex) fibers derived from 1,4-diethylbenzene-β,β'-diisocyanate (DEBI) are described. The fibers are prepared by conventional procedures but using

DEBI in place of the diisocyanates hitherto used. The resulting fibers are superior to those hitherto prepared in their resistance to chlorine bleach and in their high modulus, permitting the use of finer gage fibers.

3,542,737
POLYMERIC POLYESTERS CONTAINING ALKYL-OR ALKENYLSUCCINIC ACIDS
Max H. Keck, Cuyahoga Falls, and John R. Wilson, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed July 5, 1968, Ser. No. 743,308
Int. Cl. C08g 17/00
U.S. Cl. 260—75 8 Claims
The invention relates to copolyesters of ethylene glycol, terephthalic acid and substituted succinic acids of the formula



in which R₁ is a radical selected from alkenyl radicals and alkyl radicals and R₂ and R₃ are the same or different radicals selected from hydrogen, alkenyl and alkyl and the sum of the number of carbon atoms in R₁, R₂ and R₃ is at least 12. The copolyester resins have reduced melt viscosity as compared with polyethylene terephthalate and fibers of the resins have better dye receptivity.

3,542,738
ACCELERATION OF POLYESTER RESIN FORMATION USING A DIALKYL OXYDIFORMATE AND PRODUCT
Mary J. Stewart, Riddlewood, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed July 15, 1968, Ser. No. 744,663
Int. Cl. C08g 17/08, 17/13
U.S. Cl. 260—75 10 Claims
A method of accelerating the preparation of filament- or film-forming thermoplastic polyester resin, comprising reacting dimethyl terephthalate and an alkylene glycol in the presence of a dialkyl oxydiformate, and the product prepared by this method, is disclosed herein.

3,542,739
ONE-COMPONENT STOVING LACQUERS PREPARED BY THE MIXED POLYMERIZATION OF VINYL MONOMERS WITH UNSATURATED COMPOUNDS
Heinrich Krimm, Krefeld-Bockum, Georg Malamet, Krefeld, Hermann Schnell, Krefeld-Urdingen, and Bernd Peltzer, Krefeld-Gartenstadt, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Jan. 22, 1968, Ser. No. 699,378
Claims priority, application Germany, Jan. 27, 1967, F 51,361
Int. Cl. C08g 22/34, 22/06
U.S. Cl. 260—77.5 5 Claims
One-component stoving lacquers are provided as well as a process for their preparation wherein vinyl monomers are polymerized with unsaturated compounds containing reactive hydrogen atoms and unsaturated masked isocyanates wherein the unsaturated compound is an un-

saturated alcohol and the masked isocyanate is β -isocyanatoethyl methacrylate or acrylate masked with an oxime.

3,542,740

FIRE-RETARDANT POLYURETHANES

Charles Theodore Pumpelly and Eric Russell Larsen, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 430,160, Feb. 3, 1965. This application July 1, 1968, Ser. No. 741,339

Int. Cl. C08g 22/16

U.S. Cl. 240—77.5

2 Claims

A first resistant polyurethane coating composition comprising the reaction product of: (I) a polyether polyol, such as polypropylene glycol, having a hydroxyl equivalent weight of about 600 to about 1200, (II) an organic polyisocyanate, (III) a polybrominated aliphatic hydroxyl containing compound selected from the group consisting of 3-bromo-2,2-bis(bromomethyl)propanol and 2,2-bis(bromomethyl)-1,3-propanediol in amount such that the finished resin contains from about six to about twenty percent by weight of bromine, and (IV) additional polyhydric alcohol such as trimethylol propanol so as to maintain an —NCO/—OH ratio of from about 1.0 to about 1.8.

3,542,741

PRODUCTION OF POLYISOCYANATE-HYDROXY COPOLYMER COATING COMPOSITIONS

Heinrich Hartmann, Limburgerhof, Pfalz, and Hans Wilhelm and Oskar Lissner, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Feb. 20, 1968, Ser. No. 706,768
Claims priority, application Germany, Feb. 23, 1967, 1,720,265

Int. Cl. C08f 1/80, 47/12

U.S. Cl. 260—77.5

8 Claims

Light-resistant coating materials and their production by reacting polyisocyanates which do not contain any aromatic radicals with copolymers containing hydroxyl groups which have been prepared by solution polymerization in the presence of organic sulfides free from mercapto groups and which contain certain amounts of copolymerized units of alkyl acrylates, alkyl methacrylates, monoesters of acrylic acid or methacrylic acid with polyhydric alcohols, vinyl aromatics or vinyl esters.

3,542,742

THERMALLY STABLE HETEROCYCLIC NAPHTHALENE POLYMER AND METHOD FOR SYNTHESIZING THE SAME

Richard L. Van Deusen, Xenia, and Fred E. Arnold, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
No Drawing. Filed Apr. 3, 1968, Ser. No. 718,375

Int. Cl. C08g 20/32

U.S. Cl. 260—78

5 Claims

This invention comprises new thermally stable polymeric compositions and a method for preparing such compositions by the polycondensation reaction of tetrafunctional compounds containing naphthalene nuclei and two or more carboxylic groups capable of reacting with the amino radicals in a tetrafunctional naphthalene compound containing at least two amino radicals. Both the carboxylic radicals and the amino radicals are in peri positions on the naphthalene in order to give six member rings in the resultant ladder-type polymer. All of the carboxylic groups can be in one naphthalene compound such as 1,4,5,8-naphthalenetetracarboxylic acid, in which case all of the amine groups will be in another naphthalene compound such as 1,4,5,8-naphthalene-tetraamine or alternatively,

there can be two carboxylic groups and two amino groups in the same compound such as in 4,5-diamino-1,8-naphthalene-dicarboxylic acid and derivatives. Because of less strain in the resultant six-membered ring structures, the resultant polymers have high thermostability and therefore utility in a variety of aerospace applications, and also are useful for producing molded articles, laminates, films, adhesives and ablative materials.

3,542,743

BASIC DYEABLE ACID DYE RESISTIVE POLYAMIDES CONTAINING TERMINAL ARYL DISULFONATED GROUPS

Charles D. Flamand, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 500,232, Oct. 21, 1965. This application July 15, 1968, Ser. No. 744,702

Int. Cl. C08g 20/20

U.S. Cl. 260—78

3 Claims

Fiber-forming linear polycarbonamides modified to contain as an integral part of their polymer chain certain terminal aryl disulfonated groups resist yellowing and possess excellent acid dye-resistant and basic dyeable properties. Fibers formed from the polycarbonamides may, for example, be combined with standard polycarbonamide fibers to provide fabrics which are dyeable in a single dye bath to multiple color effects, i.e., patterns and designs.

3,542,744

NOVEL FILM FORMING POLYIMIDES COMPRISING POLY[BETA(N-PROPYL)COLUTARIMIDE]

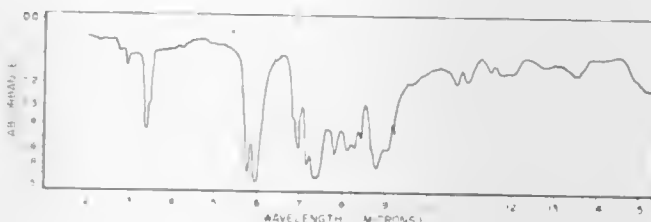
Herbert K. Reimschuessel, Morristown, and John V. Pascale, Parsippany, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Original application Sept. 13, 1965, Ser. No. 486,636, now Patent No. 3,422,093, dated Jan. 14, 1969. Divided and this application Aug. 2, 1968, Ser. No. 767,874

Int. Cl. C08g 20/12

U.S. Cl. 260—78

9 Claims



This invention relates to novel polyimides comprising recurring units containing a glutarimide ring. The polyimides of this invention possess high thermal stability and good resistance to hydrolytic degradation and can be formed into tough films and fibers.

3,542,745

TERPOLYAMIDES USEFUL IN PREPARING TEXTILE FIBERS CONSISTING ESSENTIALLY OF NYLON 66, NYLON 6, AND NYLON 2-6IA

Rupert J. Snooks, Jr., Gulf Breeze, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Oct. 29, 1968, Ser. No. 771,617

Int. Cl. C08g 20/12, 20/20

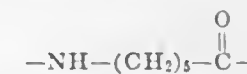
U.S. Cl. 260—78

9 Claims

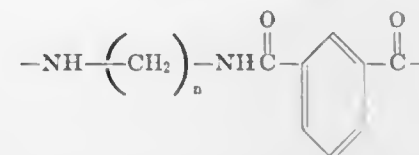
Textile fibers spun and drawn from a synthetic linear polyamide having a polymer chain consisting of at least 93 weight percent



units, from 0.25 to 3 weight percent



units and from 0.5 to 4 weight percent



units in which n is 2 to 6 are of improved quality and dyeability.

3,542,746

PROCESS FOR PREPARING CHLORO-SULFONATED POLYETHYLENE

Carl Robert Eckardt and Robert Fuhrmann, Morris Plains, and Oliver Alfred Barton, Florham Park, N.J., assignors, by mesne assignments, to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 18, 1966, Ser. No. 535,339

Int. Cl. C08f 3/06, 27/02, 27/06

U.S. Cl. 260—79.3

3 Claims

High molecular weight, substantially noncrystalline chlorosulfonated polyethylene which may be cured to afford rubbery products is produced by contacting at 0° to 100° C. in the absence of solvent, particulate chlorinated polyethylene having a chlorine content ranging from about 20% to about 50% by weight, less than 1% crystallinity and an intrinsic viscosity of at least 2.5 deciliters per gram in *o*-dichlorobenzene at 100° C. with a gaseous mixture of chlorine and sulfur dioxide wherein the weight ratio of sulfur dioxide to chlorine in said mixture ranges from about 20:1 to about 1:10.

3,542,747

CONTINUOUS PROCESS FOR THE CHLORO-SULFONATION AND CHLORINATION OF POLYETHYLENE

Royce E. Ennis and John W. Scott, Beaumont, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 643,506, June 5, 1967. This application May 7, 1968, Ser. No. 727,282

Int. Cl. C08f 27/06; C08d 3/14

U.S. Cl. 260—79.3

11 Claims

Continuous chlorination or chlorosulfonation of polyethylene in solvent solutions by feeding solution and sulfur chloride into one end of a column or pipe operated in both liquid and gas phase, and feeding chlorine up through the column. Free-radical initiators and chlorosulfonation catalysts can be present. Solvent-vaporized overhead is refluxed into the column to provide cooling.

3,542,748

ANTISTATIC AGENTS FOR PLASTIC COMPOSITIONS

Frank Joseph Arthen, Somerset, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

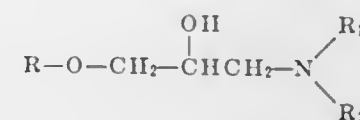
No Drawing. Filed Feb. 10, 1966, Ser. No. 526,396

Int. Cl. C08d 3/04

U.S. Cl. 260—80.7

7 Claims

A new composition having improved antistatic properties comprising a polymeric plastic material (e.g., a polyolefin) and an antistatic agent represented by the following formula:



wherein R is an alkyl radical of 8 to 18 carbon atoms, R_1 is $\text{CH}_2\text{—CHR}_3(\text{OCH}_2\text{CHR}_3)_n\text{OH}$ wherein n is 0–9, R_2 is hydrogen, lower alkyl or R_1 , and each R_3 is individually hydrogen or lower alkyl.

3,542,749

NOVEL ETHYLENE COPOLYMERS AND SELF-SUPPORTING FILM PREPARED THEREFROM

Harry D. Ansporn, Kansas City, Mo., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Original application Mar. 7, 1968, Ser. No. 711,213, now Patent No. 3,489,824, dated Jan. 13, 1970. Divided and this application Apr. 30, 1969, Ser. No. 827,464

Int. Cl. C08f 15/00

U.S. Cl. 260—86.7

5 Claims

Novel ethylene copolymers are provided in which the polymer contains polymerized ethylene and polymerized oleyl acrylate, erucyl acrylate, *N*-oleyl acrylamide, *N*-erucyl acrylamide or any mixture thereof. Such copolymers, and blends of such copolymers with ethylene homopolymers, when fabricated into polymer film, exhibit a low coefficient of friction and good antiblocking properties.

3,542,750

CATALYST FOR THE POLYMERIZATION OF CYCLIC ALKYLENE OXIDES

Hideo Tomomatsu, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed May 5, 1969, Ser. No. 821,944

Int. Cl. C08f 7/12, 13/00

U.S. Cl. 260—88.3

11 Claims

The condensation products of aluminum hydroxide and an aluminum alcoholate are catalysts for the polymerization of cyclic alkylene oxides. These condensation products are useful alone or in combination with an organometallic compound as a catalyst for the high molecular weight polymerization of cyclic alkylene oxides. High molecular weight polymerized cyclic alkylene oxides are useful as thickeners, water friction reducers, adhesives, cosmetics, and elastomers.

3,542,751

PRODUCTION OF CIS-1,4-POLYDIENES BY MEANS OF A TERNARY CATALYST SYSTEM

Morford C. Throckmorton, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 9, 1969, Ser. No. 814,832

The portion of the term of the patent subsequent to Apr. 15, 1986, has been disclaimed

Int. Cl. C08d 1/14, 1/56

U.S. Cl. 260—94.3

8 Claims

There is disclosed a process for the polymerization of butadiene and butadiene in mixture with other conjugated diolefins to form polymers containing a high portion of butadiene units in the cis-1,4 configuration comprising contacting at least one diolefin with a catalyst comprising (1) at least one compound selected from a group consisting of organometallic compounds wherein the metal is selected from Groups I, II and III of the Periodic Table and hydrides of metals of Groups II and III of the Periodic Table, their monomeric and polymeric halide derivatives, amine derivatives and complexes of these hydrides with amines, ethers or other molecules capable of forming complex compounds with these hydrides, (2) at least one compound selected from a group consisting of organonickel salts of carboxylic acids, organonickel complex compounds, nickel tetracarbonyl and

pi-bonded organonickel compounds and (3) at least one compound selected from a group consisting of fluorine containing phosphoric, sulfonic and sulfinic acids and fluorine containing esters of these acids.

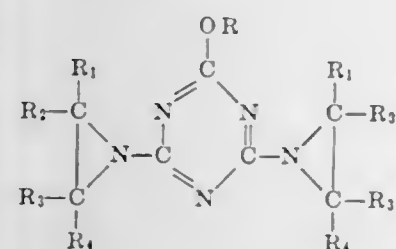
3,542,752

CHEMICAL COMPOSITIONS

Joseph Adrian Hoffman, Bound Brook, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,377
Int. Cl. C08d 5/00; C08f 1/88, 27/00
U.S. Cl. 260—94.7 9 Claims

Compounds of the formula:



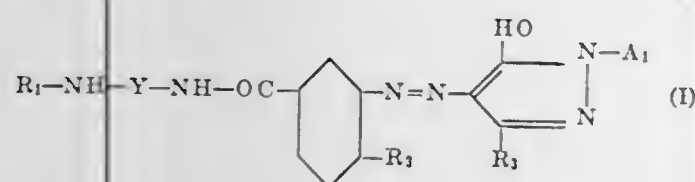
wherein R is an alkyl of up to ten carbon atoms or alkoxy-alkyl of up to ten carbon atoms in each alkyl grouping; and R₁, R₂, R₃ and R₄ are individually either hydrogen or alkyl of up to four carbon atoms and at least one of R₁, R₂, R₃ and R₄ is other than hydrogen, and the use of such compounds for curing or vulcanizing rubbery elastomers.

3,542,753

REACTIVE MONOAZO PYRAZOLONE DYES
Kurt Brenneisen, Grenzach, Germany, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland
No Drawing. Filed Oct. 9, 1967, Ser. No. 673,915
Claims priority, application Switzerland, Oct. 14, 1966, 14,888/66

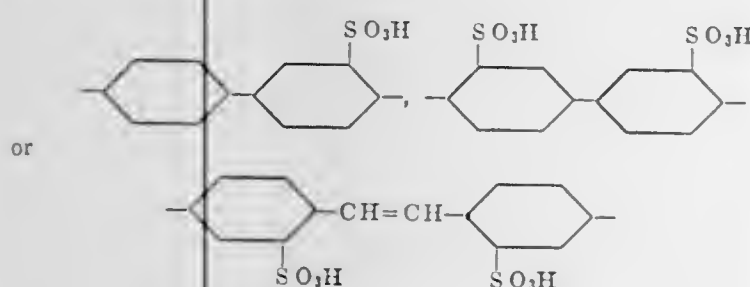
Int. Cl. C09b 62/08, 62/24
U.S. Cl. 260—153 8 Claims

Reactive dyes of the formula



wherein

R₁ is a reactive group,
R₂ is hydrogen, lower alkyl or chlorine,
R₃ is lower alkyl, —COOH, —COO-lower alkyl or optionally substituted —CO—NH₂,
A₂ is a benzene or naphthalene radical containing at least one —SO₃H group and if desired further substituents and
Y is one of the radicals



3,542,754
PREPARATION OF PROTEIN CONCENTRATES BY CENTRIFUGING A WHEAT FLOUR SLURRY IN THE PRESENCE OF CORN OIL AND SOYBEAN PROTEIN OR LECITHIN

David A. Fellers, El Cerrito, Calif., assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Application Dec. 20, 1968, Ser. No. 798,556, now Patent No. 3,501,451, which is a division of application Ser. No. 556,823, June 8, 1966, now Patent No. 3,463,770. Divided and this application Dec. 30, 1969, Ser. No. 889,323

Int. Cl. A23j 1/12
U.S. Cl. 260—112 2 Claims

Protein concentrates are prepared from wheat flour by the following technique: The flour is slurried with water and an edible gluten-modifying agent such as mixtures of soybean protein and corn oil, and lecithin and corn oil. The slurry is then centrifuged, yielding a supernatant liquid which contains essentially all the proteins of the flour. This liquid may be dried and used as a protein supplement in bread and other foods.

3,542,755

GELATIN EXTRACTION UTILIZING LOW PRESSURE STEAM IN AN ATMOSPHERE OF REDUCED PRESSURE

Peter John Tiemstra, La Grange, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 664,654, Aug. 31, 1967. This application Nov. 20, 1969, Ser. No. 871,703

Int. Cl. C09h 3/00
U.S. Cl. 260—118 8 Claims

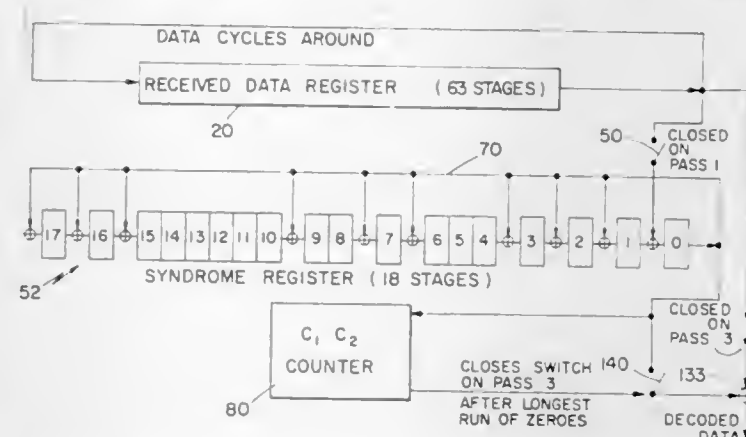
A method of treating collagenous material utilizing low-pressure steam in an atmosphere of reduced pressure with reduced quantities of heat, moisture and time required for processing.

3,542,756

ERROR CORRECTING

Robert Gray Gallager, Lexington, Mass., assignor to Codex Corporation, Watertown, Mass., a corporation of Delaware

Filed Feb. 7, 1968, Ser. No. 703,749
Int. Cl. G06f 11/12
U.S. Cl. 340—146.1 5 Claims



Shown is an embodiment of a burst error correcting decoder for a cyclic code that produces syndrome sequences for the received data blocks, and has logic for evaluating the syndromes. The logic device locates and selects an appropriate run of consecutive zero syndrome digits in each syndrome sequence, the runs including at least some runs shorter than a specified limit. Those syndrome digits which immediately follow the selected run of zeros are combined with respective received digits. Also shown is an embodiment of the logic device which includes a plurality of cooperating counters adapted to determine which of two or more runs of consecutive zero syndrome digits is longest.

3,542,757
AZOBIS[2-PHENYLACRYLIC ACID, 3-TROPANYL ESTERS]

Henry C. Caldwell, Ambler, and William G. Groves, Norristown, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 31, 1968, Ser. No. 701,868
Int. Cl. A61k 27/00; C07c 107/00; C09b 27/00
U.S. Cl. 260—152 10 Claims

Substituted azodiphenylbis[2-phenylacrylic acid, 3-tropanyl esters] having gastrointestinal spasmolytic activity. The substituent on the 3 carbon atom of the 2-phenylacrylic acid derivatives being hydrogen, phenyl, furyl, thienyl and pyridyl and the diphenyl substituents optionally being halogen, lower alkyl lower alkoxy and hydroxy. Method of preparation comprises reacting the properly substituted nitrophenylacetic acid with paraformaldehyde or an aromatic aldehyde, converting the resulting acid to the azo derivative by reducing with zinc dust and sodium hydroxide and treating the azo derivative with tropine or thiotropine to obtain the desired tropanyl ester.

3,542,758

BASIC MONOAZO DYESTUFFS

Gert Hegar, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Apr. 17, 1967, Ser. No. 631,124
Claims priority, application Switzerland, Apr. 29, 1966, 6,260/66; Feb. 21, 1967, 2,517/67

Int. Cl. C09b 29/36; D06p 1/02
U.S. Cl. 260—156 11 Claims

Basic azo-dyestuffs containing an o-aminoalkanoil-phenoxy-p-nitrobenzene as radical of the diazo-component, and the quaternized salts thereof.

3,542,759

COPOLYMERIZATES OF POLYHYDROXY AND BIFUNCTIONAL COMPOUNDS REACTED WITH ALKYLENE OXIDES AND PROCESS OF PREPARATION

Erik B. Gelotte and Bjorn G. F. Söderqvist, Uppsala, Sweden, assignors to Aktiebolaget Pharmacia, Uppsala, Sweden, a company of Sweden
Filed Jan. 27, 1965, Ser. No. 428,444
Claims priority, application Sweden, Jan. 31, 1964, 1,187/64

Int. Cl. C07c 47/18; C08b 25/04
U.S. Cl. 260—209 8 Claims

The present invention concerns novel 2-hydroxyalkyl substituted copolymerization products, a method of preparing these products and the use thereof as a molecular sieving medium.

3,542,760

7-ALKOXY-2,3,4,5-TETRAHYDRO-1H-1-BENZ-AZEPINE AND DERIVATIVES THEREOF

Charles M. C. Koo, Philadelphia, and Thomas W. Pattison and David R. Herbst, King of Prussia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Original application Apr. 25, 1966, Ser. No. 544,681, now Patent No. 3,458,498, dated July 29, 1969. Divided and this application Jan. 15, 1969, Ser. No. 821,528

Int. Cl. C07d 41/08
U.S. Cl. 260—239 3 Claims

This invention relates to 2,3,4,5-tetrahydro-7-methoxy-1H-1-benzazepine substituted in the 1-position with carbamoyl derivatives. The compounds have pharmacologi-

cal activity, are useful as synthetic medicinals, and may be employed as diuretics, hypoglycemics, anti-bacterials or anti-convulsants.

3,542,761

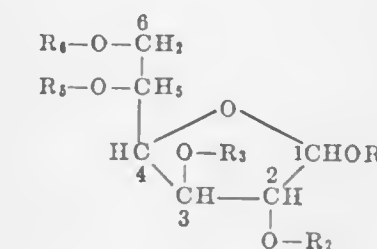
FURANOSIDE ETHER ESTERS

Alberto Rossi, Oberwil, Basel-Land, Switzerland, assignor to Ciba Corporation, Summit, N.J., a corporation of Delaware

No Drawing. Filed Sept. 4, 1968, Ser. No. 757,498
Claims priority, application Switzerland, Sept. 11, 1967, 12,702/67; Apr. 25, 1968, 6,160/68

Int. Cl. C07c 47/18
U.S. Cl. 260—210 15 Claims

D-glucufuranosides of the formula



in which R₁ represents a lower aliphatic hydrocarbon radical which may contain hydroxyl or lower alkoxy groups, or a cycloaliphatic hydrocarbon radical which may contain lower alkyl groups, or a benzyl radical whose phenyl ring may be substituted, R₂ represents hydrogen or the acyl residue of an organic carboxylic acid, R₃ represents hydrogen or a lower aliphatic hydrocarbon radical, and R₄ and R₅ each represents a benzyl radical whose phenyl ring may be substituted, with the proviso that when R₃ stands for a lower aliphatic hydrocarbon radical, R₁ and R₃ together contain at least 3 carbon atoms, and salts of such compounds containing a salt-forming group, show antiinflammatory properties.

3,542,762

PROCESS FOR RIFAMYCINS

Anacleto Gianantonio, Aldo Fabrucci, Sergio Sacerdoti, and Alexandra Soutzo, Milan, Italy, assignors to Lepetit S.p.A.-Gruppo per la Ricerca Scientifica e la Produzione Chimica Farmaceutica, Milan, Italy
No Drawing. Filed May 21, 1968, Ser. No. 730,902
Claims priority, application Italy, June 7, 1967, 16,925/67

Int. Cl. C07c 47/18
U.S. Cl. 260—210 4 Claims

The invention is concerned with an improved method for preparing 3-formyl-rifamycin SV and its condensation products with primary amines and hydrazines.

3,542,763

AMYLOSE SOLUTIONS

Reedus R. Estes, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 383,919, July 20, 1964, which is a continuation-in-part of application Ser. No. 212,467, July 25, 1962. This application Dec. 19, 1966, Ser. No. 603,051

Int. Cl. C08b 19/06
U.S. Cl. 260—233.3 14 Claims

Preparation of amylose ethers having a low level of salt contamination comprising reacting, optionally continuously, an aqueous solution of amylose with an etherifying agent in the presence of 0.01 to 0.25 mole of alkaline catalyst per mole of amylose, wherein the reaction is initiated at a temperature above the gelatin temperature of the aqueous alkaline amylose solution.

3,542,764

PROCESS FOR MANUFACTURING TELLUROPHENE AND ITS DERIVATIVES

Wilhelm Mack, Olching, Upper Bavaria, Germany, assignor to Consortium für Elektrochemische Industrie G.m.b.H., Munich, Bavaria, Germany, a corporation of Germany

No Drawing. Filed Mar. 9, 1967, Ser. No. 621,785
Claims priority, application Germany, Mar. 11, 1966, C 38,468

Int. Cl. C07d 83/00, 99/02

U.S. Cl. 260—239 2 Claims

This invention relates to the manufacture of tellurophene and its 2 and 2,5 substituted derivatives, and it has for its object to provide, for the first time, a simple and efficient process for making such products.

3,542,765

3-AMINO-RIFAMYCIN S AND -RIFAMYCIN SV DERIVATIVES

Hans Bickel, Binningen, and Wilhelm Kump, Therwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 23, 1967, Ser. No. 677,022
Claims priority, application Switzerland, Oct. 25, 1966, 15,537/66

Int. Cl. C07d 87/54

U.S. Cl. 260—239.3 8 Claims

3-amino-rifamycin S and -rifamycin SV derivatives in which the 3-amino group is derived from a carbocyclic or heterocyclic aromatic amine and hydrogenated derivatives and salts thereof, show bacteriostatic activity. They are obtained by condensation of rifamycin S or rifamycin SV with the corresponding amine.

3,542,766

RESOLUTION OF α -AMINOCAPROLACTAM AND N-CARBAMOYL-VALINE

Jiro Ohnogi, Kyoto-fu, and Keijiro Shibata, Chikara Hongo, and Masataka Shibasaki, Osaka-fu, Japan, assignors to Tanabe Seiyaku Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Feb. 9, 1968, Ser. No. 704,232
Claims priority, application Japan, Feb. 16, 1967, 42/9,967

Int. Cl. C07d 41/06

U.S. Cl. 260—239.3 1 Claim

A method for the resolution of DL- α -aminocaprolactam and N-carbamoyl-DL-valine wherein an enantiomer of one of the above two compounds is used as resolving agent for the racemic mixture of the other one, and the resultant diastereoisomers of optically active salts consisting of enantiomers of α -aminocaprolactam and N-carbamoyl-valine are separated from each other by selective crystallization.

3,542,767

SUBSTITUTED 1,3,4-BENZOTRIAZEPIN-5H-5-ONES

André L. Langis, St. Laurent, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 29, 1968, Ser. No. 709,177
Int. Cl. C07d 55/54

U.S. Cl. 260—239.3 16 Claims

There are disclosed herein 1(3)4-dihydro-1,3,4-benzotriazepin-5H-5-ones, optionally substituted in position 7 with chloro and nitro groups and in position 2 with phenyl, benzyl, 3'-pyridyl, 4'-pyridyl, methyl, propyl, nonyl, and biphenyl groups, as well as 2-benzyl-1,4-dihydro-1-methyl-1,3,4-benzotriazepin-5H-5-one and 1,4-dihydro-1,2-dimethyl-1,3,4-benzotriazepin-5H-5-one. The compounds are useful as anticonvulsant and antiinflammatory agents of low toxicity, and methods for their preparation and for their use are also disclosed.

3,542,768

N-ARYLSULFONYL UREA DERIVATIVES OF NITROGEN CONTAINING HETEROCYCLES

Henri Dietrich, Arlesheim, Basel-Land, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 512,776, Dec. 9, 1965, and Ser. No. 596,770, Nov. 25, 1966. This application June 11, 1968, Ser. No. 735,974
Claims priority, application Switzerland, Dec. 18, 1964, 16,386/64; Dec. 9, 1965, 17,095/65, 17,096/65

Int. Cl. C07d 41/06

U.S. Cl. 260—239.3 10 Claims

N-arylsulfonyl urea derivatives of 5 to 8 membered saturated lactams are hypoglycemic agents.

3,542,769

1-(4-SUBSTITUTED PIPERIDINYLALKYL) - 5-PHENYL-DIHYDRO-1,4-BENZODIAZEPINES AND BENZODIAZEPIN-2-ONES

Carl Kaiser, Haddon Heights, N.J., and Charles L. Zirkle, Berwyn, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 15, 1968, Ser. No. 752,743

Int. Cl. C07d 53/06

U.S. Cl. 260—239.3 10 Claims

1-(4-substituted piperidinylalkyl) - 5-phenyl - dihydro-1,4-benzodiazepines and benzodiazepin-2-ones in which the benzodiazepine nucleus may be halo, trifluoromethyl or nitro substituted and the piperidine ring is 4-hydroxy and 4-phenyl or 4-halo, methyl, methoxy or trifluoromethylphenyl substituted have useful neuroleptic and tranquilizing activity. The compounds are generally prepared by reaction of a 1-haloalkyl-5-phenyl-dihydro-1,4-benzodiazepine or benzodiazepin-2-one with a 4-phenyl-4-piperidinol. Also included are the dehydrated 1-(4-phenyl-1,2,5,6-tetrahydropyridyl) derivatives and the benzodiazepine 4-oxides.

3,542,770

RING A-FUSED PYRIDAZONE STEROIDS

Manuel Debono, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Oct. 24, 1968, Ser. No. 770,390

Int. Cl. C07c 173/10

U.S. Cl. 260—239.5 4 Claims

The preparation of steroids containing a ring A-fused pyridazone useful as antimicrobial and antiviral agents is described.

3,542,771

PROCESS FOR THE PREPARATION OF CHOLEST-6-ONE - 20 α -OL AND THE INTERMEDIATES OBTAINED THEREFROM

Andor Furst and André Furlenmeier, Basel, Albert Lange-mann, Binningen, and Guy Waldvogel, Riehen, Switzerland, Peter Hocks, Albert Jager, Ulrich Kerb, and Rudolf Wiechert, Berlin, Germany, assignors to Hoffmann-La Roche Inc, Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 29, 1967, Ser. No. 694,363
Claims priority, application Germany, Jan. 7, 1967, 1,618,998

Int. Cl. C07c 173/00

U.S. Cl. 260—239.55 15 Claims

Pregna-6,20-diones are selectively reacted at the 20-position with a Grignard reagent or a metal acetylide. 22-yne compounds are selectively hydrated yielding 22-oxo compounds. Products are converted into known insect metamorphosis hormones.

3,542,772

CYANINE DYES CONTAINING A 1-HETEROCYCLIC SUBSTITUTED 4-PYRAZOLYL NUCLEUS

Earl J. Van Lare, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 23, 1966, Ser. No. 604,181
Int. Cl. C09b 23/10

U.S. Cl. 260—240.1 15 Claims

Cyanine dyes are provided which contain a 1-heterocyclic substituted 4-pyrazole nucleus. Novel 1-heterocyclic substituted 4-pyrazole aldehydes are provided, and are reacted with quaternary compounds to form the subject dyes.

3,542,773

20-HYDROXY-21-NORCHOLANIC ACID γ -LACTONES

Yvon Lefebvre, Pierrefonds, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 19, 1968, Ser. No. 753,724

Int. Cl. C07c 173/00

U.S. Cl. 260—239.57 6 Claims

There are disclosed herein 20-hydroxy-21-norcholanic acid γ -lactones of the estrane and the androstane series, in particular those in which the steroid nucleus is that of estrone, equilenin, and 7 α ,8-epoxystosterone, as well as their 3-alkyl, 3-cycloalkyl, and 3-tetrahydropyranyl ethers, and their 3-acylates containing from 2-7 carbon atoms in the acyl group. The compounds are gonadotrophin-suppressant agents, and methods for their preparation and use are also disclosed.

3,542,774

3,4-DIHYDROBENZOXAZINONES

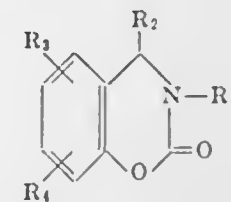
John Shavel, Jr., Mendham, and George Bobowski, Morristown, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 504,142, Oct. 23, 1965. This application July 5, 1968, Ser. No. 742,518

The portion of the term of the patent subsequent to May 27, 1986, has been disclaimed
Int. Cl. C07d 87/08

U.S. Cl. 260—244 47 Claims

The present invention describes 3,4-dihydrobenzoxazinones of the formula:



wherein R₁, R₂, R₃ and R₄ are described below. These compounds are useful as anti-inflammatory agents.

3,542,775

PROTONATABLE COLOR-FORMING COMPOUNDS

Carl M. Smith, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed June 16, 1969, Ser. No. 833,757

Int. Cl. C07d 27/38

U.S. Cl. 260—240 2 Claims

A substantially colorless carbamate derivative of a colored protonatable color progenitor compound, formed by reaction with a phenyl isocyanate and without loss of color-forming capability.

3,542,776

MORPHOLINOISONICOTINAMIDES

William Dvonch, Radnor, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 589,820, Oct. 27, 1966, which is a continuation-in-part of application Ser. No. 392,920, Aug. 28, 1964. This application Oct. 25, 1967, Ser. No. 677,859

Int. Cl. C07d 87/24

U.S. Cl. 260—247.2 6 Claims

This invention relates to new isonicotinic acid hydrazides and more particularly to isonicotinic acid hydrazide derivatives of periodate oxidized pyrimidine and 6-amino-purine ribosides. The compounds are useful for blocking the auto-immune processes in warm-blooded animals.

3,542,777

DERIVATIVES OF 9-PYRIDYLALKYL-1,2,8,9-TETRAAZAPHENALENES

John E. Francis, Pleasantville, N.Y., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed Aug. 12, 1968, Ser. No. 751,734

Int. Cl. C07d 57/02

U.S. Cl. 260—250 13 Claims

9-pyridylalkyl - 1,2,8,9 - tetraazaphenalenenes, optionally substituted in the 3-position by hydroxy or mercapto and in the 7-position by phenyl, are hypotensive agents.

3,542,778

5-METHYLENE-2-PYRROLIDONES AND THEIR USE IN A PROCESS FOR MAKING β,β DISUBSTITUTED PYRROLIDINES

Robert D. Dillard and Nelson R. Easton, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Application July 12, 1967, Ser. No. 652,690, now Patent No. 3,452,015, dated June 24, 1969, which is a continuation-in-part of application Ser. No. 311,305, Sept. 25, 1963. Divided and this application Dec. 18, 1968, Ser. No. 810,874

Int. Cl. C07d 51/36

U.S. Cl. 260—250 2 Claims

Propargyl or allyl malonates are converted in a series of reactions via novel intermediates to β,β -di-alkyl pyrrolidines.

3,542,779

NEW 4-QUINAZOLONE DERIVATIVES AND PROCESS FOR THE PREPARATION THEREOF

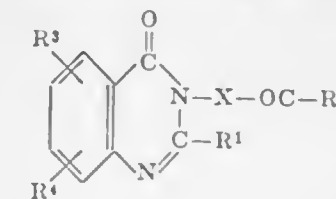
Zoltán Ecsery and Ildikó Kósa, Budapest, Hungary, assignors to Chinoin Gyógyszer és Vegyszeti Termékek Gyára RT., Budapest, Hungary, a firm

No Drawing. Filed Feb. 23, 1968, Ser. No. 707,465
Claims priority, application Hungary, Feb. 28, 1967, CI-701

Int. Cl. C07d 51/48

U.S. Cl. 260—251 25 Claims

New quinazolone derivatives of the general formula



wherein:

R¹ stands for hydrogen, alkyl, aryl, aralkyl or a heterocyclic radical;

R² stands for hydrogen, alkyl, aryl, aralkyl or a heterocyclic radical;

R³ stands for hydrogen, halogen, nitro, amino, hydroxy, alkoxy, aryloxy, alkyl or aryl;

R⁴ stands for hydrogen, halogen, nitro, amino, hydroxy, alkoxy, aryloxy, alkyl or aryl; and

X stands for a valency bond, oxygen or sulfur.

The compounds are useful acylating agents and possess valuable therapeutical properties, e.g. as antiinflammatory agents.

3,542,780

2-AMIDINO-1,2,3,4-TETRAHYDROPYRAZINE [1,2-a]INDOLES

Meier E. Freed, Philadelphia, and Elisabeth Hertz, Bryn Mawr, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 25, 1967, Ser. No. 655,762
Int. Cl. C07d 57/00

U.S. Cl. 260—268

12 Claims

The compounds of the class of 2-amidino-1,2,3,4-tetrahydropyrazino[1,2-a]indoles useful as a central nervous system stimulant as an analeptic in the treatment of intoxication induced by central nervous system depressant drugs.

3,542,781

7-ALKYLAMINO 7-HYDROXY QUINOLINE 3-CARBOXYLATES

Arthur A. Patchett, Cranford, Robert L. Clark, Woodbridge, and Edward F. Rogers, Middletown, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 540,495, Apr. 6, 1966. This application Dec. 23, 1968, Ser. No. 786,454

The portion of the term of the patent subsequent to Apr. 9, 1985, has been disclaimed

Int. Cl. C07d 33/48

U.S. Cl. 260—287

9 Claims

Novel 4-hydroxy-quinoline-3-carboxylates having a haloalkoxy, alkoxy, or alkyl at the 6-position and a substituted amino radical at the 7-position are prepared by condensing an appropriate 3,4-disubstituted aniline with a loweralkyl alkoxymethylene malonate, and heating the resulting anil. These novel quinolates have anticoccidial activity.

3,542,782

5,6-DIHYDRO-8H-ISOQUINO[1,2-b]QUINAZOLINES

William J. Houlihan and Robert E. Manning, Mountain Lakes, N.J., assignors to Sandoz-Wander, Inc., Hanover, N.J.
No Drawing. Original application Mar. 15, 1967, Ser. No. 623,238, now Patent No. 3,497,499, dated Feb. 24, 1970. Divided and this application Nov. 17, 1969, Ser. No. 877,434

Int. Cl. C07d 51/48

U.S. Cl. 260—251

2 Claims

Compounds from the group consisting of dihydro- and octahydro-8H-isoquino[1,2-b]quinazolines. The compounds are useful as central nervous system depressants, antipyretic agents and antiinflammatory agents.

3,542,783

ISOQUINO[1,2-b]QUINAZOLINES

William J. Houlihan and Robert E. Manning, Mountain Lakes, N.J., assignors to Sandoz-Wander, Inc., Hanover, N.J.
No Drawing. Original application Mar. 15, 1967, Ser. No. 623,238, now Patent No. 3,497,499, dated Feb. 24, 1970. Divided and this application Nov. 17, 1969, Ser. No. 877,433

Int. Cl. C07d 51/48

U.S. Cl. 260—251

4 Claims

Compounds from the class of tetrahydro and decahydro-8H-isoquino[1,2-b]quinazolines. The compounds are useful as central nervous system depressants, antipyretic agents and antiinflammatory agents.

3,542,784

4-(HYDROXYANILINO)-2-(5-NITRO-2-FURYL) QUINAZOLINES

Homer Albert Burch, Norwich, N.Y., assignor to The Norwich Pharmacal Company, a corporation of Delaware

No Drawing. Filed Apr. 5, 1968, Ser. No. 719,272
Int. Cl. C07d 51/48

U.S. Cl. 260—256.4

4 Claims

Novel 4-(hydroxyanilino)-2-(5-nitro-2-furyl)quinazolines are provided which possess exceptional antibacterial potency against microorganisms, particularly those of importance in veterinary medicine and especially against those associated with bovine mastitis.

3,542,785

2-HYDROXY-4-ARYL-QUINOLINES

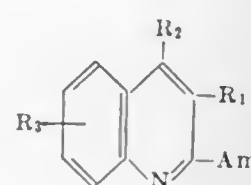
Richard William James Carney, New Providence, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 15, 1967, Ser. No. 638,594
Int. Cl. C07d 33/46

U.S. Cl. 260—289

1 Claim

2-amino-4-aryl-quinolines of the formula



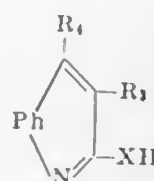
Am=an amino or hydrazino group,

R₁=H, aliphatic, araliphatic or aromatic radical,

R₂=aromatic radical,

R₃=H, alkyl, alkoxy, alkylmercapto, halogeno, CF₃, NO₂ or amino,

acyl derivatives, quaternaries and salts thereof, and corresponding 2-hydroxy compounds exhibit antiinflammatory effects. The 2-hydroxy compounds which exhibits antiinflammatory effects are those of the formula



in which Ph stands for a 1,2-phenylene radical, R₃ for hydrogen, an aliphatic, araliphatic or aromatic radical, R₄ for a carbocyclic or heterocyclic aromatic radical and X for oxygen or sulfur.

3,542,786

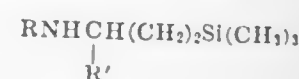
ORGANOSILICON COMPOUNDS

William E. Weesner, Kettering, and John L. Schaar, Dayton, Ohio, assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Feb. 23, 1968, Ser. No. 707,453
Int. Cl. C07d 37/16, 33/36

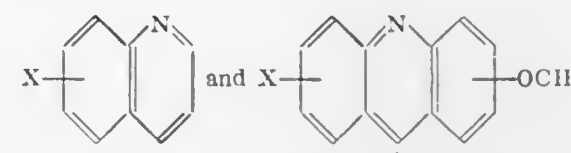
U.S. Cl. 260—279

4 Claims

The organosilicon compounds represented by the formula



wherein R is selected from the group consisting of



wherein X is chlorine or fluorine; and R' is hydrogen or lower alkyl.

3,542,787

10,11-DIHYDRO-5,10-(IMINOMETHANO)-5H-DI- BENZO[a,d]CYCLOHEPTEN-13-IMINE

Thomas A. Dobson, St. Laurent, Montreal, Quebec, and Martin A. Davis, Montreal, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 25, 1968, Ser. No. 739,635
Int. Cl. C07

U.S. Cl. 260—286

5 Claims

There is disclosed herein 10,11-dihydro-5,10-(iminomethano)-5H-dibenzo[a,d]cyclohepten-13-imine, and its hydrochloride salt as well as a process of preparation. The compound has hypotensive properties and methods for its use are also disclosed.

3,542,788

1-AMINO-5-PHENYL-2-PYRROLEPROPIONIC ACID AND CONGENERS

Leland J. Chinn, Morton Grove, and William K. Sprenger, Niles, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 12, 1968, Ser. No. 736,300
Int. Cl. C07d 27/26

U.S. Cl. 260—294

15 Claims

Preparation and valuable anti-protozoal, anti-bacterial, anti-inflammatory, and anti-ulcerogenic properties of 2-pyrrolepropionic acids and esters substituted in the 1-position by amino, dialkylamino, cyclic amino, N-alkyl-N-phenylamino, diphenylamino, alkanoylamino, cycloalkylcarbonylamino, alkoxy carbonylamino, benzoylamino, hydroxybenzoylamino, alkoxybenzoylamino, or pyridyl carbonylamino and in the 5-position by phenyl, halo-phenyl, or alkoxyphenyl are disclosed.

3,542,789

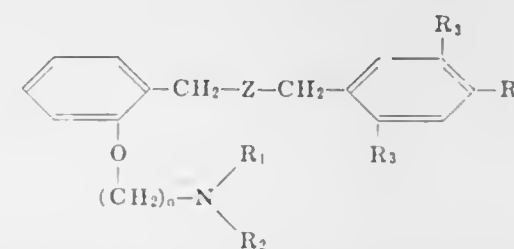
PROCESS FOR THE PREPARATION OF BENZYL- (ORTHO-TERTIARY-AMINOALKOXY) BENZYL THIOETHERS

Gerhard Satzinger, Gundelfingen über Freiburg, Germany, assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Application Dec. 29, 1967, Ser. No. 694,362, which is a continuation-in-part of abandoned application Ser. No. 432,917, Dec. 23, 1964. Divided and this application June 10, 1969, Ser. No. 832,012
Int. Cl. C07d 29/36

U.S. Cl. 260—293.4

1 Claim

Ortho-substituted aryloxyamines having local anesthetic activity, have the following formula:



wherein R₁ and R₂ are either the same or different lower alkyl groups, or when taken with the amino nitrogen atom

form a closed chain heterocyclic group; R₃, R₄ and R₅ may be the same or different groups such as hydrogen, halogen, lower alkyl and lower alkoxy; and R₄ and R₅ taken together form a methylene dioxy group; Z is oxygen or sulfur and the designation n represent the integer 2 or 3. These compounds are prepared by reacting ortho-hydroxybenzaldehyde with a suitable dialkylaminoalkyl-halide, in the presence of an alkali metal carbonate, to obtain the corresponding ortho-(dialkylaminoalkoxy)benzaldehyde; reducing the aldehyde function to an alcohol; and reacting the ortho-(dialkylaminoalkoxy) benzyl alcohol with a suitable substituted benzyl halide to obtain the corresponding ortho-substituted aryloxyamines. Certain compounds within this class can also be used as antispasmodic, anti-inflammatory, anti-tussive, anti-pyretic, analgesic, antiarrhythmic, sedative and anticonvulsant agents.

3,542,790

SUBSTITUTED 5,11-DIHYDRO-10,10-DIOXO- BENZO[c,f][1,2]THIAZEPINES

Abraham Weber, Paris, and Jacques Jean Frossard, Champigny, France, assignors to Mead Johnson & Company, Evansville, Ind., a corporation of Indiana

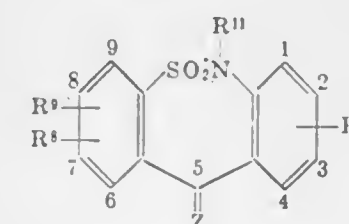
No Drawing. Filed Dec. 7, 1966, Ser. No. 599,737
Int. Cl. C07d 93/42

U.S. Cl. 260—293.4

6 Claims

The title compounds having Formula I in which Z is an amino nitrogen containing substituent separated from the ring by three carbon atoms are highly active anticholinergic and antihistaminic agents.

FORMULA I



3,542,791

2-PHENYL-3-(3-QUINUCLIDINYLAMINO)- PROPIOPHENONES

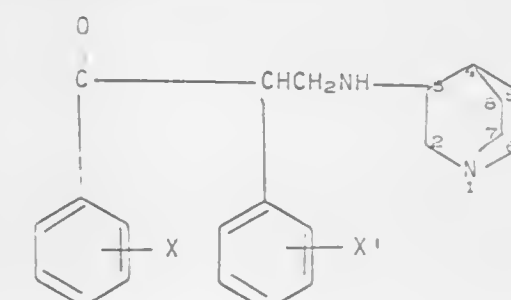
Robert Bruce Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, a corporation of Delaware

No Drawing. Filed July 25, 1968, Ser. No. 747,426
Int. Cl. C07d 39/06

U.S. Cl. 260—294.7

2 Claims

This invention relates to novel 2-phenyl-3-(3-quinuclidinylamino)-propiophenones; it is inclusive of the free base and acid addition salt forms of the compounds embraced by the formula



wherein X and X' are selected from the group consisting of hydrogen, lower-alkyl, fluorine, chlorine and bromine.

As used in this specification, the term "lower-alkyl" means alkyl of from one through four carbon atoms, e.g., methyl, ethyl, propyl, butyl and isomeric forms thereof.

The compounds of Formula I are CNS stimulants; they antagonize convulsions and prevent death resulting from the administration of nicotine.

3,542,792

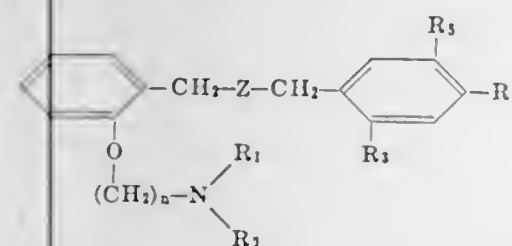
PROCESS FOR THE PREPARATION OF BENZYL-(ORTHO-TERTIARY-AMINOALKOXY) BENZYL ETHERS

Gerhard Satzinger, Gundelfingen, Freiburg, Germany, assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
 No Drawing. Application Dec. 29, 1967, Ser. No. 694,362, now Patent No. 3,471,504, which is a continuation-in-part of application Ser. No. 432,917, Dec. 23, 1964. Divided and this application June 10, 1969, Ser. No. 832,017

Int. Cl. C07d 29/18

U.S. Cl. 260—294.7

Ortho-substituted aryloxyamines having local anesthetic activity, have the following formula:



wherein R_1 and R_2 are either the same or different lower alkyl groups, or when taken with the amino nitrogen atom form a closed chain heterocyclic group; R_3 , R_4 and R_5 may be the same or different groups such as hydrogen, halogen, lower alkyl and lower alkoxy; and R_4 and R_5 taken together form a methylene dioxy group; Z is oxygen or sulfur and the designation n represents the integer 2 or 3. These compounds are prepared by reacting ortho-hydroxybenzaldehyde with a suitable dialkylaminoalkyl-halide, in the presence of an alkali metal carbonate, to obtain the corresponding ortho-(dialkylaminoalkoxy) benzaldehyde; reducing the aldehyde function to an alcohol; and reacting the ortho-(dialkylaminoalkoxy) benzyl alcohol with a suitable substituted benzyl halide to obtain the corresponding ortho-substituted aryloxyamines. Certain compounds within this class can also be used as anti-spasmodic, anti-inflammatory, anti-tussive, anti-pyretic, analgesic, antiarrhythmic, sedative and anticonvulsant agents.

3,542,793

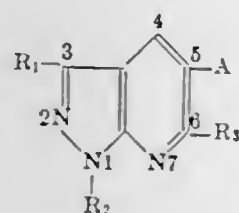
4-UNSUBSTITUTED-5-AMINO- OR 5-ACYLAMINO-PYRAZOLO[3,4-b]PYRIDINES

Alberto Rossi, Oberwil, and Kurt Eichenberger, Therwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
 No Drawing. Filed Dec. 27, 1966, Ser. No. 604,628
 Claims priority, application Switzerland, Jan. 22, 1966, 359/66; Nov. 1, 1966, 15,786/66; Nov. 22, 1966, 16,738/66

Int. Cl. C07d 31/50

U.S. Cl. 260—294.8

New compounds of the formula



R_1 - R_5 =hydrogen, aliphatic, aromatic or araliphatic hydrocarbon,

A=free or acylated amino

For example: 1-isopropyl-3-methyl-5-acetylamino-pyrazolo[3,4-b]pyridine;

Use: hypotensive and vasodilatory agents.

3,542,794

1-CARBAMOYL-4-PHENOXYPIPERIDINES

Grover Cleveland Helsley, 6501 Glyndon Lane, Richmond, Va. 23225
 No Drawing. Continuation-in-part of application Ser. No. 786,392, Dec. 23, 1968. This application Nov. 7, 1969, Ser. No. 874,987

Int. Cl. C07d 29/30

U.S. Cl. 260—294

1-substituted-4-phenoxy piperidines useful as muscle relaxants, anti-convulsants and tranquilizers are disclosed. The compounds are prepared by reacting 4-phenoxy piperidine intermediates which are prepared from 4-piperidinol with compounds containing active halides, isocyanates, carbamoyl-halides, nitroreagents and metal cyanates.

5 Claims

3,542,795

DI-BIS(p-CHLOROPHENOXY) ACETIC ACID ESTERS OF DIMETHYLOL PYRIDINES

Rudolf G. Griot, Florham Park, N.J., assignor to Sandoz, Inc., Hanover, N.J.
 No Drawing. Continuation-in-part of application Ser. No. 748,234, July 29, 1968. This application Oct. 22, 1968, Ser. No. 769,725

Int. Cl. C07d 31/34

U.S. Cl. 260—295

The compounds are esters of derivatives of acetic acid and contain a plurality of bis-(p-halophenoxy)acetoxy functions, e.g., the bis-p-chlorophenoxyacetic acid ester of ethylene glycol, and are useful as hypocholesteremic agents.

2 Claims

3,542,796

CERTAIN HEXAHYDRO-1,12-TRIMETHYLENE-INDOLO[2,3-a]QUINOLIZINES

Robert Norman Schut, Edwardsburg, Mich., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
 No Drawing. Original application June 2, 1967, Ser. No. 643,065. Divided and this application July 7, 1969, Ser. No. 871,013

Int. Cl. C07d 31/34

U.S. Cl. 260—295

A series of hexahydro 1,12-trimethyleneindolo[2,3-a]-quinolizines that are useful as analgesics and monoamine oxidase inhibitors. The process for preparing the compounds includes the addition of α,β -unsaturated aldehydes or β,γ -unsaturated α -ketoesters to a suitable quinolizine to form an intermediate adduct. The intermediate adduct is then hydrogenated to prepare the octahydro form.

5 Claims

3,542,797

CERTAIN SUBSTITUTED-1-PHENYL-1-PYRIDOYL-UREAS AND DERIVATIVES

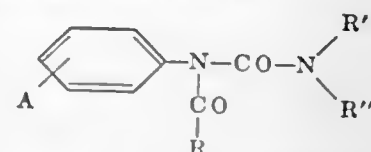
Pierre Poignant and Daniel Pilon, Lyon, and Rodolphe Caffiero, Francheville-le-Bas, France, assignors to Pechiney-Progil, Lyon, France, a corporation of France
 No Drawing. Filed Feb. 14, 1968, Ser. No. 705,292
 Claims priority, application France, Feb. 16, 1967, 48,303

Int. Cl. C07d 31/36

U.S. Cl. 260—295

The invention describes urea derivatives and process for their preparation which are useful as agricultural anti-parasitic agents, herbicides and growth regulators and which have the general formula

7 Claims



in which R represents a 5- or 6-membered heterocyclic radical containing one or two identical or different hetero atoms; R' represents hydrogen, a methyl radical or a $\text{CH}_2\text{CH}_2\text{CN}$ -radical; R'' represents one of the following radicals: an optionally saturated alkyl radical containing

NOVEMBER 24, 1970

from 1 to 4 carbon atoms, a lower-alkoxy radical, a lower alkoxy lower alkyl radical or a $\text{CH}_2\text{CH}_2\text{CN}$ -radical; A represents one or two identical or different radicals selected from the following: halogen, NO_2 , lower alkyl, lower alkoxy, CF_3 , SCN .

3,542,798

PYRIDYL-2-IMIDAZOLONE DERIVATIVES

Karl J. Doebel, Ossining, and Norbert Gruenfeld, Bronx, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
 No Drawing. Filed Dec. 30, 1968, Ser. No. 788,007
 Int. Cl. C07d 31/36

U.S. Cl. 260—295

1-(pyridyl)-2-imidazolones which may be substituted in 4- and/or 5-position are analgesic, anti-inflammatory, and antipyretic agents. An illustrative embodiment is 1-(3-pyridyl)-4,5-dimethyl-2-imidazolone.

7 Claims

3,542,799

4,4a,6,7,12,12b,13,13a-OCTAHYDRO-1H-PYRIDO [1,2-a:3,4-b']DIINDOL-3(2H)-ONES

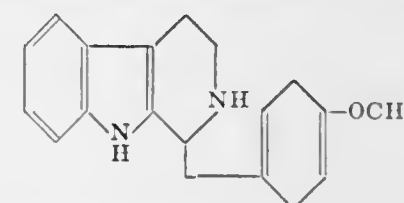
John Shavel, Jr., Mendham, and Glenn C. Morrison, Dover, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
 No Drawing. Filed Aug. 14, 1968, Ser. No. 752,464

Int. Cl. C07d 31/42

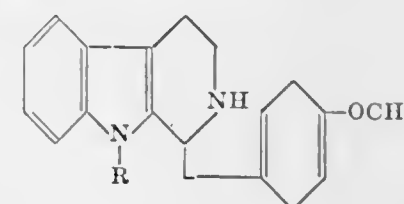
U.S. Cl. 260—296

The present invention discloses 4,4a,6,7,12,12b,13,13a-octahydro-1H-pyrido[1,2-a:3,4-b']diindol-3(2H)-ones and intermediates useful in their production. These compounds are produced by alkylating an indole nitrogen atom of a compound of the formula:

2 Claims



to give a compound of the formula:



Compound II is then in turn cyclized to give the desired 4,4a,6,7,12,12b,13,13a-octahydro-1H-pyrido[1,2-a:3,4-b']diindol-3(2H)-ones. These compounds are useful as hypotensive agents.

3,542,800

DITHIOPHOSPHORIC ESTERS

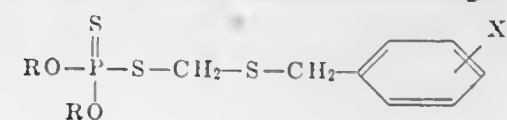
Heiner Dickhaeuser, Ludwigshafen (Rhine), Gustav Steinbrunn, Schwegenheim, Pfalz, Heinrich Adolphi, Limburgerhof, Pfalz, and Guenter Scheuerer, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
 No Drawing. Filed July 10, 1967, Ser. No. 652,035
 Claims priority, application Germany, July 14, 1966, 1,542,833

Int. Cl. A01n 9/36; C07f 9/18

U.S. Cl. 260—948

Dithiophosphoric esters and their use for controlling insects and spider mites, said esters having the formula

3 Claims



3,542,801

2-AMINOTHIAZOLES

Robert E. Manning, Mountain Lakes, N.J., assignor to Sandoz, Inc., Hanover, N.J.
 No Drawing. Filed Jan. 22, 1968, Ser. No. 699,333
 Int. Cl. C07d 91/34

U.S. Cl. 260—306.8

This disclosure pertains to substituted phenyl thiazoles, e.g., 2-amino-4-(2-aminoethylamino)-5-(p-chlorophenyl)thiazole dihydrochloride. The compounds are useful as hypotensive agents.

3 Claims

3,542,802

3-(N-BENZYLTHIOCARBAMOYLTHIOMETHYL)-6,7-DIHYDRO-5H-IMIDAZO[2,1-b]THIAZOLIUM CHLORIDE AND CONGENERS

Robert C. Tweit, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
 No Drawing. Filed July 3, 1968, Ser. No. 742,166
 Int. Cl. C07d 91/42

U.S. Cl. 260—306.8

Preparation of anti-inflammatory, anti-microbial, antihelminthic, and anti-germinant 3-{N-[(phenyl/furyl)alkyl]thiocarbamoylthiomethyl}-7H-imidazo[2,1-b]thiazolium chlorides optionally substituted in the benzene ring by alkyl, halogen, and/or alkoxy and in the imidazo ring by alkyl, and which can be 5,6-dihydrogenated, is disclosed.

10 Claims

3,542,803

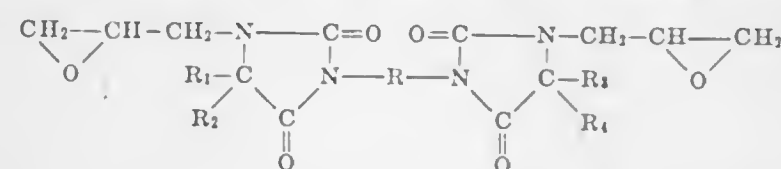
N,N'-DIGLYCIDYL COMPOUNDS

Daniel Porret, Binningen, Switzerland, assignor to Ciba Limited, Basel, Switzerland
 No Drawing. Filed July 19, 1968, Ser. No. 745,978
 Claims priority, application Switzerland, July 24, 1967, 10,502/67; Sept. 22, 1967, 13,327/67
 Int. Cl. C07d 49/32

U.S. Cl. 260—309.5

New N,N'-diglycidyl compounds of formula

9 Claims



wherein R is an aliphatic, cycloaliphatic, or araliphatic residue and R_1 , R_2 , R_3 and R_4 each denote a hydrogen atom or an aliphatic or cycloaliphatic hydrocarbon residue, or wherein R_1 and R_2 and/or R_3 and R_4 together form a divalent aliphatic or cycloaliphatic hydrocarbon residue, preferably a tetramethylene or pentamethylene residue, said compounds react to the usual curing agents for epoxy compounds and, therefore, can be cross-linked or cured by the addition of such curing agents and can be used to prepare shaped articles such as castings, compression-moulded articles or laminates.

3,542,804

BENZOATE ESTERS OF 4-PYRAZOLIDINOLS

Ralph Daniels, Skokie, Ill., assignor to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia
 No Drawing. Filed May 9, 1968, Ser. No. 728,065
 Int. Cl. C07d 49/02

U.S. Cl. 260—310

Benzoate esters of 1,2-disubstituted-4-pyrazolidinols are described which are prepared by esterification of the precursor 4-pyrazolidinols, wherein the substituents on

17 Claims

the 1 and 2 positions of the 4-pyrazolidinol nucleus are lower alkyl and phenyl lower alkyl groups. The esters exhibit good local anesthetic activity, are relatively non-toxic, and have a high therapeutic ratio.

3,542,805

SUBSTITUTED IMIDES OF POLYHALOPOLYHYDROPOLYCYCLICDICARBOXYLIC ACIDS

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 720,339, Apr. 10, 1968, which is a continuation-in-part of application Ser. No. 329,979, Dec. 12, 1963. This application Oct. 23, 1968, Ser. No. 770,123

Int. Cl. C07d 27/52

U.S. Cl. 260—326

8 Claims

Novel compositions of matter are hydroxy containing substituted polyhalopolyhydropolycyclicdicarboxylic imides. These compounds are particularly useful as additives to impart flame-proof properties to plastics, resins, coatings, paints, drying oils, fibrous materials, etc. and also as additives to hydrocarbon or synthetic oils and greases.

3,542,806

2-(1-SUBSTITUTED-3-PYRROLIDINYL)-ISOINDOLINES

Grover Cleveland Helsley, Richmond, Va., assignor to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia

No Drawing. Filed Mar. 29, 1968, Ser. No. 717,451

Int. Cl. C07d 27/48

U.S. Cl. 260—326.1

17 Claims

2-(1-substituted-3-pyrrolidinyl)-isoindolines having antidepressant activity are disclosed. The compounds are prepared by metal hydride reduction of N-(1-substituted-3-pyrrolidinyl)-phthalimides. Additional compounds within the scope of the invention are prepared from 2-(3-pyrrolidinyl)-isoindoline.

3,542,807

1-(ω -BENZOYLALKYL)-3-SUBSTITUTED PYRROLIDINES

Carl Dalton Lunsford, William John Weststead, Jr., and Grover Cleveland Helsley, Richmond, Va., assignors to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia

No Drawing. Continuation-in-part of application Ser. No. 592,263, Nov. 7, 1966. This application Apr. 14, 1969, Ser. No. 816,050

Int. Cl. C07d 27/04

U.S. Cl. 260—326.3

15 Claims

Novel 1-(ω -benzoylalkyl)-3-substituted pyrrolidines possessing CNS depressant activity are disclosed. The compounds are prepared from 1-benzoyl-3-(and 4)-haloalkanes and 3-substituted pyrrolidines.

3,542,808

SYNTHESIS OF EPISULFIDES

Ronald C. Vander Linden and Juan M. Salva, Sarnia, Ontario, and Peter A. C. Smith, Petrolia, Ontario, Canada, assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 4, 1966, Ser. No. 518,591

Int. Cl. C07d 95/00

U.S. Cl. 260—327

14 Claims

Episulfide compounds are synthesized by reacting either a saturated or unsaturated epoxide with carbon disulfide or carbonyl sulfide in the presence of a magnesium oxide, magnesium hydroxide, or barium sulfide catalysts. Conventionally the reaction is conducted in the vapor phase at temperatures ranging from 30 to 400° C.

3,542,809

SYNTHESIS OF ARYLCHLOROCARBONYL KETENES

Susumu Nakanishi, Niantic, Conn., assignor to Pfizer Inc., a corporation of Delaware

No Drawing. Filed Oct. 23, 1968, Ser. No. 770,098

Int. Cl. C07c 63/14; C07d 31/34, 63/12

U.S. Cl. 260—332.2

7 Claims

An improved process for making arylchlorocarbonyl ketenes which comprises reacting an arylmalonic acid with thionyl chloride in at least a 1:2 molar ratio at a temperature of from about 70°–180° C.

3,542,810

5-ACETAL-2-NORBORNENE COMPOUNDS

Robert Lee Roudabush and Darrell Dean Lidel, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 5, 1968, Ser. No. 757,747

Int. Cl. C07d 13/04, 15/04, 17/00

U.S. Cl. 260—338

6 Claims

5-acetal-2-norbornenes such as 5-[2-(1,3-dioxolanyl)]-6-methyl-2-norbornene are bactericidally active, and are useful as bactericidal additives to paints, plastics, photographic emulsions and the like. These compounds are synthesized from cyclopentadiene and an α,β -unsaturated aldehyde by a two-step process comprising a Diels-Alder addition of the cyclopentadiene with the α,β -unsaturated aldehyde, followed by reaction of the adduct product obtained with a dihydric alcohol to form the acetal.

3,542,811

6-HALO-6-DEHYDRO-A-NORPROGESTERONES

Patrick A. Diassi, Westfield, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 370,113, May 25, 1964. This application Oct. 19, 1967, Ser. No. 676,628

Int. Cl. C07d 21/00

U.S. Cl. 260—340.5

5 Claims

This invention relates to 6-halo-6-dehydro-A-norprogesterones. These compounds are physiologically active materials, possessing progestational activity. In addition, these compounds are useful as sun-screening, anti-oxidant and anti-corrosive agents. They are also surfactants, and thus may be employed as emulsifiers and wetting agents.

3,542,812

INTERMEDIATES IN THE PREPARATION OF 6-HALO-6-HYDRO-A-NORPROGESTERONES

Patrick A. Diassi, Westfield, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 370,113, May 25, 1964. This application Oct. 19, 1967, Ser. No. 676,629

Int. Cl. C07d 21/00

U.S. Cl. 260—340.5

5 Claims

This invention relates to 6-halo-6-dehydro-A-norprogesterone. More specifically this invention relates to novel intermediates in the preparation of these compounds, namely (6-dehydro, 6 α ,7 α -oxido and 6-halo-7-hydroxy derivatives of A-norprogesterones).

The final 6-halo-6-dehydro-A-norprogesterones produced through the intermediates of this invention are physiologically active materials, possessing progestational activity. In addition, these compounds are useful as sun-screening, anti-oxidant and anti-corrosive agents. They are also surfactants, and thus may be employed as emulsifiers and wetting agents.

3,542,813

1-AZIDOMETHYL-STERIODS AND PROCESS FOR THEIR MANUFACTURE

Oskar Jeger, Zollikon, Zurich, and Hans Ueli Wehrli, Schaffhausen, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 17, 1968, Ser. No. 729,941

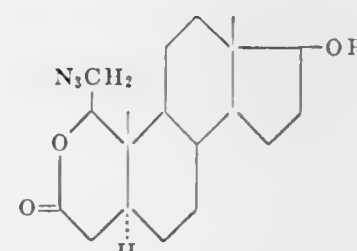
Claims priority, application Switzerland, May 24, 1967, 7,347/67

Int. Cl. C07d 7/18

U.S. Cl. 260—343.2

15 Claims

1-azidomethyl-3-oxo-2-oxa-steroids of the androstane series, for instance those of the formula



in which R is hydrogen or an acyl radical, and homologous compounds, such as their 17 α -alkyl derivatives, and isomers, e.g. analogous compounds of the 5 β -androstane series, are new and have an antagonistic activity towards testosterone. The new compounds are prepared from corresponding 1-hydroxymethyl-3-oxo-2-oxa-steroids.

3,542,814

PYROMELLITIC DIANHYDRIDE PURIFICATION

Nicholas P. Greco, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Filed July 12, 1968, Ser. No. 744,559

Int. Cl. C07c 63/32

U.S. Cl. 260—346.3

8 Claims

Pyromellitic dianhydride, prepared from nitric acid oxidation of sym-octahydroanthracene and having nitrogen-containing impurities and mellophanic acid or anhydride there is purified by contact in a closed reaction zone, in a liquid state, with a flow of air or inert gas at a temperature of 300–330° C. and collection of the dianhydride in a porous container.

3,542,815

POLYMERIZATION OF ACONITIC ANHYDRIDE

John H. Blumbers, Highland Park, and Donald G. MacKellar, Trenton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 10, 1968, Ser. No. 758,670

Int. Cl. C07k 57/02

U.S. Cl. 260—346.8

4 Claims

Aconitic anhydride is homopolymerized by heating said anhydride at a temperature of at least about 80° C. in the presence of an initiating amount of a mixed aconitic-acyl peroxide.

3,542,816

CYCLIC ORGANIC COMPOUNDS CONTAINING SULFONYLSOCYANATE GROUPS AND PROCESS FOR THEIR MANUFACTURE

Herbert Bestian, Frankfurt am Main, Dieter Gunther, Kelheim, Taunus, and Hansjorg Vollmann, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Dec. 22, 1967, Ser. No. 692,653

Claims priority, application Germany, Dec. 29, 1966, F 51,102

Int. Cl. C07c 119/00, 127/00; C07d 5/32

U.S. Cl. 260—347.2

9 Claims

Monocyclic or polycyclic organic compounds containing a sulfonylisocyanate group and a process for prepar-

ing them in which vinylsulfonylisocyanate is reacted with open-chained or isocyclic or heterocyclic 1,3-dienes.

3,542,817

CARBORANYL EPOXIDES AND METHOD OF MAKING THE SAME

Daniel Grafstein, Morristown, Jack Bobinski, Rockaway, and Marvin M. Fein, Westfield, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa.

No Drawing. Original application June 27, 1963, Ser. No. 290,904, now Patent No. 3,360,569. Divided and this application July 28, 1967, Ser. No. 663,913

Int. Cl. C07f 5/02

U.S. Cl. 260—348

2 Claims

A synthesis is disclosed for preparing certain carboranyl alkyl epoxides and carboranyl alkyl esters from haloalkyl carboranes. The intermediate and end products are useful as high energy fuels, hydrocarbon fuel additives and precursors in the preparation of fuel-binders for solid propellants. The synthesis involves (a) reacting a haloalkylcarbone with magnesium to form a Grignard reagent, (b) reacting the Grignard reagent with a haloalkene to form a carboranyl alkene and (c) reacting the carboranylalkene with a peroxy acid, e.g., prefluoroacetic acid, at a pH above 7 to form a carboranyl alkyl epoxide or at a lower pH to form an ester.

3,542,818

PROCESS FOR THE PREPARATION OF α -HYDROXY ALDEHYDES

Verlan H. Van Rhee, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

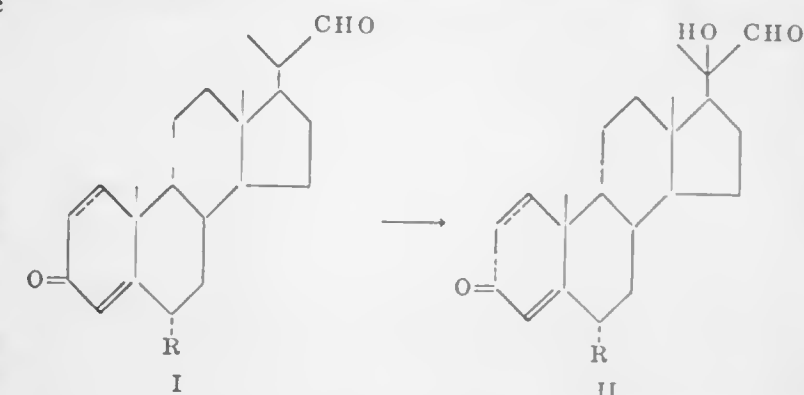
No Drawing. Filed Aug. 5, 1969, Ser. No. 847,725

Int. Cl. C07c 169/40

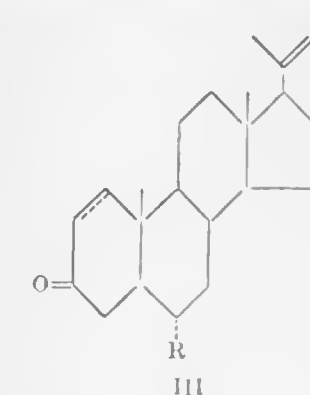
U.S. Cl. 260—397.4

6 Claims

Novel hydroxy aldehydes (II) are prepared by the copper catalyzed oxygenation of a compound having the structure of Formula I. The hydroxy aldehydes are useful as intermediates for the preparation of steroid 17-ketones. The reaction:



can be carried out alternatively by (A) using the copper salt in the presence of a free tertiary amine and a reducing agent, or (B) using a cuprous salt in the presence of a primary amine salt, preferably a salt of the same acid as cuprous salt. In each instance (A or B) III:



is formed in relatively lesser amounts compared with II.

3,542,819

PROCESS FOR PREPARING 8-ISOESTRONE

David J. Marshall, Hampstead, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 11, 1968, Ser. No. 735,977
Int. Cl. C07c 169/10

U.S. Cl. 260—397.4

7 Claims

There is disclosed herein a process for preparing 8-isoestrone, a powerful estrogen, by treatment of a 17-ketal derivative of equilenin or of equilin with potassium in liquid ammonia.

3,542,820

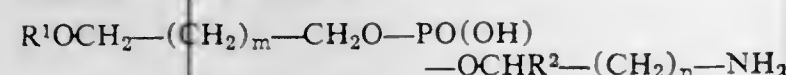
 α, ω -ALKANEDIOLPHOSPHORYLALKANOLAMINE DERIVATIVES AND PROCESS FOR PREPARING THEREOF

Sumanas Rakhit, Dollard des Ormeaux, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 8, 1968, Ser. No. 765,976
Int. Cl. C07f 9/08

U.S. Cl. 260—403

3 Claims

There are disclosed alkanediolphosphorylalkanolamine derivatives of the formula



in which R^1 represents a carboxylic acyl group containing 18 to 20 carbon atoms and three or four double bonds, m represents the integers zero, one or two, n represents the integers one or two, and R^2 represents a hydrogen atom or the methyl group. Those compounds possess anti-hypertensive activities, and methods for their preparation and use are also disclosed.

3,542,821

CIS-RETAINING SELECTIVE HYDROGENATION OF VEGETABLE OILS

Edwin N. Frankel, Peoria, Ill., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Aug. 30, 1968, Ser. No. 756,423
Int. Cl. C11c 3/12

U.S. Cl. 260—409

3 Claims

Arene chromium carbonyl complexes under specified conditions very selectively catalyze the hydrogenation of only the linolenate and linoleate constituents of vegetable oils or their methyl esters without also catalyzing the reduction of the oleate to stearate. Most importantly, the catalysts provide extraordinarily limited extents of double bond isomerization, and are unique in their ability to retain or direct the resulting residual ethylenically unsaturated carbon atoms almost exclusively in the original type cis configuration, thus permitting the production from soybean or safflower oils of stable salad oils in which the virtual absence of trans double bonds and a practically unchanged stearate content enable the nonwinterized oils to be refrigerated without clouding. Saponification of the so hydrogenated soybean or safflower oil or mixed methyl esters further provides a predominantly cis oleic acid material that closely approximates the commercial 75–85 percent oleic acid produced after the fractionation of animal fats.

3,542,822

HYDROLYSIS OF NITRILES TO CARBOXYLIC ACIDS

Charles M. Starks, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed May 27, 1968, Ser. No. 732,066
Int. Cl. C08h 17/36

U.S. Cl. 260—413

10 Claims

A process for hydrolyzing organic nitriles to carboxylic acids comprising carrying out the hydrolysis with aque-

ous hydrochloric acid or aqueous sulfuric acid in the presence of an organic-soluble strong acid catalyst such as a sulfonic acid, a carboxylic acid substituted by F, Cl, NO₂, COOH or other electron withdrawing group, or a phosphonic acid.

3,542,823

PRODUCTION AND TREATMENT OF SOAP

John David Craske, Longueville, New South Wales, and Charlotte Szonyi, Killarney Heights, New South Wales, Australia, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed June 18, 1968, Ser. No. 737,806
Claims priority, application Great Britain, June 21, 1967, 28,652/67

Int. Cl. C11b 3/06

U.S. Cl. 260—418

12 Claims

This invention relates to a process for the production of a soap of improved colour and odour which includes the step of treating a soap containing system at any stage during the production of the soap with an alkali metal borohydride at a pH of at least 9.5. The soap containing system is preferably treated with an aqueous alkali solution containing 0.01–0.30% sodium borohydride by weight of the fat charge immediately after it leaves the washing unit.

3,542,824

PERFLUOROCARBOXYLIC ACID ESTER OF TRICYCLOHEXYLTIN HYDROXIDE

Donald E. Bublitz, Concord, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 31, 1968, Ser. No. 748,948
Int. Cl. C07f 7/22

U.S. Cl. 260—429.7

8 Claims

Complete esters of perfluorocarboxylic acids and tricyclohexyltin hydroxide wherein the perfluorocarboxylic acids are perfluoro(lower)alkanoic acids, pentafluorobenzoic acid, perfluoro(lower)alkanedioic acids, or tetrafluoroterephthalic acid are disclosed. These compounds are useful as pesticides.

3,542,825

ORGANO(CHLORO) TIN MERCAPTIDES

Peter Albert Hoyer, Kinver, England, assignor to Albright & Wilson (Mfg.) Limited, Oldbury, near Birmingham, Warwickshire, England, a British company
No Drawing. Original application Sept. 21, 1965, Ser. No. 489,079. Divided and this application Dec. 12, 1967, Ser. No. 745,052

Int. Cl. C07f 7/22

U.S. Cl. 260—429.7

7 Claims

These compounds can be depicted by the formula (R)(X)(Z)Sn—R₂ wherein R is an alkyl group having up to 20 carbon atoms, X is chlorine, R₂ is an alkyl group having at least 5 carbon atoms and Z is selected from the group consisting of R, X, —SR¹ (where R¹ is an alkyl group having 5 to 20 carbon atoms).

3,542,826

COBALT DODECENEDIOATE AND USE THEREOF

August J. Pacini, San Pedro, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
No Drawing. Filed Mar. 22, 1968, Ser. No. 715,167
Int. Cl. C07f 15/06; C07c 57/02; A61k 27/00

U.S. Cl. 260—439

1 Claim

The cobalt salt of trans-dodecenedioic acid has been prepared and found to be a highly effective antiviral and vul-

3,542,827

10-CYANOACETOXYPHENOXARSINE

Chun-Shan Wang and Thomas W. McGee, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 15, 1968, Ser. No. 744,647
Int. Cl. C07d 105/06

U.S. Cl. 260—440

1 Claim

New compound 10-cyanoacetoxyphenoxarsine which is useful as a pesticide.

3,542,828

HEXAFLUOROANTIMONATE AMINE CATALYSTS

James J. Harris, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Feb. 15, 1968, Ser. No. 710,428
Int. Cl. C07f 9/90

U.S. Cl. 260—446

2 Claims

Hexafluoroantimonate amine salts are useful as catalysts in reactions where acid catalysts are normally used, such as in cationic polymerizations. The use of these salts in the cationic polymerization of vinyl ethers such as ethyl vinyl ether, or cyclic ethers such as propylene oxide, results in high efficiency and gives high molecular weight polymers. The preferred salt, anilinium hexafluoroantimonate can also be used in the form of complex with a cyclic ether.

3,542,829

PREPARATION OF BROMOMETHYLSILANES

William J. Owen, Penarth, Glamorgan, Wales, assignor to Midland Silicones Limited, Reading, Berkshire, England
No Drawing. Filed July 30, 1968, Ser. No. 748,612
Claims priority, application Great Britain, Aug. 1, 1967, 35,215/67

Int. Cl. C07f 7/08

U.S. Cl. 260—448.2

6 Claims

Di-, tri- and tetra-bromomethylorganosilanes are prepared by reacting appropriate alkoxy or aralkoxysilanes with a triorganophosphine dibromide. The silanes are useful as herbicides and as precursors for organopolysiloxanes.

3,542,830

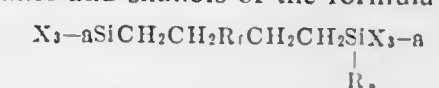
FLUOROCARBON SILICONE COMPOSITIONS

Yung Ki Kim, Lorne A. Loree, and Ogden R. Pierce, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 2, 1968, Ser. No. 749,577
Int. Cl. C07f 7/08, 7/18

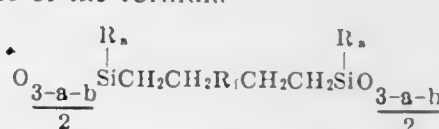
U.S. Cl. 260—448.2

8 Claims

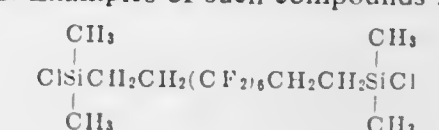
Organosilanes and silanols of the formula



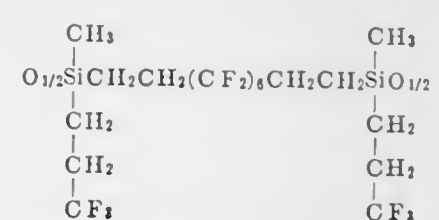
and siloxanes of the formula



are disclosed. Examples of such compounds include



and



Certain polymers are particularly useful for making revision resistant siloxane rubbers and resins.

3,542,831

HIGHER ALKYL CONTAINING METHYLPHENYL-ACETOXYXSILANES

William G. Gowdy, Old Bridge, N.J., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 15, 1968, Ser. No. 752,781
Int. Cl. C07f 7/08, 7/18

U.S. Cl. 260—448.2

3 Claims

Alkylmethylphenylacetoxysilanes wherein the alkyl radical contains from 16 to 45 carbon atoms are disclosed which find utility as evaporation retardants. An example of an alkylmethylphenylacetoxysilane is n-octadecylmethylphenylacetoxysilane.

3,542,832

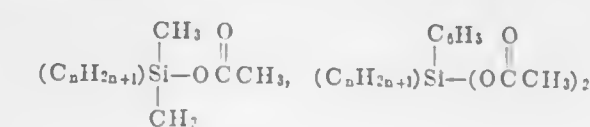
HIGHER ALKYL CONTAINING ACETOXYXSILANES

Charles A. Roth, Saginaw, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 15, 1968, Ser. No. 752,780
Int. Cl. C07f 7/08, 7/18

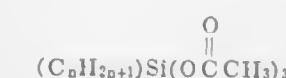
U.S. Cl. 260—448.2

7 Claims

Alkylacetoxysilanes wherein the alkyl group contains 12 to 45 carbon atoms are disclosed. The alkylacetoxysilanes include compounds of the formulae



and



wherein n is 12 to 45 inclusive. The alkylacetoxysilanes are useful as evaporation retardants. Examples of specific alkylacetoxysilanes are octadecyldimethylacetoxysilane, octadecylphenyldiacetoxysilane and octadecyltriacetoxysilane.

3,542,833

HIGHER ALKYL CONTAINING METHYLPHENYLSILANES

Richard W. Alsgaard, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 15, 1968, Ser. No. 752,779
Int. Cl. C07f 7/08

U.S. Cl. 260—448.2

5 Claims

Alkylmethylphenylsilanols and monoalkylmethylphenylsilanes in which the alkyl group has from 12 to 45 carbon atoms are disclosed. The alkylmethylphenylsilanes are useful as evaporation accelerators.

3,542,834

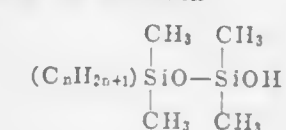
HIGHER ALKYL CONTAINING DISILOXANOLS

Richard W. Alsgaard, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Aug. 15, 1968, Ser. No. 752,775
Int. Cl. C07f 7/08

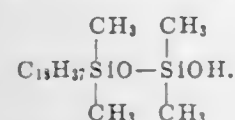
U.S. Cl. 260—448.2

2 Claims

Alkyldisiloxanols wherein the alkyl group contains 12 to 45 carbon atoms is disclosed. The alkyldisiloxanols include compounds of the formula



wherein n is 12 to 45 inclusive. The alkylsiloxanols are useful as evaporation retardants. A specific example of the alkylsiloxanols is a compound of the formula



3,542,835
(3-CHLORO-2-METHYLPROPYL)
DIMETHYLSILANOL

Richard W. Alsgaard, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Aug. 15, 1968, Ser. No. 752,774
Int. Cl. C07f 7/08

U.S. Cl. 240—448.2 1 Claim
(3-chloro-2-methylpropyl)dimethylsilanol which is useful as an evaporation retardant is disclosed.

3,542,836
ACYLOXYBENZOYLOXYSILOXANES

Patrick James Adams, Tecumseh, Mich., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 4, 1968, Ser. No. 734,248
Int. Cl. C07f 7/02

U.S. Cl. 260—448.2 5 Claims
Acyloxyaroyloxysilanes and acyloxyaroyloxysiloxanes, especially acyloxybenzoyloxysilanes and acyloxybenzoyloxysiloxanes, are described as new compositions of matter. These compositions are useful as cross-linkers and surfactants for polyurethanes.

3,542,837
METHOD OF PREPARING TRIORGANOSILANOLS

Terence J. Swihart, Essexville, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Oct. 17, 1968, Ser. No. 768,493
Int. Cl. C07f 7/08

U.S. Cl. 260—448.2 5 Claims
Triorganosilanol are prepared by hydrolyzing a mixture of a triorganochlorosilane and hexa-organodisilazane in an aqueous medium having a pH of between 6 and 9. This process gives an excellent yield of silanol of high purity and having good storage stability.

3,542,838
ALKYLDIPHENYLISOPROPOXYSILOXANE

Richard W. Alsgaard, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Aug. 15, 1968, Ser. No. 752,773
Int. Cl. C07f 7/04, 7/18

U.S. Cl. 260—448.2 2 Claims
Alkyldiphenylisopropoxysilanes in which the alkyl group contains from 12 to 45 carbon atoms are disclosed. The alkyldiphenylisopropoxysilanes are useful as evaporation accelerators.

3,542,839
2,5-DIISOPROPYL-P-XYLYLENE DIISOCYANATE

Elmore L. Martin, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 30, 1966, Ser. No. 605,967
Int. Cl. C07c 87/28, 119/04; C08c 17/00

U.S. Cl. 260—453 1 Claim
2,5-diisopropyl-p-xylylene diisocyanate as capping reagent provides spandex fibers and films which exhibit

high whiteness retention and high elastic power. The diisocyanate may be prepared from 2,5-diisopropyl-p-xylylenediamine.

3,542,840
SULFONATE ESTER-CONTAINING TWO-EQUIVALENT YELLOW-FORMING COUPLERS

Ralph F. Porter, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application Apr. 1, 1965, Ser. No. 444,822, now Patent No. 3,415,652, dated Dec. 10, 1968. Divided and this application May 23, 1968, Ser. No. 749,896

Int. Cl. C07c 143/68
U.S. Cl. 260—456 4 Claims

Alpha-sulfonyloxy substituted 2-equivalent yellow dye-forming couplers are used to advantage for forming yellow dye images in color photography, particularly because these couplers are characterized by not producing color fog and having very good coupling reactivity.

3,542,841
ARYL DERIVATIVES

Donald R. Moore, Rutherford, N.J., and Giuliana C. Tesoro, Dobbs Ferry, N.Y., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 6, 1966, Ser. No. 563,064
Int. Cl. C07c 69/00

U.S. Cl. 260—463 1 Claim
This invention concerns novel aliphatic polyaryl carbamates useful as intermediates and as crosslinking agents for polyamines and polyimines.

3,542,842
AMMOXIDATION OF PROPYLENE OR ISOBUTYLENE TO ACRYLONITRILE OR METHACRYLONITRILE

Robert K. Grasselli, Warrensville Heights, and Maria S. Friedrich, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 20, 1967, Ser. No. 691,934
Int. Cl. C07c 121/02

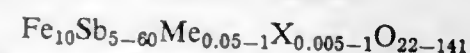
U.S. Cl. 260—465.3 3 Claims
Catalysts are provided which are useful in the oxidation of olefins to aldehydes and conjugated dienes and in ammoxidation of olefins to nitriles. The catalysts comprise the combined oxides of uranium and molybdenum and the combined oxides of uranium and molybdenum in combination with arsenic, bismuth, tin, vanadium, iron, nickel and cobalt.

3,542,843
PROCESS FOR THE PRODUCTION OF ACRYLONITRILE

Takachika Yoshino, Yokohama, Shigeru Saito, Fuchu-shi, and Yutaka Sasaki and Isao Nagase, Yokohama, Japan, assignors to Nitto Chemical Industry Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Apr. 12, 1968, Ser. No. 720,845
Claims priority, application Japan, Apr. 19, 1967, 42/24,550; Nov. 28, 1967, 42/75,892
Int. Cl. C07c 121/02

U.S. Cl. 260—465.3 5 Claims
This invention provides an improved process for the production of acrylonitrile which comprises contacting a mixture of propylene, molecular oxygen and ammonia in the vapor phase at an elevated temperature with a catalyst having the empirical formula:



wherein Me represents W or Mo and X represents P or B.

The catalyst mentioned above is distinguished over the promoted or unpromoted iron oxide-antimony oxide catalyst disclosed in the prior art, in the following points:

(1) it comprises a base catalyst system having a specific atomic ratio of Fe/Sb and a particular complex promoter "heteropoly acid of Me and X" being present in an extremely small amount, (2) it exhibits an improved conversion of propylene to acrylonitrile, particularly in the case where high conversion is achieved and the amount of residual oxygen is very small.

For example, the catalysts according to this invention (A-1, A-9, B-1 and B-7), and the catalysts disclosed in the prior art (R-1, R-4 and R-5) are prepared by similar procedures, and the activities thereof are tested by the same method to obtain results as shown in the following table.

Cat. No.	Catalyst composition						Optimum reaction temp., °C.	Conversion of propylene to acrylonitrile, percent
	Fe	Sb	W	Mo	P	B		
A-1	10	25	0.25	0.1	66	30	450	78
A-9	10	25	0.25	0.1	66	30	460	76
B-1	10	25	0.2	0.2	66	30	450	75
B-7	10	60	0.7	0.5	138	60	450	69
R-1	10	25			65	30	420	65
R-4	10	25		2.0	71	30	430	48
R-5	10	25		0.5	66	30	450	64

* Carrier.

3,542,844
PROCESS FOR REMOVING SODIUM BICARBONATE FROM A REACTION PRODUCT CONTAINING ADIPONITRILE

Gordon Diprose, Runcorn, and Albert Stanley Gomm, Manchester, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

Filed Feb. 19, 1968, Ser. No. 706,344
Claims priority, application Great Britain, Apr. 10, 1967, 16,359/67

Int. Cl. C07c 121/26, 121/20
U.S. Cl. 260—465.8 6 Claims

Sodium bicarbonate is removed from a suspension thereof in an organic phase by treating the suspension with sodium carbonate and separating a solid which is a mixture or chemical combination of sodium bicarbonate and sodium carbonate. The method is particularly applicable to the suspension of sodium bicarbonate in an organic phase containing a hydrotimer of an alpha-beta-mono-olefinic nitrile or carboxylate which is obtained when the olefinic starting material is hydrotimerised by treating with sodium amalgam in the presence of a proton source and a major proportion of polar organic solvent at an apparent pH which is maintained in the range 7 to 11.5 by addition of carbon dioxide.

3,542,845
AMALGAM PROCESS FOR PRODUCING ADIPONITRILE FROM ACRYLONITRILE

Gordon Diprose, Runcorn, England, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

Filed Feb. 19, 1968, Ser. No. 706,345
Claims priority, application Great Britain, Mar. 14, 1967, 11,952/67

Int. Cl. C07c 121/20, 121/26
U.S. Cl. 260—465.8 8 Claims

In a process in which alpha-beta-mono-olefinic nitriles or carboxylates are converted to their hydrotimers in a

continuous manner by reacting with an alkali or alkaline earth metal amalgam and a proton source in a major proportion of polar organic solvent at a pH of 7 to 11.5 maintained by addition of an acidic buffering agent, and in which a suspension of the metal salt (formed from the acidic buffering agent and the metal of the amalgam) is maintained in the reaction mixture in the reaction zone and a part of the said suspension is recycled to the reaction zone and another part is withdrawn, separation of the said metal salt from the hydrotimer in the withdrawn portion is achieved by treating the withdrawn portion with water and/or a non-polar organic solvent to form an organic phase containing the hydrotimer and an aqueous phase containing the said metal salt.

3,542,846
AMALGAM PROCESS FOR PREPARING ADIPONITRILE FROM ACRYLONITRILE

Donald Herbert Bartholomew, Runcorn, England, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

Filed Feb. 19, 1968, Ser. No. 706,402
Claims priority, application Great Britain, Feb. 27, 1967, 9,138/67

Int. Cl. C07c 121/20, 121/26
U.S. Cl. 260—465.8 7 Claims

In a process in which alpha-beta-mono-olefinic nitriles or carboxylates are converted to their hydrotimers in a continuous manner by reaction with an alkali or alkaline earth metal amalgam and a proton source in a major proportion of polar organic solvent at a pH of 7 to 11.5 maintained by addition of an acidic buffering agent, improved operation is achieved by maintaining a suspension of the metal salt (formed from the acidic buffering agent and the metal of the amalgam) in the reaction mixture in the reaction zone, and by recycling a part of the said suspension to the reaction zone.

3,542,847
PROCESS FOR ISOMERIZING 3-PENTENITRILE TO 4-PENTENITRILE

William C. Drinkard, Jr., Wilmington, and Richard V. Lindsey, Jr., Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 679,608, Nov. 1, 1967. This application Sept. 15, 1969, Ser. No. 858,098

Int. Cl. C07c 121/30
U.S. Cl. 260—465.9 7 Claims

Process of isomerizing 3-pentenitriles to 4-pentenitrile using platinum or palladium catalysts having a valence of +2 or less and of adding hydrogen cyanide to nonconjugated carbon-carbon double bonds such as in 4-pentenitrile at from -25 to 200° C. using catalysts of the structure Pd(PX₃)₄ where X is R or OR and R is an alkyl or aryl group of up to 18 carbon atoms.

3,542,848

PROCESS FOR THE PREPARATION OF AMINOMETHYLENE MALONITRILE

Willy Leimgruber, Montclair, and Manfred Weigle, North Caldwell, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 9, 1968, Ser. No. 719,834
Int. Cl. C07c 121/42

U.S. Cl. 260—465.4

3 Claims

This invention is directed to a process for the preparation of aminomethylene malonitrile from dialkyl aminoacrylonitrile including intermediates therein. Aminomethylene malonitrile is a known compound which is a valuable intermediate in the synthesis of thiamine.

3,542,849

PROCESS FOR THE PREPARATION OF N-ARYL- α -AMINO CARBOXYLIC ACID ESTERS

Roland Nast, Cologne-Buchheim, and Kurt Ley, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Dec. 2, 1966, Ser. No. 598,625
Claims priority, application Germany, Jan. 11, 1966, F 48,133
Int. Cl. C07c 101/44

U.S. Cl. 260—471

4 Claims

Preparation of N-aryl- α -amino carboxylic acid esters by reaction of the corresponding nitrile with 80 to 100% by weight sulfuric acid or fuming sulfuric acid with an SO₃ content of up to 10% by weight, reaction of resulting product at 60 to 110° C. with a primary alcohol and recovering desired ester by neutralizing the reaction mixture.

3,542,850

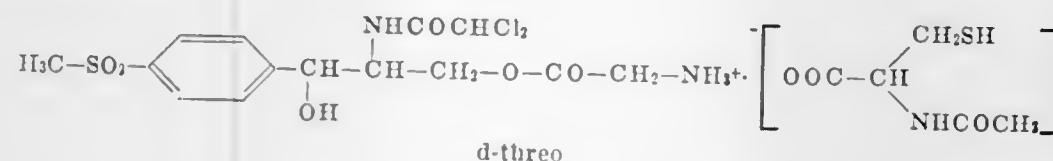
SUBSTITUTED ANILIDES

Alexander Bertus Arnold Jansen, Burnam, and John Hollowood, Stonor, Henley-on-Thames, England, assignors, by mesne assignments, to John Wyeth & Brother Limited, Taplow, Maidenhead, Berkshire, England, a British company
No Drawing. Filed May 19, 1967, Ser. No. 639,622
Claims priority, application Great Britain, June 3, 1966, 24,763/66
Int. Cl. C07c 103/28, 103/50

U.S. Cl. 260—471

16 Claims

The compounds of the class of ω -dialkylamino-2-meth-



ylacetanilide derivatives useful as an anti-convulsant and local anaesthetic.

3,542,851

NOVEL ACRYLATE, AMINES AND ETHERS

Arthur A. Patchett, Cranford, Robert L. Clark, Woodbridge, and Edward F. Rogers, Middletown, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Original application July 1, 1966, Ser. No. 562,134, now Patent No. 3,399,203, dated Aug. 27, 1968. Divided and this application May 25, 1967, Ser. No. 651,081
Int. Cl. C07c 87/48, 101/44

U.S. Cl. 260—471

3 Claims

The following novel compounds are prepared: 3-loweralkyl-4-loweralkoxy-nitrobenzene, 3-loweralkyl-4-loweralkoxy-aniline, and loweralkyl- α -carboalkoxy- β -(3-loweralkyl-4-loweralkoxy-anilino)acrylate. These compounds are used to prepare lower alkyl-6,7-disubstituted-4-hydroxy-quinoline-3-carboxylates having a high degree of anticoccidial activity.

3,542,852

PROCESS FOR THE PREPARATION OF AROMATIC ESTERS

Charles M. Selwitz, Pitcairn, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Dec. 19, 1966, Ser. No. 602,588
Int. Cl. C07c 69/14, 69/90

U.S. Cl. 260—476

22 Claims

Process for preparing a carboxylic acid esters of a hydroxy aromatic, wherein the hydroxy group is on the aromatic nucleus, which involves heating an aromatic hydrocarbon, a halogenated aromatic hydrocarbon or an ester of an aromatic acid with iron, a noble metal or compounds of iron or noble metal in the presence of a nitrate ion and a carboxylic acid.

3,542,853

AMINOMETHYLENEIMINOPHENYL CARBAMATES

Horst Peissker, Wolfenbuttel, Albert Jager, Berlin, Walter Steinhausen, Leupoldsdorf, and Gerhard Boroschewski, Berlin, Germany, assignors to Schering A.G., Berlin, Germany
No Drawing. Original application June 26, 1963, Ser. No. 290,586, now Patent No. 3,336,186, dated Aug. 15, 1967. Divided and this application Dec. 28, 1966, Ser. No. 605,152
Int. Cl. C07c 131/00

U.S. Cl. 260—479

10 Claims

Pesticidal phenyl-carbamate derivatives.

3,542,854

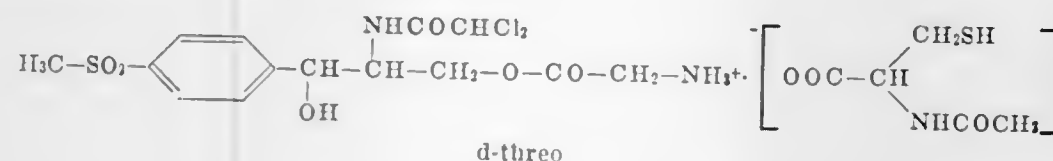
THIAMPHENICOL DERIVATIVE

Uberto M. Teotino, Milan, Italy, assignor to Whitefin Holding S.A., Lugano, Switzerland
No Drawing. Filed Mar. 9, 1966, Ser. No. 532,883
Claims priority, application France, Mar. 29, 1965, 11,035
Int. Cl. C07c 101/18

U.S. Cl. 260—482

1 Claim

A new thiamphenicol derivative has been prepared, having the formula:



which is water-soluble, tasteless, odorless and exercises a strong mucolytic action as well as antibacterial action higher than that of the thiamphenicol, with respect to many microorganisms which are responsible for respiratory diseases.

3,542,855

PROCESS FOR PREPARING ACETOACETIC ACID ESTERS

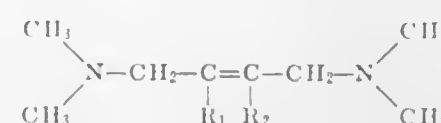
Albrecht Moschel, Kelkheim, Taunus, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany
No Drawing. Filed Feb. 24, 1967, Ser. No. 618,326
Claims priority, application Germany, Feb. 26, 1966, F 48,531
Int. Cl. C07c 69/72

U.S. Cl. 260—483

6 Claims

Mono- and polyacetoacetic acid esters and process for their preparation by reacting with diketene aliphatic cycloaliphatic, araliphatic or aromatic compounds, containing

one or more hydroxyl groups in the presence of catalytic amounts of tertiary diamines of the formula



in which R₁ and R₂ are hydrogen or methyl.

3,542,856

CERTAIN PEROXYESTERS HAVING A DEFINED SUBSTITUENT POSITIONED ON A CARBON ATOM AT LEAST BETA TO A PEROXYCARBON ATOM

Orville Leonard Mageli, Kenmore, and Wilbur H. McKellin, Buffalo, N.Y., assignors to Pennwalt Corporation, East Orange, N.J., a corporation of Pennsylvania
No Drawing. Filed Aug. 1, 1966, Ser. No. 569,030
Int. Cl. C07c 69/12, 69/18, 69/22

U.S. Cl. 260—488

5 Claims

Beta-substituted peroxyesters useful as polymerization initiators.

3,542,857

PRODUCTION OF VIC-GLYCOL ESTERS

Eugene F. Lutz, Concord, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 20, 1968, Ser. No. 706,771
Int. Cl. C07c 67/04

U.S. Cl. 260—497

7 Claims

Olefins are oxidized to vic-glycol monoesters and diesters with molecular oxygen in an alkanolic acid medium in the presence of certain cerium salts as catalyst.

3,542,858

METHOD FOR PREPARING 2,6-DICHLORO-4-NITROBENZOIC ACID AND INTERMEDIATE THEREFOR

Dennis M. Mulvey, Iselin, and Peter I. Pollak, Scotch Plains, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 14, 1967, Ser. No. 690,377
Int. Cl. C07c 79/40

U.S. Cl. 260—515

5 Claims

2,6-dichloro-4-nitro-1,3-benzene dicarboxylic acid is prepared by the oxidation of 2,6-dichloro-4-nitro-m-xylene which is selectively decarboxylated to 2,6-dichloro-4-nitrobenzoic acid by heat or treatment with nitric acid. These acids are intermediates in the preparation of 2,6-dichloro-4-nitrobenzamide, a compound having anticoccidial activity.

3,542,859

FLUORINATED ETHERS

Morton H. Litt and Francis W. Evans, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Original application Oct. 1, 1965, Ser. No. 492,276, now Patent No. 3,453,333, dated July 1, 1969. Divided and this application Sept. 3, 1968, Ser. No. 778,888
Int. Cl. C07c 59/22

U.S. Cl. 260—514

5 Claims

This invention relates to novel fluorinated acids derived from fluorinated ethers. The fluorinated ethers contain at least one halogen atom other than fluorine, this halogen atom serving as a reactive site in the preparation of the fluorinated acids. The fluorinated acids are useful as surfactants.

3,542,860

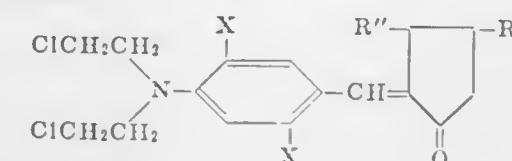
CYCLOPENTANONE DERIVATIVES

Raffaele Giuliano, Via S. Erasmo 31, Rome, Italy; Aldo Ermili, Via Minerbio 21, Rome-Vitina, Italy; Marino Artico, Via Edgardo Negri 64/3-00128, Rome, Italy; Robert Bierling, % Farbenfabriken Bayer AG., Wuppertal-Elberfeld, Germany; and Dieter Steinhoff, Bochum, Germany, % Farbenfabriken Bayer AG., Wuppertal-Elberfeld, Germany
No Drawing. Filed Dec. 4, 1967, Ser. No. 687,497
Claims priority, application Germany, Dec. 2, 1966, F 50,825
Int. Cl. C07c 101/44

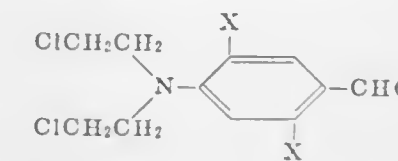
U.S. Cl. 260—518

8 Claims

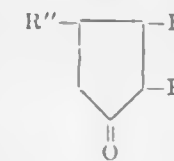
Cyclopentanone derivatives have been found to be effective in a selective manner against tumor cells. In experimental tests on rats and mice cyclopentanone derivatives of the formula:



wherein X is hydrogen or alkoxy of 1 to 2 carbon atoms, R is alkyl of 1 to 4 carbon atoms or —CH₂COOH, and R' and R'' are hydrogen, alkyl or carboxyl, were shown to be effective against intramuscularly transplanted Jensen sarcoma in rats and Ehrlich carcinoma in mice. The cyclopentanone derivatives can be produced by reacting a p-bis-(β -chloroethyl)-amino-benzaldehyde of the formula:



in an alkaline medium with a cyclopentanone of the formula:



wherein X, R, R' and R'' are as above defined.

3,542,861

3-AMINO-5-CYCLOALKYLCARBONYLAMINO-2,4,6-TRIODOBENZOIC ACIDS

James H. Ackerman, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 550,605, May 17, 1966. This application Mar. 15, 1968, Ser. No. 713,302
Claims priority, application Great Britain, May 8, 1967, 21,362/67
Int. Cl. C07c 103/86

U.S. Cl. 260—518

3 Claims

Bis(3-carboxylamino-2,4,6-triiodo-5-substituted-benzoic acids) bridged at the 3-position by an oxygen or sulfur interrupted alkylene chain, useful as intravenous cholecystographic agents, are prepared by reaction of a 3-amino-5-substituted-2,4,6-triiodobenzoic acid with the appropriate dibasic acid dihalide.

3,542,862

3-(o-AROYLAMINOPHENYL)-LEVULINIC ACIDS

John M. Chermida, Plainfield, and Meyer Slettinger, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Feb. 19, 1968, Ser. No. 706,660
Int. Cl. C07c 103/30

U.S. Cl. 260—519

2 Claims

New intermediates for the preparation of 1-aryl-3-indolylacetic acids comprise o-nitrophenylacetones, 1-(o-

nitrophenyl)-2-pyrrolidino propenes prepared from the acetones by treatment with pyrrolidine and acid, 3-(o-nitrophenyl)-levulinic acids prepared from the latter by reaction with haloacetic esters, and 3-(o-arylamino-phenyl)-levulinic acids prepared by reducing and aroylating the nitro compounds. The production of the indoles is described.

3,542,863

PALLADIUM CATALYST TREATMENT WITH FORMIC ACID

Wilford J. Zimmerschied, Crown Point, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 456,506, May 17, 1965. This application July 11, 1968, Ser. No. 743,920

Int. Cl. B01j 11/18; C07c 51/42

U.S. Cl. 260—525

6 Claims

Hot formic acid treatment of palladium on carbon catalyst serves to bring the activity of the catalyst to a desirable level either when the catalyst has been deactivated by contact with copper ions or when the fresh catalyst has an undesirably high activity toward overhydrogenating aromatic rings or functional substituent groups whose presence is derived in a product subjected to catalytic hydrogen treatment.

3,542,864

PROCESS FOR THE PRODUCTION OF PERFLUOROALKANESULFONYL FLUORIDES

Robert J. Kosher, Lincoln Township, Washington County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed July 13, 1966, Ser. No. 564,749

Int. Cl. C07c 143/70

U.S. Cl. 260—543

6 Claims

Tetrafluoroethylene and perfluoropropylene react with sulfur fluoride in the presence of dissolved inorganic fluoride or cyanide ion to provide respectively perfluoroethane- or perfluoropropane-sulfonyl fluorides.

3,542,865

ETHYLENIC SULFIMINES

Horst O. Bayer, Levittown, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

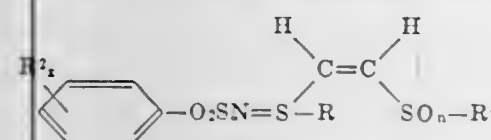
No Drawing. Filed Feb. 16, 1968, Ser. No. 705,916

Int. Cl. C07c 143/78

U.S. Cl. 260—556

10 Claims

Selectively oxidized ethylenic sulfimines of the formula



are useful in a broad spectrum of biological end uses to protect agricultural, organic and related articles from attack by noxious living organisms, such as fungi, bacteria and algae.

3,542,866

C-AMINODECAHYDROMONOCARBAUNDECARBORATES

Walter H. Knott, Jr., Mendenhall, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 463,340, June 11, 1965. This application Mar. 3, 1969, Ser. No. 803,972

Int. Cl. C07c 103/30

U.S. Cl. 260—558

10 Claims

C-aminodecahydromonocarbaundecaborates (1-) can be prepared by the hydrolysis of $\text{B}_{10}\text{H}_{12}\text{CN}\cdot\text{SR}_2^-$ anions pre-

ferably in the presence of an acid as a catalyst, to give the compound $\text{NH}_3\text{CB}_{10}\text{H}_{11}\text{OH}$ which can then be substituted at the amino nitrogen with hydrocarbyl groups by hydrocarbylating agents conventional in organic chemistry. An amino hydrogen of the amino compounds can be replaced with non-oxidizing cation; capable of forming strong bases. Addition of an acyl halide to



gives an N-acyl C-aminodecahydromonocarbaundecaborate substituted with SR_2 , which on heating above 150°C . loses SR_2 to form a compound in which the nitrogen is bonded to the carbon and a boron atom of the monocarbaundecaborate cage. The compounds are useful as reducing agents for the preparation of printed circuits, and for the manufacture of resistors.

3,542,867

PRODUCTION OF N-3-OXOHYDROCARBON-SUBSTITUTED ACRYLAMIDES

Norbert J. Foecking, Chardon, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 27, 1967, Ser. No. 671,141

Int. Cl. C07c 103/42

U.S. Cl. 260—561

5 Claims

N-3-oxohydrocarbon-substituted acrylamides, especially N-(1,1-dimethyl-3-oxobutyl)acrylamide, are recovered from a sulfuric acid-containing reaction mixture by diluting with water and extracting the product from the aqueous system with a water-immiscible solvent, preferably chloroform.

3,542,868

PENTACYCLONONANEAMINES

George L. Dunn, Wayne, and John R. E. Hoover, Glenside, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Application Jan. 6, 1966, Ser. No. 519,021, now Patent No. 3,418,368, dated Dec. 24, 1968, which is a continuation-in-part of application Ser. No. 442,475, Mar. 24, 1965. Divided and this application July 24, 1968, Ser. No. 747,086

Int. Cl. C07c 87/40, 87/42; A61k 27/00

U.S. Cl. 260—563

7 Claims

Pentacyclo[4.2.0.0^{2,5}.0^{3,8}.0^{4,7}]octanes, pentacyclo[5.2.0.0^{2,5}.0^{3,9}.0^{4,8}]nonanes

and pentacyclo[6.2.0.0^{2,6}.0^{3,10}.0^{5,9}]decanes, substituted with an amino or aminomethyl group, are prepared from known simpler substances. The products are antiviral agents.

ERRATUM

For Class 260—569 see: Patent No. 3,543,265

3,542,869

1-AMINO-1-(o-CHLOROPHENYL)-2-BUTANONE AND THE ACID SALTS THEREOF

Takayuki Naito, Susumu Nakagawa, and Yukio Narita, Tokyo, Japan, assignors, by mesne assignments, to Bristol-Myers Company, a corporation of Delaware

No Drawing. Filed Oct. 25, 1967, Ser. No. 677,849

Int. Cl. C07c 91/28

U.S. Cl. 260—570.5

2 Claims

The compound 1-amino-1-(o-chlorophenyl)-2-butanone and the acid salts thereof. The product, 1-amino-1-(o-chlorophenyl)-2-butanone can be produced by reacting o-chlorophenylglycine with propionic acid anhydride to produce an intermediate which is acidified to the product. Alternatively, o-chloro-phenylglycine is reacted with either an organic acid anhydride or halide. The reaction product therefrom is reacted with propionic acid anhydride and subsequently acidified. The product has hypocholester-

olemic activity and is also useful as an intermediate in the preparation of certain 4-hydroxy-5-thiazoles having antifungal activity.

3,542,870

1 - (3,5 - DIHALO - 4 - HYDROXY - PHENYL) - 2 - (2 - ARYLOXY OR 2 - ARYLALKYL - ISOPROPYLAMINO)-PROPANOLS

Jean Pierre Fourneau and Jean Maurice René Alfred Delourme, Paris, France, assignors to Laboratoires Houde, Paris, France, a French body corporate

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,818

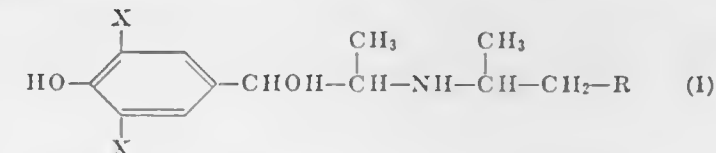
Claims priority, application France, Jan. 10, 1967, 90,478; Dec. 21, 1967, 133,258

Int. Cl. C07c 91/16, 93/06

U.S. Cl. 260—570.6

4 Claims

The invention has for its object new compounds of formula



wherein X is a bromine or iodine atom and R is a phenoxy or benzyl group having hypotensive and peripheral vasodilator activity.

3,542,871

PURIFICATION OF 4,4'-METHYLENE DIANILINE BY CRYSTALLIZATION

Edward J. Thompson, Watertown, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

Filed July 29, 1968, Ser. No. 748,253

Int. Cl. C07c 89/04

U.S. Cl. 260—570

11 Claims

A process is disclosed for the separation, by crystallization, of methylene dianilines containing a high percentage of 4,4'-methylene dianiline from mixtures of methylene-bridged polyphenyl polyamines containing from 35 to 85% by weight of methylene dianilines. The mixture of starting polyamines is that obtained by acid condensation of aniline and formaldehyde. The process involves maintaining the polyamine mixture under equilibrium conditions at a temperature between the point of nucleation and the set point of the initial mixture, repeatedly removing and returning homogeneous liquid aliquots to the bulk of polyamine. This procedure is continued until the initially minute crystals of methylene dianiline have reached a size at which they can be readily separated. The crystalline methylene dianilines so isolated are enriched in the 4,4'-isomer. These diamines, optionally after further crystallization to obtain essentially pure 4,4'-methylene dianiline, can be used as curing agents, isocyanate intermediates and for all purposes for which methylene dianilines are conventionally employed. The mother liquor containing a mixture of polyamines with a reduced amount of methylene dianilines can be used as intermediates for the preparation of polymethylene polyphenyl isocyanates and like purposes.

3,542,872

1-AMINO SUBSTITUTED PHENOXY-2-HYDROXY-3-ISOPROPYLAMINO-PROPANES

Herbert Koppe, Ingelheim, Albrecht Engelhardt, Mainz, Gerhard Ludwig, Wedel, and Karl Zeile, Ingelheim, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany

No Drawing. Application Feb. 28, 1967, Ser. No. 619,141, now Patent No. 3,459,782, dated Aug. 5, 1969, which is a continuation-in-part of application Ser. No. 391,012, Aug. 20, 1964. Divided and this application Feb. 23, 1968, Ser. No. 707,452

Int. Cl. C07c 93/06

U.S. Cl. 260—570.7

21 Claims

1 - amino substituted phenoxy - 2 - hydroxy - 3 - N -

3,542,873

(2-HYDROXY-3-(POLYCHLOROPHENOXY)PROPYL)AMINE COMPOUNDS

Herman E. Faith, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

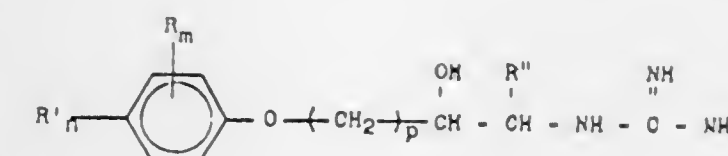
No Drawing. Original application June 2, 1967, Ser. No. 643,032, now Patent No. 3,437,691, dated Apr. 8, 1969. Divided and this application Nov. 22, 1968, Ser. No. 845,409

Int. Cl. C07c 93/06

U.S. Cl. 260—570.7

3 Claims

The present invention is directed to (β -hydroxy- ω -phenoxyalkyl)guanidine compounds of the formula



and their pharmaceutically acceptable acid addition salts. In the foregoing and following formulae, R represents methyl, methoxy, bromo, or chloro; R' represents R, amino, or hydroxy; R'' represents hydrogen or methyl; p represents an integer of from 1 to 4, both inclusive; m represents an integer of from 0 to 3, both inclusive; n represents an integer of from 0 to 1, both inclusive; and the sum of m and n is an integer of from 0 to 3, both inclusive.

3,542,874

1 - (2 - METHYLTHIOPHENOXY) - 2 - HYDROXY - 3 - ISOPROPYLAMINOPROPANE AND THE SALTS THEREOF

Volkert Govert Keizer and Johannes Maria Antonius Zwagemakers, Van Houtenlaan, Weesp, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 22, 1966, Ser. No. 536,320

Int. Cl. C07c 93/02

U.S. Cl. 260—570.7

3 Claims

Alkoxythiophenoxy N substituted hydroxy-propylamino-propanes compounds. The compounds exhibit β -sympatholytic activities.

3,542,875

PURIFICATION AND RECOVERY OF N-3-OXOHYDROCARBON-SUBSTITUTED ACRYLAMIDES

Allen J. Raymond, Kirtland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 17, 1967, Ser. No. 675,794

Int. Cl. C07c 103/62

U.S. Cl. 260—561

7 Claims

N-3-oxohydrocarbon-substituted acrylamides, especially N - (1,1 - dimethyl-3-oxobutyl)acrylamide (diacetone

acrylamide), are isolated in good yield and high purity by extraction from the reaction mixture with an organic solvent, followed by heating the extract with aqueous alkali to neutralize residual acidity and remove by-products.

3,542,876

AMINATION OF ALKYL HALIDES

Ted L. Blaney, Forest Park, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 26, 1968, Ser. No. 762,854

Int. Cl. C07c 85/04, 89/00

U.S. Cl. 260—583

6 Claims

A process for the amination of random alkyl halides is disclosed. A reaction mixture comprising a ternary system of a random alkyl halide, an amine base and a reaction medium (e.g., water, methanol and water/methanol mixtures) is prepared and heated to a reaction temperature of from about 150° F. to about 450° F. The products of this process, random alkyl primary, secondary and tertiary amines, are useful as intermediates in the production of synthetic detergents, fabric softening agents and bacteriostats.

3,542,877

ACYL SUBSTITUTED 4,7-METHANOINDENES

Morris Dunkel, Paramus, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Jan. 24, 1967, Ser. No. 611,271

Int. Cl. C07c 49/45; C11b 9/00

U.S. Cl. 260—586

6 Claims

Novel acyl substituted 4,7-methanoindenes useful as perfume ingredients prepared by a Rupe-type rearrangement of corresponding hydroxy and acetylenic substituted methanoindenes.

3,542,878

ALDOL CONDENSATION PROCESS

Harold E. Swift, Gibsonia, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 506,479, Nov. 5, 1965. This application Nov. 22, 1967, Ser. No. 684,948

Int. Cl. C07c 45/10, 49/06, 47/02

U.S. Cl. 260—586

13 Claims

A process for the aldol condensation of carbonyl compounds using a supported tin catalyst at elevated temperatures.

3,542,879

PREPARATION OF ANHYDROUS MONOMERIC GLYOXAL

Andrew Harper Dinwoodie, Dalry, and George Gourlay, Stevenson, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 15, 1968, Ser. No. 721,147

Int. Cl. C07c 45/00

U.S. Cl. 260—601

12 Claims

Anhydrous monomeric glyoxal is prepared by heating hydrated glyoxal suspended in a silicone fluid at a temperature in the range 120–185° C. This process gives a high yield without any charring.

3,542,880

TRIFLUOROMETHYL-NITRO-DIPHENYL SULFIDES

Otto Rohr, Therwil, and Heinz Siegle, Binningen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Mar. 5, 1968, Ser. No. 710,645

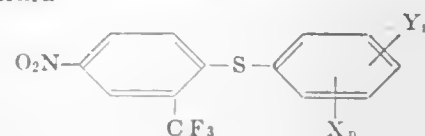
Claims priority, application Switzerland, Mar. 3, 1967, 3,392/67

Int. Cl. C07c 149/37; A01n 9/12

U.S. Cl. 260—609

6 Claims

The invention describes new thiodiphenyl ethers of the general formula



the various meanings of X, Y, m and n of which are given in the disclosure, and their use in pesticidal preparations. Especially good activity is shown against bacteria and fungi.

3,542,881

CATALYTIC PRODUCTION OF DIMETHYL SULFIDE FROM TRITHIANE

Hans-Dieter Rupp, Erlenbach, Gerhard Meyer, Obernburg, and Helmut Mägerlein, Erlenbach, Germany, assignors to Glanzstoff AG, Wuppertal, Germany

No Drawing. Filed Oct. 18, 1968, Ser. No. 768,890

Claims priority, application Germany, Oct. 27, 1967, G 51,455

Int. Cl. C07c 149/10

U.S. Cl. 260—609

10 Claims

Process for the catalytic production of dimethyl sulfide by reacting trithiane with an excess of methanol at about 200 to 400° C., preferably at an elevated pressure and either discontinuously or continuously, in the presence of a small amount of at least one catalytic compound selected from the class of the oxides, isopolyacids, heteropolyacids and ammonium salts of the heteropolyacids of tungsten (VI) and molybdenum (VI).

3,542,882

CHLORINATED PHENOLS

Brian M. Ashall, Wingerworth, Chesterfield, Derbyshire, Herbert F. Bondy, Upper Newbold, Chesterfield, Derbyshire, and Vernon Kelsey, Brimington Common, Chesterfield, Derbyshire, England, assignors to Coalite and Chemical Products Limited, Bolsover, Chesterfield, Derbyshire, England, a British company

No Drawing. Filed Aug. 20, 1964, Ser. No. 391,032

Claims priority, application Great Britain, Aug. 30, 1963, 34,475/63

Int. Cl. C07c 39/27

U.S. Cl. 260—623

7 Claims

The invention is directed to a process for the chlorination of certain phenols, such as 3,4-dimethylphenol, by contacting the phenol while in a molten state with certain chlorinating agents, such as sulphuryl chloride, in the presence of certain catalysts, such as copper chloride.

3,542,883

PROCESS FOR ISOMERIZATION OF 1,2-ALKYLENE OXIDES

Costin Nenitescu, Str. Scoalei 8; Emil Danciu, Str. Sergent Nitu Vasile 50; and Florica Tanase, Str. Tuzla 1, all of Bucharest, Rumania

Filed Aug. 10, 1966, Ser. No. 571,481

Int. Cl. C07c 33/02

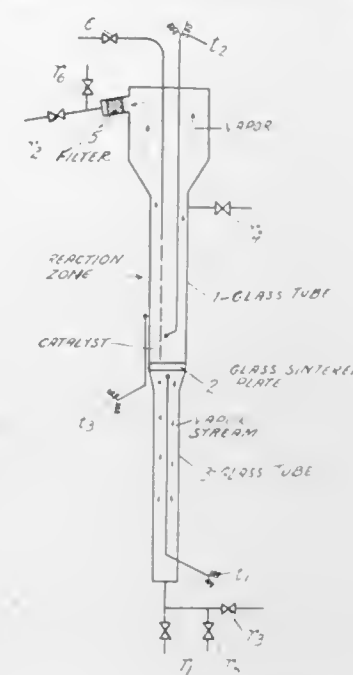
U.S. Cl. 260—632

5 Claims

Olefinically unsaturated alcohols can be obtained as the main product in yields as high as 1000 grams per liter of catalyst per hour, or higher, from the vapor-phase isomerization of the corresponding 1,2-alkylene oxide having from 3 to 5 carbon atoms when the catalyst is employed in the form of a fluidized bed or as a solid

in pneumatic transport state, with respect to which said alkylene oxide is the supporting fluid. The catalyst, which may be used alone or in combination with inert filler,

the presence for a SbF_5 catalyst and either a HF or HSO_3F co-catalyst for a period of at least about 80 minutes before recycling the catalyst for subsequent reactions.



can be subjected to an autoregeneration merely by increasing the operating temperature by 40° to 50° C. for a period of from 15 to 45 minutes.

3,542,884

PROCESS FOR PREPARING FLUORODINITRO COMPOUNDS

Horst G. Adolph, Beltsville, Md., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Continuation-in-part of application Ser. No. 387,556, July 31, 1964. This application Jan. 24, 1969, Ser. No. 795,773

Int. Cl. C07c 31/34

U.S. Cl. 260—633

5 Claims

Processes for the preparation of 2-fluoro-2,2-dinitroethanol (FDNE) and bis (2-fluoro-2,2-dinitroethyl) formal (FEFO) by reacting fluorotrinitromethane (FTM) with formaldehyde under basic conditions in the presence of a surfactant and a reducing agent to yield FDNE which is extracted with methylene chloride and then reacted with more formaldehyde under strongly acidic conditions to yield FEFO.

3,542,885

CATALYTIC DIMERIZATION OF 1,3-BUTADIENE TO 4-VINYLCYCLOHEXENE

Larry G. Baumgard, Belpre, Ohio, and Donald C. Cronauer, Parkersburg, W. Va., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Jan. 14, 1969, Ser. No. 791,171

Int. Cl. C07c 3/02, 3/10, 13/20

U.S. Cl. 260—666

5 Claims

A process for the dimerization of 1,3-butadiene to 4-vinylcyclohexene may be practiced to produce high yields by the use of certain catalyst systems which include (1) elemental sulfur, or (2) mercaptans.

3,542,886

CATALYST RECYCLE

Ronald D. Bushick, Glen Mills, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

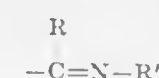
No Drawing. Filed Oct. 18, 1968, Ser. No. 768,898

Int. Cl. C07c 5/24

U.S. Cl. 260—666

6 Claims

A method for preparing decahydronaphthalenes from dicyclic naphthenes wherein the reaction takes place in



wherein R is a hydrocarbon containing double bond unsaturation in conjunction with the $\text{C}=\text{N}$ unsaturation.

3,542,888

PRODUCTION OF ETHYNYL BENZENES

Pierre Marie Joseph Ghislain de Raditzky d'Ostrowick and Alain Joseph Guillaume de Roocker, Brussels, Belgium, assignors to Labofnia, Soc. An., Brussels, Belgium, a corporation of Belgium

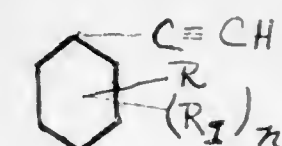
No Drawing. Filed Oct. 7, 1968, Ser. No. 765,665

Int. Cl. C07c 1/30, 15/02

U.S. Cl. 260—668

14 Claims

Ethynylbenzene compounds having the formula



wherein R is ethynyl or hydrogen and R_1 is a member of the group consisting of alkyl having 1 to 3 carbon atoms, hydrogen and halogen, and n is an integer of 1 through 4, are formed by dehydrohalogenation of the corresponding alpha-beta dihalo ethylbenzene compound in which the halo is chlorine or bromine, preferably bromine, in a high boiling aliphatic diol solution of alkali metal hydroxide, preferably potassium hydroxide, used in substantial excess, producing a suspension of alkali metal halide, preferably potassium bromide, the reaction medium being maintained at a temperature and pressure at which the ethynyl compound produced is vaporized together with steam as a steam distillate, and the resulting suspension of alkali metal halide in the diol is separated by filtration and washing with a lower alkanol, and a series of batch reactions of this procedure are carried out by fortifying the alkanol washing of the alkali halide filter cake with a replenishing quantity of excess alkali metal hydroxide and returned to the diol solution, the lower alkanol and water being then removed by distillation to regenerate the diol reaction medium ready for the reaction with the next batch. The method may also be modified for reaction on a continuous basis.

3,542,889

METHOD FOR CONVERTING ETHYLBENZENE TO STYRENE

Charles V. Berger, Western Springs, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 9, 1968, Ser. No. 728,047

Int. Cl. C07c 15/10

U.S. Cl. 260—669

8 Claims

Method and apparatus for the dehydrogenation of ethylbenzene to styrene. The effluent from the first reaction zone is admixed with additional steam in a compression zone thereby increasing the temperature and pressure of the effluent to a predetermined level for passage into a second reaction zone.

3,542,890

ALKYLATION AND ISOMERIZATION PROCESS

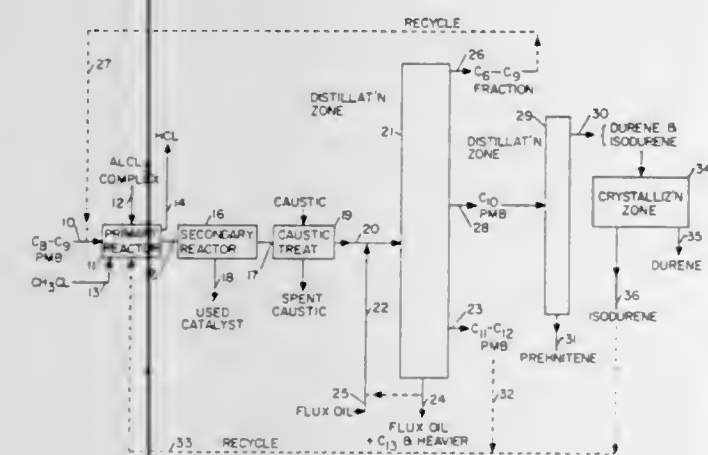
Harold W. Earhart, Corpus Christi, Tex., and Gerald Sugerman, Parsippany, N.J., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Continuation-in-part of application Ser. No. 797,313, Dec. 30, 1968, which is a continuation-in-part of application Ser. No. 761,211, Sept. 20, 1968. This application Aug. 20, 1969, Ser. No. 851,712

Int. Cl. C07c 3/62

U.S. Cl. 260—672

21 Claims



C₁₀-C₁₁ polymethylbenzenes are prepared by reacting polymethylbenzenes of lower molecular weight with methyl chloride in the presence of a small proportion of aluminum chloride catalyst under conditions which first yield substantial amounts of hexamethylbenzene along with the desired C₁₀-C₁₁ polymethylbenzene. The reaction product is then equilibrated in a second step to minimize the hexamethylbenzene content and maximize the production of desired C₁₀-C₁₁ polymethylbenzenes. Specific product hydrocarbons are durene, isodurene, prehnitene and pentamethylbenzene, which are useful intermediates for preparing various aromatic derivatives, e.g., polyacids or their anhydrides that have utility in polymer manufacture or polyesters useful as plasticizers.

3,542,891

PREPARATION OF ALKENIC COMPOUNDS

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 8, 1968, Ser. No. 774,535

Int. Cl. C07c 11/02, 149/00

U.S. Cl. 260—677

14 Claims

Alkenic compounds, and particularly alkenic hydrocarbons, are prepared by treating an alkyl sulfide with a lower molecular weight olefinic hydrocarbon at an elevated temperature to form primary alkenic compounds.

3,542,892

SEPARATION PROCESS FOR OLEFINIC OLIGOMERIZATION AND AROMATIC ALKYLATION

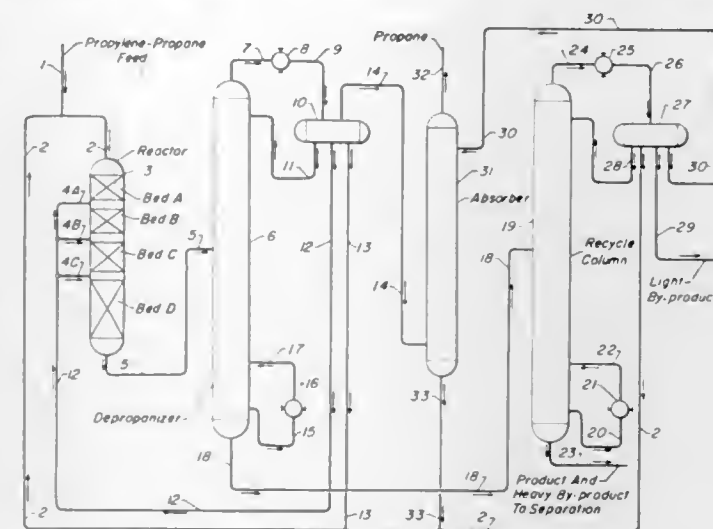
Ronald E. Stoker, Palatine, and Terrence M. Briggs, Des Plaines, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Mar. 24, 1969, Ser. No. 809,592

Int. Cl. C07c 3/10, 3/52

U.S. Cl. 260—671

11 Claims



Separation process for a reaction zone effluent containing an unreactive diluent, such as an oligomerization reaction zone effluent. The effluent is separated into a diluent vapor fraction, a partially-oligomerized product fraction, and an oligomerized product fraction. A portion of diluent vapor fraction is contacted with a lean absorbent comprising a portion of partially-oligomerized product fraction, in an absorption zone under conditions sufficient to absorb a part of the portion of diluent vapor. Rich absorbent comprising diluent and partially oligomerized product is passed from the absorption zone into the reaction zone. The process is equally effective in the separation of an effluent from an aromatic alkylation reaction zone. Specific application of the process is in the synthesis of ethylbenzene, cumene, heptene, propylene-trimer, and propylene-tetramer.

3,542,893

TERTIARY AMYLENE RECOVERY

Frederick D. Foster, East Alton, Ill., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 23, 1968, Ser. No. 761,823

Int. Cl. C07c 11/02

U.S. Cl. 260—677

3 Claims

In the countercurrent multistage sulfuric acid extraction of tertiary amylenes from hydrocarbon streams, wherein the hydrocarbon feed to an extraction zone contains at least 80% by weight of other closely boiling hydrocarbons, the absorption efficiency in said extraction zone is improved by adding a minor amount of fat acid (sulfuric acid containing tertiary amylenes) to said extraction zone.

3,542,894

PRODUCTION OF ACETYLENE

Ernst Bartholome, Heidelberg, Hans Friz and Franz Neumayr, Ludwigshafen (Rhine), Martin Reichert, Frankenthal, Pfalz, and Ulrich Wagner, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Mar. 22, 1968, Ser. No. 715,369

Claims priority, application Germany, Mar. 25, 1967, 1,618,125

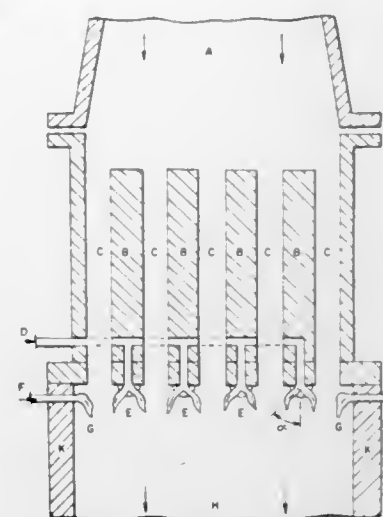
Int. Cl. C07c 11/24

U.S. Cl. 260—679

5 Claims

A process for the production of acetylene by partial oxidation of hydrocarbons with oxygen, the flame formed in the oxidation being stabilized by auxiliary oxygen

which is injected into the gas mixture at an angle of from more than 0° to 90° to the direction of flow of the gas



mixture. The acetylene yield is thus improved and the amount of soot formed is decreased.

3,542,895

PROCESS FOR PRODUCING ETHYLENE AND CATALYST THEREFOR

James P. Russell, Berkeley Heights, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed June 26, 1968, Ser. No. 740,035

Int. Cl. C07c 11/04, 17/10

U.S. Cl. 260—683.3

10 Claims

A catalyst composed of a mixture of rare-earth chlorides, copper chloride, and at least one alkali metal halide, in combination with zirconium oxide, is effective for use in a process wherein ethane is converted to ethylene by reacting a gaseous mixture of ethane, oxygen, and a chlorine source in the presence of the catalyst.

3,542,896

OLEFIN ISOMERIZATION PROCESS

Walter A. Butte, Jr., West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Original application Dec. 21, 1967, Ser. No. 692,288. Divided and this application Aug. 22, 1969, Ser. No. 870,737

Int. Cl. C07c 5/22

U.S. Cl. 260—683.2

4 Claims

New catalysts useful for the dimerization, isomerization and hydrogenation of olefins such as aliphatic mono-olefins and diolefins are formed by admixing, in the presence of a mutual solvent, a hydrocarbyl lithium compound of the formula LiR, wherein R is a hydrocarbon radical having 1-30 carbon atoms selected from: the group consisting of alkyl and cycloalkyl, with a cobalt acetylacetonate of the formula Co[CH—(COCH₃)₂]_n, wherein n has a value of 2 or 3.

3,542,897

CATALYTIC DEHYDROGENATION OF PARAFFINS

Freddy Wattimena and Soei Keng Que, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 26, 1968, Ser. No. 787,230

Claims priority, application Great Britain, Aug. 2, 1968, 37,052/68

Int. Cl. C07c 5/18, 11/04; B01j 11/22

U.S. Cl. 260—683.3

10 Claims

Paraffins are dehydrogenated by contact at about 550° C., in the presence of steam and preferably also of hydrogen, with a catalyst containing copper oxide, chromium oxide, one or more rare earths and optionally manganese oxide.

3,542,898

PROCESS FOR HYDROGENATION OF OLEFINS

Walter A. Butte, Jr., West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Original application Dec. 21, 1967, Ser. No. 692,288. Divided and this application Aug. 22, 1969, Ser. No. 870,736

Int. Cl. C07c 5/02

U.S. Cl. 260—683.9

5 Claims

New catalysts useful for the dimerization, isomerization and hydrogenation of olefins such as aliphatic mono-olefins and diolefins are formed by admixing, in the presence of a mutual solvent, a hydrocarbyl lithium compound of the formula LiR, wherein R is a hydrocarbon radical having 1-30 carbon atoms selected from the group consisting of alkyl and cycloalkyl, with a cobalt acetylacetonate of the formula Co[CH—(COCH₃)₂]_n, wherein n has a value of 2 or 3.

3,542,899

PROCESS FOR DIMERIZING ETHYLENE

Walter A. Butte, Jr., West Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Original application Dec. 21, 1967, Ser. No. 692,288. Divided and this application Aug. 22, 1969, Ser. No. 870,735

Int. Cl. C07c 3/10

U.S. Cl. 260—683.15

5 Claims

New catalysts useful for the dimerization, isomerization and hydrogenation of olefins such as aliphatic mono-olefins and diolefins are formed by admixing, in the presence of a mutual solvent, a hydrocarbyl lithium compound of the formula LiR, wherein R is a hydrocarbon radical having 1-30 carbon atoms selected from the group consisting of alkyl and cycloalkyl, with a cobalt acetylacetonate of the formula Co[CH—(COCH₃)₂]_n, wherein n has a value of 2 or 3.

3,542,900

SILICONE RUBBER COMPOSITION HAVING POLYESTER FILAMENTS EMBEDDED THEREIN

Peter C. Lammers, Doylestown, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 21, 1968, Ser. No. 739,101

Int. Cl. C08g 39/10, 47/10

U.S. Cl. 260—824

2 Claims

This invention relates to a method of forming a cured silicone rubber composition having improved resistance to cut tear by embedding therein polyester monofilaments at least one-fourth inch in length, and to said composition.

3,542,901

ORGANOSILICON COMPOSITIONS

Kenneth G. Cooper and Peter R. A. Hansen, Glamorgan, Wales, assignors to Midland Silicones Limited, Reading, England

No Drawing. Filed June 26, 1968, Ser. No. 740,065

Int. Cl. C08g 47/06

U.S. Cl. 260—825

7 Claims

A room temperature vulcanizing silicone rubber stock exhibiting improved low modulus and sealant properties is prepared by admixing a linear siloxane having di- or tri-functional endblocking units with a linear siloxane having chemically non-functional, inert endblocking units on one end of the polymeric molecule and di- or tri-functional endblocking units on the other end of the molecule.

3,542,902

HYDROLYZED ETHYLENE/VINYL ESTER COPOLYMER-EPOXY RESIN BLENDS

Paul F. Dunion, Jr., and Akira Tsukamoto, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 28, 1968, Ser. No. 740,984
Int. Cl. C08g 45/04

U.S. Cl. 240—836 10 Claims
Compositions are disclosed which contain a compatible blend of (A) a hydrolyzed ethylene/vinyl ester copolymer, e.g., ethylene/vinyl acetate, containing 10–70 mole percent vinyl alcohol and (B) an epoxy resin. After curing, the compositions possess the combination of good adhesive and good bulk properties.

3,542,903

COMPOSITE POLYETHER-POLYESTER ELASTIC FIBERS

Nicholas R. Congiundi and Lloyd T. Jenkins, Cary, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 26, 1966, Ser. No. 553,038
Int. Cl. C08g 41/04, 22/00

U.S. Cl. 240—858 12 Claims
Composite elastic fibers are prepared from segmented polyurethane-urea polymers composed of a mixture of a polyurethane-urea polymer produced from a polyether substrate and a polyurethane-urea produced from a polyester substrate. The polymer mixture when spun into fibers gives improved elongation and tenacity.

3,542,904

COMPOSITION WITH ANTISTATIC PROPERTIES COMPRISING GRAFT COPOLYMER AND A POLYPROPYLENE GLYCOL

Hans Weitzel and Harold Ebneht, Leverkusen, and Karl Dinges and Karl-Heinz Ott, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation of application Ser. No. 563,860, July 7, 1966. This application Mar. 17, 1969, Ser. No. 808,388
Claims priority, application Germany, Aug. 6, 1965, F 46,817

Int. Cl. C08f 15/18, 19/18

U.S. Cl. 240—876 7 Claims
Reduction of antistatic properties of graft copolymers of styrene and acrylonitrile grafted on a copolymer of butadiene and an ester of an ethylenically unsaturated carboxylic acid and an alkanol by the addition of a propylene glycol having a degree of polymerization from 5 to 1,000.

3,542,905

PROCESS FOR PREPARING HEAT RESISTANT GRAFT COPOLYMERS

Akinori Nishioka, Yokkaichi-shi, Junya Ito, Inabe-gun, Susumu Horiuchi, Suzuka-shi, and Setsuo Miyazono and Sukeji Higuchi, Yokkaichi-shi, Japan, assignors to Japan Synthetic Rubber Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Aug. 7, 1968, Ser. No. 750,782
Claims priority, application Japan, Aug. 11, 1967, 42/51,250

Int. Cl. C08f 15/00

U.S. Cl. 260—879 10 Claims
Heat resistant graft copolymers are prepared by graft copolymerizing a rubber-like polymer in latex state with a vinyl monomer mixture essentially containing α -methylstyrene in two steps, the first step being effected in the presence of an organic peroxide initiator and the second step in the presence of a persulfate initiator. The heat resistant graft copolymers thus obtained are also excellent in processability, mechanical strength and surface gloss.

3,542,906

PRODUCTION OF BUTADIENE-STYRENE GRAFT COPOLYMERS WITH A CATALYST CONTAINING A NICKEL COMPLEX

Akira Onishi, Shiro Anzai, Toshio Yoshimoto, Koichi Irako, and Motoki Ishii, Tokyo, Japan, assignors to Bridgestone Tire Company Limited, Tokyo, Japan
No Drawing. Continuation-in-part of application Ser. No. 474,455, July 23, 1965. This application July 2, 1968, Ser. No. 741,907

Claims priority, application Japan, Aug. 16, 1964, 39/46,941; Sept. 3, 1964, 39/50,160; Sept. 14, 1964, 39/52,489

Int. Cl. C08d 1/30

U.S. Cl. 260—880 6 Claims
A process for manufacturing rubbery or plastic butadiene graft copolymers having a cis-1,4 content of at least 85% and substantially no gel, which comprises polymerizing butadiene, and copolymerizing styrene at a temperature of from 80° C. to 180° C., with a catalyst system consisting of (A) an organic metal complex compound of nickel, (B) a boron trifluoride etherate, boron trifluoride alcoholate or boron trifluoride phenolate and (C) a trialkylaluminum or dialkylalkoxyaluminum.

3,542,907

METHOD OF TEMPORARILY DEFORMING HYDROPHILIC CONTACT LENSES, GRINDING AND POLISHING

Otto Wichterle, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia
No Drawing. Filed Feb. 15, 1967, Ser. No. 616,208
Claims priority, application Czechoslovakia, Feb. 22, 1966, 1,170/66

The portion of the term of the patent subsequent to Feb. 24, 1987, has been disclaimed

Int. Cl. B25d 11/00; B29c 17/12

U.S. Cl. 264—1 2 Claims
A lens or lens blank prepared by copolymerization of ethyleneglycol monomethacrylate with a small amount of the corresponding dimethacrylate in a rotating spherical mold is heated above the softening temperature, and its concave refractive surface is pressed against a similarly heated flat, spherical, or cylindrical object to deform the lens or blank. The lens or blank is cooled under the deforming pressure below the softening point to fix the deformed shape, finished by grinding or polishing, and swelled in physiological saline solution to reverse the initial deformation under heat and pressure.

3,542,908

METHOD OF MANUFACTURING A REVERSE OSMOSIS MEMBRANE

Allan Sharples and George Thomson, Edinburgh, England, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed Mar. 22, 1968, Ser. No. 715,136

Int. Cl. B29d 7/02, 7/20

U.S. Cl. 264—49 4 Claims
Novel reverse osmosis membranes are prepared by copolymerizing a hydrophobic and a hydrophilic monomer after rendering the hydrophilic monomer temporarily hydrophobic. After polymerization the hydrophilic portion of the copolymer is re-established. Casting dopes containing the copolymer, a solvent, and water may be formed into asymmetric membranes by casting on a smooth surface followed by immersing in water. Conventional swelling agents may be added to the dope if desired. A reverse osmosis membrane of this type is formed from a galactose methacrylate-methyl methacrylate copolymer.

3,542,909

PRODUCTION OF FIBROUS FILAMENTOUS PRODUCTS

Carel J. Breukink, Delft, Netherlands, Jacob Vermeulen, Redondo Beach, Calif., and Arend van der Zwan, Delft, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 20, 1967, Ser. No. 654,694

Claims priority, application Netherlands, Aug. 2, 1966, 6610834

Int. Cl. B29c 17/02, 25/00

U.S. Cl. 264—53 5 Claims



An improvement in the method for converting foamed polyolefin strands to fibrillated filamentous strands comprises extruding a foamable polyolefin mixture through an orifice at conditions at which the extrudate expands to a maximum cross-sectional area and thereafter shrinks by at least 25% in cross-sectional area, and stretching the strand in a ratio of at least 5:1 after it has shrunk and completely solidified.

3,542,910

METHOD OF MAKING FIBROUS SHEET MATERIAL

Michael Barash, Rockville Centre, N.Y., and Benedict S. Anthony, Milford, Pa., assignors to Collagen Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Nov. 25, 1966, Ser. No. 596,742

Int. Cl. D04h 1/64

U.S. Cl. 264—122 18 Claims
This specification relates to reconstituted sheet material having properties at least equal to those of natural leather, said sheet material consisting essentially of leather fibres and polyamide-type synthetic resin fibres held together by a bonding material, the sheet being produced by forming a dry batt of the leather and synthetic resin fibres, applying a bonding material to the batt, setting the bonding material in situ, and then drying the resulting sheet.

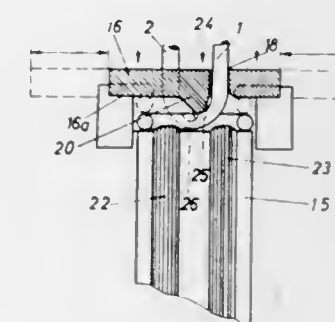
3,542,911

METHOD OF MAKING A CONTINUOUS ROW OF SLIDE FASTENER LINKS FROM A PLASTIC THREAD

Hans Porepp, Am Rebberg, Wangen (Bodensee), Germany
Original application Oct. 27, 1966, Ser. No. 590,080, now Patent No. 3,461,486, dated Aug. 19, 1969. Divided and this application Feb. 26, 1969, Ser. No. 831,797
Claims priority, application Germany, Nov. 4, 1965, 1,280,609

Int. Cl. B29c 17/02; B29d 5/00

U.S. Cl. 264—234 5 Claims



A method for making a slide fastener having two rows of interengaging, flattened helical coil coupling links which are fabricated from synthetic threads. Two sub-

3,542,912

ROTATIONAL MOLDING METHOD FOR FORMING MULTILAYERED ARTICLES

Francis J. Rielly, Cherry Hill, N.J., and Harvey Nungesser, Norristown, Pa., assignors to Nypel, Incorporated, West Conshohocken, Pa., a corporation of Delaware
No Drawing. Filed Dec. 12, 1967, Ser. No. 689,758
Int. Cl. B29c 5/04; B29d 9/00

U.S. Cl. 264—241 10 Claims
A method for making a multilayered article by rotational casting. A mixture of a plurality of thermoplastics, each having at least a 10° F. difference in melting point from any other thermoplastic in the mixture, is rotatably blended in a mold. Each of the thermoplastics are then melted by heating the mixture to a temperature above the melting point of the highest melting point thermoplastic in the mixture and below the degradation temperature of any of the thermoplastics in the mixture. The mixture of molten thermoplastics is rotated for a time sufficient to achieve a good distribution of material on the inner wall of the mold and the mold is then cooled while rotating to solidify the thermoplastics. The highest melting point thermoplastic is disposed innermost of the article produced and this material may have a density which is higher than others in the article.

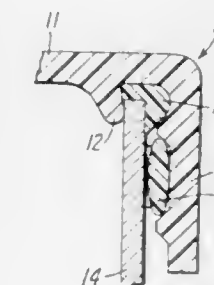
3,542,913

PROCESS FOR CAPPING CONTAINERS

William H. Robinson, New Vienna, and Gerald A. Shiffer, Wilmington, Ohio, assignors to Buckeye Molding Company, New Vienna, Ohio, a corporation of Ohio
Filed Dec. 28, 1967, Ser. No. 694,288

Int. Cl. B32b 7/06, 31/06

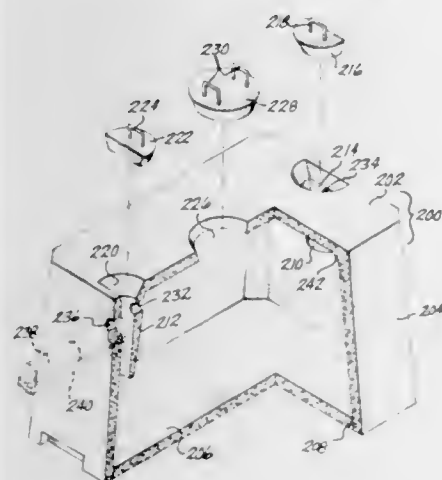
U.S. Cl. 264—242 3 Claims



A process of forming a bead and/or seal at an extremity of a wall member of metal, glass, plastic, ceramic, paper and the like by molding bead material in a mold chamber into which the wall extremity is inserted. Upon setting, the bead material forms a bond with the wall material but not with the mold chamber. The process may be performed simultaneously with a closing and sealing operation in which a bead is formed on the open end of a container wall by molding the bead material in a cavity of desired shape in a closure for the container and

simultaneously activating a sealing material to form a bond between another portion of the closure and another portion of the container wall.

3,542,914
METHOD OF HOLLOW ARTICLE CASTING
Joseph M. LaVergne, Jr., 1212 E. 85th St.,
Tacoma, Wash. 98445
Filed Dec. 22, 1967, Ser. No. 692,940
Int. Cl. E03f 11/00, 5/18
U.S. Cl. 264—250 9 Claims



An outer mold part is positionable over an inner mold part. Lever means are carried on opposite sides of the outer mold part and operable by a lifting force to exert a separating force between the outer and inner mold parts. Lever means are carried by the outer mold parts for locking the molded article to it. The outer mold part and the molded article are lifted upwardly together as an assembly and are removed entirely from the inner mold part. The assembly is then set down, the outer mold part is unlocked from the molded article, the outer mold part is then picked up and removed from the molded article, and then the bottom is poured in and is connected to the molded article.

3,542,915
X-RAY DETECTION OF CANCER WITH WATER-SOLUBLE SALTS OF IRON AND BISMUTH
Laurence G. Bodkin, New York, N.Y.
(558 E. 23rd St., Brooklyn, N.Y. 11210)
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,367
Int. Cl. H61k 27/18
U.S. Cl. 424—4 5 Claims

Pharmaceutically acceptable solutions of iron and bismuth, desirably containing polyvinylpyrrolidone, are administered intravenously to form an X-ray contrast medium in cancerous tissue. The use of such solutions is of especial importance in the detection of cancers of the lower pelvic region.

3,542,916
WATER DISPERSIBLE NITROFURAN COMPOSITIONS AND METHOD OF PREPARING THE SAME
James A. Campbell, Ashland, Ohio, assignor to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 15, 1967, Ser. No. 660,581
Int. Cl. A61k 9/00, 27/00
U.S. Cl. 424—37 13 Claims

Compositions of micronized water-insoluble nitrofurans which are readily dispersible in water to form

stable suspensions of the nitrofurans are prepared by coating the micronized nitrofurans with partially hydrolyzed gelatin and drying to obtain a powder having a bulk density of about 0.5 gram per cubic centimeter and an average particle size of about 60 mesh. The compositions may also contain dispersing aids, such as sugar, and sequestering agents, such as sodium citrate, to counteract adverse effects of naturally occurring mineral salts and other materials in water.

3,542,917
DENTAL CALCULUS INHIBITOR
Anthony M. Schwartz and John D. Galligan, Washington, D.C., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware
No Drawing. Filed June 20, 1968, Ser. No. 738,389
Int. Cl. A61r 7/16
U.S. Cl. 424—49 10 Claims

Method and composition for treating teeth to inhibit at least in part formation of calculus. The composition includes, in a physiologically acceptable vehicle a solution of a polyester of a polycarboxylic acid having at least three carboxyl groups with a polyalkylene ether polyol having a molecular weight of at least 400, the ester having a molecular weight of at least 600 and a neutralization equivalent from 200 to 5000.

3,542,918
AMINOPOLYPHOSPHONIC ACIDS AND POLYPHOSPHONIC ACIDS AND DERIVATIVES FOR THE PROTECTION OF HAIR
Peter Berth, Dusseldorf-Benrath, and Günter Reese, Dusseldorf, Germany, assignors to Therachemie Chemisch Therapeutische Gesellschaft m.b.H., Dusseldorf, Germany
No Drawing. Filed Oct. 17, 1966, Ser. No. 586,955
Claims priority, application Germany, Nov. 24, 1965, T 29,843
Int. Cl. A61k 7/12
U.S. Cl. 424—62 6 Claims

In the process of treating hair in very hard water with an oxidizing agent, the improvement which comprises utilizing from 0.01 to 10% by weight of an aminopolyphosphonic acid or derivative thereof or a combination of said aminopolyphosphonic acid and a polyphosphonic acid.

3,542,919
ASTRINGENT ALKALI METAL ALUMINUM COMPLEXES OF HYDROXY ACIDS
William F. Buth and Waldemar J. Wick, Milwaukee, Wis., assignors to Wickhen Products, Inc., Milwaukee, Wis., a corporation of Wisconsin
No Drawing. Filed June 4, 1956, Ser. No. 588,987
Int. Cl. A61k 7/00
U.S. Cl. 424—68 8 Claims

The invention relates to antiperspirant compositions containing alkali metal salts of aluminum complexes of hydroxy acids. The hydroxy acids are glycolic, gluconic, lactic and alpha hydroxy iso-butyric acids.

3,542,920
TETANUS VACCINE AND PROCESS FOR PREPARING IT

Hans Gerhard Schwick, Karl Heide, and Hans Biel, Marburg an der Lahn, Germany, assignors to Behringwerke Aktiengesellschaft, Marburg an der Lahn, Germany, a corporation of Germany
No Drawing. Filed Apr. 30, 1968, Ser. No. 725,525
Claims priority, application Germany, May 6, 1967, B 92,391
Int. Cl. A61r 27/00
U.S. Cl. 424—92 4 Claims

A process for modifying tetanus toxoid by treatment with pepsin in the presence of urea; modified toxoid produced thereby; and tetanus vaccines produced from said modified toxoid.

3,542,921
CLEAR WATER WHITE AQUEOUS ANTISEPTIC COMPOSITIONS CONTAINING TURPENTINE
William A. Myatt, 3827 Westwood Blvd., Culver City, Calif. 90230
No Drawing. Continuation-in-part of application Ser. No. 590,214, Oct. 28, 1966, which is a continuation-in-part of application Ser. No. 406,161, Oct. 23, 1964. This application May 10, 1968, Ser. No. 728,309
Int. Cl. A61l 13/00; A61k 27/00
U.S. Cl. 424—144 2 Claims

An aqueous liquid antiseptic composition containing turpentine, magnesium sulfate, aluminum ammonium sulfate, potassium permanganate, potassium iodide, iodine, and formaldehyde solution U.S.P., which antiseptic is a clear water-white solution.

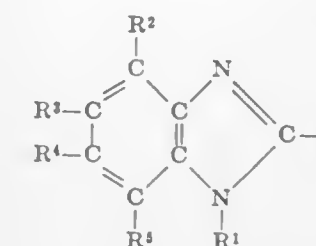
3,542,922
3-ALKYLSULFENYLPROPENOIC ACID ESTER-SUBSTITUTED STEROIDS
Sandor Barcza, West Orange, N.J., assignor to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 737,339, June 17, 1968. This application Jan. 10, 1969, Ser. No. 790,450
Int. Cl. C07c 169/02
U.S. Cl. 424—238 6 Claims

The compounds are 3-hydroxy- or 3-alkyl ether-17 α -(3'-alkyl-sulfenylpropenoic acid ester)-substituted steroids having the configuration of estrone, e.g., 3'-methylsulfenyl-3'-(3-methoxy-17 β -hydroxy-1,3,5(10) - estratrien-17 α -yl)propenoic acid methyl ester. The compounds have pharmaceutical utility.

3,542,923
METHOD FOR PROTECTING INANIMATE MATERIALS AGAINST INSECT ATTACK
Geoffrey Tattersall Newbold, Glen Orchy, Rookery Lane, Wendens Ambo, and David Thomas Sagers, Larks Rise, Searwards End, both of Saffron Walden, Essex, England
No Drawing. Filed Feb. 23, 1966, Ser. No. 529,248
Claims priority, application Great Britain, Feb. 23, 1965, 7,680/65; Mar. 4, 1965, 9,208/65; July 13, 1965, 29,586/65; July 31, 1965, 32,884/65
Int. Cl. A01n 9/22
U.S. Cl. 424—248 4 Claims

There is disclosed a method for the protection of materials subject to insect attack from damage therefrom. The

susceptible materials are treated with a composition which contains an insecticidally effective amount of a compound of the formula



wherein R¹ is hydrogen, a lower alkyl group or —COOR⁶, where R⁶ is alkyl, substituted alkyl, aryl or substituted aryl, and R², R³, R⁴ and R⁵ are the same or different and are selected from the group comprising hydrogen, alkyl, hydroxy, alkoxy, nitro, halogen, pseudo-halogen, substituted alkyl, carboxy, carboxy ester, carbonamido, N-substituted or disubstituted carbonamido, amino or mono or disubstituted amino, thiol, alkylthiol and oxygenated derivatives thereof, sulphonic acid and esters and amides thereof and substituted amides and a heterocyclic ring attached to the benzimidazole system through a nitrogen atom, radicals and where X is trifluoromethyl or pentafluoroethyl, or a salt or functional derivative of said benzimidazole, where such exist.

3,542,924
TEMPERATURE REDUCING COMPOSITION AND METHOD EMPLOYING 4,5,5-TRIMETHYL-4-HYDROXY-3-N-MORPHOLINOETHYL-1,3-OXAZOLIDIN-2-ONE
Julius G. Shukys, Chatham, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Original application Dec. 29, 1967, Ser. No. 694,359. Divided and this application July 29, 1969, Ser. No. 871,025
Int. Cl. A61k 27/00
U.S. Cl. 424—248 2 Claims

This application relates to compositions containing 4,5,5-trimethyl-4-hydroxy-3-N-morpholinoethyl-1,3-oxazolidin-2-one and a pharmaceutically acceptable carrier for use in lowering the body temperature of warm-blooded mammals and to the method of using such compositions to lower the body temperature.

3,542,925
6-AMINO-PENICILLANIC ACID DERIVATIVES FOR CONTROL OF GRAM POSITIVE BACTERIAL INFECTIONS
Peter Baumann, Fullinsdorf, Basel-Land, and Markus Zimmermann, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 522,394, Jan. 24, 1966. This application Nov. 3, 1967, Ser. No. 680,337
Claims priority, application Switzerland, Jan. 29, 1965, 1,282/65
Int. Cl. A61k 21/00
U.S. Cl. 424—263 15 Claims

A method of controlling bacteria capable of causing infectious diseases in mammals and especially penicillin G-resistant *Staphylococcus aureus* and the like penicillin-resistant strains with the aid of 6-[3-alkoxy- and 3-alkylthio-2-pyridyl]penicillins, and antibacterial agents containing the latter.

3,542,926

MUSCLE RELAXANT AND TRANQUILIZER COMPOSITION AND METHOD EMPLOYING 4,5-DIMETHYL-5-ETHYL-4-HYDROXY-3-HYDROXYETHYL-1,3-OXAZOLIDIN-2-ONE

Julius George Shukys, Chatham, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 25, 1968, Ser. No. 770,824
Int. Cl. A61k 27/00

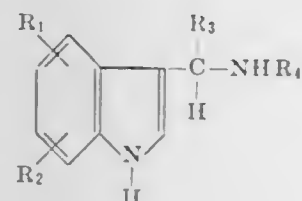
U.S. Cl. 424-272 2 Claims
This invention relates to compositions containing 4,5-dimethyl-5-ethyl-4-hydroxy-3-hydroxyethyl-1,3-oxazolidin-2-one and a pharmaceutically acceptable carrier for use in producing muscle relaxation and a state of tranquility in warm-blooded mammals and the method of preparing and using such compositions.

3,542,927

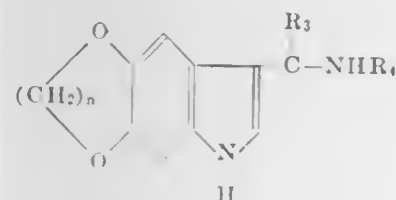
REDUCTION OF BLOOD SUGAR LEVELS WITH AMINOMETHYLINDOLES

James M. McManus, Old Lyme, and Billie Kenneth Koe, Gales Ferry, Conn., assignors to Pfizer Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Aug. 10, 1965, Ser. No. 478,759, now Patent No. 3,459,767, dated Aug. 5, 1969. Divided and this application July 3, 1968, Ser. No. 749,901
Int. Cl. A61k 27/00

U.S. Cl. 424-274 6 Claims
Compounds of the formula



and



and their acid addition salts wherein R_1 and R_2 may be hydrogen, hydroxy, fluorine, chlorine, alkyl and alkoxy; n is 1 or 2 and R_3 and R_4 are alkyl, cycloalkyl, alkoxy-alkyl or alkylthioalkyl, each of the aforesaid alkyl

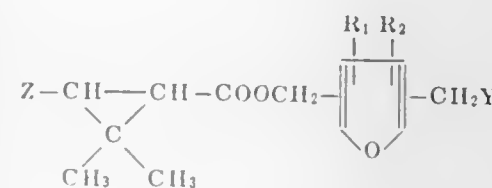
moieties being of specified carbon atom content, and the utility thereof as oral hypoglycemic agents.

3,542,928

INSECTICIDAL COMPOSITIONS

Michael Elliott, Harpenden, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
No Drawing. Original application Dec. 5, 1966, Ser. No. 598,923. Divided and this application Mar. 14, 1969, Ser. No. 807,406
Claims priority, application Great Britain, Dec. 9, 1965, 52,406/65
Int. Cl. A01n 9/28

U.S. Cl. 424-285 15 Claims
Insecticidal compositions are produced wherein the active ingredient is at least one compound of the formula:



in which Z represents an aryl, alkenyl or carboalkoxyalkenyl group, Y represents a hydrogen atom or an alkyl, alkenyl or alkadienyl group or an aryl group or a heterocyclic group which themselves may be substituted by alkyl, alkenyl, alkadienyl or alkoxy groups or halogen atoms, and R_1 and R_2 which may be the same or different, each represent a hydrogen atom or an alkyl, alkenyl or alkadienyl group. Furoic acids and furoic acid lower alkyl esters are also disclosed.

3,542,929

CHEMOTHERAPEUTIC COMPOSITIONS USEFUL IN ANIMAL DETOXIFICATION

Eugene Roberts, Pasadena, Calif., assignor to City of Hope, Duarte, Calif., a National Medical Center incorporated in California
No Drawing. Filed Feb. 23, 1966, Ser. No. 529,196
Int. Cl. A61k 27/00

U.S. Cl. 424-317 5 Claims
A therapeutic composition for animal detoxification consisting of a mixture of salts, acids, or bases to yield, per mol part of arginine, from one-half to one part each of glutamate and alpha-ketoglutarate and up to one-and-one-half parts of oxalacetate.

ELECTRICAL**ERRATUM**

For Class 13-1 see:
Patent No. 3,541,625

3,542,930

ELECTRIC ARC HEATING UNIT WITH ELECTRODE MATRIX

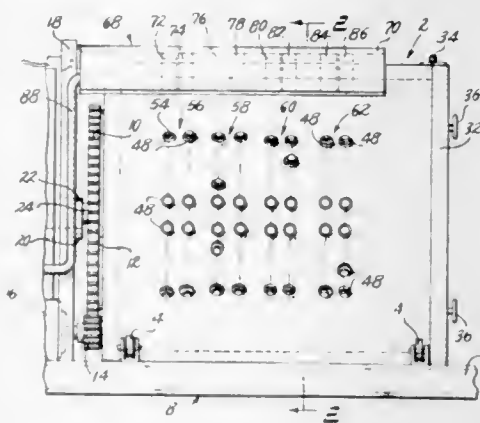
Allen Hoffman, Philadelphia, Pa., and Peppino N. Vlannes, Fairfax, Va., assignors to Vapo-Waste, Inc., Dover, Del., a corporation of Delaware

Filed July 22, 1968, Ser. No. 746,348
Int. Cl. H05b 7/18

U.S. Cl. 13-9 14 Claims

An arc heating unit comprising a large plurality of electrodes arranged in rows and columns to form a matrix.

of producing high temperatures over a large surface area or within a large column.

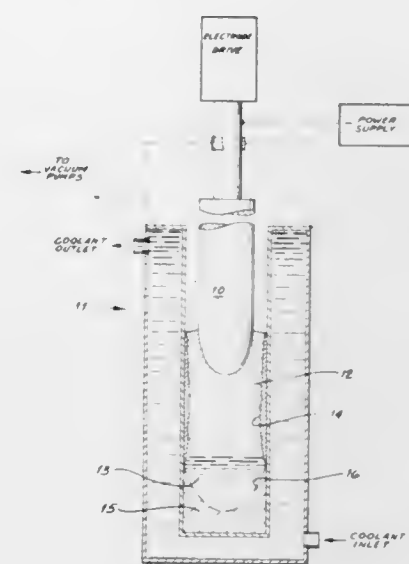


3,542,931

CONSUMABLE ELECTRODE MELTING PROCESS

Harry J. Hamjian, Greenfield, Reading, and Thomas P. Farr, Mohrsville, Pa., assignors to Carpenter Technology Corporation, Reading, Pa., a corporation of Delaware
Filed June 9, 1969, Ser. No. 831,317
Int. Cl. H05b 7/18

U.S. Cl. 13-9 13 Claims



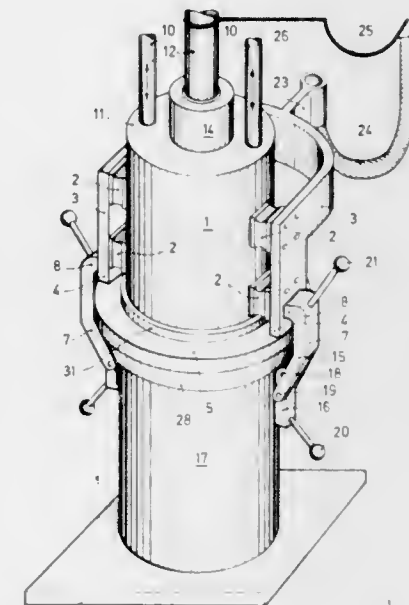
A consumable electrode melting process in which the consumable electrode is melted by a diffuse electric space discharge between the consumable electrode and a counter electrode which can be the wall of the melting chamber with little, preferably none, of the discharge going to the molten metal pool.

3,542,932

POWER LEAD ARRANGEMENT FOR ELECTRIC ARC FURNACE

Helmut Scheidig, Rosdorf, near Hanau am Main, Germany, assignor to Leybold-Heraeus-Verwaltung, G.m.b.H., Cologne-Bayental, Germany
Filed June 3, 1969, Ser. No. 830,023
Claims priority, application Germany, Aug. 3, 1968, 1,765,899
Int. Cl. H01r 3/00; H05b 7/18

U.S. Cl. 13-34 8 Claims



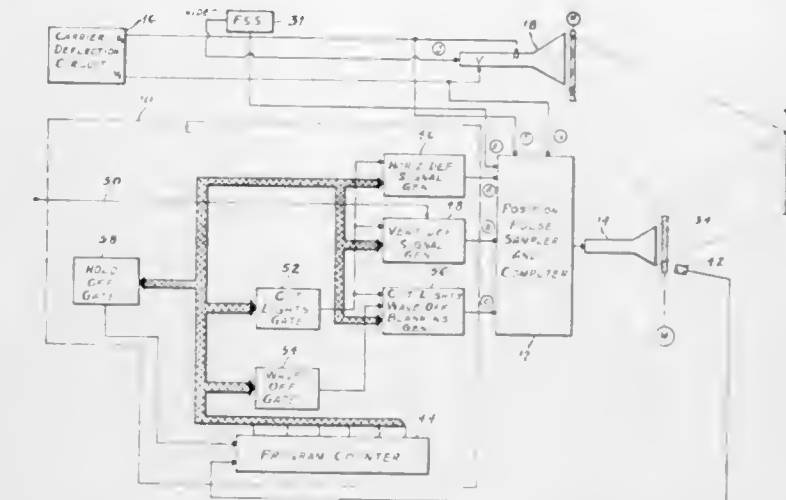
Power lead arrangement for a vacuum electric furnace with a consumable furnace electrode wherein the power lead is resiliently mounted on the furnace and attached by clamping to the top of the crucible such that the power lead will be properly in contact with the crucible even though the furnace and the crucible may be misaligned.

3,542,933

FRESNEL IMAGE GENERATOR

Dorsey Davidoff, Fort Lee, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 13, 1965, Ser. No. 479,673
Int. Cl. G09b 9/08

U.S. Cl. 35-10.2 2 Claims



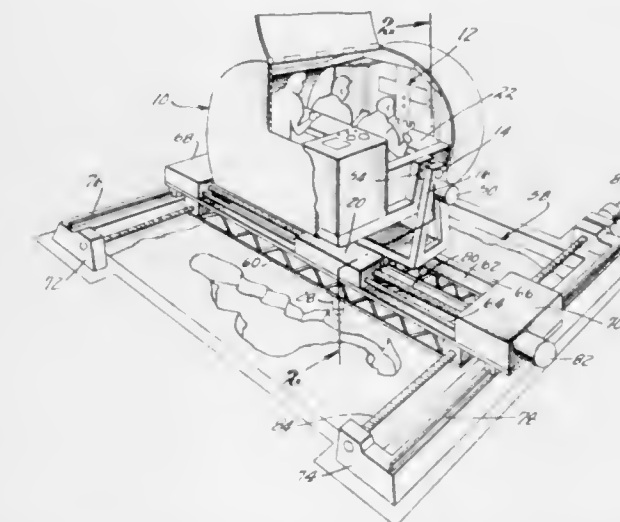
Apparatus for synthesizing a CRT (cathode ray tube) presentation simulating the appearance of a Fresnel type landing approach device and comprising red and green color wheel means for producing a red, green and amber presentation, signal generating means for positioning the CRT beam at positions simulative of the various approach device lights, oscillator clock, count-down binary means, gate means for gating various signals to the display, blanking means, oscillator hold-off circuit, and asymmetrical one shot multivibrators, all in combination to provide non-uniform time slot insertions of the various signals in the CRT display.

3,542,934

SUBMARINE SIMULATOR

Robert L. Wyener, Casselberry, Fla., and Joseph S. Warhurst, Clinton, James A. Carnell, Old Lyme, Richard V. Frizell, Norwich, Peter Schrimmer, Old Saybrook, and Robert D. Saunders, Bridgeport, Conn., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 6, 1968, Ser. No. 710,969
Int. Cl. G01c 7/04, 21/00; G09b 9/06

U.S. Cl. 35-10.2 7 Claims



This invention relates to a submarine simulator for unprogrammed training in underwater navigation and reconnaissance in which a telescopic optical system is pivotally mounted in depending position from a cab in turn mounted in gimbals from a movable support and guide means positioned over an environmental water

tank having a model terrain positioned on the bottom thereof and a coloration and filter system to provide turbidity control of the water in the tank. Drive means are provided for rotating and tilting the cab to provide turn and pitch simulation, for extending and retracting the telescopic optical system to simulate vertical raise and descent and for transverse motion of the cab to maneuver the optical system above and along the model terrain. Instrumentation and computer means are provided to orient and indicate the position of the optical system in relation to the model terrain.

3,542,935

ELECTRONIC LATCH AND WIPEOUT SYSTEM FOR MUSICAL INSTRUMENTS

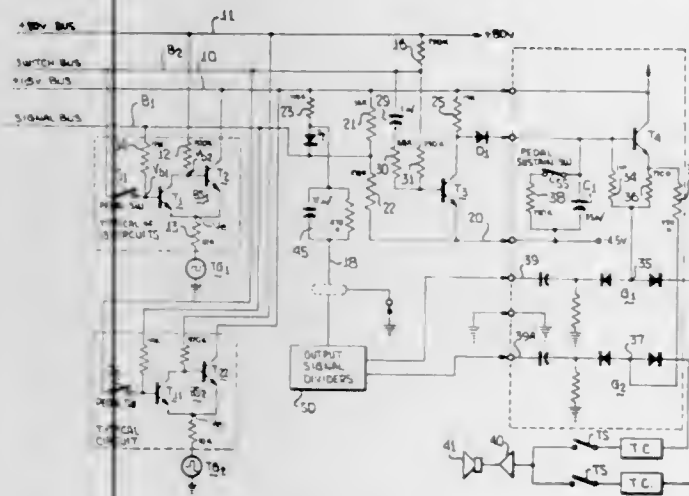
Walter Munch, Jr., Covington, Ky., and Dale M. Uetrecht, Cincinnati, Ohio, assignors to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio

Filed Nov. 16, 1967, Ser. No. 683,689

Int. Cl. G10h 1/00

U.S. Cl. 84-1.1

22 Claims



A series of bistable devices are connected in parallel between tone oscillators and a signal bus. Each bistable device serves as a gate between its tone oscillator and the signal bus. A switch bus is connected to control elements of the bistable devices, via a switch for each bistable device. The switches are operable by pedal keys of an electric organ. With all switches open the switch bus has a relatively high voltage, and all the bistable devices are in a first state. On closure of one of the switches the associated bistable device changes state and gates tone signal through to the signal bus, but concurrently changes DC voltages of the system. Simultaneous closure of any other switch cannot then change the existing state of any of the bistable devices, by virtue of the changed DC voltages and this condition obtains until one of the switches is opened, and another switch subsequently closed. In the latter event, the bistable device associated with the another switch changes state and the first mentioned bistable device reverts to its first state. If two pedal switches are closed simultaneously, one of these at random will seize control and the other have no effect, or a preference network may be included in the system to prefer one bistable device to another.

3,542,936

VIBRAHARP RESONATORS WITH ELECTRO-MECHANICAL PICKUP MEANS

Raymond C. Babicky, 6986 N. Ardara Ave., Milwaukee, Wis. 53209

Filed June 17, 1968, Ser. No. 737,594

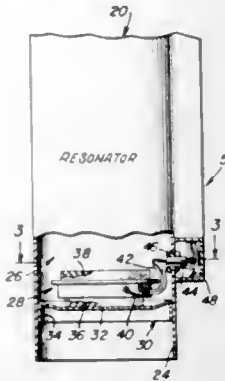
Int. Cl. G10d 13/00; G10k 1/00

U.S. Cl. 84-1.06

12 Claims

A microphone is shock-mounted in the lower end portion of each tubular resonator to amplify the sound when the coordinating tone bar is struck with the usual

vibraharp mallets. A significant objective is to generate amplification at the locale where the tone waves are known to be true and resonant. By employing a full range of enclosed shock-proof microphones and wiring the same to a system-matched amplifier, the desired high



fidelity output is achieved. Each baffle-supported microphone (or cartridge) can be tuned to its companion resonator. A fixed resistor is located in between each resonator. The lead wires are protectively encased in diagonal channel bar supported on the resonating tubes.

ERRATUM

For Class 84-1.17 see:
Patent No. 3,541,912

3,542,937

ELECTRICAL CONDUCTORS FOR CRYOGENIC ENCLOSURES

Claude Dammann, Paris, and Lucien Donadieu, Sevres, France, assignors to Compagnie Generale d'Electricite, Paris, France, a corporation of France

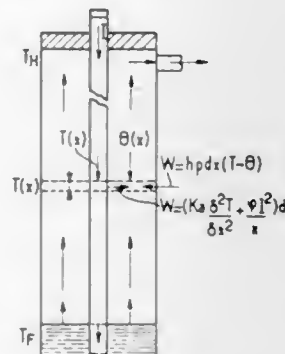
Filed Oct. 23, 1968, Ser. No. 770,030

Claims priority, application France, Oct. 26, 1967, 126,062

Int. Cl. H01b 7/34

U.S. Cl. 174-15

7 Claims



Electrical conductor for cryogenic enclosures arranged to reduce heat loss to a minimum, said conductor having a hot portion with a heat impedance as high as possible and a cold portion dipping in a cryogenic fluid and having an electrical impedance as low as possible, the length of each of the portions and the product of the section by the wet perimeter having optimum value.

3,542,938

SUPPORT OF HIGH VOLTAGE CONDUCTORS IN VACUUM

Peter Graneau, Concord, Mass., assignor to Simplex Wire and Cable Company, Cambridge, Mass., a corporation of Massachusetts

Filed May 9, 1968, Ser. No. 727,993

Int. Cl. H01b 9/04

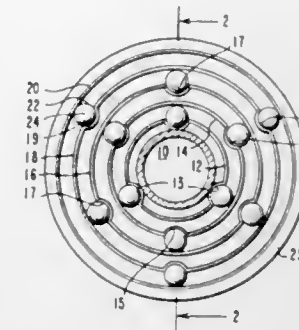
U.S. Cl. 174-28

4 Claims

A supporting device for positioning a high voltage conductor within a vacuum environment, and particularly within tubular evacuated vessels. The supporting device

includes one or more nested, coaxial tubes surrounding the conductor which are spaced between the conductor, each other, and outer structure, the tubes being spaced by

the floor, cap means closing the open end of the tube, including a disc and a ring holding down the disc, together



dielectric spacers, which spacers are positioned between each pair of adjacent coaxial tubes to retain them spaced one relative to the other.

3,542,939

SHIELDING AND SEALING GASKET MATERIAL AND METHODS OF FABRICATING IT

Ezra Mintz, 6124 S. Bedford Ave.,

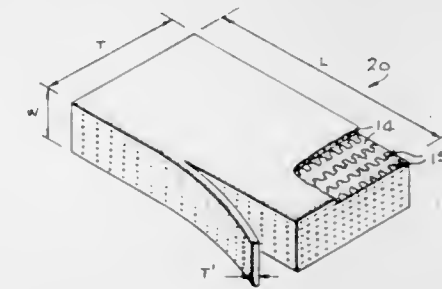
Los Angeles, Calif. 90056

Filed Oct. 28, 1968, Ser. No. 771,142

Int. Cl. B65d 53/00; H05k 9/00

U.S. Cl. 174-35

6 Claims



A new shielding and sealing gasket material which comprises parallel, spaced apart continuously corrugated, electrically conductive wires which are supported in a homogeneous resilient body of material. Each wire defines a longitudinal axis extending between its opposite ends, with successive corrugations extending on opposite sides of the axis. The number of corrugations per inch and the corrugations' peak to peak spacing being easily variable. The method for producing the material includes the steps of forming a stack of sheets of plastic resilient material, with a separate plurality of parallel, spaced apart continuously corrugating wires between adjacent sheets, followed by a step of bonding the sheets together to form a homogeneous resilient body of material.

3,542,940

SERVICE FITTINGS

Charles T. Flachbarth and William H. Harding, Parkersburg, W. Va., assignors to Textron Inc., Providence, R.I., a corporation of Delaware

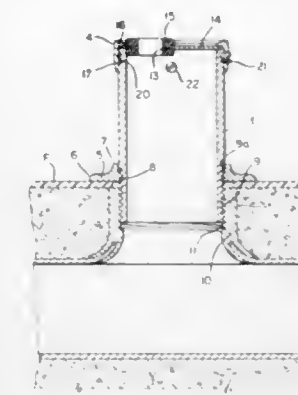
Filed Oct. 14, 1968, Ser. No. 767,161

Int. Cl. H02g 3/18

U.S. Cl. 174-48

4 Claims

A power or communication service fitting for use with electrical underfloor distribution systems comprising a tubular member for accommodating a power receptacle or a telephone Amphenol connector, the tubular member being threaded into an insert and extending upright from



with a decorative foot extending outwardly from the bottom of the tube in contact with the floor.

3,542,941

APPLIANCE HOUSING

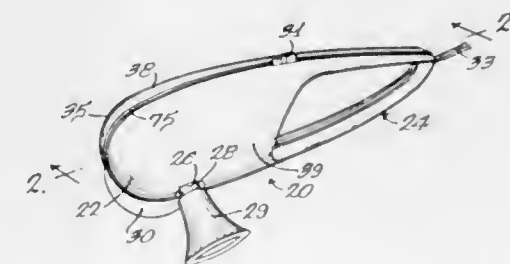
Conrad T. Menzel, Milwaukee, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 22, 1968, Ser. No. 699,538

Int. Cl. H05k 5/00

U.S. Cl. 174-52

3 Claims



An appliance housing which is hollow and has a split construction. The housing sections have overlapping walls through which is inserted an element for holding the housing in an assembled relationship. The housing is opened by pushing the element into the interior of the hollow housing.

3,542,942

HIGH VOLTAGE CABLE TERMINATION

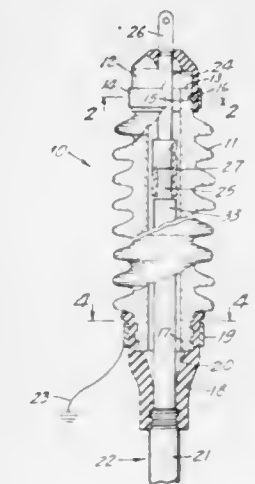
Leonard A. Johnson, St. Paul, and Harold G. Hervig, Maplewood, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Sept. 25, 1969, Ser. No. 860,918

Int. Cl. H02g 15/02

U.S. Cl. 174-73

7 Claims



An effective outdoor terminal of simple and economical structure for high voltage electrical cables, consisting of an elongate porcelain tube with close-fitting conical semi-conductive rubbery end caps encircled by conductive flash-

over bands, the whole being provided with a filling of an insulating grease.

3,542,943 WATER TIGHT CONNECTOR BUSHING FOR CAPACITOR UNITS

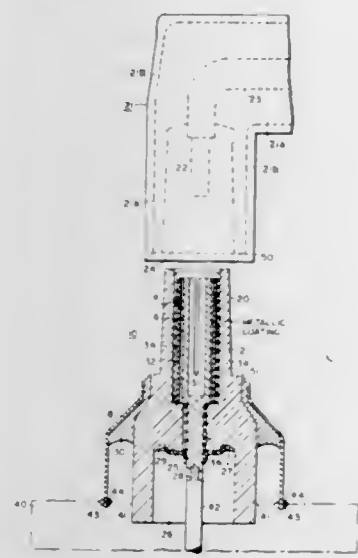
Robert D. Aungst, Bloomington, Ind., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 7, 1969, Ser. No. 797,644

Int. Cl. H01b 17/26

U.S. Cl. 174-142

6 Claims



A capacitor terminal bushing suitable for use with available, submersible type, high voltage cable fittings and connectors, the bushing comprising a tubular ceramic member containing an inner metal stud, an outer metal cap disposed about the member, the stud and cap being secured and sealed to the ceramic member. The ceramic member is further provided with a shank portion for receiving the submersible type connectors in a water tight manner. The outer metal cap is adapted to be secured and sealed about an opening in the capacitor casing, the opening accommodating a lead connecting the metal stud to capacitor components within the casing.

3,542,944 AUTOMATIC BRIGHTNESS CONTROL SYSTEM

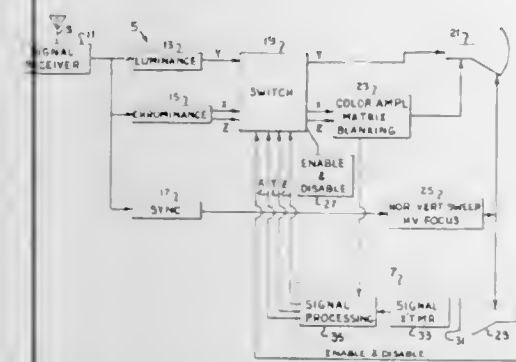
Robert John Peffer and George Cleveland Waybright, Batavia, and Robert Charles Wheeler, Elba, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 26, 1968, Ser. No. 724,431

Int. Cl. H04n 5/20

U.S. Cl. 178-5.2

12 Claims



In an integrated electrical to optical and optical to electrical signal transducer system, the optical to electrical portion includes an automatic brightness control system and DC restoration and gamma correction circuitry having a common reference potential level. The automatic brightness control system develops feedback control signals in response to the magnitude of video signals to vary the intensity of the electron beam and light emitted by a

flying spot scanner tube whereby the video signals are developed. Also, the common reference potential level of the DC restoration and gamma correction circuitry not only provides a common reference for a plurality of channels eliminating tracking problems, but also provides a uniform level of signal for application to the gamma correction means virtually eliminating adjustments therein.

3,542,945 COLOR TELEVISION SIGNAL SEPARATION SYSTEM

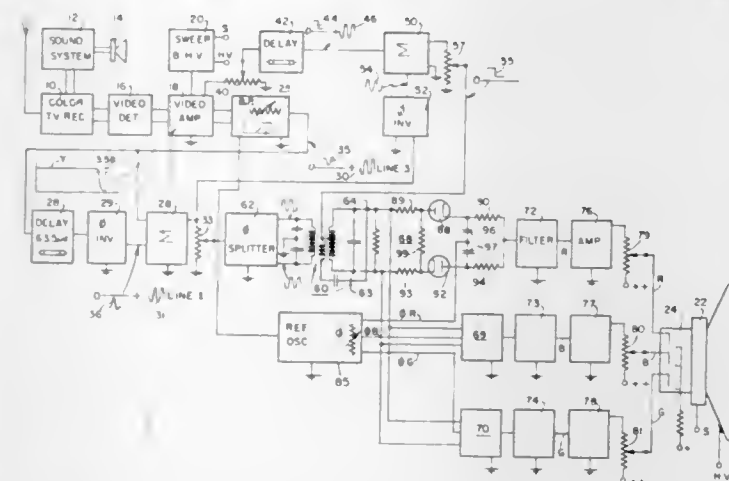
Norman W. Parker, Wheaton, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Sept. 11, 1967, Ser. No. 666,658

Int. Cl. H04n 9/38

U.S. Cl. 178-5.4

3 Claims



A band shared video frequency brightness signal and chroma modulated subcarrier are separated by band passing the subcarrier into an adder and also through a one horizontal deflection line, delay line and phase inverter to the adder to sum consecutively transmitted lines of the subcarrier and cancel interspersed brightness components. The separated subcarrier is subtracted from the brightness signal and color representative signals are directly developed from the recombined signals without a spurious pattern from signal interspersion.

3,542,946 VIDEO RECORDING AND REPRODUCING APPARATUS UTILIZING A SINGLE TRACK ON A MAGNETIC TAPE FOR THE LUMINANCE AND COLOR INFORMATION COMPONENTS OF A COLOR TELEVISION SIGNAL

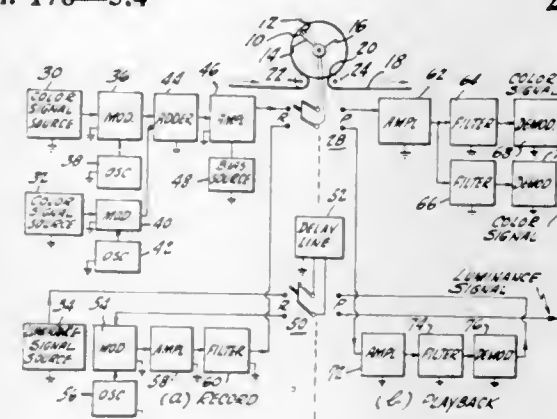
Henry Ray Warren, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 627,458, Mar. 31, 1967, now Patent No. 3,443,751. This application Nov. 1, 1968, Ser. No. 778,912

Int. Cl. H04n 5/78; G11b 5/02

U.S. Cl. 178-5.4

21 Claims



A system and method is provided for recording both the luminance and color information components of a color television signal in a single track of a magnetic

tape. The color components are recorded substantially throughout the magnetizable tape coating, while the luminance component is recorded substantially only in the surface of the magnetizable coating of the tape.

3,542,947 VIDEO DISPLAY OF LINE SEQUENTIAL COLOR SIGNAL

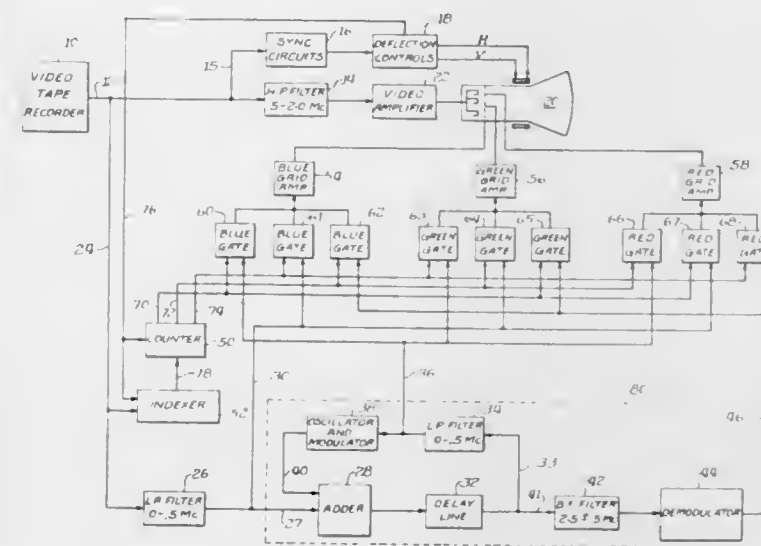
Edward G. Thurston, Chicago, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 19, 1968, Ser. No. 699,085

Int. Cl. H04n 9/34; H03d 7/00

U.S. Cl. 178-5.4

5 Claims



This disclosure describes a novel method and apparatus for simultaneously displaying video color signals received in line sequential form. The method is a variation of the "mixed highs" method used in color signal transmission. The color signals R, G and B are received one horizontal line at a time in sequence. Each color signal is filtered to separate the highs from the lows. The highs are applied immediately to the cathodes of a three-gun color display tube. The lows are applied to the grids of the display tube with the lows of each color signal being applied to the same grid on each of at least two successive horizontal line scan intervals. This is accomplished by immediately applying the lows of an incoming signal to a grid, delaying the lows for at least one horizontal line scan interval and again applying them to the grid. With one delay two colors are available, and with two delays three colors are available for display during each horizontal line scan interval even though only one new line of color information is received during the interval.

A novel apparatus facilitates the practice of the invention. The apparatus includes an adder, delay line, filter, and oscillator/modulator connected in a closed loop. As each incoming color signal is applied to the display tube, the lows are fed into the adder and then delayed by one horizontal line scan interval before being applied to the filter. The filter passes the lows and the output of the filter is applied to the display tube. The output of the filter modulates the oscillator output and the output of the modulator is applied to the delay line. A band pass filter is connected to the output of the delay line and passes only the modulated signal. The signal is demodulated and the resulting signal applied to the display tube.

A modulo-three counter is advanced by one for each horizontal scan and the output of the counter controls three sets of gates for selectively gating the lows to the grids of the display tube.

3,542,948 PANORAMIC DISPLAY SYSTEM

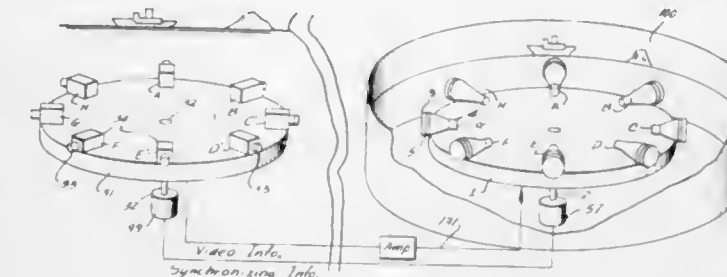
Hanns H. Wolff, Orlando, Fla., assignor to the United States of America as represented by the Secretary of the Navy

Filed Apr. 17, 1968, Ser. No. 721,974

Int. Cl. H04n 3/28, 7/08

U.S. Cl. 178-6

7 Claims



A plurality of television cameras fixed to a first rotating drum scan through respective narrow slits or the like, positioned with the long dimension approximately perpendicular to the plane of rotation to furnish video information to respective projectors on a second drum which rotates in synchronism with the first. The projectors scan in a direction approximately normal to their plane of rotation whereby a scene covering a 360 degree field of view may be projected.

3,542,949 ELECTRONIC EDITING DEVICE FOR A MAGNETIC RECORDING AND REPRODUCING APPARATUS

Tomiyuki Tanaka and Shuya Abe, Tokyo, Japan, assignors to Victor Company of Japan, Limited, Yokohama, Japan

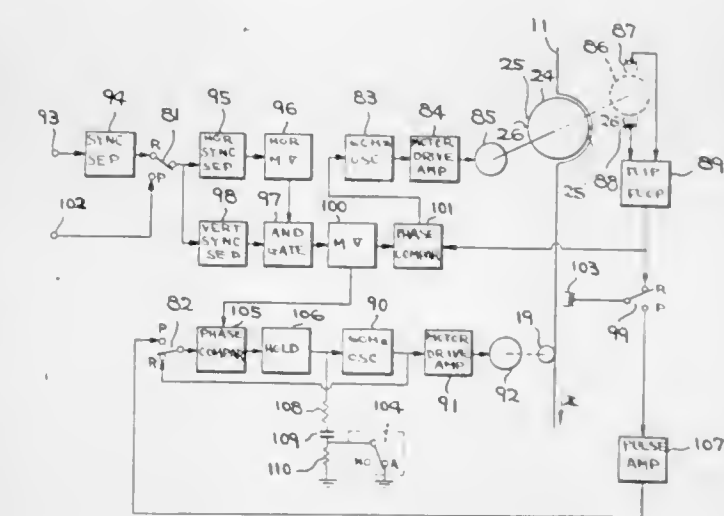
Filed Oct. 7, 1968, Ser. No. 765,381

Claims priority, application Japan, Oct. 7, 1967, 42/64,533

Int. Cl. H04n 1/36; G11b 15/28, 27/10

U.S. Cl. 178-6.6

7 Claims



An electronic editing device for a magnetic recording and reproducing apparatus is disclosed which is provided with rotary magnetic heads for erasing a recorded signal and rotary magnetic heads for recording and reproducing a signal disposed spaced apart a given distance from each other for editing a new signal onto a pre-recorded tape. The device comprises a time constant circuit of large value which is inserted in a holding circuit of a capstan-servo system as soon as electronic editing is started. When the recorded signal is reproduced, the time constant circuit is put out of operation so that electronic editing may not adversely affect the capstan-servo system.

3,542,950

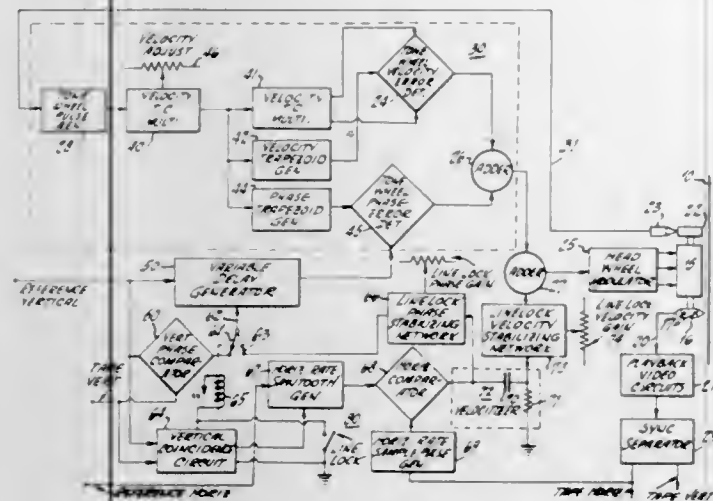
SERVO SYSTEM

Arch C. Luther, Jr., and Robert G. Breed, Cherry Hill, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed Aug. 2, 1966, Ser. No. 569,611
Int. Cl. H04n 1/22, 1/36

U.S. Cl. 178—6.6

8 Claims



A compound servo system for controlling the operation of a headwheel in a recorder-reproducer system. Reference synchronizing signals are compared with tape synchronizing signals by a phase comparator. The output error signal is used to control the headwheel motor through a tone wheel servo. More particularly, the error signal controls a variable delay generator in the tone wheel servo's reference path. Simultaneously, the error signal is differentiated and this signal is fed directly into the headwheel amplitude modulator to further control the headwheel motor.

3,542,951

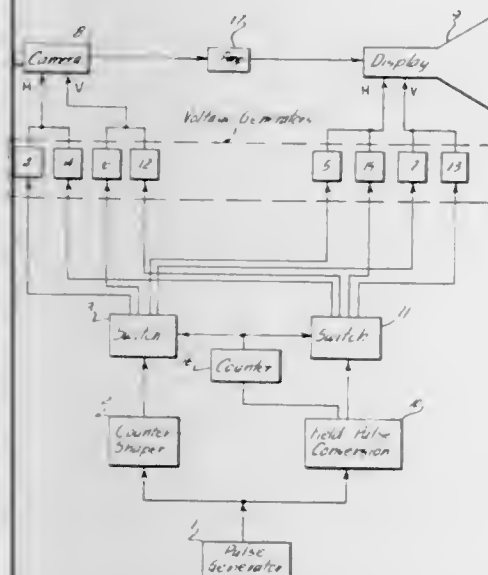
HIGH RESOLUTION LOW DISTORTION TELEVISION SYSTEM

Hanns H. Wolff, Orlando, Fla., assignor to the United States of America as represented by the Secretary of the Navy

Filed May 29, 1968, Ser. No. 733,036
Int. Cl. H04n 3/16, 3/30, 7/18

U.S. Cl. 178—6.8

9 Claims



Synchronizing signals are alternately switched between two sets of sweep voltage generators which are respectively connected to the horizontal and vertical deflection systems of the camera and display tubes of a television system. The alternation of sync pulse inputs improves resolution by better utilizing the band width capabilities

of the system. The line deflection and field sweep voltage generators may be adjusted to achieve a linear scan. Thus a clear, distortion-free picture is obtained.

ERRATUM

For Class 178—7.5 sec:
Patent No. 3,541,992

3,542,952

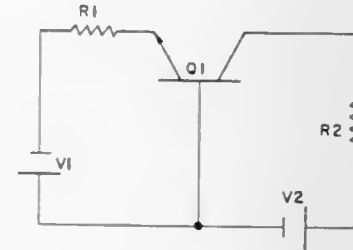
LOW DISTORTION SIGNAL REPRODUCTION APPARATUS

Chien San Wang, 1201 Hudson, Denver, Colo. 80220
Filed May 18, 1967, Ser. No. 639,534

Int. Cl. H04r 3/00

U.S. Cl. 179—1

8 Claims



A low distortion signal or sound reproduction apparatus including a transistorized zero junction circuit used to detect the current flow to a speaker or other output transducer and provide a negative feedback voltage which is linearly related to said current flow. The feedback voltage is used to control the signal applied to the input of the reproduction apparatus resulting in a low distortion current being applied to said device.

3,542,953

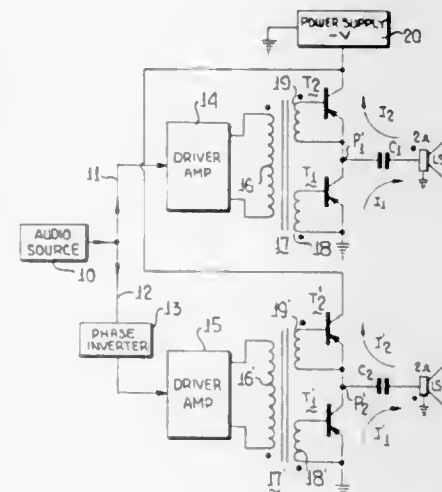
AMPLIFIERS POWERED FROM A SINGLE POWER SUPPLY AND DRIVEN CONTRAPHASALLY

Walter Munch, Jr., Park Hills, Covington, Ky., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio

Filed Aug. 29, 1967, Ser. No. 664,041
Int. Cl. H03f 3/42

U.S. Cl. 179—1

12 Claims



Two push-pull Class B audio amplifiers are driven in parallel but in opposite phases from a common signal source. The amplifiers drive separate loud speaker loads, which are driven in opposite phases by the amplifiers, so that acoustic radiation from the speakers is co-phased. The amplifiers are of such character that they draw current

3,542,956

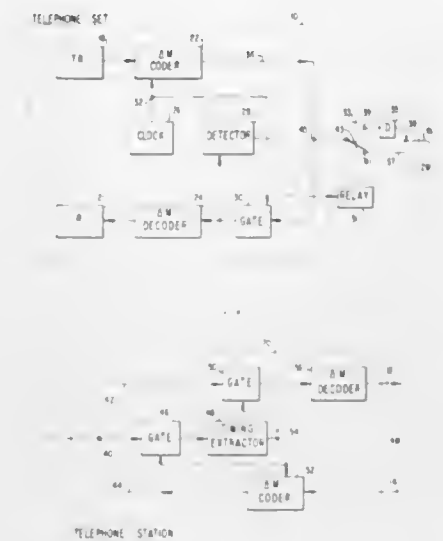
PCM TELEPHONE COMMUNICATION SYSTEM

Tadahiro Sekimoto, Washington, D.C., assignor to Communications Satellite Corporation, a corporation of Washington, D.C.

Filed May 31, 1967, Ser. No. 642,410
Int. Cl. H04j 3/06

U.S. Cl. 179—15

23 Claims



Telephone apparatus for transmitting pulse code information between a telephone set and a telephone station with the features of preventing pulse echo by blocking return paths during transmission of each pulse and preventing the blocking of incoming pulses by time multiplexing incoming and outgoing pulses. The transmitted information is transformed into a pulse code with pulses occurring at controlled clock times. The transmitted information is prevented from returning directly to the receiver by a gate which is opened at the clock times. In order to insure that the received pulses are not blocked by the gate a detector circuit connected to the output of the gate detects the absence of received pulses and actuates a switch which inserts a delay in the transmission path of the transmitted and received pulses thereby time separating the received and transmitted pulses. At the station, non-pulse code information received from a distant location is pulse coded and sent to the telephone set. The pulses in the code occur at times controlled by a clock generating circuit which generates clock pulses delayed with respect to the pulses received from the telephone set. As a result, the pulses sent to the telephone set by the coder at the station are anti-coincident with the pulses received at the telephone station from the telephone set. The station also includes a decoder to decode the pulse code from the telephone set and transmit the decoded information to some further location. Gating circuits which are opened during the clock pulse times prevent the coded output pulses from returning to the decoder and also prevent the coded output pulses from controlling the clock pulse generator. A repeater apparatus may be placed along the two wire transmission path connecting the telephone set and telephone station and also operates to prevent pulses in one path from returning along the opposite path and time separates the pulses coming from opposite directions.

3,542,957

MULTIPLEX ARRANGEMENT FOR PULSE CODE MODULATED SIGNALLING SYSTEM

Donald F. Mitchell, Webster, and Richard Scott, Fairport, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 25, 1968, Ser. No. 770,731
Int. Cl. H04j 3/16

U.S. Cl. 179—15

1 Claim

A speech-plus-data multiplexing scheme for pulse code modulated signalling systems of the T-Carrier type in

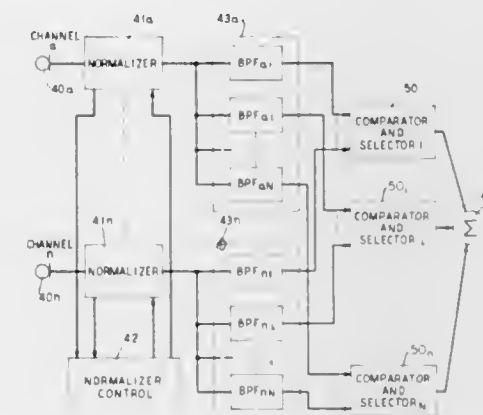
DEREVERBERATION BY SPECTRAL MEASUREMENT

James L. Flanagan, Warren, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed June 17, 1968, Ser. No. 737,539
Int. Cl. G101 1/00

U.S. Cl. 179—1

6 Claims



Multipath or reverberant distortion in an acoustic signal is reduced by receiving the signal at a plurality of spatially separated reception points and combining selected frequency components of the received signals to form a composite signal.

3,542,955

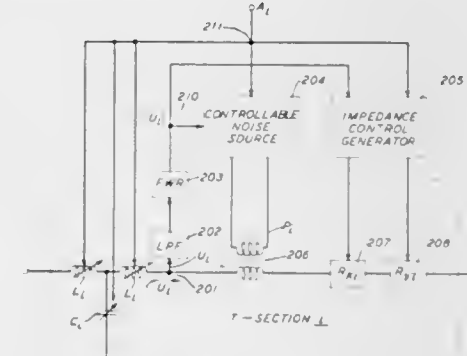
AUTOMATIC GENERATION OF VOICELESS EXCITATION IN A VOCAL-TRACT SYNTHESIZER

James L. Flanagan, Warren Township, Somerset County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Apr. 29, 1968, Ser. No. 724,931
Int. Cl. G101 1/08

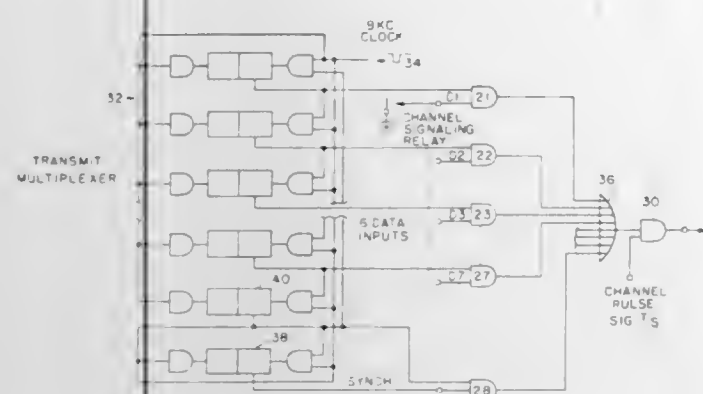
U.S. Cl. 179—1

8 Claims



Natural-sounding synthesized speech is produced in an analog vocal-tract synthesizer by selectively inserting a noise signal, in addition to a glottal excitation signal, into each section of the synthesizer. The magnitude of the noise signal and the internal resistance of the noise source are automatically controlled in response to the current flowing in and the area control signal applied to each synthesizer section.

which the pulse train consists of successive groups of time slots, each group including a selected number of time slots used to carry speech information and an ad-



ditional time slot to carry supervisory signals to control central office switching equipment. The additional time slot in any or all of the channels is time-shared between the supervisory signal and data signals.

3,542,958

LINK CIRCUIT WITH HIGH LEVEL RINGING CAPABILITY FOR ELECTRONIC TELEPHONE EXCHANGE

Barrie Brightman, Webster, N.Y., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Aug. 22, 1967, Ser. No. 662,418

Int. Cl. H04q 3/42

U.S. Cl. 179—18

8 Claims



A crosspoint-type link circuit for an electronic telephone exchange including matrices of transistors defining switch crosspoints in a balanced circuit configuration. A 120 volt D.C. source, balanced relative to ground, is connected in one polarity across the matrices on the ING (calling, or originating) side of the conventional bridge transformer and in the opposite polarity across the matrices on the ED (called) side. For ringing, the called line is switched at the desired ring signal frequency between the ING and the ED matrices. An A.C. signal is thus applied to the line without making the crosspoint switches bi-directionally conductive.

3,542,959 FOUR-WIRE TANDEM SWITCHING NETWORK HAVING MEANS FOR SELECTIVELY COUPLING CONNECTED TRUNK CIRCUITS TO PROVIDE ADDITIONAL FUNCTIONS WITHOUT INCREASING THE NUMBER OF CIRCUITS REQUIRED IN THE NETWORK

Kazuya, Oseki and Yasuyuki Ubukata, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan

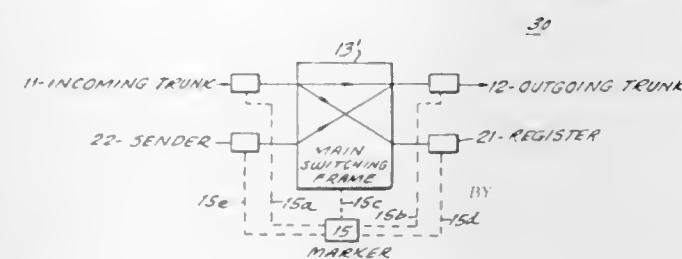
Filed Sept. 28, 1967, Ser. No. 671,307

Claims priority, application Japan, Sept. 29, 1966, 41/63,748

Int. Cl. H04q 5/22

U.S. Cl. 179—18

11 Claims



This invention broadly teaches a 4-wire tandem switching network or switchboard assembly for use in toll switching systems employing a 4-wire switching network or switchboard constructed of 6-wire switches in which incoming trunks, outgoing trunks, a register, and a sender are all selectively coupled to the call initiating circuitry of the tandem calling circuit, said connections being established at selected intervals through the 4-wire switchboard assembly without the need for setting up additional incoming register and sender links conventionally employed so that the tandem switchboard functions as both the incoming register link and the sender link in addition to its normal functions. Each of the circuits which are selectively coupled to the switchboard, may be decoupled, or released, on either the incoming or outgoing sides of the switchboard.

3,542,960 SYSTEM FOR SELECTING A FREE PATH THROUGH A MULTI-STAGE SWITCHING MATRIX HAVING A PLURALITY OF PATHS BETWEEN EACH INPUT AND EACH OUTPUT THEREOF

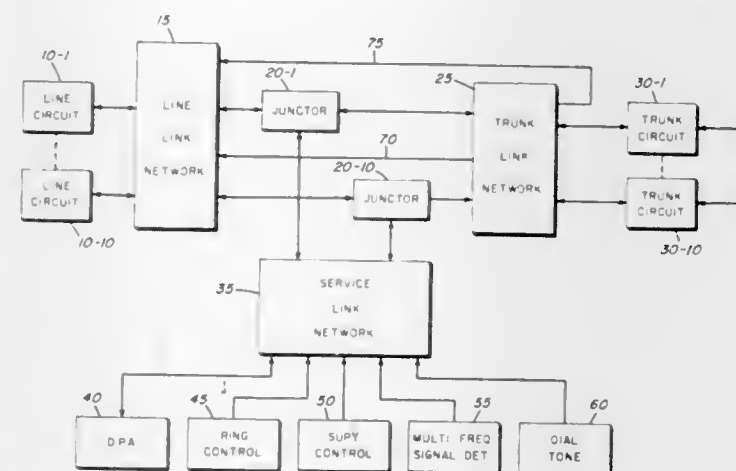
Gerhard O. K. Schneider, Rochester, N.Y., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Oct. 12, 1967, Ser. No. 674,932

Int. Cl. H04q 3/42

U.S. Cl. 178—18

55 Claims



A path finding system for effecting selection and interconnection of electrical devices through a network of switching matrices providing plural paths between each

input and each output thereof including scanning means for determining a free path to a selected output therefrom in a progressive manner through sequential stages and path check point devices for restricting path selection to the next stage whenever such stage requires another scanner for free paths thereafter. Also a re-entry function from an originating group of matrices to a second parallel group of matrices is provided upon failure to detect direct routes through the originating group. Due to the existence of plural paths from each stage to the marked terminating point of the matrix, the scanning and selection of paths in each stage is carried on to the exclusion of the other stages with final selection of a path in a given stage serving to initiate the scanning and selection in the subsequent stage.

3,542,961 CALL FORWARDING EQUIPMENT FOR OPERATORS

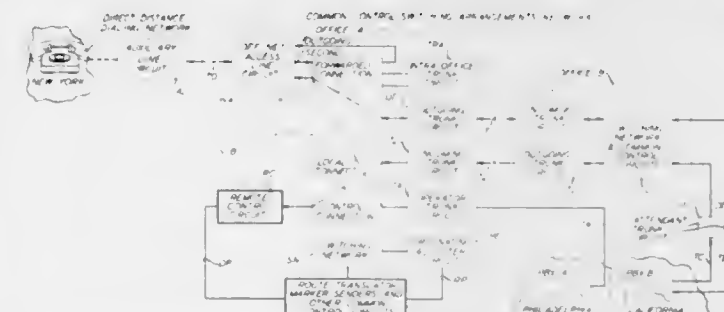
Milton Klein and Richard A. Walsh, Lincroft, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Dec. 20, 1967, Ser. No. 692,024

Int. Cl. H04m 3/54

U.S. Cl. 179—18

11 Claims



Telephone switching offices are disclosed including route translators and control equipment for forwarding calls for a first unattended operator position directly to a second attended position situated in a different office. The equipment is activatable over a control connection established by the operator-in-attendance to generate selectable routing instructions which are utilized on subsequently originated calls for the unattended position.

3,542,962 SWITCHING SYSTEM WITH STATION CONTROLLED CLASS OF SERVICE

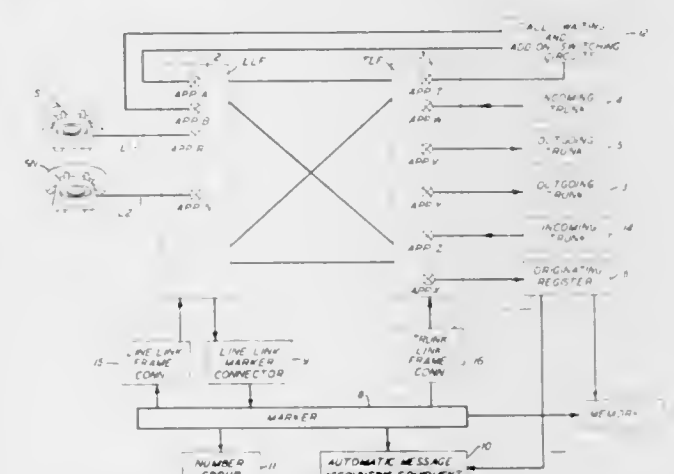
Dennis J. Morgan, Westerville, Carl C. Nielson, Granville, and James G. Whitemyer, Reynoldsburg, Ohio, assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Mar. 11, 1968, Ser. No. 711,981

Int. Cl. H04m 3/42

U.S. Cl. 179—18

11 Claims



A switching system is arranged to permit telephone stations to select a class of service treatment which is

3,542,963 SWITCHING ARRANGEMENT OF THE CROSS-POINT TYPE

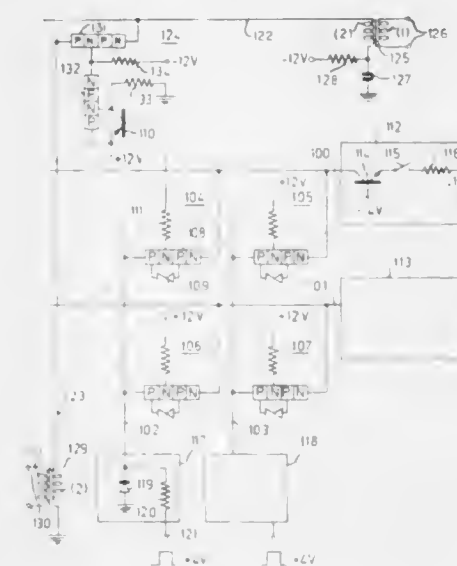
Einar Andreas Aagaard, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 12, 1968, Ser. No. 759,395

Int. Cl. H04q 3/50

U.S. Cl. 179—18

4 Claims



A cross-point switch is disclosed which comprises a PNP diode, the second region of which is connected through a resistor to a bias source. The first region is connected through a Zener diode to the third region, the Zener diode being connected with a polarity such that the breakdown voltage of the PNP diode is determined by the accurately defined Zener breakdown voltage.

3,542,964 TELEPHONE CALL FORWARDING METHOD AND APPARATUS

Herbert G. Odom, Oakland, Calif., assignor, by mesne assignments, to Ford Industries, Inc., Portland, Oreg., a corporation of Washington

Filed Nov. 29, 1967, Ser. No. 686,604

Int. Cl. H04m 3/00

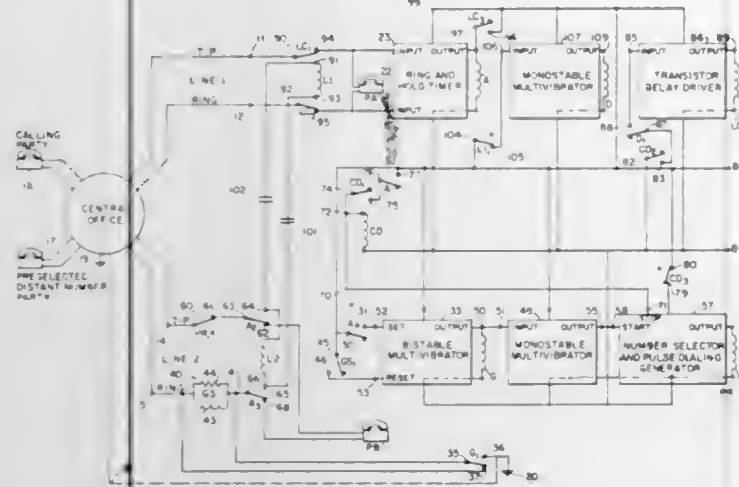
U.S. Cl. 179—18

12 Claims

Improvements in circuitry for a telephone system of the type which automatically transfers an incoming call to a pre-selected distant number. Circuitry is shown in cooperation with a pair of service lines from central office, wherein an incoming call from a calling party is detected on one of such lines and in response thereto the remaining line is momentarily shorted to ground and thereby prepared for receiving an outgoing dialing signal. Subsequent to transmission of such dialing signal and coupling of the service lines for the call communi-

tion, circuitry means are provided for detecting termination of the call by responding to an open circuit on the

and terminating trunk traffic and the other equally entitled output serves the callback traffic. These outputs can be connected through an internally controlled



incoming call line, which open circuit occurs at central office when the calling party hangs up.

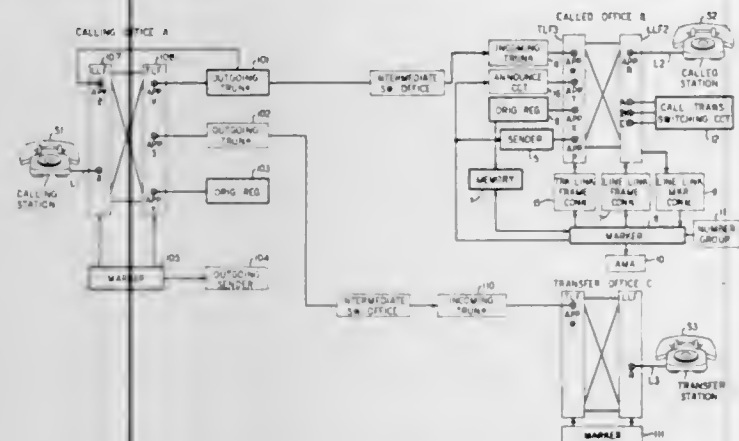
3,542,965

INTER-OFFICE CALL DIVERTER

Edward J. Wilkens, Jr., Freehold, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed June 18, 1968, Ser. No. 737,979
Int. Cl. H04m 3/54

U.S. Cl. 179-18

14 Claims



A switching system is arranged to transfer calls directed to certain called subscribers' lines to any other location arbitrarily selected by the called line. On each call from an automatic switching office to a station marked for transfer, the called office transmits back to the calling office, over the established connection, digits which have been stored previously in memory corresponding to the transfer station to which the call is to be transferred. The calling office thereupon automatically establishes an independent connection to the transfer office. When the call originates from an office without automatic call completion facilities an audible announcement is returned from the called office to the calling subscriber who may then reinitiate the call directly to the transfer station.

3,542,966

PRIVATE AUTOMATIC BRANCH EXCHANGES WITH CALLBACK TRAFFIC

Heinz Schluter, Kornwestheim, and Hans Dieter Siebel, Munchingen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 630,883
Claims priority, application Germany, Apr. 27, 1966, St 25,291

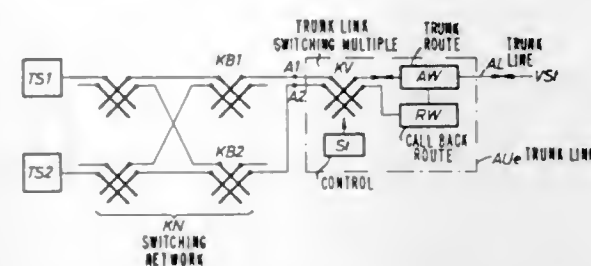
Int. Cl. H04m 3/58

U.S. Cl. 179-18

6 Claims

Each trunk link has two equally entitled outputs to the switching network. One output serves the outgoing

switching multiple in the trunk link arbitrarily with either the trunk route or the callback route. With such an arrangement of the trunk links, the number of the seldom used crosspoints can be reduced.

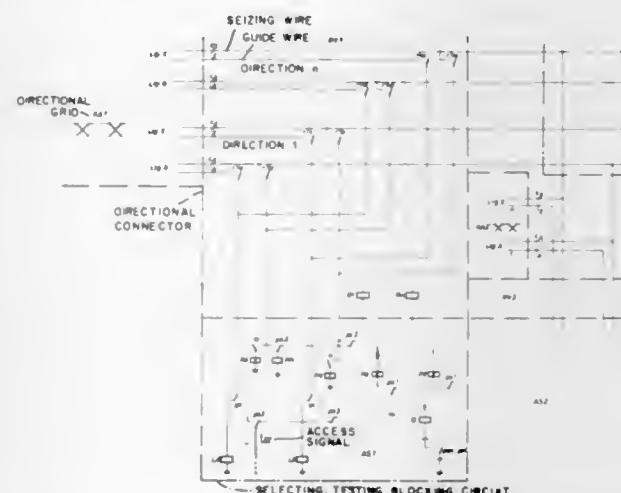
3,542,967
CONTROL OF PATH CONNECTIONS IN A TELEPHONE SWITCHING SYSTEM

Gerhard Kohler, Stuttgart-Weilimdorf, Nikolaus Lewen, Tamm, and Anton Pfau, Stuttgart-Zuffenhausen, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed June 29, 1966, Ser. No. 561,421
Claims priority, application Germany, July 1, 1965, St 24,063

Int. Cl. H04q 3/42

U.S. Cl. 179-18

3 Claims



In a guide wire switching system an arrangement is provided to select and block an available output which is one of a number of available outputs connected in multiple. The selection and blocking are performed immediately before a connection is to be established between the output and an input. The blocking prevents one of the other available outputs from being seized after the one has been selected.

3,542,968

PAGING SYSTEM

Ronald H. Mercer, Saint Laurent, Quebec, Canada, assignor to The Bell Telephone Co. of Canada, Montreal, Quebec, Canada
Filed Feb. 16, 1968, Ser. No. 705,954
Int. Cl. H04m 11/02

U.S. Cl. 179-41

16 Claims

The paging system, in accordance with the invention, comprises a plurality of trunk circuits for receiving the dial pulses originating from various groups of subscribers and a like number of register circuits connected to the trunk circuits for storing the pulses. A preference circuit is connected to the trunk circuit and comprises a first rotary switch adapted to hunt for any trunk having a complete number stored in it and to connect such trunk

to a number checking circuit which determines in which group the number stored in such trunk belongs. The preference circuit also includes a second rotary switch having as many banks as there are groups of calling subscribers, each bank being adapted to select one trunk from each group. A common control circuit energizes the preference circuit to hunt for a trunk having a complete number stored in it and to select one trunk from each group of calling subscribers. The common control circuit also keys a number of transmitters when a number contained in a register circuit has been checked by the number checking

reversal which occurs on certain such connections. In addition, a low pass filter is serially inserted between the bridge circuit and the detector to render the detector insensitive to voice currents and high frequency noise.

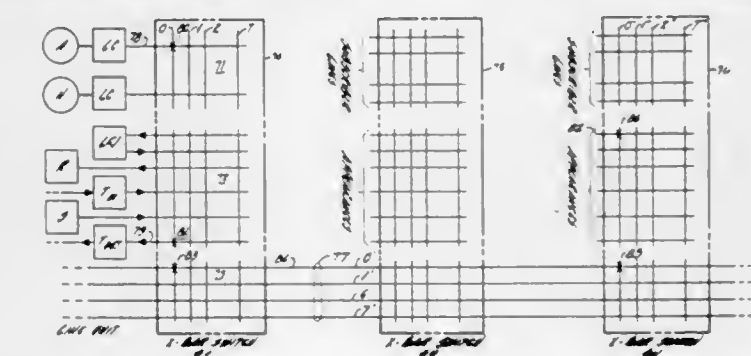
3,542,970

CROSSBAR SWITCHING SYSTEM WITH RELATIVELY UNIFORM GROWTH CHARACTERISTICS

Ted B. Westfall, Bronxville, N.Y., and Robert Y. Slms, Hato Rey, Puerto Rico, assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 634,615
Int. Cl. H04q 3/42

U.S. Cl. 179-22

3 Claims



A plurality of crossbar switches are arranged in cascaded stages to provide a switching network. The crossbar switch verticals are cut to provide a number of isolated crosspoint sections. One crosspoint section provides network inlets, and another crosspoint section provides network outlets distributed in a predetermined ratio. Thus, every switch that is added to the network simultaneously adds a number of inlets, outlets, and connections therebetween. This way, a predetermined ratio of inlets, outlets, and connecting paths are maintained at all times.

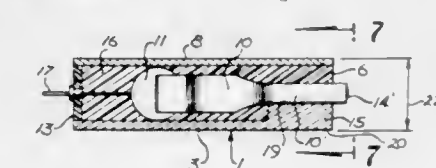
3,542,971

MAGNETIC TRANSDUCER HAVING POSITIONING SURFACES

Dennis Willard, 5937 W. 78th St., Los Angeles, Calif. 90045
Filed Aug. 21, 1967, Ser. No. 662,144
Int. Cl. G11b 5/14, 5/28, 5/42

U.S. Cl. 179-100.2

10 Claims



A low-cost magnetic, recording, reading and erasing head assembly for use with magnetic tape characterized by a standard form of alignment case in which varying assemblies for recording, reading (hereinafter designated as "retrieving") or erasing information on the tape may be contained. The cases (which also function as an alignment jig) enable a plurality of cases to be mounted in stacks for multiple channel use with precise inter-track location.

3,542,972

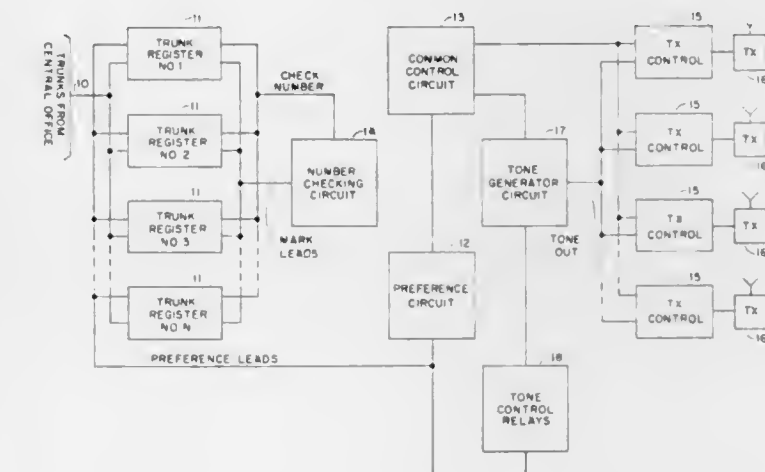
INDIVIDUAL ADJUSTABLE MAGNET SYSTEMS OF A STEREOPHONIC PICKUP

Karl Braun, 38 Passauer Strasse, 8399 Rothalmunster, Germany
Filed July 3, 1968, Ser. No. 742,424
Claims priority, application Germany, July 5, 1967, 1,572,396
Int. Cl. H04r 11/12

U.S. Cl. 179-100.41

2 Claims

Electromagnetic pickup for stereophonic disc recording with two channels, providing a transducer in cooperation



circuit and found to exist in one of the various groups of subscribers. In addition, the common control circuit turns on a tone generator circuit when all the transmitters are in operation. Various groups of tone control relays are adapted to be connected to the selected trunk register circuits and operated by the tone generator circuit to convert the dial pulses stored in the register circuit of each selected trunk circuit to corresponding audio tones. The groups of tone control relays are operated successively by the tone generator circuit to transmit each group of audio tones in successive order.

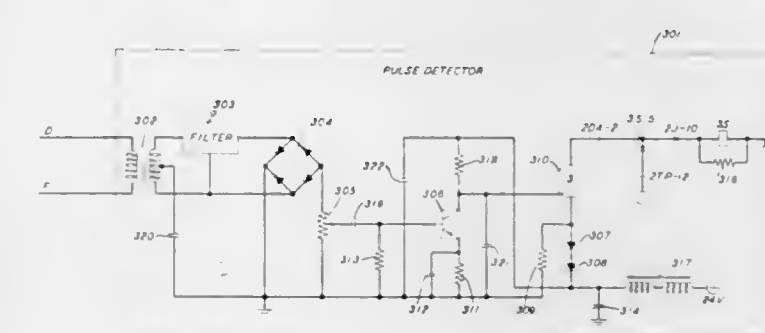
3,542,969

SUPERVISORY RELEASE SIGNAL PULSE DETECTOR

Gary C. Fields, Oakland, Calif., assignor to American Telephone and Telegraph Company, New York, N.Y., a corporation of New York
Filed Oct. 10, 1967, Ser. No. 674,137
Int. Cl. H04m 5/04

U.S. Cl. 179-42

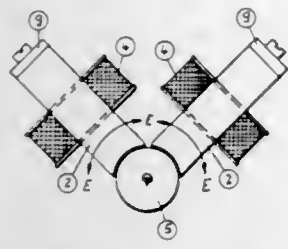
7 Claims



A supervisory signal detector circuit is arranged to recognize the termination of a switchboard trunk-to-trunk connection by detecting the pulse generated by the collapse of the magnetic fields through the relay windings and repeat coils of the connection upon a station on-hook condition at the end of the call.

A bridge circuit is provided at the input to the pulse detector to permit the detector to operate on a positive or negative going pulse, thus negating the effect of a line

with two identical and independently adjustable magnet systems associated with the respective channels, and each



system having two magnets with pole pieces of opposite polarity, and an intermediate leg with a coil.

3,542,973

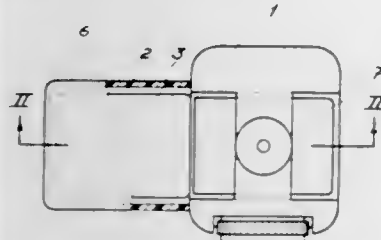
HEARING AID WITH RIGIDLY COUPLED EXTERNALLY MOUNTED RECEIVER

Juan Gasso Bosch, Via Layetana 158, and Jorge Borguno Clua, Ronda Universidad 12, both of Barcelona, Spain. Continuation of application Ser. No. 599,755, Dec. 7, 1966. This application Oct. 17, 1969, Ser. No. 867,422. Claims priority, application Spain, July 30, 1966, 330,123.

Int. Cl. H04r 25/02

U.S. Cl. 179—107

3 Claims



A hearing aid comprises a housing of substantially rigid material and containing the necessary amplification components, a microphone mounted on the housing and a receiver arranged to fit into an ear canal and having a sound output opening at one end. A rigid substantially U-shaped strap member forms an extension of the housing and embraces the receiver along two sides and the sound output end thereof. The bight of the strap member has an opening aligned with the sound output opening.

3,542,974

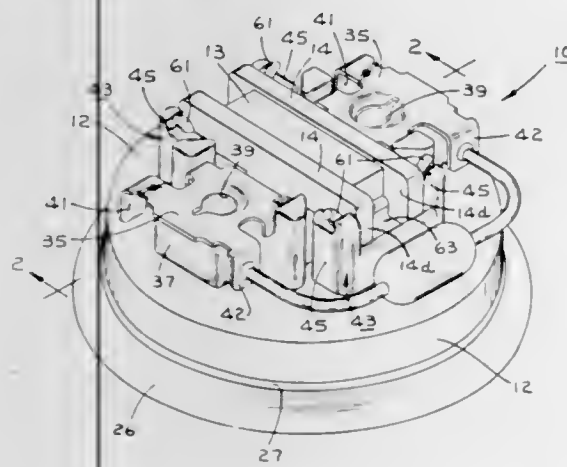
ELECTRICAL TRANSDUCER

Joseph E. Hlastic and Norbert B. Karau, Indianapolis, and Archie F. Kerr, Noblesville, Ind., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York. Original application Dec. 15, 1969, Ser. No. 889,797. Divided and this application June 14, 1968, Ser. No. 737,164.

Int. Cl. H04r 9/02

U.S. Cl. 179—117

12 Claims



The air gap adjustment and final assembly of electrical transducers of the central armature type, such as those employed as receivers in telephone sets, is accomplished

by adapting the receiver frame to engage frictionally and temporarily support the magnet-pole piece assembly during the adjustment of the air gap. Both an A.C. signal and a selectively variable D.C. bias, simultaneously applied to the coils of the receiver, are employed in determining the proper air gap spacing which results in the receiver producing an optimum value of acoustic output falling within predetermined minimum limits. After adjusting the air gap, a solidifiable liquid cement or a suitable potting compound is employed to secure the magnet-pole piece assembly permanently and rigidly to the frame of the receiver.

ERRATUM

For Class 191—12.2 see: Patent No. 3,542,172

3,542,975

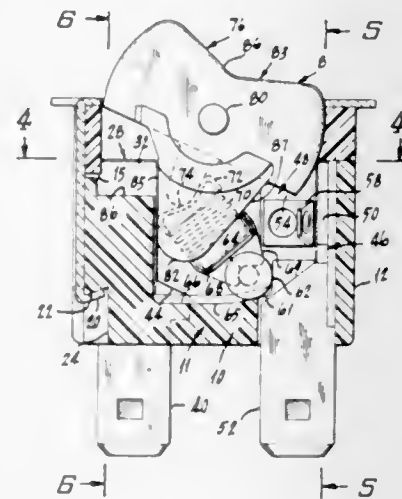
SWITCH, ESPECIALLY USABLE AS A STARTER AND CONTROL SWITCH FOR FLUORESCENT LAMPS

Kenneth H. Walterick, Levittown, Pa., assignor to Circle F Industries, Inc., a corporation of New Jersey. Filed Mar. 27, 1969, Ser. No. 811,179.

Int. Cl. H01h 9/26

U.S. Cl. 200—5

10 Claims



A switch especially for use as a control for fluorescent lamps, but not limited to that use, utilizes toggle-action mechanism of the over-center spring type. When a handle is rocked enough to move the spring over-center, the mechanism takes over from the user to snap a roller contact to or from a maintained circuit-closing position. With the contact in this position, the handle can be momentarily rocked beyond the point at which it comes to rest, to momentarily close a circuit between an auxiliary set of contacts.

3,542,976

DISTRIBUTOR CAP AND ROTOR COMBINATION WITH COMPLETELY REMOVABLE STATIONARY ELECTRODE AND BROAD CONTACT FACE MOVABLE ELECTRODE

Forest J. Moray, 1513 Brooks St., Renton, Wash. 98055.

Filed Aug. 18, 1967, Ser. No. 661,595

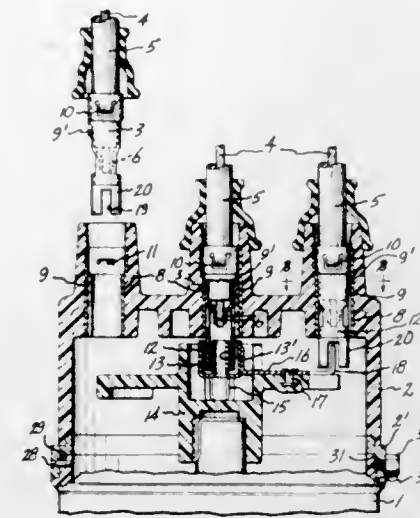
Int. Cl. H01h 1/58, 19/00

U.S. Cl. 200—24

12 Claims

The cap and rotor electrodes have overlapping electrode faces of large area, such as interfitting grooves and flanges, interfitting cups and cylinders and opposed facing plates which facilitate current transfer. The distributor cap electrodes can be solid or of sheet structure. The wires can be attached to terminals integral with the distributor cap electrodes. Alternatively, terminals on such

wires can snap into sockets in the cap electrodes. The wire and away from stationary contacts located on a stationary frame, the operating arm bears on the frame or a mem-



crimped against the wire ends or such wire ends may be inserted into sockets of the electrodes or terminals.

3,542,977

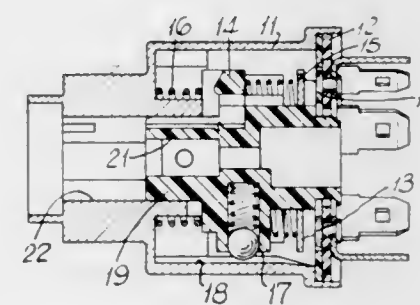
KEY OPERATED IGNITION SWITCHES FOR ROAD VEHICLES

Derek Thornley, Nelson, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England. Filed Nov. 27, 1968, Ser. No. 779,540. Claims priority, application Great Britain, Nov. 29, 1967, 54,286/67.

Int. Cl. H01h 27/00

U.S. Cl. 200—44

3 Claims



A key operated ignition switch for a road vehicle, wherein the rotor of the switch is resiliently urged from its on position towards its off position, and the key operated mechanism of the switch is adapted to permit removal of the operating key in the on position of the switch. The key operated mechanism includes means for preventing said rotor rotating from its on position to its off position until the key is removed from the key operated mechanism.

3,542,978

CARD READERS

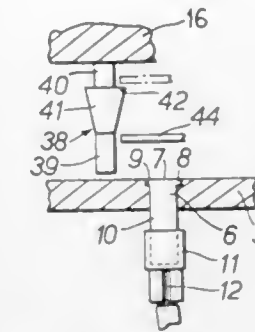
John Covell Collier, Farnworth, England, assignor, by mesne assignments, to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey. Filed July 19, 1968, Ser. No. 746,209. Claims priority, application Great Britain, July 20, 1967, 33,314/67.

Int. Cl. G06l 7/04

U.S. Cl. 200—46

1 Claim

A card reader comprises an operating arm pivotally mounted to a frame carrying movable contacts thereon and the operating arm is operated by operating means to move the frame and movable contacts thereon toward



ber associated therewith. Means for lifting the card after reading are included.

3,542,979

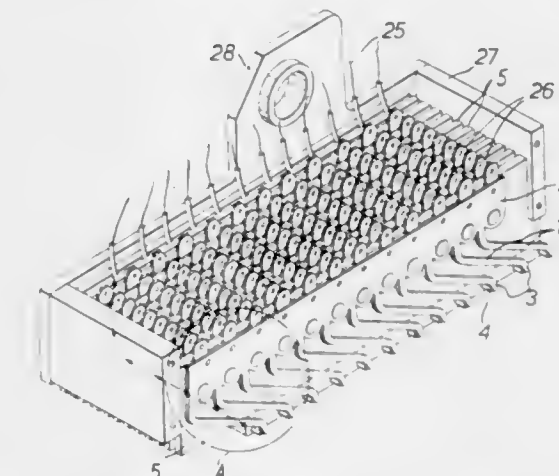
CARD READER CONTACT ASSEMBLY

John Covell Collier, Farnworth, England, assignor, by mesne assignments, to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey. Filed Aug. 1, 1968, Ser. No. 749,491. Claims priority, application Great Britain, Aug. 15, 1967, 37,477/67.

Int. Cl. H01h 43/08

U.S. Cl. 200—46

15 Claims



Data or card-reading apparatus comprises a movable contact assembly including contact means mounted to provide an array of parallelly disposed contact members located at the ends of flexible arms, contact areas along the flexible arms are arranged to be engaged with and/or to engage fixed contacts extending transversely to the direction of projection of the flexible arms. The contact members are caused to be operated in accordance with the coded areas of a data card when the contact assembly is moved into engagement with the data card to establish a distinctive electric signal pattern.

3,542,980

THROTTLE CABLE GUIDE

Francis W. Hamilton, Southfield, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware.

Filed Jan. 13, 1969, Ser. No. 790,679

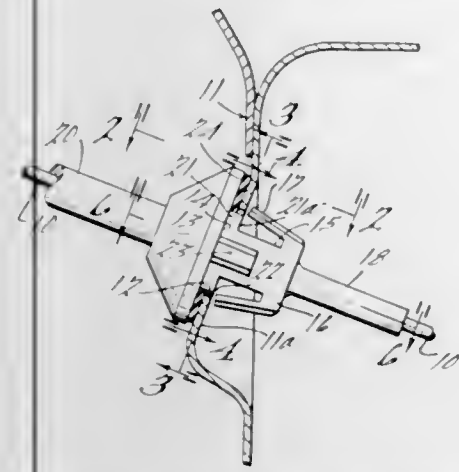
Int. Cl. F16b 9/02

U.S. Cl. 287—20

6 Claims

A throttle actuating cable extends through a tubular guide anchored within an aperture in a thin sheet metal firewall of an automotive vehicle. The guide comprises a one-piece molded plastic body confronting a front face of a panel of the firewall and having a projection extending rearwardly through the aperture. The projection has an enlarged rearwardly tapered nose from which a pair of integral arms diverge forwardly and laterally to engage the rear face of the panel, the arms being resiliently yieldable toward the projection to pass freely through the

aperture. A pair of lugs fit closely within mating portions of the aperture and extend integrally from opposite sides of the projection transversely to the lateral directions of divergence of the arms and also rearwardly from the body to overlap said forward ends. A resilient spacer under



compression between said front face and body normally urges the latter forwardly and holds said rearward ends firmly against the rear face of the panel, but is resiliently yieldable to enable rearward movement of the body sufficiently to move said arms out of engagement with said rear face.

3,542,981

DIRECTION INDICATOR SWITCHES WITH SLIDABLE DETENT MEMBER AND DETENT RELEASE MEANS

Norman Wilkinson, Burnley, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company

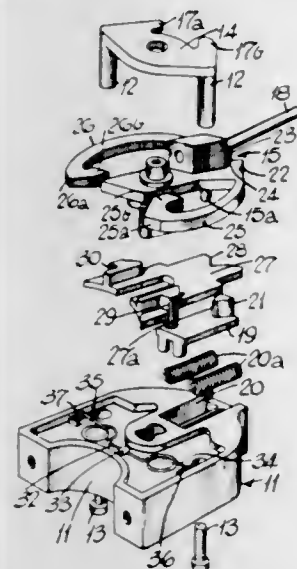
Filed July 23, 1968, Ser. No. 746,881

Claims priority, application Great Britain, Aug. 4, 1967, 35,953/67

Int. Cl. H01h 3/16

U.S. Cl. 200—61.3

4 Claims



A direction indicator switch includes a body adapted to be nonrotatably secured to the steering column of a vehicle adjacent a striker rotatable with the steering wheel of the vehicle. A rotor is mounted on the body for angular movement from a neutral position to either of two operative positions wherein direction indicator lamps on opposite sides of the vehicle respectively are energized. The switch further includes detent means for maintaining the rotor in either of its operating positions, said detent means comprising a detent member which is slidably carried on the body and which includes part engageable with the rotor in either of the operative positions of the rotor. The detent member is urged in a direction to engage the rotor, and there is further provided a detent release member movable relative to the rotor in response to cancelling

movement of the striker. The detent release member is engageable with the detent member so as to move the detent member against the action of said resilient means to allow the rotor to be returned by the striker from either of its operative positions to its neutral position.

3,542,982

BIN LEVEL INDICATOR WITH INSERTABLE PADDLE

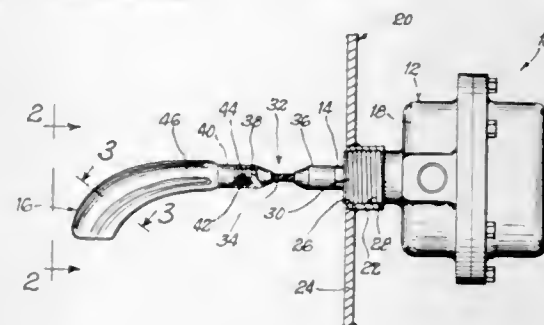
George E. Gruber, Port Sanilac, Mich., assignor to Monitor Mfg., Inc., Minden City, Mich., a corporation of Michigan

Filed Dec. 9, 1968, Ser. No. 782,125

Int. Cl. H01h 35/00

U.S. Cl. 200—61.21

6 Claims



The bin level indicator is of the rotary type having a rotatable paddle adapted to engage granular material in a bin or the like. The bin level indicator detects the drag which the material causes on the rotating paddle. The indicator includes a housing which screws into a threaded bushing which is welded or otherwise secured to the wall of the bin. The paddle is sword-shaped and extends axially from the rotary shaft of the indicator and then curves outwardly as the paddle increases in width. The shape and width of the paddle are such that the paddle can be inserted into the bin through the threaded bushing so that it is not necessary to enter the bin to install the paddle. Preferably, the paddle is formed with longitudinal corrugations which stiffen and reinforce the paddle. The corrugations also provide a greater surface area without any increase in the overall width of the paddle.

3,542,983

ELECTRO-PNEUMATIC SWITCH

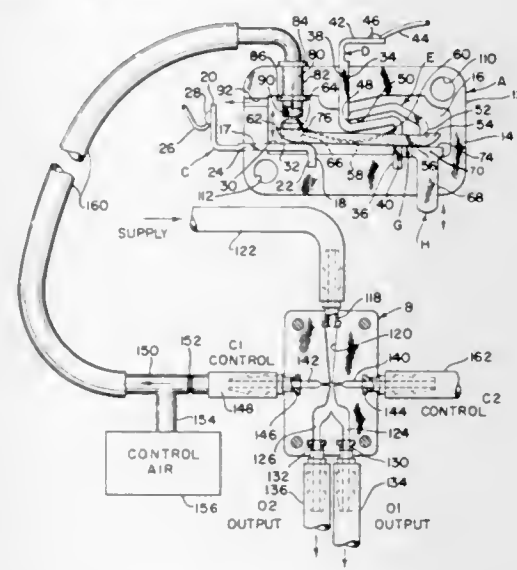
Frederick E. Erickson, Port Byron, Ill., assignor, by mesne assignments, to Gulf & Western Industries, New York, N.Y., a corporation of Delaware

Filed Sept. 3, 1968, Ser. No. 757,079

Int. Cl. H01h 9/06

U.S. Cl. 200—61.86

5 Claims



An electro-pneumatic switch includes a housing mounting, a fixed electrical contact and a movable switch arm. A fluid conduit is attached to the housing in a fixed po-

sition and has an outlet opening positioned adjacent the switch arm. The outlet opening of the fluid conduit defines a valve seat and a valve member is positioned between the switch arm and the valve seat. An actuating member on the housing moves the switch arm from a position in engagement with the fixed electrical contact to a position out of engagement with the fixed contact. In the out-of-engagement position, the valve member is biased against the valve seat by the switch arm to close the outlet opening. The switch arm may be biased to one position by an over-center snap-acting spring arrangement.

3,542,984

IMPACT SWITCH

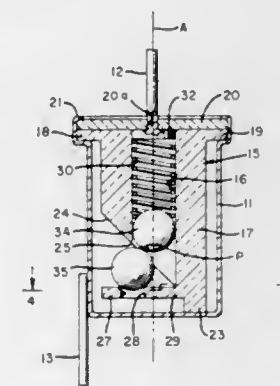
Russell F. Kirk, Sunnyvale, and Turner A. Robie, Mountain View, Calif., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed July 24, 1968, Ser. No. 747,246

Int. Cl. H01h 35/14

U.S. Cl. 200—61.45

6 Claims



This switch reacts to rapid acceleration or disturbance forces to irreversibly change from the open to closed state. A pair of conductive spheres or balls are supported against each other by a yieldable member having a circular seat in which one of the balls rests. A spring against the other ball presses the balls together so that the line of force through the balls intersects the surface of the seated ball within the perimeter of the seat. Deflection of the support due to a sudden impact against the assembly shifts the line of force outside the seat perimeter, unseating the ball and irreversibly moving it against a contact to close the switch.

3,542,985

CIRCUIT BREAKER FOR HIGH VOLTAGE DIRECT CURRENT

Kristian Dahl Madsen, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

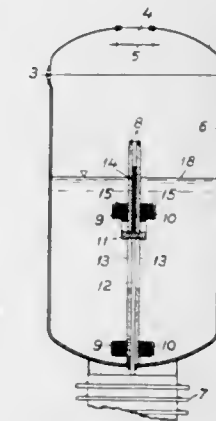
Filed Jan. 25, 1968, Ser. No. 700,465

Claims priority, application Sweden, Jan. 27, 1967, 1,201/67

Int. Cl. H01h 33/18, 9/44, 33/68

U.S. Cl. 200—147

3 Claims



A circuit breaker is formed of two spaced apart annular outer electrodes, combined with which is a means

for generating an axial magnetic flux. Means is provided inside the outer electrode which moves towards and away from centers of the outer electrodes for bridging the spacing for closing and opening the electrical connection between the outer electrodes. This means may be an annular inner electrode operated by a bar passing between the outer electrodes. Two parts of insulating material separate the outer electrodes leaving a slot between them for the bar, and an electrically insulating shield is arranged between the parts and attached to the bar to cover the opening between the parts when the inner electrode is moved to circuit-breaking position.

3,542,986

QUICK-MAKE, QUICK-BREAK ACTUATOR FOR HIGH VOLTAGE ELECTRICAL CONTACTS

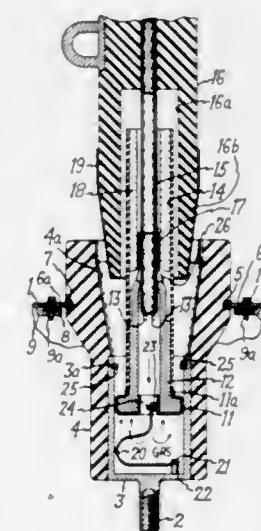
Edward J. Kotski, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

Filed Feb. 23, 1968, Ser. No. 707,779

Int. Cl. H01h 33/70, 33/76

U.S. Cl. 200—149

15 Claims



Gas actuated apparatus for rapidly moving relatively movable electrical contacts in response to the formation of an arc between such contacts to extinguish the arc. Gas generated by an arc formed between the contacts is used to operate the gas-actuated apparatus, causing it to remove control of contact movement from an operator and automatically close the contacts. The invention is suited for application where prolonged arcs are undesirable, for example, with high voltage electrical conductor terminations of the type employed in underground power distribution systems.

3,542,987

HIGH-CURRENT SWITCH WITH SECONDARY CONTACT PIN COUPLED IN OFFSET RELATIONSHIP TO PRINCIPAL CONTACT

Sidney Levy, Norwalk, Conn., assignor to Burndy Corporation, a corporation of New York

Filed Mar. 18, 1968, Ser. No. 713,757

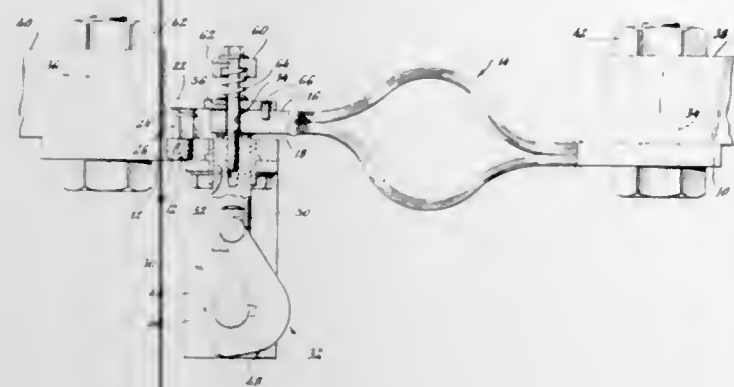
Int. Cl. H01h 33/12, 1/44

U.S. Cl. 200—165

4 Claims

A shunting switch for high-current applications in which a pair of readily replaceable secondary contact surfaces are provided to protect the main contact surfaces from electrical arcing damage. The secondary contacts are resiliently mounted in position to direct and absorb electrical arc formation as the switch is opened and closed, so as to eliminate arcing damage to the main contact surfaces. Pin couplings attach the secondary contacts to the principal contacts, and combined with the particular position at which the operating lever is connected to the sec-

ondary contacts, result in a wiping action between the principal contacts. A flexible link between the input and



output terminals of the switch accommodated expansion and contraction of external conductors.

3,542,988

ELECTRICAL SWITCH MECHANISM WITH RADIO FREQUENCY SHIELDING

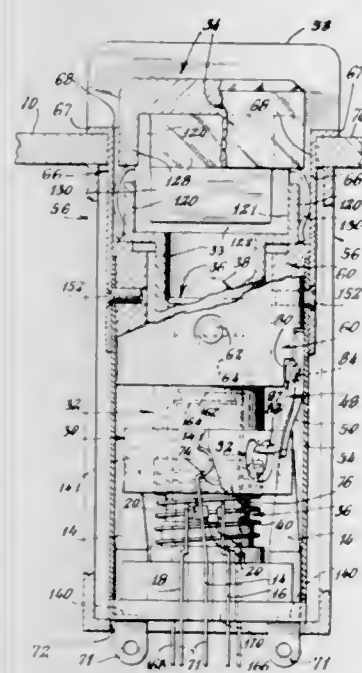
Michael Baldasare, Danbury, Conn., assignor to The Capitol Machine and Switch Company, Danbury, Conn.

Filed Dec. 18, 1968, Ser. No. 784,603

Int. Cl. H01h 9/02

U.S. Cl. 200—168

11 Claims

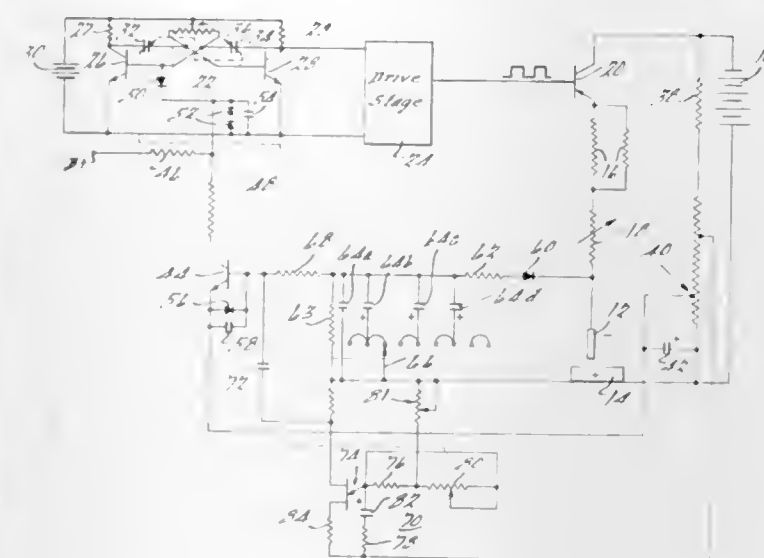


An electrical switch of the push-push or momentary type has an internal light source to illuminate the switch button and a special shielding structure for use in environments which cannot tolerate emission of radio frequency interference from the switch. The shielding structure, however, does not interfere with the push-push action of the actuator button, nor does it interfere with the external display illumination of the button by the internal light bulb. The switching mechanism is enclosed within a metal can which surrounds it on all sides, but is open at the top and partially open at the bottom end. A pushbutton formed of a translucent insulating material rides in the open top of the shielding can. A conductive shielding element in-board of the pushbutton is assembled therewith, and comprises a conductive screen which transmits light while serving as a radiation shield. The shielding element makes slidable contact with the inside of the can on all sides to preserve the shielding relationship while moving integrally with the pushbutton.

3,542,989
SHORT CIRCUIT PROTECTION SYSTEM FOR ELECTRICAL DISCHARGE MACHINING APPARATUS
Kurt H. Sennowitz, Royal Oak, Mich., assignor to Elox Inc., Troy, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 531,856, Mar. 4, 1966, now Patent No. 3,439,145. This application Jan. 22, 1968, Ser. No. 699,418
Int. Cl. B23p 1/08

U.S. Cl. 219—69

7 Claims



A control system for selectively reducing current to an electrical discharge machining gap in response to short-circuit gap conditions. A pulsing means of variable frequency controls an electronic switch connected between a DC power source and the gap. A network of variable time constant senses gap short circuits and responsively interrupts operation of the pulsing means. A control means gangs the pulsing means and the sensing network for inversely varying the frequency of the pulsing means and the time constant of the sensing network.

3,542,990

WELDING APPARATUS

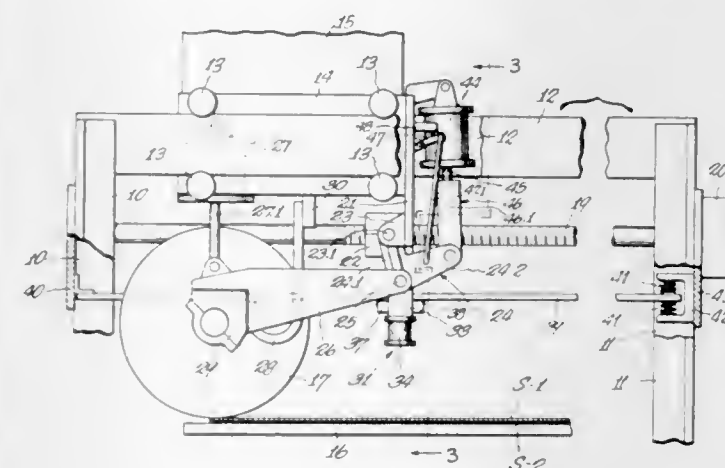
Arthur L. Williams and Irving R. Taylor, Warren, Ohio, assignors to The McKay Machine Company, Youngstown, Ohio

Filed Oct. 8, 1968, Ser. No. 765,806

Int. Cl. B23k 11/06

U.S. Cl. 219—82

10 Claims



Apparatus for forming successive, individual welds in a workpiece and providing a carriage movable uninterruptedly in a predetermined path of travel relative to the workpiece. The carriage mounts a welding transformer and electrode wheels, the latter having electrical connection with the transformer and being engaged with the workpiece for passing welding current therethrough. The

electrode wheels are movable relative to the carriage along the travel path and a brake device momentarily interrupts electrode movement with the carriage while an individual weld is made by passing welding current to and through the workpiece. After a weld is completed, the brake device releases the electrodes and a motor device re-establishes movement of the electrodes with the carriage but at a momentary rate to cause the electrodes to recover the travel lost while their movement was interrupted.

3,542,991

METHOD FOR MANUFACTURING LARGE TUBULAR SHAFTS

Arne Herman Lindquist, Trollhattan, Sweden, assignor to Nydqvist & Holm Aktiebolag, Trollhattan, Sweden, a corporation of Sweden

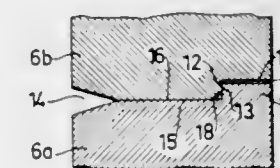
Filed Jan. 2, 1968, Ser. No. 695,048

Claims priority, application Sweden, Jan. 2, 1967, 63/67

Int. Cl. B23k 31/06

U.S. Cl. 219—61

1 Claim



A method for manufacturing large tubular shafts by welding together a number of tubular sections. End surfaces of successive tubular sections are provided with cooperating alignment means which include radial abutment surfaces and axial abutment surfaces to retain the successive tubular sections in aligned relationship relative one another. The tubular sections are joined by means of a partial weld. While the tubular sections are thus held together by the partial weld, material is removed from both sides of the radial and axial abutment surfaces to form a groove suitable for receiving weld material. Thereafter the groove is filled with weld material to complete the final weld.

3,542,992

METHOD AND APPARATUS FOR RESISTANCE WELDING

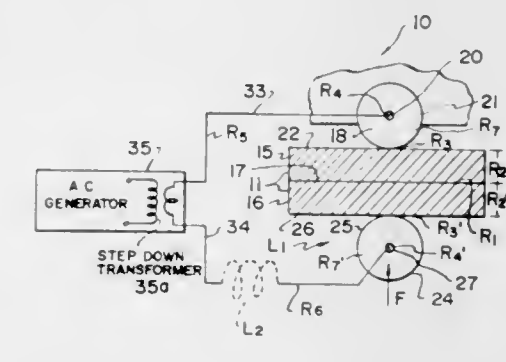
Joseph J. Sennello, Oak Lawn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Feb. 28, 1968, Ser. No. 709,030

Int. Cl. B23k 11/24

U.S. Cl. 219—64

20 Claims



A method and apparatus are disclosed herein including the method of resistance welding wherein metallic blanks are overlapped, the overlapping portions are inserted between cooperating electrodes and an alternating current is passed therethrough to form a weld. The alternating current is of a frequency sufficient to produce an inductive reactance in the conductive path of the electrodes which exceeds in ohmic value the resistance within such path. Ap-

paratus for performing the method of the invention includes cooperating electrodes, conductive means electrically connected thereto and an alternating current generator having the frequency characteristic set forth above.

3,542,993

ELECTROEROSIVE APPARATUS FOR MANUFACTURING ROTARY DIES

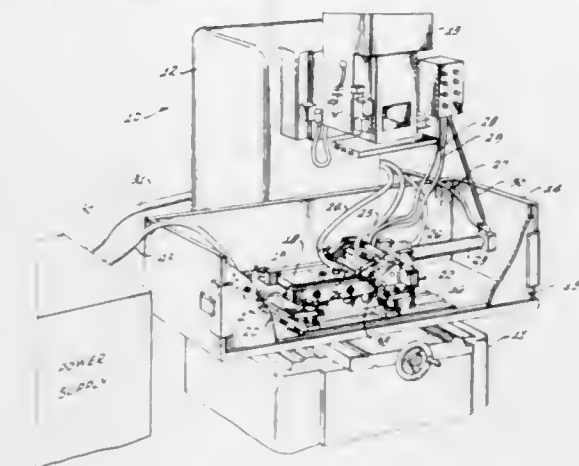
Homer G. Buck, 803 S. Rimpau Ave., Los Angeles, Calif. 90005

Filed Mar. 11, 1968, Ser. No. 712,247

Int. Cl. B23p 1/04, 1/08

U.S. Cl. 219—69

14 Claims



The manufacture of rotary dies, in electrical discharge machining, by the rolling of a cylindrical workpiece, over fixed ways, in spaced relationship to the surface of a pre-formed, flat matrix electrode having a flat development of the die pattern to be imparted to the cylindrical surface of the die.

3,542,994

ARC GAP CONTROL APPARATUS FOR FLASH WELDING

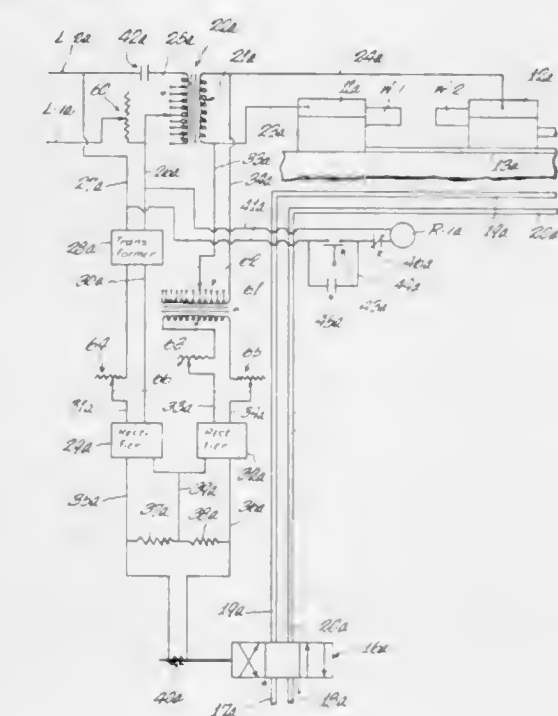
James F. Deffenbaugh, Warren, and Richard L. Curtner, Youngstown, Ohio, assignors to The McKay Machine Company, Youngstown, Ohio

Continuation-in-part of application Ser. No. 604,715, Dec. 27, 1966. This application Sept. 4, 1968, Ser. No. 757,334

Int. Cl. B23k 11/04

U.S. Cl. 219—97

4 Claims



An arc-gap-dimension control apparatus for flash welding employing a servomechanism controlled by a reference-voltage signal derived from the input line volt-

age and an opposing voltage-signal derived from the arc gap. A pair of ganged rheostats, one in series with each voltage signal, is employed to vary the sensitivity of the control. A tapped-primary power transformer varies the welding voltage, and its control is ganged with the control of a second tapped-primary transformer in the gap-voltage-sensing circuit to compensate for a voltage change in the gap signal caused by voltage-output adjustment of the power transformer.

3,542,995

MEASUREMENT AND CONTROL OF FOCUS IN ELECTRON BEAM WELDING

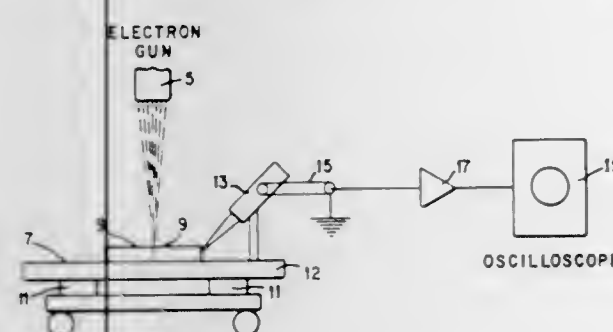
Robert A. Boone, Columbus, and Paul Cortland, Cincinnati, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed June 3, 1969, Ser. No. 829,955

Int. Cl. B23k 15/00

U.S. Cl. 219—121

4 Claims



A system is provided for focusing an electron welding beam on a workpiece. Focusing is controlled by monitoring the output from an electro-mechanical transducer mounted to sense the vibrations set up in the workpiece by the impact of the electron beam striking the workpiece. When the focal point of the beam is directed at the surface of the workpiece the output signal from the transducer has a distinctive low amplitude and high frequency.

3,542,996

AUTOMATIC CONTROL SYSTEM FOR ANGULAR AND PLANAR ELECTRODE ORIENTATION

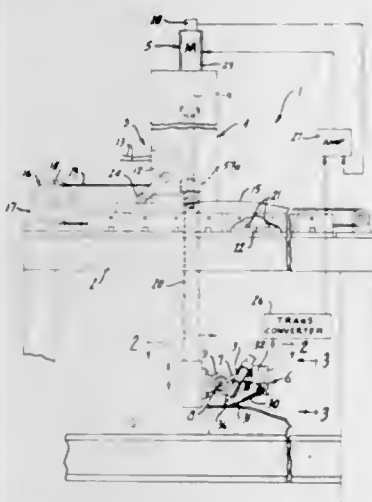
John G. Bullinger and Howard L. Harrison, Madison, Wis., and Michael A. Stankey, Rockford, Ill., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Original application Apr. 18, 1966, Ser. No. 543,180, now Patent No. 3,452,180, dated June 24, 1969. Divided and this application Apr. 9, 1969, Ser. No. 814,708

Int. Cl. B23k 9/12

U.S. Cl. 219—125

5 Claims



A weld electrode tracking system for welding overlapping edges includes a water cooled copper probe riding on one edge. The probe is pivotally mounted and extends

to within .12 to .78 inch of the arc. A linear variable differential transformer has a spring loaded core engaging the probe and generating analog voltage connected to energize an electrode motor for positioning the electrode with respect to the workpiece. An independent signal source includes a cam curved in accordance with the angle in the weld plane and a follower to maintain the proper angle at which the electrode is fed to the weld arc.

3,542,997

NON-SHIELDED ARC WELDING

Takuro Kobayashi, Sendai-shi, Japan, assignor to Nippon Kokan Kabushiki Kaisha, a corporation of Japan
No Drawing. Filed Dec. 12, 1967, Ser. No. 689,806
Claims priority, application Japan, Dec. 14, 1966, 41/81,642

Int. Cl. B23k 35/00

U.S. Cl. 219—145

3 Claims

An improvement relating to method and electrode for non-shielded arc welding making possible to perform under an atmosphere without any pore and crater by using said electrode alloying with one or more of special elements like Ti, Zr, Nb, Ta, Va, V, and Ce are made to include in 0.03% and more, and making aluminium larger form on the surface of said electrode.

3,542,998

CORED ELECTRODE FOR WELDING IN AIR

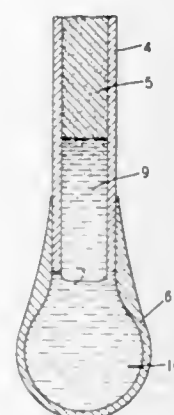
John A. De Huff, Murray Hill, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed June 7, 1967, Ser. No. 644,215

Int. Cl. B23k 35/22

U.S. Cl. 219—146

13 Claims



A continuous cored electrode, and method of use thereof, for electric arc welding in an air atmosphere. The electrode is constructed of a metallic sheath with the center portion filled with granular materials including slag forming ingredients which melt during the welding operation while inside the solid electrode and then flow to the exterior of the electrode to form a film over the hot electrode to act as a physical liquid shield against the surrounding atmosphere.

3,542,999

METAL STRIP HEATING APPARATUS

Józef Dudek, Jan Goczał, Jan Golek, Karol Jezierski, Lesław Kus, and Kazimierz Markiewicz, Gliwice, Poland, assignors to Instytut Metalurgii Żelaza Im. Stanisława Staszica, Gliwice, Poland, a corporation of Poland

Filed Nov. 27, 1967, Ser. No. 685,858

Claims priority, application Poland, Dec. 13, 1966, 117,948

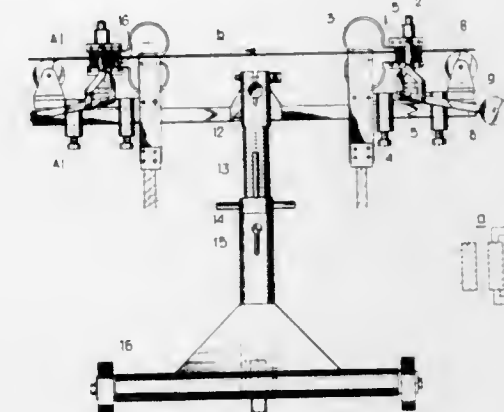
Int. Cl. C21d 9/62; H05b 1/00

U.S. Cl. 219—155

4 Claims

Apparatus for the heating of a strip shifted between two machine sets of a production line, by means of an electric current passing between two flat electrodes mu-

tually spaced apart and contacting the strip. The electrodes are two brushes supplying the current to the shifting strip, in order to heat it up to a temperature suitable for a determined heat treatment process, e.g. for harden-



ing. The brushes are arranged in guides fitted on a movable mount and pressed against the strip with a controlled pressing force, in order to enable a free motion of the strip while supplying the current without sparking at the contact points.

3,543,000

APPARATUS FOR REMOVING A SUPPORT FOR A FUSIBLE PATTERN ASSEMBLY AND METHOD OF REMOVAL

Henry W. Soller, Dover, N.J., assignor to

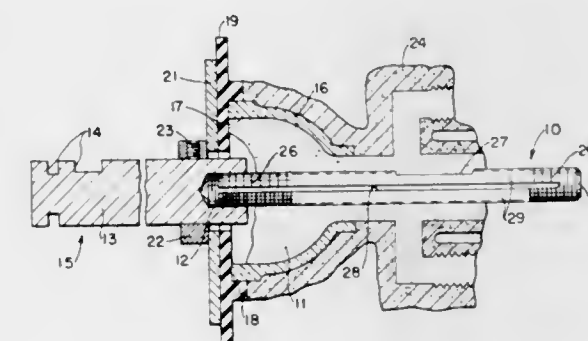
Howmet Corporation

Filed June 12, 1968, Ser. No. 736,439

Int. Cl. C21d 1/40; H05b 1/00

U.S. Cl. 219—162

2 Claims



This disclosure relates to an apparatus for removing a support embedded in a fusible pattern assembly which support is constructed to facilitate its removal from the pattern and also relates to the method of removal. The apparatus includes means for electrically heating the assembly support which support is an elongated metallic element having an electrically conductive path passing substantially throughout the element to rapidly heat a substantial portion of the element causing the fusible pattern material to soften and release the support.

3,543,001

HEAT ACCUMULATION APPARATUS FOR HEAT EMITTING UNITS AT TEMPERATURES ABOVE 100° C.

Axel Nore Alexander Axlander, 47 Ostermalmgatan, S-114 26 Stockholm, Sweden

Filed Nov. 15, 1968, Ser. No. 776,167

Claims priority, application Sweden, Dec. 6, 1967, 16,777/67

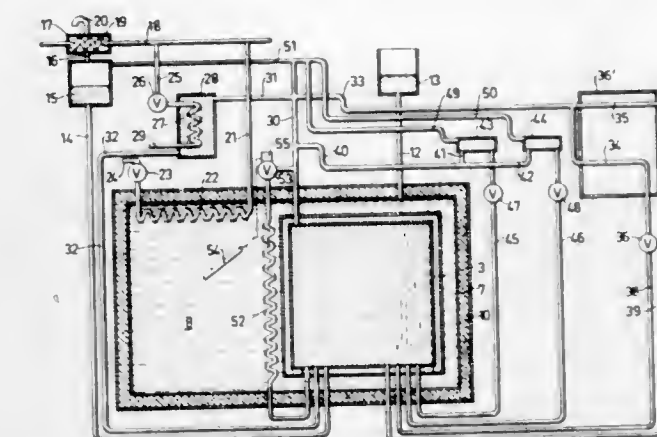
Int. Cl. F24h 7/02

U.S. Cl. 219—326

7 Claims

A heat accumulation apparatus comprising an elec-

trically heated container filled with a high boiling liquid and communicating with an expansion vessel, heat emit-



ting units and control valves being inserted in liquid circulation circuits connected to said container.

3,543,002

QUARTZ HEATER PACK

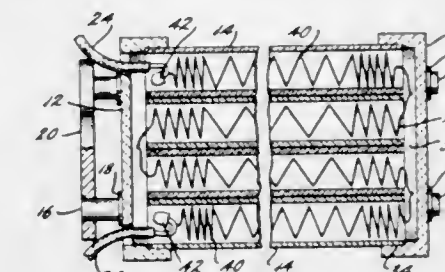
Richard R. Poole, Norwalk, Conn., assignor, by mesne assignments, to Milletron Incorporated, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 20, 1968, Ser. No. 706,830

Int. Cl. H05b 3/44

U.S. Cl. 219—354

8 Claims



A high intensity quartz heater pack capable of use as a module for radiant heating of hollow process rolls. The heater pack comprises several parallel quartz tubes assembled in touching contact between a pair of ceramic end caps. A unitary coiled electrical resistance wire passes from tube to tube by way of a groove in the ceramic end caps. The resistance wire is constructed of variable relative pitch so that more radiant heat is emitted from the tube ends and outside tubes than from the central portion of the middle tubes.

3,543,003

ELECTRIC BASEBOARD HEATER UNITS

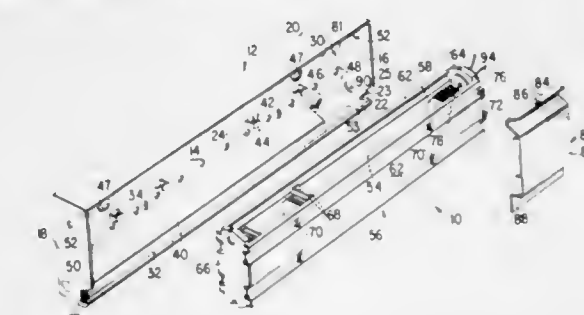
Richard E. Dincher and George G. England, Skaneateles, and Robert W. Rogers, Auburn, N.Y., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Sept. 4, 1968, Ser. No. 757,240

Int. Cl. H05b 3/50

U.S. Cl. 219—366

4 Claims



An electrically energized elongated baseboard heater including an elongated housing and provisions for mounting the housing on a wall. The baseboard heater includes

3,543,012

UNIVERSAL DIGITAL FILTER AND FUNCTION GENERATOR

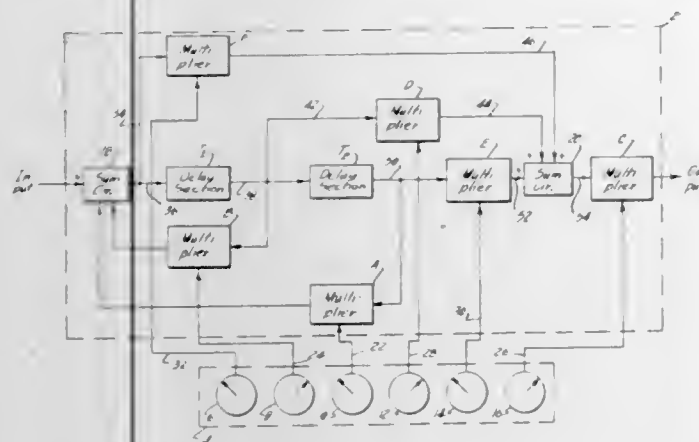
John E. Courtney, Haddonfield, N.J., assignor, by mesne assignments to the United States of America as represented by the Secretary of the Navy

Filed July 10, 1968, Ser. No. 743,735

Int. Cl. G06b 15/34

U.S. Cl. 235—197

3 Claims



An adjustable digital filter and function generator comprised of logic elements and control means. The control means may be adjusted so that the combination functions to filter digital information within a selected range or to generate a selected function.

3,543,013

IRRIGATION HEAD

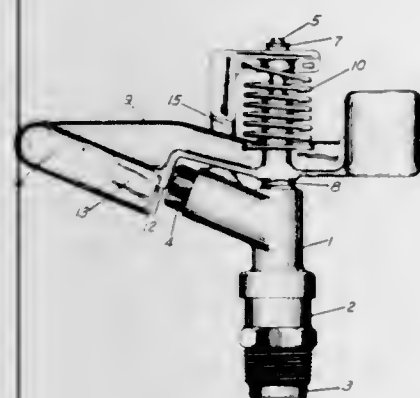
George H. Lockwood, 2125 NE. 27th Drive, Wilton Manors, Fort Lauderdale, Fla. 33306

Filed Jan. 17, 1968, Ser. No. 698,479

Int. Cl. B05b 3/02

U.S. Cl. 239—230

3 Claims



An irrigation head of the impact arm type having the arm pivot spindle in the form of a piston. When operating water pressure is applied, the resulting motion of the arm pivot spindle causes the impact arm to be raised. The impact arm is so shaped that in the inoperative position a projection from the arm covers the discharge orifice of the nozzle. When the impact arm is raised to the operating position the nozzle orifice becomes unobstructed.

3,543,014

BURIED PANEL-ILLUMINATING INSTALLATION

Ronald K. Bustad, Bellevue, Wash., assignor to Farwest Electronics, Inc., Bellevue, Wash., a corporation of Washington

Filed May 6, 1968, Ser. No. 726,824

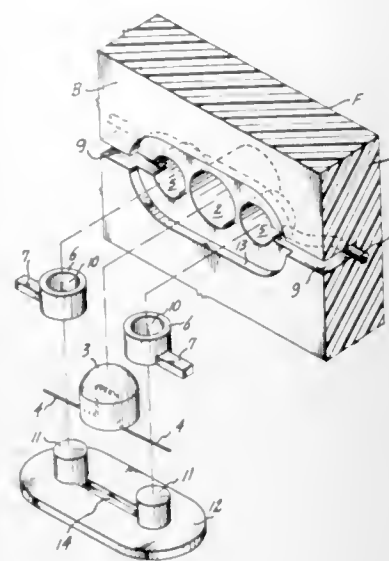
Int. Cl. F21v 19/00

U.S. Cl. 240—2

12 Claims

In a panel cavity, a miniature light bulb is received having leads projecting from such cavity into sockets at opposite sides of the cavity, respectively. Apertured termi-

nals of supply wires are fitted in such sockets and the light bulb leads extend into the terminal apertures. The panel surface toward which the cavity and sockets open



inals of supply wires are fitted in such sockets and the light bulb leads extend into the terminal apertures. The panel surface toward which the cavity and sockets open

3,543,015

ILLUMINATED PUSHBUTTON SWITCH

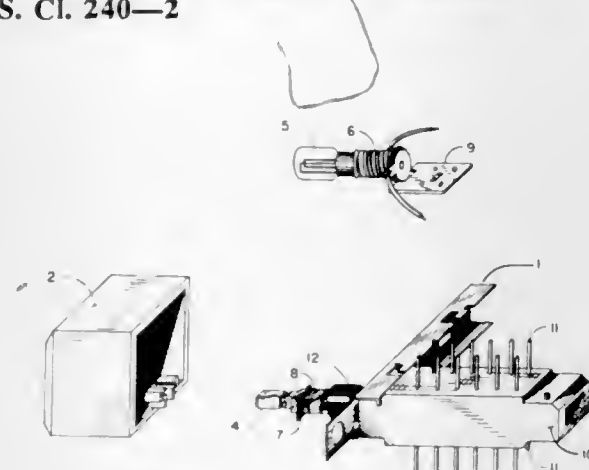
Richard G. Traversa, West End, Long Branch, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey

Filed May 27, 1968, Ser. No. 732,184

Int. Cl. F21v 33/00; H01h 3/12

U.S. Cl. 240—2

1 Claim



A low cost illuminated pushbutton switch assembly wherein the lamp or illuminating device is supported directly by the contact elements on the body of a pushbutton switch assembly. A transparent pushbutton is press fit onto the pushbutton control element and overfits the illuminating device.

3,543,016

FLOODLIGHT MOUNTING DEVICE

Robert L. Jones, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York

Filed Mar. 8, 1968, Ser. No. 711,593

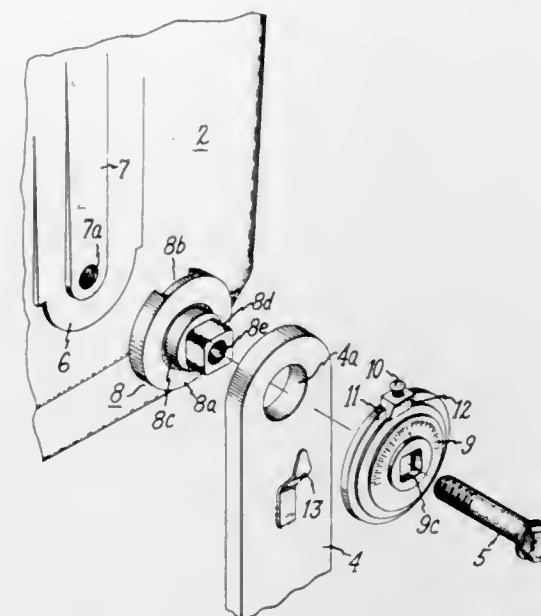
Int. Cl. F21p 5/00

U.S. Cl. 240—3

6 Claims

The support bracket of the floodlight is mounted on side wall of the floodlight by a separable trunnion pivot bearing having on its inner side a groove fitting over a complementary ridge on the wall to prevent rotation of the pivot bearing and having on its outer side a circular

bearing on which the support bracket may rotate and a polygonal hub projecting from the circular bearing on which a degree scale fits for retention in a position fixed



relative to the floodlight. The parts are held in assembly by a bolt extending into a threaded aperture in the floodlight wall with which the parts are axially aligned.

3,543,017

LIGHTING ARRANGEMENT FOR KEYBOARD INSTRUMENTS

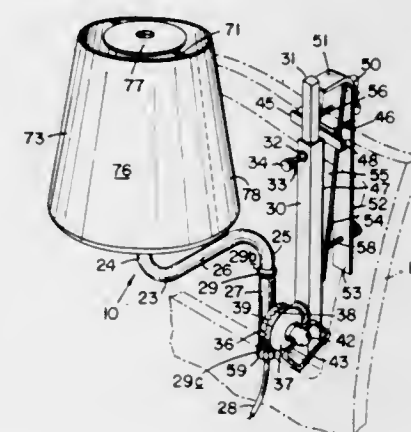
Sergei I. Mihailoff, 2820 Baker St., San Francisco, Calif. 94123

Filed June 28, 1968, Ser. No. 741,000

Int. Cl. F21v 33/00, 21/08

U.S. Cl. 240—4

18 Claims



A piano lamp fixture. A shade or shield provides an opaque portion which protects the player's eyes from the direct light of its bulb, while the light shines on the music rack and on the keyboard. Each lamp fixture has a clamp secured to the piano; a pair of generally vertical members lie one on each side of a piano portion. A tube telescopically mounted to one of these members has a set member to lock the tube in any of several positions relative to its companion member. A swivel clamp has a member secured to the lower end of the tube and attached to a second engaging member for relative rotation about a horizontal axis and lockable to it in any rotational position. A vertical swivel socket is secured to the second engaging member, and a crank-shaped lamp-supporting arm has a lower vertical portion fitting snugly and rotatably in the swivel socket and a horizontally offset upper vertical portion supporting a lamp

bulb socket at its upper end. The height of the lamp socket is adjusted by the tube, the angle of inclination of the vertical portions of the arm is adjustable by the swivel clamp to enable the horizontal portion of the arm to be parallel to the keyboard, and the lamp bulb socket is movable toward and away from the vertical centerline of the music rack by swiveling the lower vertical portion in the swivel socket.

3,543,018

REARVIEW MIRROR WITH MAP LIGHT

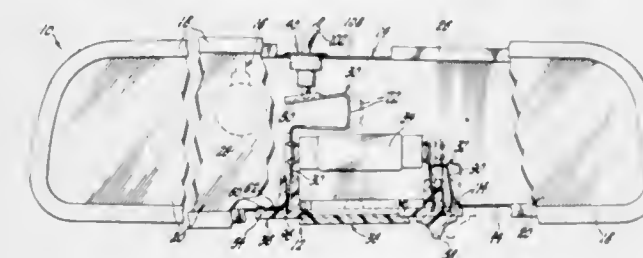
Edward L. Barcus and David P. Clayton, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 6, 1968, Ser. No. 750,504

Int. Cl. B60g 3/02; F21v 33/00

U.S. Cl. 240—4.2

6 Claims



A rearview mirror for use in a motor vehicle wherein a lamp assembly is received within a slot formed in the bottom surface of the mirror housing and is slidable therewithin between detented "on" and "off" positions. A light source is spring mounted between two mounting clip contacts, one of which slidably contacts a conductor that is connected to an electrical power source and the other of which includes a resilient grounding finger that engages the side of the housing in the "on" position to form a ground connection therebetween and thereby illuminate the light source. Illumination is directed outwardly of the housing through a lens mounted in the lamp assembly.

3,543,019

EQUIPOSED LAMP

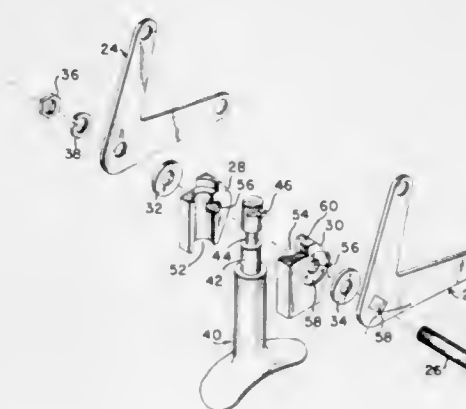
Jacob Jacobsen, Ekelyveien 10, Oslo, Norway

Filed Nov. 17, 1967, Ser. No. 683,931

Int. Cl. F21s 1/12

U.S. Cl. 240—81

10 Claims



An equiposed lamp is disclosed having a light and shade assembly from a vertical axis upon an arm structure so as to be moved throughout a relatively wide range. The light and shade assembly is attached to the arm structure by a special neck which permits the assembly to

be swung around a horizontal axis, and also to pivot around an axis longitudinal of the neck.

3,543,020

ANTI-CORNERING PROTECTION FOR RAILROAD CLASSIFICATION YARDS

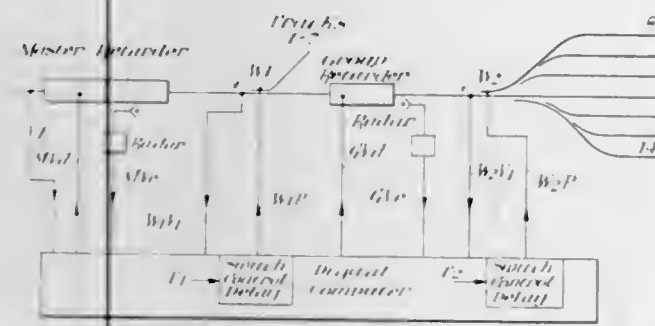
George F. McGlumphy, Wilkins Township, Allegheny County, and Crawford E. Staples, Edgewood, Pa., assignors to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania

Filed Mar. 13, 1968, Ser. No. 712,739

Int. Cl. B611 7/08

U.S. Cl. 246—1

10 Claims



As a cut traverses a switch in a classification yard, a time interval is computed as a product of the distance to clearance beyond that switch and the difference between the reciprocals of the speeds of that cut and the following cut, where the following cut speed is greater. During this time interval, delivery of a diverging route switch control for the following cut is delayed. If the following cut enters the switch detector section prior to expiration of computed time delay, the switch is locked to prevent a diverging movement which would result in a cornering accident.

3,543,021

ULTRAVIOLET AIR STERILIZER AND OZONE GENERATOR

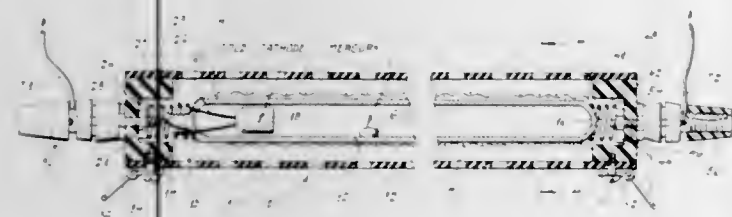
Frederick Scarborough, Sr., 310 Elm St., Northampton, Mass. 01060

Filed Jan. 16, 1967, Ser. No. 609,407

Int. Cl. H01j 11/00

U.S. Cl. 250—43

1 Claim



An air sterilization device having concentric tubes, including an inner glass tube, transparent to ultraviolet rays, containing mercury vapor; an intermediate metal mesh tube, and an outer perforated plastic tube. One end of the inner tube is operatively connected to one end of a source of high voltage electric motive force. One end of the intermediate metal tube is connected to the other end of the electric source. The ozone and ultraviolet rays pass through the intermediate and outer tube and have a germicidal effect on ambient air.

According to modifications, the device may be used for filtering smoke from chimneys and may be used in removing harmful gases from vehicle exhaust pipes.

METHOD AND APPARATUS FOR CHARGING DISCRETE SMALL AREAS OF XEROGRAPHIC PLATES TO DIFFERENT POTENTIALS IN CONTINUOUS TONE PRINTING

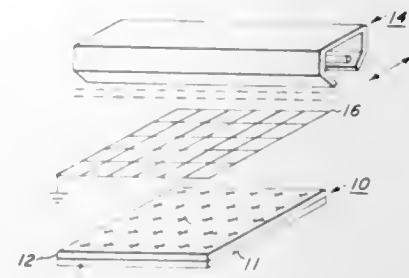
John H. Lennon, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed July 1, 1966, Ser. No. 562,237

Int. Cl. G03g 13/02, 15/02

U.S. Cl. 250—49.5

40 Claims



A system for charging a xerographic plate wherein a multiplicity of small discrete alternating areas of charge at two different potentials of substantially different values (which includes areas at different polarities) are deposited on a xerographic plate thereby facilitating solid area coverage in developed xerographic images.

3,543,023

METHOD OF ESTABLISHING AN ELECTRICAL CHARGE ON A CONDUCTIVE INTERLAYER UNCONNECTED TO A POTENTIAL SOURCE

Wilbur Yellin, Okeana, Ohio, and John W. Weigl, West Webster, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 136,561,

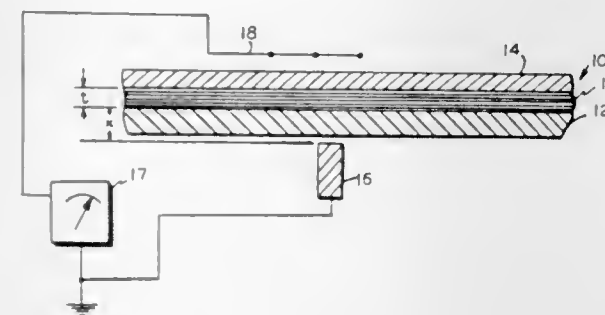
Sept. 7, 1961. This application Nov. 21, 1966, Ser.

No. 606,492

Int. Cl. G03g 13/02

U.S. Cl. 250—49.5

5 Claims



A method and its associated apparatus, for electrostatic electrophotography whereby a charge is imparted on a conductive interlayer of electrographic material without direct mechanical contacting.

3,543,024

GLANCING-INCIDENCE RADIATION FOCUSING DEVICE HAVING A PLURALITY OF MEMBERS WITH TENSION-POLISHED REFLECTING SURFACES

Frederick W. Kantor, 610 W. 114th St., New York, N.Y. 10025

Filed Feb. 3, 1967, Ser. No. 613,858

Int. Cl. G01t 1/00

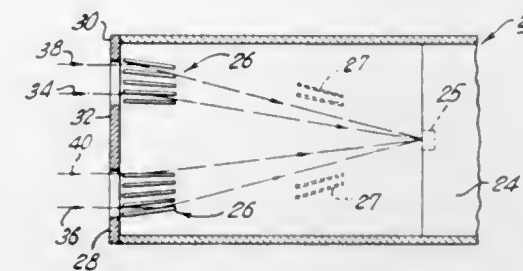
U.S. Cl. 250—53

9 Claims

Glancing-incidence short wave-length radiation focusing system utilizing extremely smooth "tension-polished" reflecting surfaces. The surfaces are formed quite inex-

pensively by slowly thickening a liquid of low viscosity, such as molten glass, to an extremely high viscosity, thus

the converted image so that the visible image has an increased mean brightness and its contrast is converted into a variation in color which can very distinctly be observed.



3,543,025

ELECTRORADIOGRAPHIC X-RAY SENSITIVE ELEMENT CONTAINING TETRAGONAL LEAD MONOXIDE

Oris L. Stanton, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 12, 1968, Ser. No. 775,193

Int. Cl. G03b 41/16

U.S. Cl. 250—65

20 Claims

Electroradiographic elements containing, as a photoconductor, tetragonal lead monoxide prepared by heating orthorhombic lead monoxide in an aqueous solution containing carbonate ions and subjecting the material to a post heat treatment are sensitive to X-radiation and useful in electroradiography.

3,543,026

DEVICE FOR CONVERTING CONTRAST OF X-RAY IMAGE INTO COLOR DIFFERENCE WITH INTENSIFIED BRIGHTNESS

Tadao Kohashi, Yokohama, and Kazunobu Tanaka and Norio Suzuki, Kawasaki-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Oct. 18, 1968, Ser. No. 768,748

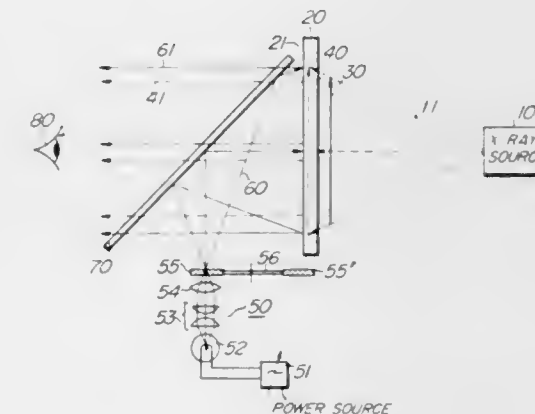
Claims priority, application Japan, Oct. 26, 1967,

42/70,057

Int. Cl. G01d 7/06

U.S. Cl. 250—77

6 Claims



A device for converting an X-ray image for the observation of the same having X-ray image conversion and display means and light source means for biasing illuminating the display surface of the X-ray image conversion and display means with a beam of light bearing a color which differs from the color emitted from the display surface. In the device, a converted visible image responsive to an X-ray image is superposed by the biasing light of a color which differs from the color emitted from the display surface.

3,543,027

ELECTRONIC SORTING DEVICE HAVING IMPROVED AUTOMATIC CALIBRATION MEANS

Harold Millman Butterworth, Henry Albert Nickless, and Louis Maule-Cole, Sussex, England, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 20, 1968, Ser. No. 706,839

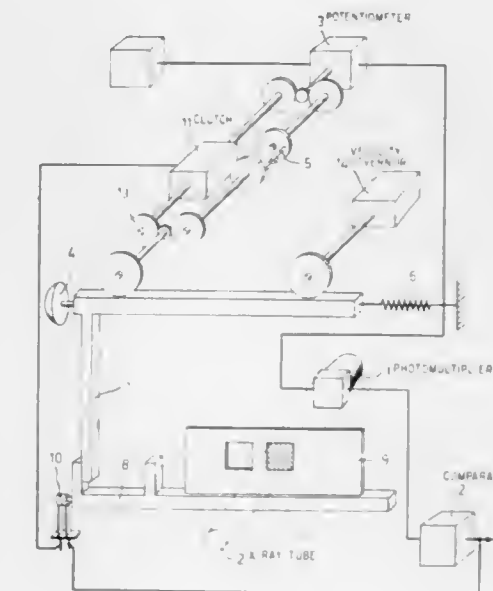
Claims priority, application Great Britain, Feb. 20, 1967,

7,884/67

Int. Cl. G01t 1/16

U.S. Cl. 250—83

11 Claims



Apparatus for automatically calibrating the gain potentiometer of an electronic sorting device includes an electromagnetic clutch for selectively coupling the potentiometer to a spring biased handle. The handle is coupled to the potentiometer so that movement of the handle to an end position moves the pot arm to an extreme position also. A comparator energizes the clutch as the handle is urged to its rest position by the spring. The comparator deenergizes the clutch at the correct calibration point, disengaging the potentiometer from the handle, which moves on until it reaches its rest position.

3,543,028

HEMISPHERIC SEARCH DETECTORS FOR BODIES EMITTING SPECTRUM RADIATION

Robert Clark Jones, Cambridge, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 29, 1958, Ser. No. 712,051

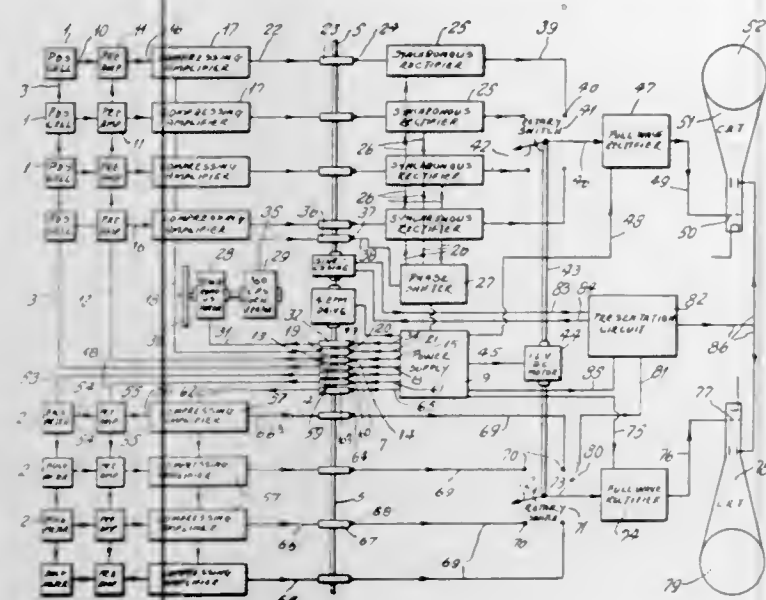
Int. Cl. G01s 3/78

U.S. Cl. 250—83.3

18 Claims

1. A hemispheric search detector for a body emitting spectrum radiation, which comprises a hemispheric scanning device rotatable about an upright axis and focusing spectrum radiation received from any source during such rotation upon one of a plurality of cells whose conductivity varies in accordance with the radiation incident thereon and arranged in succession in a row, the particular cell on which the radiation is focused depending upon the inclination of the radiation received, circuit means for passing an electric current through each of said cells for modification by the conductivity of that cell, means for amplifying the current through each cell, a full wave rectifier, switch means for passing said amplified currents from said circuit means in succession and repetitively through said full wave rectifier, a cathode ray picture

tube having a viewing screen, an electron beam deflector means and a brightness electrode, means electrically connecting the output of said rectifier to the brightness electrode of said tube, and presentation means connected to



said switch means and providing a saw tooth scan signal that places the modified signals from the cells in different radii of the screen of said tube and controls said beam deflector means of said tube.

3,543,029

HOT BOX DETECTOR FOR RAILWAY ROLLING STOCK

Brian Porter, Stevenage, Lionel Raymond Frank Thompson, Hatfield, and Leslie Bullock, Ware, England, assignors to Hawker Siddeley Dynamics Limited, Hatfield, England, a British company

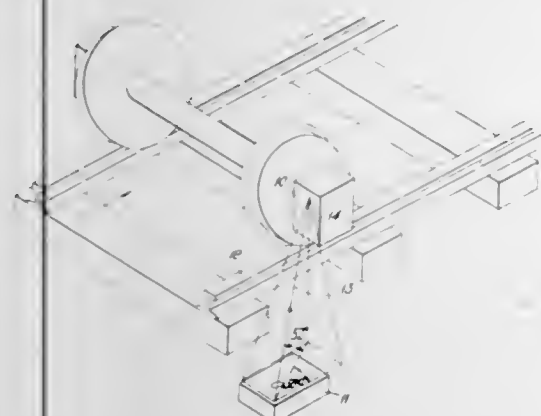
Filed June 12, 1968, Ser. No. 736,313

Claims priority, application Great Britain, June 15, 1967, 27,635/67

Int. Cl. G01k 7/16, 13/12

U.S. Cl. 250—83.3

10 Claims



Apparatus is provided for the detection of overheated axle boxes on railroad locomotives and rolling stock, in which a detector unit is mounted alongside the track and "looks" upwards along a slant line at the leading or trailing faces of the axle boxes as they pass. The detector unit contains an infra-red sensitive indium antimonide photoconductive cell with a sensitive area in the form of a narrow rectangle elongated horizontally. The viewing beam is folded by means of two reflecting mirrors one of which is planar and of stainless steel and has various positional settings on the unit, while the other, which is protected inside a sealed window, is a powered mirror for focusing purposes. The optical system is arranged to project an additionally elongated image of the sensitive area of the cell on to each axle box while maintaining the direction of elongation horizontal. The final section of the viewing beam that impinges on the axle box face has an

elevation angle from the horizontal in the range 45° to 55° and a "toe-in" angle in the range 15° to 45°; the "toe-in" angle is that angle between the vertical plane containing the beam and the vertical plane of the track rail.

3,543,030

X-RAY APPARATUS HAVING A CURRENT MEASURING CIRCUIT WITH CAPACITY CURRENT COMPENSATION

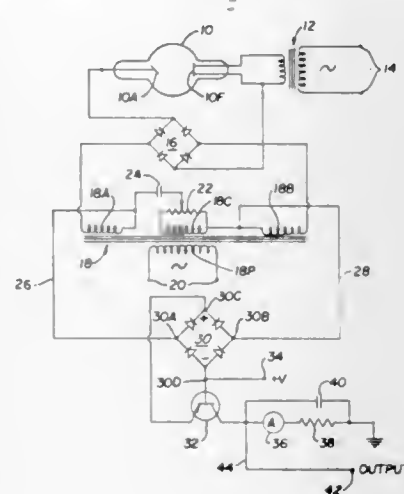
Walter E. Splain, Solon, Ohio, assignor to Picker Corporation, White Plains, N.Y., a corporation of New York

Filed Feb. 28, 1968, Ser. No. 708,963

Int. Cl. H05g 1/32

U.S. Cl. 250—103

6 Claims



In an X-ray apparatus high-voltage transformer, capacity-current compensating means are connected in series with the usual transformer secondary windings. Low impedance measuring means are connected across the compensating means. Means are provided for supplying a signal for external control apparatus without changing the effective input impedance of the measuring means.

3,543,031

DEVICE AND PROCESS FOR IMAGE STORAGE

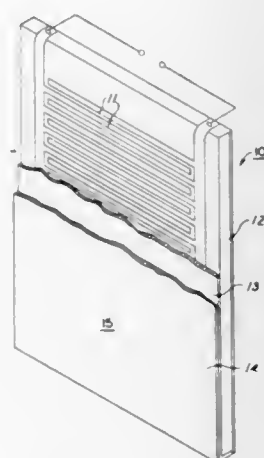
Benjamin Kazan, Pasadena, and John S. Winslow, Altadena, Calif., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 514,860, Dec. 20, 1965. This application Sept. 29, 1966, Ser. No. 582,856

Int. Cl. H01l 17/00

U.S. Cl. 250—213

48 Claims



This application relates to a solid state storage device having a plurality of spaced electrodes, electroluminescent material including at least one portion forming part of an electrical connection between said spaced electrodes, and a layer of field-effect semiconductor material overlying said electroluminescent material and forming a successive part of said electrical connection, said panel having a

charge-retaining surface; and means for forming an electrostatic charge pattern on said charge-retaining surface, said charge pattern controlling by field-effect the current flow between said spaced electrodes.

3,543,032

DEVICE AND PROCESS FOR AMPLIFYING AND STORING AN IMAGE

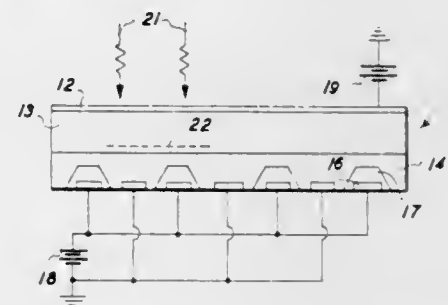
Benjamin Kazan, Pasadena, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 715,807, Mar. 25, 1968. This application May 6, 1968, Ser. No. 728,102

Int. Cl. H01l 17/00

U.S. Cl. 250—213

30 Claims



This application relates to an image intensifier having at least two energizing electrodes, and an electroluminescent phosphor layer and a field-effect semiconductor layer in series across said electrodes. A charge pattern applied to the field-effect semiconductor layer is employed to control the light output from the electroluminescent material. Techniques for imaging are also disclosed.

3,543,033

PHOTOELECTRIC DEFECT DETECTOR WHICH DETERMINE COORDINATE OF DEFECT BY MAGNITUDE OF SCANNING VOLTAGE AND CURRENT AT POSITION OF DEFECT

Claude Brichard, 11 Rue Dewiest, Jumet, Belgium

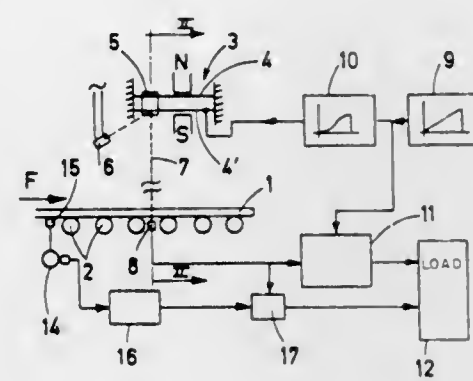
Filed Oct. 30, 1968, Ser. No. 771,862

Claims priority, application Netherlands, Oct. 31, 1967, 54,776

Int. Cl. G01n 21/16

U.S. Cl. 250—219

43 Claims



There is disclosed a process and an apparatus for determining at least one of the coordinates of a defect in sheet material of determinate or indeterminate length. A luminous beam or electronic beam is scanned across successive bands of the sheet material. The displacement of the scanning beam along each band is controlled directly or indirectly by an electrical factor such as voltage or current whose magnitude varies in the same direction during each scan. As the beam encounters a defect during its scan the magnitude of the electrical factor will deviate in response to this defect. The measurement of this deviation of magnitude will indicate a coordinate of the defect.

880 O.G.—54

3,543,034 X-RAY IMAGE TRANSDUCER TUBE HAVING CRENELATED FLUORESCENT LAYER AHEAD OF SOLID-STATE IMAGE INTENSIFIER

Jack Finkle, 918 E. 14th St., Brooklyn, N.Y. 11230

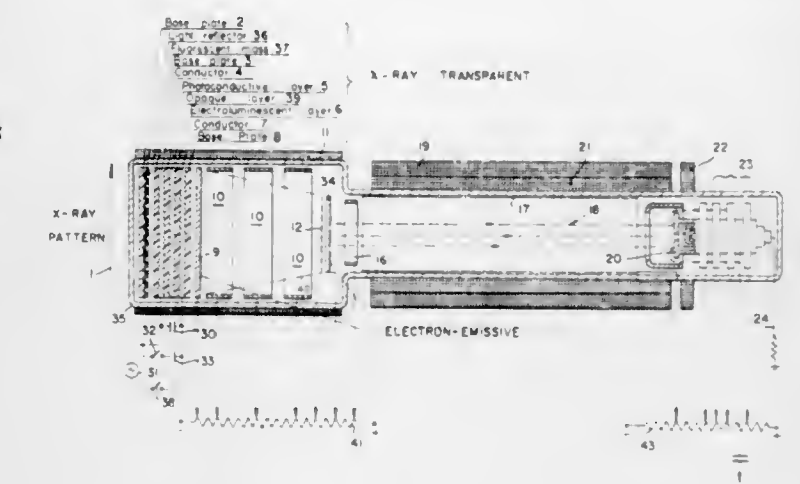
Continuation-in-part of applications Ser. No. 306,897, Sept. 5, 1963, and Ser. No. 459,529, May 24, 1965.

This application Mar. 14, 1969, Ser. No. 807,201

Int. Cl. H01j 31/50

U.S. Cl. 250—213

6 Claims



An evacuated envelope contains, at an entrance end transparent to incident X-rays, a receiving unit for X-rays ahead of an image-intensifier structure responsive to both ultraviolet and luminous radiation for emitting an electron beam conforming to the intensity pattern of the incident X-rays, the receiving unit being transparent to X-rays and including a crenelated light-reflecting layer with forwardly facing depressions occupied by a fluorescent mass which, on being excited by the incident X-rays, emits concentrated bundles of light rays which reach the intensifier together with the generating X-rays.

3,543,035

APPARATUS FOR REMOVING DEFECTIVE AREAS FROM MATERIALS INCLUDING SCANNING MATERIALS WITH PHOTOCELL HAVING TWO SECTIONS

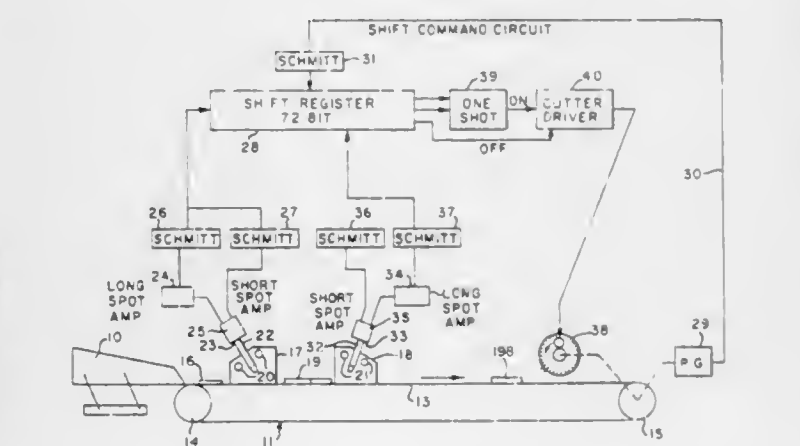
George W. Raye, Noroton, Conn., Henry J. Dumas, Jr., Framingham, Mass., and Lloyd N. Duncan, Caribou, Maine, assignors, by mesne assignments, to American Kitchen Foods, Inc., Greenwich, Conn., a corporation of Delaware

Filed Mar. 9, 1966, Ser. No. 533,037

Int. Cl. G01n 21/16

U.S. Cl. 250—223

28 Claims



ments. Each article is turned over as it travels from one viewing station to the other so that all sides are exposed. A moving image of each article is projected on a photoconductive cell having series arranged elements to provide small spot detection on a differential basis and large spot detection on a parallel or average basis. The outputs of the photocells are used to control actuation of a cutter for separating from each article portions of the articles having defects thereon.

3,543,036

HYDROSPACE ENERGY CONVERTER

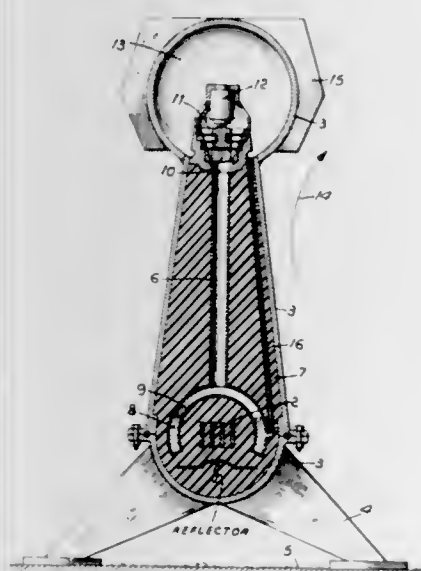
Charles P. Majkrzak, Nutley, N.J., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware

Filed July 31, 1967, Ser. No. 657,218

Int. Cl. F01d 15/10

U.S. Cl. 290—2

10 Claims



An arrangement is provided for converting energy of radiation from a radio-isotopic energy source into useful electrical energy using a mercury-vapor turbogenerator system, as the converter, to produce a submersible oceanographic power supply independent of the atmosphere for its operation.

3,543,037

LOAD DISCONNECTING DEVICE FOR AN ALTERNATOR ADAPTED FOR ROTATION AT VARYING SPEED

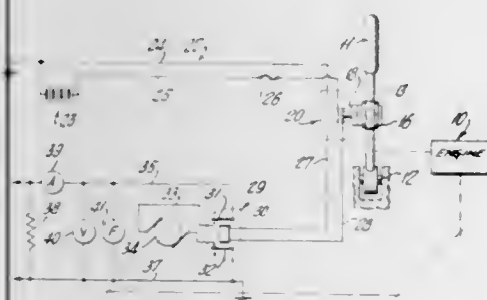
Norman F. Baldwin, 900 Harbor Drive, Key Biscayne, Fla. 33149

Filed Mar. 12, 1969, Ser. No. 806,539

Int. Cl. H02p 9/00

U.S. Cl. 290—7

5 Claims



An auxiliary alternator driven at varying speeds by a prime mover, the speed of said prime mover being governed by a speed selector, the alternator being connected

to a load only when the speed selector is in a position corresponding to a speed which has been preselected as producing a desired alternating current frequency.

3,543,038

ELECTRICAL APPARATUS FOR SLOWLY TURNING THE ROTOR OF AN ELECTRICAL MACHINE

Walter Putz and Anton Lampert, Mulheim (Ruhr), Germany, assignors to Licentia Patent-Verwaltungs G.m.b.H., Frankfurt am Main, Germany

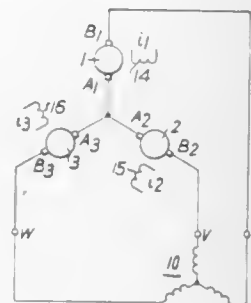
Filed Jan. 30, 1968, Ser. No. 701,685

Claims priority, application Germany, Feb. 20, 1967, L 55,777

Int. Cl. H02p 9/14

U.S. Cl. 290—38

5 Claims



Electrical apparatus for slowly turning the rotor of an electrical machine, such as the main shaft of a turbogenerating plant. The apparatus comprises a polyphase—usually a three-phase—electric motor, the rotor of which is attached to or forms a part of the shaft to be turned, and a power source connected to this electric motor for producing three-phase power at a frequency substantially less than the 60 Hertz power which is the frequency of the usually available power. This power source includes three D.C. generators in Y connection the field windings of which are excited by three-phase power of the desired frequency.

3,543,039

DELAY CIRCUIT FOR ENGINE STARTER MOTOR

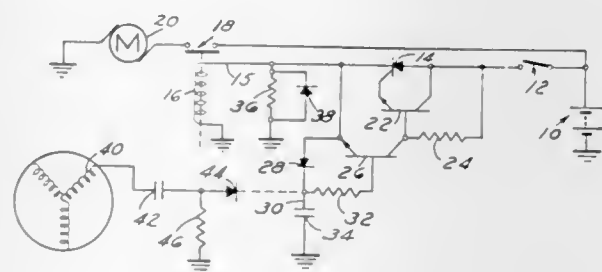
Jacques Mosier, Ypsilanti, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed July 26, 1968, Ser. No. 747,939

Int. Cl. F02n 11/00

U.S. Cl. 290—38

3 Claims



A capacitor connected to the starter relay lead between a silicon controlled rectifier and the relay coil is charged whenever the starter relay is actuated. Transistorized circuitry utilizes the capacitor charge to hold the controlled rectifier in a nonconducting state for about four seconds following each starter actuation. Such circuitry can include a field effect transistor. The capacitor also can be charged by the engine alternator to prevent starter actuation while the engine is operating.

3,543,040 THEFT-PROOFING IGNITION LOCK FOR AUTOMOBILES

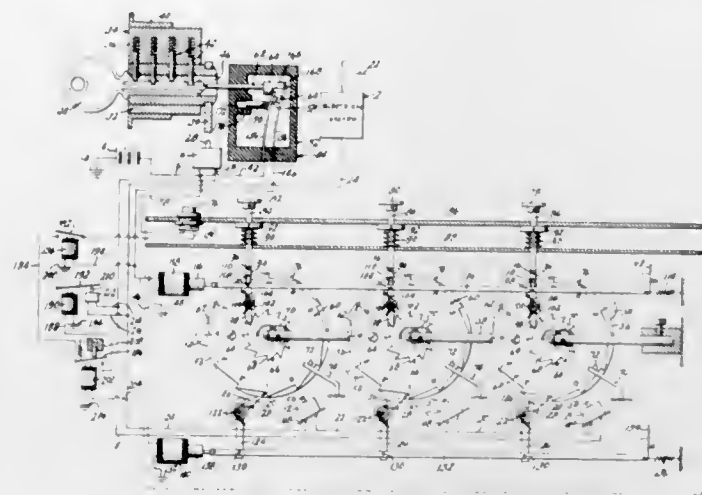
Nicholas C. Nemeth, 7324 Beverly, Overland Park, Kans. 66204

Filed Jan. 10, 1969, Ser. No. 790,411

Int. Cl. H02g 3/00

U.S. Cl. 307—10

8 Claims



In an automotive vehicle having an ignition circuit rendered operable by the closing of an ignition switch operable by a key lock, the combination of a plurality of normally open electric safety switches connected in series in said ignition circuit, means responsive to a coded number of operations of a push button to close each of said safety switches, electrically operable means for opening all of said safety switches and means operable by the withdrawal of the key from said ignition switch lock to energize said switch opening means.

3,543,041

INSTALLATION FOR THE HYDRAULIC ACTUATION OF ADJUSTING MECHANISM IN VEHICLES, ESPECIALLY IN MOTOR VEHICLES

Werner Breitschwerdt, Stuttgart-Botnang, and Rudolf Andres, Sindelfingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

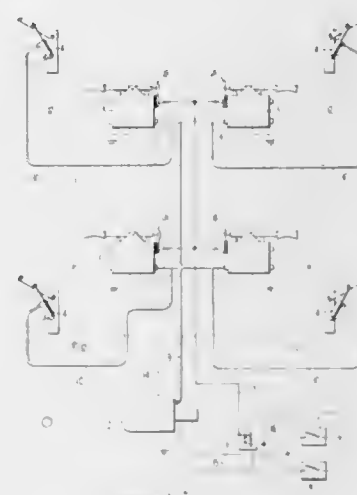
Filed June 12, 1968, Ser. No. 736,384

Claims priority, application Germany, June 14, 1967, 1,630,299

Int. Cl. E05f 15/08

U.S. Cl. 307—10

15 Claims



An installation for the hydraulic actuation of adjusting mechanisms in vehicles, especially in motor vehicles, in which the fluid pressure pump is driven by an electric motor; the latter is connected in an energizing circuit which includes a control relay, turning on and off the driving motor whereby the control relay, in turn, is controlled by

electric switches, actuated by manual switches of the adjusting mechanisms as well as by the ignition switch and by a time-delay switch connected in parallel with the ignition switch.

3,543,042

METHODS AND APPARATUS FOR MONITORING AND CONTROLLING A TOOL IN A BOREHOLE

Herbert J. Hart, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

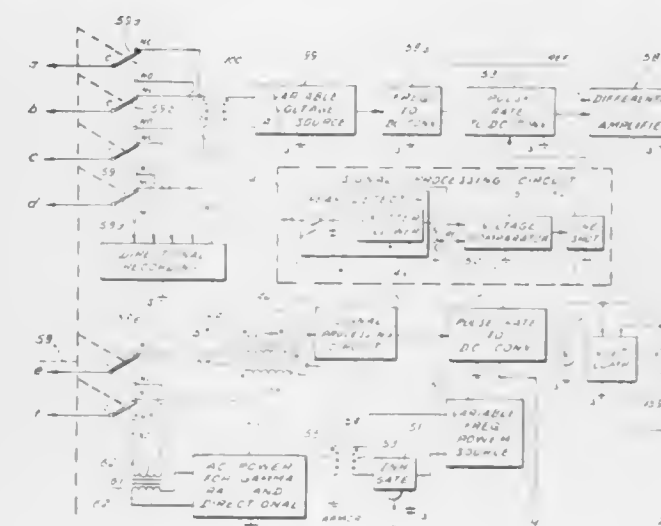
Original application June 29, 1967, Ser. No. 649,978.

Divided and this application Dec. 31, 1968, Ser. No. 802,709

Int. Cl. H02j 3/00

U.S. Cl. 307—12

10 Claims



The particular embodiment described herein as illustrative of the invention shows methods and apparatus for use with a core slicing tool in a borehole. Various circuits for monitoring and controlling the core slicing operation are disclosed, as well as circuits for deriving directional and depth control information. Means are disclosed for transmitting information from a plurality of information sources in the tool on one conductor pair. Also, automatic bias control means at the surface of the earth are shown for accurately detecting the transmitted information. Power can be selectively applied to either the core slicing circuits or the directional and depth circuits on the same conductor set by providing two different power modes. Means in the tool are responsive to one or the other power mode to switch various circuits in the tool onto various cable conductors. Also, a plurality of core slicing operations are controlled from the surface of the earth on one conductor pair by utilizing switching means responsive to a plurality of current logic states. Additionally, a method of determining the overload operating point of a motor in a tool in a borehole is disclosed.

3,543,043

BATTERY PROTECTION SYSTEM

Dale L. Dunn, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 4, 1968, Ser. No. 773,122

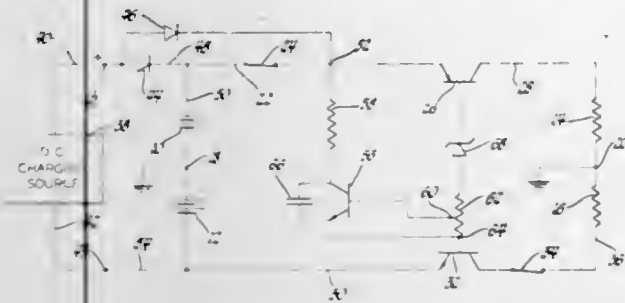
Int. Cl. H02j 1/10

U.S. Cl. 307—18

6 Claims

An electrical control system for preventing the over charge or over discharge of storage batteries and particularly batteries of the nickel-cadmium type. The control system includes a transistor connected between the battery and an electrical load. The battery voltage is sensed by a circuit connected with the transistor which includes a Zener diode and when battery terminal voltage drops below a predetermined value the transistor is biased non-conductive to disconnect the battery and the load. The

battery is protected from over charge by a control circuit which connects an electrical load in shunt with the source of charging current and the battery whenever the terminal voltage of the battery reaches a predetermined value. A system is provided for controlling power supply sys-



tems of the type that include a plurality of batteries and a plurality of electrical loads and in this system a single Zener diode is utilized as a voltage sensing element to provide protection against over charge and protection against over discharge by controlling the conduction of a plurality of transistors.

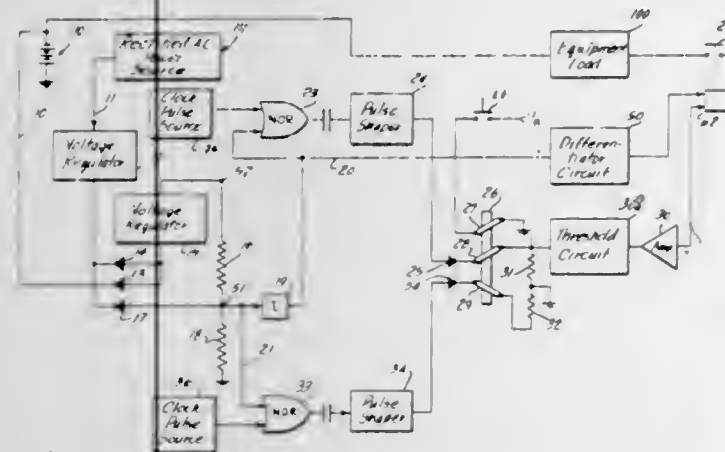
3,543,044

AUTOMATIC BATTERY USE TIMER

Peter H. Strachan, San Rafael, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 24, 1969, Ser. No. 795,772
Int. Cl. H02j 9/00

U.S. Cl. 307—66

3 Claims



The output voltage of an emergency battery power source in a load circuit controls gating means to select a clock pulse source which drives a saturable core to saturation in a predetermined length of time. Saturation of the core results in a signal to relay means for switching the battery power source out of the load circuit to limit battery drain.

3,543,045

METHOD AND APPARATUS FOR CONNECTING AND DISCONNECTING CONVERTER STATION BETWEEN TRANSMISSION LINES

Gustav Bertil Hammarlund, Gustav Heine Martensson, and Erich Uhlmann, Ludvika, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden

Continuation-in-part of application Ser. No. 498,507, Oct. 20, 1965. This application July 29, 1968, Ser. No. 767,872
Claims priority, application Sweden, Jan. 9, 1965, 263/65

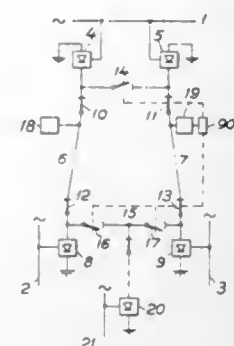
Int. Cl. H02j 3/36

U.S. Cl. 307—82

7 Claims

An HVDC transmission plant comprises two separate transmission lines, each line connecting at least two converter stations. Each of said stations comprises switching means for alternative connection of the station to one

or the other of said two lines. Each line is provided with fault indicating means connected to said switching means and to control means for said stations. In case of a fault on a line, the fault indicating means of said line influence the converter stations of the line and their switching means in such a way that said stations are first blocked, then disconnected from their line and connected



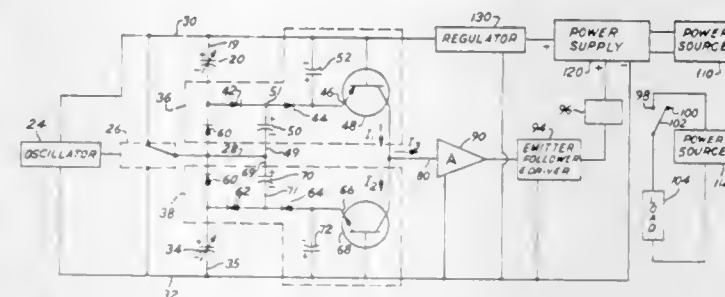
3,543,046

CAPACITANCE-MEASURING TECHNIQUES

Floyd L. Tiffany, Marshalltown, Iowa, assignor to Fisher Governor Company, a corporation of Iowa
Filed Apr. 14, 1969, Ser. No. 815,795
Int. Cl. G01f 31/00

U.S. Cl. 307—118

18 Claims



The relative capacitance of a first capacitor may be accurately measured by providing a second reference capacitor and a switch that cyclically charges and discharges the first and second capacitors at a predetermined rate. The cyclical charging and discharging of the first capacitor produces a first current that is amplified by a first amplifier. The cyclical charging and discharging of the second reference capacitor produces a second current that is amplified by a second amplifier. The first and second currents are algebraically summed and conducted to a comparison device that indicates the relative difference between the capacitance of the first and second capacitors by sensing the magnitude of the summed currents.

3,543,047

CONTACT ARC SUPPRESSOR USING VARISTOR ENERGY ABSORBING DEVICE

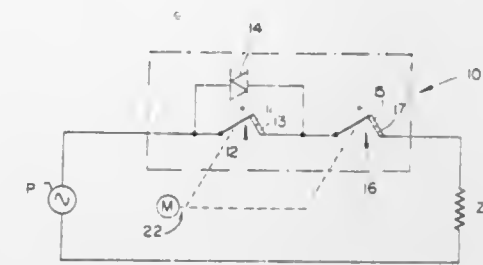
Robert Morrison Renfrew, Bramalea, Ontario, Canada, assignor to Norton Research Corporation (Canada) Ltd., Chippawa, Ontario, Canada, a corporation of Canada
Filed Dec. 3, 1968, Ser. No. 780,765
Int. Cl. H01h 9/42

U.S. Cl. 307—136

1 Claim

Arcing at switch contacts is suppressed by a two switch arrangement in series with an electrical power source and

load. A varistor shunt across one of the switches substantially entirely absorbs the total energy to be interrupted when that switch is opened and attenuates the



current to reduce the arcing when the other switch is later opened. The two switches are operated in rapid sequence.

3,543,048

REDUNDANT BINARY LOGIC CIRCUITS

Theresa Farren Klaschka, Farnborough, England, assignor to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

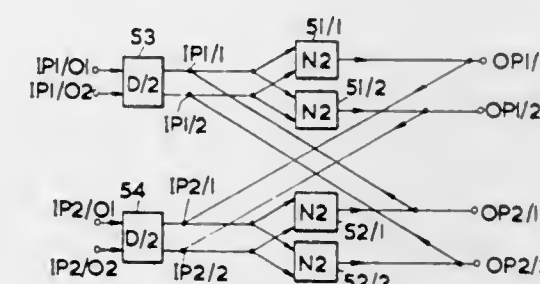
Filed July 20, 1967, Ser. No. 658,303

Claims priority, application Great Britain, July 21, 1966, 32,771/66; May 10, 1967, 21,649/67

Int. Cl. H03k 19/08, 19/34

U.S. Cl. 307—204

24 Claims



Redundant binary logic circuits are formed with NOR-gates (or alternatively, NAND-gates) fed from replicate inputs, so that a comparatively high degree of reliability may be achieved by redundancies introduced in a comparatively economical way. Each simple NOR function with k inputs is performed by r gates each having k times r inputs. Such systems of NOR gates tend to correct spurious zero signals, and the redundant components are arranged to make spurious one signals highly improbable. Corresponding systems of NAND-gates tend to correct spurious one signals and in these cases the redundancies are arranged to make spurious zero signals improbable. Examples including bistable circuits are given.

3,543,049

RAMP GENERATOR WITH CLAMP

Robert P. Farnsworth, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Aug. 26, 1968, Ser. No. 755,467

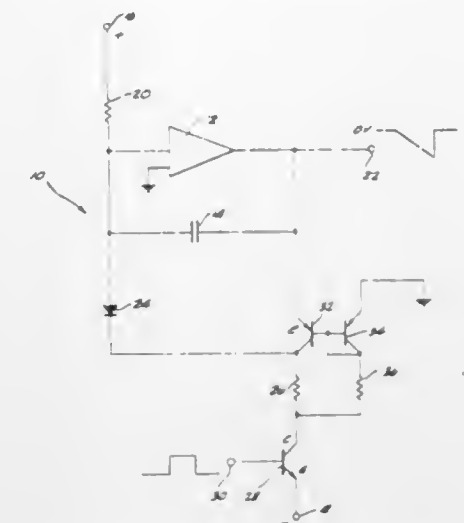
Int. Cl. H03k 4/12, 5/08

U.S. Cl. 307—228

6 Claims

An inverting operational amplifier is paralleled to a capacitor such that a current generator connected to the amplifier/capacitor input node produces a ramp voltage waveform at the amplifier output. A reverse of the polarity and a change of magnitude of the current generator

discharges the capacitor, and when the desired level on the signal output side of the integrating capacitor is



3,543,050

PEAK POLARITY SELECTOR

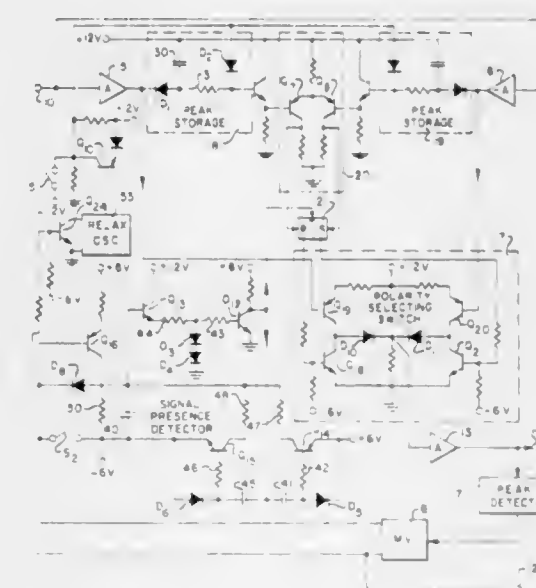
T. O. Paine, Acting Administrator of the National Aeronautics and Space Administration, with respect to an invention of Stephen K. Shepard, Pasadena, Calif.

Filed Oct. 30, 1968, Ser. No. 771,937

Int. Cl. H03k 5/20

U.S. Cl. 307—235

12 Claims



Apparatus is disclosed for monitoring an alternating signal, such as an electrocardiograph waveform, to select the polarity of greatest peak amplitude with respect to a specified DC level and to transmit to a utilization device, such as a cardiograph, only that part of the waveform above or below that level which has the greatest peak amplitude. A signal presence detection circuit enables the peak polarity selection to be made automatically by comparing the absolute values of peak voltages of the two polarities and setting a flip-flop accordingly. The flip-flop then selectively enables an output switch for transmitting to an output terminal the polarity of greatest amplitude, but inverted if necessary to provide an output signal with a predetermined polarity.

3,543,051

ELECTRICAL SWITCHING ARRANGEMENTS INCLUDING TRIGGERABLE AVALANCHE DEVICES

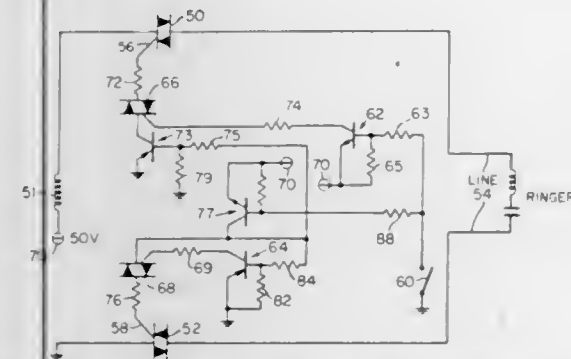
Frank J. Potter, Webster, N.Y., assignor to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware

Filed Dec. 28, 1966, Ser. No. 605,272

Int. Cl. H03k 17/00

U.S. Cl. 307—252

4 Claims



An electrical circuit including a triggerable avalanche device connected in a signal circuit wherein a control circuit applies a switching signal to the gate electrode to render the device conductive and also isolates the gate electrode to block current flow therethrough when the device is conductive.

3,543,052

DEVICE EMPLOYING IGFET IN COMBINATION WITH SCHOTTKY DIODE

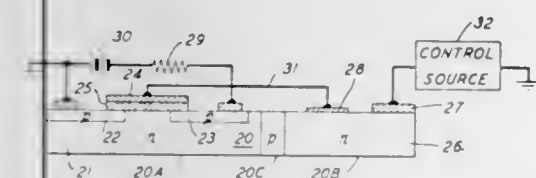
Dawon Kahng, Somerville, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed June 5, 1967, Ser. No. 643,658

Int. Cl. H03k 17/04, 17/74

U.S. Cl. 307—238

2 Claims



A nondestructive memory element is formed by locating a nonlinear element, such as a Schottky barrier diode, in the gate circuit of an insulated gate field effect transistor. Use is made of the high resistance at voltages below a critical level of the Schottky barrier diode to trap charges on the gate electrode, whereby the field effect transistor is maintained in a low resistance state even after the applied gate voltage is removed.

3,543,053

ELECTRONIC SINGLE-POLE, DOUBLE-THROW SWITCH

William G. Mustain, Lynchburg, Va., assignor to General Electric Company, a corporation of New York

Filed Dec. 29, 1967, Ser. No. 694,516

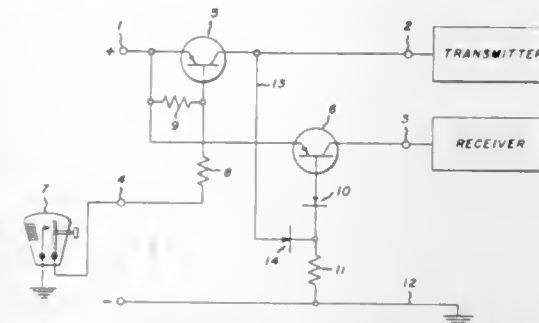
Int. Cl. H03k 5/08, 17/00

U.S. Cl. 307—254

6 Claims

An electronic single-pole, double-throw switch having a positive interlock feature for selectively switching a supply voltage between the transmitter and receiver in response to actuation of the push-to-talk switch of the radio. A pair of transistor switches are connected between an input terminal and individual output terminals connected to the transmitter and receiver. The first transistor is controlled in response to a control voltage from the push-to-talk switch to bias it into conduction to supply operating voltage to the transmitter whenever the push-to-talk button is actuated. Actuation of this first transistor then automati-

cally biases the transistor controlling the output line to the receiver into the non-conducting state, removing the bias voltage from the receiver. When the push-to-talk button is released, the first transistor again becomes non-conducting, removing the operating voltage from the



transmitter and unclamping the second transistor to apply the operating voltage to the receiver. Thus, the operating voltage is applied to the receiver at all times except when the push-to-talk button is actuated and the control voltage is applied to the switch.

3,543,054

TIMING CIRCUIT

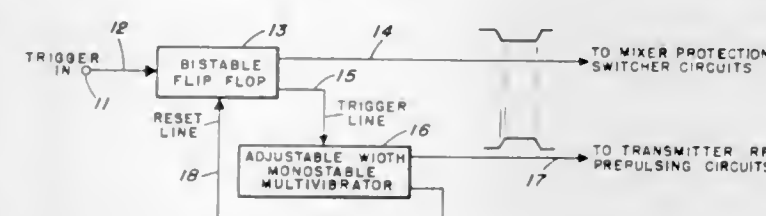
Elliott G. Schrader, Huntington Beach, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Mar. 27, 1968, Ser. No. 716,656

Int. Cl. H03k 1/14

U.S. Cl. 307—265

5 Claims



A circuit in which pulse A is always produced before pulse B, and pulse B will always terminate before pulse A terminates, the circuit serving as a safety device. A timing signal turns over a flip-flop circuit, the output of which produces not only pulse A but also a trigger signal for an adjustable width monostable multivibrator. The monostable multivibrator initiates pulse B, which due to natural delay, is subsequent to pulse A. When the monostable multivibrator switches back to its rest state, it terminates pulse B and resets the flip-flop which terminates pulse A.

3,543,055

FOUR PHASE LOGIC SYSTEMS

Alan Leslie Stanes, London, England, assignor to Telephone Manufacturing Company Limited, London, England, a British company

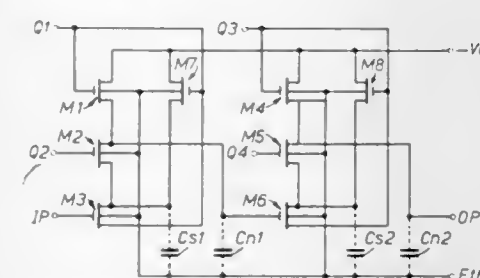
Filed Sept. 23, 1968, Ser. No. 761,652

Claims priority, application Great Britain, Oct. 9, 1967, 46,141/67

Int. Cl. H03k 23/08

U.S. Cl. 307—304

5 Claims



The specification of this application discloses arrangements for preventing charge-sharing between node and spurious capacitances of field effect transistors used in delay circuits of a four phase logic system.

3,543,056

PROXIMITY DETECTION SYSTEM USING FIELD EFFECT TRANSISTORS

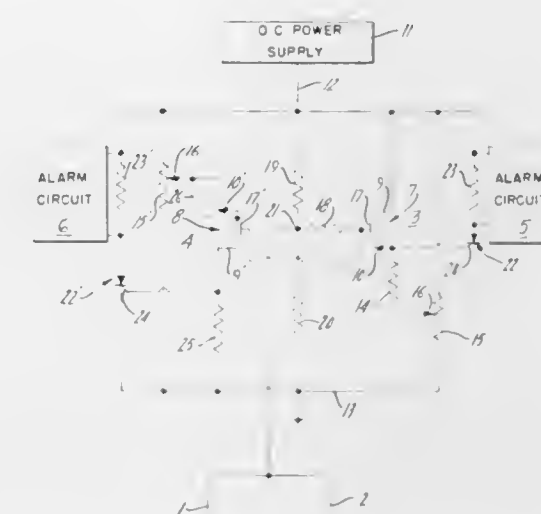
Carl F. Klein, Milwaukee, Wis., assignor to Johnson Service Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Aug. 7, 1967, Ser. No. 658,868

Int. Cl. H03k

U.S. Cl. 307—308

10 Claims



A sensing wire is disposed in an area to be protected such that movement of an intruder into the area results in an induced charge, either positive or negative, on the wire. The sensing wire is connected to a pair of alarm circuits and particularly to the gates of a pair of field effect transistors each of which is connected to trigger a silicon controlled rectifier in the corresponding alarm circuit. The field effect transistors are interconnected to a low voltage supply with the gates connected in common to the junction of a pair of bias resistors connected across the supply. The one field effect transistor is an "N" channel type and includes a bias resistor connected in series with its source terminal to the supply and the other transistor is a "P" channel type and includes a bias resistor connected in series with its drain terminal to the supply. The silicon controlled rectifiers have their gate circuits connected directly across the corresponding bias resistors. The bias resistor provides a low external impedance path and essentially prevents erroneous turn-on of the controlled rectifier as a result of spurious signals such as internally generated leakage currents and the like.

3,543,057

AC PROBE FOR LOW VOLTAGE LINEAR TRACKING

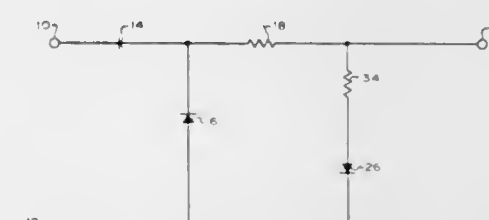
James M. Colwell, Loveland, and Paul F. Febvre, Fort Collins, Colo., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Sept. 6, 1967, Ser. No. 665,918

Int. Cl. H03k 19/12

U.S. Cl. 307—317

2 Claims



An AC voltmeter probe has a nonlinear device connected across the AC input and a similar nonlinear de-

vice connected across the DC output to compensate for the nonlinearity of the first device and thus provide DC output which remains accurately proportional to the AC input.

3,543,058

PIEZOELECTRIC TRANSDUCER

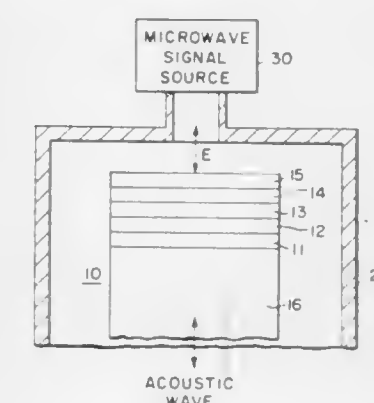
Paul G. Klemens, Wilkesburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa.

Continuation of application Ser. No. 505,715, Oct. 29 1965. This application Nov. 10, 1969, Ser. No. 871,534

Int. Cl. H01v 17/00

U.S. Cl. 310—8.2

11 Claims



A transducer for electrical-acoustic energy conversion is provided having a plurality of layers of material in an acoustically continuous structure, each layer having an effective thickness of $\frac{1}{2}$ the desired wavelength, with a first set of alternate ones of the layers being of like oriented piezoelectric material. The other alternate layers may be passive or also of piezoelectric material but having opposite orientation to that of the first set.

3,543,059

FLUTED CYLINDER FOR UNDERWATER TRANSDUCER

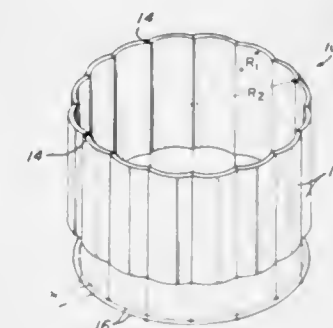
Wesley L. Angeloff, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 28, 1968, Ser. No. 771,224

Int. Cl. H02k 7/00

U.S. Cl. 310—8.7

4 Claims



The walls of a cylindrical transducer are fabricated of slats or staves of electroacoustic material. Each stave is curved in cross section, the radius of curvature of the staves being less than the mean radius of the cylinder. The staves are so arranged and joined, side-by-side, as to increase the circumferential length of the cylinder wall. The cylinder, thus constituted, will be more compliant for a given wall thickness and wall diameter and, hence, will have a lower natural mechanical resonant frequency and will operate at lower frequencies.

3,543,060

LINEAR INDUCTION MOTORS

James Stephen Holmes, Warwickshire, Noel Howard Kenneth Newman, Middlesex, and Thomas John Taylor, Surrey, England, assignors to Rotax Limited, London, England, a British company

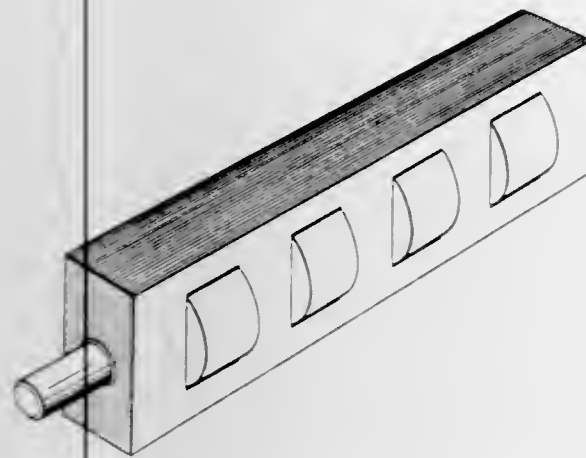
Filed Nov. 25, 1968, Ser. No. 778,498

Claims priority, application Great Britain, Nov. 23, 1967, 53,394/67

Int. Cl. H02k 41/02

U.S. Cl. 310—13

5 Claims



A linear motor has a shaft which is axially movable through a stator incorporating a series of axially spaced coils energized by alternating current. The stator is formed by a stack of magnetic laminations whose planes are parallel to the axis of the shaft and the stack has a series of transverse windows which house the coils.

3,543,061

RECIPROCATABLE MOTOR CORE LAMINATIONS WITH INVOLUTE AND RADIAL SECTIONS

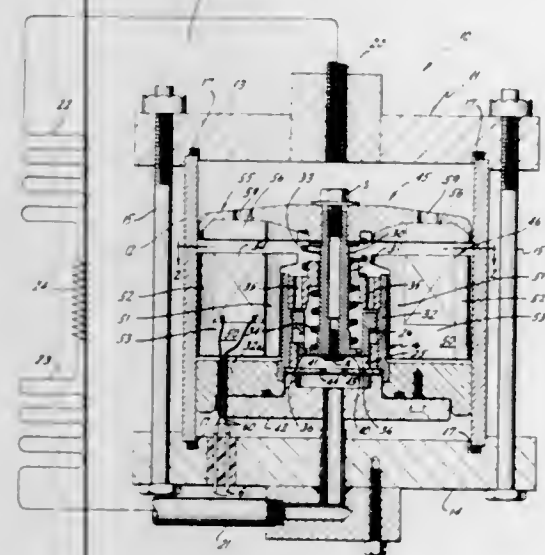
Henry W. Wallace, Ardmore, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Apr. 16, 1969, Ser. No. 816,701

Int. Cl. H02k 33/02

U.S. Cl. 310—17

13 Claims



The laminations forming the core of a magnetic device, such as may be used as a reciprocating motor for driving a linear compressor, include inner and outer sections, formed as the involute of a circle, interconnected by generally planar radial sections. The laminations are packed to form a cylindrical core.

3,543,062

DIRECT WIRE COOLING IN SYNCHRONOUS ELECTRICAL MACHINES

Giuseppe Banchieri, Via S. Massimo 3, Padova, Italy

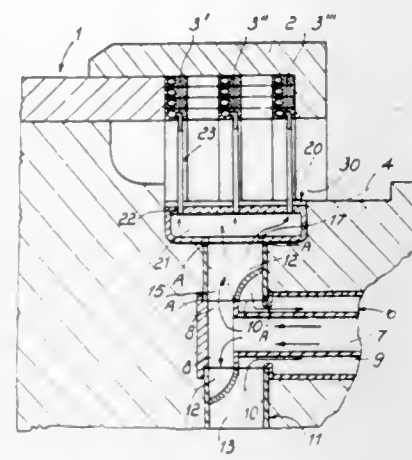
Filed July 23, 1968, Ser. No. 746,965

Claims priority, application Italy, Aug. 10, 1967, 19,409/67

Int. Cl. H02k 9/19

U.S. Cl. 310—54

2 Claims



A synchronous electrical machine provided with hollow wires for liquid cooling. The machine has a rotor shaft as well as axial supply and discharge manifolds. Connector duct sets associate the hollow wires with the supply and discharge manifolds at the rotor shaft. A collecting member at which the connector duct sets terminate is hydraulically connected by radial ducts with the axial manifolds. These radial ducts are provided with a baffle dividing the interior thereof into a pair of substantially helicoidally extending channels with one end of the baffle disposed at 90° with respect to the other end thereof.

3,543,063

DIRECTLY COOLED ELECTRICAL MACHINE

Erik Agerman, Ludvika, Edgar Essen and Sven Helmersson, Vasteras, Birger Jonsson, Hokasen, Olav Karsten and Richard Sivertsen, Vasteras, and Ove Tjernstrom, Irsta, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

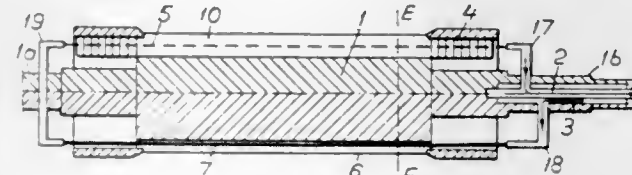
Continuation-in-part of application Ser. No. 694,999, Jan. 2, 1968. This application June 30, 1969, Ser. No. 837,496

Claims priority, application Sweden, Jan. 3, 1967, 68/67

Int. Cl. H02k 1/32

U.S. Cl. 310—61

2 Claims



A rotor for directly cooled electrical machines has an annular body of magnetic material in which are arranged slots extending lengthwise of the rotor for receiving the windings. The rotor has a cooling system intended for direct cooling of conductors situated in the winding slots and, in addition to this, a cooling system comprising cooling channels extending lengthwise through the rotor teeth, further from the rotor axis than the bottoms of the winding slots. Each of the cooling systems has inlets and outlets at different ends of the rotor and the two systems are series-connected.

3,543,064

MOTOR FOR DRIVING FLEXIBLY COUPLED GEARS

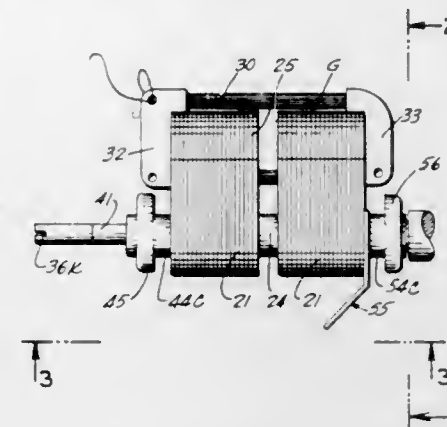
Frank Holper, Cary, Ill., assignor to Molon Motor & Coil Corp., Rolling Meadows, Ill., a corporation of Illinois

Filed Oct. 7, 1968, Ser. No. 765,526

Int. Cl. H02k 7/10

U.S. Cl. 310—83

9 Claims



An induction motor rotates a drive gear. Assembly shafts are on opposite sides of the drive gear. Each shaft supports coaxially an intermediate gear and a transmitting gear as a set. The two transmitting gears mesh with and drive an output gear. The gears of at least one set (and preferably the gears in each set) are freely mounted on the related shaft and are flexibly coupled as by a torsion spring so that the intermediate gear turns its transmitting gear by means of the flexible coupling. The shafts are also used to hold the motor parts together.

3,543,065

PROBE FOR BOND TESTER

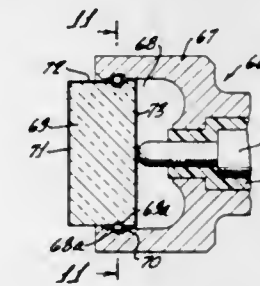
Charles S. Phelan, Tustin, Calif., assignor to Shurtronic Corporation, a corporation of California

Filed Sept. 26, 1968, Ser. No. 762,689

Int. Cl. H04r 17/00

U.S. Cl. 310—9.4

7 Claims



A short cylindrical piezoelectrical crystal is loosely positioned by a plurality of fixed, rigid guides which fit within axially extending slots in the exterior of the crystal. The guides are attached to a cap which snaps onto the end of a probe or are individually and adjustably mounted on a support surrounding the crystal. In another arrangement, the guides are formed on an elongated tubular element which spaces the crystal away from a support member. In another arrangement, the crystal is loosely positioned by a coil spring retaining ring which fits within grooves formed in the crystal and a surrounding probe.

3,543,066

DISCOIDAL ELECTRIC MOTOR WITH COMPENSATING WINDINGS

Park French, Aurora, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 23, 1968, Ser. No. 786,330

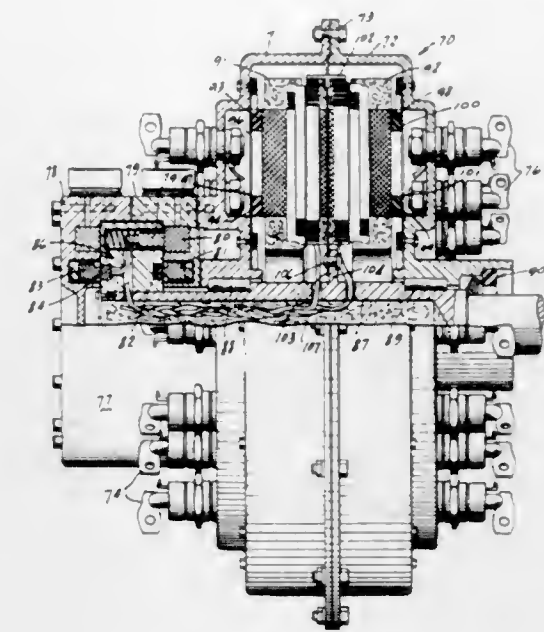
Int. Cl. H02k 3/16

U.S. Cl. 310—186

10 Claims

This invention is directed to a motor construction which includes a series of disc-type rotor and stator elements

mounted in an interleaved manner along a common axis, wherein rotors and stators are alternated so that forces are transmitted between the adjacent faces of each pair of rotors and stators. Each rotor and stator element is



comprised of a flat disc-like ring having a plurality of coils mounted in a corresponding plurality of radial slots to provide a unique winding pattern that produces an oblique field for eliminating vibrations of the disc elements.

3,543,067

COMMUTATING FIELD COIL INSULATION AND SUPPORT STRUCTURE

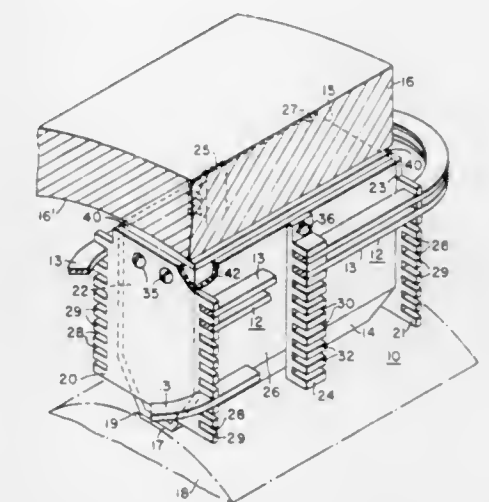
Charles M. Tharp, Westminster, Calif., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 25, 1968, Ser. No. 715,618

Int. Cl. H02k 19/26

U.S. Cl. 310—194

6 Claims



Rigid insulating spacers are attached to the sides of the body of a pole piece of electrical equipment for supporting the turns of a strap coil as a unit along the depth dimension of the pole body, and the coil turns from each other. Each of the insulating spacers has a main body portion disposed between the coil and the pole body and integrally formed projections extending therefrom and located between the coil turns.

3,543,068

COMMUTATOR BRUSH ASSEMBLY

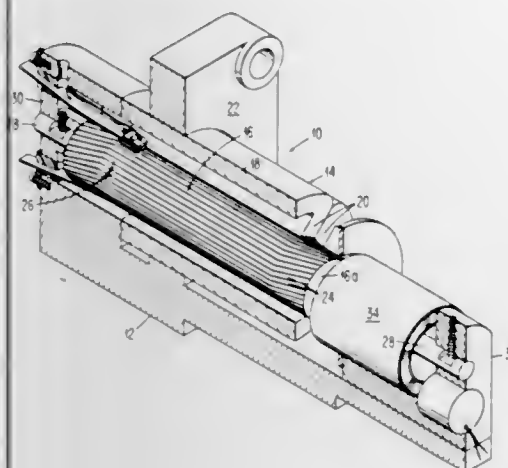
Gene A. Fisher, Adolfo M. Guzman, John P. Harris, and Paul Y. Hu, Boulder, Colo., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Nov. 18, 1968, Ser. No. 776,569

Int. Cl. H01r 39/38; H02k 13/00

U.S. Cl. 310-244

13 Claims



A commutator brush assembly capable of following a commutator surface subject to rapid pitch, roll, and yaw motions, as well as rapid movements toward and away from the brush. The assembly comprises a low profile brush supported by a universal pivot joint at the end of a cantilevered leaf spring. The leaf spring is rigidly supported remote from the brush and accommodates bodily displacement of the brush radially with respect to the commutator by flexing. Pitch, roll, and yaw motions are accommodated by the pivot joint.

3,543,069

STRESS-REDUCED COOLING FIN ASSEMBLY FOR A POWER KLYSTRON

Wolfgang Schmidt, Hamburg-Othmarschen, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

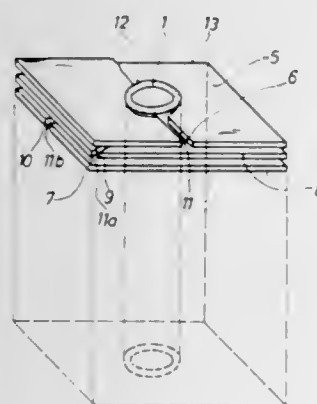
Filed Apr. 15, 1968, Ser. No. 721,489

Claims priority, application Germany, June 29, 1967, P 42,490

Int. Cl. F28f 1/30; H01j 1/42

U.S. Cl. 313-30

2 Claims



A cooling fin assembly for a power klystron in which a plurality of notched plates are threaded on the collector of the klystron in such a way that the facing edges of the notches of adjacent plates form angularly displaced slots around the circumference of the collector.

3,543,070

LIQUID COOLED HIGH-PRESSURE DISCHARGE LAMP

Yoshihiko Nakamura, Himeji, Yasuo Ohnishi, Kobe, and Yasuhiro Shimizu, Himeji, Japan, assignors to Ushio Electric Inc., Tokyo, Japan

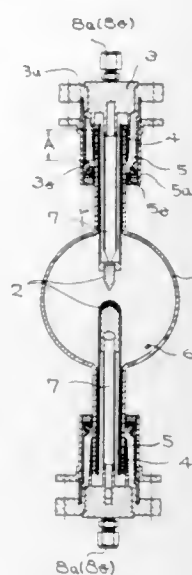
Filed Apr. 8, 1968, Ser. No. 719,647

Claims priority, application Japan, Oct. 20, 1967, 42/88,627; Jan. 18, 1968, 43/2,612, 43/2,613

Int. Cl. H01j 5/56, 7/26

U.S. Cl. 313-42

3 Claims



A liquid cooled high-pressure discharge lamp comprising electrodes, an envelope for the lamp, sealing portions for said envelope, and a cooling mechanism for said sealing portions.

3,543,071

ELECTRODE WITH WING-SHAPED BRACKETS FOR CATHODE RAY TUBES

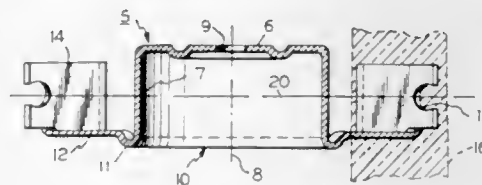
Jay H. Johnson, Owensboro, Ky., assignor to Kentucky Electronics, Inc., Owensboro, Ky., a corporation of Delaware

Filed Oct. 14, 1968, Ser. No. 767,370

Int. Cl. H01j 1/88, 29/02

U.S. Cl. 313-82

8 Claims



A cylindrical electrode is provided for cathode ray tube electron guns with two normally disposed bracket members adapted to enter a mounting bead and which extend from a rolled over edge of cylindrical tubing bent back to form a coaxial skirt about the cylindrical electrode body.

3,543,072

COLOR CATHODE RAY TUBE WITH METALLIC CONTACTOR RIBBON BONDED ON INSIDE WALL OF TUBE BETWEEN THE HIGH VOLTAGE TERMINAL AND THE SHADOW MASK FRAME

William H. McNeill, Auburn, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 16, 1969, Ser. No. 816,537

Int. Cl. H01j 29/46; H01r 9/12

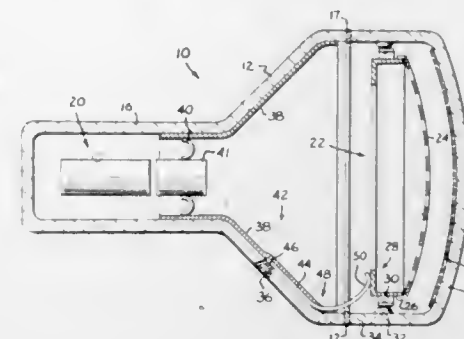
U.S. Cl. 313-85

4 Claims

In glass color cathode ray tubes a means for applying the high voltage to the shadow mask frame which comprises welding or otherwise fixing one end of an electrically conductive metallic ribbon directly to the second

anode button and forming the other end as a spring to contact the shadow mask frame. Intermediate the welded end and the spring formed end the ribbon is frit sealed to

of glass-forming materials (alkaline earth metal oxides, silica, alumina alkali metal oxides). The glasses are highly resistant to deterioration against electron bombardment and upon excitation have emissions within the ultra-violet to blue region of the spectrum.



3,543,075

THREE-ELECTRODE SPARK GAP DEVICE FOR SWITCHING HIGH CURRENT INTENSITIES UNDER HIGH VOLTAGE

Jean Claude Dubois, Royan, France, assignor to Institut Francais du Pétrole, des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France

Filed June 25, 1968, Ser. No. 739,715

Claims priority, application France, June 29, 1967, 112,550

Int. Cl. H01j 17/06, 17/10, 17/46

U.S. Cl. 313-197

5 Claims

the interior surface of the tube wall. Alternatively, the other end of the ribbon may be formed as a broadened spring contacting portion and a conventional, although much stronger contact spring may be utilized therewith.

3,543,073

VACUUM TUBES OF TELEVISION TYPE FOR X-RAY PROTECTION

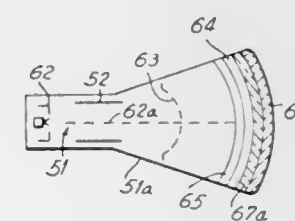
Edward Emanuel Sheldon, 30 E. 40th St., New York, N.Y. 10016

Filed Jan. 25, 1968, Ser. No. 700,607

Int. Cl. G21f 1/00, 7/02; H01j 29/28

U.S. Cl. 313-92

18 Claims



The invention relates to novel television vacuum tubes for color television. It was found that the present color television tubes emit considerable amount of X-radiation. The novel tubes described below are characterized by the X-ray absorbing face-plate which prevents the escape of such X-radiation or at least reduce the amount of said escaping X-radiation to the level which is safe for the public. These tubes have a construction in which their light transparent endwall on which the fluorescent screen is mounted has the X-ray absorbing power to accomplish this objective, which means to reduce the transmission of X-rays through said endwall to the amount smaller than 0.04 mr./hr.

3,543,074

CATHODOLUMINESCENT GLASSES AND CATHODE RAY TUBES EMPLOYING SAME AS THE TARGET

Warren H. Turner, Toledo, Ohio, and Marvin J. Albinak, Lutherville, Md., assignors to Owens-Illinois, Inc., a corporation of Ohio

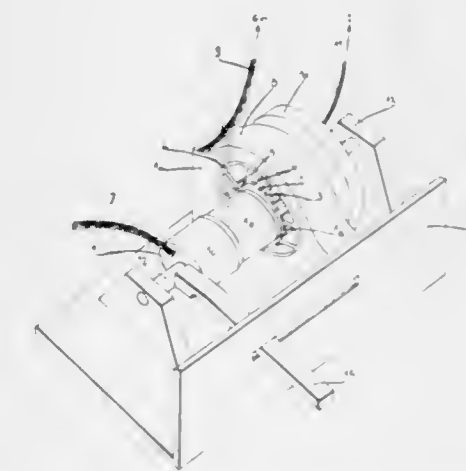
No Drawing. Continuation-in-part of application Ser. No. 395,937, Sept. 11, 1964. This application Aug. 14, 1968, Ser. No. 752,495

Int. Cl. C03c 3/28; C09k 1/04

U.S. Cl. 313-92

13 Claims

Glasses characterized by a high level of cathodoluminescence, using copper as the cathodoluminescent activator, in solution form, as distinguished from a dispersed crystalline phase, in combination with a particular group



A three-electrode spark gap device, for closing a circuit which is connected with a very high voltage electric generator and in which a very high intensity is established. The spark gap device comprises a cylindrical anode electrically connected to a terminal of the generator, a cathode having shape of a cylindrical ring surrounding and coaxial with the anode. The cathode includes on its internal wall radial extensions formed of partitions each terminated by a plate. The spark gap device also includes at least one striking electrode located in the space limited by the two radial planes passing along the edges of two consecutive plates and by the annular segment of the cathode between these plates. The striking electrode being more particularly located in the space limited by the annular segment, the radial planes and the plates and being connected with a generator providing a shock voltage.

3,543,076

AERODYNAMIC ARC LAMP ELECTRODES

Ralph L. Haslund, Mercer Island, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Oct. 31, 1968, Ser. No. 772,323

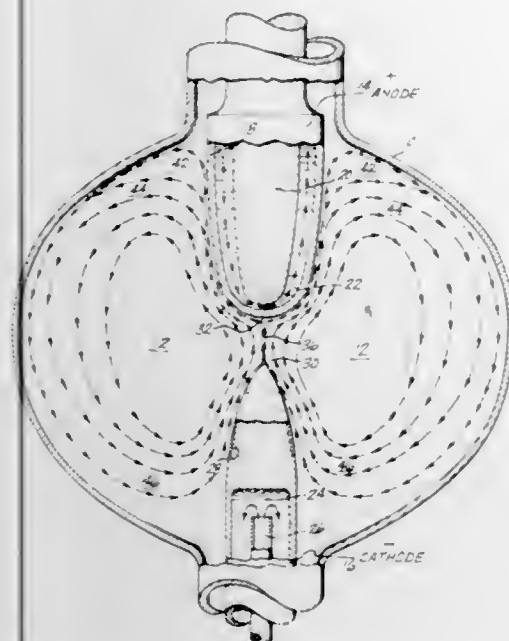
Int. Cl. H01j 61/12

U.S. Cl. 313-184

2 Claims

Electrode shapes for a compact arc lamp of the type which contains a pressurized gaseous atmosphere. The disclosed system provides an improved and stable light source at high power levels for an extended operating lifetime. Aerodynamic shaping of axisymmetric electrode elements is utilized to establish and control a recirculating flow pattern within the gaseous atmosphere. The recirculating flow pattern optimizes heat transfer, stabilizes the

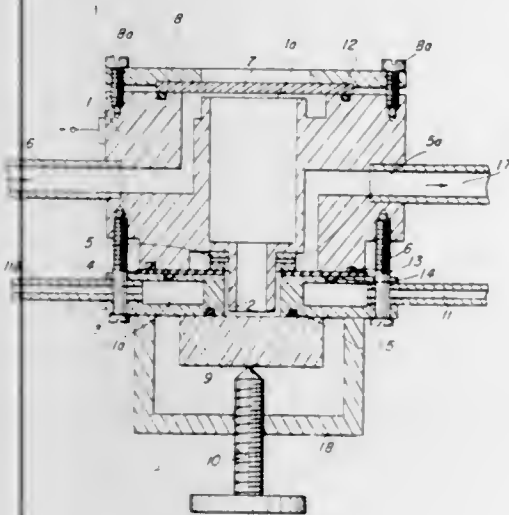
arc, and controls deposition of vaporized electrode particles. The anode is shaped such that its radius of curva-



ture increases going away from the tip. The cathode is pointed and its slope changes gradually from the tip into a generally cylindrical shank portion.

3,543,077 GLOW DISCHARGE TUBE FOR SPECTRAL ANALYSIS

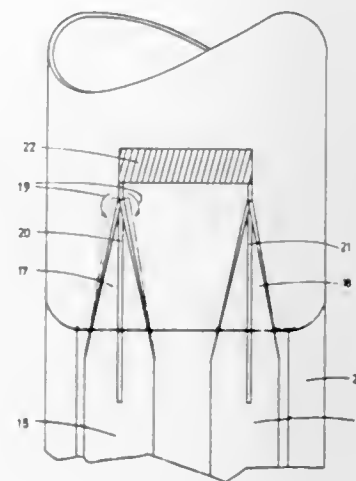
Werner Grimm, Grossauhelm, Germany, assignor to RSV Präzisionsmessgeräte G.m.b.H., Hechendorf (Pilsensee), Germany, a corporation of Germany
Filed June 7, 1968, Ser. No. 735,304
Claims priority, application Germany, June 10, 1967, V 33,821
Int. Cl. G01j 3/12; H01j 17/04, 17/26
U.S. Cl. 313—210 9 Claims



A glow discharge tube for qualitative and quantitative spectral analysis, in which a hollow anode body has a nipple concentrically surrounded with clearance by an annular cathode body and urged against the upper face of the latter by a ring placed on said nipple, which ring has a number of radial bores therein. The lower end of the nipple is slightly spaced from the upper face of a test body or sample to be analyzed, which sample is pressed by a screw against the lower face of said annular cathode body.

3,543,078 VIBRATION-PROOF INCANDESCENT HALOGEN ELECTRIC LAMP FOR OPTICAL SYSTEMS AVOIDING STRAY LIGHT

Paul Steinhart, Bolheim, and Josef Pfeiffer, Bolheim-Anhausen, Germany, assignors to Patent-Treuhand-Gesellschaft für Elektrische Glühlampen m.b.H., Munich, Germany, a corporation of Germany
Filed June 11, 1968, Ser. No. 736,049
Claims priority, application Germany, June 19, 1967, 1,589,294
Int. Cl. H01j 1/18, 19/12
U.S. Cl. 313—269 14 Claims



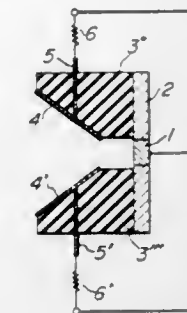
Incandescent halogen electric lamp with thin strap-shaped molybdenum foil current in-leads projecting from proximity to the filament coil to and into the pinch of the lamp envelope for a considerable distance, secured and sealed therein and connected therein to terminal leads which pass to the exterior, the filament having straight end-reaches projecting laterally from the coil in direction longitudinally of the respective in-leads which, by corrugation or otherwise, are in re-enforcing surface juxtaposition thereto longitudinally of the filament end-reaches to and well within the pinch, with anchoring of the filament end-reaches being attained both by inclusion with the foil in-leads in the pinch and by platinum welds next to the ends of the foils proximate to the filament coil, the straight end-reaches of the filament beyond the foil in-leads each having a length commensurate to but without materially exceeding the length of a diameter of the coil, thereby restraining the filament from emission of light in its straight end-reaches, and the re-enforcement for the filament end-reaches by the in-leads distributing vibrational deflection, thereby avoiding metal fatigue and breakage of the filament at a concentrated location.

3,543,079 DEVICE FOR CORRECTING THE PATH OF AN ELECTRON BEAM

Yoshihiro Uno, Machida-shi, and Haruo Maeda, Tokyo, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Dec. 6, 1968, Ser. No. 781,873
Claims priority, application Japan, Dec. 20, 1967, 42/83,073; Dec. 21, 1967, 42/83,060; Dec. 28, 1967, 43/130
Int. Cl. H01j 29/58, 29/70, 29/96
U.S. Cl. 315—3 10 Claims

In a cathode ray tube or a similar electronic device having a very narrow target which is usually difficult to be correctly hit by an electron beam from the electron gun, a simple-structured and reliable device for automatically correcting the path of the electron beam, comprising a pair of opposing electrodes positioned in front of and adjacent to said target in order to produce an

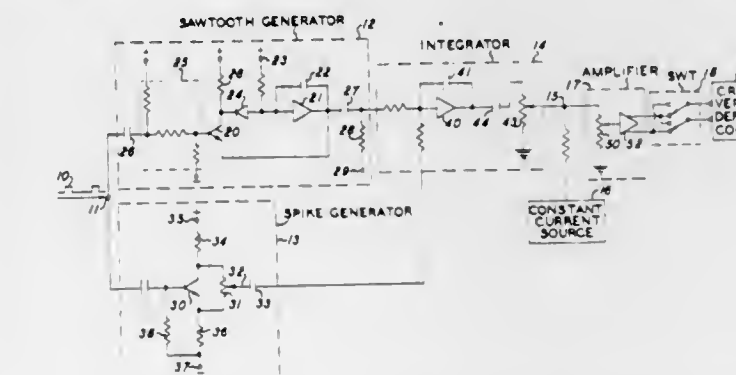
electrostatic lens for deflecting and converging said beam so that said beam is focused on said target, the potential



of said electrodes being maintained by electrons of said beam absorbed by said electrodes or by an external voltage source.

3,543,080 CRT PINCUSHION DISTORTION CORRECTION APPARATUS

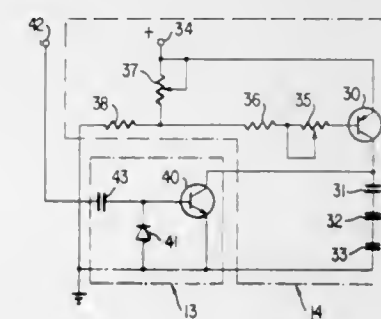
Walter T. Wuensch, Ontario, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Nov. 4, 1968, Ser. No. 773,045
Int. Cl. H01j 29/76
U.S. Cl. 315—27 6 Claims



An electrical circuit for generating a non-symmetrical parabolic signal by altering the reference level of an integrator prior to the integration of a ramp signal and for simultaneously adjusting the magnitude of the parabolic signal and constant level signal combined with the parabolic signal.

3,543,081 LOW POWER ELECTROSTATIC DEFLECTION SYSTEM

Edmund J. Vitek, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 10, 1969, Ser. No. 798,008
Int. Cl. H01j 29/74
U.S. Cl. 315—29 11 Claims

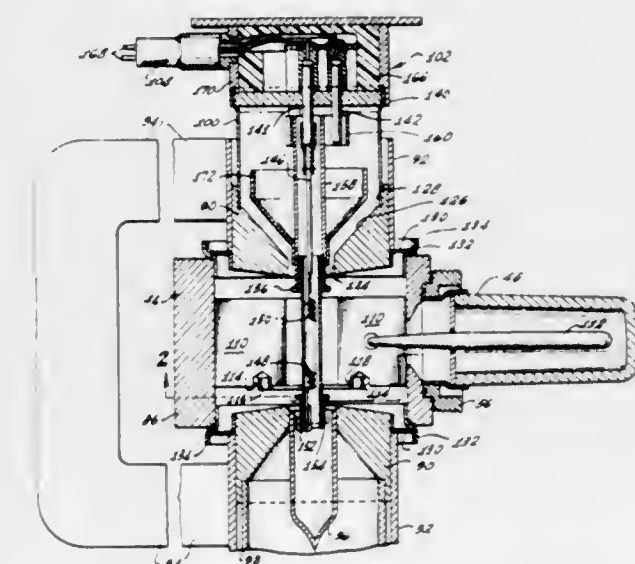


An electrostatic deflection system for a cathode ray tube employs a sweep generator having a constant current charging circuit which includes as a charging capacitor, the capacity of the electrostatic deflection plates of the

cathode ray tube and the stray capacity of the circuit. The constant current charging circuit includes means for adjusting the rate of charging to develop a dynamic deflection field between the deflection plates for deflecting the scanning beam through a scan sweep at a predetermined rate. A switch circuit triggered by the synchronizing pulses discharges the capacitor to provide the return sweep of the scanning beam.

3,543,082 MAGNETRON

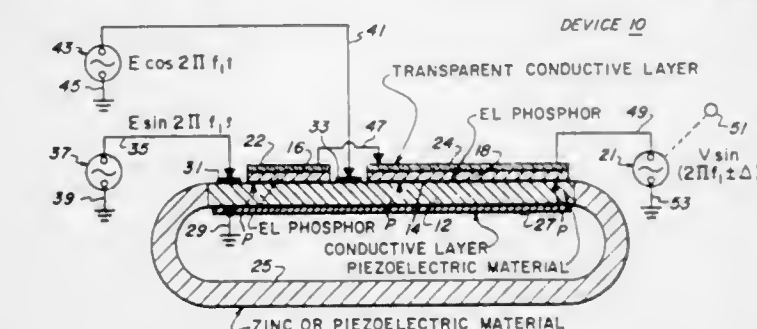
Helmut Boehm, Thousand Oaks, Calif., assignor to Technology Instrument Corporation of California, Newbury Park, Calif., a corporation of California
Original application Nov. 21, 1966, Ser. No. 595,995
Divided and this application Aug. 23, 1968, Ser. No. 754,877
Int. Cl. H01j 23/22
U.S. Cl. 315—39.69 5 Claims



A magnetron has an anode block with grooved radial vanes, and concentric hexagonal straps disposed with the sides of the inner strap and corners of the outer strap, respectively secured to the inner and outer sides of alternate grooves. The sides of the straps are bendable for mode stabilization purposes. A cathode sleeve in the block is engaged at one end by the smaller end of a stepped tubular element which extends into one of two pole pieces fitted in the ends of the block, the gap thus formed being dimensioned to prevent coupling of energy in the block to an external power supply and to isolate undesired harmonics.

3,543,083 METHOD AND MEANS FOR PROVIDING A DISPLAY OF MOVING BANDS OF LIGHT

Frederick B. Sylvander, Rutherford, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 668,099
Int. Cl. H01v 7/00; H05b 33/00
U.S. Cl. 315—55 28 Claims



A method and means for effecting a solid state display of lighted stripes which may be moved in a direction and at a speed controllable by an operating condition.

3,543,084

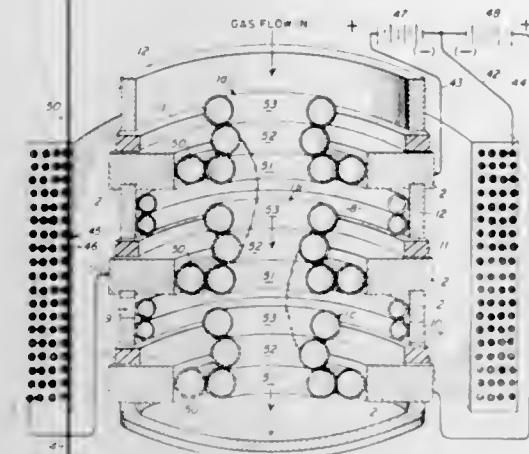
PLASMA ARC GAS HEATER

John L. Michaelis, Pittsburgh, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 22, 1968, Ser. No. 699,567
Int. Cl. H01j 7/24

U.S. Cl. 315—111

13 Claims



A plasma arc heater having a plurality of hollow electrodes forming a central axial passage for material being heated is disclosed. Each electrode is in the form of continuous coiled metal tubing, having at least three turns. A first turn of larger diameter is secured in electrically conductive relationship to a cylindrical mounting ring, the additional turns being of a smaller diameter than the first turn, preferably by at least twice the diameter of the tubing itself so that the smaller diameter turns will fit within the larger diameter turns. The tubing of each electrode is coiled, for example, generally in the form of a helix or spiral, the smaller turns being within the larger turn and successive smaller turns extending axially beyond said mounting ring. The mounting ring has openings through which the ends of the tubing pass for introducing and withdrawing a cooling fluid. The complete arc heater assembly is a stack of essentially duplicate electrode subassemblies, adjacent subassemblies being separated by an electrically insulating ring. The insulating ring is of a larger inside diameter than the mounting ring, thereby providing a space between the outside of the smaller coils and the interior surface of the insulating ring, and shielding the insulation. Also provided are means for reversing the polarity of adjacent electrodes in the heater by external circuits to cause two electrodes to alternately perform the same function, e.g., as the cathode for an arc. An arc rotating coil surrounds the heater and is connected electrically in series with the electrodes.

3,543,085

FLASHER TYPE GETTER FOR VACUUM DEVICE

Herbert M. Pflanz, Roslindale, and Charles P. Goeller, Quincy, Mass., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

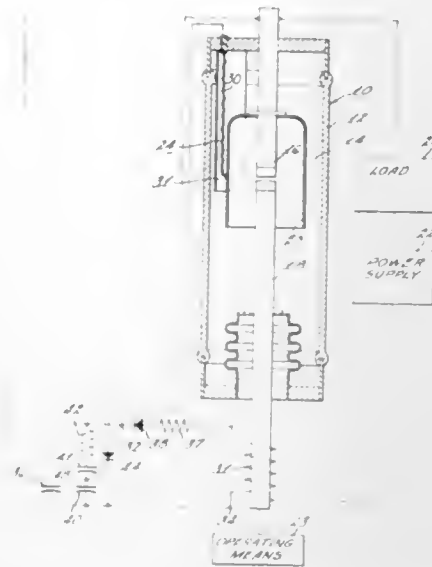
Filed Dec. 23, 1968, Ser. No. 786,087
Int. Cl. H01j 17/22

U.S. Cl. 315—108

5 Claims

A vacuum switch comprising an evacuated chamber and separable contacts therein which are in circuit with a source of electric power is provided with titanium molybdenum getter disposed on a tungsten filament inside the chamber. Control means are provided whereby the filament is periodically energized to heat it and to thereby flash the getter to a predetermined temperature for a predetermined length of time at predetermined intervals. The control means comprise a current transformer which is inductively coupled to the vacuum switch power source.

A controlled rectifier (normally off) is in series circuit with the tungsten filament across the transformer output. A first capacitor chargeable from the transformer discharges periodically at predetermined intervals to turn on



the rectifier. A second capacitor chargeable from the transformer discharges a predetermined amount of energy for a predetermined amount of time when the rectifier is turned on to heat the filament and flash the getter.

3,543,086

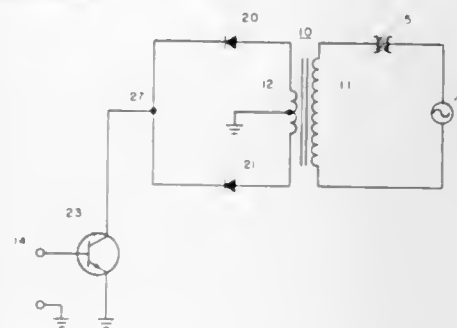
IMPEDANCE CONTROLLING CIRCUIT FOR A LOAD ELEMENT

Hans G. Blank, New Rochelle, N.Y., assignor to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware

Filed Apr. 19, 1968, Ser. No. 722,755
Int. Cl. H05b 37/00, 39/00

U.S. Cl. 315—169

4 Claims



An impedance-controlling circuit is provided in which the impedance of the primary winding of a transformer is controlled by changing the effective load on the transformer secondary winding. The primary winding is connected in series with an AC voltage source and a load element, so that the amount of voltage appearing across the load element depends on the primary winding impedance. A transistor is used in conjunction with a pair of diodes to effectively open-circuit and short-circuit the secondary winding in response to external control signals applied to the base of the transistor.

3,543,087

LAMP FLASHING CIRCUIT HAVING INDEPENDENTLY ADJUSTABLE RATE AND PHASE CONTROLS

George P. Saiger, Schiller Park, and Thomas J. Miles, Chicago, Ill., assignors to Diversitronics, Inc., Wauconda, Ill., a corporation of Illinois

Filed Mar. 27, 1968, Ser. No. 716,489
Int. Cl. H05b 41/34, 41/44

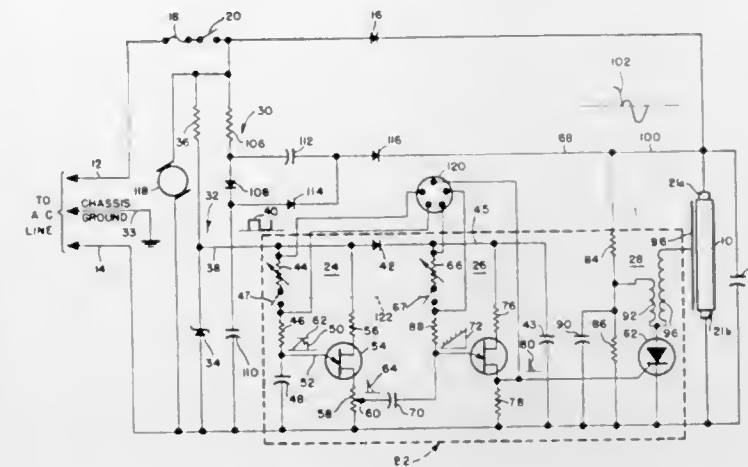
U.S. Cl. 315—208

14 Claims

A flashing device may comprise a gas-filled flash tube which produces light in response to an electrical discharge therethrough. The flash tube is connected through

coupling means to a source of alternating voltage which supplies a high density current for the electrical discharge. A flash control means is operatively coupled to

potential level is located an energizable relay, while at the second point of differing potential are located the contacts associated with such relay. A rod of insulative mate-



the flash tube for selectively causing the electrical discharges through the flash tube at a preselected rate and phase with respect to the alternating voltage.

3,543,088

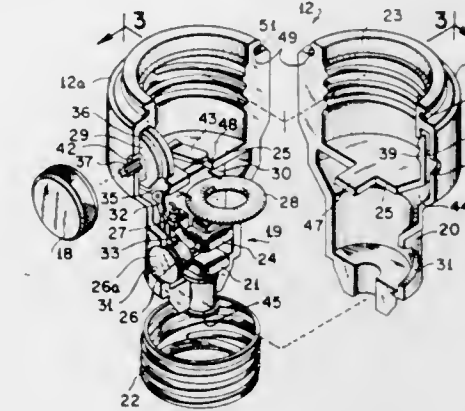
VARIABLE LIGHT DIMMING ADAPTORS FOR INCANDESCENT BULBS

Bennett C. Garrett, 3004 Coolidge, Costa Mesa, Calif. 92626

Filed May 7, 1968, Ser. No. 727,172
Int. Cl. G05f 3/04; H05b 37/02

U.S. Cl. 315—272

3 Claims



A light dimming adaptor for adapting a lamp fixture to variably illuminate an incandescent bulb from a dim-off condition to a full illumination condition. A body structure for the adaptor having a base portion and a socket portion houses the elements of a dimming circuit including a load semiconductor device and a potentiometer. The semiconductor device is positioned in the base portion in contact with a conductive screw sleeve provided on the outer surface thereof for dissipating heat generated by the semiconductor device, and the potentiometer is positioned in a cavity provided in the socket portion with a knob on the wall thereof for adjusting its setting to thereby control the intensity of illumination of the bulb.

3,543,089

SIGNALING SYSTEM FOR TRANSMITTING INFORMATION BETWEEN POINTS OF DIFFERENT POTENTIAL

Otto Jensen, Malvern, Pa., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Jan. 22, 1968, Ser. No. 699,628
Int. Cl. H02h 7/16, 1/00, 33/12

U.S. Cl. 317—12

12 Claims

A signaling system for insulatingly transmitting information between two points of different potential. At one

rial spans the two different points and interconnects the relay with the contacts, such that energization of the relay effectuates movement of the contacts.

3,543,090

OVERLOAD PROTECTION CIRCUIT

Anthony C. Pfister, Gary J. Drinan, and Roland L. Krieger, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Dec. 13, 1968, Ser. No. 783,616
Int. Cl. H02h 5/04

U.S. Cl. 317—13

6 Claims



An overload protection circuit in series with a control relay coil includes two triacs in shunt relationship and two resistances, one of which is a thermistor with a positive temperature coefficient. The thermistor is in the actuating circuit of the first triac and the operating circuit of the second, and the second resistance is in the actuating circuit of the second triac. The resistances and triacs are selected so that at normal temperatures the actuating current for the first triac is proportionately greater, and, therefore, during any half cycle the first triac is triggered first, shorting out the second triac and allowing normal coil operation. The value of the PTC resistance rises in response to heat indicating an overload condition, however, and the relative values change so that the second triac triggers first, which shorts out the first triac and puts the now relatively high value PTC resistance in series with the coil, reducing the voltage across the coil and causing it to drop out. A preferred embodiment includes a storage capacitor to insure full cycle triggering

of the second triac, a holding resistance which is connected across the second resistance upon dropout to insure maintenance of the desired value ratio between the two resistances, and a latching circuit which insures continuous triggering of the second triac to prevent reactivation of the coil until the latching circuit is broken in a reset action.

3,543,091

SOLID STATE CIRCUIT BREAKER

Albert J. Marek, Dallas, Tex., assignor to LTV Aerospace Corporation, Dallas, Tex., a corporation of Delaware

Filed Dec. 23, 1968, Ser. No. 786,212

Int. Cl. H02h 3/24

U.S. Cl. 317—22

5 Claims



This invention is a solid state circuit breaker for controlling current flow from a direct current source in response to an applied control signal. A driver circuit is connected in series between the source and the base of the solid state circuit breaker to control the application of bias potential to the base of the circuit breaker. A control transistor is connected in series between the driver circuit and ground with a timing capacitor connected between the collector-to-emitter junction of the control transistor. The charging of the timing capacitor is operable to turn off the driver circuit when the voltage responsive Zener diode, connected to sense the potential at the point between the source and the load, detects a potential below a predetermined level. A reset source is also provided with a capacitor connected in series therewith to prevent application of continuous reset signals to the base of a transistor shunting the timing capacitor.

3,543,092

DISTANCE RELAYS

Hans Hoel, Oslo, Norway, assignor to The English Electric Company Limited, London, England, a British company

Filed Sept. 23, 1968, Ser. No. 761,580

Claims priority, application Great Britain, Sept. 22, 1967, 43,335/67

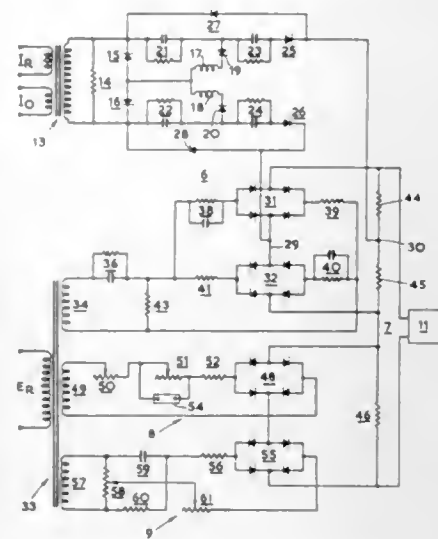
Int. Cl. H02h 3/38

U.S. Cl. 317—27

9 Claims

This invention relates to a distance relay for protecting high voltage transmission and distribution lines from faults, in which the line current is monitored and its derivative (di/dt) is determined at the instant at which it traverses its zero datum, and in which the line voltage is rectified, together with a voltage phase-shifted therefrom, and their values added to the current derivative at

the said instant. An output circuit is energised in response to any portion of these summated quantities traversing the zero datum, this output circuit extending the "reach"



of the relay when employed in a "starter" unit and initiating protective action on the line when employed in a "distance measuring" unit.

3,543,093

POWER SUPPLY MONITOR

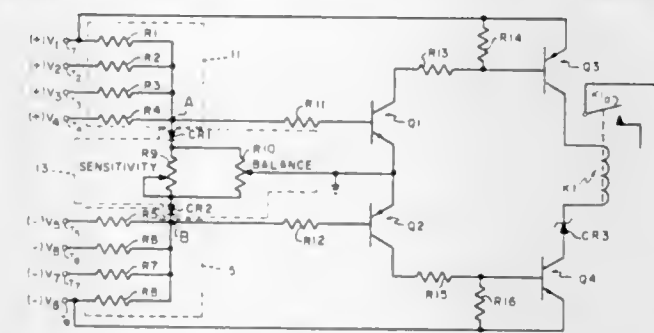
Wayne S. Linfield, Sparks, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland

Filed Apr. 7, 1967, Ser. No. 629,324

Int. Cl. H02h 3/20, 3/36

U.S. Cl. 317—31

22 Claims



A single circuit power supply monitor is disclosed for continuously monitoring all of a selected plurality of DC voltage sources. The monitor circuit includes two oppositely biased primary electron control devices, in the form of opposite conductivity type transistors, each normally biased slightly into conduction at the desired voltage level for all of the monitored power supplies. Each of these two primary electron control devices in turn controls the current flow through a respective one of a further two normally fully conducting electron control devices in the form of two opposite conductivity type transistors, which are serially connected with and at opposite ends of an electron flow responsive indicating and/or actuating device, taking the form of a power cut-off relay and/or an indicator lamp, buzzer, or the like. A threshold voltage limiting control device in the form of a Zener diode is also preferably connected in series with and between the current responsive device to achieve clean cut-in and cut-out.

3,543,094

OVERCURRENT PROTECTIVE DEVICE

William H. South, McKeesport, and John H. Taylor, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 7, 1968, Ser. No. 765,552

Int. Cl. H01h 47/18, 3/22

U.S. Cl. 317—36

6 Claims

An overcurrent protective device of the time delay type is provided which is responsive to the current in an elec-

trical circuit which is being protected to actuate the tripping or opening of an associated circuit breaker upon the occurrence of predetermined operating conditions. The protective device includes a first means which is responsive substantially instantaneously when the current in the protected circuit exceeds a predetermined value and second means which is responsive to certain overcurrents

light flux. The state of the protection circuit is indicated by a neon lamp indicating circuit. Photocathode current calibration and monitoring apparatus are also provided.

3,543,096

METHOD AND APPARATUS FOR SENSING AND CORRECTING AN OVERLOADED ELECTRICAL CIRCUIT

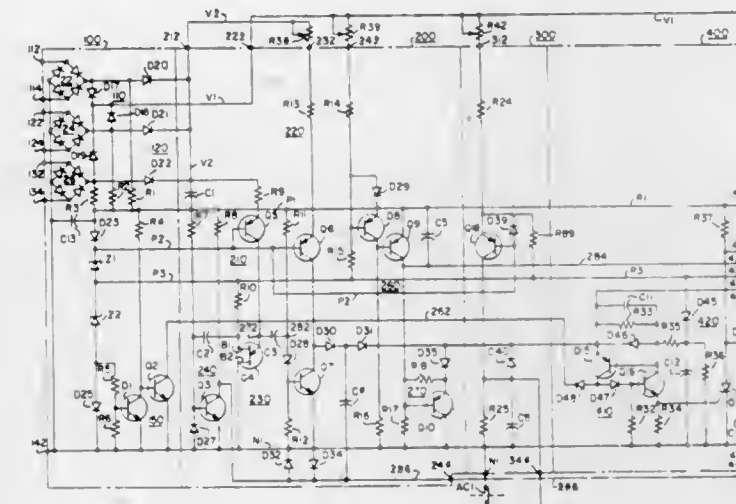
Edward F. Bedford, North Olmsted, Ohio, assignor to Systems Electronics Inc.

Filed Feb. 5, 1968, Ser. No. 703,167

Int. Cl. H02h 1/00

U.S. Cl. 317—54

5 Claims



after a predetermined time delay which may vary inversely with the overcurrent and the associated circuit breaker includes a means which is operatively connected to the first means of the protective device to render the first means inoperative or to inhibit the operation of the first means of the protective device during certain operating conditions of the associated circuit breaker.

3,543,095

PHOTOCATHODE PROTECTION CIRCUIT

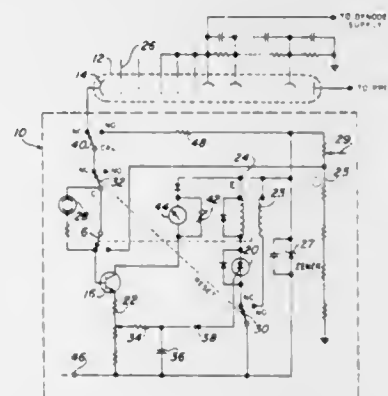
Richard L. Ensminger, San Diego, and Robert F. Howarth, La Mesa, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 5, 1968, Ser. No. 773,487

Int. Cl. H02h 7/20; H01j 39/12

U.S. Cl. 317—51

6 Claims



A photocathode protection circuit applicable to high voltage electron multiplier devices is disclosed. The protection circuit features the positive firing action of a silicon controlled rectifier (SCR). The firing point of the SCR is set such that protection actuation occurs when the photocathode current is of a predetermined maximum magnitude. Firing of the SCR actuates a relay which transfers the photocathode from its most negative potential with respect to the electrode potential to a more positive potential. In such a potential state, the photocathode is effectively reverse biased and electron flow is prevented irrespective of the magnitude of incident

Disclosed is a method and apparatus for sensing and correcting an overloaded electrical circuit including a power supply unit which is defined by an incoming line having a positive and negative side adapted to be connected to a source of electrical power, means to vary the voltage, and output means for connecting electrical apparatus to the power supply unit. The apparatus of this invention is comprised of a circuit breaker connected in series with at least one side of the incoming line and having internal switching means adapted to open in the event of an overloaded condition of the incoming line. The circuit breaker is provided with an external reset arm adapted to reset the internal switching means to a closed position. A key operated tumbler lock including a key plug rotatable in a lock cylinder and a keyway is attached to a panel of the power supply unit such that the keyway is accessible from the exterior of the power supply unit. The key plug of the tumbler lock is interconnected to the external reset arm of the circuit breaker by means of a connecting arm and pin linkage. Thus, the internal switching means of the circuit breaker may be reset by a key inserted in the keyway. The connection between the external reset arm and the internal switching means of the circuit breaker is of the lost motion type permitting the internal switching means to open independently of the external reset arm and the key plug.

The method of this invention comprises the steps of:

(a) Providing a key operated tumbler lock including a key plug rotatable in a lock cylinder with a keyway accessible from the exterior of the power supply unit.

(b) Providing a mechanical linkage between the key plug and an external reset arm of a circuit breaker connected in series with at least one side of an incoming line of the power supply unit; the circuit breaker having internal switching means adapted to open in the event of an overloaded condition of the incoming line and adapted to be reset by the external reset arm.

(c) Providing a lost motion linkage between the internal switching means of the circuit breaker and the key plug permitting the internal switching means to open independently of the key plug in the event of an overloaded condition of the incoming line of the power supply unit.

(d) Connecting electrical apparatus to output means of the power supply unit.

(e) Sensing an open internal switching means condition in the circuit breaker due to an overloaded condition of the incoming line.

(f) Correcting the circuit condition which created the open internal switching means condition.

(g) Inserting a key adapted to be received in the keyway and turning the key plug to thereby reset the internal switching means of the circuit breaker.

(h) Removing the key from the keyway.

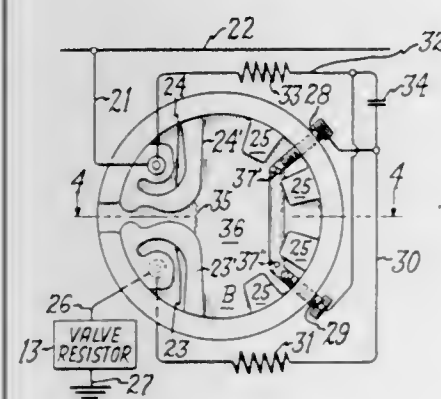
3,543,097

DIRECT CURRENT LIGHTNING ARRESTER WITH AUTOMATIC ARC QUENCHING MEANS

Sidney R. Smith, Jr., Myrtle Beach, S.C., assignor to General Electric Company, a corporation of New York
Filed July 18, 1968, Ser. No. 745,933
Int. Cl. H02h 1/00

U.S. Cl. 317—68

18 Claims



A lightning arrester having a spark gap assembly with a pair of main spark gap electrodes and with one or more auxiliary electrodes disposed in proximity to the main electrodes and adapted to be electrically contacted by an arc formed across the spark gap. The auxiliary electrodes are connected to a source of voltage that introduces an electric discharge into the main spark gap arc when the arc moves into contact with these electrodes. This electric discharge facilitates extinction of the arc, as a direct function of arc voltage, independent of power-follow current voltage.

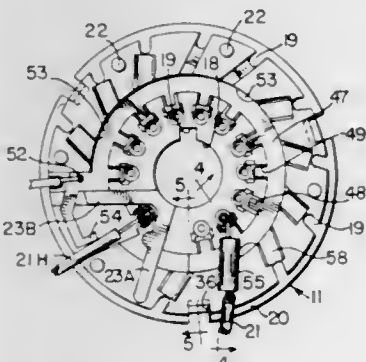
3,543,098

ELECTRON TUBE SOCKET ASSEMBLY

Stephen S. Simovits, Jr., Forest Park, Christ J. Dumas, Forest View, and Fred P. Manetti, River Forest, Ill., assignors to American Plasticraft Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 23, 1969, Ser. No. 793,507
Int. Cl. H02b 9/00

U.S. Cl. 317—101

12 Claims



An electron tube socket assembly having resistors incorporated therein in close proximity to the lead terminals. The socket includes an arc protective arrangement

including a conductor ring having fingers located adjacent selected lead terminals to form an arc therebetween and thereby to prevent arcing between the lead terminals. The socket is constructed to maintain a predetermined air dielectric gap between the lead terminal and associated finger and thereby effect control of the arc gap within close tolerances.

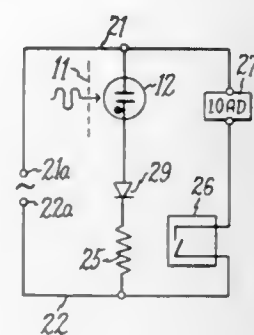
3,543,099

PHOTOELECTRIC CONTROL DEVICE

Charlie B. Turner, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed Apr. 23, 1968, Ser. No. 723,532
Int. Cl. H01h 47/24

U.S. Cl. 317—124

5 Claims



Photoelectric control device for switching loads such as street lights on and off comprises the combination of a photo-sensitive gaseous discharge tube for sensing radiant energy of predetermined wavelength, switch means for operating the load in response to actuation of the gaseous discharge tube by said radiation, and a thermally stable optical filter composed of a copolymer of tetrafluoroethylene and hexafluoropropylene interposed between the gaseous discharge tube and the source of said radiant energy.

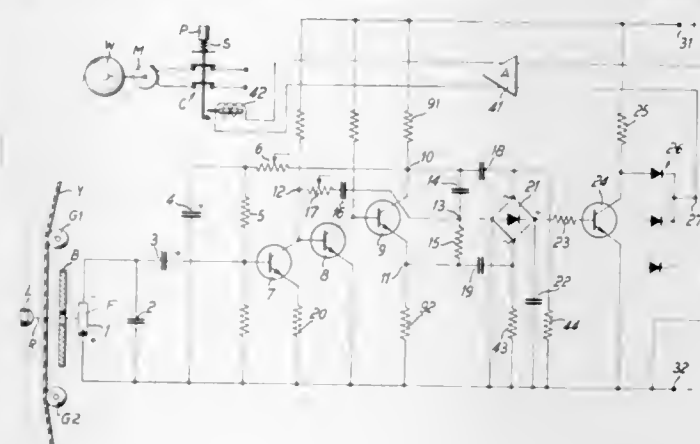
3,543,100

TEXTILE MACHINE CONTROL SYSTEM

Walter Gith, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed July 24, 1968, Ser. No. 747,263
Claims priority, application Germany, July 27, 1967, R 46,603
Int. Cl. D04c 3/38

U.S. Cl. 317—130

4 Claims



A transducer produces alternating voltages in response to changes of yarn travel conditions in a textile machine. A frequency-responsive circuit connected to the transducer raises the amplitudes of high frequencies and lowers the amplitudes of low frequencies. A rectifier circuit connects a capacitor to the frequency-responsive circuit for changing the charge of the capacitor in response to changes in frequency-responsive amplitude. An amplifier connects the capacitor to a stop control member to control the system for rapid stopping performance in response to small voltage changes of the transducer.

3,543,101

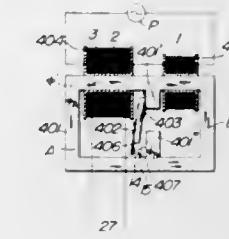
ALTERNATING CURRENT ELECTROMAGNETIC APPARATUS

Koichi Yoshimura and Yoshio Yamamoto, Kadoma-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Jan. 12, 1968, Ser. No. 697,498

Claims priority, application Japan, Jan. 16, 1967, 42/3,555 (utility models), 42/4,717, 42/4,718, 42/4,719; Mar. 17, 1967, 42/17,571; May 12, 1967 (utility model), 42/40,168; June 12, 1967 (utility models), 42/50,939, 42/50,940, 42/50,941, 42/50,942, 42/50,943; June 13, 1967 (utility models), 42/51,297, 42/51,298, 42/51,299, 42/51,300, 42/51,301, 42/51,302
Int. Cl. H01k 47/00

U.S. Cl. 317—156

1 Claim



An alternating current electromagnetic apparatus which comprises a variable reactor having a high voltage main coil and a low voltage control coil wound in a magnetic circuit of low magnetic resistance, and an electromagnet having a high voltage exciting coil wound in a magnetic circuit of high magnetic resistance including an armature, said main coil and said exciting coil being connected in series with each other and with an alternating current power supply source, the impedance of said low voltage control coil being varied to thereby remote-control said armature.

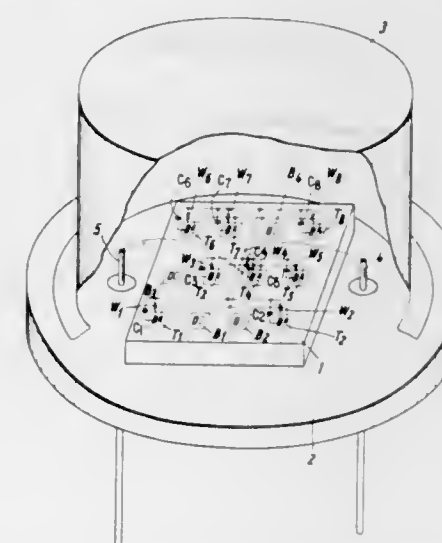
3,543,102

COMPOSITE SEMICONDUCTOR DEVICE COMPOSED OF A PLURALITY OF SIMILAR ELEMENTS AND MEANS CONNECTING TOGETHER ONLY THOSE ELEMENTS HAVING SUBSTANTIALLY IDENTICAL ELECTRICAL CHARACTERISTICS

Reinhard Dahlberg, Dieter Gerstner, and Walter Klossika, Heilbronn (Neckar), Germany, assignors to Telefunken Patentverwertungs GmbH, Ulm (Danube), Germany
Filed Mar. 30, 1964, Ser. No. 355,694
Claims priority, application Germany, Apr. 5, 1963, T 23,794
Int. Cl. H01l 19/00

U.S. Cl. 317—101

2 Claims



The present invention relates generally to the semiconductor art, and more particularly, to a semiconductor arrangement which includes several semiconductor elements

and especially transistors and/or diodes which are connected together and built up on a common semiconductor body. The invention also relates to a method for producing such an arrangement.

The semiconductor elements of such an arrangement are thermally coupled because they have a common semiconductor body. However, by this thermal coupling no sufficient increase in power handling capability is obtained.

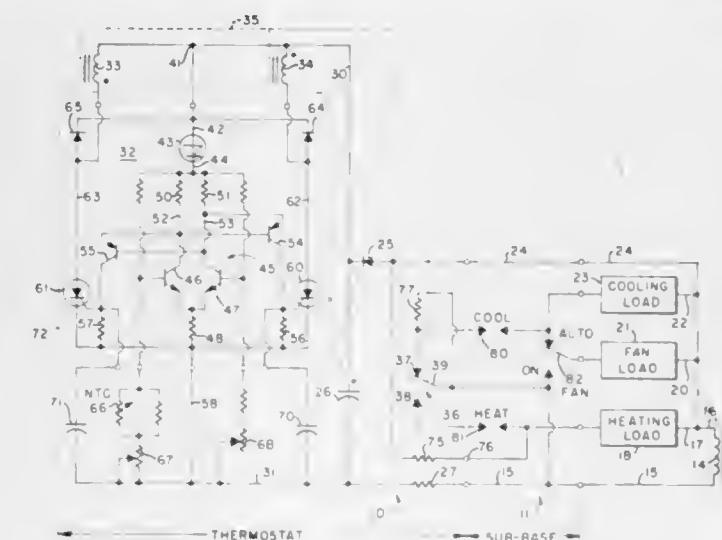
3,543,103

PULSE OPERATED CONDITION CONTROL DEVICE

Balthasar H. Pinckaers, Edina, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 11, 1968, Ser. No. 736,088
Int. Cl. H01h 47/32

U.S. Cl. 317—148.5

2 Claims



A solid state temperature control device that uses a bridge and amplifier network to fire solid state switching devices through a bistable switch means disclosed as a polarized relay. The power for the bridge and amplifier means is supplied from an integrating circuit through a voltage breakdown device so that pulses of energy are periodically applied to the bridge and amplifier for operation of the device.

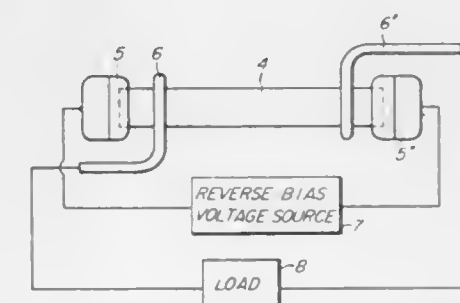
3,543,104

SOLID-STATE SWITCHING DEVICE INCLUDING METAL-SEMICONDUCTOR PHASE TRANSITION ELEMENT AND METHOD FOR CONTROLLING SAME

Jun-ichi Umeda, Kodaira-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Feb. 13, 1969, Ser. No. 798,905
Claims priority, application Japan, Feb. 14, 1968, 43/9,268
Int. Cl. H01l 15/00

U.S. Cl. 317—234

5 Claims



A solid-state switching device including a metal-semiconductor phase transition element which exhibits the first order phase transition and in which there coexist both

a metallic phase and a semiconductive phase at and in the vicinity of a particular temperature. Such a device can perform an electrical switching operation by conditioning the element so as to have both a metallic phase and a semiconductive phase simultaneously and by applying to the element in a reverse bias direction such a control electric field that will render either one of the metallic and semiconductive phases predominant in the element so that the element may be either conductive or non-conductive depending upon the applied control electric field.

3,543,105

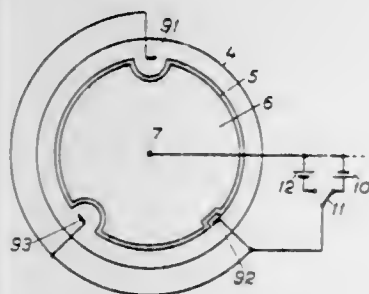
SWITCHING MEANS COMPRISING A THYRISTOR WITH CONTROLLED AND BIAS ELECTRODES

Per Svedberg, Vallingby, Bengt-Arne Vedin, Kungsängen, Karl Malen, Stockholm, and Carl Ingvar Boksjö, Karl Erik Olsson, and Erich Spicar, Ludvika, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed July 1, 1968, Ser. No. 741,671
Claims priority, application Sweden, June 30, 1967, 9,872/67

Int. Cl. H011 11/10

U.S. Cl. 317—235

3 Claims



A thyristor includes a semi-conducting body with adjacent base and N-emitter layers and an ignition control electrode connected to the base layer. One or more bias electrodes are connected to the base layer and are supplied at least during the blocking interval with negative bias voltage to increase the resistance of the thyristor to dV/dt ignition.

3,543,106

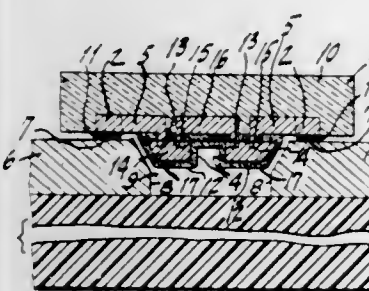
MICROMINIATURE ELECTRICAL COMPONENT HAVING INDEXABLE RELIEF PATTERN

Werner Kern, Belle Mead, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 13, 1968, Ser. No. 712,855

Int. Cl. H011 11/00, 15/00

U.S. Cl. 317—235

15 Claims



A microminiature electrical component in the form of a die having a relief pattern on one of its major surfaces. The relief pattern may be provided by etching an insulating layer disposed on the die surface. The die may comprise a semiconductor material, the semiconductor material itself being shaped to provide the desired relief pattern.

3,543,107 LOW-LOSS, EXTENDED-RANGE, TUNEABLE FIXED CAPACITOR

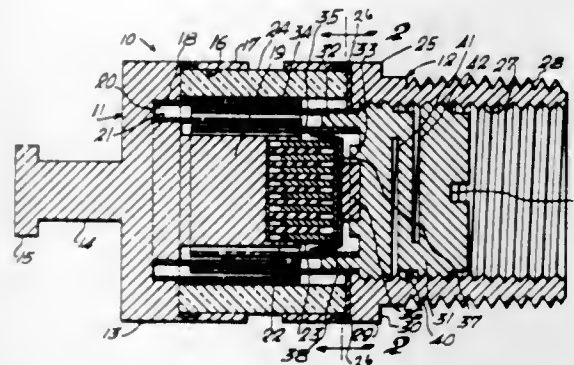
John E. Johanson, Boonton, and Norman Eric Johanson, Morristown, N.J., assignors to Johanson Manufacturing Corporation, Boonton, N.J.

Filed June 25, 1969, Ser. No. 836,287

Int. Cl. H01g 5/04

U.S. Cl. 317—251

10 Claims



A low-loss, extended-range, tuneable fixed capacitor is described, including rotor and stator end support members held in axially-spaced relation by means of a ceramic support tube, end portions of which press-fitted in cylindrical openings in said end members, wherein tubular capacitor plates are concentrically arranged in intermeshed relation within the ceramic support tube and secured in place by end portions thereof being press-fitted with respect to annular wall surfaces of annular recesses provided in said rotor and stator end support members to constitute the air capacitance portion of the capacitor, and wherein a capacitor chip member located centrally within the intermeshed capacitor plates is electrically connected in parallel with the air capacitance portion to provide a high Q, high capacitance tuneable tubular capacitor of extraordinarily small physical size.

ERRATA

For Classes 318—146 thru 318—69.1 see:
Patent Nos. 3,543,112 thru 3,543,124

3,543,108

SYSTEM FOR MEASURING THE TIME INTERVAL BETWEEN TWO NON-REPETITIVE PULSES

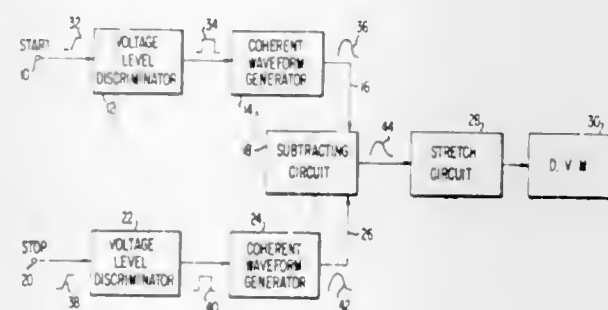
Clive A. Collins, Poughkeepsie, Jerry E. Evans, Stormville, Philippe C. Furois, Fishkill, and George H. Lowe, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 10, 1968, Ser. No. 720,261

Int. Cl. G04f 9/00

U.S. Cl. 324—189

8 Claims



A system for measuring the time interval between two transients or non-repetitive input pulses. The first input pulse is applied to a voltage level discriminator which

triggers a coherent waveform generator when the input pulse exceeds the threshold level of the discriminator. The generator produces a single pulse which has the shape of a critically damped sinusoidal wave. This is in time coherence with the first input signal. The critically damped sinusoidal shaped pulse is applied to one input of a hybrid junction. In like manner, the second input pulse is fed to a voltage level discriminator and then to a second coherent waveform generator which produces a second time coherent pulse which is applied to the other input of the hybrid junction. The hybrid junction produces an output voltage whose maximum amplitude is a function of the time interval between the two input pulses. The maximum amplitude of the output voltage is stored by a stretch circuit and measured by a digital voltmeter calibrated in suitable time units, such as nanoseconds.

3,543,109

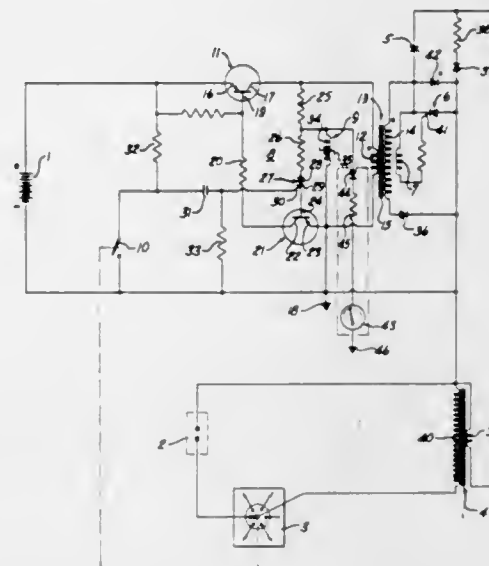
SPEED INDICATING APPARATUS FOR AN INTERNAL COMBUSTION ENGINE HAVING AN ELECTRONIC IGNITION SYSTEM

Floyd M. Minks, Kissimmee, Fla., assignor to Brunswick Corporation, Chicago, Ill., a corporation of Delaware
Original application Oct. 4, 1965, Ser. No. 492,570.
Divided and this application Apr. 10, 1968, Ser. No. 720,220

Int. Cl. G01p 3/12

U.S. Cl. 324—169

2 Claims



This disclosure relates to a tachometer coupled to a blocking oscillator converter of a capacitor discharge ignition system including a saturable magnetic core which is driven into saturation during each firing pulse formation of the converter. The tachometer readout device is connected in series with a diode and resistor across the saturable magnetic core unit and is directly driven by the average level of the output pulses and therefore directly proportional to the engine r.p.m.

3,543,110

CONVERTER CIRCUIT FOR WHEEL SPEED TRANSDUCER

Edgar J. Ruof, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Apr. 4, 1968, Ser. No. 718,862

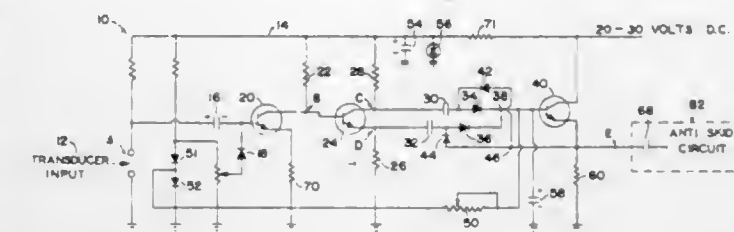
Int. Cl. G01p 3/12

U.S. Cl. 324—166

5 Claims

The invention converts the alternating signal from a wheel speed transducer into a proportional DC voltage by determining when the alternating signal shifts from either positive to negative or negative to positive and

providing capacitor reinforcement at these points of shift, thus in effect doubling the normal periodic capacitor reinforcement presently utilized by the state of the art. In effect, this circuit allows a reduction of 1/2 in the



number of teeth in the design of a normal exciter ring associated with the transducer, thereby permitting the use of larger teeth, wider clearances; and looser tolerances in the transducer pickup.

3,543,111

VENDING MACHINE OPERATION SIMULATOR AND TESTER

John A. Harris and Warren C. Fuss, Hagerstown, Md., assignors to Victor Products Corporation, Hagerstown, Md.

Filed June 5, 1968, Ser. No. 734,713

Int. Cl. G01r 31/00

U.S. Cl. 324—73

2 Claims



The apparatus shown is a testing device for an electrically operated vending machine. In the first sequence of testing, the device simulates all electrical functions of the vending machine except the control box, thereby testing the control box to verify its proper operation or pinpointing the particular control function which is not operating. In succeeding sequences of testing, the device points out any electrical defect in the balance of the vendor wiring.

3,543,112

LOCOMOTIVE SPEED CONTROL DEVICE

Abraham W. Richmond, Hickory Hills, Ill., assignor to Vapor Corporation, Chicago, Ill., a corporation of Delaware

Filed Jan. 29, 1969, Ser. No. 794,899

Filed Jan. 29, 1969, Ser. No. 794,899

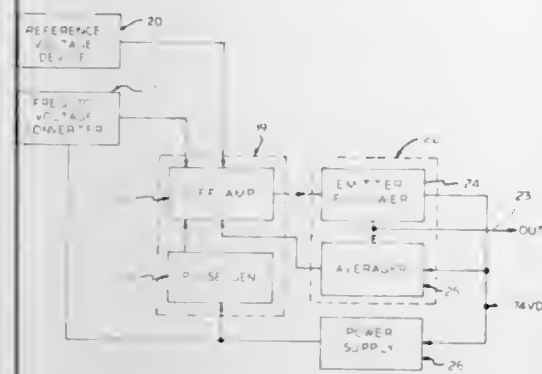
Int. Cl. H02p 5/24

U.S. Cl. 318—146

12 Claims

Speed control device for automatically controlling the low speed of a locomotive in a consist, wherein uniform speed is maintained even though the weight of the consist

may increase or decrease, such as during loading or unloading operations, and which device includes electronic circuitry which receives a speed signal from a speed indi-



cator device and compares it with a reference signal of a preselected speed, and thereby controls the operation of the locomotive drive train.

3,543,113

LOAD WEIGHT CIRCUIT FOR TRACTION MOTOR CONTROL SYSTEMS

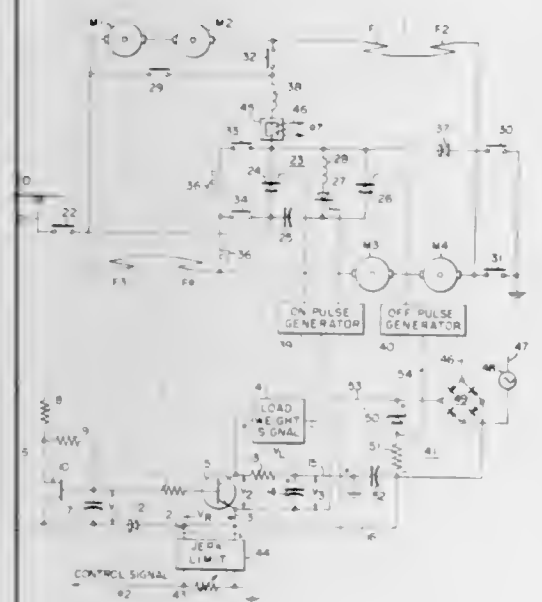
Lalan G. Miller, Forest Hills, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 6, 1968, Ser. No. 711,002

Int. Cl. H02p 5/20

U.S. Cl. 318-142

8 Claims



A load weight circuit for traction motor control systems for adjusting the tractive effort or braking effort to the weight of the car. The circuit provides a load weight bias voltage proportional to both the weight of the car and an incoming control signal and adds the bias voltage to the control signal to provide a modified control signal to the motor control system.

3,543,114

DRIVE MEANS FOR 2-PHASE MOTOR

Susumu Tadokuma and Yasuaki Miyazaki, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan

Filed July 5, 1968, Ser. No. 742,767

Claims priority, application Japan, July 8, 1967, 42/43,622, 42/43,623

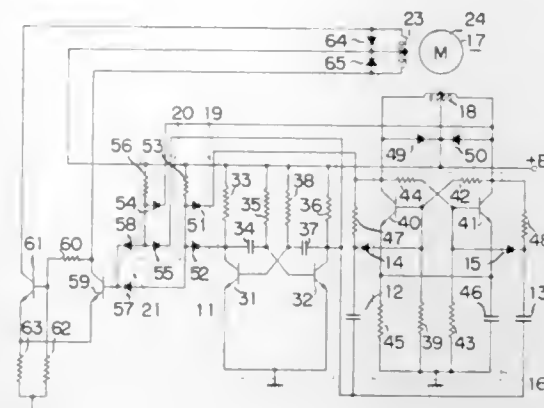
Int. Cl. H02p 5/40

U.S. Cl. 318-227

2 Claims

A drive means for a 2-phase motor which supplies first and second exciting coils for the stator magnetic pole ar-

anged at a prescribed angular interval around the rotor of the 2-phase motor with first and second exciting currents having the same period and yet a phase differential



of 90°. The second exciting current is produced in response to the first exciting current using a logical circuit or an interlocking circuit.

3,543,115

ELECTRIC MOTOR SPEED CONTROL

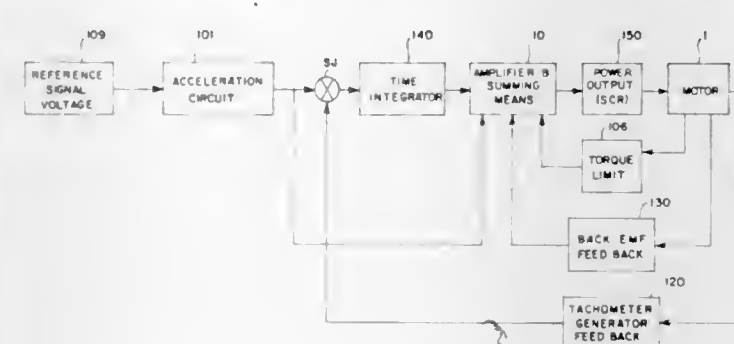
James W. Grygera, Kenosha, Wis., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio

Filed Sept. 26, 1967, Ser. No. 670,542

Int. Cl. H02p 5/18

U.S. Cl. 318-308

7 Claims



A control is disclosed for operating a dynamoelectric device such as a DC motor or the like. The speed of the DC motor is controlled by providing a tachometer generator feedback signal and a back EMF feedback signal, both of which are proportional to the speed of the motor which is controlled. The feedback signals are combined with a reference potential which is proportional to a preselected speed of the motor. By combining the aforementioned signals the speed of the motor can be maintained substantially equal to the preselected speed even under variable load conditions.

Also, a means is provided for preventing the torque of the motor from exceeding substantially the rated torque of the motor which is controlled.

3,543,116

DIGITAL VARIABLE SPEED CONTROLLER COMPARING A TACHOMETER PULSE SOURCE WITH A REFERENCE

Lambert Haner, Rocky River, and Robert H. Sayre, Orange Village, Ohio, assignors to Avtron Manufacturing, Inc., Cleveland, Ohio, a corporation of Ohio

Filed May 1, 1968, Ser. No. 725,798

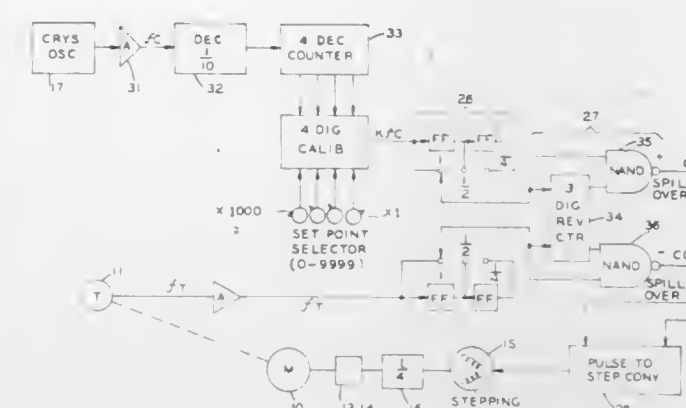
Int. Cl. H02p 7/42

U.S. Cl. 318-318

2 Claims

A digital speed controller with an analog output usable as a retrofit for an existing motor rheostat, engine governor, or the like, has a manually calibrated source of

timing pulses, a tachometer generator source of controlled pulses, a gain factor selector for affecting the pulse rate from both sources, a digital comparator for comparing the pulse rates delivered by the selector, and



a reversible control motor energized by the digital comparator for automatic operation. Manual control is possible, either with pushbuttons or by turning the control motor, by hand, when de-energized.

3,543,117

ELECTROMECHANICAL OSCILLATOR

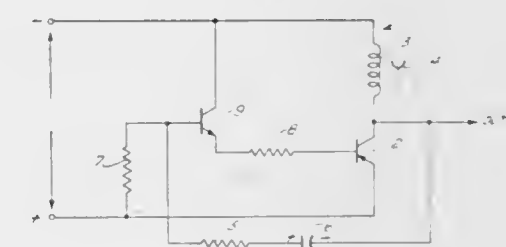
Edward S. Muraski, Cos Cob, Conn., assignor to General Time Corporation, Stamford, Conn., a corporation of Delaware

Filed Jan. 9, 1969, Ser. No. 790,076

Int. Cl. H02p 5/40

U.S. Cl. 318-329

15 Claims



An electromechanical oscillator which produces an asymmetrical output wave form and which operates at a submultiple of the tuning fork frequency.

3,543,118

DYNAMOELECTRIC MACHINE CONTROL CIRCUIT INCLUDING VARIABLE RESPONSE NETWORK

Leslie A. Koenig, Cleveland, Ohio, assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Mar. 14, 1968, Ser. No. 713,089

Int. Cl. H02p 3/04

U.S. Cl. 318-331

11 Claims

This disclosure relates to a motor control circuit including an error operational amplifier and a summing signal amplifier connected in a closed loop. The error amplifier is constructed with a three feedback path characteristic of differing gain. Pairs of Zener diodes are connected in parallel with resistance elements of the three paths to selectively insert the resistances to establish a high gain for small error signals, an intermediate gain at intermediate operating error signals and a minimal gain at larger error signals. A cutoff relay is also connected across certain Zener diodes and corresponding resistors to establish minimal gain when a command signal is

absent. The error operational amplifier is connected to the summing amplifier by paralleled diodes such that the



error signal must rise above a selected level before it becomes operative.

3,543,119

CONDITION SENSITIVE SPEED CONTROL FOR ELECTRIC MOTORS UTILIZING A HYSTERESIS CAPACITOR AND A NETWORK FOR PREVENTING FALSE TRIGGERING

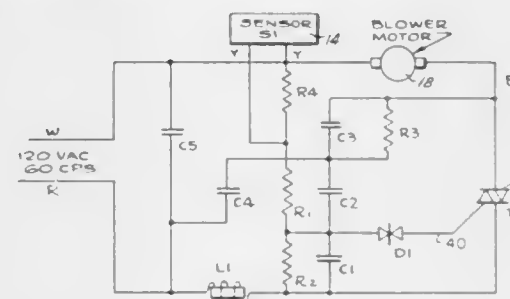
Frederick T. Bauer and Alan F. Lietzke, Holland, Mich., assignors, by direct and mesne assignments, to Simicon Company, Holland, Mich., a corporation of Michigan

Filed Nov. 17, 1967, Ser. No. 684,019

Int. Cl. H02p 5/12

U.S. Cl. 318-334

1 Claim



A solid state control apparatus for electrical motors and the like in which a gated symmetrical switch is activated at its lead gate by the pulsing of a PNP trigger diode. Hence when the pulse is impressed on the gate of the (Triac) gated symmetrical switch then it conducts current to and through an inductance load such as a motor wired in series. Hence the gated symmetrical switch, when pulsed, is rendered conductive to line current and intermediate its on-off function the rate of charge of a capacitor establishes the control speed of the motor through an infinite range monitored by a sensing element, as for example, a thermistor. This structure finds primary use as a blower control, for example, in warm air heating installations where the sensor is thermally responsive.

3,543,120

TRIGGER OPERATED SPEED CONTROL UNIT WITH CIRCUIT BOARD

Conrad D. Robertson, Northbrook, Ill., assignor to Skil Corporation, Chicago, Ill., a corporation of Delaware

Filed July 28, 1969, Ser. No. 845,317

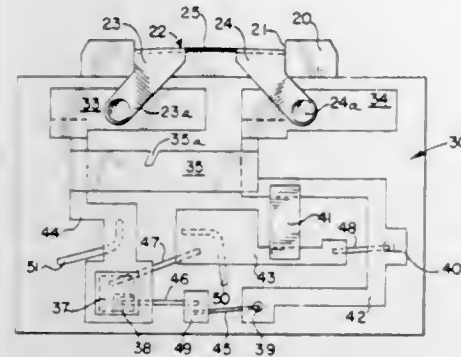
Int. Cl. H02p 5/16

U.S. Cl. 318-345

10 Claims

The speed control unit includes a casing mounting a trigger for reciprocal movement relative thereto. A ceramic circuit board is contained in the casing and mounts

all of the components of a speed control circuit including a resistance strip extending along one margin of the circuit board. A contact carried by the trigger slides along



this resistance strip during movement of the trigger thereby defining a variable resistor which is one component of the speed control circuit.

3,543,121

JERK LIMIT CIRCUIT FOR TRACTION MOTOR CONTROL SYSTEMS

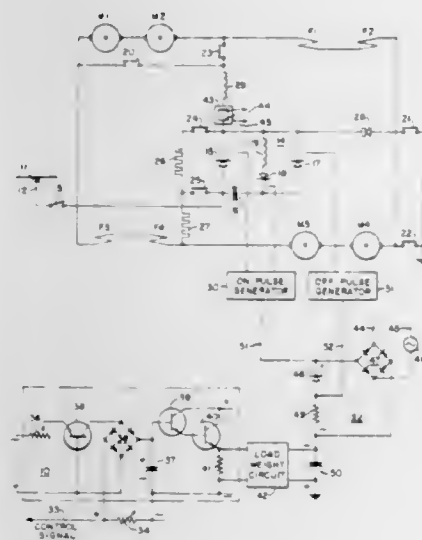
Lalan G. Miller, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 6, 1968, Ser. No. 711,103

Int. Cl. H02p 1/04

U.S. Cl. 318—393

3 Claims



A circuit, primarily intended for use in traction motor control systems, for limiting the rate of change of an incoming control signal to a predetermined maximum to limit the rate of change of acceleration or deceleration of the motors to an acceptable value of safety and comfort of passengers.

3,543,122

AUTOMATIC AEROSOL DISPENSER

Leonard J. Klebanoff, Willowdale, Ontario, and Henry James Taylor, Don Mills, Ontario, Canada, assignors to Air Guard Control of Canada Limited, Downsview, Ontario, Canada, a corporation

Filed Jan. 2, 1968, Ser. No. 695,024

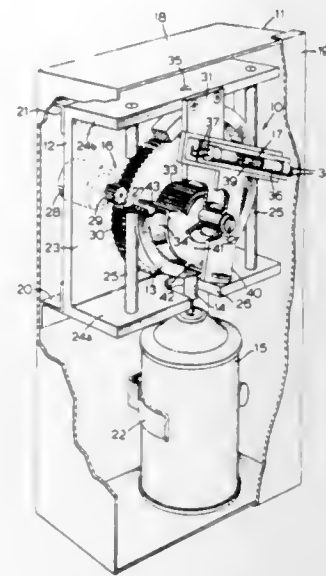
Int. Cl. H02p 5/00

U.S. Cl. 318—443

5 Claims

An automatic aerosol dispenser for releasing measured bursts of aerosol spray at timed intervals. Timing is achieved by controlling the length of time required for

a globule of mercury to slide down an inclined tube filled with a viscous fluid. Valve actuation is provided by an annular ring which is driven downwardly to open the valve by means of a small rubber ball positioned inside the annular ring. The rubber ball is in engagement



with a rotatable motor-driven drum which also is positioned inside the annular ring. The dispenser is preferably battery powered, and battery drain is kept to a minimum as current is drawn only during the brief intervals when the aerosol is being released.

3,543,123

POSITION SELECTOR CIRCUITS FOR A DRIVEN SHAFT OR OTHER DRIVEN MEMBER

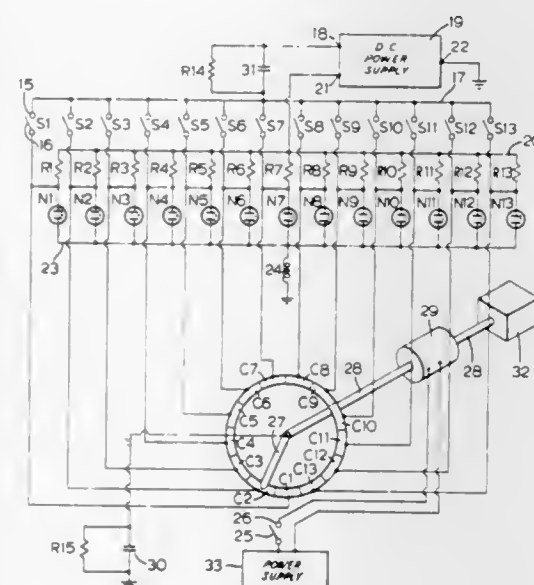
Robert B. Cavanagh, New Hamburg, Ontario, Canada, assignor to Electrohome Limited, North Kitchener, Ontario, Canada

Filed Dec. 18, 1967, Ser. No. 693,053

Int. Cl. G05b 11/26

U.S. Cl. 318—467

5 Claims



The selection of a circuit changes the conductivity of the circuit from one condition to the opposite condition. If the change in conductivity is from the one condition to the opposite condition, a driver driving a member automatically is operated, but when the change in conductivity is in the opposite direction, the driver automatically is rendered inoperative. The driven member is driven to

a position that is predetermined by selection of the circuit. When this position is reached, the conductivity of the circuit automatically is changed back to the one condition, and, hence, the driver automatically is rendered inoperative.

3,543,124

OVERLOAD AND FAILURE SENSING CIRCUIT HAVING DUTY CYCLE CURRENT LIMITING FOR SYNCHRO DATA TRANSMITTING AND RECEIVING APPARATUS

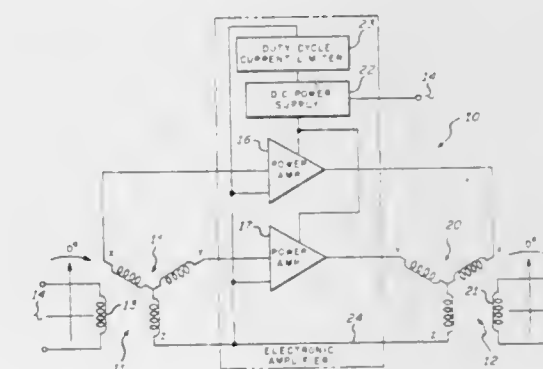
David A. Espen and Arland I. Olafson, Phoenix, Ariz., and Richard K. Radtke, Newbury Park, Calif., assignors to Sperry Rand Corporation, a corporation of Delaware

Filed June 14, 1968, Ser. No. 737,117

Int. Cl. G05b 9/02

U.S. Cl. 318—691

6 Claims



A circuit for sensing overload and failure conditions with respect to synchro data transmitting and receiving apparatus for providing duty cycle current limiting during overload and discrete failure monitoring in the event of failure.

3,543,125

ELECTRICAL SYSTEM FOR CHARGING AND DISCHARGING CAPACITORS

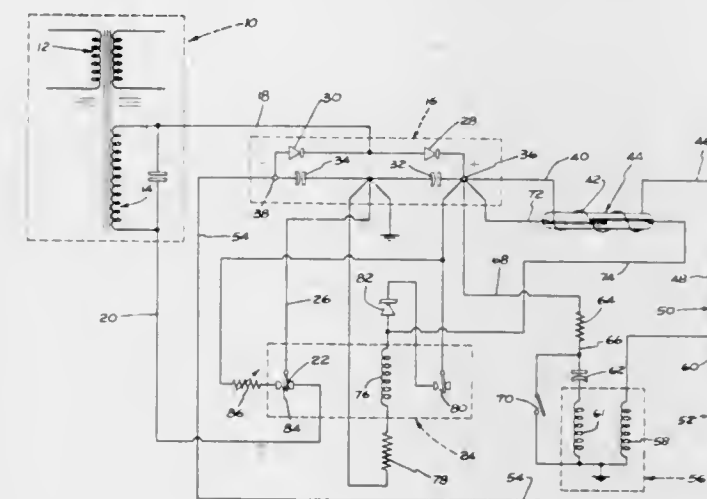
Lee V. Lawhead, Jr., Glendale, Calif., assignor to Mole-Richardson Co., Hollywood, Calif., a corporation of California

Filed Nov. 28, 1967, Ser. No. 686,252

Int. Cl. G05f 1/10; H02m 7/24; H05b 41/29

U.S. Cl. 320—1

17 Claims



An electrical system for charging capacitors and for rapidly discharging the capacitors into a load such as an electronic flash lamp type of gas discharge tube. The main capacitors serve as a power source and also as control elements for the actuation and timing of switching

means for momentarily reducing or completely cutting off the capacitor charging current to allow substantially complete deionization of the load. Further switching means in combination with a number of blocking diodes permits adjustment of the amount of energy released from the capacitor bank by allowing capacitor sections to be switched in and out of the bank with simplified circuitry, minimal switch erosion and rapid capacitor recharging.

3,543,126

BATTERY CHARGING SYSTEMS FOR ROAD VEHICLES

Roger William Nolan, Redditch, and David Wiley, Wall-sall, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company

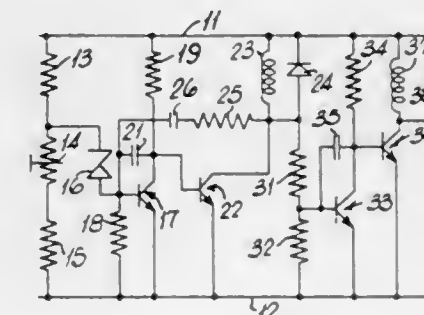
Filed June 14, 1968, Ser. No. 737,091

Claims priority, application Great Britain, July 7, 1967, 31,442/67

Int. Cl. H02j 7/04

U.S. Cl. 320—39

1 Claim



A battery charging system for a road vehicle where substantial output is required from the generating equipment of the vehicle includes two generators each charging the battery. A voltage regulator controls the output of the first generator, and the slave circuit coupled to and operable by the voltage regulator controls the output of the second generator.

3,543,127

BATTERY CHARGING CIRCUIT

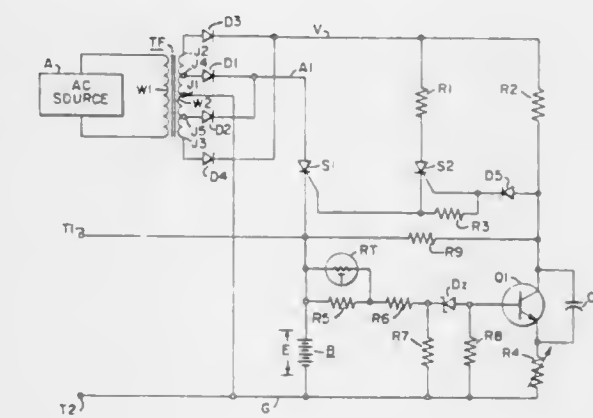
Warren C. Fry, Connellsville, and Eugene L. Kilbourn, Marshall, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 16, 1968, Ser. No. 727,132

Int. Cl. H02j 7/04

U.S. Cl. 320—39

11 Claims



A battery charging circuit is disclosed operative from an AC source whereon the AC output is converted, by for example, transformation and rectification, to a first unidirectional output voltage and a second unidirectional output voltage at a boosted level from the first voltage. A

power controlled switching device, such as a silicon controlled rectifier, is provided and receives the first unidirectional output voltage. Gating means are provided for the power controlled switching device and may comprise a gating controlled switching device, such as a silicon controlled rectifier, which is supplied from the second unidirectional output voltage. The power device is gated on in response to the gating on of the gating device. The battery to be charged is connected to a principal electrode circuit of the power device to be charged by current flow there-through. A reference circuit, which may include a Zener diode and a transistor, is utilized for controlling for charging of the battery in response to the battery voltage and for terminating the charging thereof when the battery voltage reaches a predetermined value. Temperature compensating means may also be included in the reference circuit for compensating for any variations in the operating temperature of the charger.

3,543,128

GENERATOR WITH AUTOMATIC STATIC REGULATOR

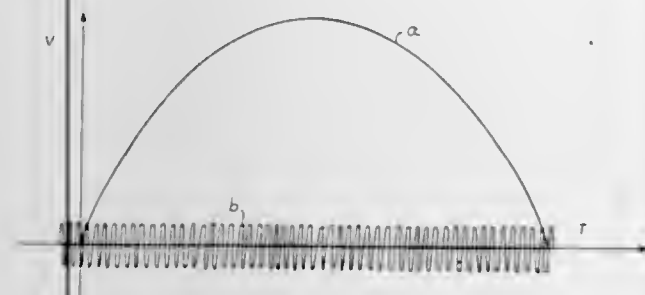
Luciano Roda and Camillo Caudioso, Bologna, Italy, assignors to Ducati Elettrotecnica S.p.A., Bologna, Italy, a corporation of Italy

Filed June 29, 1967, Ser. No. 649,891

Claims priority, application Italy, July 4, 1966, 80/31, Patent 15,138
Int. Cl. H02j 7/32

U.S. Cl. 320-61

6 Claims



An electric generator battery recharging device having an automatic static regulator comprising a permanent magnet rotor means for producing a mono- or three-phase rectifier AC battery charging voltage, an oscillator, and a controlled diode rectifier connected to the oscillator and to the rotor means for actuating the latter when the oscillator is operative, the oscillator operating at a frequency of about 30,000 Hz.

3,543,129

POWER TRANSMISSION EQUIPMENT FOR HIGH VOLTAGE DIRECT CURRENT

Carl Ingvar Boksjö, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed June 28, 1968, Ser. No. 741,074

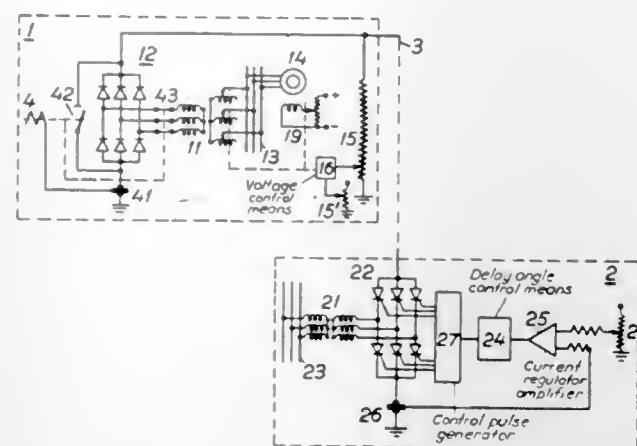
Int. Cl. H02m 1/18, 5/42

U.S. Cl. 321-2

3 Claims

A high voltage direct current power transmission plant composed of a rectifier station and an inverter station connected by a transmission line. The rectifier station is provided with control means for controlling its direct voltage with respect to a certain desired line voltage, which includes an arrangement for measuring the transmitted line voltage and means responsive to the line voltage measuring arrangement for controlling the feeding

AC voltage of the station, the delay angle of the rectifiers or the like. The inverter station is provided with a known



type of control means for adjusting some variable of the AC network such as transmitted current, power or frequency.

3,543,130

D.C. VOLTAGE CONVERTER

Joseph Lodewijk Maria Reijnders, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

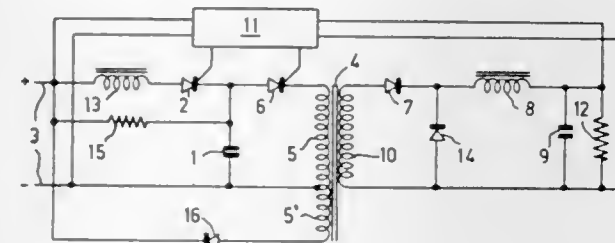
Filed June 21, 1968, Ser. No. 740,826

Claims priority, application Netherlands, June 27, 1967, 6708900

Int. Cl. H02m 3/22; H02p 13/22

U.S. Cl. 321-2

13 Claims



A regulated D.C. voltage converter comprising a first thyristor for charging a capacitor and a second thyristor for discharging the capacitor into a load. The thyristors are sequentially triggered at a frequency that varies with the output voltage. An auxiliary charge circuit including a resistor is connected to the capacitor to supply a quantity of energy thereto that varies as a function of said trigger frequency.

3,543,131

POWER SUPPLY SYSTEM

Richard W. Johnston, Troy, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Oct. 27, 1966, Ser. No. 589,928, now Patent No. 3,477,002, dated Nov. 4, 1969. Divided and this application Nov. 26, 1968, Ser. No. 779,018

Int. Cl. H02m 7/52; H02p 5/40

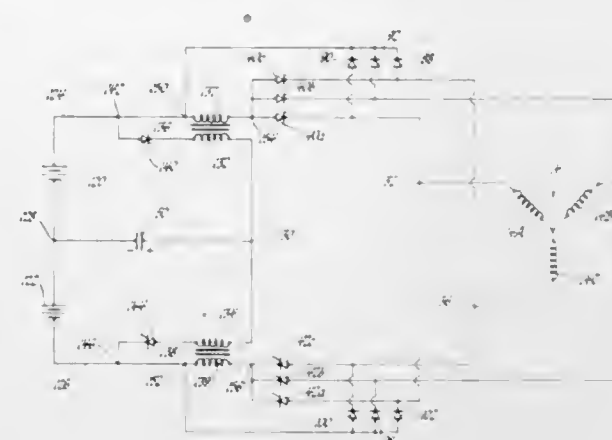
U.S. Cl. 321-5

4 Claims

A power supply system for feeding a polyphase electrical load, such as an induction motor, from a source of direct current through an inverter. The inverter is comprised of a plurality of controlled rectifiers and pairs of controlled rectifiers are gated conductive to sequentially connect pairs of phase windings of the induction motor across the source of direct current to control the

frequency of the current supplied to the motor. One of the controlled rectifiers of the pair of controlled rectifiers is pulsed on and off during a given conduction period to control the voltage applied to the motor. This controlled rectifier is the one of the pair that is the last to conduct

the unijunction transistor is connected to a capacitor, and to a variable resistor. Sizing of the resistor and capacitor determines the frequency division of the circuit. The output from the unijunction transistor divider stage provides the input to an associated buffering amplification stage.



in a given conduction period to insure positive turn-off of the controlled rectifiers at the end of a conduction period. The inverter includes shut-off controlled rectifiers for connecting a commutating capacitor with a conducting power controlled rectifier to turn it off.

3,543,132

INVERTER CIRCUIT USING UNIJUNCTION FREQUENCY DIVIDERS

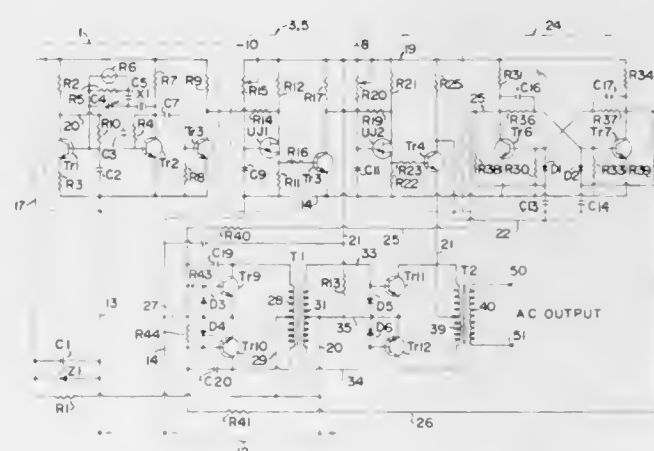
Edward F. Bedford, North Olmsted, and Walter Tletski, Cleveland, Ohio, assignors to Systems Electronics, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Jan. 31, 1969, Ser. No. 795,477

Int. Cl. H02m 7/00

U.S. Cl. 321-6

16 Claims



A compact, efficient, transistorized inverter circuit for converting low voltage direct current into a higher voltage frequency-regulated alternating current is disclosed in which the AC frequency accuracy is primarily limited by the accuracy of a crystal oscillator, which provides an output frequency which is an integral multiple of the desired ultimate output frequency. The output of the crystal oscillator provides the input to one or more divider stages which are selected in combination to reduce the frequency to the desired output frequency. The output of the desired frequency from the final divider stage provides the input to a power output stage. The ultimate output of the power stage may be connected to a sine wave converter to alter the wave form from a near square wave output to a sine wave. Divider stages using buffered unijunction transistor stages are also disclosed in which the output from the previous stage is provided to one of the bases of the unijunction transistor. The emitter of

3,543,133

ELECTROMAGNETIC FREQUENCY AND PHASE CONVERTER OF A MULTIPHASE SOURCE OF SUPPLY

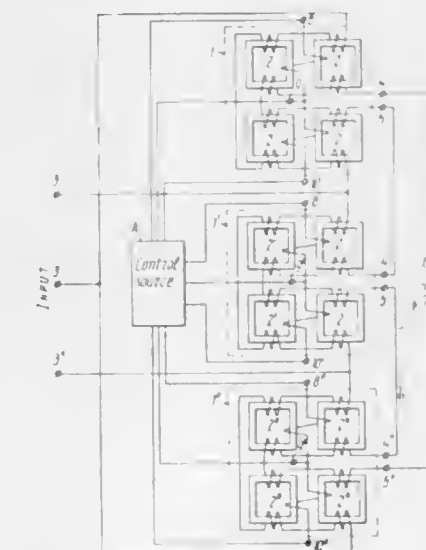
Alexandr Nikolaevich Milyakh, Boris Evgenievich Kubyshin, and Robert Petrovich Kartashov, Kiev, U.S.S.R., assignors to Institut Elektrodinamiki An U.S.S.R., Kiev, U.S.S.R.

Filed Apr. 22, 1968, Ser. No. 723,115

Int. Cl. H02m 5/14, 5/16

U.S. Cl. 321-7

1 Claim



A frequency and phase converter employing a square wave generator with a number of phase outputs equal to the number of phases in the source to be controlled and with magnetic amplifiers connected to the generator.

3,543,134

BI-DIRECTIONAL DIRECT CURRENT LOAD SUPPLY

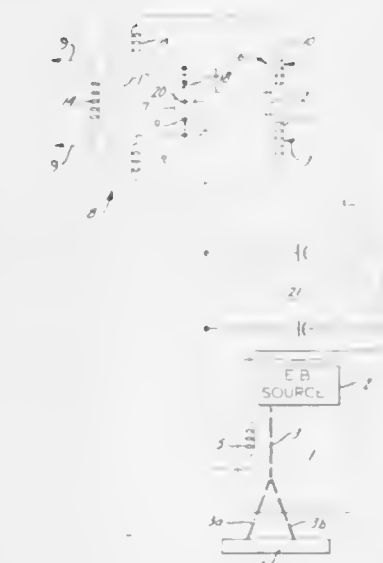
Bernard J. Aldenhoff, Oconomowoc, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Feb. 11, 1969, Ser. No. 798,374

Int. Cl. H02m 7/00

U.S. Cl. 321-8

7 Claims



The present disclosure includes a deflection coil for an electron beam welder. An autotransformer having a continuously adjustable brush assembly, such as a Variac,

has its winding centrally separated to define a pair of electrically separate windings. An input transformer has a single primary and a pair of secondaries with each of the secondaries connected to one-half of the split autotransformer winding. A pair of series connected diodes connect the two windings at the separation with the coil interconnected to the common junction of the two diodes and the autotransformer brush assembly.

3,543,135

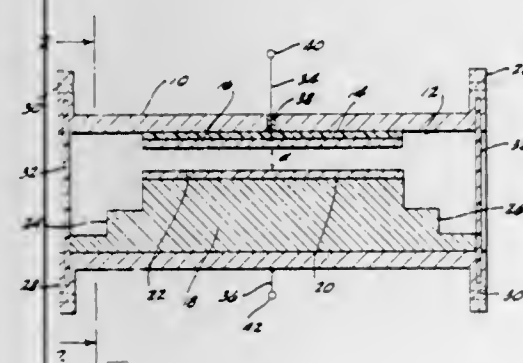
MICROWAVE TO ELECTRICAL ENERGY CONVERTER UTILIZING MULTIPACTOR DISCHARGE BETWEEN DIFFERING SECONDARY ELECTRON EMISSIVE SURFACES

Lawrence H. O'Brien and Joseph Burnswieg, Jr., Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 9, 1964, Ser. No. 417,186

Int. Cl. H02m 7/00; H01j 43/00; H01p 7/06

U.S. Cl. 321—8

12 Claims



In the disclosed energy converter input microwave energy establishes a multipactor discharge between a pair of spaced secondary electron emissive surfaces having secondary electron emission coefficients different from one another. The resultant net transfer of electrons from the larger coefficient surface to the smaller coefficient surface produces a DC electrical potential between the surfaces.

3,543,136

HIGH VOLTAGE DIRECT CURRENT GENERATOR

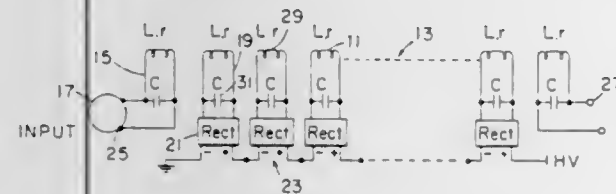
Harold A. Enge, Winchester, Mass., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 21, 1969, Ser. No. 792,306

Int. Cl. H02m 7/10; H01j

U.S. Cl. 321—15

4 Claims

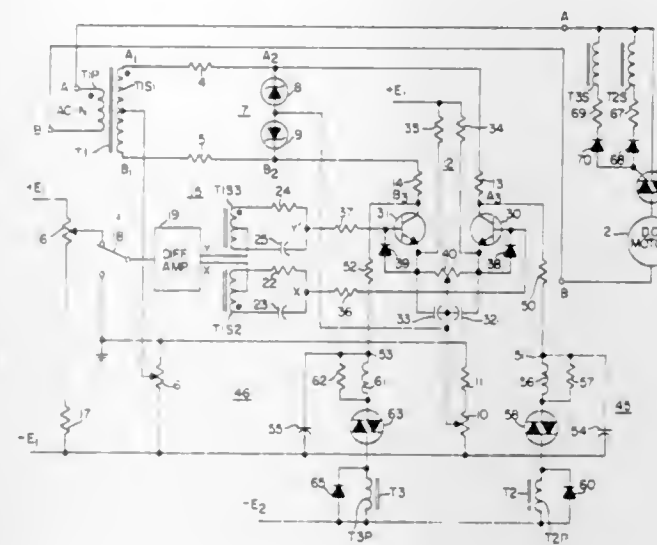


Termination means for a high voltage direct current generator formed by a transmission line having a series of closely coupled resonance circuits wherein the termination means simply and efficiently provides a standing wave pattern which may be stationary or may be made to oscillate up and down the transmission line with a uniform voltage gradient by rectification of RF energy extracted at selected points or extracted at times of maximum amplitudes.

3,543,137
LOAD CONTROL CIRCUIT UTILIZING A TRIAC
Ernest F. Kubler, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed May 10, 1968, Ser. No. 728,291
Int. Cl. H02m 7/44

U.S. Cl. 321—43

11 Claims



A firing and control circuit for a bilateral thyristor driving a D.C. load from an A.C. source allows conduction of the thyristor to be initiated during one half cycle of the supply voltage without allowing conduction during the succeeding half cycle. A clipped alternating voltage is utilized to energize the two pulse-forming circuits which trigger the thyristor. Included in each pulse forming circuit is a relaxation oscillator using a breakover semiconductor switch whose initiation and termination of oscillation is controlled by application of the corresponding clipped voltage.

3,543,138

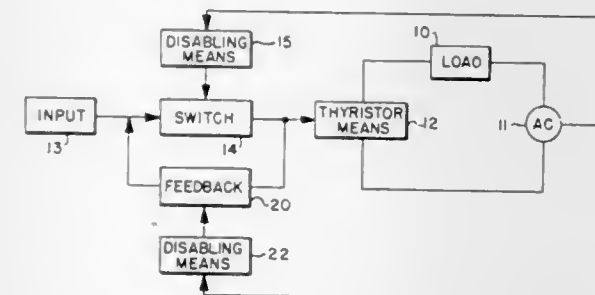
BURST FIRING CONTROL APPARATUS
Robert M. Brockway, Edina, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 24, 1968, Ser. No. 731,920

Int. Cl. G05f 1/44

U.S. Cl. 323—19

10 Claims



Apparatus for burst firing alternating current energized thyristor means at 90° on the voltage waveform and then maintaining conduction for an even number of half cycles, where a switch means which controls the thyristor means is maintained inoperative at all times other than at reoccurring 90° intervals on the voltage waveform, the switch means then switching from a stable to an unstable state to fire the thyristor means in response to an input signal, where a feedback structure then maintains the switch means in the unstable state, and where the

feedback structure is rendered inoperative at reoccurring intervals which lag the first interval by more than 270° but less than 360°.

3,543,139

MULTIPLE REGULATED OUTPUTS IN A SINGLE PULSE REGULATOR

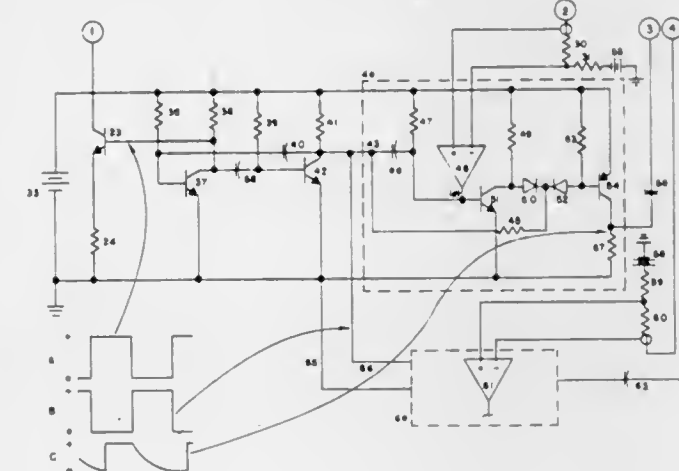
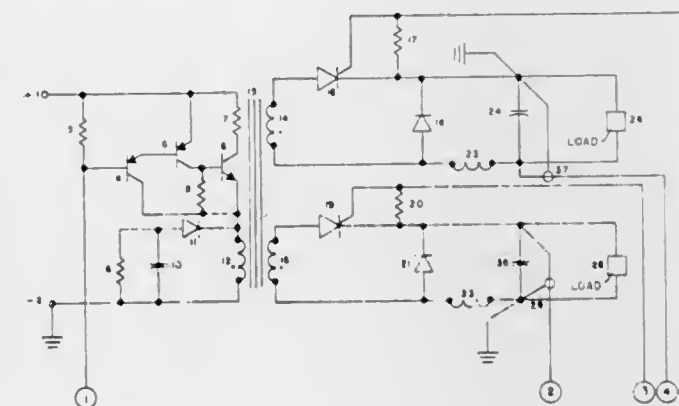
Harold R. Greene, New Shrewsbury, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey

Filed Aug. 21, 1968, Ser. No. 754,266

Int. Cl. G05f 1/56

U.S. Cl. 323—22

3 Claims



A regulating circuit for a power supply which supplies regulated power to a multiplicity of load devices. The regulating circuit operates by controlling the time of application of an unregulated source to each load as a function of the difference between a preset reference level and the voltage output at the load. The length of time of application of unregulated power is directly proportional to the magnitude of the difference signal. An astable multivibrator enables application of unregulated power and thereby determines the maximum length of time available for application of power from the unregulated source.

3,543,140

CONSTANT POTENTIAL OUTPUT DEVICE HAVING LOW TEMPERATURE COEFFICIENT AND OVERLOAD PROTECTION

Friedrich Johann Krausser, Jericho, N.Y., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri

Filed Feb. 19, 1968, Ser. No. 706,536

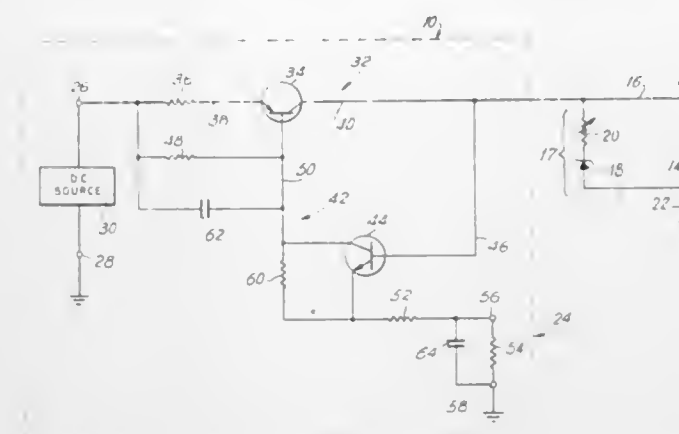
Int. Cl. G05f 1/58

U.S. Cl. 323—22

2 Claims

A regulated power supply includes the series circuit of a Zener diode and an impedance device having a temperature coefficient equal in magnitude but opposite in

sense to that of the Zener diode, connected between the output terminals of the supply. Connected to the series circuit is a constant current source which supplies a con-



stant current to the series circuit. Hence, the potential between the output terminals will remain constant albeit the ambient temperature varies.

3,543,141

CONTINUOUSLY VARIABLE, FULL-WAVE, PHASE-CONTROLLED POWER CIRCUIT

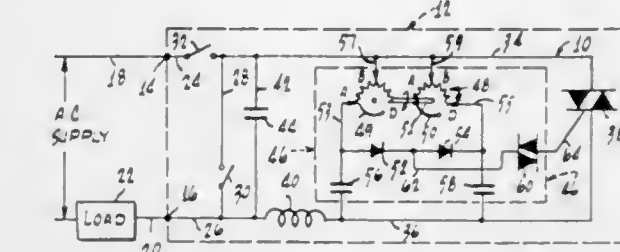
Gustaf R. Lawson, Somerset, N.J., assignor to Circle F Industries, Inc., a corporation of New Jersey

Filed June 19, 1967, Ser. No. 647,101

Int. Cl. H02p 13/13; H02m 5/28

U.S. Cl. 323—24

13 Claims



A power control device includes a firing circuit controlling the firing angle of a gated symmetrical semiconductor switch during both halves of an AC cycle. The firing circuit in effect links two potentiometers for consecutive operation. One acts upon a first section or phase shifter of the firing circuit to control current flow during one half-cycle of alternating current, for adjusting the firing angle from full-off to half-power, after which the other potentiometer acts upon a second section or phase shifter (and hence on the other half-cycle) to adjust the firing angle from half- to full-power.

3,543,142 COMPENSATING CIRCUIT FOR CAPACITOR LOSSES

Günter Haussmann and Klaus-Wilhelm Müller, Constance, Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany

Filed Apr. 4, 1968, Ser. No. 718,861

Claims priority, application Germany, Apr. 7, 1967, T 33,613

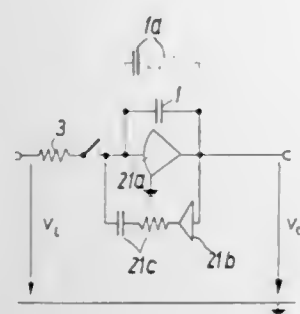
Int. Cl. G05f 1/10

U.S. Cl. 323—66

10 Claims

A two-terminal circuit connected as an equalizing device in an integrator composed of an amplifier and a capacitor forming a feedback loop for the amplifier, to compensate for the losses due to dielectric absorption in the integrating capacitor. The network is connected across the

capacitor to receive a signal from the capacitor and to supply the capacitor with a current whose amplitude char-



acteristic is chosen so as to compensate for the voltage changes produced by the dielectric absorption.

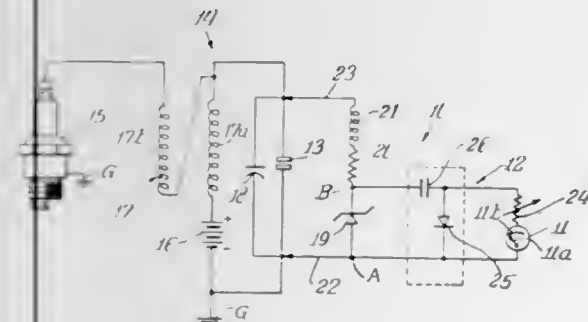
3,543,143

DWELL METER

Albert M. Wanninger, Prospect Heights, Ill., assignor to Peerless Instrument Co., a corporation of Illinois
Filed June 17, 1968, Ser. No. 737,588
Int. Cl. G01m 15/00

U.S. Cl. 324-16

8 Claims



A dwell meter apparatus for indicating the dwell of an engine such as an automotive engine. The meter apparatus includes an ammeter readout means for indicating the dwell angle. The dwell meter is arranged to be connected across the points of the ignition system of the engine and includes means for shorting the ammeter during the time the points of the engine are open and means for applying a voltage across the ammeter during substantially the entire dwell time of the points. The applied voltage is substantially equal to the voltage of a Zener diode connected in parallel with the ammeter.

3,543,144

MAGNETIC INSPECTION APPARATUS FOR WELL PIPE UTILIZING DETECTOR SHOES WITH OUTRIGGERS AND MAGNETIC LATCHING MEANS FOR SAID SHOES

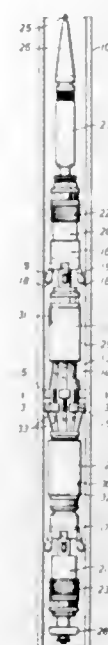
William T. Walters and Dave D. Nagel, Houston, Tex., assignors to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 23, 1968, Ser. No. 761,604
Int. Cl. G01r 33/12

U.S. Cl. 324-37

4 Claims

This application discloses a downhole inspection sonde of the type used for detecting cracks and flaws in the metal casing of an oil well or the like. Magnetic flux leakage detection is used, and a magnetizer having axially-spaced cylindrical pole pieces is effective in saturating

the ferromagnetic casing. An array of detectors having an improved detector shoe configuration is positioned



around the core of the magnetizer between the pole pieces to scan the casing walls.

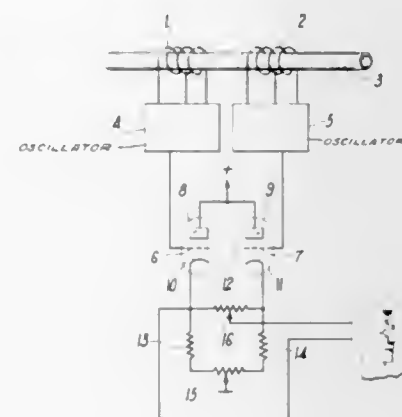
3,543,145

EDDY CURRENT METHOD AND APPARATUS FOR THE NONDESTRUCTIVE TESTING OF ELECTRICALLY CONDUCTIVE TUBES UTILIZING TWO MUTUALLY COUPLED HARTLEY OSCILLATORS

Jean-Pierre Dufayet, Aix-en-Provence, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Apr. 29, 1968, Ser. No. 725,100
Claims priority, application France, May 25, 1967, 107,736
Int. Cl. G01r 33/12

U.S. Cl. 324-40

3 Claims



Method for the nondestructive testing by eddy currents of electricity conducting tubes, characterized in that, on the one hand, the tube is disposed inside the windings of two Hartley oscillators that are similar, said windings being spaced from each other by a distance small enough for allowing the two oscillators owing to the fact that they are coupled to generate sine waves at the same frequency whatever the characteristics of the tube may be, and, on the other hand, the difference between the potentials V_{g1} and V_{g2} , of the grids of the triodes of the two Hartley oscillators, is measured.

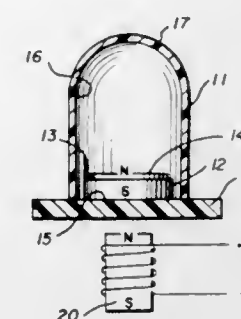
3,543,146

MAGNETIC POLE INDICATOR

John F. Sherwood, 130 S. Sandalwood Place,
Glendora, Calif. 91740
Filed Nov. 27, 1968, Ser. No. 779,564
Int. Cl. G01r 33/02

U.S. Cl. 324-48

6 Claims



A magnetic pole indicator comprising an indicator-containing housing through which the indicator is visible, the indicator being made of material having opposite polar side surfaces, an external magnetic pole for exerting attractive or repellant magnetic influence relatively to the indicator, and means for reversing the polarity of the external magnetic pole, said indicator being movable within the housing and confined thereby within the magnetic field between the indicator and external pole, whereby the indicator is caused to turn over from one side surface to the other when the external pole is in pole repelling position relatively to the indicator and thus visually indicates which of its polar sides is like or unlike the facing pole of the external pole.

3,543,147

PHASE ANGLE MEASUREMENT SYSTEM FOR DETERMINING AND CONTROLLING THE RESONANCE OF THE RADIO FREQUENCY ACCELERATING CAVITIES FOR HIGH ENERGY CHARGED PARTICLE ACCELERATORS

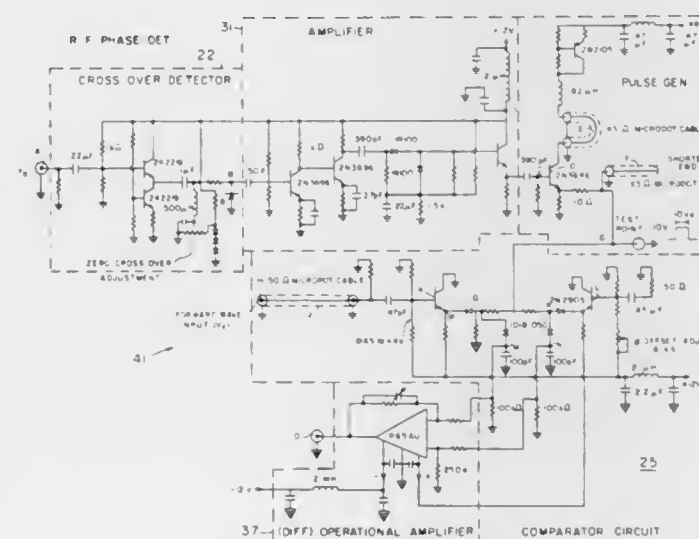
Vincent J. Kovarik, Bohemia, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 29, 1968, Ser. No. 717,262

Int. Cl. G01n 27/00

U.S. Cl. 324-57

3 Claims



Discriminating means responsive to the forward and reflected waves in a co-axial cable for determining whether the radio-frequency accelerating cavities for high energy accelerators are in or out of resonance. By measuring the

phase angle difference between the forward and reflected waves the discriminator can be centrally located away from the accelerating cavities. The system also measures the reactive component of the accelerating cavities for the proper tuning thereof.

3,543,148

APPARATUS FOR AUTOMATIC TESTING OF ELECTRICAL DEVICES BY TESTING THEIR CHARACTERISTIC CURVES FOR EXCESS OF TOLERANCE ZONES

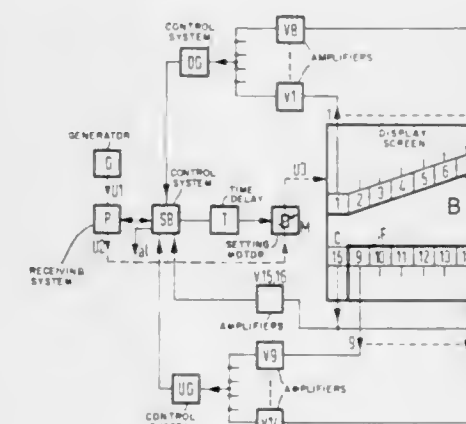
Erwin Martin, Munich, Germany, assignor to Siemens Aktiengesellschaft, Siemens-Halske-Werke, Patent-abteilung, Munich, Germany

Filed Dec. 16, 1968, Ser. No. 784,137

Int. Cl. G01r 27/00; G02f 1/28; H01j 29/70

U.S. Cl. 324-57

8 Claims



Apparatus for automatically testing electrical devices by placing a curve characteristic of the device on a cathode ray screen, shifting the curve to one limit characteristic of a tolerance zone, and detecting excesses of the other limit by the curve. The limits are defined by photosensitive diodes.

3,543,149

TESTING ARRANGEMENT FOR ELECTRICITY METERS WHILE IN A POWERLINE CIRCUIT BY APPLICATION OF A REGULATED LOAD

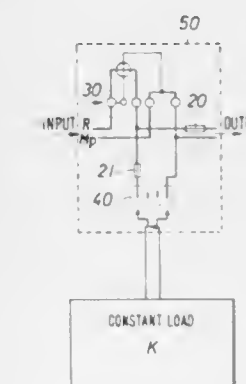
Richard Friedl, Lamme uber Braunschweig, and Peter Seyfried, Braunschweig, Germany, assignors to Zera Elektrische Pruefgerate Cremer & Co., Konigswinter (Rhine), Germany

Filed Feb. 7, 1968, Ser. No. 703,762

U.S. Cl. 324-74

Int. Cl. G01r 11/32

12 Claims



An arrangement for testing electricity meters while they are in their installed positions. A constant load which is independent of line voltage variations is connected to the meter to be tested. A time measuring circuit measures

the time interval corresponding to a predetermined number of rotational cycles of the meter. A reference time interval derived from the constant load and the physical properties of the meter; the time interval signal derived from the time measuring circuit, and the reference time signal are both applied to a comparator which provides a difference voltage representing the difference between these two applied signals. As a result, the inaccuracy of the meter is established while located in its normal operating position. The constant load is derived from transistors and resistors connected in series therewith. Limit indicator circuits are included to indicate when the line voltage is outside of prescribed limits. A field-effect transistor is used in the voltage divider for regulating the power applied to the constant load.

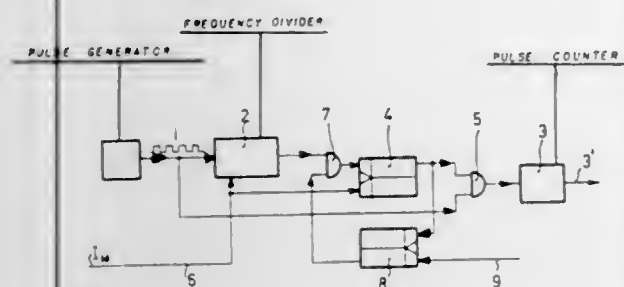
3,543,150

ARRANGEMENT FOR DETERMINING AND DIGITALLY INDICATING THE DISPLACEMENT OF MOVING BODIES

Klaus Brandenburg, Hamburg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,134
Claims priority, application Germany, Oct. 29, 1966, P 40,697
Int. Cl. G01r 25/00

U.S. Cl. 324—83

5 Claims



A digital phase angle converter in which a divider in response to pulses produced by a constant frequency generator during one cycle of a phase modulated measuring signal opens a gate to conduct the pulses to a recycling counter. The division ratio of the divider and the capacity of the counter are greater than twice the maximum number of angle increments arising in a measuring signal cycle, but are a small fraction of the total number of generator pulses produced during one cycle of the measuring signal. The counter therefore counts to its capacity several times during each measuring cycle.

3,543,151

MAGNETO-OPTICAL APPARATUS FOR THE MEASUREMENT OF AN ELECTRICAL CURRENT FLOWING IN AN AERIAL HIGH-VOLTAGE CONDUCTOR

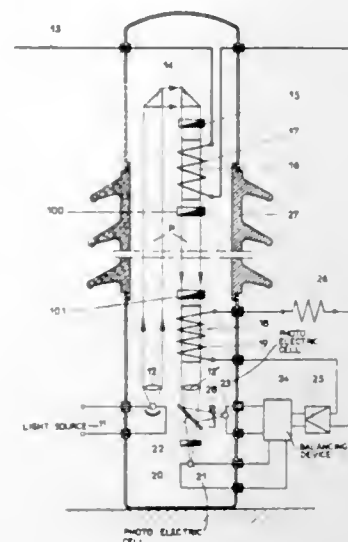
Yves Pelenc, La Tronche, and Georges Bernard, Grenoble, France, assignors to Merlin Gerin, Societe Anonyme, Grenoble, France
Filed Jan. 8, 1968, Ser. No. 696,295
Claims priority, application France, Jan. 18, 1967, 91,684
Int. Cl. G01r 19/00; G02f 1/22

U.S. Cl. 324—96

3 Claims

A current measurement device comprising a magneto-optical sensing device located in the vicinity of a high-voltage conductor carrying the current to be measured and near ground a magneto-optical measuring device, a

light beam transmitting the information from said sensing to said measuring device, the light intensity of this light



beam varying as a direct function of the magnitude of the current flowing in the high-voltage conductor.

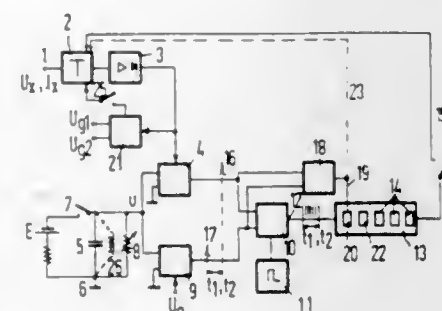
3,543,152

CIRCUIT ARRANGEMENT FOR THE DIGITAL MEASUREMENT OF ELECTRICAL MAGNITUDES IN A LOGARITHMIC SCALE

Martin Niedereder, Munich-Solln, Germany, assignor to Siemens Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Oct. 22, 1965, Ser. No. 505,139
Claims priority, application Germany, Dec. 21, 1964, S 94,741
Int. Cl. G01r 1/00, 17/06

U.S. Cl. 324—99

9 Claims



A circuit arrangement for the digital level evaluation of an electrical measurement magnitude, comprising means for producing a first reference magnitude which satisfies an exponential time function with defined time constant, first comparator means to which said measurement magnitude and said first reference magnitude are conducted, and in which both of these are compared with each other with respect to their amplitudes, operative to form a first comparator output pulse upon reaching a predetermined amplitude ratio, means for producing a second reference magnitude which is independent of time, second comparator means operative to form a second comparator output pulse upon an analogous amplitude comparison between said first reference magnitude and said second reference magnitude, means for the digital evaluation of the period of time between said first and second comparator output pulses, such means comprising a pulse generator for producing counting pulses which are being fed over a gate circuit open during such period of time to a pulse counter and being thereby counted, a logical circuit member being provided to which the first and second comparator output pulses are applied and which, in dependence on the mutual time orientation of said comparator output pulses, generates a polarity signal, which

is allocated to said period of time, disposed in the path of said measurement magnitude to said first comparator, an adjustable attenuator, means for defining a counting range which is limited by two predetermined counting results attainable by said pulse counter, such means effecting a switch-over of said adjustable attenuator in the event the counting result of said electrical measurement magnitude falls outside said counting range, and means responsive to said polarity signal for controlling the switching-over of said adjustable attenuator, thereby changing one of said two predetermined counting results to a value which is indicated when no counting pulses are received.

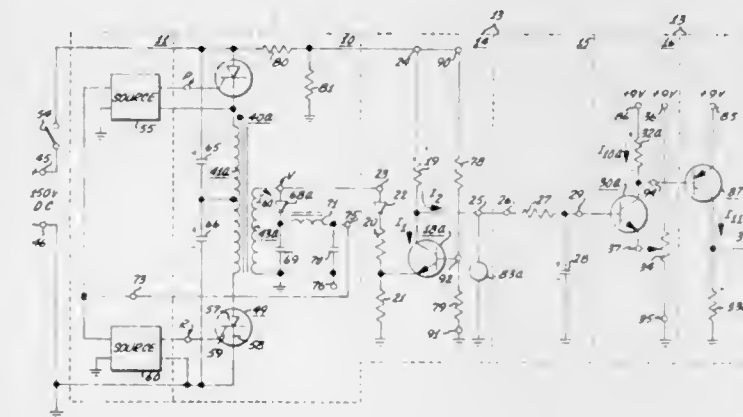
3,543,153

CIRCUIT FOR MONITORING THE CURRENT DELIVERED BY A SWITCHING REGULATOR

Luther L. Genuit, Scottsdale, Ariz., assignor to General Electric Company, a corporation of New York
Filed Oct. 2, 1967, Ser. No. 672,187
Int. Cl. G01r 1/30, 19/00

U.S. Cl. 324—102

4 Claims



A circuit for monitoring the current delivered by a switching regulator provides a signal for disabling the switching regulator when the current exceeds a predetermined value. This circuit also indicates the value of the current delivered by the switching regulator.

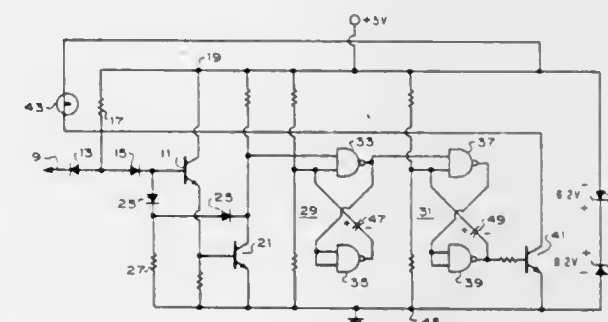
3,543,154

LOGIC PROBE

Gary B. Gordon, Cupertino, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Nov. 1, 1968, Ser. No. 772,579
Int. Cl. G01r 19/00, 31/02

U.S. Cl. 324—102

3 Claims



A miniature probe is provided with an indicator and associated circuitry for analyzing logic states of a circuit under test and for producing a visible indication of nanosecond pulses that represent the logic states being analyzed.

880 O.G.—55

3,543,155

SYSTEMS FOR INTEGRATING A SIGNAL AND SELECTIVELY MEASURING THE AMPLITUDE OF THE INTEGRATED SIGNAL

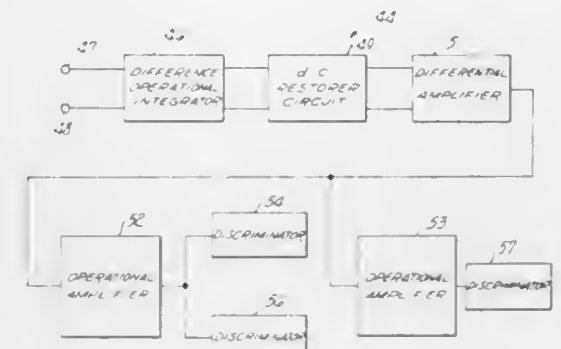
Harry L. Maddox, Columbus, and Richard J. Vidmar, Whitehall, Ohio, assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 23, 1968, Ser. No. 723,536

Int. Cl. G01r 1/00

U.S. Cl. 324—111

4 Claims



Signals of low amplitude and short duration are developed by pulsing a ferrite core for the purpose of testing the characteristics of the core. In view of the low amplitude and short duration of the signals, the signals are integrated and amplified for testing purposes. Initially, the signals are fed into a differential operational integrating amplifier and integrated so that the area of the signals being measured can be analyzed without interference from noise and common mode signals. The integrated signals are then fed to a D.C. restorer circuit which provides a common D.C. reference level for each differentially integrated signal. The output of the D.C. restorer circuit is then coupled to a plurality of operational amplifiers which respond selectively to various signals being measured and control discriminators for indicating the acceptance or rejection of the signals being measured and, consequently, the ferrite core which produced the signals.

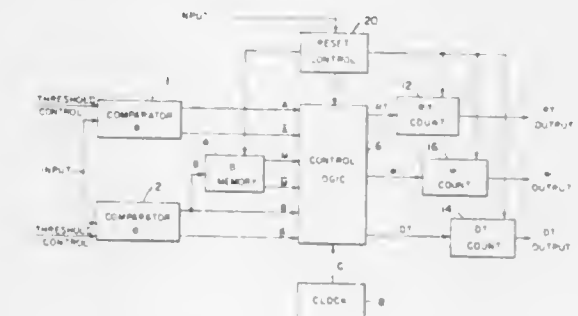
3,543,156

AUTOMATIC DIGITAL PULSE ANALYZER

Kilmer L. Hall, Huntsville, and Chester C. Carroll, Auburn, Ala., assignors to the United States of America as represented by the Secretary of the Army
Filed Nov. 3, 1967, Ser. No. 681,065
Int. Cl. G01r 17/02; G04f 9/00

U.S. Cl. 324—181

1 Claim



Three embodiments are shown of the invention. One embodiment works from the assumption that the maximum amplitude of an input pulse is known, and uses comparators to determine when the signal is above or below certain percentages of the value. The comparators feed a logic circuit controlled by a clock. The logic circuit provides outputs to counters for the rise time, decay time, and duration of the pulse. Another embodiment omits the

clock, and uses integrators in place of the counters. The third embodiment makes no assumption as to pulse amplitude, but determines the maximum pulse amplitude, and uses this amplitude to determine rise time, etc., of the pulse.

3,543,157

GUARDED READOUT SYSTEMS

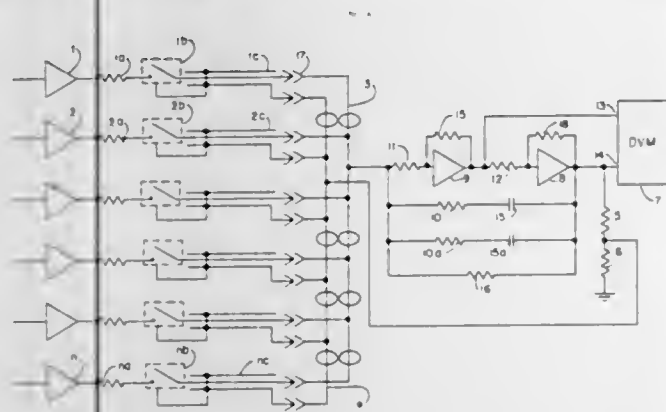
Donald F. Kennedy, South Toms River, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey

Filed Nov. 26, 1968, Ser. No. 778,952

Int. Cl. G01r 7/00

U.S. Cl. 324-140

3 Claims



An improved readout system for an analog computer is obtained by providing a guard bus for the readout bus and routing copper on the printed circuit cards on which the computing elements are formed, and maintaining the guard bus and the routed copper at the same potential as the readout bus, thereby greatly reducing the effects of leakage resistance, capacity, and ion migration on the readout signal carried by the readout bus.

3,543,158

APPARATUS FOR ESTABLISHING ELECTRICAL CONTACT WITH ELECTRICAL COMPONENTS OF VARYING BODY SIZES AND TERMINAL SPACINGS

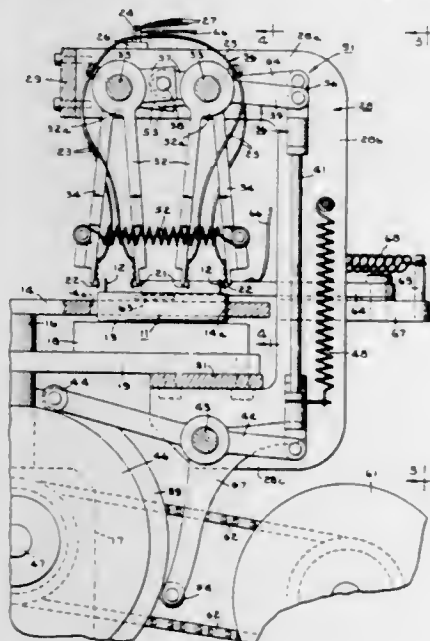
Gustav O. Stegner, Essex Center, Vt., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 2, 1968, Ser. No. 742,007

Int. Cl. G01r 31/00

U.S. Cl. 324-158

5 Claims



Apparatus for testing electrical components having spaced terminals extending from one side thereof, wherein the components are of varying lengths or the terminals

are of varying spacings, includes a support for the component permitting limited movement of the component longitudinally, test contacts located adjacent the terminals, and a resilient mechanism for moving the test contacts simultaneously in opposite directions against sides of the terminals, to centralize the component on the support relative to the test contacts and to exert uniform pressure on the terminals. If desired, second test contacts may be electrically connected in parallel with respective ones of the first test contacts and a second resilient mechanism may be provided for moving the second test contacts simultaneously against opposite sides of the terminals so that the terminals are firmly gripped between the first and second test contacts.

3,543,159

PULSE RISE TIME AND AMPLITUDE DETECTOR

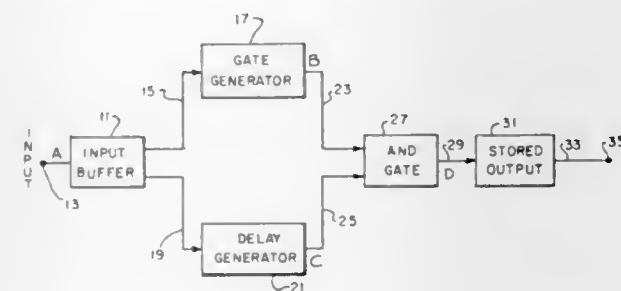
Murrel D. Slayden, Huntsville, Ala., and Hugh W. Staley, Clearwater, Fla., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Nov. 16, 1967, Ser. No. 683,606

Int. Cl. G04f 9/00

U.S. Cl. 324-181

3 Claims



An apparatus for detecting pulses which exceed a specified rise time from a first to a second amplitude including an input buffer for receiving the pulse and for simultaneously applying it to a gate generator and to a delay generator. The gate generator output is coupled to an AND gate and functions to open the AND gate for a time period equal to the specified rise time after the incoming pulse has reached the first amplitude. The delay generator output is also connected to the AND gate and functions to produce a pulse at the time that the incoming pulse exceeds the second amplitude. If the AND gate is still being held open by the presence of the gate generator pulse when the delay generator pulse arrives, this pulse will pass through the AND gate and will be indicative of a no-go condition.

3,543,160

AUTOMATIC DISTORTION COMPENSATION IN PULSED SIGNAL TRANSMISSION

Gustav Guanella, Zurich, Switzerland, assignor to Patenhold Patentverwertungs- & Elektro-Holding AG., Glarus, Switzerland

Continuation of application Ser. No. 578,847, Sept. 12, 1966. This application Nov. 12, 1969, Ser. No. 871,563

Claims priority, application Switzerland, Oct. 8, 1965, 13,912/65

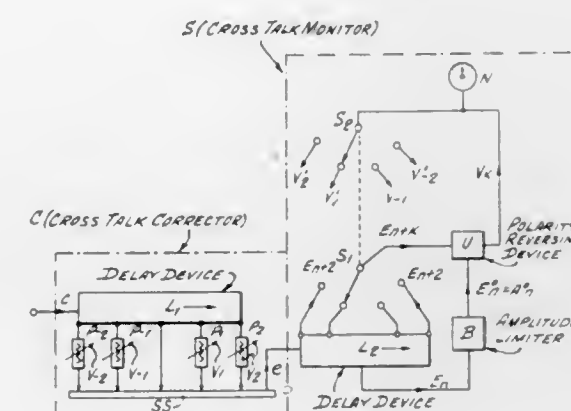
Int. Cl. H04l 1/00

U.S. Cl. 325-42

15 Claims

In pulse signal transmission by means of a series of spaced signal pulses having a constant pulse spacing interval and being subject to dispersion distortion by one pulse imposing cross-distortion components upon at least two adjacent pulses leading and lagging respectively said first pulse by cross-distortion intervals equal to predetermined, including unity, multiples of said spacing interval, the sense and magnitude of both leading and lagging distortion components is determined by mutual intermodulation of a first amplitude limited pulse series derived from

the received signal pulses with respective second and third pulse series also derived from said received pulses and being time-displaced, both in sense and magnitude, from said first series by intervals corresponding respectively to said cross-distortion intervals. The intermodulation product, after adequate filtering, provides an output signal



nal proportional, in magnitude and sense, to the respective cross-distortion component and suitable for use in distortion monitoring or as a control signal for a separate distortion compensating system, to maintain an automatic distortion compensation independently of variations of the distortion characteristics of the transmission channel.

3,543,161

COMMUNICATION EVALUATION SYSTEM

Walter L. Hatton, Ottawa, Ontario, Canada, George W. Jull, Bromley, England, and Donald F. Page, Everett E. Stevens, and William D. Hindson, Ottawa, Ontario, Canada, assignors to Her Majesty, The Queen in Right of Canada as represented by the Minister of National Defence

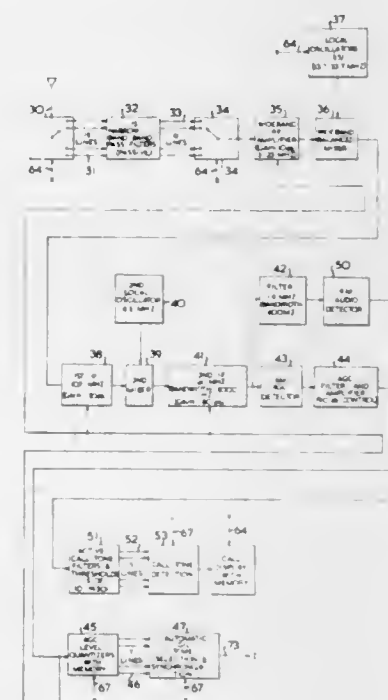
Filed Oct. 3, 1967, Ser. No. 672,559

Claims priority, application Canada, Oct. 13, 1966, 972,876

Int. Cl. H04b 1/00, 1/15, 1/38

U.S. Cl. 325-65

14 Claims



Evaluating apparatus for evaluating a plurality of communication channels between an aircraft and a ground station in a ground-to-air communication system including apparatus at the ground station for measuring the

interference level on each channel and encoding apparatus at the ground station providing encoded signals indicative of the interference level measurements. A transmitter at the ground station is arranged to transmit the encoded signals which are received and decoded in the aircraft whose receiver is synchronized to the ground station transmitter. Apparatus for measuring the signal strength is also provided and the ratio of signal-to-interference level of the channels is determined whereby an indication is given as to those channels which are better for communication use.

3,543,162

MULTIPHASE DIFFERENTIAL-PHASE-MODULATED PCM REPEATER

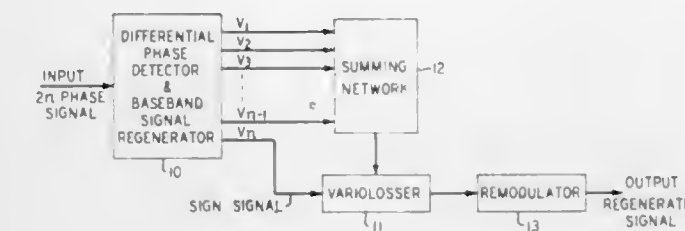
Stewart E. Miller, Locust, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Aug. 8, 1967, Ser. No. 659,099

Int. Cl. H04b 7/16; H04l 27/18

U.S. Cl. 325-7

4 Claims



This invention relates to apparatus and methods for detecting and regenerating a 2n-phase differential-phase-modulated PCM signal in which the relative phase shift between signals in adjacent time slots is

$$\pm (2m-1) \frac{\pi}{2n}$$

radians, where 2n is the number of possible signal phases, and m signifies all the integers between one and n inclusive.

3,543,163

CABLE TELEVISION SIGNAL LEVEL OPTIMIZATION

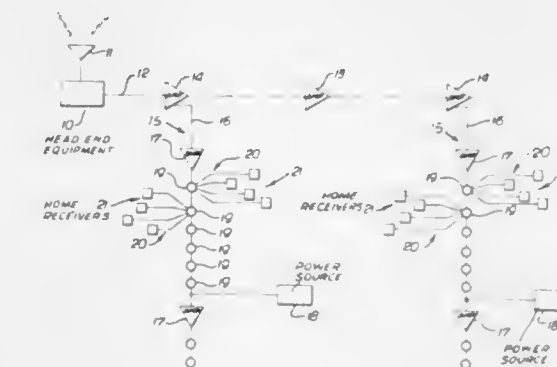
William A. Rheinfelder, South Laguna, Calif., assignor, by mesne assignments, to Anaconda Electronics Company, Anaheim, Calif., a corporation of Delaware

Filed June 8, 1966, Ser. No. 556,043

Int. Cl. H04h 1/00

U.S. Cl. 325-308

8 Claims



A cable television distribution system involves setting output levels of main trunk and distribution amplifiers and spacing of such amplifiers in such relation as to optimize the system as respects reduction of distortion, noise and insertion loss, with provision for longer cascades of amplifiers.

3,543,164

AUTOMATIC FREQUENCY CONTROL FOR A SINGLE SIDEBAND RECEIVER

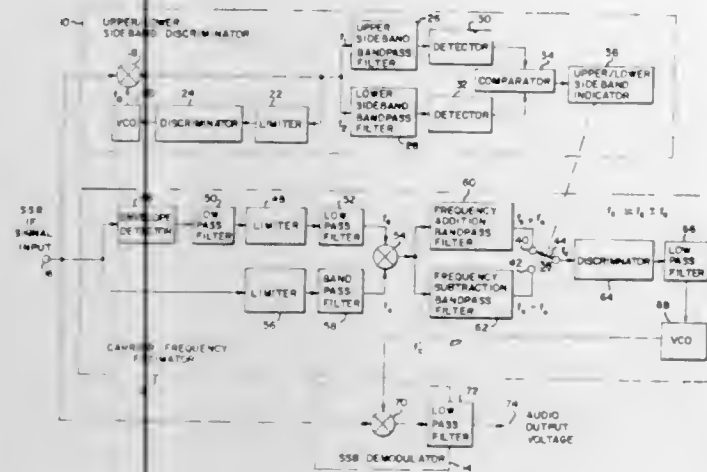
Gerald F. Mayefskie and Emory Richardson, State College, Pa., assignors to HRB-Singer, Inc., State College, Pa., a corporation of Delaware

Filed Mar. 13, 1968, Ser. No. 712,660

Int. Cl. H04b 1/06

U.S. Cl. 325—329

10 Claims



Method and apparatus for automatic frequency control in a carrier eliminated single sideband receiver where the carrier frequency is approximated by first determining which of the upper or lower sidebands is received, measuring the average amplitude-limited sideband frequency of the sideband spectrum and the average amplitude-limited frequency of the modulated sideband envelope, and then estimating the suppressed carrier frequency by subtracting the aforesaid average envelope frequency from the aforesaid average sideband spectrum frequency if the upper sideband is being detected but adding the average envelope frequency to the average sideband spectrum frequency if the lower sideband frequency is detected.

3,543,165

TRANSISTOR SWITCH CIRCUIT RESPONSIVE TO CHANGE IN DIRECT CURRENT VOLTAGE

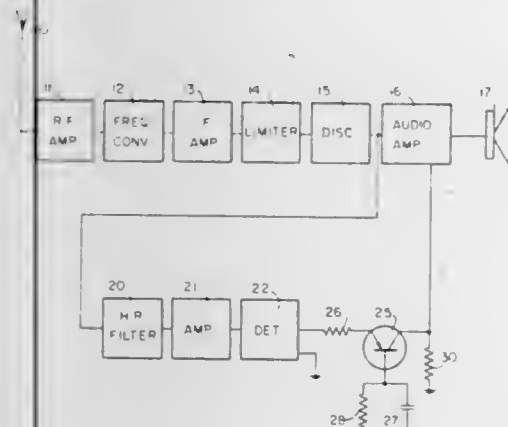
Stanley J. Tomsa, Berwyn, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Oct. 2, 1967, Ser. No. 672,227

Int. Cl. H04b 1/10

U.S. Cl. 325—348

5 Claims



Transistor switch circuit wherein a transistor is saturated by the input to form low pass filter and the transistor is cut off in response to a rapid change in the applied voltage. A capacitor and resistor are connected in parallel between the base of the transistor and ground and

the input signal is direct current coupled to the emitter so that the capacitor charges to a voltage proportional to the average of the applied voltage, and this appears at the collector as the output. The transistor is reverse biased by an input signal which changes faster than the condenser voltage can change to cut off the output. The circuit provides filtering of the output voltage without sacrificing response time.

3,543,166

DUTY CYCLE MODULE

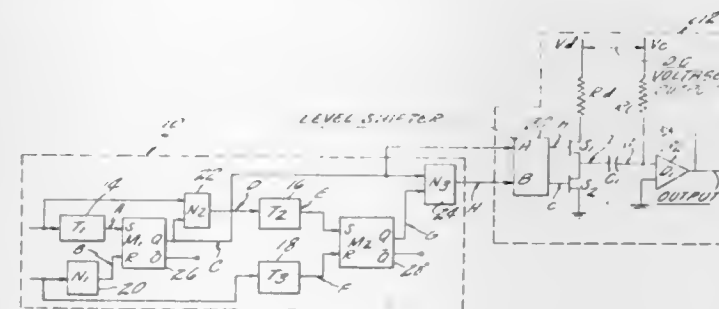
Charles M. Rabinowitz, Bloomfield, Conn., assignor to Chandler Evans Inc., West Hartford, Conn., a corporation of Delaware

Filed July 16, 1968, Ser. No. 745,190

Int. Cl. H03k 1/18

U.S. Cl. 328—58

11 Claims



A duty cycle module employing NOR logic, the module receiving input pulse trains which are to be compared, the input signals being demodulated and stored in analog form. The stored information is thereafter read out in pulse form, the output pulses being synchronized with one of the input pulse trains, and the output pulses may be pulse width modulated by variable direct current input signals.

3,543,167

DIFFERENTIAL FREQUENCY MEASURING DEVICE

Scato Albarda, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

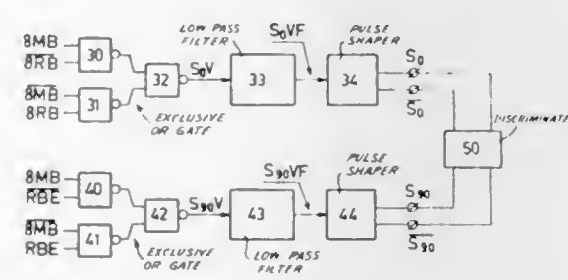
Filed Aug. 15, 1967, Ser. No. 660,648

Claims priority, application Netherlands, Aug. 19, 1966, 6611688

Int. Cl. H03f 3/04

U.S. Cl. 328—133

4 Claims



A differential frequency measuring device which uses a phase quadrature generating device and a pair of exclusive OR-gates for converting a fixed frequency series of square wave pulses and a variable frequency series of square wave pulses into a pair of square wave pulse signals having a frequency equal to the difference in frequency between the fixed and variable frequency signals and having a phase difference corresponding to the sign of the frequency difference between the fixed and variable frequency pulses.

3,543,168

ELECTRONIC CIRCUIT COMPRISING LINEAR AND LOGARITHMIC D.C. MEASURING CHANNELS DESIGNED FOR SIMULTANEOUS OPERATION

Jacky Weill, Saint-Cloud, France, assignor to Commissariat a l'Energie Atomique, Saint-Cloud, France

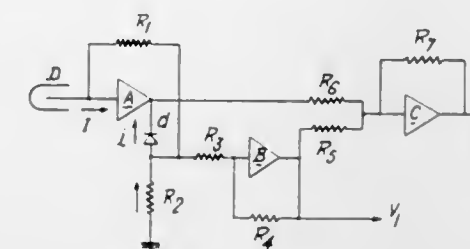
Filed Oct. 16, 1967, Ser. No. 675,375

Claims priority, application France, Nov. 7, 1966, 82,816

Int. Cl. G06g 7/24

U.S. Cl. 328—145

1 Claim



The circuit provides simultaneous linear and logarithmic D.C. measuring channels and comprises a detector which supplies a current to an amplifier, a diode having a logarithmic characteristic, and the complete assembly comprises an output which constitutes a linear measuring channel and an operational amplifier whose output constitutes a purely logarithmic measuring channel.

3,543,169

HIGH SPEED CLAMPING APPARATUS EMPLOYING FEEDBACK FROM SAMPLE AND HOLD CIRCUIT

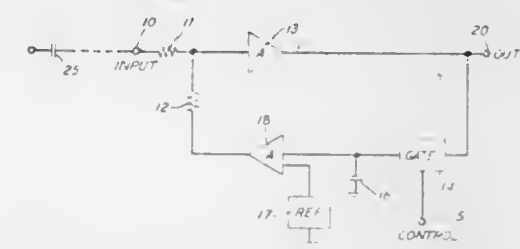
George V. Hill, Winston-Salem, N.C., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Oct. 30, 1967, Ser. No. 679,013

Int. Cl. H03k 5/00

U.S. Cl. 328—151

2 Claims



The accurate clamping of an applied waveform, to a predetermined reference level during a relatively short interval of time, is accomplished by comparing a stored sampled value of the applied waveform with a predetermined reference voltage. An error voltage is developed, amplified and arithmetically combined with the applied waveform. Clamping is thus achieved by establishing a continuous corrective bias during the period of the signal between sampling reference intervals.

3,543,170

DIFFERENTIATORS

Marie Alphonse Paul Eugene Pierre Diederich, London, England, assignor to Decca Limited, London, England, a British company

Filed July 29, 1968, Ser. No. 748,441

Claims priority, application Great Britain, Aug. 29, 1967, 39,514/67

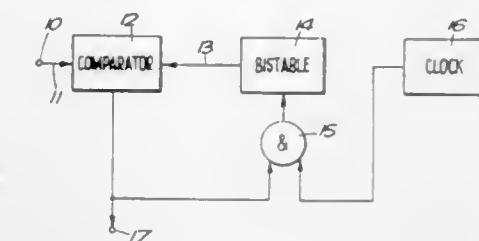
Int. Cl. G06g 7/18; H03k 5/00

U.S. Cl. 328—164

2 Claims

A digital differentiator in which the change in state of an input signal is detected by a comparator responding

to disparity between that state and the state of a bistable device. The bistable device is switched to correspond to the state of the input signal if one of a train of high frequency clock pulses from a source is contemporary with



an output signal, from the comparator, denoting the said disparity. The bistable device and a buffer memory may comprise JK bistable circuits which in a preferred arrangement form a shift register.

3,543,171

FERRITE BIAS REGULATOR FOR A SYNCHROTRON RESONATOR

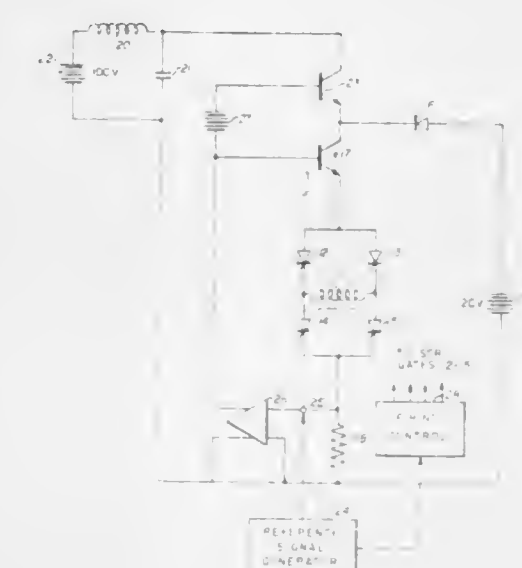
Bob H. Smith, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Mar. 3, 1969, Ser. No. 803,904

Int. Cl. H05h 13/04

U.S. Cl. 328—235

4 Claims



A ferrite bias regulator for a synchrotron resonator controls the resonant frequency of a ferrite tuned cavity in a synchrotron. The ferrite bias regulator supplies a regulated biasing current to a coil, inductively coupled to the ferrite material in the synchrotron cavity, thereby varying the permeability of the ferrite material so as to match or track the resonant frequency of the cavity to the frequency sweep of the particle accelerating electrical field of the synchrotron. The ferrite bias regulator has a high voltage power supply and a low voltage, high current power supply. The high voltage is supplied to overcome the back EMF of the unsaturated ferrite at the beginning of the sweep, and the high current is supplied to saturate the ferrite at the end of the sweep. Smooth current transfer is an inherent property of the regulator. The direction of the current passing through the coil is reversed every other sweep, so that the full hysteresis loop of the ferrite is utilized, thereby increasing the range of tuning frequencies obtainable from the ferrite bias regulator.

3,543,172

DIGITAL FREQUENCY DISCRIMINATOR

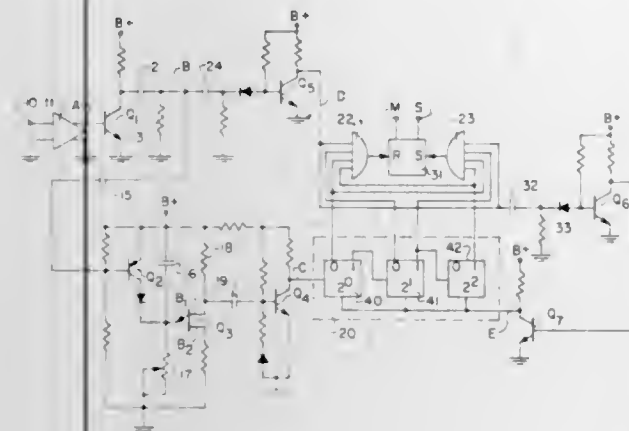
Wayne C. Seppeler, Sunnyvale, Calif., assignor to Anderson Jacobson, Inc., Mountain View, Calif., a corporation of California

Filed Sept. 19, 1968, Ser. No. 760,755

Int. Cl. H04L 27/14

U.S. Cl. 319—104

17 Claims



A method and apparatus for digital frequency discrimination is provided by a binary counter and synchronized decoder employed to effectively measure the period of an FSK modulated signal, and to set or reset a flip-flop according to whether the period of the signal is of one or the other of the two frequencies. Clock pulses applied to the counter for the FSK signal period are derived from an oscillator that is synchronized by the leading edge of a cycle of the FSK signal to restart its oscillations with a full cycle.

3,543,173

CLASS B POWER AMPLIFIER

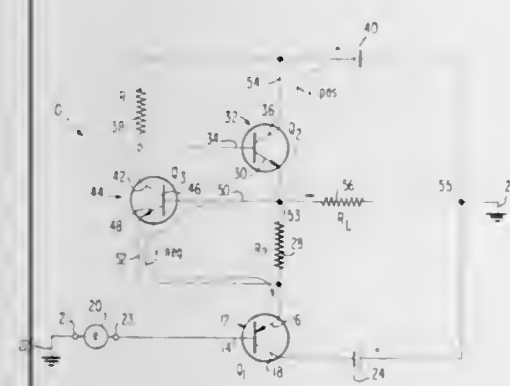
McKenney W. Egerton, Jr., Owings Mill, Md., assignor, by mesne assignments, to The Bendix Corporation, a corporation of Delaware

Filed Jan. 21, 1969, Ser. No. 792,516

Int. Cl. H03F 3/18, 3/26

U.S. Cl. 330—13

7 Claims



Disclosed is a Class B transistor amplifier and phonograph amplifier incorporating it as a power stage. The transistor amplifier comprises an emitter-follower for supplying signals to a load during negative excursions of an input signal and a second complementary common collector transistor for supplying signals to the load during positive excursions of the input signal. A novel bias circuit including a third transistor and a resistor maintains the emitter-follower in light conduction during positive input signal excursions to eliminate crossover distortion. The bias circuit provides good efficiency and good thermal stability.

3,543,174

VARIABLE GAIN TRANSISTOR AMPLIFIER

Albert Burgert, Arcueil, France, assignor to Compagnie Generale d'Electricite, Paris, France

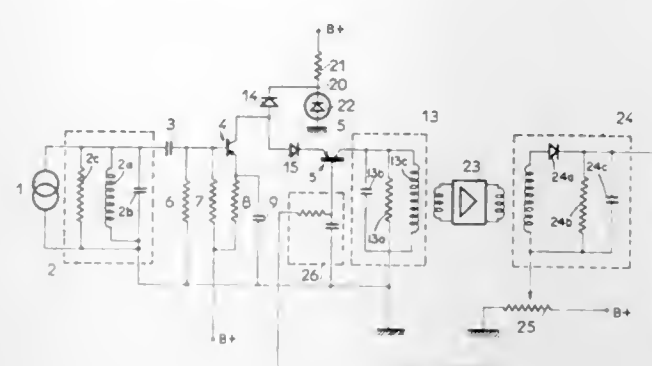
Filed July 30, 1965, Ser. No. 474,891

Claims priority, application France, July 31, 1964, 983,913

Int. Cl. H03g 3/30

U.S. Cl. 330—29

4 Claims



A variable gain two-stage transistor amplifier having a constant input impedance including a first common emitter amplifier stage connected to a second common base amplifier stage by way of a first diode and a non-linear current by-pass means including a second diode and a bias voltage source for diverting a selected portion of the current output of the first stage wherein to provide control either said bias voltage source is variable or said bias voltage source is fixed and the output of said amplifier is detected and fed back to the base of said second amplifier stage.

3,543,175

VARIABLE GAIN AMPLIFIER

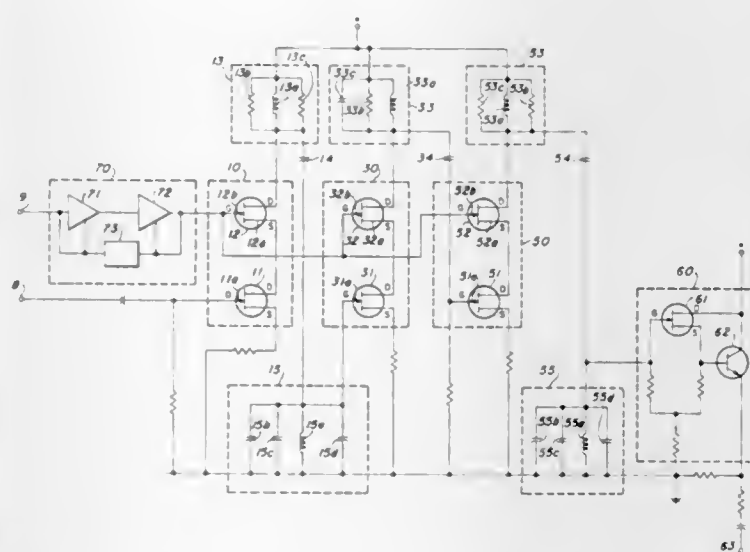
James H. Prout, State College, and George A. Boyer, Woodward, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 24, 1969, Ser. No. 844,542

Int. Cl. H03g 3/30

U.S. Cl. 330—29

1 Claim



A plurality of field effect transistors connected in pairs in a cascode configuration produce output signals within a predetermined sweep through interconnected drain circuits to prevent phase-shifting DC currents from reaching bandwidth control circuits. By blocking these currents, the bandwidth control components ensure a consistent phase relationship over a desired pass-band. An interface circuit, composed, in part, of a pair of serially connected

operational amplifiers, passes biasing control signals to the gate of one of each of the paired, cascoded field effect transistors to vary its transconductance, and, hence, the sweep limits of the variable gain amplifier output. The biasing controlling signals fed to the gates are derived by a remotely located envelope level detector circuit to effectively vary the transconductance of the field effect transistors to provide an output signal within predetermined parameters irrespective of the excursions of the circuit input signals caused by high and low frequency noise.

3,543,176

SEMICONDUCTOR DIFFERENTIAL AMPLIFIER

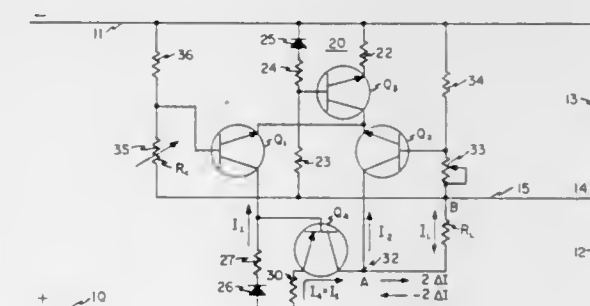
Balthasar Hubert Pinckaers, Edina, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Continuation of application Ser. No. 490,550, Sept. 27, 1965. This application Mar. 12, 1969, Ser. No. 806,786

Int. Cl. H03f 3/68

U.S. Cl. 330—30

6 Claims



A solid-state differential amplifier apparatus which has a high current gain and which provides at its output circuit a high impedance so that the output load current is substantially independent of the magnitude of the attached load circuit.

3,543,177

DIGITAL FREQUENCY COMPARATOR

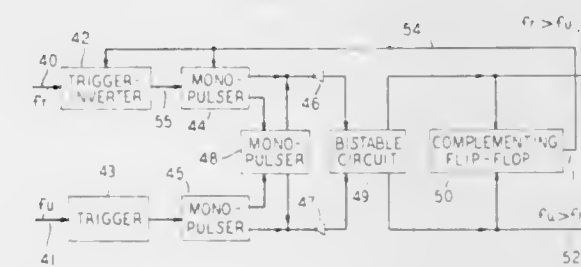
Robert W. Chang, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Dec. 27, 1968, Ser. No. 787,463

Int. Cl. H03b 3/04; H03d 13/00

U.S. Cl. 331—25

7 Claims



Method and apparatus for comparing closely spaced frequencies of electrical waves in the presence of noise and other interference and for determining which of two such frequencies is the higher. One frequency is taken as the reference and the other, as the unknown. In a first mode a tentative evaluation is made by comparing zero-crossing pulses derived from transitions of the same sense from each wave until a repetition of pulses from one of the waves occurs. In a second mode a final evaluation is made by comparing zero-crossing pulses derived from transitions of opposite sense from each wave until a repetition of pulses from one of the waves again occurs. The frequency corresponding to the wave in which the

repetition occurs in the second mode is then known to be the higher in frequency of the two. The method is implemented in digital apparatus which automatically switches between operating modes.

3,543,178

CIRCUITS USING DOMAIN PROPAGATING DIODES

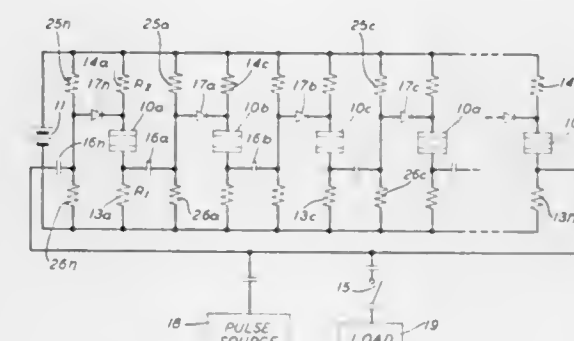
Mark R. Barber, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed June 17, 1968, Ser. No. 737,740

Int. Cl. H03b 7/06

U.S. Cl. 331—57

4 Claims



Storage circuits comprise a plurality of parallel connected Gunn-effect diodes biased near their oscillation threshold. The cathode of one diode is capacitively coupled to the anode of the successive diode. A pulse applied to the first diode of the array triggers a traveling electric field domain. When the domain is extinguished at the anode, a voltage pulse appears at the anode of the second diode, a domain is excited in the second diode, and the first diode returns to quiescence. A bistable multivibrator is disclosed in which the cathode of one diode is connected by an inductance with the anode of another diode.

3,543,179

NITROGEN LASER ACTION WITH SUPERSONIC FLOW

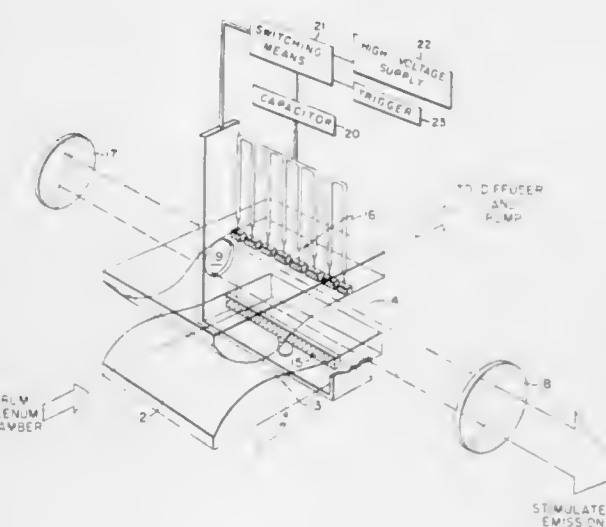
Jack Wilson, Reading, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Feb. 1, 1967, Ser. No. 613,236

Int. Cl. H01s 3/00

U.S. Cl. 331—94.5

13 Claims



Lasing action is electrically induced in a supersonic flow of nitrogen gas, resulting in an increase in pulse repetition rate to a new order.

3,543,180

TRANSVERSE AND LONGITUDINAL MODE LOCKING IN OPTICAL MASERS BY TRAVELING WAVE INTRACAVITY PHASE MODULATION

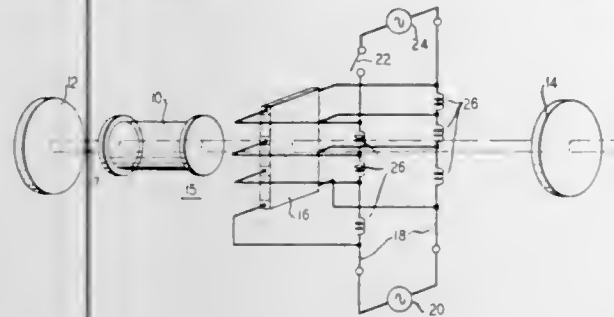
Arthur G. Fox, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed May 13, 1968, Ser. No. 728,500

Int. Cl. H01s 3/00

U.S. Cl. 331-94.5

10 Claims



Transverse mode-locking and beam-scanning is accomplished in an optical maser by phase modulating the laser beam at a frequency equal to the transverse mode-separation frequency. The modulator may comprise a transparent dielectric medium disposed transversely in the resonator. Established in the medium, by either electric or acoustic means, is a traveling or standing wave of index of refraction which propagates along the crystal in step with the scanning optical beam provided the modulation frequency equals transverse mode-separation frequency. Simultaneous locking of both the transverse and longitudinal modes is achieved in a cavity resonator designed such that the longitudinal mode frequency separation is an integral multiple of the transverse mode frequency spacing.

3,543,181

LASER FREQUENCY STABILIZATION SYSTEM

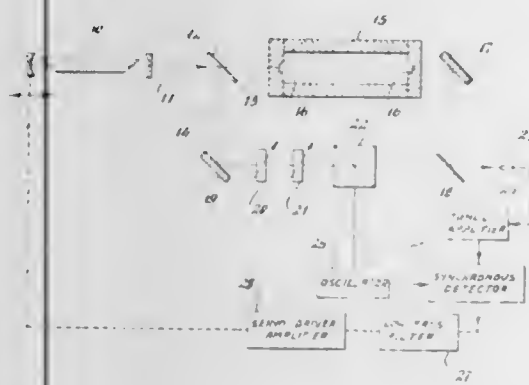
Paul H. Lee, Westport, and Michael L. Skolnick, Norwalk, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed Sept. 5, 1967, Ser. No. 665,534

Int. Cl. H01s 3/10

U.S. Cl. 331-94.5

5 Claims



A system for stabilizing a laser frequency at a selected value including means for comparing the phase of two divided portions of the beam, one of which is passed through a passive cavity which is resonant at the selected frequency while the other travels a nearly equal optical path. The phase of the second portion is biased so that the beams destructively interfere at a point of recombination when the laser is operating at the selected frequency. Any change of the laser frequency from the selected frequency is indicated by, and is proportional to, the intensity of light emitted from the point of recombination. The sign of any detuning of the laser is determined by modulating the phase of the second beam portion and

comparing the phase of light emitted from the point of interference with that of the modulating signal. A corrective signal based on the light intensity and phase comparison is applied to correct the laser frequency.

3,543,182

INFRARED LASER WITH CONCENTRIC ELECTRODES

Wilhelmus Jacobus Witteman, Gerrit van der Goot, and Hendrik Bessel Bart van Dam, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed May 20, 1968, Ser. No. 730,521

Claims priority, application Netherlands, June 1, 1967, 6707615

Int. Cl. H01s 3/22

U.S. Cl. 331-94.5

6 Claims



An infrared laser having a discharge space filled with a gaseous mixture including carbon dioxide is provided with electrodes mounted concentrically at opposite ends of the internal wall of the discharge tube.

3,543,183

APPARATUS FOR THE DEVELOPMENT OF A COHERENT MONOCHROMATIC LIGHT BEAM

Conrad Heimann, Bad Godesberg, Germany, assignor to Ringsdorf-Werke GmbH, Bad Godesberg-Mehlem, Germany, a corporation of Germany

Filed Feb. 7, 1966, Ser. No. 525,657

Claims priority, application Germany, June 23, 1965, R 40,930

Int. Cl. H01s 3/02

U.S. Cl. 331-94.5

9 Claims



An apparatus for producing coherent monochromatic light in at least one common output beam wherein two or more lasers are arranged to emit output pulses in sequence and utilizing at least one control device arranged to periodically move into and out of the light path of an associated laser. The control device, while in the light path of the associated laser, always has the same orientation to the common output beam irrespective of the instantaneous position thereof. The output pulse of the other lasers are directed along the common output beam whenever the light path of the associated laser is not interrupted by the control device.

3,543,184

CONTROLLABLE LOGIC GATE OSCILLATOR

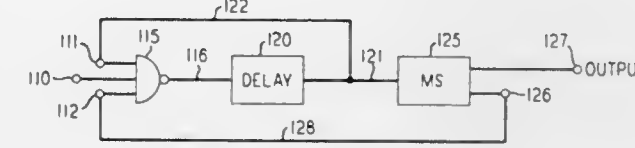
Michael S. Lane, Eatontown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Nov. 27, 1968, Ser. No. 779,512

Int. Cl. H03k 3/282

U.S. Cl. 331-111

5 Claims



A precision astable multivibrator is realized by utilizing an inverting logic gate, a delay network and a monostable multivibrator. The duration of the "0" state of the astable multivibrator output waveform is determined by the delay network timing interval and the duration of the "1" state is determined by the monostable timing interval.

3,543,185

PULSE GENERATOR WITH STEP FREQUENCY CONTROL

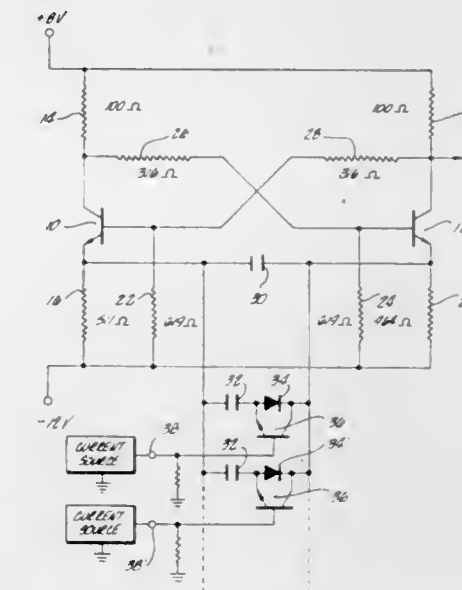
Peter L. Krause, Thousand Oaks, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Nov. 14, 1968, Ser. No. 775,684

Int. Cl. H03k 3/282

U.S. Cl. 331-113

3 Claims



There is described a multivibrator type oscillator in which the capacitance controlling the frequency of the oscillator can be changed in steps by a solid state switching arrangement.

3,543,186

FREQUENCY STABILIZED CRYSTAL CONTROLLED TRANSISTOR OSCILLATOR

Hans Flaig, Schramberg-Sulgen, Wurttemberg, Germany, assignor to Messrs. Gebrüder Junghans Gesellschaft mit beschränkter Haftung, Schramberg, Wurttemberg, Germany, a corporation of Germany

Filed Sept. 4, 1968, Ser. No. 757,411

Claims priority, application Germany, Sept. 14, 1967, 1,591,218

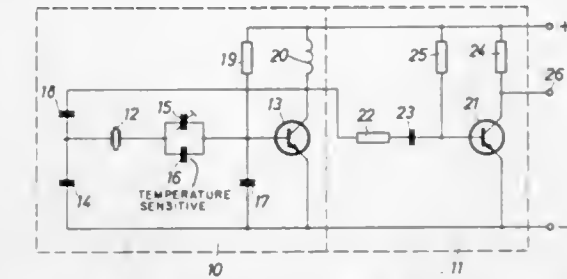
Int. Cl. H03b 5/36

U.S. Cl. 331-116

9 Claims

A crystal controlled transistor oscillator circuit has temperature and frequency control components in a π network arrangement coupled to the base of a grounded-

emitter circuit with feedback from an inductor-choke in the collector circuit. A transistorized inverting isolation



circuit of the grounded-emitter configuration is coupled to process oscillator output waveforms.

3,543,187

SINGLE ENDED BALANCED MODULATOR EMPLOYING MATCHED ELEMENTS IN DEMODULATING ARMS

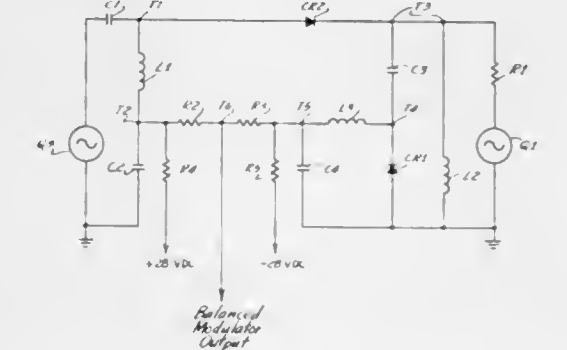
Michael T. Bagley, West Covina, Calif., assignor, by mesne assignments, to the United States of America

Filed Sept. 11, 1968, Ser. No. 758,938

Int. Cl. H03c 3/04

U.S. Cl. 332-18

1 Claim



A single ended balanced modulator employing matched elements in demodulating arms to preserve phase and response. Matched R.F. chokes are provided to discriminate against undesired frequencies. Means are provided to insure that two diodes in two respective demodulating arms conduct in unison.

3,543,188

MICROWAVE DIPLEXING TECHNIQUE EMPLOYING PREDISTORTED WAVEGUIDE FILTERS

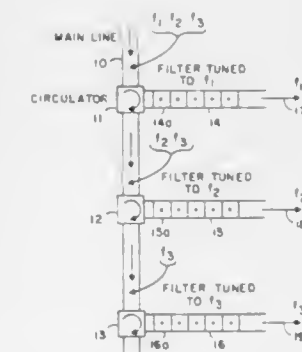
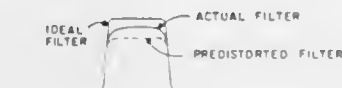
Robert M. Livingston, Dallas, Tex., assignor to Collins Radio Company, Dallas, Tex., a corporation of Iowa

Filed Oct. 13, 1969, Ser. No. 865,804

Int. Cl. H01p 5/12; H03h 7/08

U.S. Cl. 333-6

6 Claims



This invention describes a technique of employing predistorted waveguide filters in microwave branching networks wherein a plurality of carrier frequencies are to be separated from a common transmission line or combined

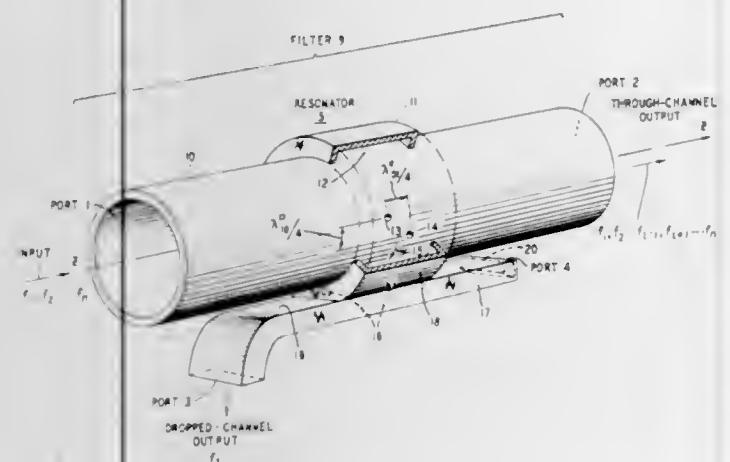
for transmission in a common line. By arranging the pre-distorted microwave filters in the branch filtering network such that the high Q end of the filters is that from which signal reflections occur, a marked improvement in differential time delay of the reflected signals is realized along with a reduction in differential power loss and absolute level of reflected power loss.

3,543,189 CONSTANT-IMPEDANCE CHANNEL-DROPPING FILTER

Robert D. Standley, Shrewsbury, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Jan. 27, 1969, Ser. No. 793,934
Int. Cl. H01p 1/20, 5/12

U.S. Cl. 333-6

3 Claims



This application discloses a constant-impedance, four-port, channel-dropping filter for use in a circular electric mode transmission system. A section of waveguide is wrapped around a section of circular waveguide to form a resonant loop tuned to the frequency of the channel to be dropped. The circular waveguide, supportive of a plurality of propagating channels in the TE_{01} mode, is coupled to the resonant loop in a manner to induce selectively therein a traveling wave at the frequency to be dropped. An output waveguide is directionally coupled to the resonant loop for extracting the dropped channel.

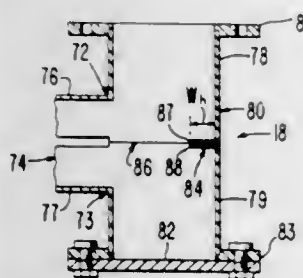
3,543,190 H-PLANE T-JUNCTION COMPRISING AT LEAST TWO SEPARABLE WAVEGUIDE SECTIONS

Jerome R. White, San Carlos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Original application Apr. 28, 1967, Ser. No. 634,522.
Divided and this application Feb. 26, 1969, Ser. No. 835,274

U.S. Cl. 333-9

Int. Cl. H01p 5/12

3 Claims



The slotted waveguide applicator includes two sets of open-ended U-shaped half waveguides with the half waveguides of each set parallelly aligned. The sets of half waveguides are mounted spaced apart to define contiguous slotted wide walls. Notches are provided in the contiguous arms of each half waveguide to define coupling holes inwardly displaced from opposite ends of the waveguides.

An H-plane T-junction microwave guiding structure formed from L-shaped half sections, with each half section including one half of the side arm and a length of the main transmission line, couples a microwave source connected to one end of the main transmission line to the applicator connected to the side arm. An inductive window is provided at the junction and a shorting plate terminates the remaining end of the main transmission line. A second H-plane T-junction microwave guiding structure connects a dummy load to the end of the applicator.

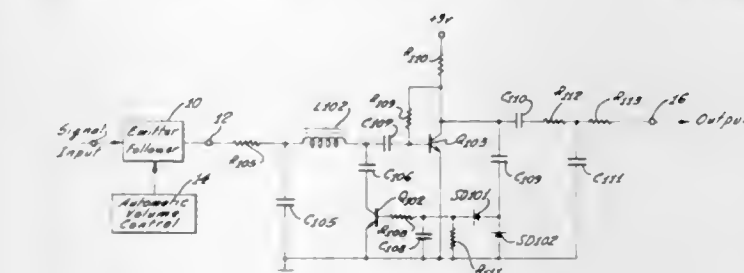
3,543,191 CONTROLLABLE FILTER NETWORK

Bradley J. Plunkett, Van Nuys, Calif., assignor to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware

Filed June 18, 1968, Ser. No. 737,950
Int. Cl. H03h 7/10

U.S. Cl. 333-17

6 Claims



An improved controllable filter is provided of, for example, the low pass type and which has an automatically controlled cut-off frequency response characteristic. The filter of the invention has particular utility in removing harmonics from complex signals whose fundamental frequencies extend through a relatively wide frequency range, so as to produce roughly sinusoidal wave forms in response to such signals. The filter is constructed to respond to the signals translated by the filter in order to change the response characteristic for the different fundamental frequencies, and thereby to provide a desired attenuation for the harmonics of the various signals, regardless of whether their fundamental frequency lies at the high end or at the low end of the range.

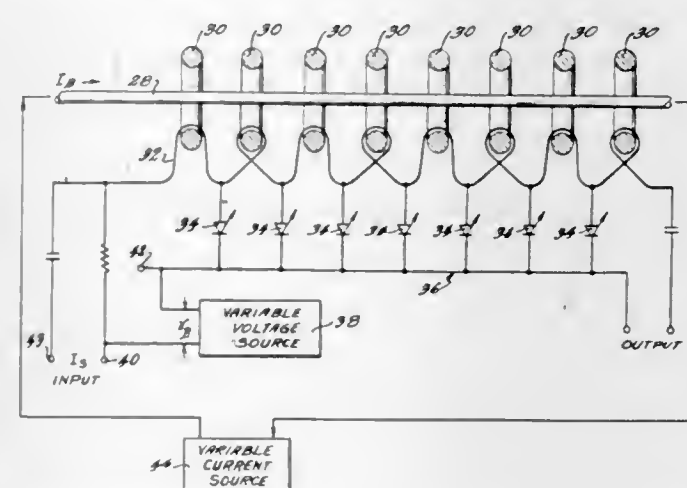
3,543,192 CONSTANT-IMPEDANCE VARIABLE-DELAY TRANSMISSION LINE

Ednor M. Rowe, McFarland, Wis., and Richard H. Hilden, Minneapolis, Minn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Feb. 7, 1968, Ser. No. 703,653
Int. Cl. H03h 7/36

U.S. Cl. 333-29

2 Claims



A constant-impedance variable-delay transmission line includes a plurality of semiconductor voltage-variable

capacitors connected to a variable-voltage source. A plurality of first windings are each magnetically coupled with an associated one of a plurality of ferrite cores and electrically connected to a variable-current source. A plurality of second windings are each magnetically coupled with an associated one of the ferrite cores and are connected with an associated one of the semiconductor voltage-variable capacitors to form sections of a transmission line whose inductance to capacitance ratio may be maintained constant while varying the propagation velocity characteristics thereof.

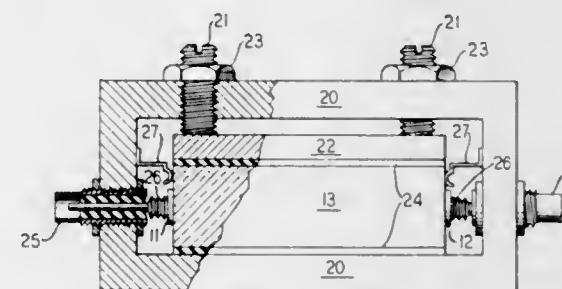
3,543,193 STRESSED ELASTIC WAVE DELAY LINE

Arthur H. Fitch, Mountain Lakes, and Allen H. Meitzler, Morristown, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Aug. 29, 1968, Ser. No. 756,234
Int. Cl. H03h 9/30

U.S. Cl. 333-30

4 Claims



An elastic shear wave delay line in which the reception of signals traversing the propagation path a predetermined number of times is selectively minimized by the application of a suitable pressure perpendicular to the direction of propagation and at a 45-degree angle with respect to the direction of shear wave polarization.

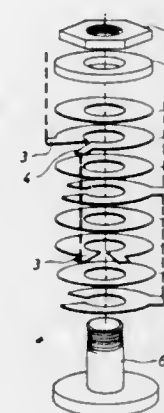
3,543,194 ELECTROMAGNETIC DELAY LINE HAVING SUPERIMPOSED ELEMENTS

Georges Kassabgi, Pregnano Milanese, Milano, Italy, assignor to General Electric Information Systems S.p.A., Caluso, Torino, Italy, a corporation of Italy
Filed Oct. 24, 1968, Ser. No. 770,323
Claims priority, application Italy, Oct. 24, 1967, 814,806

Int. Cl. H03h 7/30

U.S. Cl. 333-31

8 Claims



A delay line having distributed parameters is formed by alternately superimposing flat, open-ring shaped conductive elements and flat, ring shaped insulating elements, and by connecting the conductive elements in such a way as to obtain a coil having grounded flat elements interposed between consecutive turns.

3,543,195 TRAVELLING WAVE TUBES

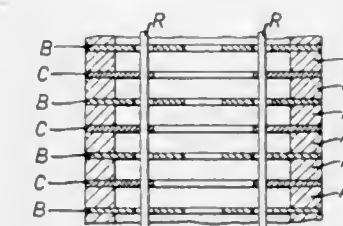
Robin Charles Moorehouse King, Chelmsford, England, assignor to English Electric Valve Company Limited, London, England, a British company

Filed May 19, 1967, Ser. No. 639,787
Claims priority, application Great Britain, Apr. 6, 1967, 26,104/66

U.S. Cl. 333-31

Int. Cl. H03h 9/30

7 Claims



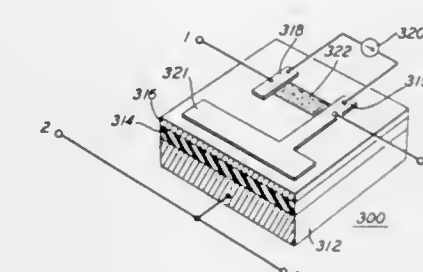
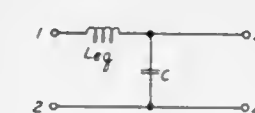
Known resonant cavity types of slow wave structure consisted of a waveguide having transverse partitions with aligned central holes, the partitions being coupled by S-shaped loops. These structures were improved upon by a staggered coupling arrangement which used rods to connect partitions, half the rods connecting alternate partitions and the other half connecting the remaining partitions. Unfortunately, to obtain cavity resonance, the rods had to be long and the beam voltage at least 100 kv. These problems are overcome by a symmetrical arrangement in which alternate partitions have a ring of inwardly projecting fingers with which all the rods are in contact and the remaining partitions have a ring of holes through which the rods pass without making contact therewith.

3,543,196 FILAMENTARY DEVICE COMPRISING THERMO-RESISTIVE MATERIAL AND FILTER UTILIZING SAME

Carl N. Berglund, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Nov. 16, 1967, Ser. No. 683,549
Int. Cl. H01l 19/00; H03h 7/02

U.S. Cl. 333-70

5 Claims



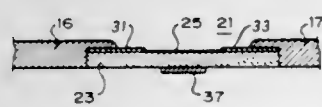
A filamentary device employs in general a thin film of a material of the type which exhibits a negative temperature coefficient of resistivity such as a thermoresistive material which, for example, exhibits an abrupt change in resistivity when the material undergoes a metal-semiconductor phase transition. On the thin film are deposited a pair of parallel elongated electrodes in spaced relation to one another. A current source is connected across the

electrodes. When the current is maintained between a pair of critical values, a narrow high-temperature filament of low resistivity extending between the electrodes is produced in the film which is normally in its high resistivity state. Within the critical current range, the width of the filament increases with increasing current, but the voltage across the electrodes remains constant. These and other characteristics make the device suitable as a bipolar voltage regulator, a latching relay, a solid state inductor and a negative resistance oscillator.

3,543,197
RESISTIVE CARD HIGH FREQUENCY ATTENUATORS HAVING CAPACITIVE COMPENSATION
Stephen F. Adam and Richard W. Anderson, Los Altos, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Oct. 24, 1966, Ser. No. 588,945
Int. Cl. H01p 1/22

U.S. Cl. 333—81

3 Claims

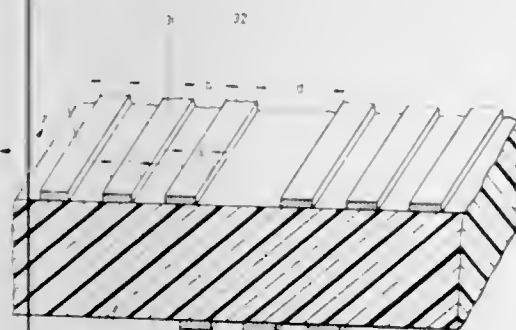


The attenuation characteristic of a resistive-card coaxial attenuator is rendered substantially independent of frequency over a selected range of operating frequencies by introducing an isolated conductive element adjacent the resistive card to provide distributed capacitive compensation about a region of the resistive card that corresponds to the area of the conductive element.

3,543,198
CONDUCTOR ARRANGEMENT FOR GIGAHERTZ FREQUENCY RANGE CIRCUITS
Herbert Stopper, Litzelstetten, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed July 19, 1968, Ser. No. 746,066
Claims priority, application Germany, July 21, 1967, 1,591,702

Int. Cl. H01p 3/00, 3/08
U.S. Cl. 333—84

4 Claims

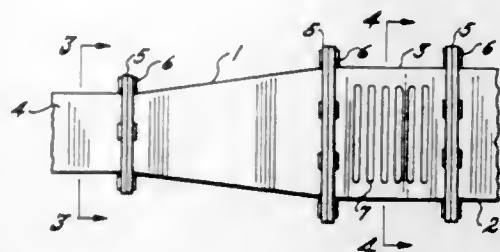


A conductor arrangement for printed circuits operating in the gigahertz frequency range and composed of a plurality of circuit elements mounted on a circuit board, the conductors being constituted by triple striplines each composed of three lines disposed parallel to one another, with the center line being connected to a reference potential source and the two outer lines being connected to conduct information signals and having their output ends terminated to the center conductor by identical terminal resistances.

3,543,199
TAPERED MODE SELECTIVE ABSORBER FOR USE IN HIGH POWER WAVEGUIDE SYSTEMS
John P. Quine, Schenectady, and Coushy Younger, Scotia, N.Y., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 3, 1968, Ser. No. 764,701
Int. Cl. H01p 1/00

U.S. Cl. 333—98

2 Claims

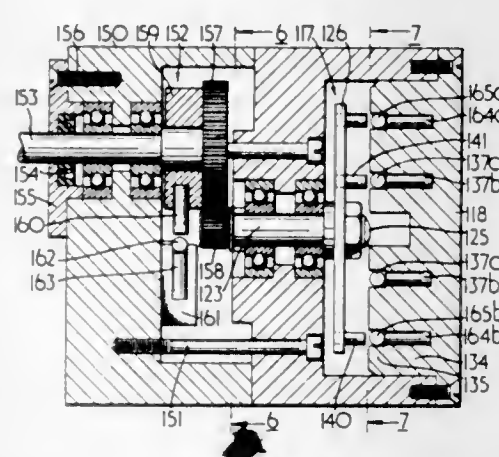


The invention comprehends a waveguide component adapted to selectively absorb unwanted TE_{mn} , TM_{mn} modes of electromagnetic wave energy propagating in high power oversized waveguide systems. A section of rectangular waveguide that tapers from oversized system waveguide dimensions to standard waveguide dimensions is used to provide 180° phase shifted reflection of TE_{mn} modes and short circuiting of TM_{mn} modes, thereby effecting maximum coupling thereof. The composite TE_{mn} , TM_{mn} modes thus combined are then coupled out of the system by means of appropriate transverse side wall slots disposed in a section of rectangular waveguide attached to the larger end of the tapered section.

3,543,200
MAGNETIC, ELECTRIC SIGNAL CHOPPER
Wallace J. Hill, Warwickshire, England, assignor to Tudor Control Systems Limited, Fimham, Coventry, England
Filed Aug. 12, 1968, Ser. No. 752,070
Int. Cl. H01h 3/02

U.S. Cl. 335—72

17 Claims

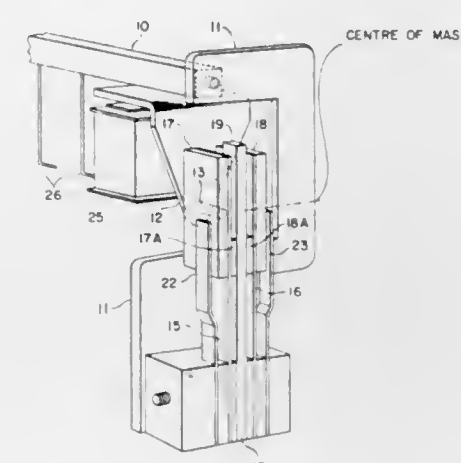


A magnetically-acting, electric signal chopper includes a contact unit arranged in a space between the adjacent ends of a fixed magnet and of a movable magnet which becomes aligned with the fixed magnet when the former passes the latter. The contact unit comprises resilient conductive reeds having their one ends overlapping and their other ends connected to the circuit carrying the signal. The resilience of the overlapping ends of the reeds normally bias them into engagement with each other; and they are separated by the interaction of the fluxes of the two magnets with their bias.

3,543,201
CROSSBAR SWITCH SELECT BAR DAMPING ASSEMBLY
Gabriel Marcantonio, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Sept. 12, 1969, Ser. No. 857,472
Int. Cl. H01h 3/60

U.S. Cl. 335—193

2 Claims

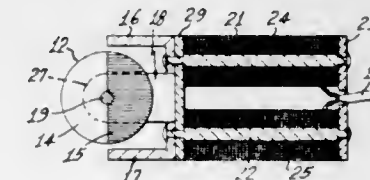


An improved damping and restoring mechanism used in a crossbar switch for restoring a select bar to its neutral position. The spring assembly comprises a pair of cantilevered springs mounted on opposite sides of a restoring arm of the select bar. Each of the springs has a relatively massive damping weight. A stop means is interposed between the springs at a neutral position to allow the cantilevered springs to strike the stop means situated at its neutral position to dampen the motion of the select bar.

3,543,202
MAGNETIC LATCHING INDICATOR MECHANISM
Edward V. Naybor, Port Washington, N.Y., assignor to E. V. Naybor Laboratories, Inc., Port Washington, N.Y., a corporation of New York
Filed Oct. 12, 1967, Ser. No. 674,809
Int. Cl. H01f 7/08

U.S. Cl. 335—229

11 Claims



An indicator mechanism responsive to short duration direct current pulses to discretely indicate the nature of the last pulse applied. This indicator is magnetically latched in position and maintains the last position achieved irrespective of possible power failure.

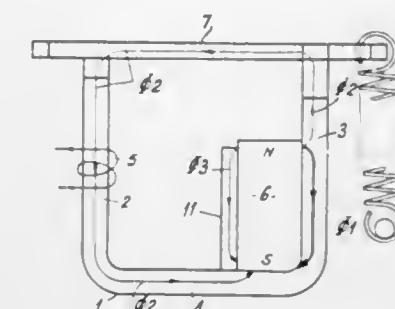
3,543,203
ELECTRO-MAGNETIC ULTRA-SENSITIVE TRIPPING DEVICES
Jean Alletru, Villemomble, France, assignor to L'Industrie Electrique de la Seine, Romainville, Seine-Saint-Denis, France
Filed Aug. 8, 1968, Ser. No. 751,116
Claims priority, application France, Aug. 11, 1967, 117,805

Int. Cl. H01f 7/08
U.S. Cl. 335—229

7 Claims

An electro-magnetic tripping device comprises a stator of magnetic material in the shape of a U with two legs and a base. A tripping coil surrounds one leg of the stator

and a permanent magnet is mounted in the interior of the U against the second leg of the stator with one pole against the base of the stator. A blade of magnetic material is applied in its normal position against the extremities of the two legs of the stator to form a magnetic circuit therewith and a spring acts on the blade to urge the same to a position of release. A shunt of magnetic material is

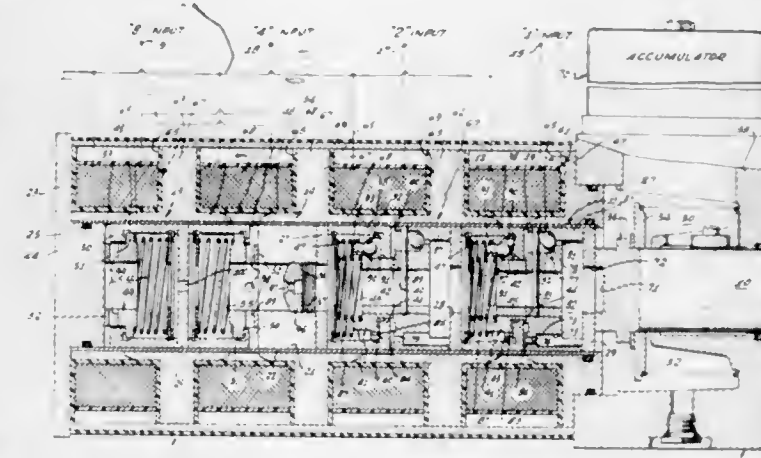


slidably mounted in an adjustable manner along the permanent magnet and parallel to the legs of the stator, the material of the shunt having an incremental permeability which decreases slightly with increasing field intensity so that the shunt counterbalances variation of reluctance of the magnetic circuit with respect to temperature in order to nullify thermal instability of the tripping device.

3,543,204
DIGITAL ACTUATOR WITH FLUID DAMPING
Robert M. Cox, Northridge, Clyde F. Czernek, Sepulveda, and Kenneth E. Turner, Woodland Hills, Calif., assignors to Servo Labs, Inc., Van Nuys, Calif., a corporation of California
Filed Oct. 9, 1968, Ser. No. 766,107
Int. Cl. H01t 7/08

U.S. Cl. 335—267

11 Claims



A digital actuator having an output shaft displaced longitudinally by a stack of four individually expandable and contractible piston-adder assemblies in a fluid-filled bore, the assemblies comprising two relatively movable magnetic elements spring-urged apart and selectively contracted different preselected distances by solenoid coils encircling the assemblies. A follow-up spring urges the output shaft against the stack to contract the latter in response to contraction of individual assemblies, and two of the assemblies have speed-control passages controlling the rate of fluid escape from two chambers formed between the magnetic elements to control the maximum velocity in both directions, and also have blocking surfaces progressively restricting the speed-control passages near the ends of the strokes to decelerate

the elements and cushion impacts. The other two assemblies have modified velocity control in the form of speed-control passages alone.

3,543,205

ELECTRICAL WINDINGS

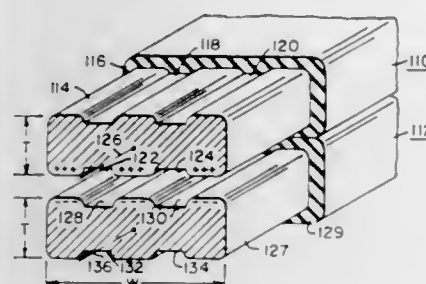
Robert I. Van Nice, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 5, 1968, Ser. No. 750,351

Int. Cl. H01f 15/14, 27/28

U.S. Cl. 336—70

12 Claims



An electrical winding comprising a plurality of pancake type coils of the high series capacitance, interleaved turn type, for electrical inductive apparatus, such as transformers. The pancake coils include means for presenting a high resistance to high frequency surge currents, by increasing the effective surface resistance of the conductors of which the pancake coils are wound, without detracting from the performance of the winding at line frequency.

3,543,206

FINISH LEAD FOR ELECTRICAL TRANSFORMER

Harry L. King, deceased, late of Pittsburgh, Pa.; Edna Mae D. King, administratrix of said Harry L. King, assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

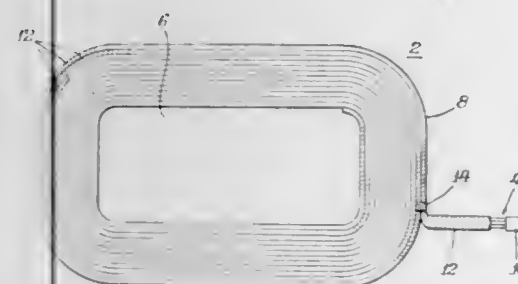
Filed Mar. 1, 1968, Ser. No. 727,757

(Filed under Rule 47(b) and 35 U.S.C. 118)

Int. Cl. H01j 15/10

U.S. Cl. 336—192

7 Claims



A finish lead for a coil of a high voltage transformer. The conductors extending from the coil are separated to form the outer portion of the finish lead. Additional conductive material is then inserted between the separated conductors in electrical contact with them to complete the finish lead.

3,543,207

SURGE PROTECTOR ASSEMBLY

Chester J. Kawiecki, Santa Barbara, Calif., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois

Filed Dec. 4, 1968, Ser. No. 781,134

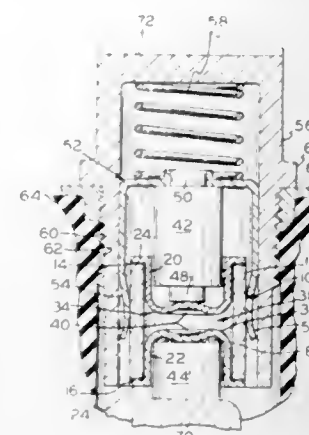
Int. Cl. H01h 71/02, 79/00

U.S. Cl. 337—28

12 Claims

A surge protector assembly includes a unitary miniature surge protector having a pair of hollow electrode members extending within and sealed to a ceramic cylinder. The electrodes are provided with end walls which face one another within the cylinder to define a gap, and

which are adapted to soften or melt under continuation of a predetermined arc discharge. Cylindrical contact members are slidably receivable within the electrodes and are spring-biased for urging the electrode end walls toward one another for shorting the gap, as, for example under extended breakdown conditions. The unitary surge



protector and the contact members are received within a cylindrical holder having a spring means for urging the contact members toward the aforementioned end walls. The holder is threadably received within a base member which makes electrical connection with the surge protector.

3,543,208

SNAP ACTION SWITCH

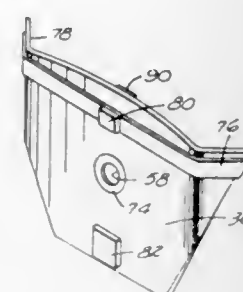
Kenneth R. Watson, Troy, Mich., assignor to Dynamic Industries, Warren, Mich., a corporation of Michigan

Filed July 5, 1968, Ser. No. 742,708

Int. Cl. H01h 61/06, 71/18

U.S. Cl. 337—136

10 Claims



A snap acting electrical flasher switch for use with a directional turn signal on an automotive vehicle, the switch incorporating a spring vane of trapezoidal shape which in its free state has a central dished deformation thereon. The vane is supported on a switch base at its shorter edge and has a resistance ribbon or wire attached to the opposite ends of its longer edge so as to normally distort the vane into a bowed configuration opposite to the dished deformation. When the resistance ribbon is heated it expands, relieving the tension on the vane so that the vane flexes with a snap action toward its relaxed position and thereby acts as a switch arm to make and break with contacts controlling the turn signal.

3,543,209

COMPOSITE FUSE LINK AND FUSE WITH COMPOSITE FUSE LINK

Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.

Continuation-in-part of application Ser. No. 813,033, Apr. 13, 1969. This application Sept. 15, 1969, Ser. No. 857,821

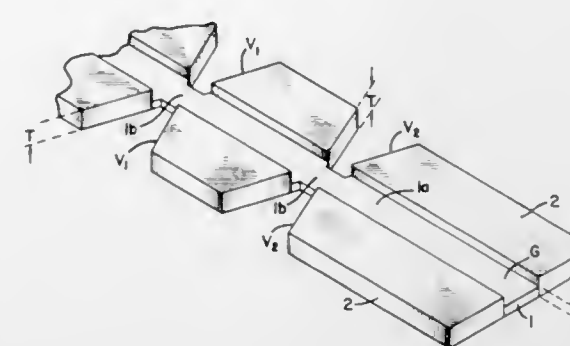
Int. Cl. H01h 85/08

U.S. Cl. 337—159

6 Claims

A composite integral ribbon fuse link for current-limiting fuses including a relatively thin strip of silver

and a pair of relatively thick strips of copper is designed to form series breaks, to minimize fusing i^2t values and to maximize current-carrying capacity. The composite integral fuse link has a groove extending in a di-



rection longitudinally thereof. The points of reduced cross-sectional area or necks of the fuse link are formed of silver, and their cross-sectional area is smaller than the cross-sectional area of the strip of silver at any point thereof remote from the necks.

3,543,210

CURRENT-LIMITING FUSE HAVING FUSE LINK WITH LONGITUDINAL GROOVE

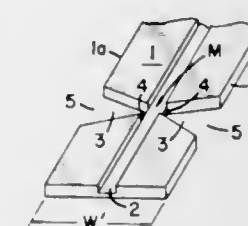
Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.

Filed Apr. 3, 1969, Ser. No. 813,033

Int. Cl. H01h 85/08

U.S. Cl. 337—159

3 Claims



A current-limiting fuse whose ribbon fuse link has a groove extending in a direction longitudinally of the fuse link and regions of relatively large cross-sectional area laterally bounding said groove. The regions of relatively large cross-sectional area are interrupted by cut-outs establishing points of minimum cross-sectional area coextensive with the bottom of said groove and spaced in a direction longitudinally of said fuse link.

3,543,211

THERMAL ACTUATOR

George W. Dahl, Warren, R.I., assignor to G. W. Dahl Company, Inc., Bristol, R.I., a corporation of Rhode Island

Filed Oct. 14, 1968, Ser. No. 767,308

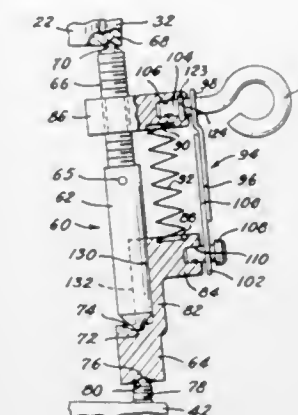
Int. Cl. A62c 37/12; F16k 31/56; H01h 37/76

U.S. Cl. 337—408

6 Claims

In a system wherein a pair of relatively movable members are normally urged to move with respect to each other by relatively heavy spring means, said movement being prevented by a thermal actuator comprising a pair of axially aligned struts which counteract said spring means when in their straight line position, said actuator further comprising means normally bearing on said struts

so as to cause them to collapse from their straight line position wherein said spring automatically becomes effective to cause relative movement of said members, and



a fusible link rendering said last named means ineffective until a predetermined temperature is reached sufficient to fuse said link.

3,543,212

POWER CONTROL SWITCHING DEVICES

Don L. Harvell, Greenville, S.C., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 12, 1967, Ser. No. 689,833

Int. Cl. H01c 9/08

U.S. Cl. 338—198

2 Claims



This disclosure relates to a power control switching device for a portable power tool having a motor housed therein, said device is operator influenced to make effective one or the other control elements of a control circuit of the electric motor to vary the range of speed below a maximum speed or to set a maximum speed for the tool.

3,543,213

GRID-TYPE RESISTOR

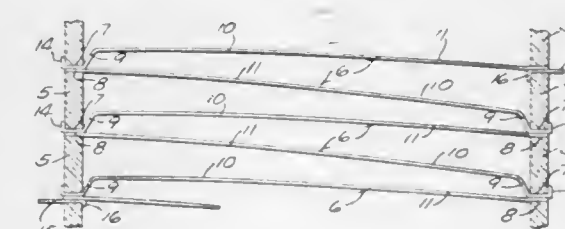
Lionel E. Weyenberg, N34 W23575 Capital Drive Parkway, Pewaukee, Wis. 53186

Filed Dec. 30, 1968, Ser. No. 787,969

Int. Cl. H01c 3/00

U.S. Cl. 338—290

9 Claims



A grid-type resistor having an improved mounting construction. The resistor includes a series of metal grids or

strips having their ends connected to provide a generally sinuous configuration for the resistor. The connected ends of the strips are secured between interlocking insulating blocks and the blocks are connected together to provide an integral assembly.

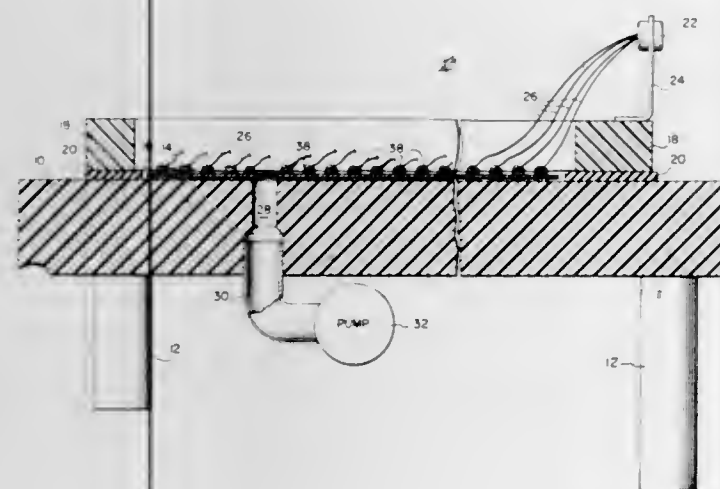
3,543,214

PRINTED CIRCUIT BOARD CONTACT ASSEMBLY
Wilbur W. Johnston, San Diego, Calif., assignor to General Precision Systems Inc., Little Falls, N.J., a corporation of Delaware

Filed July 22, 1968, Ser. No. 746,562
Int. Cl. H05k 1/12; H01r 13/54

U.S. Cl. 339—17

3 Claims



A printed circuit board contact assembly comprising a flexible sheet having a plurality of contact members extending therethrough, the contact members being patterned similarly to the contacts on the upper surface of the printed board and adapted to register in contact therewith. Means are provided to connect the contact members to a circuit analyzer, or the like.

3,543,215

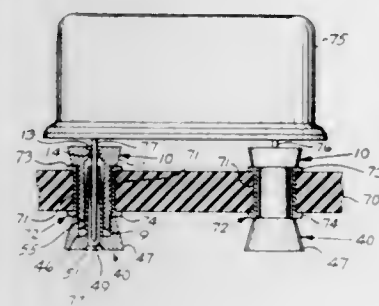
PIN SOCKETS FOR ELECTRONIC CIRCUIT DEVICES

Robert W. Jones, 15843 Kalisher, Granada Hills, Calif. 91344

Filed June 28, 1968, Ser. No. 740,882
Int. Cl. H05k 1/12; H01r 13/12

U.S. Cl. 339—17

10 Claims



This invention relates to novel pin socket devices for use in printed circuit boards to receive small plug-in electronic circuit components, devices, transistor or integrated circuit units. The pin socket devices, in one embodiment include a split receptacle interfitted with a collet-like cylinder, each having flange portions which when assembled on printed circuit boards make contact with the circuit leads on either side of the board.

3,543,216

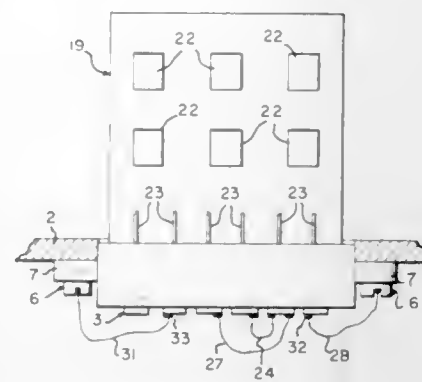
CIRCUIT COMMON DEVICE

Carlton Eugene Vanderbeek, Los Angeles, Calif., assignor to the United States of America as represented by the Secretary of the Army

Filed Sept. 26, 1968, Ser. No. 762,846
Int. Cl. H01r 3/06, 29/00; H05k 1/04

U.S. Cl. 339—18

3 Claims



An apparatus having a threaded shank portion and a slotted head portion which both secures an insulative body to a conductive member and which acts as a circuit common or ground point.

3,543,217

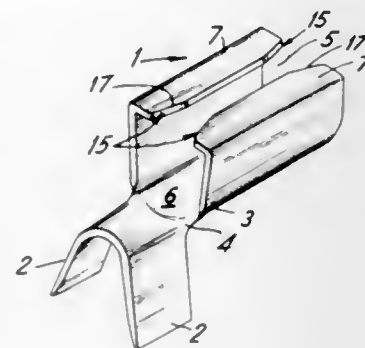
MULTIPURPOSE ELECTRIC RECEPTACLE FITTING AND RECEPTACLE

Ferdinand Klumpp, Jr., Mountainside, N.J., assignor to Heyman Manufacturing Company, Kenilworth, N.J., a corporation of New Jersey

Filed June 25, 1968, Ser. No. 739,695
Int. Cl. H01r 13/12

U.S. Cl. 339—32

15 Claims



The present invention relates to a new electric contact receptacle female fitting uniquely shaped so that the same fitting may be used to receive almost all the variant shapes of standard electric plug blades and pins, thus eliminating the need for different shaped female fitting, for different shaped blades such as flat blades, right angle blades and curved blades with the same fitting able to receive round pins and D pins.

3,543,218

SAFETY CONNECTORS FOR ELECTRICAL EXTENSION CORDS

Andrew M. Archer, % Seaman's Unit, San Francisco, Calif. 94119

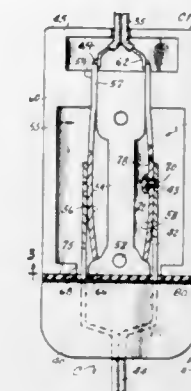
Filed Mar. 8, 1968, Ser. No. 711,558
Int. Cl. H01r 13/20

U.S. Cl. 339—74

1 Claim

Electrical connectors are described having means which permit relatively easy mutual engagement of a plug and receptacle, but which prevent or inhibit separation of the plug and receptacle. One way gripping devices of various types are installed in or built in receptacles to grip one or more prongs of a plug. The gripping devices include spring contact elements having rigid knobs, tips

or teeth which engage sides of the prongs or engage in holes in the prongs. The gripping devices also include resilient teeth which frictionally grip the prongs, and per-



mit disengagement of the prongs only by twisting, turning or otherwise manipulating the plugs with respect to the receptacles.

3,543,219

ELECTRICAL CONNECTOR HOUSING

Riccardo Pautrie, Turin, Italy, assignor, by mesne assignments, to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey

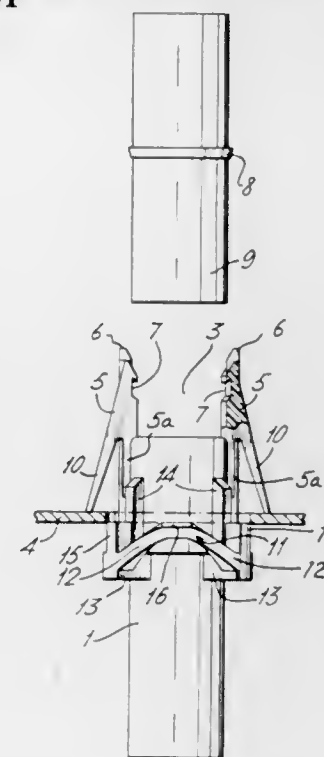
Filed May 29, 1968, Ser. No. 732,939

Claims priority, application Italy, June 15, 1967, 805,294

U.S. Cl. 339—91

Int. Cl. H01r 13/54

9 Claims



An electrical connector housing a pair of V-shaped yoke members for engaging a rear surface of a panel while the front surface of the panel is engaged by a pair of resilient flaps extending from latch arms of the housing, the yoke members being deflectable radially of the housing which is centered in a panel aperture by axially-extending ribs. Stub projections engage the rear surface of the panel to prevent overstress of the yoke members.

3,543,220

INTEGRATED CIRCUIT PIN-SOCKET RECEPTACLE ASSEMBLIES

Robert W. Jones, 15843 Kalisher, Granada Hills, Calif. 91344

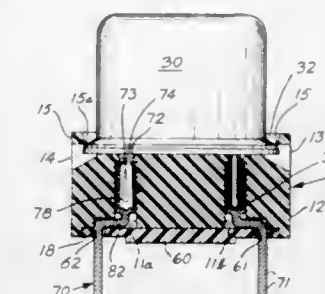
Filed June 28, 1968, Ser. No. 740,883
Int. Cl. H01r 13/54

U.S. Cl. 339—91

5 Claims

This invention relates to novel pin-socket assemblies for integrated circuit devices. The socket assemblies in-

clude a plurality of split cylinder devices in a socket base each device having solder terminal extensions preformed to be held in guides in the socket base and to extend therefrom so as to be insertable in a printed circuit assembly and soldered to the leads thereof. The split ends of the cylinder are cantilevered to come together for biting



3,543,221

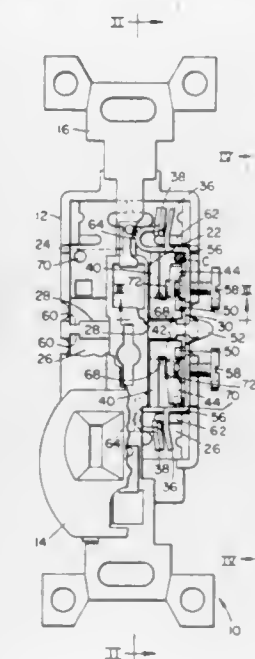
PRESSURE LOCK TERMINAL

Jacob Schmier, Allentown, Pa., assignor to Rodale Manufacturing Company, Inc., Emmaus, Pa., a corporation of Pennsylvania

Filed Aug. 27, 1968, Ser. No. 755,672
Int. Cl. H01r 11/20

U.S. Cl. 339—95

6 Claims



A single piece of sheet metal stock is formed to provide a pressure-lock terminal strip.

3,543,222

METHOD AND APPARATUS FOR COUPLING TO A CO-AXIAL CABLE

William A. Rheinfelder, Phoenix, Ariz., assignor to RJ Communication Products, Inc., a corporation of Delaware

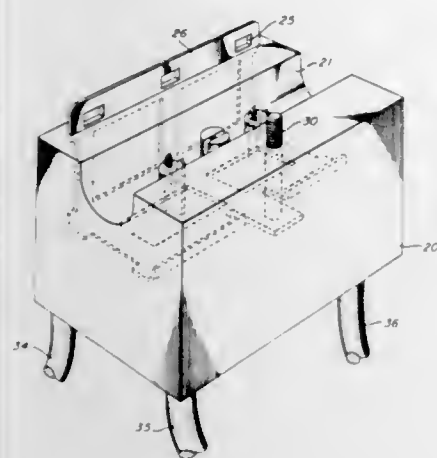
Filed Feb. 24, 1969, Ser. No. 801,700
Int. Cl. H01r 5/12, 9/08, 17/12

U.S. Cl. 339—99

10 Claims

A method for connecting to a co-axial cable wherein a plurality of holes are cut into the cable, one of which severs the inner conductor thereof. Other holes spaced on either side of the first hole penetrate the outer conductor but do not contact the inner conductor. Electrical

contact is made through the outer holes by extending forked electrical contacts through the insulation separating the inner and outer conductors into gripping contact with the inner conductor. Grounding contact is provided to



the outer conductor by forcing a cylinder of insulating material into the center hole and providing a spring-like fork member within the cylinder that extends outwardly therefrom to forcibly engage the outer conductor of the co-axial cable.

3,543,223

THIN ELECTRICAL SOCKET

Herbert Krautwald and Harry Schroder, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

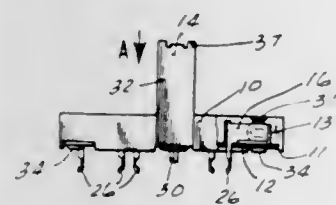
Filed Jan. 3, 1968, Ser. No. 695,370

Claims priority, application Germany, Jan. 10, 1967, S 107,794

Int. Cl. H01r 13/60, 13/06

U.S. Cl. 339—119

5 Claims



A thin electrical socket which has front and back covers with female sockets mounted between the front and back covers and formed with spring legs which are generally flat and lie along a plane which is normal to the front and back covers and adapted to receive a male prong which is inserted normal to the direction which the legs extend.

3,543,224

RECESSED LIGHT SOCKET AND LENS THEREFOR

Julian V. Fisher, Carpentersville, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed June 3, 1968, Ser. No. 733,841

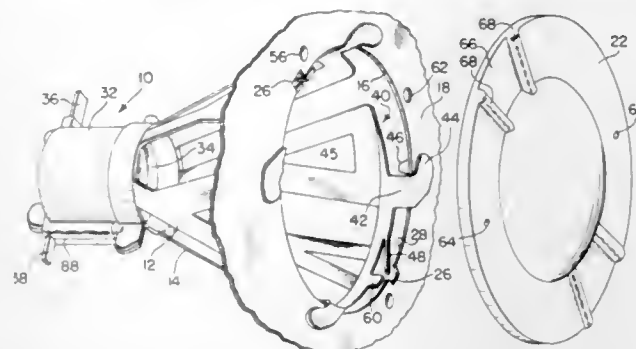
Int. Cl. H01r 13/48, 13/60

U.S. Cl. 339—125

11 Claims

Molded thermoplastic recessed light socket assembly for clothes dryer interior has integral support and integral resilient fastening members for permitting the socket to be recessed in an aperture in an interior wall of the dryer from the interior of the dryer's drum and securely fastened to the interior wall by pressing the resilient fastening members into holes adjacent the aperture. Locking

means formed on the integral support members and on a portion of the rear surface of a cooperating cover or lens member permit the lens member to be readily attached to



and removed from locking engagement with the support for servicing a light bulb under the lens from the interior of the drum.

3,543,225

TWIST-IN LAMP SOCKET

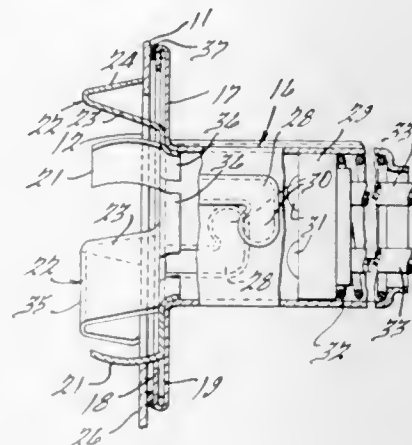
William A. Bedford, Jr., Sarasota, Fla., and Don L. De Lano, Mount Clemens, Mich., assignors, by mesne assignments, to Microdot Inc., Greenwich, Conn., a corporation of California

Filed June 27, 1968, Ser. No. 740,573

Int. Cl. H01r 13/20

U.S. Cl. 339—127

4 Claims



The disclosure relates to a lamp socket which is retained and locked in position in an aperture by an axial and rotatable movement.

3,543,226

CONNECTORS FOR PRINTED CIRCUIT CARDS AND THE LIKE

Bernard André Laboue, Goussainville, France, assignor to Societe Industrielle Bull-General Electric Societe Anonyme, Paris, France

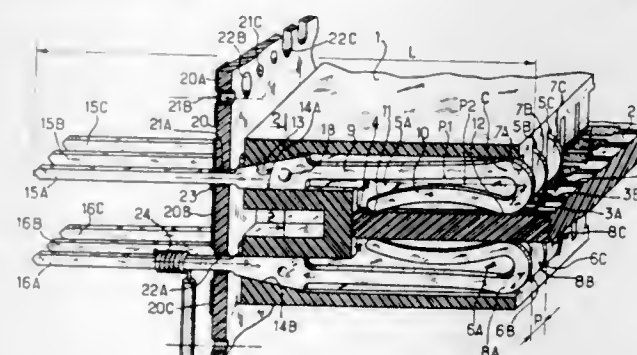
Filed Aug. 7, 1968, Ser. No. 750,954

Claims priority, application France, Aug. 23, 1967, 118,689

Int. Cl. H05k 1/12

U.S. Cl. 339—176

7 Claims



A connector adapted to receive an extremity of a printed circuit card which is provided with contact pads, comprises an insulating body with at least one series of

aligned recesses for positioning contact elements intended to engage corresponding pads of said card. Each contact element is flat and thin to permit reduced spacing of these elements and ease of mounting results from a wedge-shaped enlargement on a stem portion of each contact element.

3,543,227

CONTACT SPRING FOR ELECTRICAL SOCKET CONTACT

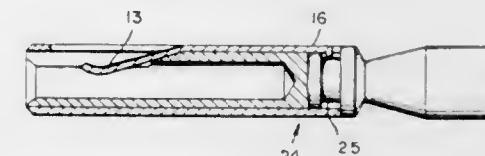
Norbert L. Moulin, Placentia, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Mar. 26, 1968, Ser. No. 716,108

Int. Cl. H01r 13/12

U.S. Cl. 339—256

8 Claims



A contact spring and its manufacture. The contact spring is mounted on a socket body and the two elements together define a socket. When a pin is inserted in the socket a resilient contact finger on the contact spring provides contact pressure for a good connection between the socket and the pin. A locking dog on the contact spring secures it to the socket body. The contact spring is formed from a single piece of metal into a generally tubular configuration having an integral contact finger and an integral locking dog. The metal piece is held in the tubular configuration by an end-to-end dovetail seam. The contact spring is fabricated by feeding a strip of sheet metal to a specially designed progressive die which forms the strip into the desired configuration.

3,543,228

SONOBUOY SUSPENSION SYSTEM

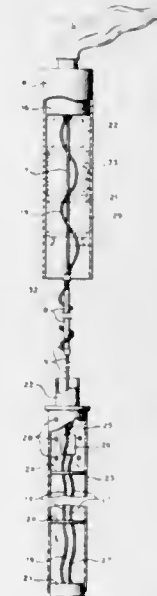
Everett Walter Farmer and John F. Kaster, Nashua, and Samuel S. Ballard, Hollis, N.H., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 21, 1969, Ser. No. 817,942

Int. Cl. B63b 21/52; H04b 1/59

U.S. Cl. 340—2

5 Claims



An air-launchable, free-floating sonobuoy having a deployable dynamic mass suspension system for reducing

noise on the sonic signal caused by excessive water flow at the hydrophone in the lower unit. A cloth bag included in the lower unit fills with water during its deployment. The mass of the water enclosed in the bag constitutes a virtual mass which, added to the dry weight of the suspension system, substantially reduces the resonance frequency of the suspension system; and the enlarged bag substantially increases the lateral drag of the lower unit to decrease the velocity of the water passing the lower unit.

3,543,229

METHOD AND APPARATUS FOR THE DISPLAY AND RECORDATION OF SIGNALS

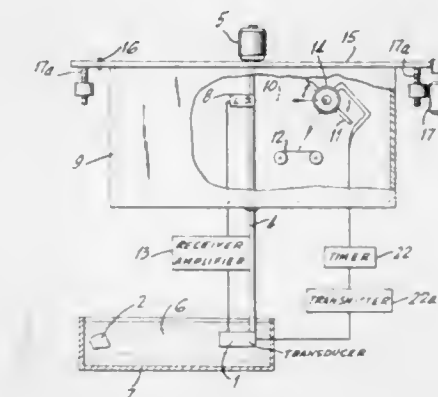
Gilbert Baum, 152 Brite Ave., Scarsdale, N.Y. 10583

Filed Oct. 3, 1968, Ser. No. 764,795

Int. Cl. G01s 9/66

U.S. Cl. 340—3

33 Claims



The present invention provides apparatus and methods for signal display and recordation by employing the signal carrying the information to be displayed as a modulating signal for a light-emitting source. The system of the present invention provides for the disposition of the light emitted responsive to the signal applied thereto to be spatially correlated on a display surface to the area of emanation of such signal. The present invention contemplates the initiating signal to be an ultrasonic signal.

3,543,230

DEEP WATER ELECTROACOUSTIC TRANSDUCER

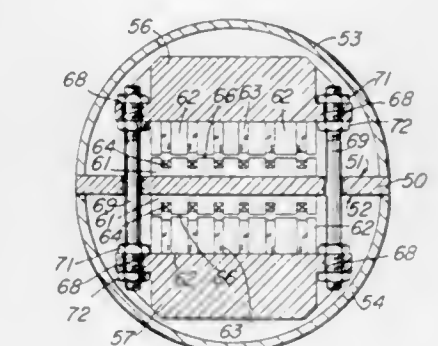
Frank Massa, Jr., Cohasset, Mass., assignor to Massa Division, Dynamics Corporation of America, Hingham, Mass.

Filed Apr. 21, 1969, Ser. No. 817,808

Int. Cl. H04r 17/00

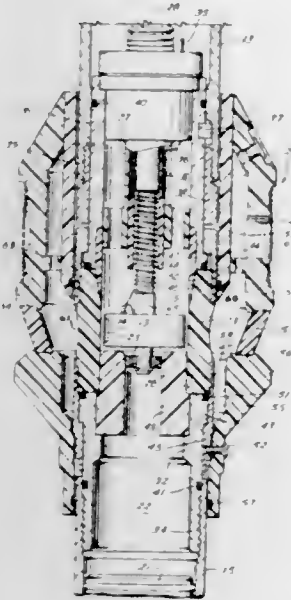
U.S. Cl. 340—10

13 Claims



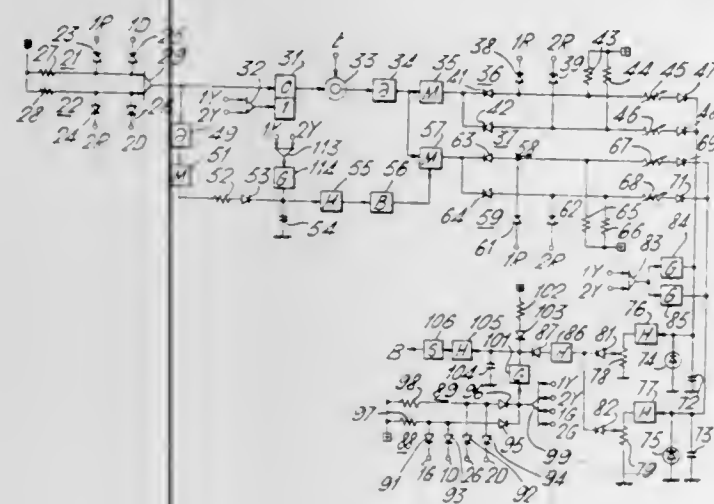
Two embodiments of an inertial, push-pull, spherical, underwater transducer use a pair of mass elements rigidly joined together to provide a single degree of freedom for the vibrating system.

3,543,231
RIGID FLUID-EXCLUDING HOUSING FOR ACOUSTIC WELL-LOGGING TOOLS
 Walter E. Cubberly, Jr., Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
 Filed Oct. 8, 1968, Ser. No. 765,892
 Int. Cl. G01v 1/40, 1/22, 1/04
 U.S. Cl. 340—17 29 Claims



As a preferred embodiment of the invention disclosed herein, a fluidtight tool housing enclosing rotatable high-frequency acoustic-transducer means includes one or more wall sections of a selected plastic material of sufficient strength to withstand adverse well bore environments without appreciably affecting high-frequency acoustic signals passing therethrough. The plastic wall sections are also uniquely positioned to avoid objectionable signal interference that would otherwise be caused by the reflection of transmitted acoustic signals therefrom.

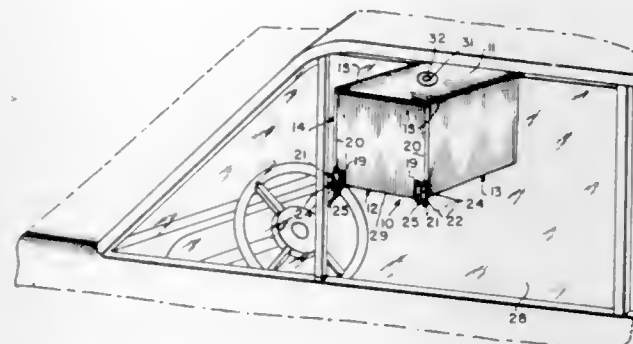
3,543,232
TRAFFIC SIGNAL CONTROL SYSTEM
 Shunsuke Iwamoto, Hiroo Watanabe, and Totomu Saita, Kyoto, Japan, assignors to Omron Tateisi Electronics Co., Ukyo-ku, Kyoto, Japan, a company of Japan
 Filed Apr. 1, 1968, Ser. No. 717,872
 Claims priority, application Japan, Apr. 8, 1967, 42/22,538
 Int. Cl. G08g 1/08
 U.S. Cl. 340—37 6 Claims



This invention provides a traffic signal control system which controls the period of time of green signal indication being displayed to one of the intersecting streets

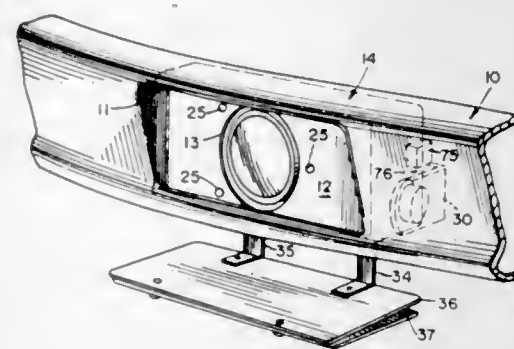
by the sum of the periods of time all the vehicles must wait that have been stopped by the red signal on the other street.

3,543,233
VEHICLE DISTRESS SIGNAL
 Edward J. Neitzel, 420 Henley Ave., Pine Beach, N.J. 08741
 Filed Oct. 2, 1968, Ser. No. 764,576
 Int. Cl. B60q 1/00
 U.S. Cl. 340—97 9 Claims



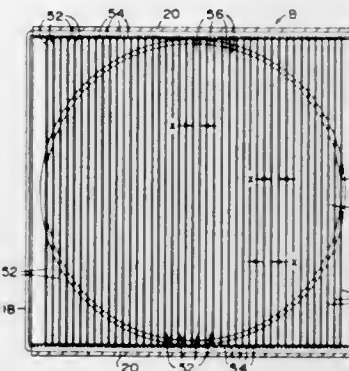
A distress signal which is capable of being hung on the outer side of a window of a motor vehicle which has stopped on a highway to visually indicate to passing motorists that the stopped vehicle needs assistance and the type of assistance required, so that the passing motorist may stop at the nearest telephone and call for the required assistance for the stopped vehicle. The signal can be readily folded and stored in a compact manner when not in use, will open automatically and will assume an operative position when passed outwardly through a partially open vehicle window, is capable of being seen from a plurality of directions, and may be readily illuminated for use at night.

3,543,234
HIDDEN SIGNAL LIGHT FOR UNMARKED EMERGENCY VEHICLE
 Jeremiah D. Kennelly, Oak Park, Ill., assignor to Mars Signal Light Company, Chicago, Ill., a corporation of Illinois
 Filed July 3, 1968, Ser. No. 742,244
 Int. Cl. B60q 1/26
 U.S. Cl. 340—102 9 Claims



An alarm signal light is mounted behind the front bumper of an emergency vehicle and hidden during normal use by the license plate. A switch actuates a swing bracket on the housing for the light to rotate the license plate beneath it, and thereby uncover the light during emergency conditions. When the license plate is thus rotated, another switch is automatically actuated to stop the rotation of the plate and to couple energy to the lamp and to force the lamp in oscillatory motion to clear the way for the vehicle.

3,543,235
ADJUSTABLE LIGHT BEAM DIRECTOR HAVING REMOVABLE VERTICAL BAFFLES
 Willis M. Eikenberry, Bettendorf, Iowa, and William W. Huppert, Moline, Ill., assignors, by mesne assignments, to Gulf + Western Industries, New York, N.Y., a corporation of Delaware
 Filed May 19, 1969, Ser. No. 825,506
 Int. Cl. B60q 1/100
 U.S. Cl. 340—107 11 Claims



A signal light for displaying visual commands, including a housing having an opening therein and a light source disposed within the housing for emitting a beam of light in a forward direction through the opening. In order to control the horizontal divergence of the beam of light there is provided a plurality of elongated, generally flat light baffles and means for releasably mounting each of the light baffles with respect to the housing and forward of the light source. The baffles are substantially vertically oriented and spaced apart in substantially parallel planes, whereby the horizontal divergence of the beam of light is controlled by its passage between the baffles.

ERRATUM

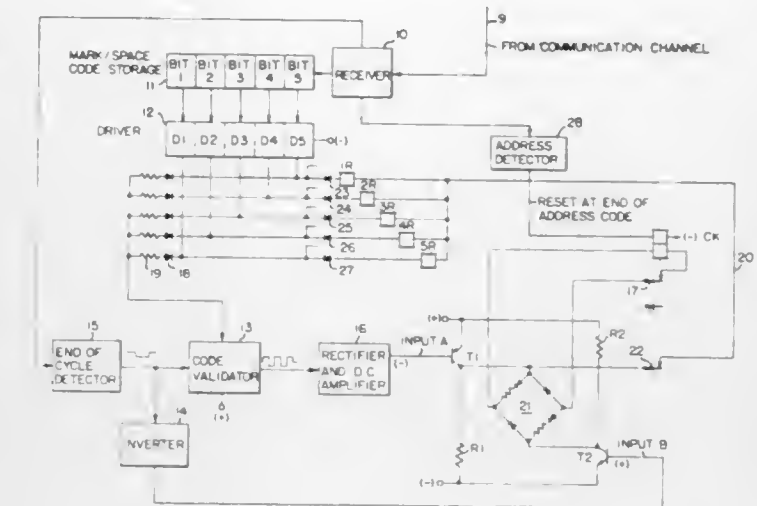
For Class 340—146.1 see:
 Patent No. 3,542,756

3,543,236
CHECKING CIRCUIT
 Henry C. Sibley, Adams Basin, N.Y., assignor to General Signal Corporation, Rochester, N.Y., a corporation of New York
 Filed Apr. 10, 1968, Ser. No. 720,255
 Int. Cl. H03k 13/34; H04i 1/10
 U.S. Cl. 340—146.1 11 Claims

The checking circuit system guards against unintended energization of a single conductor in applications where it is intended that certain conductors be energized only in pairs. A pair of transistors is provided for each pair of conductors to be monitored. The outputs of these two transistors are connected through a full wave rectifier to the stick circuit of a check relay picked up by a momentary energization. When both transistors are conductive or non-conductive energy is supplied to the stick circuit; but if either transistor becomes conductive while the other is non-conductive, the stick circuit is interrupted. Such de-energization of the check relay opens the contact controlling the vital circuit to prevent an erroneous operation.

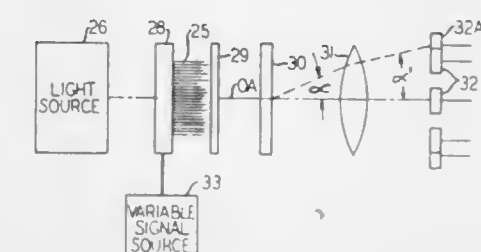
In a second form, two transistors are used for each conductor of a pair of conductors. One of the two transistors is rendered conductive by one polarity of potential on its conductor; the other transistor is rendered conductive by the opposite polarity of potential on the same conductor. All four transistors have their outputs connected

to the input of a bridge rectifier which is in turn connected to the stick circuit of the check relay. When the pair of conductors is energized with opposite polarities in either order, an input is supplied to the stick circuit of



the check relay. But if one or more of the transistors fails to respond to its polarity, or if one of the transistors becomes erroneously conductive, the input to the stick circuit of the check relay is interrupted.

3,543,237
PATTERN RECOGNITION APPARATUS AND METHOD
 Cassius C. Cutler, Holmdel, Bela Julesz, Warren, and Keith S. Pennington, Basking Ridge, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
 Filed July 29, 1966, Ser. No. 568,892
 Int. Cl. G06k 9/08
 U.S. Cl. 340—146.3 12 Claims



A bundle of optical fibers are mounted at one end in an electromechanical transducer medium, such as a piezoelectric medium, such that each tip of the secured end is exposed. The various optical fibers have different mechanical resonant frequencies; and therefore only certain fibers of the array will vibrate when the transducer is excited by a complex frequency pattern. Beyond the other end of the bundle are a spatial optical filter and a photodetector array. In operation, the optical fibers are excited by applying a complex frequency pattern to the electromechanical transducer and light is directed into the exposed tips of the fiber bundle and thence through the fiber bundle toward the optical filter and the photodetectors. The optical filter, which, illustratively, is a hologram, comprises a record of the different vibration patterns that can be established in the optical fibers by the different frequency patterns that can be applied to the transducer. If the pattern of light impinging on the filter is representative of one of the stored complex frequency patterns, the light

will be directed through the filter to one of the photo-detectors, the particular photodetector depending on which one of several possible frequency patterns has been used to excite the transducer and hence the optical fibers.

3,543,238

RASTER SCANNING APPARATUS WHICH PROVIDES AN OUTPUT CORRESPONDING TO A SCAN ALONG ONLY A FEW PREDETERMINED LINES

Helmut Schade, Boblingen, Germany, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

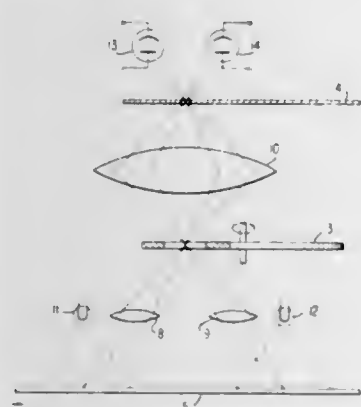
Filed June 14, 1967, Ser. No. 646,075

Claims priority, application Germany, June 15, 1966, J 31,073

Int. Cl. G06k 9/10

U.S. Cl. 340—146.3

4 Claims



An automatic character recognition apparatus having means for pre-scanning a character prior to the main scan, and circuitry for deriving a simplified scan pattern for the main scan from the information provided by the pre-scan; the main scan for identifying a character being performed simultaneously with the pre-scan of the next character.

3,543,239

FREQUENCY RESPONSIVE ANTICINCIDENT REMOTE CONTROL SYSTEM

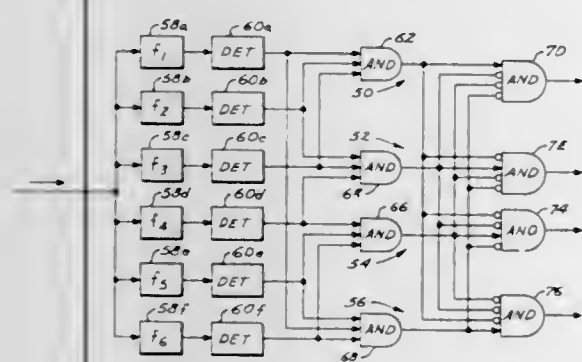
Jacob L. Wallace, Jr., Springfield, Va., assignor to The Susquehanna Corporation, a corporation of Delaware

Filed July 26, 1967, Ser. No. 656,150

Int. Cl. H04q 9/00

U.S. Cl. 340—171

8 Claims



A specific example of the remote control system is one which has two control channels, each channel being responsive to a particular input frequency pair to effect an output control signal from that channel. An interlock arrangement is provided between the channels. If both channels attempt to generate an output control signal simultaneously, the interlock of each channel prevents the other channel from becoming actuated, and no output control signal can be derived from the system until this condition terminates.

3,543,240 LIGHT PEN OPERATING WITH REMOTE GRAPHIC DISPLAY

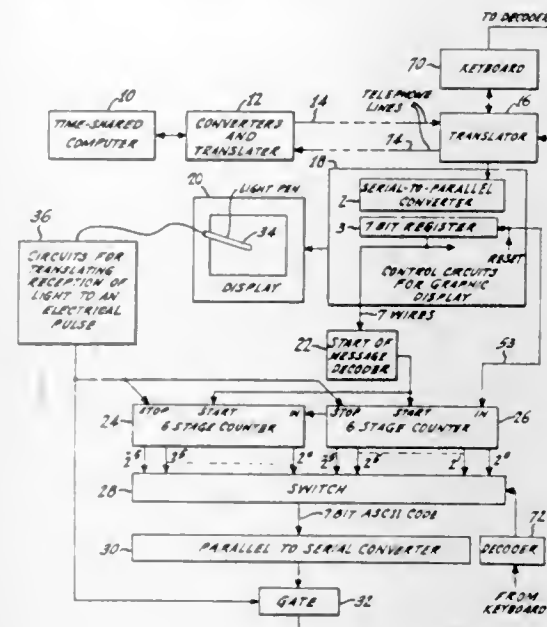
James C. Miller, Pennington, and Charles M. Wine, Princeton, N.J., assignors to RCA Corporation, a corporation of Delaware

Filed May 6, 1968, Ser. No. 726,743

Int. Cl. G06f 3/14

U.S. Cl. 340—172.5

8 Claims



A light pen causes a binary code to be generated when it senses the presence of light on the screen of a computer-controlled graphic display. The code is indicative of an address in the computer memory at which a character or characters corresponding to the portion of the graphic display at which the light pen is pointing is stored.

3,543,241

BINARY STRIPE CODING SYSTEM AND APPARATUS

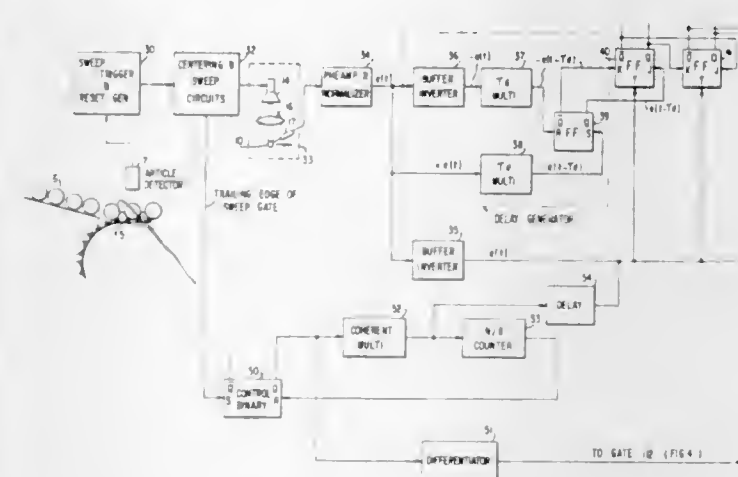
Donald D. Leuck, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Jan. 30, 1967, Ser. No. 612,573

Int. Cl. G06f 3/08

U.S. Cl. 340—172.5

9 Claims



A coding system and apparatus for processing articles such as containers, tubing, and the like. Binary information is carried by stripe widths (wide-narrow), the stripes being printed on the article against a contrasting background. A flying light spot traverses the stripes and an optical pickup detects variations in reflection and supplies a series of electrical pulses proportional (wide-narrow) to stripe widths, to a memory and digital processing unit which simultaneously detects and stores binary information and produces control signals for the

further handling of the articles. The system is self-synchronous and separate time synchronization and precise printing of code markings on the articles and location thereof on the articles is not required. Consult the specification for details and other features.

3,543,242

MULTIPLE LEVEL PRIORITY SYSTEM

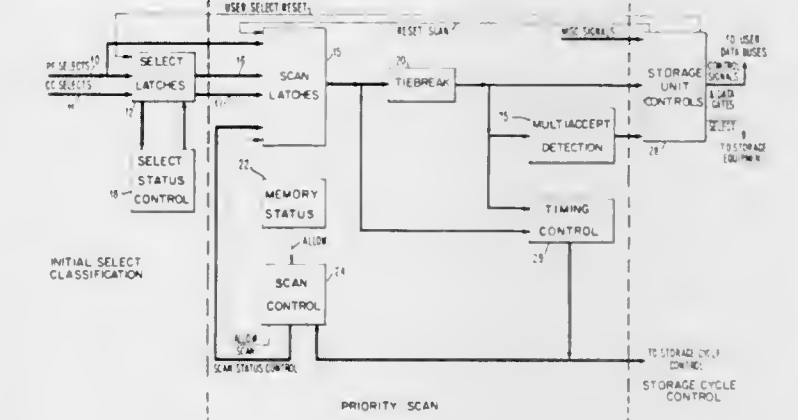
Robert L. Adams, Jr., Kingston, and Gerald W. Kurtz, Saugerties, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 7, 1967, Ser. No. 651,739

Int. Cl. G06f 9/18

U.S. Cl. 340—172.5

16 Claims



In a device for handling a plurality of electronic signals representing requests for servicing, multiple service request type input signals are honored based upon both an assigned priority list and the time of arrival of such requests. Request signals received during a first time period are temporarily stored and serviced as a group based upon the preassigned list. Later received request signals are likewise stored and serviced as a second group based upon the same preassigned lists. Means are provided to permit high priority overriding of the usual request servicing for handling low frequency service requests involving potential overrun conditions.

3,543,243

DATA RECEIVING ARRANGEMENT

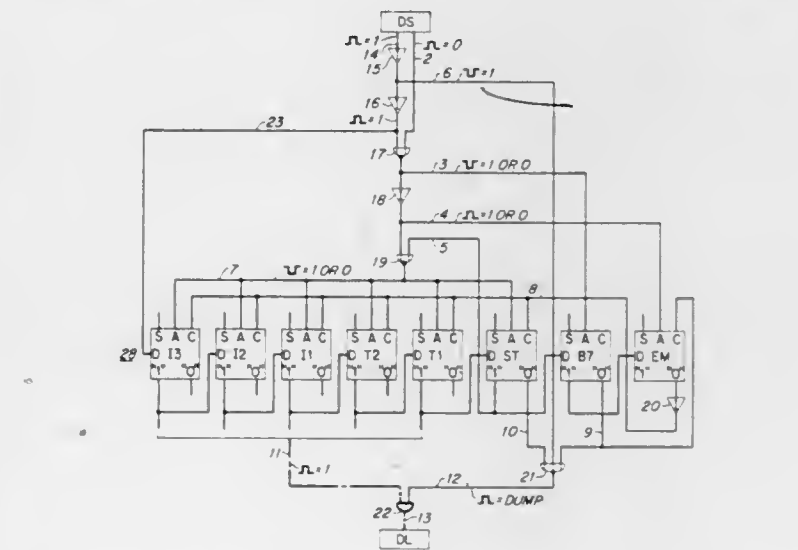
Walter R. Nordquist, Naperville, Ill., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Sept. 13, 1967, Ser. No. 667,472

Int. Cl. G06f 7/28

U.S. Cl. 340—172.5

7 Claims



A shift register and control logic arrangement is responsive to an asynchronous series of data pulses preceded by a start pulse and followed by a stop pulse to register

the bits represented by the start and data pulses and to unload and reset the register under control of the stop pulse. When the start bit is shifted to a predetermined register stage, further register shifts are inhibited. Data bits stored in the register are unloaded in parallel in response to the leading edge of the stop pulse and the register is restored to its initial state in response to the trailing edge of the stop pulse. The start, the data and the stop pulses are utilized directly to clock the advance of shift register elements on an asynchronous time basis.

3,543,244

INFORMATION HANDLING SYSTEM

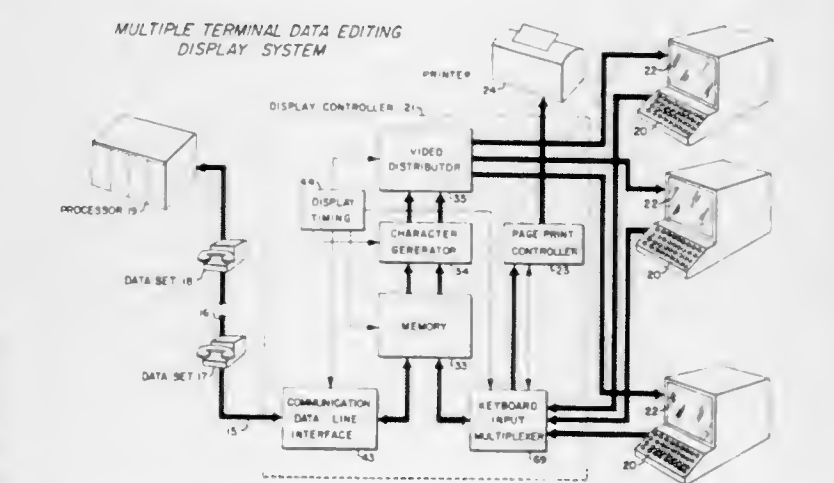
Allen B. J. Cuccio, Oklahoma City, Okla., assignor to General Electric Company, a corporation of New York

Filed Jan. 4, 1968, Ser. No. 695,802

Int. Cl. G06f 3/02, 3/04, 3/14

U.S. Cl. 340—172.5

8 Claims



A communication network system utilizing a plurality of remotely located terminals employing electronic keyboards for inputting information into the system.

3,543,245

COMPUTER SYSTEMS

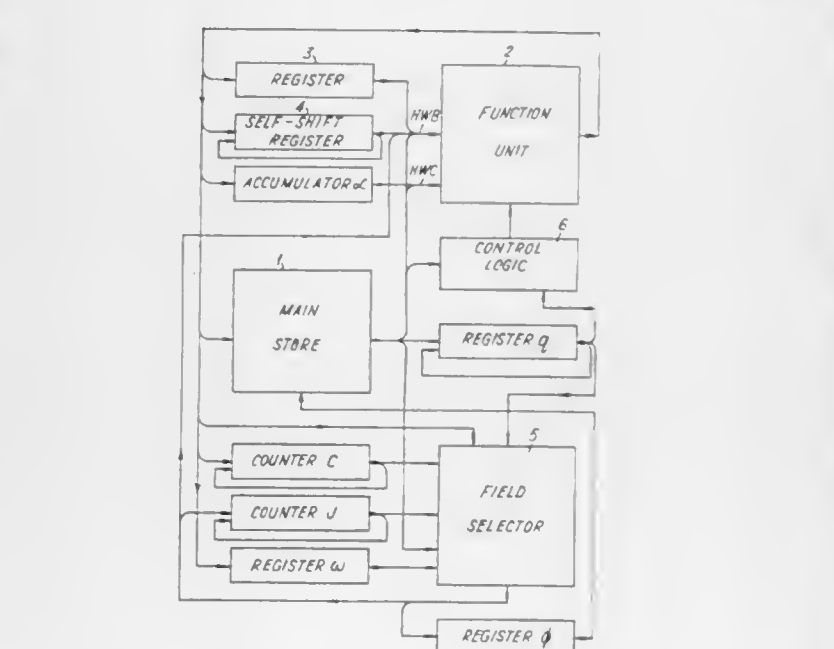
Geoffrey Nutter, Cheadle, England, assignor to Ferranti, Limited, Lancashire, England, a company of the United Kingdom of Great Britain and Northern Ireland

Filed Feb. 29, 1968, Ser. No. 709,430

Int. Cl. G06f 9/00

U.S. Cl. 340—172.5

81 Claims



A computer for operating with external orders in different machine codes in which means are provided for identifying the external order type and for selecting any

desired field of the external order, the computer being controlled to carry out the function required by an external order by means of internal orders derived from an initial address determined by the function field of the external order.

3,543,246

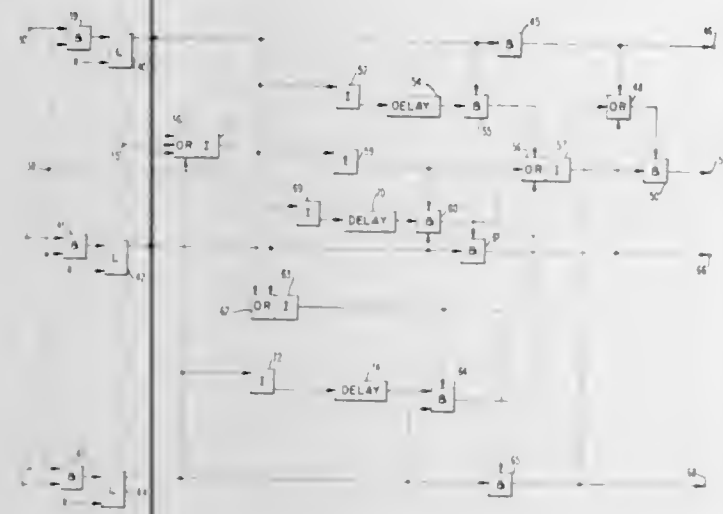
PRIORITY SELECTOR SIGNALLING DEVICE

Robert L. Adams, Jr., Kingston, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed July 7, 1967, Ser. No. 651,775
Int. Cl. G06f 9/18

U.S. Cl. 340—172.5

4 Claims



In a device for determining which of a plurality of service request type input signals will be honored, the time during which the winner is to be determined is overlapped with the time during which the contesting signals are permitted to enter competition. The appearance of a first signal representative of a service request initiates operation of the circuitry which will perform a concurrent timeout and decision making operation. Later occurring but higher priority signals which are permitted to compete will negate lower priority timeout circuits.

3,543,247

STORAGE DATA SHIFTING SYSTEM

Günter Schrem, Albeck, Germany, assignor to Walter-Buromaschinen GmbH, Gerstetten-Württemberg, Germany, a limited-liability company

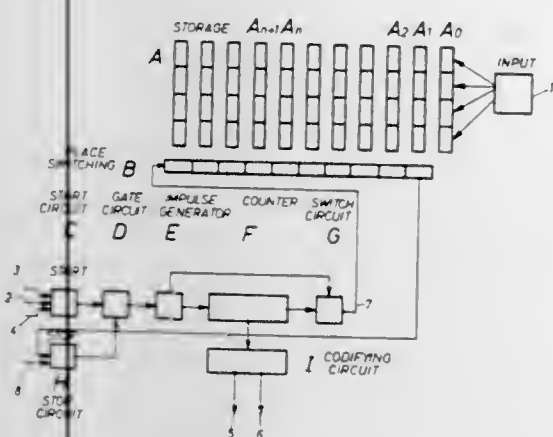
Filed Jan. 4, 1968, Ser. No. 695,733

Claims priority, application Germany, Jan. 5, 1967, W 43,119

Int. Cl. G11c 19/00

U.S. Cl. 340—172.5

12 Claims



A data processing system including pulse responsive means for shifting data in a step-by-step manner between the group places of a storage means, whereby additional

data may be keyed into the input side of the storage means without disturbing the shifted data stored at the output side. When the keyed-in symbols reach a predetermined number of digit places, the symbols are automatically or selectively shifted blockwise toward the output side of the storage member.

3,543,248

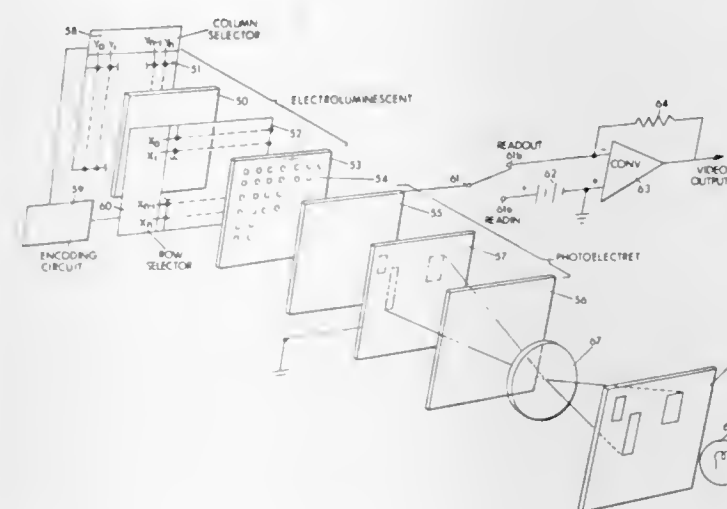
ELECTRO-OPTICAL MEMORY MEANS AND APPARATUS

Donald S. Oliver, West Acton, Mass., assignor to Itel Corporation, Lexington, Mass., a corporation of Delaware

Filed Apr. 19, 1967, Ser. No. 632,031
Int. Cl. G11c 13/04, 5/02; G02f 7/00

U.S. Cl. 340—173

15 Claims



An electroluminescent diode matrix is integrally formed between a plurality of row and column conductors together with a photoelectret layer exhibiting persistent internal polarization. Information is read in by applying an appropriate voltage between a selected row and column conductor to illuminate a discrete photoelectret region while a voltage is applied across the photoelectret. Information is read out by energizing a selected row-column junction and connecting the photoelectret to an output circuit. In one form of the device an image is projected onto the photoelectret and read out serially by energizing sequentially selected row-column conductor junctions.

3,543,249

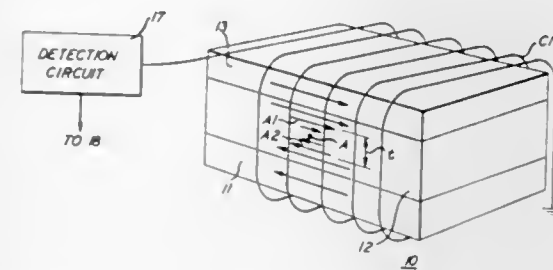
HIGH PERMEABILITY MAGNETIC FILM STRUCTURE

Andrew H. Bobeck, Chatham, Fred B. Hagedorn, Berkeley Heights, and Herbert M. Shapiro, Somerville, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Dec. 19, 1967, Ser. No. 691,852
Int. Cl. G11c 11/14, 17/00

U.S. Cl. 340—174

11 Claims



High small-signal permeabilities are provided by a lamellate magnetic film structure in which one or more domain walls are pinned into an intermediate layer via

exchange coupling between the magnetization in each of two bounding layers contiguous therewith and the magnetization in the surface regions of that intermediate layer. Not only are high small-signal permeabilities exhibited but also stable high and relatively low small-signal permeabilities are provided controllably. The ratio between the high and low permeability states is, ideally, several orders of magnitude.

3,543,250

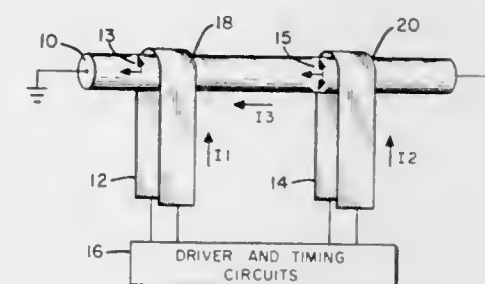
NON-DESTRUCTIVE THIN FILM MEMORY DRIVE ARRANGEMENT

Frederick A. Messner, Jr., East Norriton, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed May 27, 1968, Ser. No. 732,178
Int. Cl. G11c 11/14, 19/00

U.S. Cl. 340—174

11 Claims



This invention relates to an arrangement for obtaining a greater output from a thin film memory cell having the property of uniaxial anisotropy by rotating the magnetization to the 90° position without destroying the information stored thereat.

3,543,251

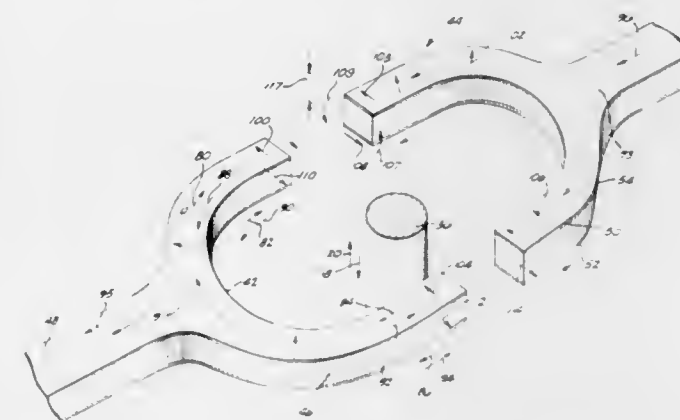
THIN FILM CHAIN MEMORY

Michael May, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 20, 1967, Ser. No. 676,802
Int. Cl. G11c 5/04, 11/06, 11/08

U.S. Cl. 340—174

2 Claims



An improved nondestructive magnetic memory is disclosed with a chain configuration that is easily constructed and that provides a reliable and simplified switching operation. The chain structure is formed of a conductor coated on both sides with a thin magnetic film. A plurality of chain magnetic film storage elements are provided each with a chain loop which may be either circular or oblong and which may have either crystal or shape anisotropy. A selected spacing is provided between the thin films to allow reliable rotational switching with a minimum of driving current.

3,543,252

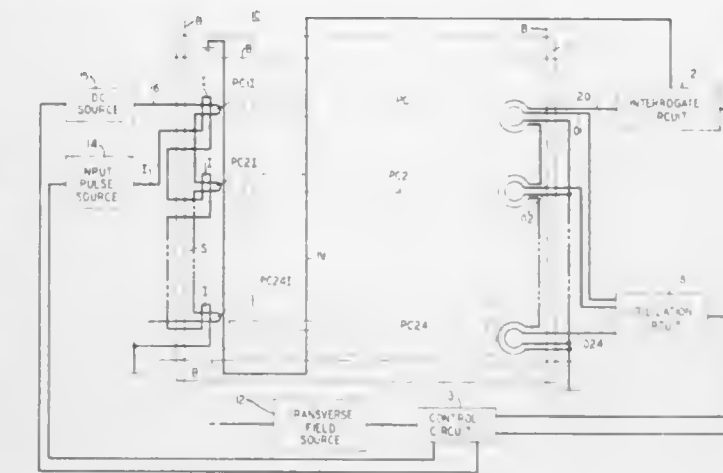
DOMAIN PROPAGATION ARRANGEMENT

Anthony J. Perneski, Martinsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 17, 1968, Ser. No. 760,244
Int. Cl. G11c 11/14, 19/00

U.S. Cl. 340—174

8 Claims



A magnetic field rotating in the plane of a magnetic sheet can be made to select a propagation channel for single wall domains in that sheet in the absence of peripheral conductors. Each of a plurality of propagation channels is defined in the sheet by a different pattern of magnetically soft overlays. Each overlay pattern exhibits a different moving magnetic pole configuration in response to the rotating field. The field is typically supplied by a pulse generator which generates a field at consecutive orientations A, B, C and D, 90 degrees apart. For each permutation of the sequence of fields (i.e., ABDC or ADBC . . . etc.), the pole configuration in only a selected one of the plurality of channels is proper for domain movement.

3,543,253

MEMORY ARRANGEMENT

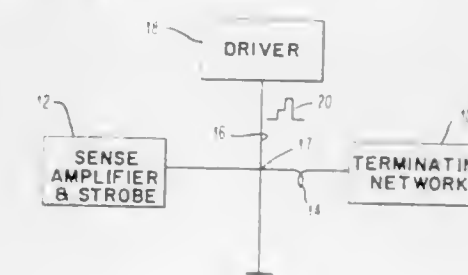
Carlos F. Chong, Philadelphia, and Paul Zakarian, Lansdale, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 444,199, Mar. 31, 1965. This application Dec. 5, 1968, Ser. No. 800,305

Int. Cl. G11c 11/14, 7/00

U.S. Cl. 340—174

6 Claims



A double amplitude drive pulse is coupled to a memory element such that the first amplitude provides bias and the second amplitude serves to read out the information stored in the memory with an increased signal to noise ratio.

3,543,254

ASSOCIATIVE MEMORY SYSTEM

Danny W. Rork, Hawthorne, Calif., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

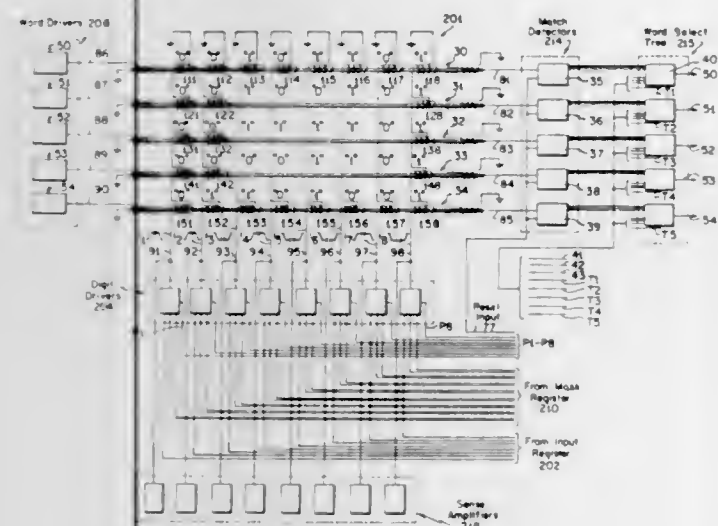
Filed Feb. 21, 1968, Ser. No. 707,029
Int. Cl. G11c 15/00, 11/14

U.S. Cl. 340—174

5 Claims

An associative memory formed of thin film rod memory magnetic storage elements. Digit drive lines are provided

connecting to solenoidal windings about the storage elements of the corresponding digit of each stored word and sense lines are provided connecting match detectors to the storage elements to sense the output signals common to each stored word. The stored words in the memory array are associatively compared to a descriptor word by sequentially applying an interrogating signal, corresponding to a binary descriptor digit, to each digit drive line



producing a series of signals on the sense lines to the match detectors. The match detector circuitry decodes the series of signals on each sense line and classifies each stored word as being either less than, equal to or greater than the descriptor word. The classification results obtained by the match detectors are scanned and the stored words of a selected classification are read from the memory.

3,543,255

SINGLE WALL DOMAIN APPARATUS HAVING INTERSECTING PROPAGATION CHANNELS

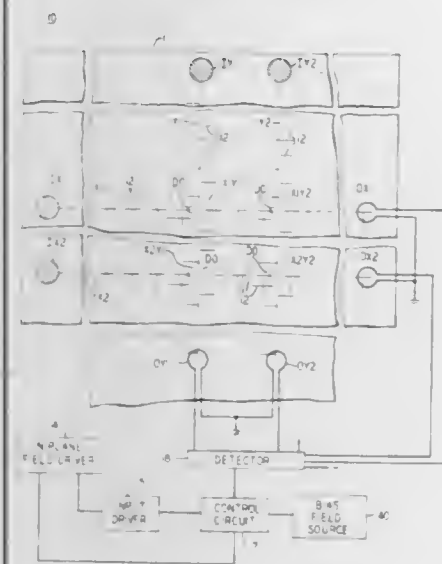
Robert H. Morrow, Lebanon Township, Hunterdon County, and Anthony J. Perneski, Martinsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed June 18, 1969, Ser. No. 834,350

Int. Cl. G11c 11/14, 19/00

U.S. Cl. 340-174

9 Claims



Propagation channels for single wall domains are defined in a magnetic sheet by magnetically soft overlays in which attracting magnetic poles move in response to reorienting in-plane fields. Information in two channels is

shown to pass intersections between the channels synchronously without destructive interference if the intersection is properly constructed.

3,543,256

MEMORY MATRIX HAVING INTERLEAVED BIT WIRES

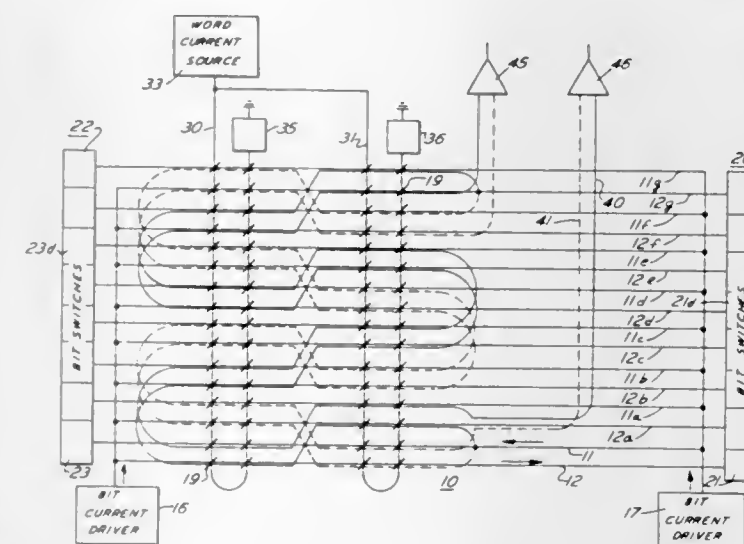
Richard M. Genke, Colts Neck, N.J., assignor to Interdata, Inc., Oceanport, N.J.

Filed Mar. 19, 1968, Ser. No. 714,199

Int. Cl. G11c 7/02, 11/06

U.S. Cl. 340-174

5 Claims



A coincident current magnetic core memory matrix of the 2 1/2 D type having bit wires arranged in groups. A plurality of ground planes are provided and at least one pair of bit wire groups is disposed on each ground plane. In the read cycle, each pair is driven so that half select read currents flow in opposite directions through adjacent bit wires.

3,543,257

TRANSFLUXOR CIRCUIT HAVING LINEAR RESPONSE CHARACTERISTIC

Sadamu Ohteru, Hiroshi Kobayashi, Kazuo Fukiage, and Yushi Uchida, Tokyo-to, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan

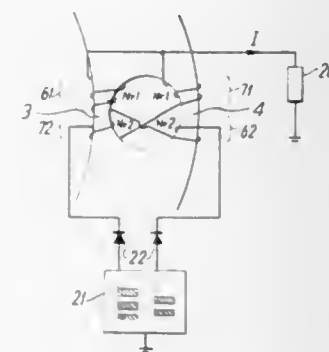
Filed May 10, 1968, Ser. No. 728,184

Claims priority, application Japan, May 11, 1967, 42/29,945

Int. Cl. G11c 11/08

U.S. Cl. 340-174

18 Claims



A transfluxor circuit is described having an unusually linear response characteristic for the non-destructive storage and read-out of an analog signal. A magnetic transfluxor having multiple apertures is used and includes a write-in yoke, and a pair of read-out yokes on opposite sides of an aperture. In response to a read-out pulse, a flux is formed in the transfluxor for opposing undesirable bias

flux normally produced by conventional read-out circuits. In one embodiment, a separate winding produces the opposing flux, and in another embodiment, selective cross-coupling between read-out windings provides the opposing flux.

3,543,258

ENCAPSULATED CERAMIC MEMORY

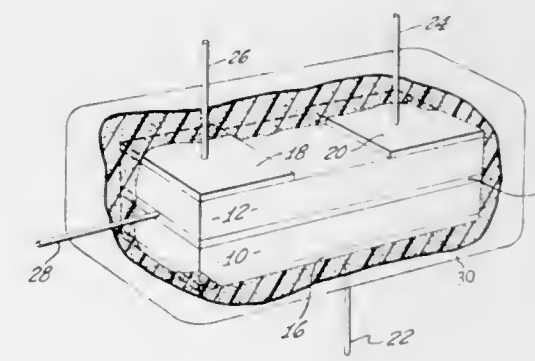
Alvin B. Kaufman, Woodland Hills, Calif., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Mar. 11, 1968, Ser. No. 711,937

Int. Cl. G11c 11/22

U.S. Cl. 340-173.2

12 Claims



Two ceramic pieces, physically interconnected, with a common metallic electrode between the pieces. One of the pieces, designated the motor element, has good electrostrictive properties. The other piece has good ferroelectric properties, and it is free to assume either one of its bipolar polarities to operate as a memory element. The motor element has a single electrode on its outer surface whereby when a voltage is applied between said electrode and the common electrode, the composite structure bends. Memory electrodes, corresponding to each bit of storage, are positioned on the outer surface of the memory element whereby when said memory element is bent, a voltage appears between said last named electrodes and the common electrode indicative of the internal polarizations of said memory element. The entire structure is clamped, preferably in a plastic structure, to enhance the voltage outputs from said memory.

3,543,259

CAPACITIVE PICK-UP SYSTEM FOR REMOTE UTILITY METER READING

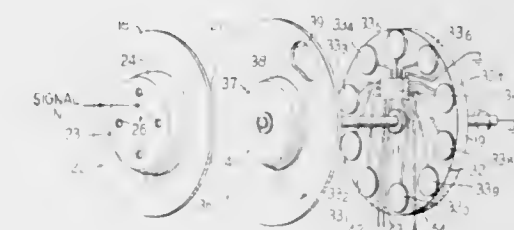
Battle H. Klyce, Stamford, Conn., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Jan. 4, 1968, Ser. No. 695,596

Int. Cl. G08c 19/10

U.S. Cl. 340-200

8 Claims



A device for capacitively coupling a signal to one of a plurality of pick-up leads to indicate the angular position of a shaft in which a grounded conductive sheet having an aperture therethrough is rotated by the shaft shielding all but one of the pick-up leads from the signal.

3,543,260

SELF CHECKING INTRUDER AND FIRE DETECTOR UNITS AND SYSTEM

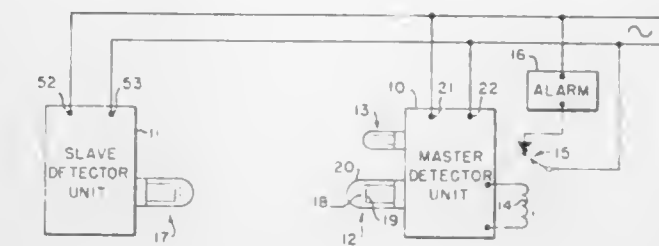
Robert O. Engh, Hopkins, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 24, 1968, Ser. No. 747,150

Int. Cl. H01j 39/00; G08b 19/00, 13/18, 17/12

U.S. Cl. 340-228

9 Claims



A self checking intruder and fire detecting system utilizing two ultraviolet detectors which are rendered conductive in the presence of ultraviolet energy, and which also emit ultraviolet energy when conductive; a cyclic power supply for each detector, the power supplies being phased so that the detectors are cyclically operative in continuous overlapping fashion; with a free-running clock to periodically energize a source of ultraviolet energy at the beginning of an intruder detection mode of operation and to periodically remove the operating voltage from one of the said detectors to break the voltage overlap of continuous operation at the beginning of a fire detection mode of operation; and with an output responsive only to cyclic operation of one detector during the intruder detection mode and responsive only to the continuous absence of operation of the one detector during the fire detection mode.

3,543,261

UPPER THRESHOLD CIRCUIT

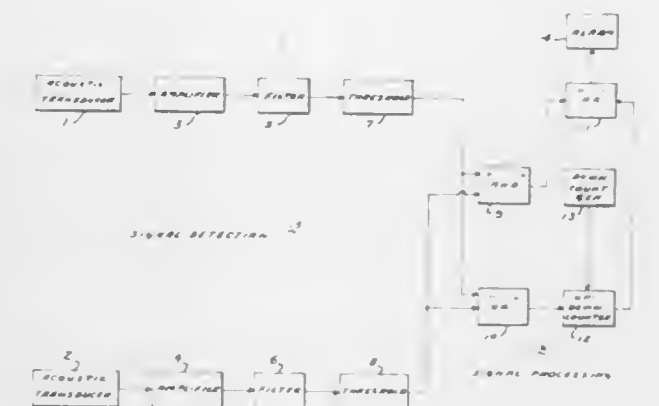
Charles F. Burney, Milpitas, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed June 14, 1968, Ser. No. 737,229

Int. Cl. G08b 13/00

U.S. Cl. 340-261

3 Claims



Two spatially separated signal detection systems sense with acoustic transducers impulse vibrations in their vicinity. The electrical signals after passing predetermined threshold levels in the two systems are conducted to an "AND" gate and to an "OR" gate. Simultaneous signals in both systems above the predetermined levels pass the "AND" gate and initiate an alarm. Repetitive signals from either sensing system pass the "OR" gate and are stored as up-counts in an up-down counter from which counts are

periodically removed by opposite polarity counts from a free-running down-count generator. An accumulation of a predetermined number of stored counts also activates the alarm.

3,543,262

SIGNAL DISTRIBUTION CIRCUIT HAVING INDUCTIVE ATTENUATION MEANS

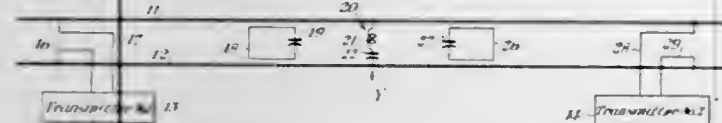
Thomas J. Hutton, Swissvale, Pa., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania

Filed May 19, 1967, Ser. No. 639,754

Int. Cl. H04m 11/04; G05b 19/00

U.S. Cl. 340—310

11 Claims



A signal distribution circuit which utilizes portions of a pair of preexisting electrical conductors or structures, without the need to destroy the physical integrity of the preexisting conductors. The circuit includes a signal source having a selected frequency fed into a first point along the preexisting electrical conductors or structures. A tuning device is coupled across the pair of conductors or structures at a second point. Finally, there is a tuned inductive loop intermediate the first and second points, which loop is positioned between and electrically coacts with the conductors or structures. The tuning device and the tuned inductive loop cooperate to distribute the constant frequency signal from the constant power level to a zero power level at the second point, whereby the signal distribution circuit effectively isolates at least one end of the circuit from passing the selected frequency signal.

3,543,263

GLOW DISCHARGE DISPLAY TUBE

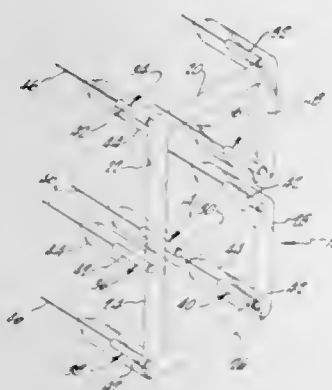
Wayne Y. Sakamoto, Los Angeles, and Franklin I. Fletcher, Burbank, Calif., assignors to Card-Key Systems, Inc., Burbank, Calif., a corporation of California

Filed Dec. 6, 1967, Ser. No. 688,569

Int. Cl. G09f 9/32; H01j 13/56

U.S. Cl. 340—343

2 Claims



A shaped, glow discharge, display tube and supporting electrical circuitry for providing the display of one of a selection of characters. The tube is energized in the manner of a conventional glow discharge tube by applying a high voltage between the end electrodes of the tube. A number of auxiliary electrodes are provided along the length of the tube which divide it into segments. Electrical short circuits are applied to adjacent pairs of electrodes to blank or extinguish the display in the segment associated with the shorted electrodes, leaving only the segments forming the desired character illuminated.

3,543,264 CIRCUIT FOR SELECTIVELY APPLYING A VOLTAGE TO AN IMPEDANCE

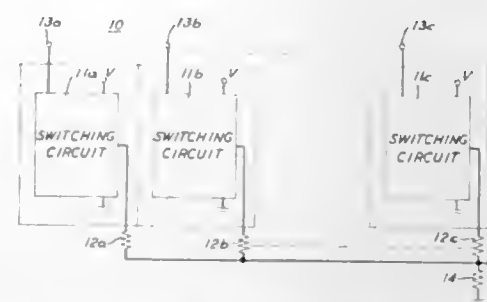
Robert L. Carbrey, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed June 23, 1967, Ser. No. 648,418

Int. Cl. H03k 13/04

U.S. Cl. 340—347

7 Claims



A transistor-operated, switched-resistor digital-to-analog converter employable as a hybrid multiplier in which a plurality of pairs of class B operated transistors selectively switch a plurality of weighted resistors in response to signals from a digital signal source between ground and a voltage to provide analog output voltages. A resistor is connected between an output junction of each class B operated pair of transistors and the digital signal source to provide a current waveform which minimizes saturation voltage variations in each class B transistor pair. The analog output signal from the digital-to-analog converter is inverted and fed into the output junction of each class B transistor pair as a weighted current signal to further reduce saturation voltage variations in each class B transistor pair.

3,543,265

TRIMETHYLHYDRAZINOMETHYL-4-(METHYLTHIO)-PHENOLS

Henri Sidi, Paramus, N.J., assignor to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Oct. 16, 1967, Ser. No. 675,334

Int. Cl. C07c 109/04

U.S. Cl. 260—569

3 Claims

Trialkylhydrazinomethylphenols are prepared by the reaction of phenols with trialkylhydrazines and formaldehyde. Illustrative of these compounds are trimethylhydrazinomethyl-4-methylphenol, trimethylhydrazinomethyl-3,5-dimethylphenol, and trimethylhydrazinomethyl-4-methylthio-m-cresol.

3,543,266

MONITOR SYSTEM EMPLOYING TOUCHTONE KEYSET SELECTION OF MONITORED POINTS

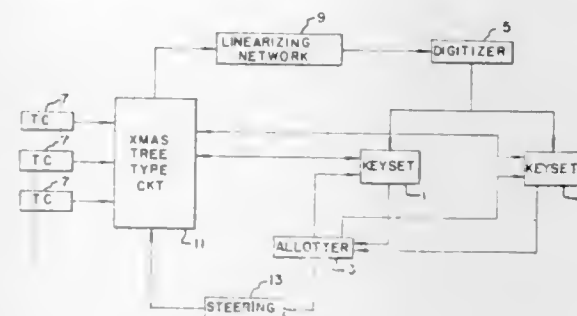
Frank A. Morris, Naples, N.Y., assignor to Transmation, Inc., Rochester, N.Y., a corporation of Ohio

Filed Apr. 13, 1967, Ser. No. 630,753

Int. Cl. G08b 19/00; H04m 3/00

U.S. Cl. 340—412

4 Claims



The disclosure relates to a system wherein connection can be established between a control station and any one of many temperature points. Selection is accomplished by the use of a keyset which can be similar to

that employed in Touchtone telephones. Switching is accomplished by reed relays under the direction of semiconductor logic. The signal path is suitable for both the very low level signals derived from thermocouples and similar devices or the higher level milliamper signals that are standard in the instrumentation field. In its basic form as disclosed herein, the system accepts three selection digits and thus has potential access to 1000 temperature points. Due to its modular construction, it can be readily equipped for varying capacities. It is possible to have several control stations although only one can be in use at a time. Provision is made to prevent interference between stations. There may also be several displays.

3,543,267

SCANNING MONITOR SYSTEM

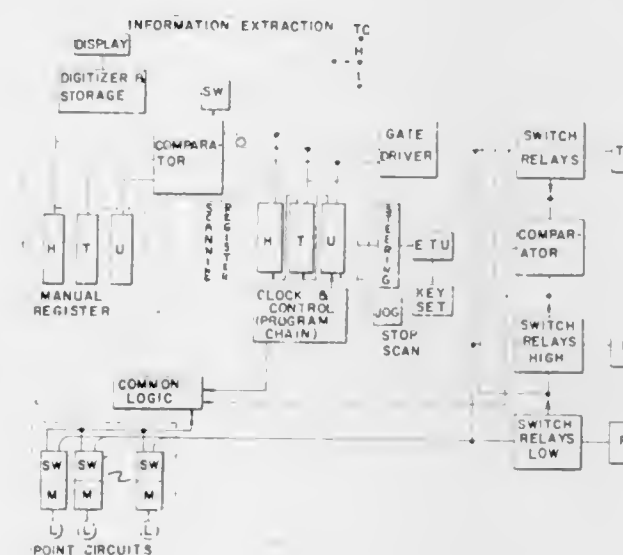
Frank A. Morris, Naples, N.Y., assignor to Transmation, Inc., Rochester, N.Y., a corporation of Ohio

Continuation-in-part of application Ser. No. 757,959, Sept. 6, 1968, which is a continuation-in-part of application Ser. No. 630,753, Apr. 13, 1967. This application Apr. 7, 1969, Ser. No. 813,974

Int. Cl. G08c 15/06

U.S. Cl. 340—413

9 Claims



The disclosure relates to a monitor system wherein connection can be established between a control station and any one of plural points under observation. The system includes provision for scanning the plural points sequentially or of manually selecting predetermined points individually. The system also includes provision for stopping the scan and selecting a point to observe with subsequent manual jogging from station to station sequentially by address.

3,543,268

ELECTRICAL ALARM SYSTEM

Fred W. Jamison, 3944B Monroeville Blvd., Apt. 2, Monroeville, Pa. 15146

Continuation-in-part of application Ser. No. 551,331, May 19, 1966. This application May 27, 1969, Ser. No. 828,163

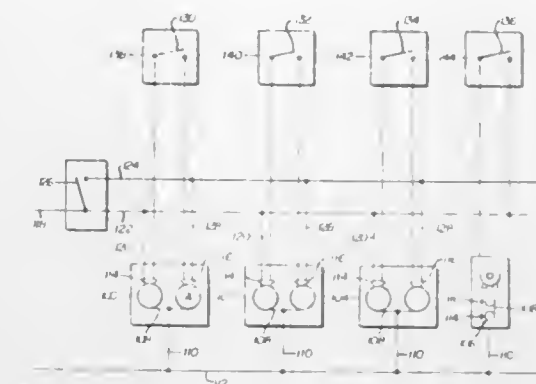
Int. Cl. G08b 1/08; H02j 3/00; H02p 1/04

U.S. Cl. 340—416

5 Claims

An electrical wiring system and receptacle in which the receptacle includes three terminals, one serving as a common terminal and the other two serving as separate supply terminals, and the wiring is designed to provide an alarm function. A first line conductor connected to one side of a current supply is connected to a first one of the separate supply terminals. A normally open switch is connected in a current flow path between the two separate supply terminals. A second line conductor is connected to the other side of the current supply and to

the common supply terminal. With this system, a plug of an appliance may be plugged into the common and first terminals of the receptacle for normal operation, and a normally closed alarm may be plugged into or connected between the common and second terminals of the re-



ceptacle. The normally open switch therefore controls the energization of the alarm, and the switch may be operated by a window, door or the like so that the switch closes when the window or door is opened to energize and sound the alarm. Plural switches may be wired in parallel.

3,543,269

SYSTEM FOR DISPLAYING VIDEO INFORMATION AND RELATED INDICIA ON A SINGLE GUN CATHODE RAY TUBE

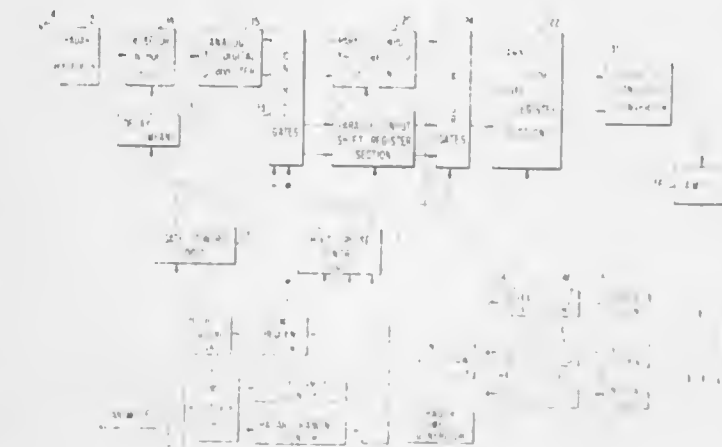
William A. Dudley, Orlando, Fla., assignor to Martin Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed July 2, 1968, Ser. No. 742,097

Int. Cl. G01s 9/02; G06f 5/00

U.S. Cl. 343—5

12 Claims



The invention comprises a method and apparatus for displaying a cyclic information signal and related indicia on a single gun cathode ray tube. For radar application, the video signal received responsively to a single transmitted pulse may be stored in a binary shift register having dual input sections, while the video signal from the preceding pulse is reproduced for analog display at a rate which is a multiple of the real time video reception rate, and the video time compressed display is followed by display of related indicia by the same presentation apparatus. For these purposes, the invention permits the use of a single gun cathode ray tube in a radar operating with minimal, or negligible, dead time between the end of the video signal reception period and the succeeding radar pulse transmission. In another embodiment, the cyclic information signal may be continuously fed for storage in binary form to shift registers arranged for rapid readout and presentation in cooperation with sweep voltages correlated

with a reference phase of the cyclic signal derived from another register system, permitting indicia display between the successive information signal displays, without requiring that the display system operate in synchronism with the cyclic information signal.

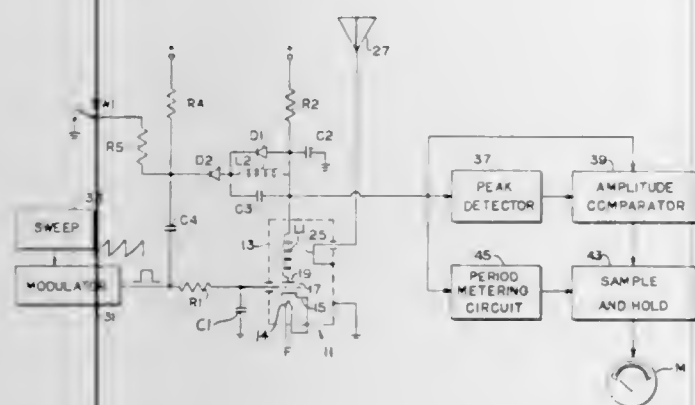
3,543,270

RADAR ALTIMETER

Wallace F. Wiley, Jr., Prairie Village, Kans., assignor to Bonzer Inc., Shawnee, Kans., a corporation of Kansas
Filed Dec. 5, 1968, Ser. No. 781,463
Int. Cl. G01s 9/06, 7/40

U.S. Cl. 343-13

12 Claims



The radar altimeter disclosed herein employs a super-regenerative oscillator as both transmitter and receiver. The oscillator includes an amplifying device having an input terminal and an output terminal. For testing the altimeter, a signal delay means is connected between the output terminal and the input terminal to cause the operation of the oscillator to simulate the operation which occurs when a target is present.

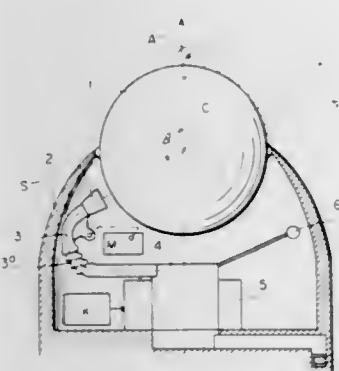
3,543,271

LUNEBERG ANTENNA SYSTEM FOR SPIN STABILIZED VEHICLES

Henning W. Scheel, 219 Kurfurstendamm, 1 Berlin 15, Germany
Filed May 22, 1967, Ser. No. 640,009
Claims priority, application Germany, May 24, 1966, Sch 39,021
Int. Cl. H01q 1/28, 15/08

U.S. Cl. 343-705

4 Claims



An antenna system for vehicles which rotate about a spin axis, the antenna system illustrated herein including a spherical lens of a type which transforms between collimated microwaves moving in a substantially plane front on one side of the lens, and a focused point on the opposite side of the lens, the lens being mounted to an end of the vehicle concentric with its spin axis and blending into the vehicle's exterior skin shape, and the only moving

parts being associated with one or more small waveguide horns located inside the vehicle and rotated contrary to the direction of vehicle spin to maintain the horn, or horns, always diametrically opposite relative to the center of the lens from the body outside the vehicle with which communication is being conducted.

3,543,272

ANTENNA WINDSHIELD HAVING A SINGLE CONTINUOUS ANTENNA WIRE

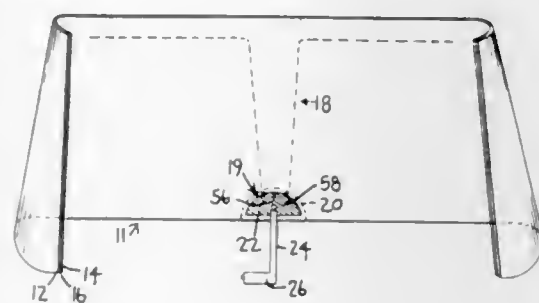
Rodger V. Zawodniak, Springdale, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 6, 1968, Ser. No. 773,805

Int. Cl. H01q 1/32, 1/40

U.S. Cl. 343-713

10 Claims



An improved antenna for a laminated windshield comprising a single continuous antenna wire mounted in a plastic interlayer and having its central portion exposed for two spaced electrical connections to a metal tab electrically connected to a radio receiver. The wire portion between each electrical connection is loose as are the wire portions between each electrical connection and the wire portions mounted in the interlayer.

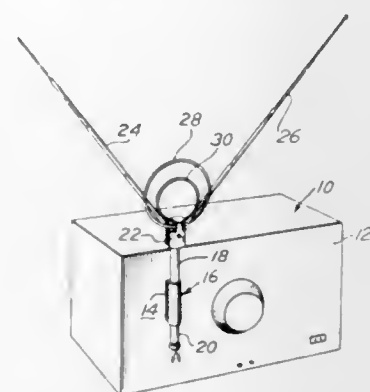
3,543,273

INDOOR ANTENNA WITH PRESSURE SENSITIVE ADHESIVE MOUNTING MEANS FOR ENABLING THE ANTENNA TO BE MOUNTED ON WALL SURFACE OR RECEIVER CABINET

John W. Perkins, Deerfield, Ill., assignor to Gavin Instruments, Inc., a corporation of New Jersey
Filed June 4, 1968, Ser. No. 734,375
Int. Cl. A47b 96/06; H01q 1/24, 21/00

U.S. Cl. 343-702

5 Claims



The invention is an improved portable or indoor antenna of the type commonly used with television and radio receivers. The improvement comprises elongated support means having adjustable signal receiving elements at one end thereof and a rotatable tubular member at the other end thereof, and mounting means having at one side thereof a hollow sleeve for frictionally gripping the tubular member for both sliding and rotatable movement therewithin and at the other side pressure sensitive adhesive means for enabling the antenna to simply yet securely be mounted on a suitable wall surface of a television or radio

receiver. The longitudinal movability of the tubular member within the friction sleeve of the support means, together with the provision of nesting recesses in the head portion of the support means, enables the signal receiving elements to be stowed away behind the receiver when not in use and yet to be easily put into operative position when desired.

3,543,274

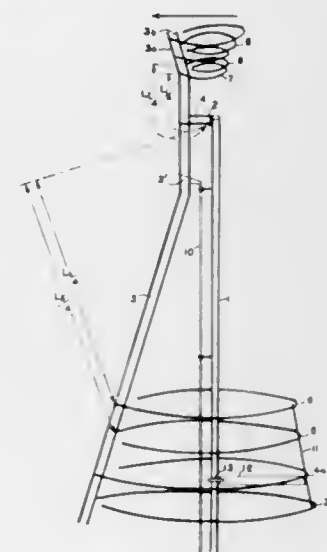
MULTI-BAND VERTICALLY STACKED LOOP ANTENNA ARRAY

William A. Hayes, 12 Schiller St., Hicksville, N.Y. 11801
Filed July 12, 1968, Ser. No. 744,369

Int. Cl. H01q 11/12

U.S. Cl. 343-742

5 Claims



A high frequency antenna having a plurality of half wavelength open loop antennas connected onto a rigid transmission line which extends at an angle to the vertical. The transmission line is connected to a vertical pole at one connection point and the antennas are each spaced from said point by a half wavelength of their particular frequency.

3,543,275

MONOPOLE ANTENNA WITH ADJUSTABLE LOADING COIL

Gordon M. Wendell, Victor, N.Y., assignor to Elenex, Inc., Naples, N.Y., a corporation of New York
Filed Mar. 7, 1968, Ser. No. 711,270
Int. Cl. H01q 9/00

U.S. Cl. 343-750

2 Claims



A metal whip or rod carries at its lower end a ferrite core which is adjustable axially in a dielectric sleeve that is surrounded by a wire coil. The coil is connected at its lower end to a metal conducting tube. The dielectric sleeve

is fastened on the upper end of this metal tube. The whip or rod is adjustable axially in a metal bushing which is secured in the upper end of the sleeve. The upper end of the coil is connected to this bushing. A set screw, threaded through the bushing, holds the whip or rod in any adjusted position.

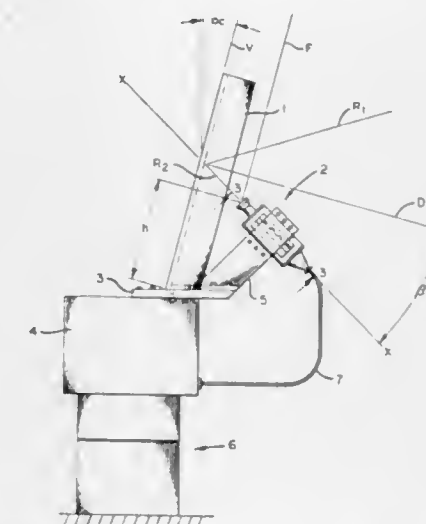
3,543,276

BROADBAND CIRCULARLY POLARIZED FAN-SHAPED BEAM ANTENNA

James J. Epis, Sunnyvale, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 10, 1969, Ser. No. 814,910
Int. Cl. H01q 19/00, 3/00

U.S. Cl. 343-756

7 Claims



This antenna comprises a circularly polarized conical horn that illuminates a cylindrical parabolic reflector. The horn has a relatively small aperture in one end thereof and a longitudinal axis that is tilted with respect to the reflector in the plane containing the directrix and focal line of the reflector. A quarter-wave plate and a resistance-absorption card are oriented at 45° with respect to each other in a circular waveguide connected to the other end of the horn. The aperture of the horn is located on the focal line of the reflector.

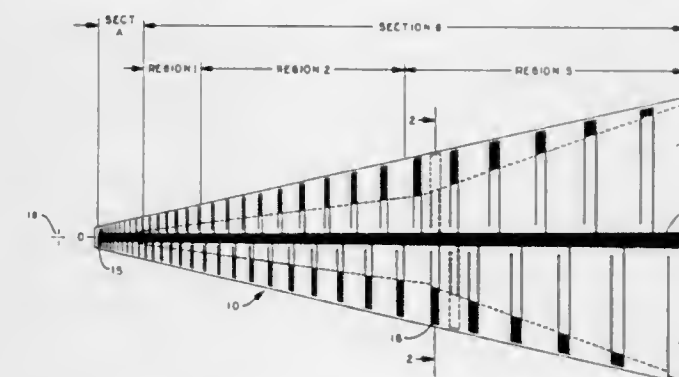
3,543,277

REDUCED SIZE BROADBAND ANTENNA

Joseph C. Pullara, Altamonte Springs, Fla., assignor to Martin Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Feb. 16, 1968, Ser. No. 707,385
Int. Cl. H01q 11/10, 9/16

U.S. Cl. 343-792.5

13 Claims



This invention relates to an improved reduced size log periodic antenna in which selected elements are successively loaded to reduce the resonant frequency of such selected elements, thus to provide a desirable over-all reduction in operating frequency of my antenna as compared to the lowest operating frequency of a prior art antenna of similar size, while maintaining essentially frequency-independent performance over a very wide frequency range.

3,543,278
SECTIONAL PARABOLIC REFLECTOR
 Harold A. Payne, 252 Bering Ave.,
 Toronto 18, Ontario, Canada
 Filed July 18, 1968, Ser. No. 745,809
 Int. Cl. H01q 15/20

U.S. Cl. 343—915

1 Claim

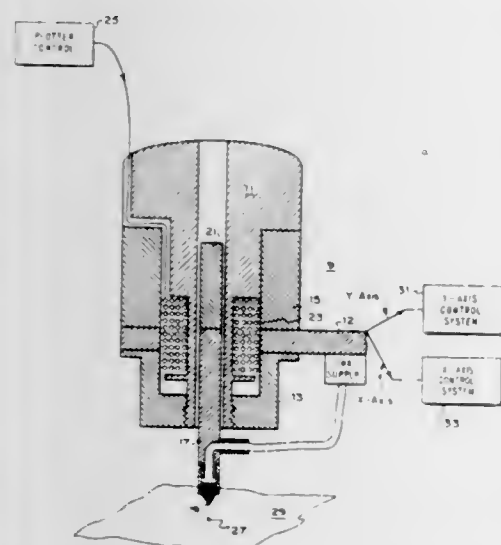


A parabolic communication reflector which has a smooth parabolic reflecting surface. The parabolic reflecting surface comprises a centre reflecting surface area and an annular reflecting surface area around the centre reflecting surface area, the parabolic reflector comprising a centre reflector sheet member on which the centre reflecting surface area is formed and at least one annular reflector sheet member upon which said marginal reflecting sheet area is formed, said centre reflector member and said annular reflector member being separate and having securing means at their abutting edges to maintain their respective reflecting areas in parabolic relation.

3,543,279
POINT PLOTTER FOR GRAPHIC RECORDER
 William D. Rempel, Poway, and Marvin L. Underhill,
 Ramona, Calif., assignors to Hewlett-Packard Com-
 pany, Palo Alto, Calif., a corporation of California
 Filed July 22, 1969, Ser. No. 843,397
 Int. Cl. G01d 15/24

U.S. Cl. 346—141

3 Claims

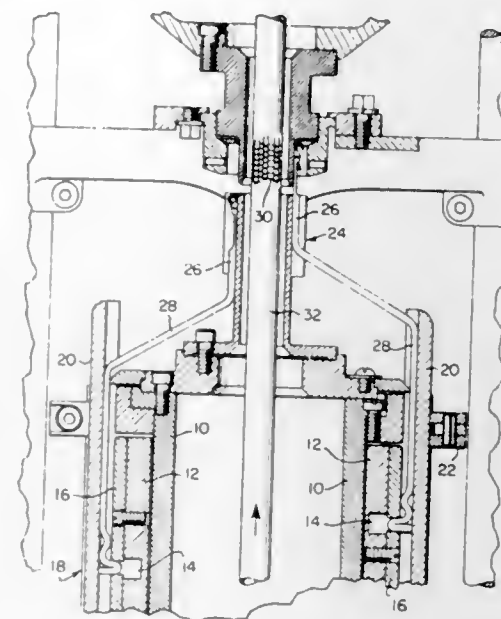


An electromagnetic actuator drives a marking pen for selectively producing point plots on a graphic chart. The operating speed and freedom from undesirable resonances and frictional binding are enhanced by the use of a permanent magnet in place of conventional springs for returning the actuator to its static or normal position.

3,543,280
CIRCULAR KNITTING MACHINE NEEDLE STEM
 John Greczin, Philadelphia, Pa., assignor to Knitting
 Machinery Corp. of America, Philadelphia, Pa., a cor-
 poration of Pennsylvania
 Filed Nov. 30, 1967, Ser. No. 686,929
 Int. Cl. D04b 9/44

U.S. Cl. 66—9

2 Claims

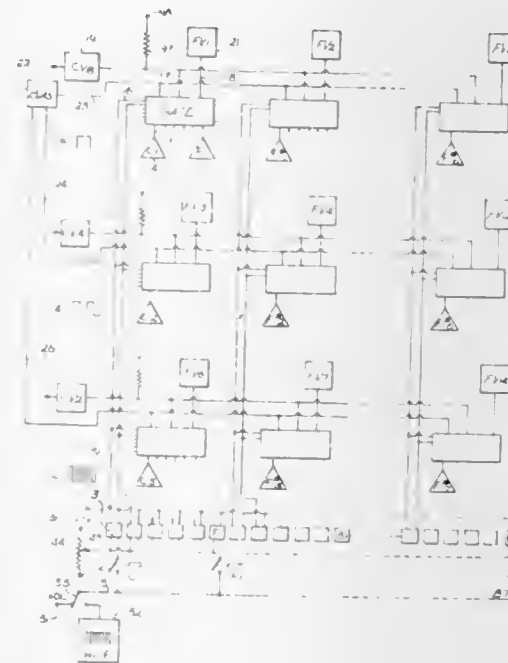


A machine for knitting a tubular covering over a hose or other tubular body, said machine including a needle stem having slots so arranged as to accommodate six, or eight, equally spaced needles whereby a uniform-stitch covering can be knit over a hose of 1/2" or of 3/8" diameter.

3,543,281
ELECTRONIC MUSICAL INSTRUMENT DUAL PURPOSE GATE AND KEYING CIRCUIT
 John R. Brand, Northridge, and Frank Galanti, Reseda,
 Calif., assignors to Warwick Electronics Inc., Chicago,
 Ill., a corporation of Delaware
 Filed June 21, 1968, Ser. No. 739,064
 Int. Cl. G10h 1/02

U.S. Cl. 84—126

7 Claims



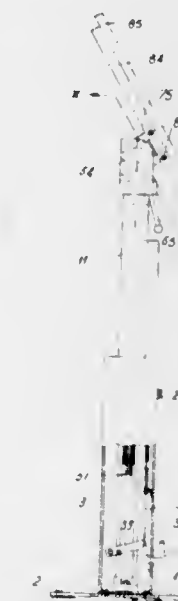
Three-element transistors are employed to gate tone signals from the tone sources to the output. An envelope signal is applied to the base of the transistor to allow it to pass tone signals applied from the emitter to the collector. Each base is connected to a keying circuit energized by a key switch with either AC or DC. When DC is employed, a pulse is developed through a series-connected capacitor,

producing a percussed tone, such as from a string instrument. When AC is employed, it is rectified by a diode in series with the capacitor, and a sustain-type tone, such as an organ tone, is produced. A single keyer is connected to several footages of a given note. The footages may be selectively gated on or off or otherwise modulated by the bias applied to the emitters of the respective transistors.

3,543,282
DRAWING BOARD
 Lucien Emile François Sautereau, 16 Avenue Montaigne,
 Paris, France
 Filed Apr. 4, 1968, Ser. No. 718,726
 Claims priority, application France, Apr. 11, 1967,
 102,323
 Int. Cl. A47b 27/18

U.S. Cl. 108—144

4 Claims



A drawing board with adjustment in height, orientation, inclination and lateral translation, comprising a vertical body of rectangular section open on one side so as to form a U, and a pillar sliding in said body and having a closed section forming an irregular octagon or a rectangle with chamfered corners, each chamfer being arranged to roll on a pair of vertically-displaced rollers mounted in the bisecting line of each angle of the rectangular body, play between the body and pillar being eliminated by nonelastic screw means effecting a slight deformation of the arms of the U-section.

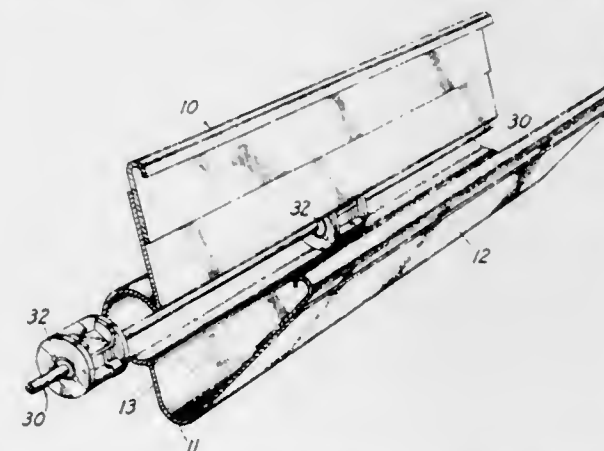
3,543,283
AUTOMATIC TYPE POULTRY FEEDER TROUGH
 Alcial L. Cataline, Canton, Ga., assignor to National
 Service Industries, Inc., Atlanta, Ga., a corporation of
 Delaware

Filed Oct. 17, 1968, Ser. No. 768,385

Int. Cl. A01k 39/00

U.S. Cl. 119—61

12 Claims



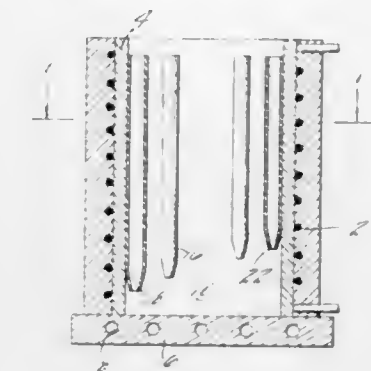
A poultry feeder trough having a feed tube integrally formed in one side of the trough.

880 O.G.—56

3,543,284
PROCESS FOR CASTING SINGLE CRYSTAL SHAPES
 Larry W. Sink, Rocky Hill, and Bernard H. Kear, Madi-
 son, Conn., assignors to United Aircraft Corporation,
 East Hartford, Conn., a corporation of Delaware
 Filed Mar. 20, 1968, Ser. No. 714,743
 Int. Cl. B22d 27/04

U.S. Cl. 164—60

6 Claims

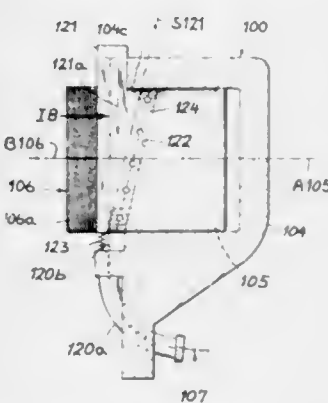


A process for use in casting materials of single crystal in single and complex shapes wherein the process produces an increased heat extraction rate from the cast part, the rate also being compatible with a rate which promotes the fastest growth consistent with forming sound single crystal materials.

3,543,285
HYDRAULICALLY AND MECHANICALLY ACTUATED DISK BRAKES
 Heinz Frigger, Langen-Oberlinden, Germany, assignor to
 Alfred Teves Maschinen- und Armaturenfabrik KG.,
 Frankfurt am Main, Germany, a corporation of Ger-
 many
 Original application June 1, 1967, Ser. No. 642,915, now
 Patent No. 3,425,519. Divided and this application Oct.
 10, 1968, Ser. No. 766,568
 Claims priority, application Germany, June 11, 1966,
 T 31,333; June 24, 1966, T 31,443, T 31,444,
 T 31,445; June 25, 1966, T 31,457
 The portion of the term of the patent subsequent to
 Feb. 4, 1986, has been disclaimed
 Int. Cl. F16d 65/14

U.S. Cl. 188—106

16 Claims



A disk brake having a brake disk, a brake support yoke disposed along the periphery of the disk, a pair of brakeshoes flanking braking faces of the disk and an actuating piston on the support yoke for shifting the brakeshoes into engagement with said disk to brake the latter. A circular wedge member having at least one wedging surface converging at an acute angle toward a braking face of the disk is displaceable in the direction of convergence of the wedging surface while being interposed between the support and piston or between piston and brakeshoe. A Bowden cable, spindle, eccentric, cam or other means applies a force to said wedge member in this direction.

3,543,286 MULTI-GEOMETRIC PATTERN ELECTRIC GENERATOR

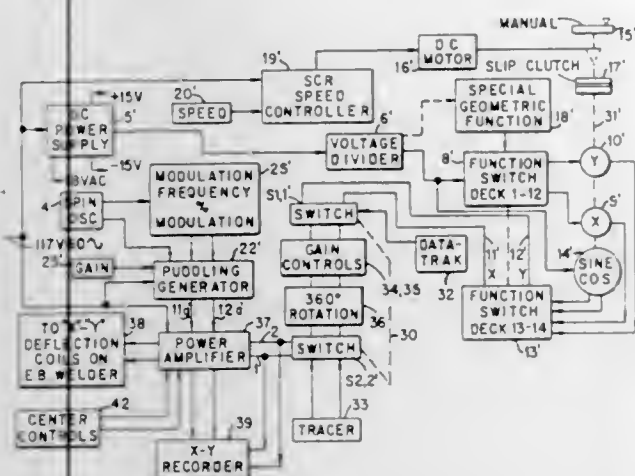
Raymond H. Stentz and Alvin W. Bauer, Cincinnati, Ohio, assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 25, 1969, Ser. No. 819,290

Int. Cl. B23k 15/00

U.S. Cl. 219—121

5 Claims



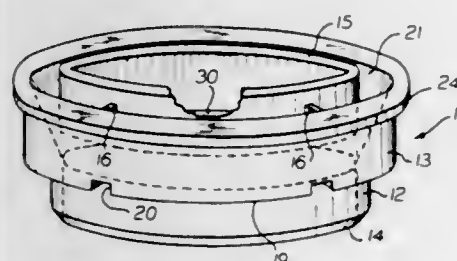
Electrical circuit apparatus is provided for X- and Y-axis component electrical signals which determine any selected one of a plurality of predetermined geometric patterns. First and second plurality of series connected resistors form voltage divider networks for obtaining predetermined X- and Y-axis coordinate voltages, respectively. Ganged function potentiometers rotate to generate the X- and Y-axis component voltages for straight-line segments of the selected geometric pattern. A plurality of ganged multiposition switches interconnect the voltage divider resistors and function potentiometers for selecting the particular geometric pattern to be generated. The selected geometric pattern may be rotated any number of degrees if desired or necessary for aligning the pattern with the workpiece without moving the workpiece, while at the same time not changing the shape of the selected pattern or the speed at which the pattern is being generated. The circuit apparatus also includes means for generating irregular shaped patterns, when needed or desired.

3,543,287 EXTENSION FITTING FOR CONTAINERS

Henry Henkel, 430 E. 63rd St., New York, N.Y. 10021
Filed Nov. 18, 1968, Ser. No. 776,573
Int. Cl. B65d 25/00

U.S. Cl. 220—90

7 Claims



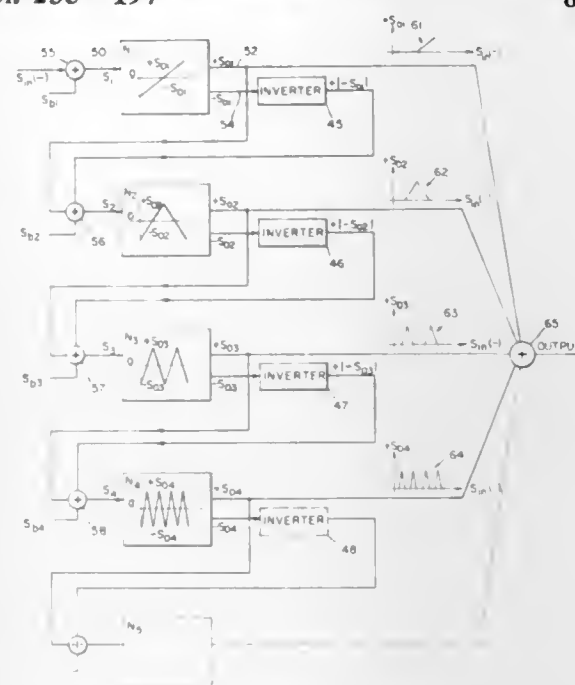
An extension fitting for containers, e.g. paint cans, including a body portion, and wiper ring, and if desired, a closure. The body portion can be mounted on the container in tight fitting relation with a collar thereof extending upwardly from the container opening. The collar has an upwardly extending diverging inner surface. A wiper ring is disposed within and spaced from the collar, permitting drainage from the outside of the wiper ring to the container. The wiper ring is positioned so that the body portion can be conveniently molded in one piece.

3,543,288 APPARATUS AND METHOD FOR PRODUCING A SQUARE-LAW FUNCTION

Jerry M. Collings, Concord, Calif., assignor to Zeltex, Inc., a corporation of California
Filed May 27, 1968, Ser. No. 732,375
Int. Cl. G06g 7/20, 7/26

U.S. Cl. 235—197

8 Claims



An improved method and apparatus are described herein for generating a plurality of harmonic related electrical half-wave triangular functions. Such triangular functions are electronically summed for approximating a parabolic function, which is in turn utilized in an electronic analog multiplier as disclosed in my co-pending application, Ser. No. 483,180; filed Aug. 27, 1965, for Apparatus and Method for Producing Square-Law Function.

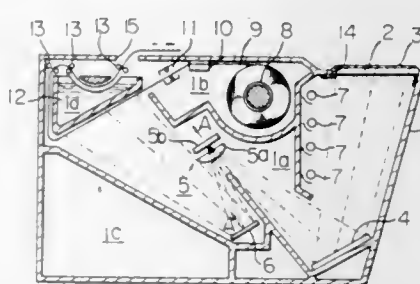
3,543,289 VARIABLE MAGNIFICATION EXPOSURE DEVICE FOR A REPRODUCTION APPARATUS

Yutaka Koizumi, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan
Filed Sept. 20, 1968, Ser. No. 761,125
Claims priority, application Japan, Sept. 29, 1967, 42/62,689

Int. Cl. G03b 27/34

U.S. Cl. 355—57

3 Claims



A reproduction apparatus comprises a housing divided into an optical path chamber, a photosensitive paper chamber, an electrical control chamber, and a developer chamber. In the optical path chamber there are a light source, a first fixed mirror facing the original which is placed on a transparent plate surmounting an aperture in the table of the housing, a movable reproduction optical system and a second movable mirror facing the movable reproduction optical system and the photosensitive paper. The movable reproduction optical system includes a lens and a plane reflecting mirror behind the lens and the optical system and second movable mirror are coupled for movement in the same direction in unison with each other to provide variation in the magnification of reproduction.

3,543,290 OPTICAL SCANNER AND SLIT EXPOSURE DEVICE FOR REPRODUCTION APPARATUS

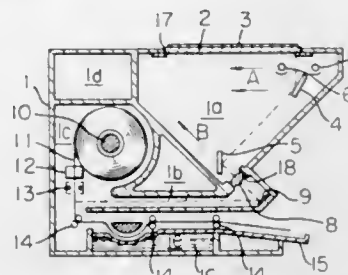
Yutaka Koizumi, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan
Filed Sept. 5, 1968, Ser. No. 757,538

Claims priority, application Japan, Sept. 20, 1967, 42/60,357

Int. Cl. G03b 27/70

U.S. Cl. 355—65

2 Claims



An optical scanning system for use in a document copying apparatus. Photosensitive paper is exposed by the image of an original document. Light from the original document is reflected by two moving mirrors through a fixed lens and is projected through a slit upon photosensitive paper which is moved in a coordination with the movement of the two reflecting mirrors.

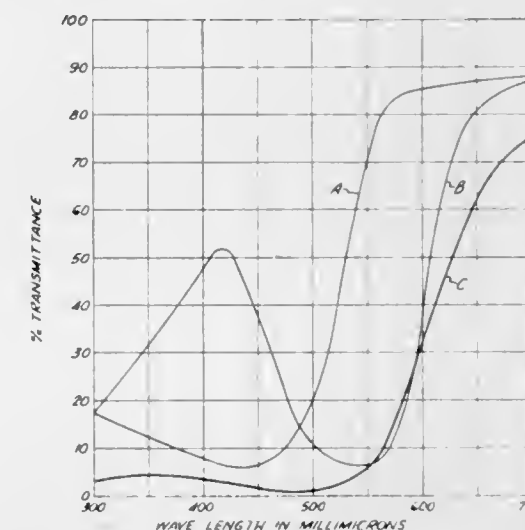
3,543,291 PHOTOLITHOGRAPHY

Jack Z. Gilfert, Carmichael, Calif., assignor to Bolls & Kling, a limited partnership
Filed Feb. 17, 1967, Ser. No. 616,970

Int. Cl. G03f 7/02

U.S. Cl. 96—33

10 Claims



A planographic, single emulsion, monochromatic, fine silver halide grain, high contrast, non-ultraviolet transmitting photographic film for use when color developed and fixed in exposing ultraviolet sensitive photomechanical reproduction plates, and a method of preparing such films by color coupler development of azomethine dyes in silver salt grain gelatin emulsions.

3,543,292 PHOTOGRAPHIC GELATIN HARDENED WITH BIS ISOXAZOLE COMPOUNDS AND THEIR QUATERNARY SALTS

Donald M. Burness and Jerome J. Looker, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 486,189, Sept. 9, 1965. This application June 20, 1967, Ser. No. 647,324

Int. Cl. G03c 1/30

U.S. Cl. 96—111

7 Claims

Bis isoxazoles and their quaternary salts are disclosed. The quaternary salts are particularly useful in rendering

carboxyl-containing polymers and other compositions resistant to the swelling from aqueous solutions.

3,543,293 METHOD FOR THE PRODUCTION OF MICROCRYSTALLINES OF CHLORAMPHENICOL

Saburo Akagi, Katsuaki Matsui, Yoshitsugu Takahashi, and Ryuzo Okada, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan

No Drawing. Continuation-in-part of application Ser. No. 607,377, Jan. 5, 1967. This application Dec. 4, 1968, Ser. No. 781,266

Claims priority, application Japan, Jan. 10, 1966, 41/961

Int. Cl. C07c 103/30

U.S. Cl. 260—562

6 Claims

Method of producing microcrystallines of chloramphenicol. A solution of chloramphenicol in a water-miscible organic solvent is mixed, under vigorous agitation, with a solution of polyvinylpyrrolidone in water.

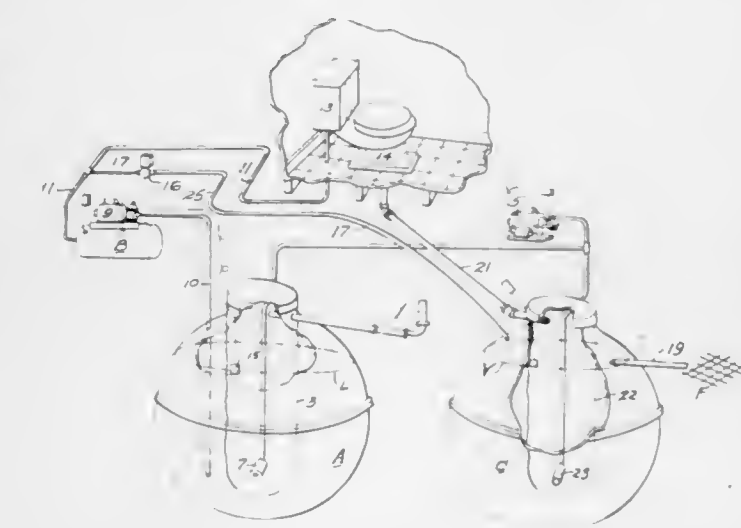
3,543,294 HOUSEHOLD WATER CONSERVATION SYSTEM

Carl F. Boester, Arlington, Va.
(P.O. Box 567, Lafayette, Ind. 47902)
Filed Apr. 21, 1969, Ser. No. 817,833

Int. Cl. C02c 1/00

U.S. Cl. 210—15

6 Claims



Household water conservation method and apparatus comprising the collecting of household waste water, other than toilet discharge water; treating it as by aeration and filtering, and supplying the treated water for all household toilet flushing; treating the water flushed from the toilets, as by aeration, filtering and aerobic processes; and discharging the resulting effluent direct to a suitable disposal field, or above-grade discharge, all without use of a septic tank or connection to a sewer system.

3,543,295 CIRCUITS FOR CHANGING PULSE TRAIN REPETITION RATES

Robert L. Overstreet, Jr., Burlington, N.C., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Apr. 22, 1968, Ser. No. 723,083

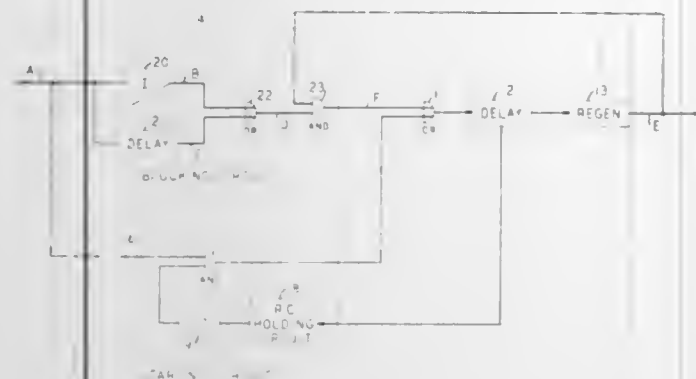
Int. Cl. H03k 5/00

U.S. Cl. 328—38

5 Claims

A pulse-delay regenerative feedback loop is disclosed. A combination of AND and OR gates periodically blocks

the loop to synchronize circulating pulses with a clock pulse train. Pulses obtained from the loop occur at repeti-



tion rates less than or greater than that of the clock pulse train.

3,543,296

DATA STORAGE CELL FOR MULTI-STABLE ASSOCIATIVE MEMORY SYSTEM

Peter A. E. Gardner, Winchester, Michael H. Hallett, Chandler's Ford, and Peter J. Titman, Winchester, England, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

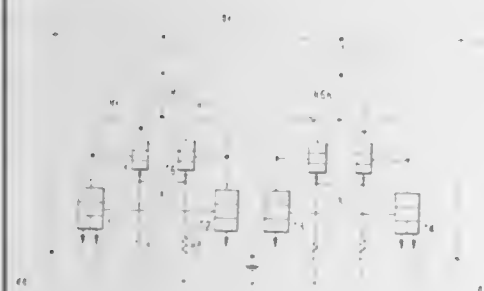
Filed June 28, 1968, Ser. No. 740,939

Claims priority, application Great Britain, Sept. 5, 1967, 40,623/67

Int. Cl. G11c 11/36

U.S. Cl. 340—173

6 Claims



This specification describes data storage cells for associative memories. These storage cells have either a tristable circuit or two bistable circuits which are coupled together to provide the storage cells with at least three stable states. The three stable states are referred to in the specification as the "1," the "0" and the "X" stable states. The storage cells can be interrogated for the "1" and the "0" stable states and issue match signals whenever the storage cell is in the interrogated state or the "X" state.

3,543,297

RAILROAD BED CRIBBER

George T. Blackwell, Jr., P.O. Box 278, Oneonta, Ala. 35121

Filed Sept. 9, 1968, Ser. No. 758,557

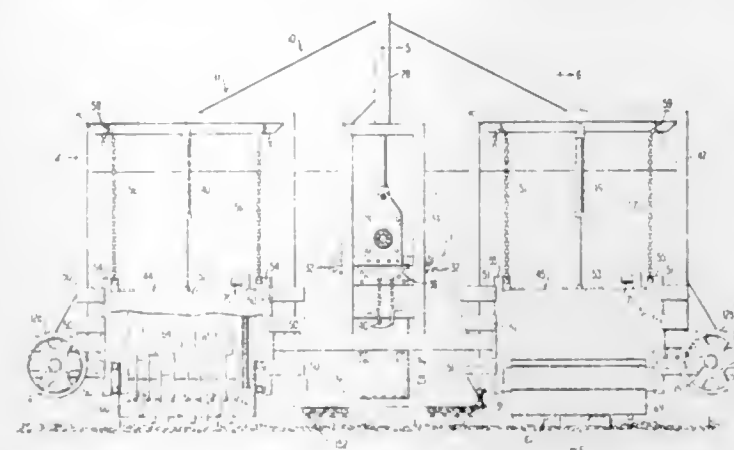
Int. Cl. E01b 27/00

U.S. Cl. 37—104

10 Claims

A railroad bed cribber including a frame supported by wheels at its corners from the rails of a railroad track. A crawler is supported by the frame intermediate its ends and on one side thereof and can be lowered to support the frame from the road bed when the rail is removed from beneath the adjacent wheels of the frame. Cribbing or digging devices are mounted on opposite sides of the crawler along the edge of the frame and can be lowered into digging relationship with the railroad bed to clean the debris from between the cross-ties of the

railroad bed. A jack is supported at the center of gravity of the frame, and is movable in a downward direction to engage the road bed and lift the frame from the tracks,



whereupon the frame can be pivoted about the jack, to reverse its direction of movement along the rails, and to place the cribbing device on the opposite side of the road bed.

3,543,298

DUAL HYDRAULIC BRAKE WITH IMPROVED BOOSTER MECHANISM

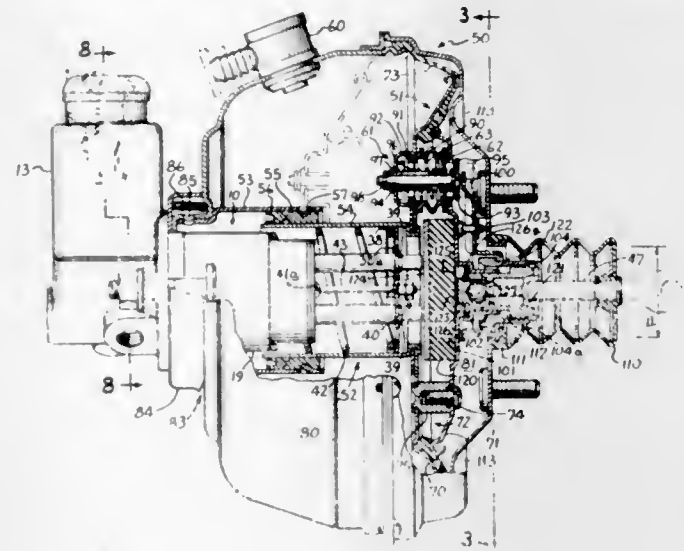
Edward A. Rockwell, 167 Ashdale Place, Los Angeles, Calif. 90049

Filed Sept. 18, 1968, Ser. No. 760,630

Int. Cl. F15b 7/00, 7/08, 9/00

U.S. Cl. 60—54.5

6 Claims



A power unit for a hydraulic brake system in which the power wall assembly includes a pair of opposed plates which form a fluid chamber therebetween, with a reaction mechanism mounted within the fluid chamber between the power wall plates to provide a compact assembly. The reaction mechanism includes a resilient bumper element mounted on the power wall at least partially unconfined. A plunger connected to manually operated actuating means is adapted to engage the resilient bumper element upon manual advance of the actuating means so that the resilient element is deformed into the free space adjacent the unconfined areas thereof. An annular diaphragm connects the outer periphery of the power wall to the casing, with the intermediate portion of the diaphragm overlapping the forward plate on the power chamber side of the wall; this overlapping portion of the diaphragm defines a plurality of relief ports which are normally closed by the forward plate during normal movement of the power wall, but the ports are opened by sudden advancing movement of the forward plate ahead of the diaphragm so as to provide supplemental fluid communication means between the chambers to relieve excessive pressure.

3,543,299

ADJUSTABLE-WIDTH ROLL FORMING MACHINE

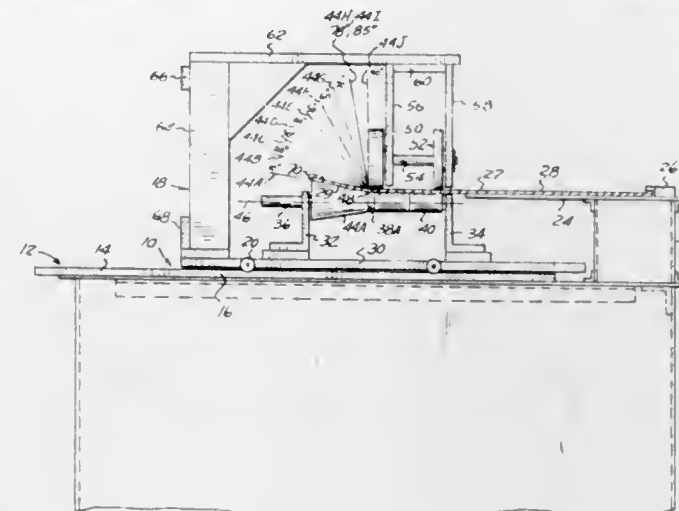
Richard D. Braun, Troy, Mich., assignor to The Flagler Corporation, Detroit, Mich., a corporation of Michigan

Filed Sept. 20, 1968, Ser. No. 761,167

Int. Cl. B21d 5/08

U.S. Cl. 72—181

10 Claims



This machine employs a succession of partly cylindrical and partly frusto-conical power-driven forming rolls, the latter being of progressively increasing apex angles from the entrance end to the exit end of the machine. Cylindrical hold-down rolls are arranged above the cylindrical forming rolls to hold a portion of a flat sheet metal strip horizontal while the remaining portion is gradually bent by successive increments into a perpendicular wall. Both the forming rolls and the hold-down rolls are mounted on a carriage which is movable laterally on the machine sub-frame relatively to a longitudinal stop member for one edge of the sheet metal strip, the carriage being adjustably movable laterally of the direction of travel of the sheet metal strip in order to vary the location of the bending line and consequently vary the proportionate widths of the vertical and horizontal walls of the angle member thus formed. Two such angle members mounted in opposing relationship and joined along their free edges constitute a conduit of rectangular cross-section for heating or ventilation purposes or for the conveying of materials or for housings. The flat metal strip, prior to being thus bent, is preferably provided, in a conventional machine, with reversely-bent locking edge portions in order to facilitate final assembly of the conduit.

3,543,300

DIE SHIFTING MECHANISM FOR EXTRUSION PRESS

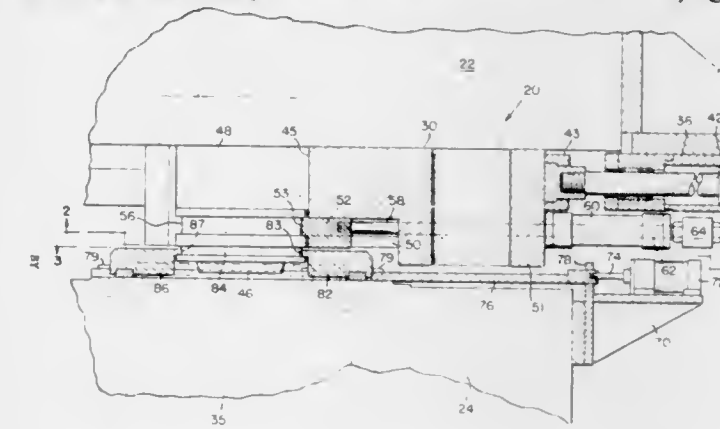
Robert K. Valks, Penfield, N.Y., assignor to Farrel Corporation, Rochester, N.Y., a corporation of Connecticut

Filed Sept. 24, 1968, Ser. No. 762,049

Int. Cl. B21c 23/00

U.S. Cl. 72—255

7 Claims



The die carrier and the associated supporting pressure bolts are mounted in a die slide on an extrusion press.

A reciprocable locking member in the slide is releasably engaged in an annular groove in the carrier to secure the carrier against axial movement relative to the bolsters during extrusion. After a billet has been extruded, the locking member is released, and movable detents on the billet container of the press are urged radially inwardly to engage in a peripheral groove in the carrier to secure the carrier releasably to the container, which then retracts with the pressing stem or ram away from the slide, moving the carrier away from the bolsters far enough for a saw or other cutting device to sever the extruded product.

3,543,301

SPRING PIVOTS

Douglas Barnett, Watford, England, assignor to S. G. Brown Limited, Watford, Hertford, England

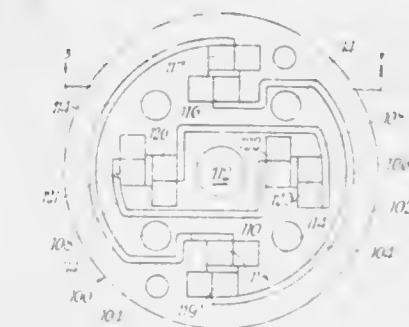
Continuation-in-part of application Ser. No. 529,751, Feb. 24, 1966. This application Sept. 9, 1968, Ser. No. 758,242

Claims priority, application Great Britain, Feb. 24, 1965, 8,030/65

Int. Cl. G01c 19/04

U.S. Cl. 74—5

10 Claims



Flexural spring pivots for use in precision instruments such as gyroscopes and particularly dynamically tuned free rotor gyros are provided wherein each of said pivots comprises a pair of spring strips which cross on the pivot axis and extend across a gap separating the parts. This gap can be a slot formed in a single piece of metal wherein the slot is extended after securing of the spring strips to divide the piece into the parts. Alternatively, the spring strips and the parts they connect can all be formed from a single piece of metal. Each spring pivot can then comprise four strips spaced in cruciform arrangement around the axis instead of two strips crossing on the axis.

3,543,302

REMOTELY-OPERABLE ENGINE-STARTING SYSTEM

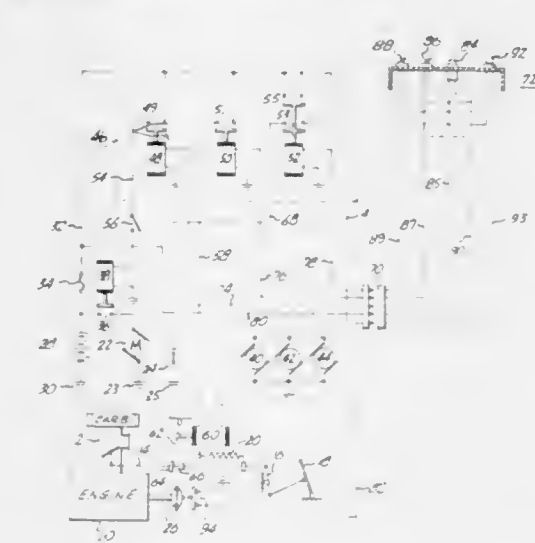
Delbert R. Wolthausen, Rte. 1, Tieton, Wash. 98947

Filed Sept. 20, 1968, Ser. No. 761,261

Int. Cl. F02n 11/12

U.S. Cl. 123—179

3 Claims



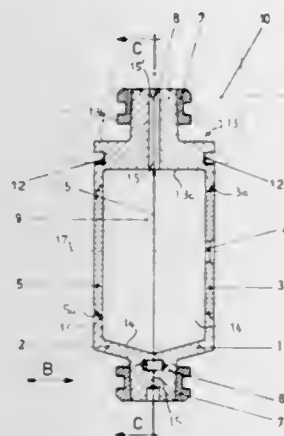
An improved engine-starting system adapted for remote control includes means for advancing the "idle"

speed of the fuel system and indicator means at the remote control position to warn of failure of the engine to operate.

3,543,303
MOLD FOR DENTISTS
Fausto Sacchiero, Via Faustina 40,
Ponteranica, Bergamo, Italy
Filed Sept. 11, 1968, Ser. No. 759,012
Claims priority, application Italy, Nov. 25, 1967,
818,194
Int. Cl. B41b 11/60

U.S. Cl. 249—164

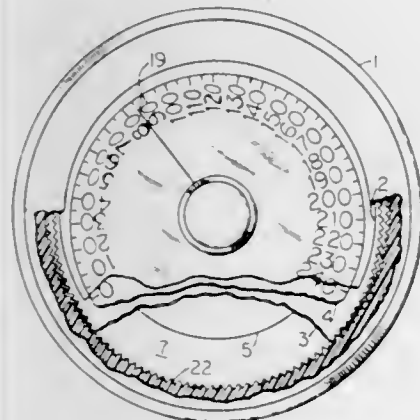
11 Claims



An improved dental mold provided with a plurality of frustoconical extension halves on the cooperating mold halves, and closing rings for positioning about the frustoconical extension halves of both mold halves for closing and opening the mold. One of the frustoconical extension halves is formed with an injection duct centrally extending therethrough into communication with the hollow chamber between the mold halves and the outside of the mold constituting a passageway for the injection of plastic material into the mold chamber.

3,543,304
GOLF YARDAGE COUNTERS
Virgil C. Hed, 5721 Hansen Road, Edina, Minn. 55436,
and James A. Makie, 200 Rice Creek Terrace NE.,
Minneapolis, Minn. 55432
Filed Sept. 23, 1968, Ser. No. 761,617
Int. Cl. G01p 3/02; G01b 3/12
U.S. Cl. 235—95

9 Claims



A rotating counting device capable of counting shaft revolutions or indicating linear displacement of rotating

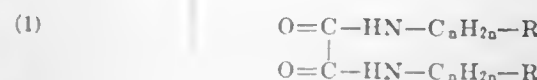
wheels consisting of: an internal toothed gear, an external toothed gear with less teeth and capable of rotating within said internal toothed gear, a means for determining angular displacement between the two said gears and a series of scales interchangeably attached to the internal toothed gear calibrated to indicate linear distance traversed by different diameter wheels.

3,543,305
COMBATING UNDESIRE PLANT GROWTH WITH PHENOXYALKANOYLAMIDOOXYALKANOIC COMPOUNDS
Ralph P. Neighbors, Olathe, Kans., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 668,180, Sept. 15, 1967. This application Sept. 13, 1968, Ser. No. 759,761
Int. Cl. A01n 9/20, 9/24

U.S. Cl. 71—108 11 Claims
Both broadleaf weeds and common noxious grasses such as yellow and green foxtail are combated in fields of small grains such as wheat, barley and oats by use of phenoxyalkanoylaminooxyalkanoic acids and derivatives thereof, for example, 2-phenoxypropanoylaminooxyacetic acid, formulated either as free acid or salts.

3,543,306
OXALIC ACID DIAMIDE STABILIZERS FOR POLYOLEFINS
Hans Rudolf Biland, Gelterkinden, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Sept. 23, 1968, Ser. No. 761,829
Claims priority, application Switzerland, Oct. 6, 1967, 14,012/67
Int. Cl. C08f 45/60

U.S. Cl. 260—45.8 5 Claims
The invention concerns stabilizers for polyolefins especially against ultraviolet radiation, heat and oxidation. The stabilizers are oxalic acid diamides of the formula



in which R represents a dialkylamino group, a di-(hydroxyalkyl)-amino group, or a saturated heterocyclic monocyclic residue which is linked with the group $-\text{C}_n\text{H}_{2n}-$ through a nitrogen atom that is bound exclusively to carbon, and $n=2$ or a greater digit.

3,543,307
DECOMPOSITION PRODUCTION OF $\Delta^{4,20,22}$ BUFATRIENOLIDES AND PROCESS FOR THEIR SEPARATION
Walter Steidle, Limburgerhof, Germany, assignor to Knoll A.G. Chemische Fabriken, Ludwigshafen (Rhine), Germany
No Drawing. Continuation-in-part of application Ser. No. 730,585, May 20, 1968. This application Sept. 20, 1968, Ser. No. 761,330
Claims priority, application Germany, Sept. 21, 1967, 1,668,337; Aug. 2, 1968, 1,793,101
Int. Cl. C07c 173/04

U.S. Cl. 260—239.57 7 Claims
Method for the acid hydrolysis of glycosides, such as proscillaridin, comprising a $\Delta^{4,20,22}$ -bufatrienolide aglucone. Method for separating the hydrolysis products. Certain $\Delta^{4,20,22}$ -bufatrienolides and $\Delta^{3,20,22}$ -bufatrienolides.

DESIGNS

NOVEMBER 24, 1970

219,255
JACKET
Socratis J. Zavitsanos, 1605 W. Farwell,
Chicago, Ill. 60626
Filed Jan. 12, 1970, Ser. No. 20,888
Term of patent 14 years
Int. Cl. D2—01

U.S. Cl. D2—187



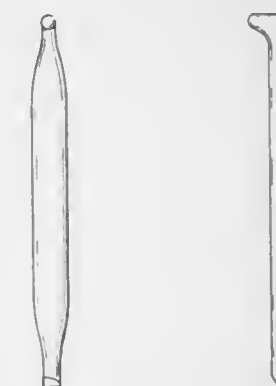
219,256
TOOTHBRUSH
George M. Dick, 3063 Brighton Blvd.,
Denver, Colo. 80216
Filed Nov. 14, 1969, Ser. No. 20,098
Term of patent 14 years
Int. Cl. D4—02

U.S. Cl. D4—25



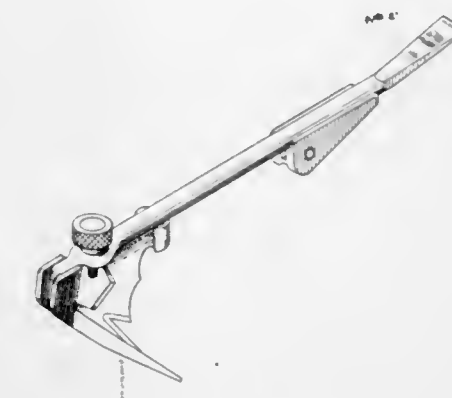
219,257
BURNISHING TOOL FOR DRAFTSMEN
Thomas Koves, Los Angeles, Calif., assignor to Bervon Corporation, doing business as Universal Supply Co., Los Angeles, Calif., a corporation of California
Filed Aug. 25, 1969, Ser. No. 18,831
Term of patent 14 years
Int. Cl. D8—02

U.S. Cl. D8—14



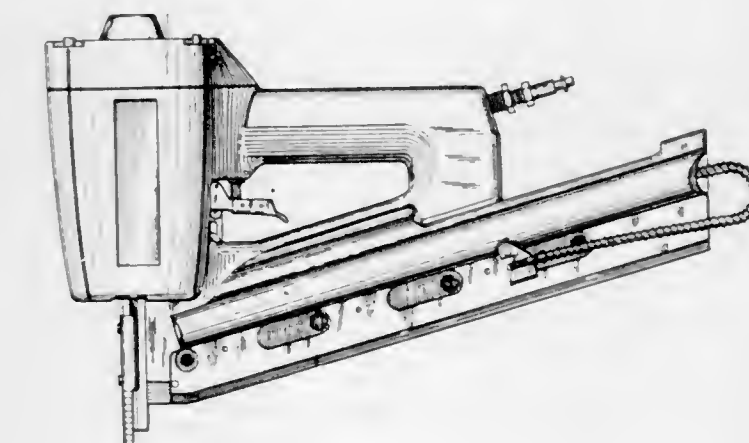
219,258
COMBINATION TOOL
Frank W. Frye, 1709 Rockford St.,
Winston-Salem, N.C. 27107
Filed May 14, 1969, Ser. No. 17,150
Term of patent 14 years
Int. Cl. D8—03

U.S. Cl. D8—26



219,259
NAILING MACHINE OR SIMILAR ARTICLE
Garry R. Perkins, West Chicago, Ill., assignor to Spotnails, Inc., Long Island City, N.Y., a corporation of New York
Filed July 23, 1969, Ser. No. 18,354
Term of patent 14 years
Int. Cl. D8—02

U.S. Cl. D8—61



219,260
BOTTLE OR SIMILAR ARTICLE

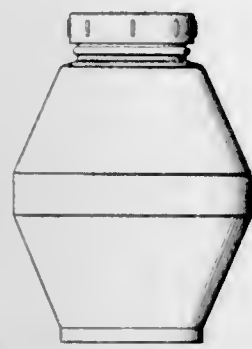
Henry L. Zeiger, South Gate, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

Filed Oct. 20, 1969, Ser. No. 19,753

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—131



219,261
BOTTLE

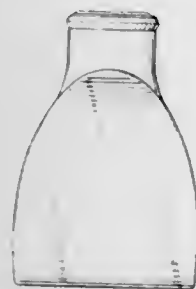
Robert A. Barish, East Windsor, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Filed Dec. 15, 1969, Ser. No. 20,500

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—143



219,262
BOTTLE

Jose A. Lambelet, Beaurepaire, France

Continuation-in-part of design application Ser. No. 10,386, Jan. 31, 1968. This application June 9, 1969, Ser. No. 17,577

Claims priority, application France Aug. 3, 1967

Term of patent 14 years

Int. Cl. D9—01

U.S. Cl. D9—156



219,263
COMPARTMENTED PACKAGING TRAY

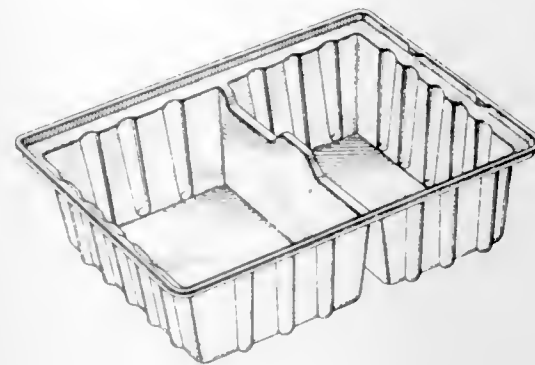
Charles Castelli, New Brunswick, and Lawrence Jerzewski, Jr., East Millstone, N.J., assignors to Johnson & Johnson, a corporation of New Jersey

Filed May 26, 1969, Ser. No. 17,321

Term of patent 14 years

Int. Cl. D9—04

U.S. Cl. D9—189



219,264
CONTAINER FOR COMBINED RAZOR BLADES AND MOUNTS

Glynne F. Clifford, Staines, Middlesex, England, assignor to Wilkinson Sword Limited, London, England, a British company

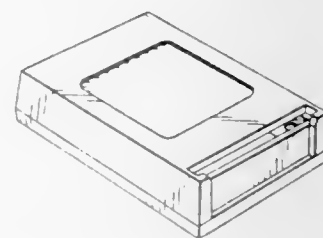
Filed Feb. 26, 1969, Ser. No. 15,920

Claims priority, application Great Britain Aug. 27, 1968

Term of patent 14 years

Int. Cl. D9—04

U.S. Cl. D9—193



219,265
SHIPPING CONTAINER

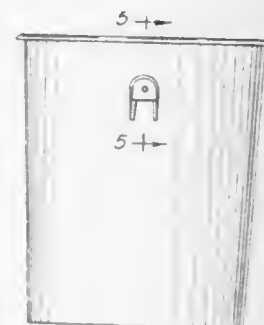
Roy G. Churan, Oak Lawn, Ill., assignor to Growth International Industries Corp., Peotone, Ill., a corporation of Delaware

Filed Mar. 11, 1968, Ser. No. 10,909

Term of patent 14 years

Int. Cl. D9—07

U.S. Cl. D9—216



219,266
CARTON OR SIMILAR ARTICLE

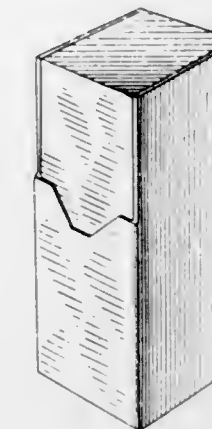
Thomas M. Biallo, 430 E. 56th St., New York, N.Y. 10022

Original design application May 20, 1968, Ser. No. 12,013. Divided and this application Sept. 29, 1969, Ser. No. 19,795

Term of patent 14 years

Int. Cl. D9—04

U.S. Cl. D9—230



219,267
FASCIA

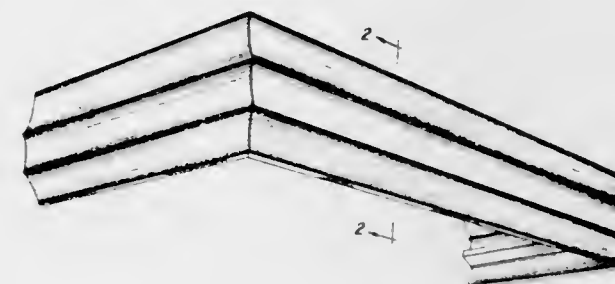
William C. Heirich, 515 S. 15th St., Muskogee, Okla. 74401

Continuation-in-part of design application Ser. No. 7,038, May 9, 1967. This application Mar. 3, 1969, Ser. No. 15,982

Term of patent 14 years

Int. Cl. D25—01

U.S. Cl. D13—1



219,268
HANDLE UNIT FOR CART BRAKE

Harold Isaacs, 2583 Fenwick Road, University Heights, Ohio 44118

Filed Mar. 4, 1969, Ser. No. 16,033

Term of patent 14 years

Int. Cl. D12—14

U.S. Cl. D14—3



219,269
VEHICLE BODY

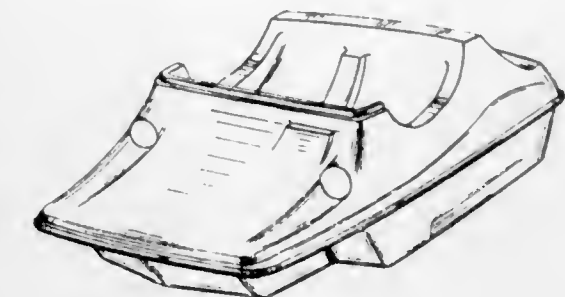
Jack J. Wagenhals, Marion, Ohio, assignor to Alsport Ltd. Inc., Norwalk, Ohio, a corporation of Ohio

Filed July 2, 1969, Ser. No. 18,030

Term of patent 7 years

Int. Cl. D12—14

U.S. Cl. D14—3



219,270
GARBAGE CAN HOLDER

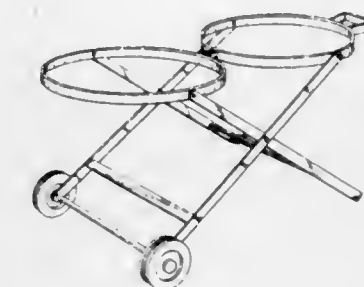
Lonnie F. Goodman, 817 SW. 23rd St., Oklahoma City, Okla. 73109

Filed Feb. 5, 1970, Ser. No. 21,278

Term of patent 14 years

Int. Cl. D12—02

U.S. Cl. D14—3



219,271
BLOCK STRUCTURE

George B. Muse, Hillcrest Drive, Calhoun, Ga. 30701

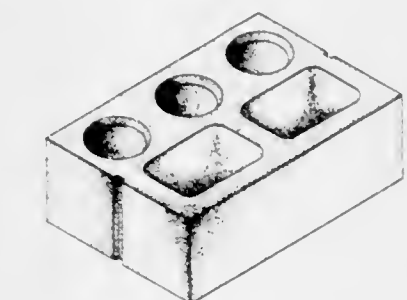
Continuation-in-part of design application Ser. No. 11,779, May 3, 1968. This application Apr. 9, 1969, Ser. No. 16,648

The portion of the term of the patent subsequent to July 7, 1983, has been disclaimed and dedicated to the Public

Term of patent 14 years

Int. Cl. D25—01

U.S. Cl. D18—2

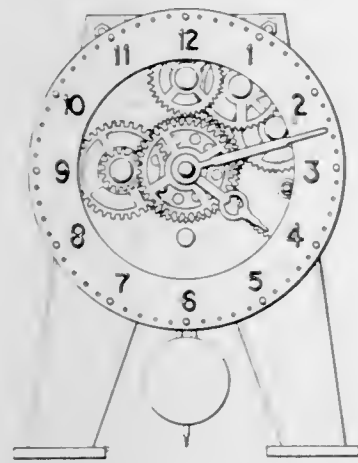


219,272

TOY CLOCK

Alwin Schipper, Thulba Uber Bad Kissingen, Germany
 Filed Nov. 18, 1969, Ser. No. 20,168
 Claims priority, application Germany May 28, 1969
 Term of patent 14 years
 Int. Cl. D19—08

U.S. Cl. D25—1



219,273

AMPERE, VOLT AND RESISTOR-METER

Yoshiharu Alan Shimasaki, 5-12 3-chome, Minami-Azabu, Minato-ku, Tokyo, Japan
 Filed Mar. 15, 1968, Ser. No. 10,989
 Term of patent 14 years
 Claims priority, application Japan Sept. 20, 1967
 Int. Cl. D10—10

U.S. Cl. D26—1



219,274

CARTRIDGE FOR PRINTED CIRCUITS OR SIMILAR ARTICLE

Virgil J. Huebner, Sioux Falls, and David L. Brown, Parker, S. Dak., assignors to Raven Industries, Inc., Sioux Falls, S. Dak., a corporation of South Dakota
 Filed Dec. 23, 1968, Ser. No. 15,086
 Term of patent 7 years
 Int. Cl. D13—03; D14—02

U.S. Cl. D26—1



219,275

PORTABLE ANIMAL ENCLOSURE

Marshall E. Benjamin, 300 E. 10th St., Borger, Tex. 79007
 Filed Oct. 7, 1969, Ser. No. 19,451
 Term of patent 14 years
 Int. Cl. D30—01

U.S. Cl. D30—1

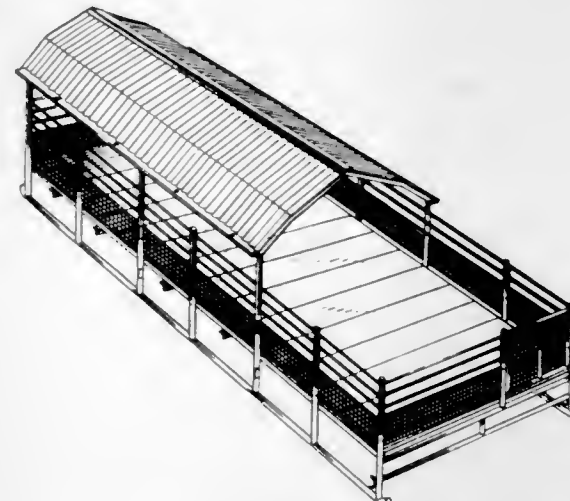


219,276

PORTABLE ANIMAL ENCLOSURE

Marshall E. Benjamin, 300 E. 10th St., Borger, Tex. 79007
 Filed Oct. 7, 1969, Ser. No. 19,447
 Term of patent 14 years
 Int. Cl. D30—01

U.S. Cl. D30—1

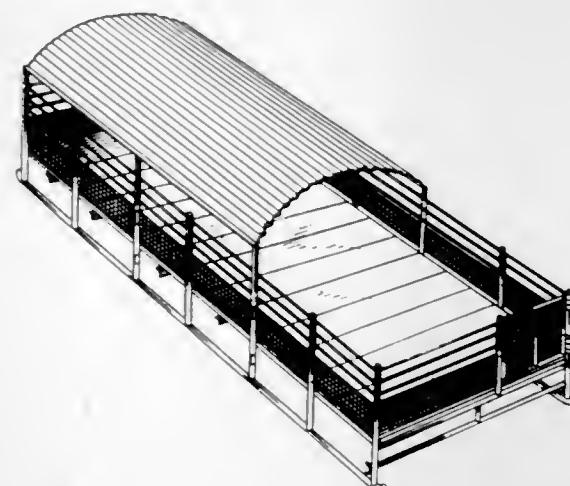


219,277

PORTABLE ANIMAL ENCLOSURE

Marshall E. Benjamin, 300 E. 10th St., Borger, Tex. 79007
 Filed Oct. 7, 1969, Ser. No. 19,445
 Term of patent 14 years
 Int. Cl. D30—01

U.S. Cl. D30—1

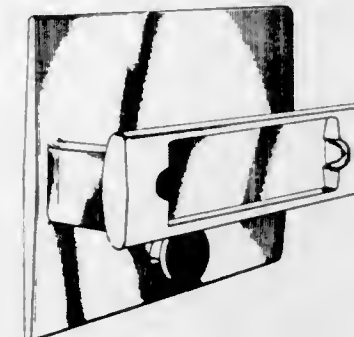


219,278

COMBINED DRAWER FRONT, PULL AND LABEL HOLDER

Peter J. Protzmann, Grand Rapids, Mich., assignor to Herman Miller Inc., Zeeland, Mich., a corporation of Michigan
 Continuation-in-part of design application Ser. No. 13,401, Sept. 5, 1968. This application May 12, 1969, Ser. No. 17,114
 Term of patent 14 years
 Int. Cl. D6—00; D8—03

U.S. Cl. D33—1

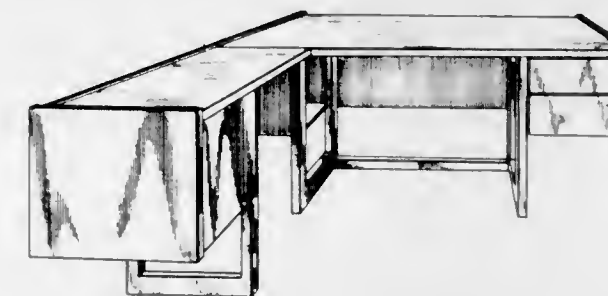


219,279

DESK UNIT

Jack L. Beavers, Boulder, Colo., assignor to Design Products, Inc., Boulder, Colo., a corporation of Colorado
 Filed Oct. 22, 1969, Ser. No. 19,667
 Term of patent 14 years
 Int. Cl. D6—01

U.S. Cl. D33—7

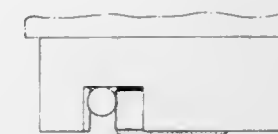
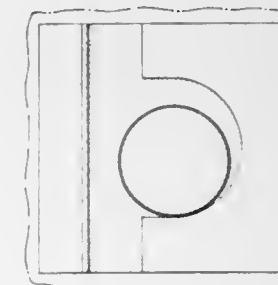


219,280

HOLDER FOR AN ELONGATED OBJECT

Ben T. Emberton, 23700 Toy Ave., and Gaetano LaPenta, 22812 Lake Blvd., both of St. Clair Shores, Mich. 48079
 Filed Mar. 26, 1969, Ser. No. 16,439
 Term of patent 14 years
 Int. Cl. D6—01

U.S. Cl. D33—17



219,281

COMBINED WALL FURNITURE CABINET AND FOLDABLE TABLE UNIT

Frank W. Geier, Vineland Station, Ontario, Canada
 Filed Oct. 2, 1967, Ser. No. 8,831
 Term of patent 14 years
 Int. Cl. D6—01

U.S. Cl. D33—19

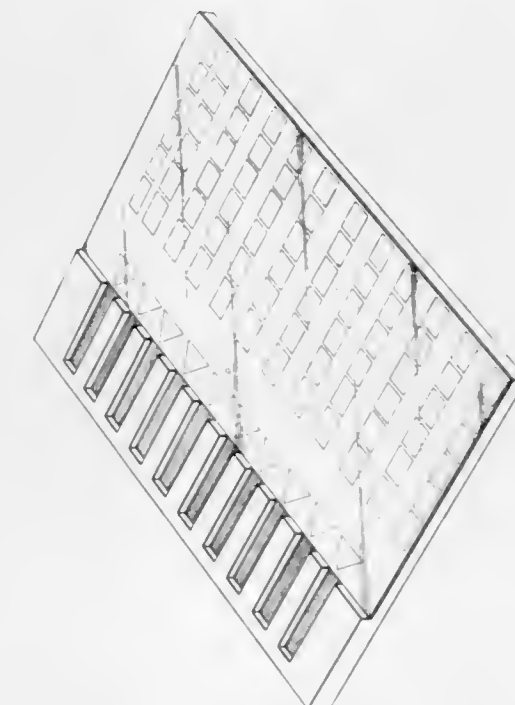


219,282

GAME BOARD OR SIMILAR ARTICLE

Edward L. Wheeler, 2419 Berkeley Ave. 90018, and Norman N. Grand, 2986 Waverly Drive, Apt. 1 90039, both of Los Angeles, Calif.
 Filed July 28, 1969, Ser. No. 18,427
 Term of patent 14 years
 Int. Cl. D21—01

U.S. Cl. D34—5

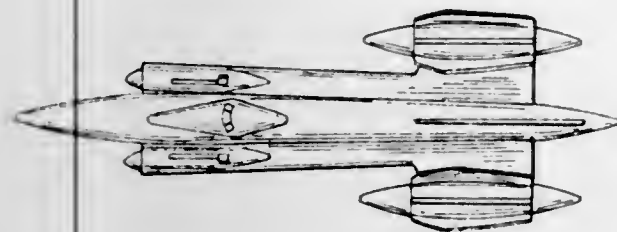


219,283
TOY SPACE SHIP

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., London, England, a corporation of Great Britain

Filed Jan. 5, 1970, Ser. No. 21,063
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15



219,284
BALL TOY

Philip J. Munt, 217 E. Front, Adrian, Mich. 49221
Filed Jan. 22, 1970, Ser. No. 21,035

Term of patent 14 years
Int. Cl. D21—03

U.S. Cl. D34—15



219,285
TOY SPACE SHIP

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., Merton, London, England, a corporation of Great Britain

Filed Dec. 31, 1969, Ser. No. 20,721
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15

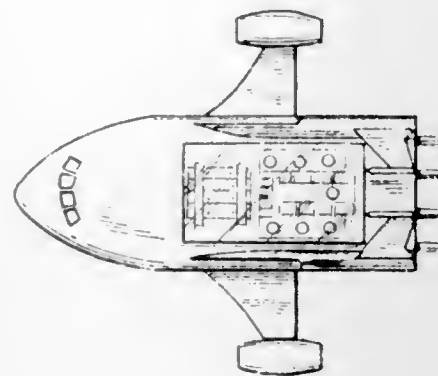


219,286
TOY SPACE SHIP

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., Merton, London, England, a corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,693
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15

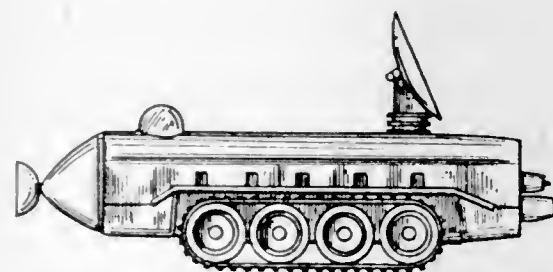


219,287
TOY SPACE EXPLORATION VEHICLE

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., Merton, London, England, a corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,690
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15

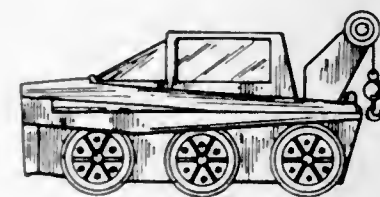


219,288
TOY VEHICLE

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., Merton, London, England, a corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,686
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15

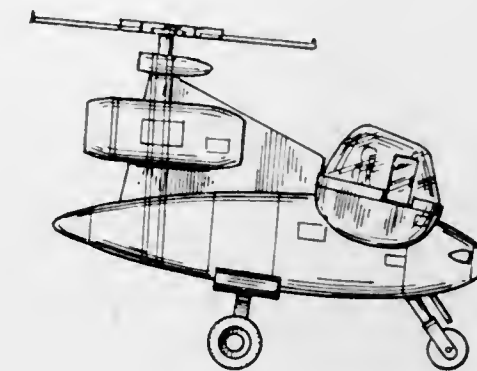


219,289
TOY HELICOPTER

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., Merton, London, England, a Corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,683
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15

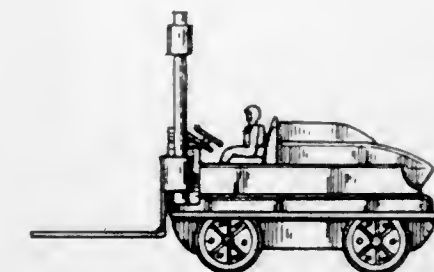


219,292
LIFT LOADER TOY

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., London, England, a corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,676
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15

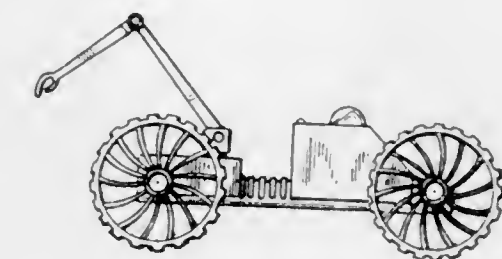


219,293
TOY VEHICLE FOR EXTRATERRESTRIAL EXPLORATION

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., London, England, a corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,675
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. 34—15

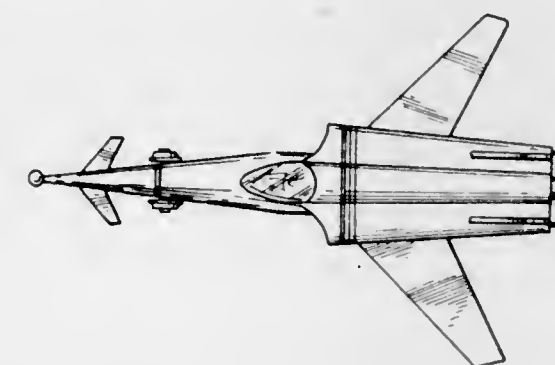


219,290
TOY ROCKET SHIP

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., London, England, a corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,678
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15

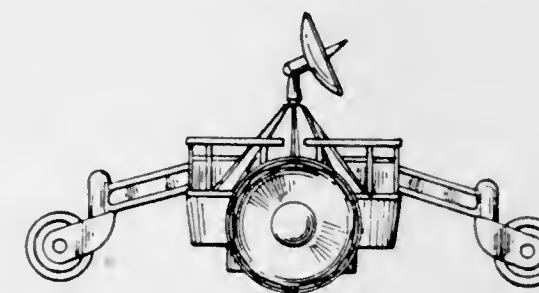


219,291
TOY SPACE EXPLORATION VEHICLE

Jack Rosenthal, Fivescissburg Ring, South London, England

Filed Dec. 29, 1969, Ser. No. 20,677
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. D34—15

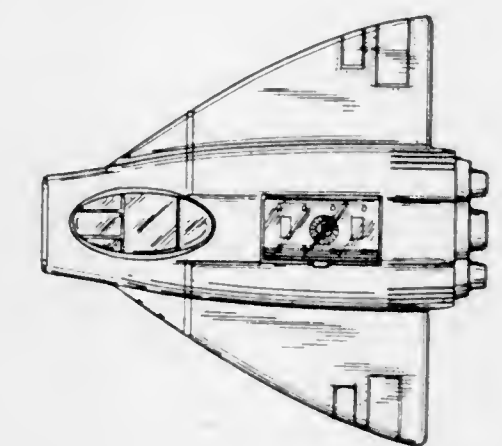


219,294
TOY ROCKET SHIP

Jack Rosenthal, South London, England, assignor to Rovex Industries, Ltd., Merton, London, England, a corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,664
Term of patent 3½ years
Int. Cl. D21—02

U.S. Cl. 34—15



219,295

TOY SPACE SHIP

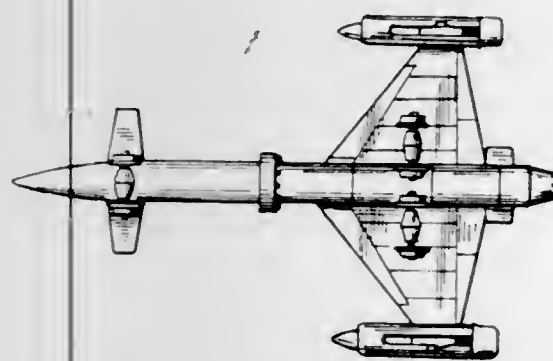
Jack Rosenthal, South London, England, assignor to
Rovex Industries, Ltd., Merton, London, England, a
corporation of Great Britain

Filed Dec. 29, 1969, Ser. No. 20,661

Term of patent 14 years

Int. Cl. D21-02

U.S. Cl. 34-15



219,296

POLISHING MACHINE OR SIMILAR ARTICLE

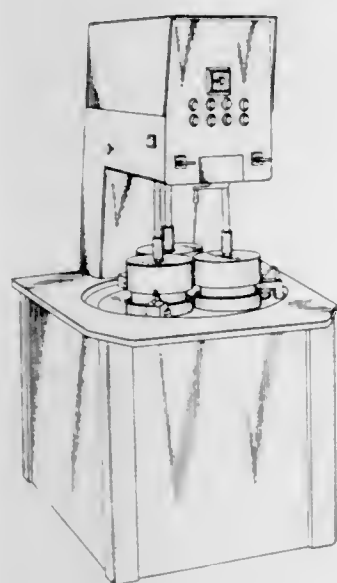
John L. Weber, Spencerport, N.Y., assignor to Alliance
Tool & Die Corp., Rochester, N.Y., a corporation of
New York

Filed Aug. 4, 1969, Ser. No. 18,520

Term of patent 14 years

Int. Cl. D15-05

U.S. Cl. D37-1



219,297

PNEUMATICALLY ACTUATED
AUTOMOBILE JACK

Robert A. Clay, 450 N. Parkway,
Scottsdale, Ariz. 85251

Filed July 22, 1969, Ser. No. 18,284

Term of patent 14 years

Int. Cl. D15-05; D12-14

U.S. Cl. D41-1



219,298

ELECTRIC HOIST

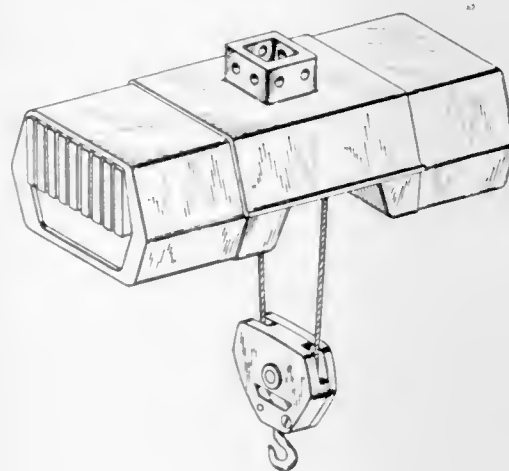
Richard E. Ten Eyck, Wichita, Kans., assignor to Duff-
Norton Company, Inc., Charlotte, N.C., a corporation
of Delaware

Filed July 25, 1969, Ser. No. 18,417

Term of patent 14 years

Int. Cl. D12-5

U.S. Cl. D41-1



219,299

COMBINED CLOCK AND SPEAKER PANEL
FOR A CLASSROOM

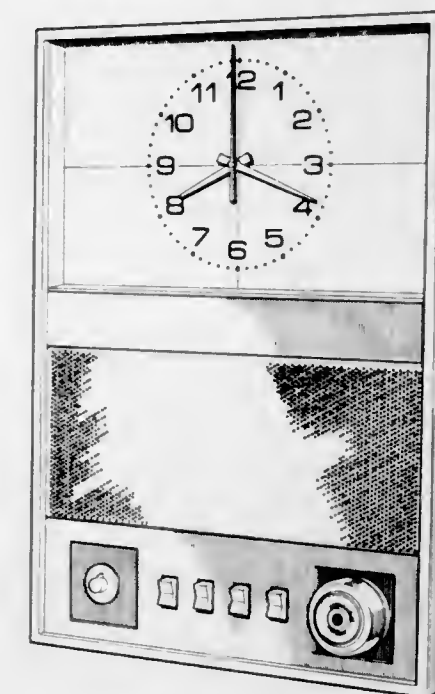
Dana L. Vickery, Gardner, Mass., assignor to Simplex
Time Recorder Company, Gardner, Mass., a corpora-
tion of Massachusetts

Filed July 30, 1969, Ser. No. 18,467

Term of patent 14 years

Int. Cl. D10-04

U.S. Cl. D42-7



219,301

COMBINED BEVERAGE BOTTLE, CLOSURE
CUP AND HANDLE

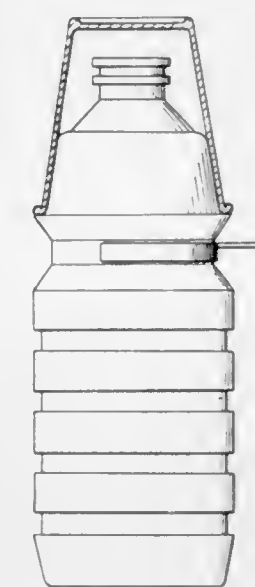
Varam M. Kazaz, Condomino del Fiori,
Suna di Verbania, Novara, Italy

Filed June 27, 1968, Ser. No. 12,524

Term of patent 14 years

Int. Cl. D7-99

U.S. Cl. D44-1



219,300

PIE CRUST CUTTER

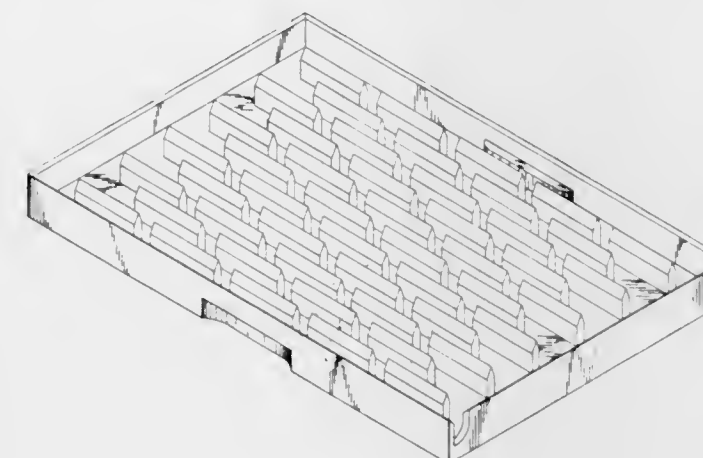
Edward G. Samarra, Box 11511,
Albuquerque, N. Mex. 87112

Filed Nov. 19, 1969, Ser. No. 20,180

Term of patent 14 years

Int. Cl. D7-99

U.S. Cl. D44-1



219,302

CASSEROLE OR SIMILAR ARTICLE

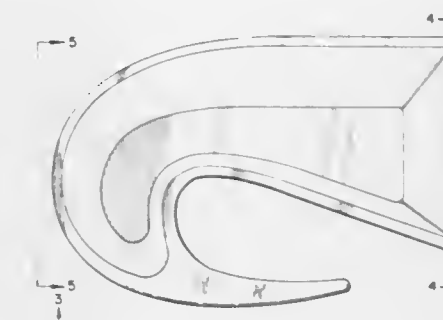
Rowland S. Dalton, 3520 Brook St.,
Lafayette, Calif. 94549

Filed Nov. 6, 1969, Ser. No. 19,970

Term of patent 7 years

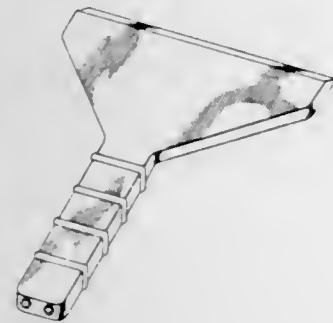
Int. Cl. D7-01

U.S. Cl. D44-15



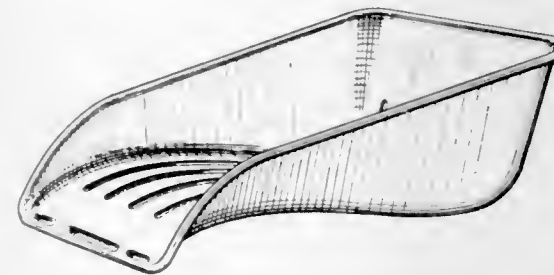
219,303
SCRAPER BLADE
 Gerald J. Golden, 875 Comstock,
 Los Angeles, Calif. 90024
 Filed Oct. 21, 1969, Ser. No. 19,655
 Term of patent 14 years
 Int. Cl. D7—06; D8—02

U.S. Cl. D49—23



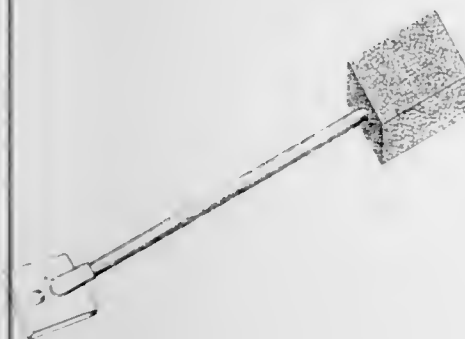
219,305
TRAY FOR TRANSPORTING DEBRIS
 Ulysses S. Mozneck, 250 Park Lane,
 Trumbull, Conn. 06611
 Filed June 9, 1969, Ser. No. 17,591
 Term of patent 7 years
 Int. Cl. D7—99

U.S. Cl. D49—28



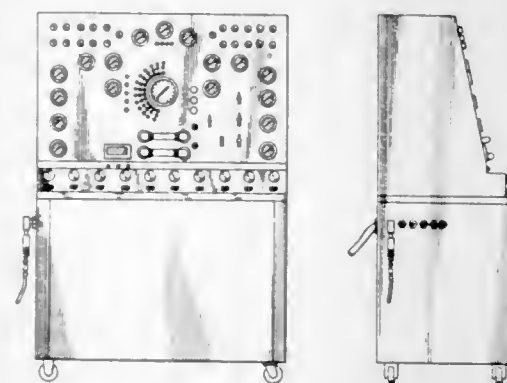
219,304
AQUARIUM CLEANING DEVICE
 Allan H. Willinger, New Rochelle, N.Y., assignor, by
 mesne assignments, to Metaframe Corporation, Haw-
 thorne, Calif., a corporation of Delaware
 Filed Feb. 28, 1969, Ser. No. 15,964
 Term of patent 14 years
 Int. Cl. D7—99

U.S. Cl. D49—25



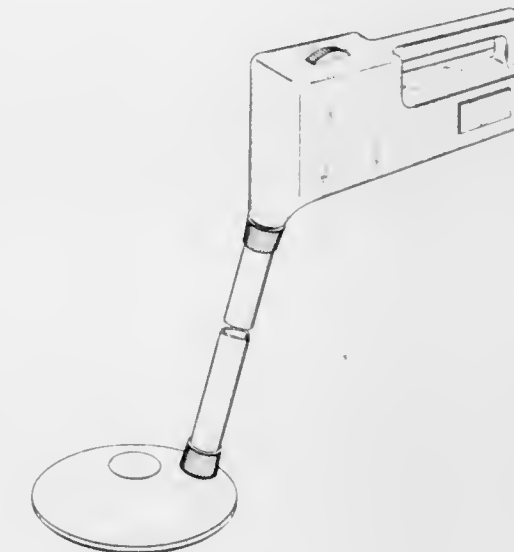
219,306
AUTOMATIC TRANSMISSION ANALYSIS UNIT
 Robert Morgan, Conshohocken, Pa., Oscar McCabe,
 Lindenwold, N.J., and Michael Ratz, Philadelphia, Pa.,
 assignors to Aamco Automatic Transmissions, Inc.,
 King of Prussia, Pa., a corporation of Pennsylvania
 Filed Mar. 26, 1969, Ser. No. 16,448
 Term of patent 14 years
 Int. Cl. D10—11

U.S. Cl. D52—6



219,307
HOUSING FOR METAL DETECTOR
 Thomas H. Doss, P.O. Box 10563,
 Houston, Tex. 77018
 Filed Jan. 21, 1969, Ser. No. 15,416
 Term of patent 14 years
 Int. Cl. D10—99

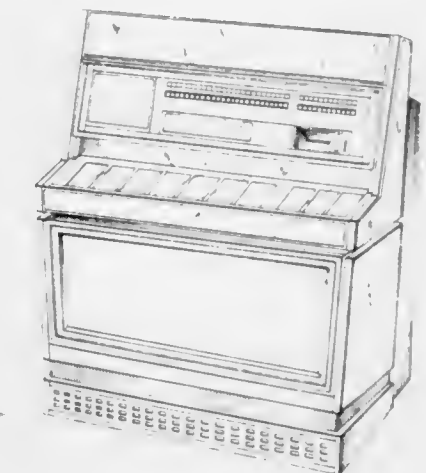
U.S. Cl. D52—6



219,308
PHONOGRAPH
 Melvin H. Boldt, Glenview, Ill., assignor to Rowe Inter-
 national, Inc., Whippany, N.J., a corporation of Dela-
 ware

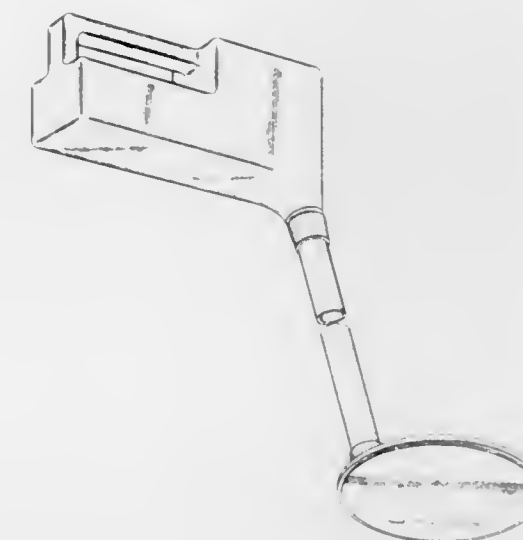
Filed Oct. 14, 1969, Ser. No. 19,553
 Term of patent 14 years
 Int. Cl. D14—01

U.S. Cl. D56—4



219,309
BRIDGE SUPPORT FOR BI-FOCAL GLASSES
 Richard R. Castor, 164 Roselawn Crescent,
 Fairport, N.Y. 14450
 Filed Feb. 24, 1969, Ser. No. 15,912
 Term of patent 14 years
 Int. Cl. D16—08

U.S. Cl. D57—1



219,310

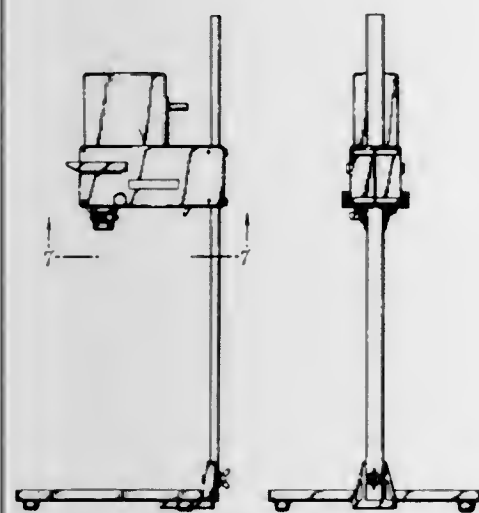
PHOTOGRAPHIC ENLARGER

Wilmut Pramstraller, Brixen, near Bozen, Italy, assignor to Durst S.p.A. Fabbrica Macchine ed Apparecchi Fototeecnici, Bolzano-Bozen, Italy
Continuation of design applications Ser. No. 14,747 and Ser. No. 14,750, both filed Dec. 2, 1968. This application Aug. 12, 1969, Ser. No. 19,046

Term of patent 14 years

Claims priority, application Italy July 22, 1968
Int. Cl. D16—05

U.S. Cl. D61—1



219,312

PRINTING MACHINE

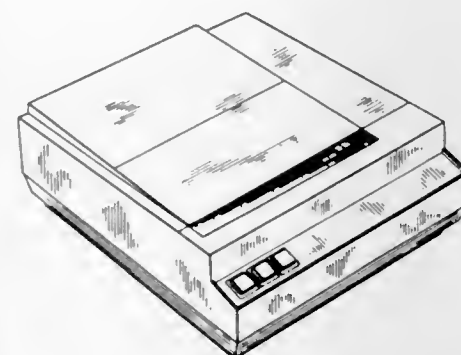
Reginald T. Lamb, Mountain View, and Max H. Silten, Atherton, Calif., assignors to Info-Max, a corporation of California

Filed Nov. 10, 1969, Ser. No. 20,030

Term of patent 14 years

Int. Cl. D16—05

U.S. Cl. D61—1



219,313

AERODYNAMIC DECELERATOR

Kenneth Easter, Akron, and David L. Mansfield, Suffield, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Filed Aug. 28, 1969, Ser. No. 18,885

Term of patent 14 years

Int. Cl. D12—07

U.S. Cl. D71—1

219,311

COPYMAKING MACHINE

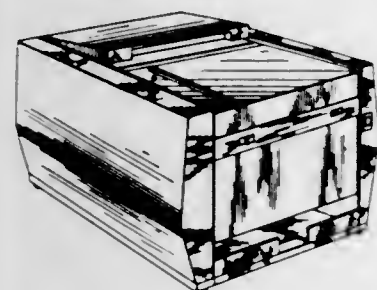
Kenneth R. Reick, Oak Brook, Ill., assignor to Sunbeam Business Equipment Co., Addison, Ill., a corporation of Illinois

Filed Oct. 9, 1969, Ser. No. 19,488

Term of patent 14 years

Int. Cl. D16—05

U.S. Cl. D61—1



219,314

AUXILIARY SAILING YACHT

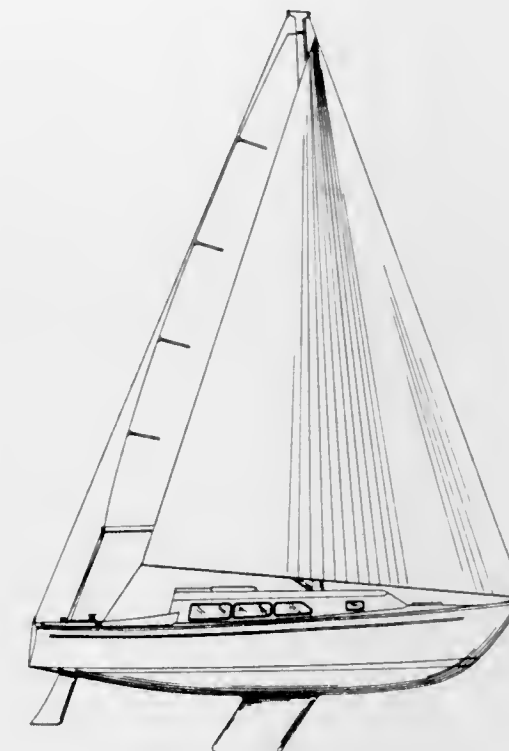
Gary W. Mull, 6677 Gunn Drive, Oakland, Calif. 94611

Filed Mar. 6, 1968, Ser. No. 10,860

Term of patent 14 years

Int. Cl. D12—06

U.S. Cl. D71—1



219,316

HOUSING FOR AN ALARM UNIT FOR SWIMMING POOLS OR THE LIKE

Lawrence V. Lohr, 15344 Weddington St., Van Nuys, Calif. 91401

Filed Apr. 10, 1969, Ser. No. 16,670

Term of patent 14 years

Int. Cl. D29—02

U.S. Cl. D72—1



219,315

SAILBOAT

Gary W. Mull, 6677 Gunn Drive, Oakland, Calif. 94611

Filed Mar. 6, 1968, Ser. No. 10,867

Term of patent 14 years

Int. Cl. D12—06

U.S. Cl. D71—1



219,317

MARKER

Forrest G. Hill, East St. Louis, Ill., assignor to Marsh Stencil Machine Company, Belleville, Ill., a corporation of Illinois

Filed July 30, 1969, Ser. No. 18,466

Term of patent 14 years

Int. Cl. D19—06

U.S. Cl. D74—17



219,318

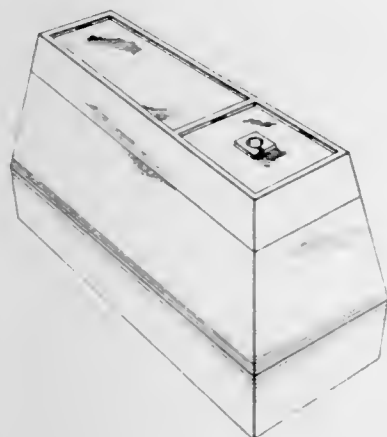
BATTERY-OPERATED PENCIL SHARPENER
William Macowski, Jr., Caldwell, N.J., assignor to Ketcham & McDougall, Inc., Roseland, N.J., a corporation of New Jersey

Filed Oct. 15, 1969, Ser. No. 19,571

Term of patent 14 years

Int. Cl. D19—99

U.S. Cl. D74—21



219,320

BARBECUE GRILL

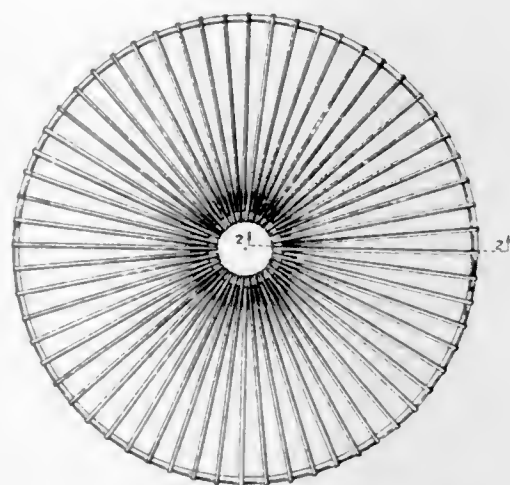
Harold Glaser, St. Louis County, Mo., Richard L. Keats, Port Washington, N.Y., Charley Leach, St. Louis County, Mo., and Jerry D. Wood, Plainfield, N.J., assignors to Glaser Products Corporation, St. Louis, Mo., a corporation of Delaware

Filed June 30, 1969, Ser. No. 17,977

Term of patent 14 years

Int. Cl. D7—04

U.S. Cl. D81—10



219,319

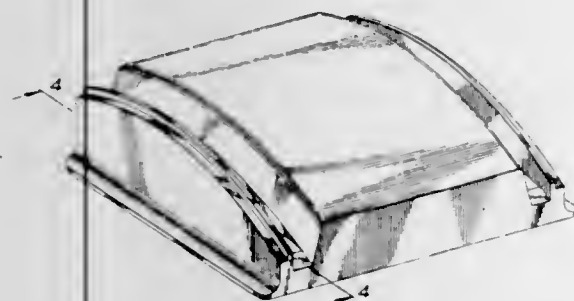
DISPLAY STAND OR SIMILAR ARTICLE
Thomas P. Rademacher, Medina, Ohio, assignor to McNeil Corporation, Akron, Ohio, a corporation of Ohio

Filed Oct. 22, 1969, Ser. No. 19,669

Term of patent 14 years

Int. Cl. D6—01

U.S. Cl. D40—9



219,321

COMBINED COOKING AND WARMING CABINET

John A. Vanstone, 10 5th St., Chatham, Ontario, Canada

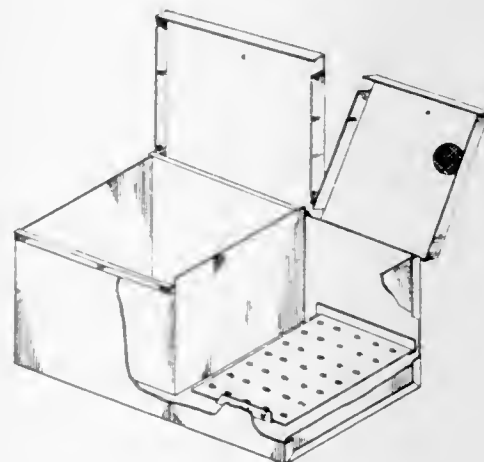
Filed Aug. 14, 1969, Ser. No. 18,686

Claims priority, application Canada Feb. 28, 1969

Term of patent 14 years

Int. Cl. D7—04

U.S. Cl. D81—10



219,322

ANESTHESIA TRAY

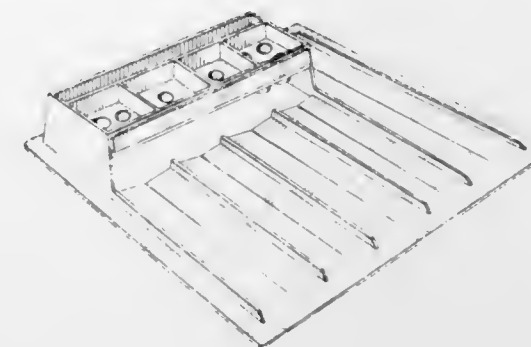
Charles M. Huck, Bound Brook, N.J., assignor to McNeil Laboratories, Inc., a corporation of Pennsylvania

Filed May 15, 1969, Ser. No. 17,163

Term of patent 14 years

Int. Cl. D24—02

U.S. Cl. D83—1



219,323

BASIN

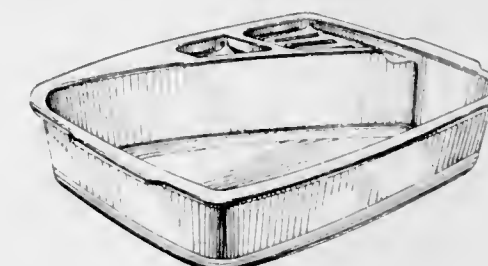
Lewis F. Bost, Chicago, Ill., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois

Filed July 23, 1969, Ser. No. 18,358

Term of patent 14 years

Int. Cl. D24—99

U.S. Cl. D83—1



219,325

COMBINED BICYCLE PEDAL AND REFLECTOR

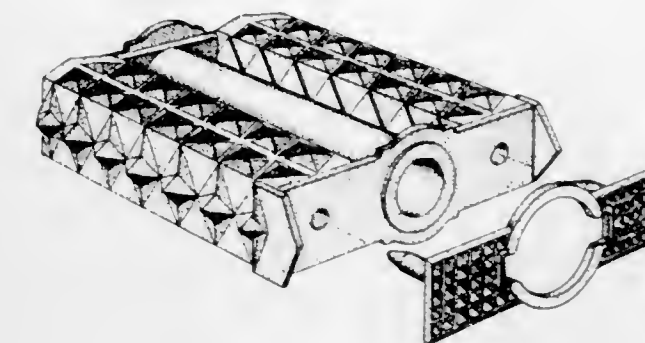
Harry Golden, New York, N.Y., assignor to Ideas For Auto and Bike Specialties, Inc., New York, N.Y., a corporation of New York

Filed Aug. 11, 1969, Ser. No. 18,636

Term of patent 14 years

Int. Cl. D12—14

U.S. Cl. D90—14



219,326

TRUSS FOR A CYCLE SADDLE

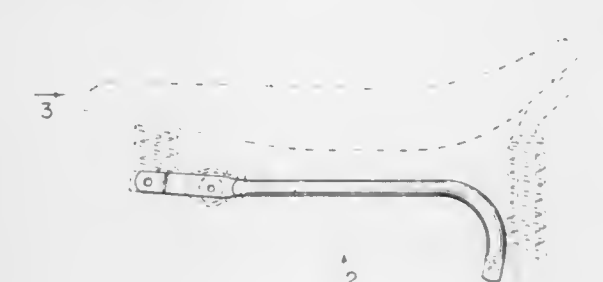
Robert C. Persons, % Persons-Majestic Mfg. Co., 72 Commercial St., Worcester, Mass. 01608

Filed Jan. 8, 1970, Ser. No. 20,823

Term of patent 14 years

Int. Cl. D12—14

U.S. Cl. D90—16



219,324

COMBINATION BULB AND PISTON SYRINGE OR SIMILAR ARTICLE

Richard E. Ericson, Keene, N.H., assignor to Elliot Laboratories, Inc., a corporation of New Hampshire

Filed Aug. 27, 1969, Ser. No. 18,877

Term of patent 14 years

Int. Cl. D24—03

U.S. Cl. D83—12



219,327

TIRE

Arthur S. Ravenhall, Solihull, England, assignor to The Dunlop Company Limited, Birmingham, England, a corporation of Great Britain

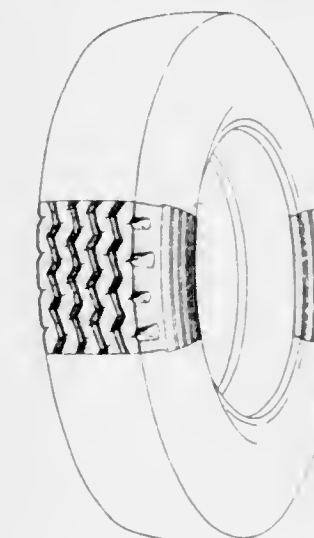
Filed July 25, 1969, Ser. No. 18,415

Claims priority, application Great Britain Feb. 8, 1969

Term of patent 14 years

Int. Cl. D12—14

U.S. Cl. D90—20



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TO WHOM

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- Alsgaard, Richard W., to Dow Corning Corporation. Higher alkyl containing disiloxanols. 3,542,834, Cl. 260-448.2
- Alsgaard, Richard W., to Dow Corning Corporation. (3-Chloro-2-methylpropyl) dimethylsilanol. 3,542,835, Cl. 260-448.2
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- Brainard, Wallace Edward, to Kearney & Trecker Corporation. Interferometric machine for measuring angular motion. 3,542,474, Cl. 356-110.
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- Brand, Karl, and Kessler, Franz, to Kugelfischer Geoerge Schafer & Co. High load capacity bearing assembly. 3,542,440, Cl. 308-73.
- Brandenburg, Klaus, to U.S. Philips Corporation, mesne. Arrangement for determining and digitally indicating the displacement of moving bodies. 3,543,150, Cl. 324-83.
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- Brinkman, Earl W., and Seymour, Wray S., to Davenport Machine Tool Company, Inc. Screw machine chuck. 3,541,903, Cl. 82-38.
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- Conrad, Ernest E., Esch, Ronald P., Hallen, Robert L., Leonard, Richard A., and Pliskin, William A., to International Business Machines Corporation. Photosensitive glass technique for forming contact holes in protective glass layers. 3,542,550, Cl. 96-34.
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- Minks, Floyd M., to Brunswick Corporation. Speed indicating apparatus for an internal combustion engine having an electronic ignition system. 3,543,109, Cl. 324-70.
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- Morris, Frank A., to Transmaton, Inc. Scanning monitor system. 3,543,267, Cl. 340-413.
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- Morrow, Robert H., and Perneski, Anthony J., to Bell Telephone Laboratories, Incorporated. Single wall domain apparatus having intersecting propagation channels. 3,543,255, Cl. 340-174.
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- Moschel, Albrecht, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for preparing acetoacetic acid esters. 3,542,855, Cl. 260-483.
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- Mosier, Kenneth C. Nut feeding and driving apparatus. 3,541,900, Cl. 81-57-23.
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- Stanton, Oris L., to Eastman Kodak Company. Electroradiographic X-ray sensitive element containing tetragonal lead monoxide. 3,543,025, Cl. 250-65.
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- Steele, Richard E., Vukovich, Milan, Jr., and Hood, Leroy Scott, Jr., to Orton, Edward, Jr., Ceramic Foundation, The, a testamentary trust under the laws of Ohio. Pyrometric cones having regions of varied densities. 3,541,856, Cl. 73-358.
- Stefaniak, Rudolph J., and Chebuhar, Charles J., to Continental Can Company, Inc. Knockout apparatus for blow mold. 3,541,640, Cl. 18-5.
- Stegner, Gustav O., to Western Electric Company, Incorporated. Apparatus for establishing electrical contact with electrical components of varying body sizes and terminal spacings. 3,543,158, Cl. 324-158.
- Steidle, Walter, to Knoll A.G. Chemische Fabriken. Decomposition production of $\Delta^{1,2,3,4}$ -bufatrienolides and process for their separation. 3,543,307, Cl. 260-239.57.
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- Sterba, Jan, and Varga, Julius, to Elitex Zavody Textilniho Strojirenstiv Generalni Reditelstvi. Control apparatus for starting, stopping, and priming a spinning machine. 3,541,774, Cl. 57-78.
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- Weadock, Richard, Jr., to General Motors Company. Electromagnetic forming apparatus. 3,541,823, Cl. 72-56.
- Weaver, Paul J., to True-Trace Corporation. Template-controlled machine tool. 3,541,902, Cl. 82-14.
- Webb, Thomas G.: *See—*
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- Weber, Manfred: *See—*
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- Weber, Raymond E., and Zwoboda, Kenneth J., to Singer-General Precision, Inc. Fluidic position sensor. 3,541,839, Cl. 73-37.
- Weber, Robert L., III. Low force aerosol valve with metering cap. 3,542,259, Cl. 222-398.
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- Weill, Jacky, to Commissariat à l'Energie Atomique. Electronic circuit comprising linear and logarithmic D.C. measuring channels designed for simultaneous operation. 3,543,168, Cl. 328-145.
- Weir, Kenneth F.: *See—*
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- Welborn, Jimmie Ray, to J & J Manufacturing Company. Baling apparatus. 3,541,758, Cl. 53-62.
- Weller, Heinrich Peter, and Mehl, Josef. Apparatus for automatically reversing the direction of rotation of a shaft, with continually varying amounts of angular rotation thereof. 3,541,889, Cl. 74-810.
- Weller, Kurt: *See—*
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- Werstler, Lawrence J., and Jablonski, Jerome T., Jr., to Chicago Machinery Laboratories, Inc. Stitcher beads for signature machines. 3,542,271, Cl. 227-90.
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- Westerman, Edwin J., and Fetzer, Maurice C., to Kaiser Aluminum & Chemical Corporation. Hot worked metal article of aluminum base alloy and method of producing same. 3,542,606, Cl. 148-12.7.
- Western Electric Company, Incorporated: *See—*
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- Westfall, Ted B., and Sims, Robert Y., to International Telephone and Telegraph Corporation. Cross-switching system with relatively uniform growth characteristics. 3,542,970, Cl. 179-22.
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- Williams, Arthur L., and Taylor, Irving R., to McKay Machine Company, The. Welding apparatus. 3,542,990, Cl. 219-82.
- Williams, Billy J., Napier, Donald R., and Schwab, Peter A., to Continental Oil Company. Process for making substantially alkandiol-free alkanols. 3,542,652, Cl. 203-38.
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- Yoshino, Takachika, Saito, Shigeru, Sasaki, Yutaka, and Nagase, Isao, to Nitto Chemical Industry Co., Ltd. Process for the production of acrylonitrile. 3,542,843, Cl. 260-465.3.
- Yoshioka, Kengo, Kuga, Toshiki, and Kishikawa, Naoto, to Yawata Iron & Steel Co., Ltd. Raw material charging apparatus in a shaft furnace. 3,542,219, Cl. 214-37.
- Youmans, Arthur H., to Dresser Industries, Inc. Method of locating the stuck point of a pipe in a well. 3,541,851, Cl. 73-151.
- Youmans, Arthur H., and Guy, James O., to Dresser Industries, Inc. Acoustic well logging apparatus having angled acoustic transducers. 3,542,150, Cl. 181-0.5.
- Young, Farrile S., to Gulf Central Pipeline Company, mesne. Cryogenic liquid storage system. 3,541,803, Cl. 62-45.
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- Zahid, Abduz, and Jacobellis, Alphonse A., to Greer Hydraulics, Inc. Gas charging and relief valve assembly. 3,542,062, Cl. 137-512.3.

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LIST OF DEFENSIVE PUBLICATIONS

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Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, S69 O. G. 687.

- Adams, James D., and N. E. Odam. Butt splicing machines. T880,006, 11-24-70, Cl. 156-503.
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 Hagemeyer, Hugh J., Jr., D. C. Hull, and M. A. Perry, to Eastman Kodak Co. Process for manufacturing 2,2,4-trimethylpentanol. T880,005, 11-24-70, Cl. 260-638.
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 Jaskowsky, Jorg. Enerographic process and element. T880,011, 11-24-70, Cl. 96-27.
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 Valentine, David L., and D. C. Finney. Vinyl chloride resin plastisols having improved adhesion. T880,008, 11-24-70, Cl. 260-873.
 Yudelson, Joseph S., and W. A. Bowman. Protection of silver diffusion transfer image. T880,001, 11-24-70, Cl. 95-1.

LIST OF REISSUE PATENTEEES

TO WHOM

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- Abitibi St. Anne Paper Ltd.: *See—*
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 Chapman, Edward B., K. F. Greene, and B. J. Ronkese, to International Business Machines Corp. Deposited magnetic memory array. Re. 26,983, 11-24-70, Cl. 340-174.
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315 : 3.542.526	58 : 3.541.728	50 : 3.541.811	75- 60 : 3.542.539	238 : 3.541.946	.06: 3.542.013
364 : 3.542.527	48- 94 : 3.541.729	85 : 3.541.812	101 : 3.542.540	332 : 3.541.947	1 : 3.542.010
24- 1 : 3.541.648	202 : 3.542.532	86 : 3.541.813	122.5 : 3.542.541	100- 3 : 3.541.948	20 : 3.542.015
30.5 : 3.541.647	49-386 : 3.541.730	68- 4 : 3.541.814	170 : 3.542.542	49 : 3.541.949	57 : 3.542.016
205.1 : 3.541.649	425 : 3.541.731	22 : 3.541.815	171 : 3.542.543	53 : 3.541.950	66 : 3.542.017
230 : 3.541.650	440 : 3.541.732	70-134 : 3.541.816	58 : 3.541.895	107 : 3.541.951	132 : 3.542.019
3.541.651	51- 55 : 3.541.733	216 : 3.541.817	363 : 3.541.896	229 : 3.541.952	145.8 : 3.542.020
25- 8 : 3.541.652	111 : 3.541.734	369 : 3.541.820	3.541.821	101- 92 : 3.541.953	157 : 3.542.021
28- 77 : 3.541.653	139 : 3.541.735	393 : 3.541.818	111 : 3.541.898	95 : 3.541.954	215 : 3.542.022
29- 33.5 : 3.541.654	141 : 3.541.736	421 : 3.541.822	165 : 3.541.899	108 : 3.541.955	218 : 3.542.023
95 : 3.541.655	151 : 3.541.737	71- 1 : 3.542.537	76 : 3.542.538	121 : 3.541.956	221 : 3.542.024
103 : 3.542.528	163 : 3.541.738	108 : 3.543.305	38 : 3.541.903	127.1 : 3.541.957	269 : 3.542.025
121 : 3.541.656	295 : 3.541.739	72- 52 : 3.541.824	47 : 3.541.905	172 : 3.541.958	278 : 3.542.026
157.1 : 3.541.657	332 : 3.541.740	56 : 3.541.823	82- 14 : 3.541.902	363 : 3.541.959	284 : 3.542.027
.4 : 3.541.658	346 : 3.541.741	60 : 3.541.825	38 : 3.541.904	426 : 3.541.960	290 : 3.542.028
182.5 : 3.541.659	52- 64 : 3.541.743	105 : 3.541.826	47 : 3.541.905	102- 28 : 3.541.961	303 : 3.542.030
.7 : 3.542.529	65 : 3.541.750	132 : 3.541.827	83- 13 : 3.541.906	104- 25 : 3.541.962	.1 : 3.542.029
183.5 : 3.542.530	73 : 3.541.744	140 : 3.541.828	23 : 3.541.907	88 : 3.541.963	304 : 3.542.031
200 : 3.541.660	105 : 3.541.745	181 : 3.543.299	171 : 3.541.908	91 : 3.541.964	399 : 3.542.032
203 : 3.541.661	127 : 3.541.746	196 : 3.541.829	588 : 3.541.909	130 : 3.541.965	528 : 3.542.033
207.5 : 3.541.662	141 : 3.541.747	238 : 3.541.830	676 : 3.541.910	162 : 3.541.966	535 : 3.542.034
208 : 3.541.663	169 : 3.541.748	24 : 3.541.752	694 : 3.541.911	172 : 3.541.967	131- 15 : 3.542.035
222 : 3.541.664	693 : 3.541.749	26 : 3.541.753	698 : 3.542.643	249 : 3.541.968	33 : 3.542.036
401 : 3.541.665		32 : 3.541.757			

131-109	3542.037	156-324	3542.622	184-3	3542.153	214-1	3542.213	236-99	3542.290	260-2.5	3542.702
149	3542.038	380	3542.623	6	3542.154	6	3542.214	237-67	Re.26.987		3542.703
235	3542.039	401	3542.624	105	3542.155	11	3542.215	239-8	3542.291		3542.704
132-11	3542.040	435	3542.625	187-9	3542.161	17	3542.216	20	3542.292		3542.715
46	3542.041	498	3542.626	96	3542.156	18	3542.217	95	3542.293		3542.705
134-1	3542.592	502	3542.627	188-32	3542.157	32	3542.218	201	3542.294		3542.706
24	3542.593	527	3542.628	65.5	3542.158	37	3542.219	230	3543.013		3542.707
25	3542.594	558	3542.629	72.6	3542.159	38	3542.220	265.35	3542.295		3542.708
34	3542.595	159-6	3542.112	82.6	3542.160	91	3542.221	306	3542.296		3542.709
136-6	3542.596	16	Re.26.993	106	3543.285	130	3542.222	672	3542.297		3542.710
86	3542.597	30	3542.113	134	3542.162	145	3542.223	240-2	3543.014		3542.711
100	3542.598	161-6	3542.630	152	3542.163	309	3542.224		3543.015		3542.712
112	3542.599	35	3542.631		3542.164	317	Re.26.988		3543.016		3542.713
120	3542.600	65	3542.632	181	3542.167	508	3542.225		3543.017		3542.714
155	3542.601	87	3542.633	196	3542.165	512	3542.226		3543.018		3542.716
	3542.602	88	3542.634	218	3542.166	672	3542.227		3543.019		3542.717
173	3542.603	109	3542.635	278	3542.168	762	3542.228	241-19	3542.298		3542.718
205	3542.604	114	3542.636	285	3542.169		3542.229	24	3542.299		3542.719
137-1	3542.042	115	3542.637	190-41	3542.170	215-1	3542.230	101	3542.300		3542.720
	3542.043	159	3542.638	49	3542.171	41	3542.231	207	3542.301		3542.721
13	3542.044	186	3542.639	191-12.2	3542.172	56	3542.232	298	3542.302		3542.722
39	3542.045	162-101	3542.640	192-3.26	3542.174	219-61	3542.233	242-55.19	3542.303		3542.723
54	3542.046	134	3542.641		3542.175	64	3542.234	38	3542.304		3542.724
68	3542.047	158	3542.642		3542.176	69	3542.235	45.7	3542.305		3542.725
81.5	3542.048	175	3542.644		3542.177		3542.236	68.3	3542.306		3542.726
	3542.049	259	3542.645		3542.178		3542.237	71.1	3542.307		3542.727
	3542.050	164-60	3543.284		3542.179	82	3542.238	83	3542.308		3542.728
83	3542.051	74	3542.114		3542.180	97	3542.239	118.8	3542.309		3543.306
116.5	3542.052	82	3542.115	193-5	3542.181	121	3542.240	131	3542.310		3542.729
238	3542.053	86	3542.116	194-4	3542.182	125	3542.241	192	3542.311		3542.730
246.22	3542.054	154	3542.117	195-66	3542.183	145	3542.242	197	3542.312		3542.731
255	3542.055	274	3542.118		3542.184	146	3542.243	202	3542.313		3542.732
271	3542.056	283	3542.119		3542.185	155	3542.244	244-1	3542.314		3542.733
328	3542.057	361	3542.120		3542.186	162	3542.245	17.11	3542.315		3542.734
387	3542.058	165-1	3542.121	197-18	3542.187	326	3542.246	17	3542.316		3542.735
388	3542.059	9	3542.122	165	3542.188	354	3542.247	103	3542.317		3542.736
487.5	3542.060	39	3542.123	198-33	3542.189	366	3542.248	122	3542.318		3542.737
496	3542.061	166	3542.124		3542.190	433	3542.249	123	3542.319		3542.738
512.3	3542.062	166-6	3542.125	193	3542.191	494	3542.250	246-1	3543.020		3542.739
	3542.063	65	3542.126	220	3542.192		3542.251	248-22	3542.322		3542.740
555	3542.064	122	3542.127	225	3542.193	220-3.8	3542.252	68	3542.323		3542.741
557	3542.065	123	3542.128	200-5	3542.194	94	3542.253	205	3542.324		3542.742
597	3542.066	224	3542.130		3542.195	7	3542.254	360	3542.325		3542.743
614.11	3542.067	257	3542.131		3542.196	29	3542.255	393	3542.326		3542.744
615	3542.068	261	3542.132		3542.197	41	3542.256	413	3542.327		3542.745
624.21	3542.069	276	3542.133		3542.198	55	3542.257	249-65	3542.328		3542.746
625.19	3542.070	172-32	3542.134		3542.199	85	3542.258	95	3542.329		3542.747
46	3542.071	195	3542.135		3542.200	90	3542.259	129	3542.330		3542.748
47	3542.072	319	3542.136		3542.201	141	3542.260	141	3542.331		3542.749
66	3542.073	447	3542.137		3542.202	164	3542.261	164	3542.332		3542.750
	3542.074	540	3542.138		3542.203	221-211	3542.262	250-43	3543.021		3542.751
69	3542.075	612	3542.139		3542.204	221	3542.263	49.5	3543.022		3542.752
138-89	3542.076	776	3542.140		3542.205	222-3	3542.264		3543.023		3542.753
99	3542.077	173-93	3542.141		3542.206	260	3542.265	53	3543.024		3542.754
122	3542.078	174-15	3542.142		3542.207	222-3	3542.266	65	3543.025		3542.755
141	3542.079	28	3542.143		3542.208	70	3542.267	77	3543.026		3542.756
143	3542.080	35	3542.144		3542.209	83	3542.268	83	3543.027		3542.757
161	3542.081	48	3542.145		3542.210	133	3542.269	3	3543.028		3542.758
139-76	3542.082	52	3542.146		3542.211	193	3542.270	3	3543.029		3542.759
	3542.083	73	3542.147		3542.212	195	3542.271	103	3543.030		3542.760
	3542.084	142	3542.148		3542.213	284	3542.272	213	3543.031		3542.761
122	3542.085	175-4.52	3542.149		3542.214	398	3542.273		3543.032		3542.762
402	3542.086	67	3542.150		3542.215	402.19	3542.274		3543.033		3542.763
140-147	3542.087	78	3542.151		3542.216	445	3542.275	219	3543.034		3542.764
	3542.088	339	3542.152		3542.217	484	3542.276	223	3543.035		3542.765
141-1	3542.089	178-5.2	3542.153		3542.218	509	3542.277	251-14	3542.331		3542.766
59	3542.090	4	3542.154		3542.219	520	3542.278	63.6	3542.332		3542.767
65	3542.091		3542.155		3542.220	541	3542.279	85	3542.333		3542.768
209	3542.092		3542.156		3542.221	548	3542.280	152	3542.334		3542.769
284	3542.093	6	3542.157		3542.222	576	3542.281	172	3542.335		3542.770
143-32	3542.094	6	3542.158		3542.223	46	3542.282	181	3542.336		3542.771
	3542.095		3542.159		3542.224	56	3542.283	209	3542.337		3543.037
135	3542.096	8	3542.160		3542.225	65	3542.284		3542.338		3542.772
156	3542.097	7.5	3542.161		3542.226	45	3542.285	303	3542.339		3542.773
159	3542.098	179-1	3542.162		3542.227	225-2	3542.286	252-1	3542.340		3542.774
144-3	3542.099		3542.163		3542.228	3	3542.287	32.5	3542.341		3542.775
34	Re.26.992		3542.164		3542.229	9	3542.288	51.5	3542.342		3542.776
	3542.100		3542.165		3542.230	67	3542.289	57	3542.343		3542.777
146-2	3542.101	15	3542.166		3542.231	91	3542.290	62.1	3542.344		3542.778
107	3542.102		3542.167		3542.232	114	3542.291		3542.345		3542.779
130	3542.103	18	3542.168		3542.233	130	3542.292	62	3542.346		3542.780
189	3542.104		3542.169		3542.234	228-2	3542.293	9	3542.347		3542.781
241	3542.105		3542.170		3542.235		3542.294	63.2	3542.348		3542.782
148-6.2	3542.605		3542.171		3542.236		3542.295	70	3542.349		3542.783
12.7	3542.606		3542.172		3542.237		3542.296	170	3542.350		3542.784
9	3542.607		3542.173		3542.238		3542.297	180	3542.351		3542.785
186	3542.608		3542.174		3542.239		3542.298	301.2	3542.352		3542.786
188	3542.609		3542.175		3542.240		3542.299	4	3542.353		3542.787
200	3542.610		3542.176		3542.241		3542.300	373	Re.26.990		3542.788
149-20	3542.611		3542.177		3542.242		3542.301	401	3542.301		3542.789
101	3542.612		3542.178		3542.243		3542.302		3542.302		3542.790
151-14	3542.106		3542.179		3542.244		3542.303		3542.303		3542.791
152-352	3542.107		3542.180		3542.245		3542.304		3542.304		3542.792
359	3542.108		3542.181		3542.246		3542.305		3542.305		3542.793
360	3542.109		3542.182		3542.247		3542.306		3542.306		3542.794
427	3542.110		3542.183		3542.248		3542.307		3542.307		3542.795
429	3542.111		3542.184		3542.249		3542.308		3542.308		3542.796
156-13	3542.612		3542.185		3542.250		3542.309		3542.309		3542.797
72	3542.613		3542.186		3542.251		3542.310		3542.310		3542.798
97	3542.614		3542.187		3542.252		3542.311		3542.311		3542.799
181	3542.615		3542.188		3542.253</						

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D 2-187	219.255	D14- 3	219.268	D33- 17	219.280	D34- 15	219.292	D49- 25	219.304	D72- 1	219.316
D 4- 25	219.256		219.269		219.281		219.293		219.305	D74- 17	219.317
D 8- 14	219.257		219.270	D34- 5	219.282		219.294	D52- 6	219.306		219.318
26	219.258	D18- 2	219.271		219.283		219.295		219.307	D80- 9	219.319
61	219.259	D25- 1	219.272		219.284	D37- 1	219.296	D56- 4	219.308	D81- 10	219.320
D 9-131	219.260	D26- 1	219.273		219.285	D41- 1	219.297	D57- 1	219.309		219.321
143	219.261		219.274		219.286		219.298	D61- 1	219.310	D83- 1	219.322
156	219.262	D30- 1	219.275		219.287	D42- 7	219.299		219.311		219.323
189	219.263		219.276		219.288	D44- 1	219.300		219.312		219.324
193	219.264		219.277		219.289		219.301	D71- 1	219.313	D90- 14	219.325
216	219.265	D33- 1	219.278		219.290		219.302		219.314		219.326
230	219.266		219.279		219.291	D49- 24	219.303		219.315		219.327
D13- 1	219.267										

CLASSIFICATION OF PLANTS

P. - 17 : 3.007 P. - 22 : 3.006 P. - 30 : 3.005

DEFENSIVE PUBLICATIONS APPLICATIONS

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95- 1	T880.001	117-155	T880.010	179- 1	T880.003	260-525	T880.007	260-873	T880.008	424-286	T880.002
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PATENTS

1 : 3.541.608	6 : 3.541.836	6 : 3.542.329	6 : 3.543.067	9 : 3.541.753	11 : 3.543.050
3.541.609	3.541.840	3.542.342	3.543.082	3.541.832	12 : Re.26.989
3.541.875	3.541.842	3.542.370	3.543.088	3.541.882	3.541.701
3.541.966	3.541.849	3.542.381	3.543.095	3.541.883	3.541.716
3.542.100	3.541.863	3.542.382	3.543.125	3.541.985	3.541.743
3.542.110	3.541.864	3.542.384	3.543.135	3.541.991	3.541.850
3.542.302	3.541.868	3.542.391	3.543.154	3.542.011	3.541.870
3.542.491	3.541.881	3.542.400	3.543.163	3.542.016	3.542.161
3.543.156	3.541.902	3.542.410	3.543.171	3.542.071	3.542.296
3.543.159	3.541.913	3.542.457	3.543.172	3.542.207	3.542.313
3.543.297	3.541.915	3.542.459	3.543.185	3.542.253	3.542.326
4 : 3.541.844	3.541.922	3.542.473	3.543.187	3.542.256	3.542.327
3.542.277	3.541.930	3.542.488	3.543.190	3.542.472	3.542.363
3.542.575	3.541.933	3.542.492	3.543.191	3.542.481	3.542.517
3.543.124	3.541.934	3.542.505	3.543.197	3.542.482	3.542.743
3.543.153	3.541.943	3.542.525	3.543.204	3.542.500	3.542.745
3.543.222	3.541.967	3.542.551	3.543.207	3.542.515	3.542.948
5 : 3.541.718	3.541.977	3.542.559	3.543.214	3.542.523	3.542.951
3.542.216	3.541.979	3.542.580	3.543.215	3.542.530	3.543.013
3.543.158	3.541.987	3.542.596	3.543.216	3.542.541	3.543.037
6 : Re.26.985	3.541.988	3.542.598	3.543.218	3.542.638	3.543.109
Re.26.988	3.542.604	3.542.604	3.543.220	3.542.724	3.543.225
Re.26.993	3.542.023	3.542.618	3.543.227	3.542.730	3.543.269
3.541.612	3.542.039	3.542.630	3.543.251	3.542.736	3.543.277
3.541.618	3.542.040	3.542.635	3.543.254	3.542.809	13 : 3.541.719
3.541.632	3.542.062	3.542.665	3.543.258	3.542.871	3.541.781
3.541.642	3.542.064	3.542.666	3.543.261	3.542.927	3.541.958
3.541.647	3.542.065	3.542.696	3.543.263	3.542.934	3.541.990
3.541.650	3.542.070	3.542.723	3.543.276	3.542.987	3.542.632
3.541.651	3.542.073	3.542.754	3.543.279	3.542.988	3.543.283
3.541.660	3.542.077	3.542.824	3.543.281	3.543.002	14 : 3.542.992
3.541.664	3.542.095	3.542.826	3.543.288	3.543.008	15 : 3.541.898
3.541.675	3.542.096	3.542.857	3.543.291	3.543.035	3.541.901
3.541.681	3.542.123	3.542.921	3.543.298	3.543.117	16 : 3.541.749
3.541.685	3.542.124	3.542.929	8 : 3.541.756	3.543.166	3.542.104
3.541.689	3.542.158	3.542.939	3.541.964	3.543.181	3.542.122
3.541.699	3.542.179	3.542.964	3.542.102	3.543.259	17 : Re.26.987
3.541.727	3.542.196	3.542.969	3.542.151	3.543.284	3.541.634
3.541.746	3.542.199	3.542.971	3.542.184	3.542.028	3.541.661
3.541.754	3.542.203	3.542.984	3.542.305	3.542.282	3.541.660
3.541.757	3.542.205	3.542.993	3.542.646	3.542.411	3.541.709
3.541.768	3.542.208	3.543.010	3.542.952	3.542.529	3.541.728
3.541.782	3.542.248	3.543.017	3.543.057	3.542.690	3.541.740
3.541.795	3.542.260	3.543.031	3.543.068	3.542.718	3.541.762
3.541.800	3.542.278	3.543.032	9 : 3.541.622	3.542.719	3.541.792
3.541.802	3.542.283	3.543.044	3.541.672	3.542.839	3.541.807
3.541.805	3.542.284	3.543.049	3.541.678	3.542.847	3.541.819
3.541.816	3.542.291	3.543.054	3.541.703	3.542.902	3.541.847
3.541.818	3.542.303	3.543.059	3.541.714	3.542.917	3.541.855
3.541.828	3.542.323	3.543.065	3.541.732	3.542.956	3.541.894

17	3,541,909 3,541,916 3,541,946 3,541,947 3,541,948 3,541,950 3,541,957 3,541,959 3,541,960 3,541,995 3,541,998 3,542,022 3,542,031 3,542,075 3,542,076 3,542,078 3,542,091 3,542,097 3,542,105 3,542,135 3,542,138 3,542,171 3,542,175 3,542,206 3,542,211 3,542,212 3,542,223 3,542,232 3,542,233 3,542,243 3,542,271 3,542,274 3,542,275 3,542,276 3,542,279 3,542,355 3,542,361 3,542,377 3,542,383 3,542,397 3,542,399 3,542,406 3,542,415 3,542,435 3,542,463 3,542,519 3,542,564 3,542,642 3,542,644 3,542,670 3,542,671 3,542,679 3,542,686 3,542,707 3,542,708 3,542,755 3,542,763 3,542,788 3,542,802 3,542,804 3,542,805 3,542,821 3,542,889 3,542,891 3,542,892 3,542,893 3,542,945 3,542,947 3,542,983 3,543,064 3,543,087 3,543,098 3,543,112 3,543,120 3,543,143 3,543,165 3,543,224 3,543,234 3,543,243 3,543,273 3,541,628 3,541,640 3,541,705 3,541,748 3,541,784 3,541,820 3,541,821 3,541,975 3,541,980 3,542,006 3,542,045 3,542,155 3,542,159 3,542,200 3,542,401 3,542,414 3,542,484 3,542,537 3,542,647 3,542,770 3,542,778 3,542,863 3,542,873 3,542,943 3,542,946 3,542,974	18 : 3,543,004 3,543,018 3,543,043 Re. 26,984 3,541,636 3,541,691 3,541,931 3,542,018 3,542,019 3,542,052 3,542,053 3,542,103 3,542,225 3,542,228 3,542,365 3,542,496 3,542,594 3,542,614 3,543,046 3,543,235 3,542,032 3,542,136 3,542,137 3,542,244 3,543,040 3,543,270 3,543,305 3,541,722 3,541,761 3,541,767 3,541,814 3,541,829 3,541,906 3,542,237 3,542,444 3,542,447 3,542,734 3,542,935 3,542,953 3,543,071 3,542,072 3,542,226 3,542,297 3,542,503 3,542,661 3,542,669 3,542,280 3,542,645 3,541,610 3,541,798 3,541,949 3,541,952 3,541,962 3,541,986 3,542,048 3,542,050 3,542,115 3,542,185 3,542,439 3,542,188 3,542,257 3,542,402 3,542,567 3,542,884 3,542,081 3,543,093 3,543,111 3,543,173 3,541,611 3,541,623 3,541,684 3,541,708 3,541,729 3,541,846 3,541,896 3,541,936 3,541,951 3,542,084 3,542,090 3,542,112 3,542,189 3,542,190 3,542,214 3,542,224 3,542,287 3,542,316 3,542,344 3,542,369 3,542,394 3,542,449 3,542,477 3,542,597 3,542,609 3,542,634 3,542,684 3,542,688 3,542,704 3,542,756 3,542,938 3,542,986 3,543,021 3,543,028 3,543,085 3,543,136 3,543,179 3,543,230 3,543,248	26 : 3,541,617 3,541,629 3,541,645 3,541,655 3,541,712 3,541,726 3,541,730 3,541,732 3,541,741 3,541,765 3,541,809 3,541,810 3,541,823 3,541,824 3,541,834 3,541,865 3,541,874 3,541,885 3,541,886 3,541,887 3,541,891 3,541,893 3,541,963 3,541,968 3,542,001 3,542,003 3,542,042 3,542,046 3,542,047 3,542,079 3,542,145 3,542,147 3,542,163 3,542,176 3,542,181 3,542,197 3,542,220 3,542,239 3,542,264 3,542,289 3,541,723 3,542,293 3,542,330 3,542,341 3,542,346 3,542,354 3,542,373 3,542,375 3,542,376 3,542,392 3,542,396 3,542,405 3,542,416 3,542,422 3,542,425 3,542,426 3,542,427 3,542,439 3,542,445 3,542,446 3,542,455 3,542,514 3,542,585 3,542,586 3,542,587 3,542,610 3,542,620 3,542,626 3,542,655 3,542,660 3,542,732 3,542,740 3,542,791 3,542,796 3,542,818 3,542,827 3,542,830 3,542,832 3,542,833 3,542,834 3,542,835 3,542,836 3,542,837 3,542,838 3,542,980 3,542,982 3,542,989 3,543,039 3,543,119 3,543,131 3,543,208 3,543,299 3,541,747 3,541,848 3,542,156 3,542,209 3,542,312 3,542,321 3,542,339 3,542,498 3,542,507 3,542,637 3,542,676 3,542,731 3,542,775 3,542,864	27 : 3,542,942 3,543,103 3,543,138 3,543,176 3,543,260 3,543,304 3,543,139 3,543,141 3,543,144 3,541,971 3,541,702 3,541,826 3,542,013 3,543,162 3,543,177 3,542,258 3,543,178 3,542,262 3,542,268 3,543,184 3,543,189 3,543,193 3,543,196 3,542,423 3,542,438 3,542,749 3,542,431 3,541,872 3,541,996 3,542,005 3,542,540 3,543,209 3,543,210 3,543,228 Re. 26,990 3,541,652 3,541,673 3,541,697 3,541,704 3,541,771 3,541,833 3,541,839 3,541,965 3,541,999 3,542,088 3,541,723 3,542,195 3,542,202 3,542,238 3,542,252 3,542,259 3,542,286 3,541,811 3,541,822 3,541,838 3,541,903 3,541,921 3,542,493 3,542,532 3,542,533 3,542,556 3,542,582 3,542,584 3,542,612 3,542,633 3,542,649 3,542,657 3,542,667 3,542,673 3,542,677 3,542,682 3,542,699 3,542,711 3,542,720 3,542,725 3,542,744 3,542,746 3,542,748 3,542,752 3,542,769 3,542,774 3,542,781 3,542,782 3,542,783 3,542,785 3,542,795 3,542,799 3,542,801 3,542,811 3,542,812 3,542,817 3,542,831 3,542,841 3,542,848 3,542,851 3,542,851 3,542,851 3,542,859 3,542,862 3,542,877 3,542,895 3,542,912 3,542,922 3,542,924 3,542,926 3,542,933 3,542,954 3,542,955 3,542,961 3,542,965 3,542,998 3,543,000 3,542,475 3,543,015	34 : 3,543,036 3,543,052 3,543,083 3,543,106 3,543,107 3,543,139 3,543,141 3,543,144 3,543,157 3,543,162 3,543,177 3,543,178 3,543,180 3,543,184 3,543,189 3,543,193 3,543,196 3,543,217 3,543,233 3,543,237 3,543,240 3,543,249 3,543,252 3,543,255 3,543,256 3,543,264 3,543,265 3,541,763 Re. 26,983 3,541,627 3,541,619 3,541,627 3,541,662 3,541,676 3,541,693 3,541,698 3,541,706 3,541,713 3,541,721 3,541,723 3,541,735 3,541,766 3,541,778 3,541,779 3,541,804 3,541,811 3,541,822 3,541,838 3,541,903 3,541,921 3,541,937 3,541,938 3,541,939 3,541,940 3,541,955 3,541,961 3,541,970 3,541,992 3,542,008 3,542,015 3,542,029 3,542,030 3,542,033 3,542,204 3,543,229 3,543,236 3,543,242 3,543,246 3,543,266 3,543,267 3,543,274 3,543,275 3,543,073 3,543,080 3,543,086 3,543,108 3,543,140 3,543,147 3,543,199 3,543,202 3,543,229 3,543,236 3,543,242 3,543,246 3,543,266 3,543,267 3,543,274 3,543,275 3,543,287 3,543,292 3,543,300 3,541,630 3,541,653 3,541,812 3,542,027 3,542,059 3,542,106 3,542,319 3,542,328 3,542,512 3,542,574 3,542,615 3,542,617 3,542,714 3,542,715 3,542,903 3,543,016 3,543,099 3,543,169 3,543,295 3,542,134 3,542,398 3,541,639 3,541,643 3,541,663 3,541,679 3,541,682 3,541,694 3,541,710 3,541,737 3,541,738 3,541,760
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39 : 3,541,794 3,541,806 3,541,808 3,541,825 3,541,843 3,541,856 3,541,858 3,541,860 3,541,873 3,541,876 3,541,877 3,541,900 3,541,907 3,541,914 3,542,010 3,542,081 3,542,107 3,542,108 3,542,111 3,542,152 3,542,160 3,542,162 3,542,178 3,542,242 3,542,250 3,542,261 3,542,336 3,542,360 3,542,379 3,542,424 3,542,432 3,542,443 3,542,456 3,542,458 3,542,486 3,542,527 3,542,543 3,542,562 3,542,565 3,542,571 3,542,583 3,542,640 3,542,653 3,542,663 3,542,674 3,542,678 3,542,680 3,542,691 3,542,692 3,542,698 3,542,703 3,542,716 3,542,737 3,542,742 3,542,751 3,542,786 3,542,842	39 : 3,542,867 3,542,875 3,542,876 3,542,885 3,542,887 3,542,900 3,542,913 3,542,916 3,542,962 3,542,990 3,542,994 3,542,995 3,543,023 3,543,030 3,543,066 3,543,074 3,543,096 3,543,110 3,543,116 3,543,118 3,543,132 3,543,135 3,543,241 3,543,286 3,541,837 3,542,043 3,542,153 3,542,235 3,542,334 3,542,335 3,542,337 3,542,338 3,542,456 3,542,465 3,542,486 3,542,527 3,542,543 3,542,562 3,542,565 3,542,571 3,542,583 3,542,640 3,542,653 3,542,663 3,542,674 3,542,678 3,542,680 3,542,691 3,542,692 3,542,698 3,542,703 3,542,716 3,542,737 3,542,742 3,542,751 3,542,786 3,542,842	42 : 3,541,690 3,541,692 3,541,910 3,541,918 3,541,945 3,541,954 3,542,017 3,542,024 3,542,044 3,542,067 3,542,087 3,542,092 3,542,094 3,542,114 3,542,117 3,542,132 3,542,142 3,542,172 3,542,192 3,542,193 3,542,222 3,542,272 3,542,299 3,542,307 3,542,403 3,542,441 3,542,483 3,542,485 3,542,518 3,542,520 3,542,522 3,542,539 3,542,516 3,542,611 3,542,652 3,542,668 3,542,675 3,542,822 3,543,244 3,541,827 3,541,888 3,541,928 3,541,932 3,542,099 3,542,157 3,542,186 3,542,227 3,542,294 3,542,395 3,542,828 3,542,852 3,542,865 3,542,866 3,542,868 3,542,878 3,542,886 3,542,896	42 : 3,542,898 3,542,899 3,542,930 3,542,931 3,542,975 3,543,007 3,543,020 3,543,058 3,543,061 3,543,084 3,543,089 3,543,094 3,543,113 3,543,121 3,543,127 3,543,164 3,543,175 3,543,205 3,543,206 3,543,221 3,543,250 3,543,253 3,543,262 3,543,268 3,543,272 3,543,280 3,542,483 3,542,485 3,542,518 3,542,520 3,542,522 3,542,539 3,542,560 3,542,611 3,542,652 3,542,668 3,542,675 3,542,822 3,542,654 3,542,693 3,543,212 3,542,712 3,541,932 3,542,099 3,542,157 3,542,186 3,542,227 3,542,294 3,542,395 3,542,828 3,542,852 3,542,865 3,542,866 3,542,868 3,542,878 3,542,886 3,541,851	48 : 3,541,852 3,541,854 3,541,897 3,541,989 3,542,009 3,542,054 3,542,056 3,542,063 3,542,125 3,542,126 3,542,127 3,542,128 3,542,130 3,542,131 3,542,141 3,542,143 3,542,144 3,542,150 3,542,206 3,543,221 3,543,250 3,543,253 3,543,262 3,543,268 3,543,272 3,543,280 3,542,483 3,542,485 3,542,518 3,542,520 3,542,522 3,542,539 3,542,560 3,542,611 3,542,652 3,542,668 3,542,675 3,542,822 3,542,654 3,542,693 3,543,212 3,542,712 3,541,932 3,542,099 3,542,157 3,542,186 3,542,227 3,542,294 3,542,395 3,542,828 3,542,852 3,542,865 3,542,866 3,542,868 3,542,878 3,542,886 3,541,851	48 : 3,541,852 3,541,854 3,541,897 3,541,989 3,542,009 3,542,054 3,542,056 3,542,063 3,542,125 3,542,126 3,542,127 3,542,128 3,542,130 3,542,131 3,542,141 3,542,143 3,542,144 3,542,150 3,542,206 3,543,221 3,543,250 3,543,253 3,543,262 3,543,268 3,543,272 3,543,280 3,542,483 3,542,485 3,542,518 3,542,520 3,542,522 3,542,539 3,542,560 3,542,611 3,542,652 3,542,668 3,542,675 3,542,822 3,542,654 3,542,693 3,543,212 3,542,712 3,541,932 3,542,099 3,542,157 3,542,186 3,542,227 3,542,294 3,542,395 3,542,828 3,542,852 3,542,865 3,542,866 3,542,868 3,542,878 3,542,886 3,541,851	53 : 3,542,367 3,542,390 3,542,413 3,542,593 3,542,606 3,542,914 3,542,976 3,543,014 3,543,076 3,543,302 3,541,831 3,542,940 3,541,631 3,541,657 3,541,665 3,541,687 3,541,700 3,541,742 3,541,745 3,541,769 3,541,772 3,541,786 3,541,835 3,541,878 3,541,899 3,541,929 3,541,994 3,542,000 3,542,002 3,542,007 3,542,025 3,542,201 3,542,204 3,542,254 3,542,265 3,542,343 3,542,417 3,542,420 3,542,430 3,542,433 3,542,474 3,542,487 3,542,570 3,542,578 3,542,599 3,542,662 3,542,628 3,542,794 3,542,806 3,542,807 3,543,053 3,543,137 3,543,239 3,543,294 3,541,616 3,541,759 3,541,912
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Design Patents

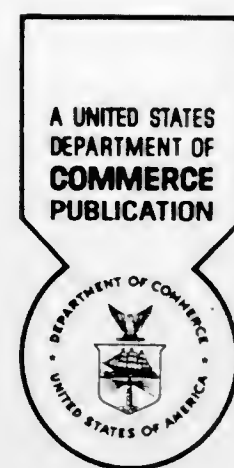
4 : 219,297 6 : 219,257 219,260 219,282 219,302 219,303 219,312 219,314 219,315	6 : 219,316 8 : 219,256 219,279 219,305 219,255 219,259 219,265 219,308 219,311	17 : 219,317 219,323 219,271 219,298 219,269 219,326 219,278 219,280 219,284	26 : 219,296 219,320 219,324 219,261 219,263 219,318 219,322 219,300 219,266	36 : 219,304 219,309 219,325 219,258 219,269 219,313 219,319	40 : 219,267 219,270 219,306 219,274 219,275 219,277 219,307
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Plant Patents

6 : 3,005	6 : 3,007
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DEFENSIVE PUBLICATIONS APPLICATIONS
(Notice of Dec. 16, 1969, 869 O.G. 687)

10 : T880.002 T880.007	18 : T880.003 36 : T880.001	42 : T880.004 47 : T880.008	47 : T880.009 48 : T880.005	64 : T880.006 80 : T880.010	84 : T880.011
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TRADEMARKS
NOTICES

Trademark Suits
Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 284,053 (DOROTHY GRAY), Lehn & Fink Products Corporation, Soap; **Reg. No. 508,645**, same, Dorothy Gray, Ltd., Perfumes, eau de cologne, toilet water, face powder, dusting powder, talcum powder, sachet powder, cake make-up, lipsticks, rouge, finishing lotion, toilet creams, cleansing creams and lotions cold cream, foundation cream, sunburn cream, tanning oil, suntan lotion, whitening cream, suppling cream, special skin creams, masque preparations, hygienic lotion, hand cream and lotions, throat cream, deodorant cream, depilatories, skin circulation and massage ointment, astringents, oils and lotions for the skin, emollient and lubricant creams for the skin, pores and tissues, hygienic paste, cleansing grains (a toilet preparation in granulated form used as a cleansing mechanical stimulant), leg tinting or make-up cosmetic, mascara, eye shadow, eyebrow pencils, eye emollient cream, bath essence, bubbling bath oil, preparation recommended for use as a body rub, baby oil, baby powder, baby anti-chafing ointment, baby softening skin cream, shampoo, nail cream, nail polish, nail polish removers, nail polish fixatives, vanity cases containing powder and/or rouge and/or lipsticks, rouge refills and lipstick refills for vanities, lipsticks and compacts, refills for mascara; **Reg. No. 512,599**, same, Soap; **Reg. No. 558,779**, same, Lehn & Fink Products Corporation, Perfumes, eau de cologne, toilet water, solidified cologne, spray deodorant, face powder, compact powder, dusting powder, talcum powder, lipsticks, rouge, finishing lotion, toilet creams, cleansing creams and lotions, cold cream, cream

powder base, liquid powder base, sunburn cream, tanning oil, suntan lotion, whitening cream, suppling cream, special skin creams, facial masque preparations, hygienic lotion, hormone lotion, hand cream and lotions, throat cream, deodorant cream, sensitive skin cream, hormone cream, depilatories, astringents, oils and lotions for the skin, hygienic paste, cleansing grains (a toilet preparation in granulated form used as a cleansing mechanical stimulant), mascara, eye shadow, eyebrow pencils, eye emollient cream, bath essences, bath salts, bubbling bath oil, baby oil, baby powder, baby anti-chafing ointment, baby softening skin cream, nail cream, nail polish, liquid nail polish remover, nail polish fixative, vanity cases containing powder and/or rouge and/or lipsticks, rouge refills and lipstick refills for vanities, lipsticks, and compacts; **Reg. No. 559,867**, same, Soap and shampoo, filed July 30, 1970, D.C., S.D.N.Y., Doe, 70-C-3266, *Dorothy Gray, Ltd. v. Nozell Corporation*.

Reg. No. 508,615. (See Reg. No. 284,053.)

Reg. No. 512,599. (See Reg. No. 284,053.)

Reg. No. 529,570 (DEXAMYL), Smith Kline & French Laboratories, Sedative stimulant; **Reg. No. 590,063** (TELDRIN), same, Antihistamine preparation; **Reg. No. 632,637** (SPANSULE), same, Sustained release medication in tablet, capsule, or liquid form, filed Aug. 12, 1970, D.C., E.D. Mo. (St. Louis), Doc. 70C399(1), *Smith Kline & French Laboratories v. Carl A. Palmer, doing business as Wheaton Pharmacy*. Final judgment, plaintiff owner of trademarks in suit: permanent injunction against the defendants; Aug. 24, 1970. **Same**, filed Aug. 12, 1970, D.C. E.D. Mo. (St. Louis), Doc. 70C400(2), *Smith Kline & French Laboratories v. Michael*

CONDITION OF TRADEMARK APPLICATIONS AS OF SEPTEMBER 30, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	21,999
Date of oldest new application	July 2, 1969
Date of oldest amended application (filing date)	January 28, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISION, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 8, 9, 10, 11, 17, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	12-9-69	1-9-68
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11-13-69	1-28-66
(III) C. R. FOWLER, Classes 12, 16, 19, 21, 23, 26, 31, 34, 35, 36, 44	2-2-70	1-18-68
(IV) M. E. ABRAMSON, Classes 13, 14, 20, 22, 24, 25, 29; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	7-2-69	5-12-66
Renewals (All Classes)	7-27-70	
Sec. 12(c) Publications (All Classes)	7-27-70	

Applications filed during the month of September 1970—2,586

Registrations Issued 431—No. 902,832 to No. 903,262
Renewals Issued 120

THE TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$20.50 per annum, foreign mailing \$5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Busch and James Busch, doing business as West Pine Apothecary. Final judgment, plaintiff owner of trademarks in suit; permanent injunction against the defendants, Aug. 24, 1970.

Reg. No. 547,321. (See Reg. No. 703,556.)

Reg. No. 558,779. (See Reg. No. 284,053.)

Reg. No. 559,867. (See Reg. No. 284,053.)

Reg. No. 590,063. (See Reg. No. 529,570.)

Reg. No. 637,292 (FOODLINER), Independent Grocers' Alliance Distributing Co., Engineering services including the making of plans and drawings for retail stores of the type commonly known as super markets and the furnishing of such plans and drawings to applicant's members; **Reg. No. 658,159**, same, To indicate membership in the organization; **Reg. No. 675,371**, same, Advertising services performed by applicant for its members, which include promotional program plans for grand openings and the furnishing of special opening and lay-outs, window displays, advertising mats for local newspapers, and other display pieces, filed Aug. 19, 1970, D.C., E.D. Ill. (Chicago), Doc. 70c2081, *Independent Grocers' Alliance Distributing Co. v. Richard Eucce*.

Reg. No. 652,637. (See Reg. No. 529,570.)

Reg. No. 658,159. (See Reg. No. 637,292.)

Reg. No. 675,371. (See Reg. No. 637,292.)

Reg. No. 703,556 (AAA), The American Automobile Association Inc., Printing maps, printed touring and route information, pamphlets published from time to time, printed books and directories published annually and from time to time, periodical publications, printed signs, posters, exposed motion picture film and television film slides, and strip maps and

groups of strip and other maps, such as maps of cities, arranged to depict a continuous highway route and containing other information of interest to travelers, bound as a unit; **Reg. No. 547,321** (AAA AND DESIGN), American Automobile Association, Services rendered to motor vehicle owners, motorists and travelers generally—namely, disseminating travel information, making travel arrangements, rating tourist accommodations, providing emergency road service, adjusting damage claims, recovering stolen motor vehicles, apprehending motor vehicle thieves and so-called hit and run drivers; obtaining insurance, legal services, bail and other bond, motor vehicle license plates, and title certificates; teaching motor vehicle operation, arranging for discount purchases, sponsoring school safety patrols, conducting traffic and pedestrian safety campaigns and giving traffic safety lessons, advocating legislation favorable to safe and economical motor vehicle travel, operation and maintenance; conducting motor vehicle speed trials and endurance tests and making tests of automotive and related products, filed Aug. 18, 1970, D.C. Colo., (Denver), Doc. C-2506, *American Automobile Association, et al. v. A.A.A. Tire Stores, Inc. et al.*

Reg. No. 771,953. (See 3,313,668.)

3,313,668 E. L. Roullard, METHOD OF BONDING FABRIC MATERIALS; **3,330,717**, same, LAMINATING APPARATUS; **Reg. No. 771,953** (COIN), Coin Sales Corporation, Bonded and laminated fabrics for use in making wearing apparel and the like, filed Dec. 19, 1968, D.C.N.J. (Newark), Doc. C-1352-68, *Coin Sales Corporation v. United Combiners Corporation*. Consent judgment for permanent injunction, Aug. 19, 1970.

3,330,717. (See 3,313,668.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 314,945. Bestpak, Inc., Natick, Mass. Filed Dec. 20, 1968.

BESTPAK

Owner of Reg. Nos. 760,479 and 869,868.

Class 2—Receptacles

For Formed Rigid and Semi-Rigid Plastic Packaging Products—Namely, Trays (Int. Cl. 21).

Class 37—Paper and Stationery

For Packaging Film Interleaves (Int. Cl. 16).

Class 50—Merchandise Not Otherwise Classified

For Lids (Int. Cl. 20).

First use in or about June 1961.

SN 315,675. Elektrophysikalische Gesellschaft, Aarau, Switzerland. Filed Dec. 18, 1968.

RADIONBALL

Owner of Swiss Reg. No. 228,467, dated Oct. 16, 1967.

Class 14—Metals and Metal Castings and Forgings

For Balls, Especially Steel Balls, Provided With Surfaces Being Hardened or Nitrided or Improved by Other Treatments, Balls With Surfaces Improved by an Electric Glow Discharge Treatment and Miniature Balls (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Balls for Ball Bearings and Other Bearing Devices (Int. Cl. 7).

Class 37—Paper and Stationery

For Balls for Ball Point Pens (Int. Cl. 16).

SN 317,415. Western Progress, Inc., Mountain View, Calif. Filed Jan. 23, 1969.



Owner of Reg. No. 860,080.

Class 3—Baggage, Animal Equipments, Portfolios, and
For Carrying Cases for Traffic Warning Devices (Int. Cl. 18).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Guard Rail Clamps, Clamps, Truck Mounted Storage Brackets and Vehicle Mounted Brackets for Traffic Warning Devices (Int. Cl. 6).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Lights for Traffic Warning Devices (Int. Cl. 11).

Class 22—Games, Toys, and Sporting Goods

For Umbrella Tents and Holders for Manholes (Int. Cl. 22).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Ventilator/Blowers for Manholes (Int. Cl. 11).

Class 50—Merchandise Not Otherwise Classified

For Flagstaffs, Flags, Signs and Sign Panels (Int. Cls. 6 and 24).

First use at least as early as December 1968.

SN 327,198. N.V. Gerofabrieke, Zelst, Netherlands. Filed May 14, 1969.



Owner of Dutch Reg. No. 140,925, dated June 6, 1961; and U.S. Reg. Nos. 583,620, 588,966, and 619,432.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Base Metal Ware—Namely, Asparagus Racks, Bain-Marries, Basins, Beakers, Pots and Pans for All Types of Cooking, Dishes, Bowls, Trays, Plates, Chamber Pots, Cocktail Shakers, Percolators, Colanders, Metal Condiment Sets, Dish Covers, Jugs, Metal Cruet Sets and Stands, Cups and Saucers, Dish Pans, Dolly Rings, Egg Cups, Finger Bowls, Racks for Pots and Pans, Flower Pots, Funnels, Gravy Boats, Griddles, Hot Water Dishes, Jam-Jars, Molds, Cutlery Rests, Menu Holders, Napkin Stands, Mugs, Offertory Sets, Pepper Boxes, Pitchers, Platters, Sacramental-Wine Jugs, Salt and Pepper Shakers, Tureens, Sinks, Sink Strainers, Soap Dishes, Spit-toons, Spoon Cups, Strainers, Tea Pots, Toast Racks, Vases, Wash Basins, Tea Strainer Stands, Chains and Table Bells (Int. Cl. 21).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Base Metal Awns and Food Beaters; Bottle Openers; Base Metal Cheese Scoops and Cheese Pins for Holding Cheese; Cork Screws, Knives With Serrated Edge, Base Metal Files and Forks, Handles for Cutlery of Base Metal, Knife Handles of Base metal, Knife Sharpening Machines, Base Metal Knives, Ladles and Food Mashers, Nut Crackers, Nut Peelers, Base Metal Pickle Forks, Base Metal Rasps, Rolling Pins, Saws, Scissors, Butter Scoops, Skimmers, Pancake Turners, Shovels, Shredders, Shovels for Cleaning Sinks, Slicers, Spatulas, Spoons, Tongs, Tweezers for Household Use, Poultry Shears, Food Pushers for Babies (Int. Cl. 8).

Class 28—Jewelry and Precious-Metal Ware

For Precious-Metal Ware—Namely, Aroma-Bottle Holders, Asparagus Racks, Baptizing Fonts, Beakers, Biscuit Boxes, Bonbon Sets, Bottle Holders, Bottle Rings (Anti-Drip), Bottle Stands, Bread Trays, Butter Dishes, Cake Boxes, Cake Plates, Cake Stands, Candle Holders, Candle Sticks, Cheese Pins for Holding Cheese, Cheese Scoops, Cocktail Shakers, Coffee Pots, Collection Boxes, Collection Plates, Combs, Comb Trays, Communion Cups, Communion Sets, Compote Dishes, Condiment Sets, Covers for Dishes, Cream Jugs, Cruet Sets, Cruet Stands, Cups for Soup, Decorative Corks, Dinner Pushers for Babies, Dolly Rings, Egg Cups, Flinger Bowls, Fish Racks, Forks, Fruit Dishes, Garnishment Pins, Gravy Boats, Hair Brushes, Handles, Chafing Dishes, Holders, Holy-Water Jugs, Hot-Water Dishes, Hot-Water Jugs, Hot-Water Plates, Ice-Cream Cups, Ice-Cream Dishes, Ice Pails, Jam Jars, Jam-Jar Holders, Jars, Jugs, Knife Handles, Knife Rests, Knife Stands, Ladles, Meat Dishes, Meat Plates, Menu Holders, Milk Jugs, Mirrors, Mugs, Mustard Pots, Nail Buffers, Nail Cleaners, Napkin Stands, Numbers for Waiters, Number Brooches, Offertory Sets, Oil and Vinegar Sets, Oystershell Clips, Pepper Boxes, Pepper Pourers, Pepper Screws, Percolators, Pickle Sets, Plates, Plates for Leavings, Pouring Corks, Powder Boxes, Prickers, Relish Dishes, Rests for Carvers, Sacramental-Wine Jugs, Salad Bowls, Salt Cellars, Salt Pourers, Sauce Boats, Sauce Pans, Sauce Tureens, Saucers, Serviette Rings, Serving Trays, Soufflet Dishes, Soup Tureens, Spirit Stoves, Spoon Cups, Spoons, Stands for Tea Strainers, Sugar Basins, Sugar Bowls, Sugar Casters, Sugar Dishes, Tea Balls, Tea Caddies, Tea Pots, Tea Strainers, Tea Trays, Toast Racks, Tongs, Tumbler Frames, Tumbler Stands, Vases, Vegetable Dishes, Vegetable Plates, Wax Boxes, Wine Coolers (Int. Cls. 8 and 14).

SN 330,029. Minitek Inc., Great Neck, N.Y. Filed June 13, 1969.

**Class 26—Measuring and Scientific Appliances**

For Automated Theatrical Sound Track and Film Projection Apparatus, Including a Control Panel With Manual and Automated Controls for Music, Lighting, Picture and Sound for Audience Entertainment (Int. Cl. 9).

First use Mar. 24, 1969.

Class 103—Construction and Repair

For Installation of Automated Film Projecting Apparatus, and Parts of Same, in Theaters and the Like (Int. Cl. 37).

First use Mar. 19, 1969.

SN 334,663. Robroy Sales Corp., Huntington, N.Y. Filed Aug. 7, 1969.

ROBROY**Class 21—Electrical Apparatus, Machines, and Supplies**

For Radio Receivers, Television Receivers, and Amplifiers (Int. Cl. 9).

Class 27—Horological Instruments

For Clocks (Int. Cl. 14).

Class 36—Musical Instruments and Supplies

For Music Boxes, Phonographs, and Electric Guitars (Int. Cls. 9 and 15).

First use July 2, 1969.

SN 337,472. Ernest Hazel Jr., Inc., Washington, Mo. Filed Sept. 10, 1969.

**Class 2—Receptacles**

For Plastic Coasters and Place Mats (Int. Cl. 21).

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Portfolios, Billfolds, Brief Cases, Card Cases, Suit Bags, Suit Cases, Tie Cases, Toilet Kits Sold Empty, Key Cases and Pass Cases (Int. Cl. 18).

Class 32—Furniture and Upholstery

For Magazine Racks (Int. Cl. 20).

Class 37—Paper and Stationery

For Advertising Specialties—Namely, Desk Folders, Book Covers, Engagement Pads, Desk Calendars, Desk Sets, Ring Binders, Desk Pads, Book Binders and Photo Albums (Int. Cl. 16).

First use Sept. 2, 1969.

SN 338,464. Villager Industries, Inc., Philadelphia, Pa. Filed Sept. 22, 1969.

CECI

The English translation of the French word "Ceel" is "this."

Class 51—Cosmetics and Toilet Preparations

For Perfume, Cologne, Bath Oil and Dusting Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soaps (Int. Cl. 3).

First use Aug. 6, 1969.

SN 339,715. GT Corp., Minami-ku, Osaka, Japan, Filed Oct. 3, 1969.



The drawing is lined for the colors red and green.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Ruck Sacks (Int. Cl. 18).

Class 22—Games, Toys, and Sporting Goods

For Sporting Goods—Namely, Tennis Nets, Volleyball Nets, Soccer Nets, Basketball Nets, Table Tennis Nets, Hockey Nets, La Crosse Nets, Water Polo Nets, Badminton Nets, Tents, Sleeping Bags and Skipping Ropes (Int. Cls. 20, 22, and 28).

First use prior to Oct. 1, 1968.

SN 341,303. Sarah Coventry, Inc., Newark, N.Y. Filed Oct. 22, 1969.

SARAH COVENTRY

The name of "Sarah Coventry" does not identify a living individual, but is a fanciful name. Owner of Reg. Nos. 636,452, 852,303, and others.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags (Int. Cl. 18).

Class 39—Clothing

For Gloves, Raincoats, Women's Nightgowns and Women's Scarves (Int. Cl. 25).

Class 40—Fancy Goods, Furnishings, and Notions

For Women's Wigs (Int. Cl. 26).

Class 41—Canes, Parasols, and Umbrellas

For Umbrellas (Int. Cl. 18).

Class 51—Cosmetics and Toilet Preparations

For Powder Eyeliners (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use on or about Aug. 28, 1969.

SN 341,304. Sarah Coventry, Inc., Newark, N.Y. Filed Oct. 22, 1969.

COVENTRY

Owner of Reg. Nos. 636,452, 800,662, and others.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags (Int. Cl. 18).

Class 39—Clothing

For Gloves, Raincoats, Women's Nightgowns and Women's Scarves (Int. Cl. 25).

Class 40—Fancy Goods, Furnishings, and Notions

For Women's Wigs (Int. Cl. 26).

Class 41—Canes, Parasols, and Umbrellas

For Umbrellas (Int. Cl. 18).

Class 51—Cosmetics and Toilet Preparations

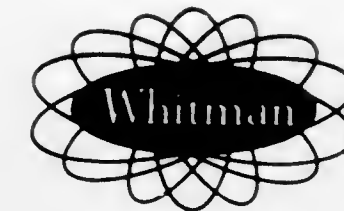
For Perfume, Body Lotion, and Powder Eyeliners (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use on or about Aug. 28, 1969.

SN 342,581. Western Publishing Company, Inc., Racine, Wis. Filed Nov. 4, 1969.



Owner of Reg. Nos. 697,472, 697,752, and 699,854.

Class 16—Protective and Decorative Coatings

For Artists' Water Color Paints, Artists' Water Color Paint Sets, Poster Tempera Paint Sets, and Finger Paints (Int. Cl. 2).

First use June 20, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For All-Purpose Scissors (Int. Cl. 8).

First use Apr. 1, 1968.

Class 29—Brooms, Brushes, and Dusters

For Artists' Paint Brushes (Int. Cl. 16).

First use June 20, 1966.

Class 37—Paper and Stationery

For Artists' Drawing Pencils, Sketch Pads, Tracing Paper; Artists' Simulated Canvas Painting Panels, Felt Tipped Water Color Paint Marking Pens, and Construction Paper (Int. Cl. 16).

First use June 20, 1966.

SN 344,609. Pacific Fire Extinguisher Company, San Francisco, Calif. Filed Nov. 26, 1969.



SN 341,304. Sarah Coventry, Inc., Newark, N.Y. Filed Oct. 22, 1969.

COVENTRY

Owner of Reg. Nos. 636,452, 800,662, and others.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags (Int. Cl. 18).

Class 39—Clothing

For Gloves, Raincoats, Women's Nightgowns and Women's Scarves (Int. Cl. 25).

Class 40—Fancy Goods, Furnishings, and Notions

For Women's Wigs (Int. Cl. 26).

Class 41—Canes, Parasols, and Umbrellas

For Umbrellas (Int. Cl. 18).

Class 51—Cosmetics and Toilet Preparations

For Perfume, Body Lotion, and Powder Eyeliners (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use on or about Aug. 28, 1969.

Owner of Reg. Nos. 652,327 and 657,103.

Class 21—Electrical Apparatus, Machines, and Supplies

For Automatic, Electrically Operated, Fire Alarm Systems (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Fire Fighting Apparatus—Namely, Fire Extinguishers (Int. Cl. 9).

Class 103—Construction and Repair

For Installation, Maintenance and Servicing of Automatic and Manual Fire Detection and Protection Equipment (Int. Cl. 37).

First use at least as early as Oct. 1, 1965.

SN 345,406. Laminex Industries, Inc., Cleveland, Ohio. Filed Dec. 5, 1969.

LAMINEX

Class 1—Raw or Partly Prepared Materials

For Rolls and Sheets of Plastic Film for Making Protective Coverings on Identification Card Cores and Other Printed Matter (Int. Cl. 17).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Laminating Machines, Die Cutters, Trimming Boards, Slot and Hole Punches, and Rivet Setters (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Photographic Cameras (Int. Cl. 9).

First use on or about Sept. 5, 1967.

SN 346,160. Proen Products Co., Berkeley, Calif. Filed Dec. 15, 1969.



Owner of Reg. No. 534,017.

Class 10—Fertilizers

For Home and Garden Fertilizers, and Kits Containing Soluble Fertilizer Tablets and Dispensers for Introducing Such Fertilizer Into Irrigation Water (Int. Cl. 1).

First use 1954.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Lawn Sprinklers, Root Feeders, and Mixing Dispensers for Introducing Soluble Fertilizers Into the Hose Line for Plant Feeding (Int. Cl. 21).

First use 1949.

SN 346,551. J. P. Burroughs & Son, Inc., Saginaw, Mich. Filed Dec. 18, 1969.

**Class 23—Cutlery, Machinery, and Tools, and Parts Thereof**

For Grain and Seed Treating Apparatus—Namely, Grain and Seed Cleaners (Int. Cl. 7).

First use Nov. 14, 1969.

Class 46—Foods and Ingredients of Foods

For Legumes—Namely, Edible Dry Beans (Int. Cl. 29).

First use Aug. 18, 1969.

SN 347,544. Hanson Hawk, Inc., Chatsworth, Calif. Filed Jan. 2, 1970.

**Class 21—Electrical Apparatus, Machines, and Supplies**

For Timing Lights, Remote Starter Switches, and Neon Timing Guns for Use in the Repair of Automotive Engines (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Ammeters, Oil Pressure Gauges, Water Temperature Gauges, Compression Testers, Vacuum and Fuel Pump Testers, Cam Dwell Testers, Tachometers, and Diagnostic and Tune-Up Analysers (Int. Cl. 9).

First use at least as early as Aug. 30, 1969.

SN 348,685. Firma Dr. Justus Rieker & Co., Tuttlingen, Wurttemberg, Germany. Filed Jan. 15, 1970.

montjola

Priority claimed under Sec. 44(d) on German application filed July 15, 1969; Reg. No. 864,903, dated Jan. 12, 1970.

Class 22—Games, Toys, and Sporting Goods

For Ski Boots (Int. Cl. 25).

Class 39—Clothing

For Mountaineering Boots, Hiking Shoes and Boots (Int. Cl. 25).

SN 348,713. Goetzwerke Friedrich Goetze Aktiengesellschaft, Burscheid, Bezirk Dusseldorf, Germany, Filed Jan. 16, 1970.

GOE

Owner of German Reg. No. 858,857, dated Jan. 22, 1969.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Vibration Dampers; and Pump Impellers (Int. Cl. 7).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Piston Rings, Gaskets, Oil Seals, Packings, Including Wedge-Type Packings, Shaft Seals, Sealing Rings, and Diaphragms; Sealing Parts for Rotary Piston Machines and for Internal Combustion Engines; Bellows and Flexible Torsion Couplings Made of Rubber or Plastic (Int. Cl. 17).

First use at least as early as 1945.

SN 349,712. Virginia Chemicals, Inc., Portsmouth, Va. Filed Jan. 26, 1970.



Owner of Reg. Nos. 753,571, 881,552, and others.

Class 6—Chemicals and Chemical Compositions

For Scale and Corrosion Inhibitor Solutions, Antifoulant Solutions, Sludge Dispersant Solutions; Microbiological Control Solutions, Microbiocide Solutions, and Boiler Compounds (Int. Cls. 1 and 5).

Class 52—Detergents and Soaps

For Cleaning Detergents and Solvents for Electrical and Mechanical Equipment (Int. Cl. 3).

First use Nov. 1, 1968.

SN 351,360. Daido Corporation, Lincolnwood, Ill. Filed Feb. 16, 1970.

ALLENITE

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hand Tools—Namely, Box, Socket, Hex, Adjustable and Open End Wrenches, and Extensions and Reversible Ratchet Handles for the Socket Wrenches; Screwdrivers; Files, Pliers; Engine Ignition Wrench Set; Hacksaws; Punches; and Chisels; Electrically Powered Hand Tools—Namely, Drills, Circular Saws, Buffers, Sanders, and Grinders (Int. Cls. 7 and 8).

Class 26—Measuring and Scientific Appliances

For Feeler and Spark Plug Gauges (Int. Cl. 9).

First use 1954.

SN 357,157. Habitat Inc., New York, N.Y. Filed Apr. 17, 1970.

HABITAT INTERNATIONAL

Owner of Reg. Nos. 672,232, 875,051, and others.

Class 2—Receptacles

For Planters and Waste Receptacles (Int. Cl. 21).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Lamps and Lights and Parts Therefor (Int. Cl. 11).

Class 32—Furniture and Upholstery

For Furniture—Namely, Sitting Units, Tables, Cabinets and Umbrella Stands, Wall and Floor Urns, and Floor Urns Functioning as Combination Ash Trays and Receptacles (Int. Cl. 20).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Lighting Fixtures (Int. Cl. 11).

First use Apr. 13, 1970.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials Class 2—Receptacles

SN 327,602. Dart Industries Inc., d.b.a. Fiberfil, Los Angeles, Calif. Filed May 19, 1969.

SULFASAR

For Fiberglass Reinforced Thermoplastic Molding Resins (Int. Cl. 1).

First use Apr. 25, 1969.

SN 348,852. Pekor Iron Works, Inc., Columbus, Ga. Filed Jan. 19, 1970.

ROCKTHANE

For Abrasion Resistant Polyurethane and Ceramic Composite Material in the Form of Sheets (Int. Cl. 17).

First use at least as early as about Dec. 16, 1969.

SN 350,148. Transene Company, Incorporated, Rowley, Mass. Filed Jan. 30, 1970.

EPOTHERM

For Epoxy Resin and Aluminum Oxide for Use as a Potting and Encapsulating Agent (Int. Cl. 1).

First use Nov. 26, 1969.

SN 368,018. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Aug. 14, 1970.

TOVAL

Owner of Reg. No. 742,556.

For Level Polyester Filaments for General Use in the Industrial Arts (Int. Cl. 22).

First use May 7, 1970.

SN 338,090. Poly-Genic, Inc., New York, N.Y. Filed Sept. 17, 1969.

GOLD-CROSS

For Plastic Film Garbage Bags (Int. Cl. 22).

First use Sept. 8, 1969.

SN 338,820. Robert A. Stough, d.b.a. Robert A. Stough & Company, Chicago, Ill. Filed Sept. 24, 1969.

ENTRANT

For Plastic Containers—Namely, Plastic Cups, Dishes, Carafes, Wash Basins, Soap Dishes, and Bags (Int. Cl. 21).

First use Aug. 6, 1969.

SN 353,590. Syndicate Sales, Inc., d.b.a. Fronzwood by Demaree, Kokomo, Ind. Filed Mar. 9, 1970.



For Composition Vases, Goblets and Urns, Primarily Intended for Holding Flowers or the Like (Int. Cl. 21).

First use Sept. 2, 1969.

Class 4—Abrasives and Polishing Materials

SN 358,520. Sterling Drug Inc., New York, N.Y. Filed May 1, 1970.

FLAIR

For Furniture Polish (Int. Cl. 3).
First use Aug. 26, 1968.

SN 365,526. Sterling Drug Inc., New York, N.Y. Filed July 17, 1970.

BEACON

Owner of Reg. No. 439,434.
For Floor Polisher and Cleaner (Int. Cl. 3).
First use June 9, 1970.

Class 6—Chemicals and Chemical Compositions

SN 271,384. Pace Chemical Corporation, Seattle, Wash. Filed May 12, 1967.

DEADLINE

Owner of Reg. No. 354,724.
For Slug and Snail Bait (Int. Cl. 5).
First use Feb. 9, 1967.

SN 298,166. Ventron Instruments Corp., Chicago, Ill. Filed May 14, 1968.

CORRABATE

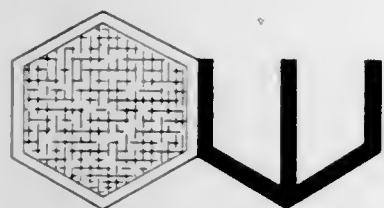
For Corrosion Inhibitors for Use in Creosote Impregnating Solutions (Int. Cl. 2).
First use Apr. 25, 1968.

SN 307,080. Beckman Instruments, Inc., Fullerton, Calif. Filed Sept. 11, 1968.

BIO-SOLV

For Solubilizer for Liquid Scintillation Cocktails (Int. Cl. 1).
First use Mar. 28, 1968.

SN 309,640. Wiekhen Products, Inc., Huguenot, N.Y. Filed Oct. 14, 1968.



The drawing is lined for the color gold, but no claim to color is made.

For Bulk Chemicals To Be Used as Ingredients in the Manufacture and Processing of Cosmetics, Soaps and Detergents, Pharmaceuticals, Foods, Plastics, Leather, and Textiles (Int. Cl. 1).

First use June 5, 1968.

SN 313,187. N.V. Nordic International, Tilburg, Netherlands. Filed Nov. 27, 1968.



For Immuno-Chemicals and Histochemical Reagents Constituting Diagnostic and Research Preparations for "In Vitro" Testing and Experimental Usage by Pathologists, Immunologists, Virologists and Allergists (Int. Cl. 1).
First use July 1, 1968; in commerce July 1, 1968.

SN 313,375. Kalium Chemicals Limited, Regina, Saskatchewan, Canada. Filed Dec. 2, 1968.



Applicant disclaims the word "Kalium" apart from the mark as shown.
For Potash (Int. Cl. 1).
First use at least as early as Oct. 19, 1964; in commerce at least as early as Oct. 19, 1964.

SN 325,550. S. C. Johnson & Son, Inc., Racine, Wis. Filed Apr. 25, 1969.

SNO-TRAC

For Chemical Composition for Application to Vehicle Tires To Improve Traction in Snow and Ice (Int. Cl. 1).
First use on or about Feb. 26, 1969.

SN 326,343. Calgon Corporation, Pittsburgh, Pa. Filed May 5, 1969.

ODOR-SORB

For Carbon Compositions for Use in Air Filters (Int. Cl. 5).
First use Mar. 28, 1969.

SN 326,772. Kelco Company, San Diego, Calif. Filed May 8, 1969.

SOLOID

For Polysaccharide Derivatives Which Are Soluble in Organic Solvents for Use as Thickening Agents in Industrial Chemicals (Int. Cl. 1).
First use Apr. 3, 1969.

SN 327,399. Nor-Am Agricultural Products, Inc., Chicago, Ill., assignee of Morton International, Inc., Chicago, Ill. Filed May 15, 1969.

MONSAT

For Saturating Latex for Nonwoven and Paper Products (Int. Cl. 17).
First use Dec. 12, 1969.

SN 348,266. Commercial Solvents Corporation, New York, N.Y. Filed Jan. 12, 1970.

ADAMAC

For Catalyst for Manufacturing Coating Systems (Int. Cl. 1).
First use Nov. 21, 1969.

SN 348,497. Chemfilt Corp. of America, North Tarrytown, N.Y. Filed Jan. 14, 1970.

DG-55

For Gelling Agent for Controlling Drilling Fluid Physical Properties (Int. Cl. 1).
First use Feb. 2, 1969.

SN 332,140. Chemtrust Industries Corporation, Maywood, Ill. Filed July 9, 1969.

FAIL-SAFE

For Weed Killing Concentrate (Int. Cl. 5).
First use Mar. 12, 1968.

SN 334,231. Hokko Chemical Industry Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Aug. 1, 1969.

PIOMY

Owner of Japanese Reg. No. 783,622, dated June 14, 1968.
For Agricultural and Horticultural Chemicals—Namely, Herbicides, Fungicides, Insecticides, and Disinfectants (Int. Cl. 5).

SN 335,221. Gebrüder Heyl K.G. Gesellschaft für Analysentechnik, Hildesheim, Germany. Filed Aug. 13, 1969.

DUROVAL

Priority claimed under Sec. 44(d) on German application filed Feb. 14, 1969; Reg. No. 858,309, dated June 13, 1969.
For Chemical Reagents for Determining Total Hardness in Water (Int. Cl. 1).

SN 347,572. Aldrich Chemical Company, Inc., Milwaukee, Wis. Filed Jan. 2, 1970.

RED-AL

For Sodium Dihydro-Bis(2-Methoxyethoxy) Aluminate and Solutions Thereof, Organic Chemical Products Used as Reagents for Reducing Organic Chemicals (Int. Cl. 1).
First use July 22, 1969.

SN 348,048. Monsanto Company, St. Louis, Mo. Filed Jan. 8, 1970.

POLVIN

For Pigment Binder for Paper Coatings (Int. Cl. 1).
First use Dec. 12, 1969.

For Insecticides (Int. Cl. 5).
First use July 15, 1969.



For Liquid Chemical Composition for Tobacco Treatment to Reduce Undesirable Constituents in Smoke Resulting From Pyrolysis of Tobacco (Int. Cl. 1).
First use Apr. 7, 1969.

SN 348,727. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Jan. 16, 1970.

DACOTEX

Owner of Reg. No. 823,088.
For Chemicals for Use in the Dry Cleaning of Textiles—Namely, Moth and Mildew Proofing Agents; Water Repellent Preparations; and All-Purpose Sizing Preparations (Int. Cls. 1 and 3).
First use Oct. 29, 1968, on moth and mildew proofers.

SN 349,750. Coulter Diagnostics, Inc., Hialeah, Fla. Filed Jan. 27, 1970.

HEMOTERGE

For Laboratory Reagent for Use as a Rinse and Reference Solution Cycled Through the Cuvette of a Hemoglobinometer (Int. Cl. 1).
First use Oct. 1, 1969.

SN 350,541. Z & F Enterprises, Cherry Valley, Calif. Filed Feb. 4, 1970.



SN 331,776. The Ansul Company, Marinette, Wis. Filed Feb. 19, 1970.

BROADSIDE

For Herbicides (Int. Cl. 5).
First use Jan. 13, 1970.

SN 351,938. Henkel & Cie G.m.b.H., Dusseldorf, Germany. Filed Feb. 20, 1970.

LOXIOL

Owner of German Reg. No. 709,502, dated Feb. 23, 1957.
For Esters of Alcohols and of Organic Acids (Int. Cl. 1).

SN 352,591. American Hospital Supply Corporation, Evanston, Ill. Filed Feb. 27, 1970.

LIOTAKE

For Chemical Reagent for Laboratory Testing Which Determines Thyroid Function (Int. Cl. 1).
First use Feb. 3, 1970.

Class 7—Cordage

SN 335,268. Schermerhorn Bros., Inc., Portland, Oreg. Filed Aug. 13, 1969.

HARVEST KING

For Baler, Binder, and Flax Sacking Twine (Int. Cl. 22).
First use in 1952.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 345,785. American Machine & Foundry Company, New York, N.Y. Filed Dec. 10, 1969.

AMF

Owner of Reg. Nos. 714,104, 811,921, and Others.
For Electric Cigar and Cigarette Lighters, and Parts Therefor (Int. Cl. 9).
First use as early as July 1962.

SN 351,927. S. M. Frank & Co., Inc., New York, N.Y. Filed Feb. 20, 1970.

EUROPA

For Smokers' Pipes (Int. Cl. 34).
First use Jan. 13, 1970.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 288,974. Nitro Nobel Aktiebolag, Nora, Sweden. Filed Jan. 16, 1968.



Owner of Swedish Reg. No. 118,579, dated Jan. 13, 1967.
For Explosives for Rock Blasting, Shot Cartridges, Electrical Detonators, Safety Fuses and Pneumatic Devices for Charging Explosives in the Form of Cartridges Into Deep Bore Holes by Means of Compressed Air (Int. Cl. 13).

SN 319,647. Larry Boyde Taggart, d.b.a. The Taggart Company, Salt Lake City, Utah. Filed Feb. 19, 1969.

KARATE

For Aerosol Cans Dispensing Tear Gas (Int. Cl. 13).
First use June 1968.

SN 330,264. Federal Cartridge Corporation, Minneapolis, Minn. Filed June 17, 1969.



The drawing is lined for green and brown colors, the stippled area representing beige color. No claim is made as to color.
Owner of Reg. Nos. 589,941 and 639,894.
For Small Arms Ammunition (Int. Cl. 13).
First use in or before August 1922.

SN 330,271. Federal Cartridge Corporation, Minneapolis, Minn. Filed June 17, 1969.



Owner of Reg. Nos. 589,941 and 639,894.
For Small Arms Ammunition (Int. Cl. 13).
First use October 1964.

Class 12—Construction Materials

SN 312,811. Seal Bond, Inc., Lubbock, Tex. Filed Nov. 21, 1968.

BONDERIZER

For Concrete and Asphalt Sealant To Be Used as a Bonder, Sealer, Stabilizer, and Renewer (Int. Cl. 19).
First use Nov. 15, 1965.

SN 320,215. GAF Corporation, New York, N.Y. Filed Feb. 27, 1969.

TIMBERLINE

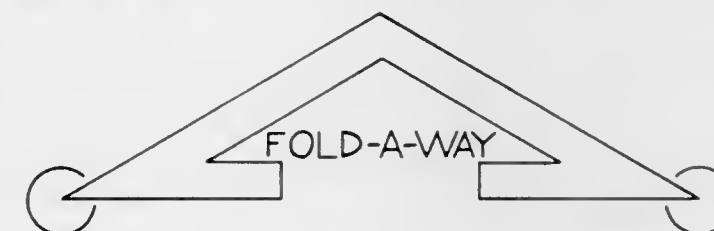
Owner of Reg. Nos. 301,304 and 729,336.
For Asphalt Shingles (Int. Cl. 19).
First use July 11, 1968.

SN 326,994. Chicago Mastik Company, Rosemont, Des Plaines, Ill. Filed May 12, 1969.

STYMASTIC

For Mastik Protective Coating Compositions for Use on Rigid Thermal Insulations (Int. Cl. 17).
First use on or about Jan. 15, 1968.

SN 328,581. Richard Phillip, Calgary, Alberta, Canada. Filed May 28, 1969.



No registration rights are claimed therein for the word "Fold-A-Way" apart from the mark as shown in the drawing, but the applicant waives none of his common-law rights in the said mark or in any feature thereof.

For Prefabricated Factory Buildings and Parts of the Said Buildings (Int. Cl. 19).
First use September 1968.

SN 329,288. Supro Corporation, Pomona, Calif. Filed June 5, 1969.

Styro-Tex

For Wall and Ceiling Plaster (Int. Cl. 19).
First use Nov. 19, 1965.

SN 329,743. Novagard Corporation, Trenton, N.J. Filed June 11, 1969.

NOVADECK

For Composition Applied in Liquid Form and Curing To Form a Membranous Waterproofing Barrier for Use in Parking Decks, Pedestrian Plazas, Roadways, Bridges, Building Foundations, Swimming Pools, and the Like (Int. Cl. 19).
First use Apr. 7, 1969.

SN 331,858. The Celotex Corporation, Tampa, Fla. Filed July 7, 1969.

CELO-THERM

For Insulation Material, Particularly in the Form of Incombustible Panels (Int. Cl. 17).
First use as early as Apr. 1, 1963.

SN 332,768. S.p.A. Vetroasfalto, Milan, Italy. Filed July 16, 1969.

VIAPOL

Owner of Italian Reg. No. 177,826, dated Apr. 30, 1966.
For Felts, Mantles and Bands Having Insulating and Impermeabilizing Properties for Use in the Building Trade in Wrapping Pipes, Canals and Basins (Int. Cl. 17).

SN 336,916. The Carborundum Company, Niagara Falls, N.Y. Filed Sept. 3, 1969.

SILFRAX

Owner of Reg. No. 347,701.
For Silica Refractories Such as Dry Grain, Dry and Wet Cements, Slip Cast Articles, Foam Blocks and the Like, for Use Where Resistance to High Temperature Is Desired (Int. Cl. 19).
First use Jan. 23, 1968.

SN 342,476. Jones Homes, Inc., Hendersonville, Tenn. Filed Nov. 3, 1969.



JONES HOMES

For Wall Sections, Doors, Windows and Roof Trusses, Used in the Construction of Domestic Homes (Int. Cl. 19).
First use Oct. 13, 1969.

SN 343,294. Johns-Manville Corporation, New York, N.Y. Filed Nov. 12, 1969.

AEROTUBE

Owner of Reg. No. 500,533.
For Thermal Insulation (Int. Cl. 17).
First use at least on or about Dec. 3, 1946.

SN 343,302. Johns-Manville Corporation, New York, N.Y. Filed Nov. 12, 1969.

MOLTEN METAL MARINITE

For the purposes of registration, no claim is made to the exclusive right to use "Molten Metal" apart from the mark as shown; but the applicant waives none of its common law rights therein. Owner of Reg. No. 344,203.
For Board Insulation (Int. Cl. 17).
First use at least on or about Dec. 18, 1961.

SN 343,725. Mastic Corporation, South Bend, Ind. Filed Nov. 17, 1969.

Style-Stone

For Contoured Vinyl Building Siding Material (Int. Cl. 19).
First use Sept. 25, 1969.

SN 345,996. Top Tile Building Supply Corp., New York, N.Y. Filed Dec. 11, 1969.



Applicant disclaims the word "Tile" apart from the mark. The drawing is lined for the colors yellow and blue.
For Ceramic Tile, Tile Board, Ceiling Tile, Wood Tile, and Plywood Paneling (Int. Cl. 19).
First use Mar. 1, 1958.

SN 346,374. Emco Specialties, Inc., Des Moines, Iowa. Filed Dec. 16, 1969.

Repli-Carve

For Pre-Formed Decorative Veneer for Furniture, Walls, Doors, and the Like (Int. Cl. 19).
First use Nov. 19, 1969.

SN 348,189. Structural Bearing Co., Inc., San Francisco, Calif. Filed Jan. 9, 1970.

POLYSLIDE

For Structural Bearing Pad Assemblies (Int. Cl. 19).
First use During July 1967.

SN 353,159. Boise Cascade Corporation, Boise, Idaho. Filed Mar. 5, 1970.

PANELPERF

For Acoustical Grid Panels (Int. Cl. 19).
First use Jan. 4, 1963.

SN 353,646. Devcon Corporation, Danvers, Mass. Filed Mar. 10, 1970.

TOPITE

For Epoxy Compound Which Is Used for Topping or Resurfacing Large Concrete or Brick Floor Areas (Int. Cl. 19).
First use Jan. 23, 1970.

SN 353,785. Johns-Manville Corporation, New York, N.Y. Filed Mar. 11, 1970.

MICRO-COUSTIC

For Acoustical and Thermal Insulating Liners for Air Ducts (Int. Cl. 17).
First use Since at least on or about Nov. 22, 1963.

SN 354,321. Noda Plywood Manufacturing Co., Ltd., Shizuoka-shi, Shizuoka Prefecture, Japan. Filed Mar. 17, 1970.

NODA-PECKY

For Plywood (Int. Cl. 19).
First use Nov. 14, 1969; in commerce Nov. 14, 1969.

SN 358,667. Penn-Dixie Cement Corporation, New York, N.Y. Filed May 4, 1970.

CASTLE MORTAR

Exclusive use of the word "Mortar" is disclaimed when used separately and apart from the mark.
For Cement (Int. Cl. 19).
First use on or about Apr. 20, 1970.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 326,001. Jay R. Smith Mfg. Co., Pascataway, N.J. Filed Apr. 30, 1969.

SMITH-SHIELD

Owner of Reg. No. 843,969.
For Clear Protective Resin Coating, Sold Only as Part of Plumbing Products—Namely, Floor Drains (Int. Cl. 6).
First use February 1969.

SN 332,969. North American Rockwell Corporation, Pittsburgh, Pa. Filed July 18, 1969.

NORTH AMERICAN ROCKWELL

Owner of Reg. No. 890,815.
For Clip-Type Metal Fasteners, and Coil and Leaf Springs (Int. Cl. 6).
First use Mar. 4, 1969.

SN 336,484. Universal Saddle Hanger, Inc., West Harwich, Mass. Filed Aug. 27, 1969.

UNI-SADDLE

For Clamps for Supporting and Connecting Cylindrical Members (Int. Cl. 6).
First use on or about Dec. 26, 1968.

SN 338,391. Glenair, Inc., Glendale, Calif. Filed Sept. 19, 1969.

QWIK TY

For Strain Relief Clamps (Int. Cl. 6).
First use Sept. 5, 1969.

SN 338,686. Metro Scientific Inc., Farmingdale, N.Y. Filed Sept. 23, 1969.

METRO SEP-ARATOR

For Funnel Shaped Separator With Compatible Stand and Receiving Bowl (Int. Cl. 21).
First use July 30, 1969.

SN 359,159. USM Corporation, Boston, Mass. Filed May 7, 1970.

NYLOK

Owner of Reg. Nos. 439,351 and 616,425.
For Threaded Fasteners (Int. Cl. 6).
First use on or before June 6, 1955.

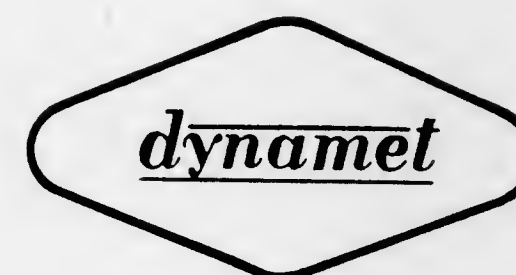
SN 359,216. Dumont Aviation Associates, Lakewood, Calif. Filed May 8, 1970.

ORLO

For Self-Locking Fasteners, Including Screws, Bolts, and the Like (Int. Cl. 6).
First use on or about Mar. 1, 1970.

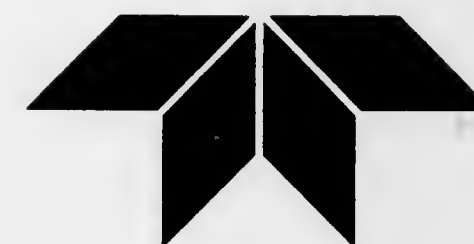
Class 14—Metals and Metal Castings and Forgings

SN 301,002. Dynamet Incorporated, Washington, Pa. Filed June 21, 1968.



For Specialty Metal Products—Namely, Titanium Rod and Wire and Nickel Alloys Rod and Wire (Int. Cl. 6).
First use June 7, 1968.
Subj. to Intf. with SN 303,664.

SN 321,091. Teledyne, Inc., Los Angeles, Calif. Filed Mar. 7, 1969.



Owner of Reg. No. 819,762.
For Zirconium, Hafnium, Columbium, Tantalum, Tungsten, and Titanium Metals and Their Alloys in the Form of Ingots, Bars, Rounds, Wires, and a Variety of Special Shapes; Carbon and Alloy Steels in the Form of Hot-Rolled Bars, Forgings, Sheets and Plates, Billets, Rings, Coils, and Specialized Shapes (Int. Cl. 6).
First use May 1967.

SN 336,911. Amsted Industries Incorporated, Chicago, Ill. Filed Sept. 3, 1969.

GRIFF-TUFF

For Abrasion Resistant Castings (Int. Cl. 6).
First use Nov. 28, 1967.

Class 15—Oils and Greases

SN 326,391. La France Manufacturing Co., St. Louis, Mo. Filed May 5, 1969.

LaFrance

Owner of Reg. No. 544,440.
For Industrial Lubricant Oils and Greases for Machine Tools; Industrial Lubricants for Metal Cutting and Drawing; and Graphite and Molybdenum Dry Film Industrial Lubricants (Int. Cl. 4).
First use September 1955.

Class 16—Protective and Decorative Coatings

SN 352,379. The Sherwin-Williams Company, Cleveland, Ohio. Filed Feb. 25, 1970.

KEM CRAFT

For Clear and Pigmented Coatings in the Nature of a Paint (Int. Cl. 2).
First use Nov. 25, 1969.

Class 17—Tobacco Products

SN 325,936. Philip Morris Incorporated, New York, N.Y. Filed Apr. 30, 1969.

MR. SLIMS

Applicant disclaims the word "Slims" apart from the mark as shown, without prejudice to applicant's common law rights therein.
For Cigarettes (Int. Cl. 34).
First use Apr. 10, 1969.

SN 333,441. Rothmans of Pall Mall Limited, Zurich, Switzerland. Filed July 24, 1969.



The word "Filter" is disclaimed apart from the mark as shown. Owner of U.S. Reg. Nos. 865,626, 867,400, and 876,399.
For Cigarettes (Int. Cl. 34).
First use Mar. 27, 1969; in commerce Mar. 27, 1969.

SN 333,918. General Cigar Co., Inc., New York, N.Y. Filed July 30, 1969.

LARAMIE

For Cigars (Int. Cl. 34).
First use July 16, 1969.
Subj. to Intf. with SN 334,919.

SN 350,744. General Cigar Co., Inc., New York, N.Y. Filed Feb. 6, 1970.

ZETTE

For Cigars (Int. Cl. 34).
First use Jan. 28, 1970.

SN 351,797. General Cigar Co., Inc., New York, N.Y. Filed Feb. 19, 1970.

TIPUANA

For Cigars (Int. Cl. 34).
First use Feb. 2, 1970.

SN 353,448. De La Concha Tobacconist, Inc., New York, N.Y. Filed Mar. 9, 1970.

CASA DEL REY

The words "Casa Del Rey" are Spanish and mean "house of the king."
For Cigars (Int. Cl. 34).
First use 1958.

SN 354,402. De La Concha Tobacconist, Inc., New York, N.Y. Filed Mar. 18, 1970.

DE LA CONCHA

The words "De La Concha" are Spanish and mean "conch or shell, or sea shell."
For Cigars (Int. Cl. 34).
First use Sept. 18, 1964.

Class 18—Medicines and Pharmaceutical Preparations

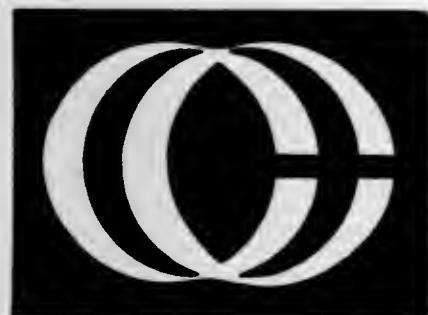
SN 342,085. S. J. Tutag & Company, Detroit, Mich. Filed Oct. 29, 1969.

TRATES

For Nitroglycerin for Oral Use (Int. Cl. 5).
First use Sept. 27, 1969.

Class 19—Vehicles

SN 322,041. The Commodore Corporation, Omaha, Nebr. Filed Mar. 18, 1969.



For Mobile Homes—Namely, Travel Trailers and House Trailers (Int. Cl. 12).
First use Feb. 1, 1969.

Class 20—Linoleum and Oiled Cloth

SN 320,196. Van Heugten Western Hemisphere A.G., Lucerne, Switzerland. Filed Feb. 26, 1969.

HEUGAFELT

For Carpet Material in the Form of Regular Geometric Tiles (Int. Cl. 27).
First use Dec. 14, 1949; in commerce September 1968.

SN 320,197. Van Heugten Western Hemisphere A.G., Lucerne, Switzerland. Filed Feb. 26, 1969.

HEUGAFLOR

For Carpet Material in the Form of Regular Geometric Tiles (Int. Cl. 27).
First use Dec. 14, 1949; in commerce September 1968.

SN 320,198. Van Heugten Western Hemisphere A.G., Lucerne, Switzerland. Filed Feb. 26, 1969.

HEUGALUX

For Carpet Material in the Form of Regular Geometric Tiles (Int. Cl. 27).
First use Dec. 14, 1949; in commerce September 1968.

SN 320,199. Van Heugten Western Hemisphere A.G., Lucerne, Switzerland. Filed Feb. 26, 1969.

HEUGALAIN

For Carpet Material in the Form of Regular Geometric Tiles (Int. Cl. 27).
First use Dec. 14, 1949; in commerce September 1968.

SN 320,200. Van Heugten Western Hemisphere A.G., Lucerne, Switzerland. Filed Feb. 26, 1969.

HEUGALITE

For Carpet Material in the Form of Regular Geometric Tiles (Int. Cl. 27).
First use Dec. 14, 1949; in commerce September 1968.

SN 320,201. Van Heugten Western Hemisphere A.G., Lucerne, Switzerland. Filed Feb. 26, 1969.

HEUGALON

For Carpet Material in the Form of Regular Geometric Tiles (Int. Cl. 27).
First use Dec. 14, 1949; in commerce September 1968.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 338,106. Airflyte Electronics Co., Bayonne, N.J. Filed Sept. 17, 1969.

MINI-ROTE

For Electrical Commutators Including Drum and Disc Commutators (Int. Cl. 9).
First use Sept. 2, 1969.

SN 340,597. Raychem Corporation, Menlo Park, Calif. Filed Oct. 13, 1969.

KYPOL

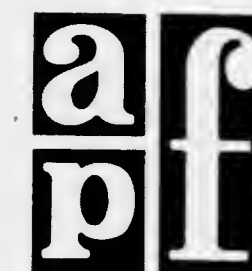
For Plastic Tubing and Sleeving for Insulating Electrical Wire and Cable (Int. Cl. 17).
First use Dec. 5, 1967.

SN 346,454. Communications Technology Corporation, Los Angeles, Calif. Filed Dec. 17, 1969.

C-T-C

For Mechanical, Solderless Ground Wire Connectors for Telephonic Cable Shielding Jackets (Int. Cl. 9).
First use Dec. 10, 1968.

SN 348,024. A.P.E. Electronics, Inc., New York, N.Y. Filed Jan. 8, 1970.



For Radios, Television Sets, Stereo and Hi-Fi Sets Comprising Tape and Record Players, Speakers, Record Changers, Amplifiers, Head Phones, Antennas, and Tape Cartridges (Int. Cl. 9).
First use July 16, 1968.

SN 350,202. Audio Designs and Manufacturing, Inc., Roseville, Mich. Filed Feb. 2, 1970.

FADEX

For Attenuators Which Are Unity Gain Devices Operable in the Line Level Circuit of Any Audio Systems of Sound Recording, Transmission and Broadcasting Apparatus (Int. Cl. 9).
First use Oct. 11, 1969.

SN 358,037. Lee Lok Corporation, New York, N.Y. Filed Apr. 27, 1970.

LEE LOK

For Electric Frying Pan (Int. Cl. 11).
First use Oct. 30, 1969.



Owner of Reg. Nos. 610,301, 864,177, 885,046, and others.
For Signal Phase Comparison Units Which Produce an Output Signal Proportional to the Phase Difference Between the Received and a Reference Signal; Demodulators; Inertial Switches; Power Inverters; Power Supplies; Antenna Components—Namely, Arrays, Antennas and Radomes; Capacitors; Inductors; Connectors; Printed Circuit Components—Namely, Boards, Switches, Cables, Heater Units, Multilayer and Flexible Units; Information Display Systems Whereby Alphanumeric and Symbols Are Presented on a CRT Display Screen; Servo-Amplifiers; Resistors; Tubes; Diodes, Transistors; Tube Deflection Coils; Transformers; Light Sensing Systems for Editing and Controlling Electronic Displays; Electric Force Motors; Flow Switches; Servo Actuators; and Microwave Components—Namely, Frequency Sources and Multiplier Units, Modulator Units, Oscillator Units, Signal Switch Units, Switch Control Circuits and Drivers, Signal Detector Units, Power Divider Units, Attenuators, Filter Units, Mixer Units, Phase Shifters, Hybrid Devices, Circulators, Isolators, Rotary Joints, Transmission Lines, and Microwave Modules (Int. Cl. 9).
First use May 31, 1967, on oscillators.

SN 326,300. Abner B. Green Associates, New York, N.Y. Filed May 5, 1969.



For Pacing Apparatus Comprising Sequential Timers, Electroacoustic Transducers, and Visual Displays for Training Workers to Perform Their Jobs More Efficiently (Int. Cl. 9).
First use Nov. 30, 1967.

SN 326,860. Dolby Laboratories Inc., New York, N.Y. Filed May 9, 1969.

DOLBY SYSTEM

The word "System" is disclaimed apart from the mark as shown. Owner of Reg. No. 891,210.
For Noise Suppressor Which Combats Noise in Transmission or Recording Systems (Int. Cl. 9).
First use Oct. 30, 1966.

SN 337,557. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka Prefecture, Japan. Filed Sept. 10, 1969.

PANALOCK

For Television Receiving Sets Which Incorporate Automatic Frequency Tuning Control (Int. Cl. 9).
First use end of June 1969; in commerce end of July 1969.

SN 368,017. Alarmtronics Engineering, Inc., Newton, Mass. Filed Aug. 14, 1970.

MICRO-X

For Electronic Apparatus for Detecting Unauthorized Entry or Motion Within a Monitored Area and Providing an Alarm (Int. Cl. 9).
First use at least as early as Feb. 2, 1970.

Class 22—Games, Toys, and Sporting Goods

SN 303,313. Theodore B. Johnson, Drayton Plains, Mich. Filed July 22, 1968.

G
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F

F O R E A N D A F T

No claim of exclusive right is made to the term "Golf" for the goods recited.

For Equipment for Playing a Golf Game, i.e., Score Cards, Pincards and Signs (Int. Cl. 28).

First use in or before June 1968.

SN 315,311. Diversified Creations, Inc., Upland, Calif. Filed Dec. 27, 1968.

OFFICIAL FOOTBALL CHESS

Applicant disclaims the terms "Football" and "Chess" apart from the mark as a whole.

For Equipment Sold as a Unit for Playing a Checker-Type Football Board Game (Int. Cl. 28).

First use Sept. 9, 1967.

SN 328,538. Cut'N Jump Ski Corporation, San Diego, Calif. Filed May 28, 1969.



The word "SKI" is disclaimed apart from the mark as shown.
For Water Skis and Water Ski Accessories—Namely, Tow Lines, Tow Line Handles, Ski Bags, Ski Flags, Tow Harnesses, Trick Bridles, Skis, Water Ski Vests, Water Ski Belts, Swim Vests, and Life Rings (Int. Cl. 28).
First use Dec. 29, 1968, on water skis.

SN 332,430. ABU Aktiebolag, Svängsta, Sweden. Filed July 14, 1969.

DROPPEN

The word "Droppen" is Swedish for "drop." Owner of Swedish Reg. No. 117,493, dated Sept. 9, 1966.
For Fishing Lures (Int. Cl. 28).

SN 336,464. Walter A. Medrano, El Paso, Tex. Filed Aug. 27, 1969.



No claim is made to the word "Hammock" or to the presentation of a hammock without waiving any common law rights therein.

For Outdoor Hammocks (Int. Cl. 22).

First use July 26, 1969.

SN 342,118. Ideal Toy Corporation, Hollis, N.Y. Filed Oct. 30, 1969.

BATTLING TOPS

Applicant disclaims the word "Tops" apart from the mark as shown.

For Equipment Sold as a Unit for Playing a Table Top Parlor Game (Int. Cl. 28).

First use Nov. 14, 1968.

SN 342,640. Horsman Dolls Inc., New York, N.Y. Filed Nov. 4, 1969.

HEAVENLY BABY

No claim of exclusive right is made to the notation "Baby" for a doll, apart from the mark as shown.

For Dolls (Int. Cl. 28).

First use Oct. 21, 1969.

SN 342,641. Horsman Dolls Inc., New York, N.Y. Filed Nov. 4, 1969.

HOROSCOPE BABY

No claim of exclusive right is made to the notation "Baby" for a doll, apart from the mark as shown.

For Dolls (Int. Cl. 28).

First use Oct. 21, 1969.

SN 342,642. Horsman Dolls Inc., New York, N.Y. Filed Nov. 4, 1969.

ZODIAC BABY

No claim of exclusive right is made to the notation "Baby" for a doll, apart from the mark as shown.

For Dolls (Int. Cl. 28).

First use Oct. 21, 1969.

SN 347,193. Argus Press, Inc., Chicago, Ill. Filed Dec. 29, 1969.

SENSORITHMETIC

For Educational Toys Comprising Manipulative Materials for Teaching Arithmetic (Int. Cl. 28).
First use Dec. 2, 1969.

SN 352,500. Northwestern Golf Company, Chicago, Ill. Filed Feb. 26, 1970.

R-70

For Golf Clubs (Int. Cl. 28).
First use Dec. 1, 1969.

SN 354,098. Play-Well Equipment Company, South El Monte, Calif. Filed Mar. 18, 1970.

FUMBLEFINGERS

For Equipment (or Apparatus), Sold as a Unit for Playing a Parlor Type Amusement Game of Skill (Int. Cl. 28).
First use May 1969.

SN 359,562. Mattel, Inc., Hawthorne, Calif. Filed May 13, 1970.

TRICK TRAY

No claim of exclusive right is made to the word "Tray" apart from the mark.

For Toy Set Comprising a Toy Top, a Container in Which the Top is Operated, a Slate on Which Designs Are To Be Made With a Spinning Top, a Jump Ramp, and Designed Spinners To Be Rotated by a Top (Int. Cl. 28).
First use Feb. 17, 1970.

SN 360,522. Mattel, Inc., Hawthorne, Calif. Filed May 22, 1970.

SPIN-FIRE

For Toy Top (Int. Cl. 28).
First use Feb. 17, 1970.

SN 360,834. Foursmiths & Company, Arlington, Va. Filed May 26, 1970.

FLITEY FLAKES

For Equipment (or Apparatus), Sold as a Unit for Use in Playing a Parlor-Type Game (Int. Cl. 28).
First use May 19, 1970.

SN 361,141. Mini Pro Sports, Inc., Minneapolis, Minn. Filed May 28, 1970.

MINI PRO

For Kits for Playing Games Which Simulate Sporting Events—Namely, Miniature Football Games and Miniature Hockey Games (Int. Cl. 28).
First use at least as early as Oct. 31, 1969.

SN 365,812. Mattel, Inc., Hawthorne, Calif. Filed July 21, 1970.

TRISH

For Doll (Int. Cl. 28).
First use June 1, 1970.

SN 365,813. Mattel, Inc., Hawthorne, Calif. Filed July 21, 1970.

SASSIE

For Doll (Int. Cl. 28).
First use June 1, 1970.

SN 365,815. Mattel, Inc., Hawthorne, Calif. Filed July 21, 1970.

HOLDIN' HANDS

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use June 9, 1970.

SN 365,816. Mattel, Inc., Hawthorne, Calif. Filed July 21, 1970.

FISH-A-MA-JIGGER

For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).
First use June 9, 1970.

SN 365,817. Mattel, Inc., Hawthorne, Calif. Filed July 21, 1970.

SQUEALER

For Toy Motorcycle (Int. Cl. 28).
First use June 11, 1970.

SN 367,279. Mattel, Inc., Hawthorne, Calif. Filed Aug. 6, 1970.

TALK-A-LITTLES

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use June 29, 1970.

SN 367,281. Mattel, Inc., Hawthorne, Calif. Filed Aug. 6, 1970.

BABY TENDER-TALK

No claim of exclusive right is made for the word "Baby" apart from the mark.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use June 26, 1970.

SN 367,695. Mattel, Inc., Hawthorne, Calif. Filed Aug. 11, 1970.

MEANLINE

For Toy Trains (Int. Cl. 28).
First use July 17, 1970.

SN 367,699. Mattel, Inc., Hawthorne, Calif. Filed Aug. 11, 1970.

HEFTYS

For Toy Trucks (Int. Cl. 28).
First use July 15, 1970.

SN 367,905. Mattel, Inc., Hawthorne, Calif. Filed Aug. 13, 1970.

PEACE PIPES

For Toy Automobile (Int. Cl. 28).
First use June 30, 1970.

SN 367,908. Mattel, Inc., Hawthorne, Calif. Filed Aug. 13, 1970.

PICKY PICKY

For Toy Automobile (Int. Cl. 28).
First use July 13, 1970.

SN 368,033. Mattel, Inc., Hawthorne, Calif. Filed Aug. 14, 1970.

GROWLER

For Toy Automobile (Int. Cl. 28).
First use July 24, 1970.

SN 368,412. Mattel, Inc., Hawthorne, Calif. Filed Aug. 19, 1970.

DOUBLE VISION

For Toy Automobile (Int. Cl. 28).
First use June 30, 1970.

SN 368,413. Mattel, Inc., Hawthorne, Calif. Filed Aug. 19, 1970.

LOCOMOTOR

For Toy Engine (Int. Cl. 28).
First use June 30, 1970.

SN 368,414. Mattel, Inc., Hawthorne, Calif. Filed Aug. 19, 1970.

WINNING TEAM

For Toy Kit of a Plurality of Automobiles (Int. Cl. 28).
First use June 30, 1970.

SN 368,415. Mattel, Inc., Hawthorne, Calif. Filed Aug. 19, 1970.

T-4-2

For Toy Automobile (Int. Cl. 28).
First use July 13, 1970.

SN 368,416. Mattel, Inc., Hawthorne, Calif. Filed Aug. 19, 1970.

SHOW TEAM

For Toy Kit of a Plurality of Automobiles (Int. Cl. 28).
First use July 24, 1970.

SN 368,417. Mattel, Inc., Hawthorne, Calif. Filed Aug. 19, 1970.

WINNING STREAK

For Toy Automobile (Int. Cl. 28).
First use July 24, 1970.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 312,941. General Signal Corporation, New York, N.Y.
Filed Oct. 9, 1968.



Owner of Reg. Nos. 86,543, 622,186, and others.
For Hydraulic Starters, i.e., Rotary Hydraulic Motors Adapted To Accelerate Engines to Prescribed Speeds and Which Incorporate Overrunning Clutches and May Also Incorporate One or More of the Following Parts: Gear Boxes, Displacement Controls, Cut-Out Switches and Flow Control Valves; Hydraulic Starter-Pumps, i.e., Hydraulic Units Adapted To Be Both a Starter Motor and a Pump; Hydraulic Motor-Pumps, i.e., Electric Motor-Driven Hydraulic Pumps; Hydraulic Flow Control Valves Used for Limiting the Rate at Which Fluid Is Supplied to Hydraulic Starters; and Hydraulic Starting Systems Including Various Combinations of the Following Components, Some of Which May Be Assembled on a Self-Sustaining Frame or in an Enclosure: Pumps, Starters, Accumulators, Reservoirs, Valves, Filters, Heat Exchangers, Hoses, Tubes, Fittings, Electrical Generators, Electrical Controls, and Prime Movers—Namely, Electric Motors, Gas Turbines, Diesel Engines and Gasoline Engines for Driving the Pumps and Generators (Int. Cl. 7).
First use Jan. 8, 1955.

SN 321,681. Morehouse Industries, Inc., Fullerton, Calif.
Filed Mar. 13, 1969.



Owner of Reg. Nos. 550,727, 619,006, and 800,284.
For Apparatus of the Mechanical Type for Dispersing Pigments in Liquid Vehicles, and Parts Thereof (Int. Cl. 7).
First use Apr. 24, 1967.

SN 322,411. Coster Tecnologie Speciali S.p.A., Milan, Italy.
Filed Mar. 21, 1969.



The design portion of the mark consists of a stylized representation of the letter "C." Owner of Italian Reg. No. 166,755, dated Apr. 18, 1964.

For Machines and Parts for Filling, Capping, and Packaging of Aerosol Bombs; Wire Drawing Machines; Wire Stranding Machines; and Cable Making Machines (Int. Cl. 7).

SN 332,690. Chemical Associates, Inc., Houston, Tex. Filed July 16, 1969.



For Rechargeable Aerosol Applicator (Int. Cl. 8).
First use Feb. 19, 1969.

SN 335,894. Oglebay Norton Company, Cleveland, Ohio.
Filed Aug. 21, 1969.



The drawing is lined for the color red, but no claim is made to color. Owner of Reg. Nos. 283,529, 728,243, and others.
For Hot Topping Material—Namely, Covers for Hot Tops and Insulating Panels for Use in Hot Tops (Int. Cl. 6).
First use December 1968.

SN 336,752. AP Parts Corporation, Toledo, Ohio. Filed Sept. 2, 1969.



For Exhaust Mufflers and Exhaust System Parts for Motor Vehicles (Int. Cl. 12).
First use June 26, 1969.

SN 339,441. Marcoloy, Inc., Stamford, Conn. Filed Oct. 1, 1969.

TURNER

For Synthetic Fiber Cutting and Preforming Machines, and Parts Thereof (Int. Cl. 7).
First use Oct. 28, 1953.

SN 344,835. Durable Punch and Die Co., Chicago, Ill. Filed Nov. 28, 1969.

ZEROTEMP

For Perforators for Metal Punching Machines (Int. Cl. 7).
First use Sept. 5, 1969.

SN 347,296. Marson Corporation, Chelsea, Mass. Filed Dec. 29, 1969.

MARSON MISER

For Dispensers for Fluid Automobile Body Repair Materials (Int. Cl. 7).
First use Aug. 22, 1969.

ROCKTHANE

For Abrasion Resistant Parts Made of a Composite Polyurethane and Ceramic Material for Hydrocyclones Used Primarily in Mining and Dredging Operations (Int. Cl. 7).
First use at least as early as Dec. 16, 1969.

SN 349,235. The Weinman Pump and Supply Company, Pittsburgh, Pa. Filed Jan. 21, 1970.



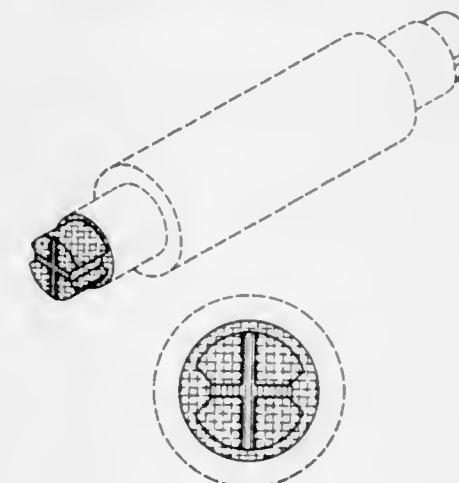
For Hydraulically Operated Apparatus—Namely, Hydraulic Power Supply Apparatus, Valve Panels, Hydraulic Pump and Motor Sets, and Electrical Controls Incorporated Therewith (Int. Cl. 7).
First use Aug. 1, 1969.

SN 349,236. The Weinman Pump and Supply Company, Pittsburgh, Pa. Filed Jan. 21, 1970.



For Hydraulically Operated Apparatus—Namely, Hydraulic Power Supply Apparatus, Valve Panels, Hydraulic Pump and Motor Sets, and Electrical Controls Incorporated Therewith (Int. Cl. 7).
First use Aug. 1, 1969.

SN 351,068. United Engineering and Foundry Company, Pittsburgh, Pa. Filed Feb. 10, 1970.



The drawing is lined for the colors red and gold. The representation of the goods is disclaimed. Owner of Reg. Nos. 774,462, 853,154, and 855,499.
For Metal Rolls for Use in Rolling Mills for Metal, Paper, Plastic, and Rubber (Int. Cl. 7).
First use Dec. 17, 1969.

SN 352,021. Davis and Furber Machine Company, North Andover, Mass. Filed Feb. 24, 1970.



For Textile Machines—Namely, Fiber Preparation Machines, Carding Machines, Spinning and Yarn Machines, and Cloth Finishing Machines (Int. Cl. 7).
First use prior to 1850.

SN 353,739. Economy Engineering Company, Bensenville, Ill. Filed Mar. 11, 1970.

STOCK-AIDE

For Portable Electro-Hydraulic Elevating Work Platform (Int. Cl. 7).
First use at least as early as Feb. 1, 1970.

SN 354,312. Hydraulics Unlimited Mfg. Co., Eaton, Conn. Filed Mar. 17, 1970.



Owner of Reg. No. 597,802.
For Feed Mixers (Int. Cl. 7).
First use Sept. 28, 1962.

SN 358,679. Towle Manufacturing Company, Newburyport, Mass. Filed May 4, 1970.

TOUCH OF GOLD

For Stainless Steel Flatware (Int. Cl. 8).
First use Jan. 15, 1970.

Class 26—Measuring and Scientific Appliances

SN 295,030. 500 Incorporated, Cambridge, Mass. Filed Apr. 5, 1968.

CRYO-TORR

For Cryogenically Cooled Vacuum Pumps, Often Referred to as Cryopumps (Int. Cl. 7).
First use Nov. 12, 1967.

SN 295,108. Canyon Research Corporation, Accord, N.Y. Filed Apr. 8, 1968.

MADCAP

For Automatic Magazine Cutting, Defacing, and Counting Machine (Int. Cl. 9).
First use in or about January 1965.

SN 318,650. The Hughes-Owens Company (Limited), Montreal, Quebec, Canada. Filed Feb. 7, 1969.

GEOTEC

Priority claimed under Sec. 44(d) on Canadian application filed Oct. 24, 1968; Reg. No. 166,424, dated Nov. 21, 1969.
For Surveying Equipment—Namely, Theodolites, Transits, Levels, Tripods, and Parts Thereof (Int. Cl. 9).

SN 323,220. Avnet, Inc., Pawtucket, R.I. Filed Apr. 1, 1969.

C.C.C.

For Thermostats for Automobile Cooling Systems (Int. Cl. 9).
First use on or about Mar. 1, 1969.

SN 323,720. Micropac Industries, Inc., Garland, Tex. Filed Apr. 4, 1969.



For Electronic Circuitry Thick Film Antenna Bridges and Meter Converter Kits (Int. Cl. 9).
First use Nov. 12, 1968.

SN 325,211. Miehle-Goss-Dexter, Incorporated, Chicago, Ill. Filed Apr. 22, 1969.

PCS

For Printing Press Control System Consisting of Solid State Digital Logic Circuitry and a Programmable Minicomputer (Int. Cl. 9).
First use Mar. 27, 1969.

SN 325,825. Addressograph-Multigraph Corporation, Cleveland, Ohio. Filed Apr. 29, 1969.

AMCD

For Electrophotographic Copying Machines, Accessories Thereof, and Parts Thereof (Int. Cl. 9).
First use Dec. 20, 1968.

SN 329,481. Robert W. Kearns, d.b.a. Computer Central, Detroit, Mich. Filed June 9, 1969.

COMPUTER CENTRAL

The word "Computer" is disclaimed apart from the mark as shown.

For Linear Range Digital Comparators, Encoder Electronics, Digital Position Controls, Digital Velocity Controls, Digital-to-Analog Converters, Analog-to-Digital Converters, Code Converters, Contouring Circuits, Identity Comparators, Sign and Equality Comparators (Int. Cl. 9).
First use September 1968.

SN 329,672. Abbott Laboratories, North Chicago, Ill. Filed June 11, 1969.

UTI-TECT

For Bacteriuria Diagnostic Test Kits (Int. Cl. 9).
First use Nov. 4, 1968.

SN 330,141. Impulsphysik G.m.b.H., Hamburg-Rissen, Germany. Filed June 16, 1969.

CARBOSHUT

Owner of German Reg. No. 853,840, dated July 26, 1968.
For Electrically Actuated Photographic Shutters (Int. Cl. 9).

SN 330,302. Robertshaw Controls Company, Richmond, Va. Filed June 17, 1969.



For Wall Thermostats (Int. Cl. 9).
First use at least as early as July 31, 1960.

SN 330,483. ENM Company (Delaware corporation), Chicago, Ill., assignee of ENM Company (Illinois corporation), Chicago, Ill. Filed June 19, 1969.

COMPAC

For Electromechanical Dial Counters and Mechanical Dial Counters (Int. Cl. 9).
First use May 16, 1969.

SN 330,707. Beukers Laboratories, Inc., Hauppauge, N.Y. Filed June 23, 1969.

LO-CATE

For Balloon Tracking and Meteorological Data Gathering System, Comprising a Meteorological Radiosonde Modified for Retransmission of Track Information, Data Receiving Equipment, Data Processing Equipment, and Components Thereof (Int. Cl. 9).
First use Feb. 24, 1969.

SN 330,748. Honeywell Inc., Minneapolis, Minn. Filed June 23, 1969.

CAPA

For Airborne Electronic Systems That Are Capable of Fully Automatic Real-Time Performance Monitoring of Aircraft Sub-Systems and Hardware, Comprising Radar, Cameras, Altimeters, Inertial Navigation Systems and Infrared Reconnaissance Sets, Said Systems Consisting of Remote Units for Multiplexing and Signal Conditioning, Digital Central Processors Providing Overall System Control and Measurement Capability, and Printers That Provide Hard Copy, English Maintenance Instructions; Optional System Components Are Digital Recorders for Permanently Logging Test Results and System Display Panels To Inform Flight Crews of the Operational Status of the Systems Being Monitored (Int. Cl. 9).
First use at least as early as August 1967.

SN 334,867. SFIM Societe de Fabrication d'Instruments de Mesure, Massy (Essonne), France. Filed Aug. 8, 1969.

CATAR

Owner of French Reg. No. 709,486, dated July 5, 1966.
For Automatically Operated Radar Equipment for Monitoring, Counting and Measuring the Movement, Speed and Characteristics of Vehicles and Other Moving Objects (Int. Cl. 9).

SN 335,712. Scientific Glass Blowing Co., Inc., Houston, Tex. Filed Aug. 19, 1969.



Applicant disclaims the words "Scientific Glass Blowing, Houston" apart from the mark.
For Scientific Glassware for Laboratory Use (Int. Cl. 9).
First use July 1, 1956.

SN 339,968. Tridea Electronics Company, El Monte, Calif. Filed Oct. 6, 1969.

ALTAPE

For Automatic Line Tracer and Programming Equipment Consisting of a Tracer Table With a Vacuum Holding Surface for the Drawing, a Moving Tracer Head Including a Television Camera, a Two-Axis Linear Measuring System, a Compact High-Speed General-Purpose Digital Computer, and an Operator's Console With a Television Monitor and All Essential Controls (Int. Cl. 9).
First use June 26, 1967.

SN 341,253. AMF Incorporated, New York, N.Y., by change of name from American Machine & Foundry Company, New York, N.Y. Filed Oct. 21, 1969.

AMF

Owner of Reg. Nos. 714,104, 811,921, and others.
For Electrically Operated Controls, and Parts Thereof, Having Time Oriented Operation To Control a Flow of Current to Electrical Equipment; Timers and Time Switches of the Type Including Cycle Repeaters, Time Totalizers, Time Delay Devices, and Electric Timing Devices of the Horological Type; Electric Meters; Tachometers; Radar Antennas, Pedestals, Drives, and Tracking Systems, and Parts Thereof; Nuclear Reactors, Fuel Elements, and Control Systems Thereof and Parts Thereof; Nuclear Waste Concentration Systems, and Parts Thereof; Goggles; Electrical Test Equipment of the Type Including Circuit Continuity Testers, Laboratory Meters and Amplifiers, X-Ray Analyzers, Spectroscopy Equipment and Neutron Radiation Detecting and Measuring Devices; Educational Devices and Equipment for Teaching Principles of Physics, Circuitry and the Use of Electrical and Electronic Components and Equipment of the Type Including Educational Computers, Logic Circuit Boards, Relay Demonstrators, Spring Mass Demonstrators, Torque Amplifiers, Resonant Circuit Boards and Muscle Coordination Testers; Satellite Instrumentations of the Type Including X-Ray, Infrared and Ultraviolet Radiation Sensors, and Ultrasonic Flow Transducers; and Oceanographic Equipment and Instrumentations and Parts Thereof To Be Submerged and for Shipboard Installation of the Type Including Acoustic Command Systems, Navigation Receivers, Remote and Time Controls and Release Devices, and Acoustic Transponders (Int. Cl. 9).
First use May 22, 1964.

SN 343,129. International Paper Company, New York, N.Y. Filed Nov. 10, 1969.

LIQUIDATOR

For Electric Eye Scanner Designed To Inspect Coded Cartons and Reject Improperly Coded Cartons so as To Eliminate Carton Mix-Ups on Conveyor Lines and Like Applications (Int. Cl. 9).

First use July 23, 1969.

SN 343,482. All-O-Matic Instruments and Systems Inc., New Hyde Park, N.Y. Filed Nov. 14, 1969.

LSD

For Solid-State Liquid Sensors for Detecting the Temperature and Level of Liquids in Containers (Int. Cl. 9).

First use Sept. 13, 1967.

SN 343,543. The Fibre-Metal Products Company, Chester, Pa. Filed Nov. 14, 1969.

EYELINE

Owner of Reg. Nos. 622,209 and 811,008. For Goggles, Spectacles, and Parts for the Same (Int. Cl. 9).

First use Sept. 18, 1969.

SN 347,897. Dataterm, Inc., Levittown, Pa. Filed Jan. 7, 1970.

DTI

For Electronic Equipment—Namely, Punched Paper Tape Readers and Tape Guides (Int. Cl. 9).

First use Nov. 6, 1969.

SN 347,898. Dataterm, Inc., Levittown, Pa. Filed Jan. 7, 1970.

DATATERM

For Electronic Equipment—Namely, Punched Paper Tape Readers and Tape Guides (Int. Cl. 9).

First use Nov. 6, 1969.

SN 348,165. Millipore Corporation, Bedford, Mass. Filed Jan. 9, 1970.

imc

The mark consists of the Greek symbol "Pi" (π) and the letters "MC."

For Particle Measurement Computer Systems and Parts Therefor (Int. Cl. 9).

First use Oct. 29, 1969.

SN 350,781. Spectronics Corporation, Westbury, N.Y. Filed Feb. 6, 1970.

MONEY SCANNER

For Electrical Instrument Which Detects Counterfeit Currency by Use of Ultraviolet Lighting (Int. Cl. 9).

First use Jan. 24, 1970.

SN 357,560. Economics Laboratory, Inc., St. Paul, Minn. Filed Apr. 22, 1970.

ECO-VAC

For Electronic Dispenser Which Automatically Adds a Measured Amount of Liquid Detergents, Sanitizing Compounds and Rinse Additives to a Water Supply and Maintains a Constant Concentration (Int. Cl. 9).

First use November 1964.

SN 357,946. Berkeley Scientific Laboratories, Inc., Berkeley, Calif. Filed Apr. 27, 1970.

CARDIODATA

For Computer for the Analysis of Electrocardiograms Including an Integrated Circuit Computer Having Memory, a Random Access Disk Memory System, Digital Multiplexer and Control Panel, and Readout (Int. Cl. 9).

First use Feb. 4, 1969.

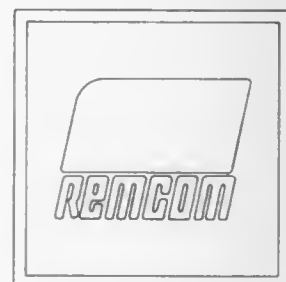
SN 359,002. Remcon Systems, Inc., Garland, Tex. Filed May 6, 1970.

REMCOM

For Potted Electronic Modules and Remote Batch Computer Input-Output Terminals (Int. Cl. 9).

First use Aug. 7, 1969.

SN 359,003. Remcon Systems, Inc., Garland, Tex. Filed May 6, 1970.



For Remote Batch Computer Input-Output Terminals (Int. Cl. 9).

First use Mar. 23, 1970.

SN 366,609. Autocue Corporation, Hastings-on-Hudson, N.Y. Filed July 30, 1970.

AutoCue

For Computerized Automatic Theatrical Lighting and Cue Control System Equipment (Int. Cl. 11).

First use July 16, 1970.

Class 27 — Horological Instruments

SN 328,325. Music Print Corporation, Boulder, Colo. Filed May 26, 1969.

TEMPOWATCH

For Timing Watches Particularly Adapted for Musical Purposes (Int. Cl. 14).

First use Nov. 8, 1968.

SN 335,334. Fabriques des Montres Zenith S.A., Le Locle, Neuchatel, Switzerland. Filed Aug. 14, 1969.

DEFY

Owner of Swiss Reg. No. 236,532, dated Jan. 29, 1969. For Wrist Watches for Men Provided With a Special Shock-Resistant Device (Int. Cl. 14).

SN 359,696. Berman's Jewelry Store, Inc., Charleston, W. Va. Filed May 14, 1970.



For Ladies' and Men's Watches (Int. Cl. 14).

First use on or before Dec. 1, 1942.

Class 28 — Jewelry and Precious-Metal Ware

SN 328,865. Kreiser Manufacturing Corporation, North Bergen, N.J. Filed June 2, 1969.

CALENDATER

For Watchbands (Int. Cl. 14).

First use May 5, 1969.

SN 354,545. Haltoms Jewelers, Inc., Fort Worth, Tex. Filed Mar. 19, 1970.

PROMISE

For Finger Rings (Int. Cl. 14).

First use at least as early as Apr. 21, 1969.

Subj. to Intf. with SN 345,263.

SN 359,255. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Sterling, Greenfield, Mass. Filed May 8, 1970.

Floral Lace

For Sterling Silver Tableware (Int. Cl. 14).

First use Apr. 4, 1967.

SN 359,355. B. B. Greenberg Co., Providence, R.I. Filed May 11, 1970.

THE BUGHOUSE

For Jewelry (Int. Cl. 14).

First use on or about Mar. 17, 1970.

SN 359,587. Cardinal Jewelry Manufacturing, Ltd., New York, N.Y. Filed May 13, 1970.

CJM

For Gold Jewelry (Int. Cl. 14).

First use May 5, 1970.

SN 360,080. Jewelart Company, East Providence, R.I. Filed May 18, 1970.

1776

For Costume Jewelry (Int. Cl. 14).

First use Apr. 1, 1963.

Class 30 — Crockery, Earthenware, and Porcelain

SN 330,701. Baumritter Corporation, New York, N.Y. Filed June 23, 1969.

ETHAN ALLEN

Ethan Allen was an early American patriot, who is now deceased. Owner of Reg. Nos. 381,746, 697,295, and 737,146. For China Dinnerware, China Tableware, and Decorative China—Namely, Vases, Bowles, Pitchers, and Candy Dishes (Int. Cl. 21).

First use during April 1965.

Subj. to Intf. with SN 312,515.

Class 31 — Filters and Refrigerators

SN 332,978. North American Rockwell Corporation, Pittsburgh, Pa. Filed July 18, 1969.



For Air, Gas and Liquid Filters; Filter Silencers, Filter Arrestors, and Filter Media (Int. Cl. 11).

First use Mar. 4, 1969.

SN 332,979. North American Rockwell Corporation, Pittsburgh, Pa. Filed July 18, 1969.

NORTH AMERICAN ROCKWELL

Applicant disclaims use of the word "American" apart from the mark as shown.

For Air, Gas and Liquid Filters; Filter Silencers, Filter Arrestors, and Filter Media (Int. Cl. 11).

First use Mar. 4, 1969.

SN 345,424. Romex International, Inc., North Miami Beach, Fla. Filed Dec. 5, 1969.

ROMEX

For Refrigerators (Int. Cl. 11).

First use Jan. 1, 1969.

SN 347,990. Liquid Carbonic Corporation, Chicago, Ill. Filed Jan. 8, 1970.

Flavor  **Shield**

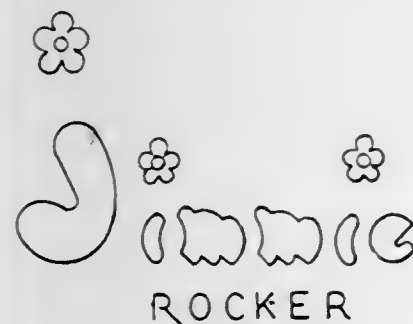
No claim is made to the symbol "CO₂" apart from the mark as shown.

For Liquid Carbon Dioxide Cooling Installations for Cooling Food (Int. Cl. 11).

First use Apr. 2, 1969.

Class 32 — Furniture and Upholstery

SN 320,024. Bowland Associates, Inc., Hollywood, Calif. Filed Feb. 25, 1969.


ROCKER

Applicant disclaims the terminology "Rocker" apart from the mark as shown.

For Infant Carrier With Rocker Attached Thereto (Int. Cl. 20).

First use Aug. 28, 1968.

SN 330,633. Rowe Furniture Corporation, Salem, Va. Filed June 20, 1969.

ROWE
First in Fashion

Owner of Reg. No. 788,160.

For Living Room Furniture—Namely, Upholstered Pieces of the Following Style and Groups: Davenports, Chairs, Double Sofas (Two-Part Sofas), Sectional Pieces, Two-Piece Suites (Davenport and Chair of Similar Design Sold as Set), Three-Piece Suites (Davenport and Chairs), Ottomans, Rockers, Swivel Rockers, Recliners, Rocker Recliners, Love Seats, Sleep-or-Sofas, Chaises, Taborets, Benches; Tables, Namely, Cocktail Tables, Corner Tables, Cube Tables, and End Tables (Int. Cl. 20).

First use Aug. 28, 1950.

SN 343,361. Interstate Latex Co., Struthers, Ohio. Filed Nov. 13, 1969.

Slumber Air

The word "Air" is disclaimed apart from the mark as shown, with reservation of applicant's common law rights in the premises.

For Pillows (Int. Cl. 20).

First use July 14, 1946.

SN 350,858. Theodore K. Arbutnot, Fort Lauderdale, Fla. Filed Feb. 9, 1970.

THE
Mabley
An Original Back Support Chair

Applicant disclaims "An Original Back Support Chair" apart from the mark as shown.

For Chairs (Int. Cl. 20).

First use April 1969.

SN 350,998. Hülsta-Werke Hülsta OHG, Stadtlohn, Germany. Filed Feb. 10, 1970.

hülsta

For Furniture—Namely, Wall Case Storage and Display Units, and Combinations Thereof With Fold-Down Beds (Int. Cl. 20).

First use during June 1969; in commerce during June 1969.

SN 353,141. Serta Associates, Inc., Chicago, Ill. Filed Mar. 5, 1970.

LA RONDE

The name "La Ronde" is translated from French to mean "the round."

For Mattresses and Box Springs (Int. Cl. 20).

First use on or about Feb. 12, 1970.

SN 355,846. The Tappan Company, Mansfield, Ohio. Filed Apr. 3, 1970.

ALLURE

For Kitchen and Bathroom Cabinets (Int. Cl. 20).

First use on or about Apr. 8, 1969.

SN 356,206. Lucidity, Inc., New York, N.Y. Filed Apr. 7, 1970.

lucidity

For Articles of Furniture—Namely, Tables, Chairs, Closets, Cabinets, Pedestals for Statuary, Bookcases, Shelves, Drinking Bars, Racks for Clothing and Other Articles, and Mirrors, None of Which Are Upholstered (Int. Cl. 20).

First use Nov. 18, 1968.

SN 357,970. Dura-Fold Machine Works, Inc., Jackson, Miss. Filed Apr. 27, 1970.

DURA-FOLD

For Convertible Chair-Bed Furniture (Int. Cl. 20).

First use June 13, 1968.

SN 365,063. Cramer Industries, Inc., Kansas City, Kans. Filed July 13, 1970.

AUTO-LIFT

For Height Adjustment Mechanism for Furniture and the Like (Int. Cl. 20).

First use Feb. 12, 1970.

SN 367,691. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Aug. 11, 1970.

ADORATION

For Pillows (Int. Cl. 20).

First use June 29, 1970.

Class 33 — Glassware

SN 330,696. Baumritter Corporation, New York, N.Y. Filed June 23, 1969.

ETHAN ALLEN

"Ethan Allen" was an early American patriot, who is now deceased. Owner of Reg. Nos. 381,746, 697,295, and 737,146.

For Glassware—Namely, Drinking Glasses, Decorative Bottles, and Vases (Int. Cl. 21).

First use during October 1967.

Subj. to Intf. with SN 312,515.

SN 331,179. Fujii Photo Film Co., Ltd., Ashigara-Kamigun, Kanagawa Prefecture, Japan. Filed June 27, 1969.

HEATRON

For Heat Proof Glass for Use in the Industrial Arts (Int. Cl. 21).

First use at least as early as Apr. 1, 1964; in commerce at least as early as Apr. 30, 1969.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 325,392. Raypak Company, Inc., South El Monte, Calif. Filed Apr. 23, 1969.



For Swimming Pool Heaters, Hot Water Supply Boilers, Heating Boilers, De-Icing and Snow Melting Boilers, Heat Exchangers, Hot Water Heating Systems, Sold as a Unit, for Commercial Use (Int. Cl. 11).

First use Jan. 28, 1969.

SN 338,287. Climatrol Industries, Inc., Milwaukee, Wis. Filed Sept. 19, 1969.

CLIMATROL

Owner of Reg. Nos. 298,115, 408,401, and 527,679. For Air Conditioning Units, Air Humidifiers, Heat Pumps, Air Blowers, Evaporators, Combination Heating and Cooling Air Conditioner Units, Registers for Delivering Conditioned Air, Air Handling Units, Air Washing Apparatus and Air Cleaning Apparatus (Int. Cl. 11).

First use January 1959.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 345,930. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Dec. 11, 1969.

SUPREME DYNAGUARD

Owner of Reg. Nos. 259,303, 343,647, and 771,145.

For Resilient Vehicle Tires (Int. Cl. 12).

First use Nov. 10, 1969.

SN 354,829. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Mar. 23, 1970.

BAJA GRABBER

Applicant disclaims the word "Grabber" apart from the mark as shown.

For Resilient Vehicle Tires (Int. Cl. 12).

First use Feb. 6, 1970.

Class 36 — Musical Instruments and Supplies

SN 338,673. Folkraft Publishing Co., Inc., Newark, N.J. Filed Sept. 23, 1969.



JANUS

For Phonograph Records (Int. Cl. 9).

First use on Oct. 1, 1958.

SN 353,326. Onda Nueva, Inc., New York, N.Y. Filed Mar. 6, 1970.

Onda Nueva

For Phonograph Records and Pre-Recorded Magnetic Tapes (Int. Cl. 9).

First use Mar. 2, 1970.

Class 37—Paper and Stationery

SN 333,242. Astra-Walico Aktiebolag, Stockholm, Sweden. Filed July 23, 1969.

SANI-PAC

Priority claimed under Sec. 44(d) on Swedish application filed Feb. 23, 1969; Reg. No. 128,654, dated Sept. 26, 1969. For Self-Adhesive Paper Wrapper for Clinical Thermometers (Int. Cl. 16).

SN 339,245. Swan Pencil Co., Inc., New York, N.Y. Filed Sept. 29, 1969.

DECO*PAGE

For Color Pencils (Int. Cl. 16). First use May 17, 1969.

Class 38—Prints and Publications

SN 327,272. Greenville Industries, Inc., Wilmington, Del. Filed May 14, 1969.

ECONOCOPY

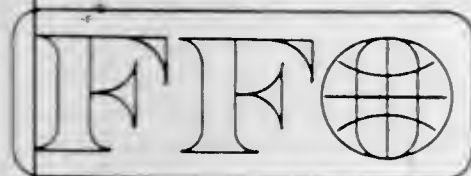
For Copies of Documents, Prints, and Composites Thereof and More Particularly Duplicate Copies, Bound Collections, Offset Prints, Color Prints and Exposed Negatives (Int. Cl. 16). First use July 6, 1967.

SN 344,253. Originations, Inc., Birmingham, Mich. Filed Nov. 21, 1969.

MIN-E-PUPPS

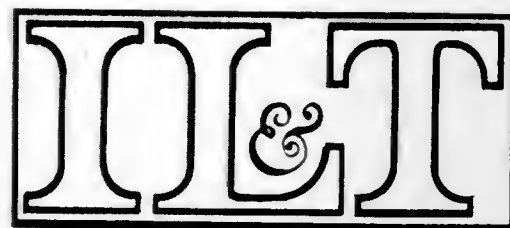
For Sketches, Prints, Lithographs, Paintings and Drawings of Dogs (Int. Cl. 16). First use on or about Mar. 17, 1969.

SN 350,046. Business International Corporation, New York, N.Y. Filed Jan. 30, 1970.



For Loose Leaf Reference Book Issued Periodically, and Supplements Therefor (Int. Cl. 16). First use June 1966.

SN 350,048. Business International Corporation, New York, N.Y. Filed Jan. 30, 1970.



For Loose Leaf Reference Book Issued Periodically, and Supplements Therefor (Int. Cl. 16). First use October 1965.

SN 353,839. Allied Publications, Inc., Fort Lauderdale, Fla. Filed Mar. 12, 1970.

HEALTH & WEALTH

A MAGAZINE FOR THINKING PEOPLE

Applicant disclaims the phrase "A Magazine for Thinking People" apart from the mark as shown. For Magazine (Int. Cl. 16). First use Dec. 6, 1969.

SN 353,952. Copyaid, Los Angeles, Calif. Filed Mar. 13, 1970.

COPYAID

For Sheets Containing Transfer Letters and Symbols (Int. Cl. 16). First use Nov. 29, 1968.

SN 354,183. Franklin K. Howard College Boards Institute, Inc., Mineola, N.Y. Filed Mar. 16, 1970.



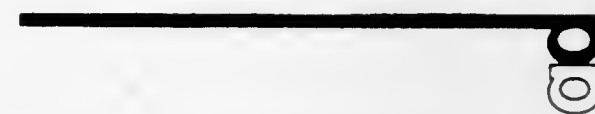
The words "Franklin K. Howard" do not describe any known living person or individual and are purely fanciful. Applicant disclaims the words "College Boards Institute" apart from the mark as shown. For Educational Books and Booklets (Int. Cl. 16). First use Jan. 2, 1970.

SN 358,629. Visual Wholesale Supply Co., Los Angeles, Calif. Filed May 1, 1970.

QUIKTYPE

For Transfer Sheet Having Letters, Numbers and Other Symbols (Int. Cl. 16). First use Apr. 1, 1969.

SN 358,980. McGraw-Hill, Inc., New York, N.Y. Filed May 6, 1970.



For Monthly Magazine and a Section of Magazines Published Monthly (Int. Cl. 16). First use Apr. 15, 1970.

SN 360,422. KDI Corporation, Cincinnati, Ohio. Filed May 21, 1970.



For House Organ (Int. Cl. 16). First use January 1970.

SN 361,784. Western Publishing Company, Inc., Racine, Wis. Filed June 4, 1970.



For Illustrated, Bound Books Primarily Intended for Children (Int. Cl. 16). First use on or about Apr. 14, 1970.

SN 363,026. Gakko Hojin Namiki Gakuen, Shibuya-ku, Tokyo, Japan. Filed June 18, 1970.



For Publication—Namely, a Magazine Published at Regular Intervals (Int. Cl. 16). First use at least as early as July 2, 1969; in commerce July 2, 1969.

SN 363,187. The Petroleum Publishing Company, Tulsa, Okla. Filed June 19, 1970.

PROOFS

For Magazine Published at Regular Intervals (Int. Cl. 16). First use 1917.

SN 363,815. Healthways, Los Angeles, Calif. Filed June 29, 1970.

HEALTHWAYS

Owner of Reg. No. 716,418. For Exercise Instruction Books and Booklets (Int. Cl. 16). First use at least as early as 1947.

SN 364,845. Aerial Photos of New England, Inc., Boston, Mass. Filed July 10, 1970.

AMERICAN EAGLE

For Prints—Namely, Aerial View Prints (Int. Cl. 16). First use at least as early as May 14, 1970.

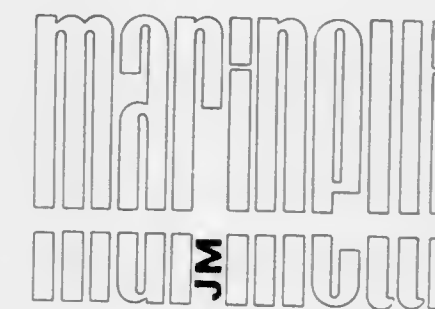
Class 39—Clothing

SN 303,627. Charles Pindyck, Inc., New York, N.Y. Filed July 25, 1968.

ROYAL CREST

For Bibs, Coveralls, and Training Pants (Int. Cl. 25). First use Sept. 1, 1967.

SN 322,886. Michel Marinelli and Jacqueline Marinelli (joint owners), Nice, Alpes Maritimes, France. Filed Mar. 26, 1969.



Priority claimed under Sec. 44(d) on French Reg. No. 750,750, dated Oct. 31, 1968.

For Men's Suits, Women's and Children's Dresses, Underwear, Shirts, Pants, Jackets, Coats, Trousers, and Pullovers (Int. Cl. 25). First use January 1956.

SN 325,621. McKell's Sportswear, Inc., Dallas, Tex. Filed Apr. 25, 1969.



For Women's and Juniors' Slacks, Blouses, Skirts, Jump-suits, and Dresses (Int. Cl. 25). First use January 1969.

SN 326,361. Dunham Brothers Company, Brattleboro, Vt. Filed May 5, 1969.

eskipets

Owner of Reg. No. 847,657.
For Footwear (Int. Cl. 25).
First use Jan. 10, 1969.

SN 331,435. Societe Anonyme C.A.D., Paris, France. Filed June 30, 1969.

YACK99

The lining on the drawing is to conform with the lining on the letters per se and is not intended necessarily to indicate color as such. Owner of French Reg. No. 727,932, dated Feb. 17, 1967.

For Clothes—Namely, Pull-Overs, Jackets, Cardigans, Skirts, T-Shirts, Turtle-Neck Garments, Dresses, Shirts, Pants, Coats, and Hosiery (Int. Cl. 25).

SN 333,574. Samuel Isenberg, d.b.a. Hatchers Mfg. Co., Lynn, Mass. Filed July 25, 1969.

Hatchers

For Jacket; Including Athletic Award Jackets (Int. Cl. 25).
First use January 1947.

SN 335,556. Paul Dimand Co., Inc., d.b.a. Parkview Clothes by Style Craft, Los Angeles, Calif. Filed Aug. 18, 1969.

PARKVIEW

For Men's Clothing, More Specifically, Men's Suits, Sport Coats, Suit Coats, Slacks, and Top Coats (Int. Cl. 25).
First use July 14, 1969.

SN 338,504. White Stag Manufacturing Co., Portland, Oreg. Filed Sept. 22, 1969.

**Comfit
White Stag**

Owner of Reg. Nos. 369,881, 868,238, and others.
For Women's Cotton Pants (Int. Cl. 25).
First use Feb. 1, 1965.

SN 339,356. Ridgeview Hosiery Mill Company, Newton, N.C. Filed Sept. 30, 1969.

LADY ROSA

For Women's Hosiery (Int. Cl. 25).
First use Aug. 15, 1969.

SN 340,759. Beautiful Bryans Inc., Chattanooga, Tenn. Filed Oct. 15, 1969.

ALWAYS A SHADE AHEAD

Owner of Reg. Nos. 518,247 and 590,042.
For Integral Panty and Hosiery Combination (Int. Cl. 25).
First use Jan. 23, 1948.

SN 340,958. Uniroyal, Inc., New York, N.Y. Filed Oct. 16, 1969.

BARESKIN

For Shoes (Int. Cl. 25).
First use fall of 1968.

SN 342,953. H. H. Brown Shoe Co., Inc., Worcester, Mass. Filed Nov. 7, 1969.

Mocaby

For Men's Shoes (Int. Cl. 25).
First use March 1967.

SN 343,538. H. Freedman & Son, Inc., Philadelphia, Pa. Filed Nov. 14, 1969.

TRENDAIRE

For Men's Suits, Sportcoats, Trousers, and Outercoats (Int. Cl. 25).
First use Oct. 30, 1969.

SN 344,434. A. Sagner's Son, Frederick, Md. Filed Nov. 24, 1969.

THE TAILORED IDEA

No claim is made to the words "The Tailored" apart from the mark as shown.

For Men's, Women's, Children's and Infants' Clothing—Namely, Men's Suits, Pants, and Overcoats; Men's Wear—Namely, Dress Shirts, Negligee Shirts, and Work Shirts and Parts Thereof—Namely, Neckbands, Cuffs, and Shirt Fronts, Ties, Slacks, Jackets, Shoes, Vests, Raincoats, Sweaters, Topcoats, Overcoats, Undershirts, Undershorts, Bathrobes, and Handkerchiefs; Women's Wear—Namely, Suits, Blouses, Skirts, Dresses, Shirts, Slips, Underwear, Slacks, Jackets, Shoes, Raincoats, Sweaters, Housecoats and Handkerchiefs; Children's and Infants' Wear—Namely, Girls' Suits, Coats, Skirts, Jackets, Dresses, Hats, Shirts, Blouses, Shoes, Slacks, Sweaters, Raincoats, Bathrobes, Slips, Underwear; Boys' Suits, Overcoats, Pants, Shirts, Shoes, Sweaters, Vests, Ties, Jackets, Slacks, Bathrobes, Raincoats, Undershirts, Undershorts; and Handkerchiefs (Int. Cl. 25).
First use October 1968.

SN 346,001. Uniroyal, Inc., New York, N.Y. Filed Dec. 11, 1969.

KEDS

Owner of Reg. Nos. 114,848 and 697,492.
For Sportswear—Namely, Shirts, Jackets, Pants and Coats; and Rainwear (Int. Cl. 25).
First use August 1969.

SN 351,042. The Kroger Co., Cincinnati, Ohio. Filed Feb. 10, 1970.

DOWNYLOFT

For Panties and Hosiery (Int. Cl. 25).
First use at least as early as July 10, 1969.

SN 354,695. International Playtex Corporation, New York, N.Y. Filed Mar. 20, 1970.

FASHION MAGIC

For Cuffs Attached to and Made Part of Girdles (Int. Cl. 25).
First use Feb. 13, 1970.

SN 356,837. Henry I. Siegel Co., Inc., New York, N.Y. Filed Apr. 14, 1970.

h.i.s

Owner of Reg. Nos. 549,951, 819,149, and others.
For Shoes (Int. Cl. 25).
First use Dec. 2, 1968.

SN 359,287. Danoca Industries, Inc., New York, N.Y. Filed May 11, 1970.

"HERE-IT-IS"

For Girls' and Boys' Suits, Shirts, Pants and Jackets; Girls' Jumpers, Skirts and Dresses, Overalls, Rompers and Coordinated Sets Consisting of Shirts, Blouses, Pants, and Skirts (Int. Cl. 25).
First use Jan. 19, 1970.

**Class 42—Knitted, Netted, and Textile
Fabrics, and Substitutes Therefor**

SN 293,554. Mercury Mills, Inc., Dalton, Ga. Filed Mar. 18, 1968.

mercury MILLS, INC.

For Rugs, Carpets, and Carpeting (Int. Cl. 27).
First use Mar. 22, 1966.

SN 337,314. Industrial Coated Products of America, Inc., Bristol, Tenn. Filed Sept. 8, 1969.

**ENVIRONMENTAL
SYSTEMS**

For Cotton, Synthetic, Coated and Laminated Fabrics, for Making Into Protective Rainwear, Rain Suits, Outerwear, Covers, Tarpaulins, Tents and Draperies, and Laminated Fabrics (Int. Cl. 24).
First use Aug. 15, 1969.

SN 352,966. Lumured Plastics Corp., Woodbridge, N.J. Filed Mar. 3, 1970.

LUMAMESH

For Handbag Material, Having Plastic Beaded Discs on a Fabric Base (Int. Cl. 24).
First use Dec. 1, 1969.

**Class 44—Dental, Medical, and Surgical
Appliances**

SN 347,019. Eagle Druggist's Supply Company, Inc., New York, N.Y. Filed Dec. 23, 1969.

PACI-COOL

For Combination Teether, Souther, and Pacifier (Int. Cl. 10).
First use Dec. 18, 1969.

SN 347,541. Margaret Josephine Wright, d.b.a. The B & P Company, Lakewood, Ohio. Filed Dec. 31, 1969.

FROWNIES

Owner of Reg. Nos. 287,253, 781,479, and others.
For Face Plasters for Treating Wrinkles (Int. Cl. 5).
First use July 1, 1939.

SN 348,450. Rodana Research Corporation, Bethesda, Md. Filed Jan. 13, 1970.

LIDOJECTOR

For Hypodermic Injectors (Int. Cl. 10).
First use Dec. 10, 1969.

SN 349,533. Aktiebolaget Electrolux, Stockholm, Sweden. Filed Jan. 26, 1970.

Dometic

Owner of Reg. No. 570,610.
For Hydro-Therapeutical Shower Stall Having Electronically Controlled Impulse-Type Water Jets (Int. Cl. 10).
First use Dec. 5, 1969; in commerce Dec. 5, 1969.

SN 351,529. Pennwalt Corporation, Philadelphia, Pa. Filed Feb. 16, 1970.

AUVELOPER

For Automatic Dental Film Developer (Int. Cl. 9).
First use Sept. 26, 1968.

SN 355,095. American Sterilizer Company, Erie, Pa. Filed Mar. 26, 1970.



The word "Surgical" is disclaimed apart from the mark as shown.
For Surgical Tables (Int. Cl. 10).
First use Nov. 8, 1969.

SN 357,015. Therapeutic Sleep Products, Inc., Dubuque, Iowa. Filed Apr. 15, 1970.

PILLO-PEDIC

For Therapeutic Pillow (Int. Cl. 10).
First use Feb. 20, 1970.

SN 364,355. Harold H. Aday, Jr., d.b.a. Johnson Surgical Industries, St. Joseph, Mo. Filed July 6, 1970.

DU BACH

For Surgical-Instrument Tables (Int. Cl. 10).
First use prior to June 1, 1955.

SN 364,499. Sterilon Corporation, Braintree, Mass. Filed July 6, 1970.

FUL-FLO

For Catheters (Int. Cl. 10).
First use Oct. 20, 1969.

SN 365,024. H. W. Andersen Products, Inc., Oyster Bay, N.Y. Filed July 13, 1970.



For Gastric Sump Tube (Int. Cl. 10).
First use Nov. 9, 1962.

SN 365,038. Cardiovascular Electrodynamics, Inc., Baltimore, Md. Filed July 13, 1970.

DIAPAK

For Artificial Kidney (Int. Cl. 10).
First use June 17, 1970.

SN 367,117. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Aug. 5, 1970.

ISO-DRAPE

For Surgical Drapes (Int. Cl. 5).
First use Mar. 26, 1970.

Class 45—Soft Drinks and Carbonated Waters

SN 361,916. The Coca-Cola Company, Atlanta, Ga. Filed June 8, 1970.



Applicant disclaims the representation of the fruit per se apart from the mark as shown.
For Canned Artificially Flavored Fruit Punch Containing Water (Int. Cl. 32).
First use Apr. 30, 1970.

SN 361,918. The Coca-Cola Company, Atlanta, Ga. Filed June 8, 1970.



Applicant disclaims the representation of the oranges per se apart from the mark as shown.
For Canned Orange Flavored Drink Containing Water (Int. Cl. 32).
First use Apr. 30, 1970.

SN 361,919. The Coca-Cola Company, Atlanta, Ga. Filed June 8, 1970.



Applicant disclaims the representation of the strawberries per se apart from the mark as shown.
For Canned Strawberry Flavored Drink Containing Water (Int. Cl. 32).
First use Apr. 30, 1970.

Class 46—Foods and Ingredients of Foods

SN 304,510. Sweetheart Bakers, Ltd., Brooklyn, N.Y. Filed Aug. 6, 1968.

SNACK FINGERS

For Edible Pastry Products—Namely, Filled Baked Flutes or Straws (Int. Cl. 30).
First use at least as early as May 1, 1968.

SN 312,243. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Nov. 14, 1968.

PUT-ON STICKERS

The word "Stickers" is disclaimed apart from the mark as shown, without disclaiming any common law rights therein.
For Chewing Gum Sold in Conjunction With Adhesively Backed Labels (Int. Cl. 30).
First use Oct. 10, 1968.

SN 320,810. Fisher Foods, Inc., d.b.a. Fisher-Fazio Costa Foods, Bedford Heights, Ohio. Filed Mar. 5, 1969.

GOLD CROWN

For Ice Cream (Int. Cl. 30).
First use in or about July 1965.

SN 322,750. Fabrique de Produits Alimentaires les Fils de William Saurin, Lagny-Saint-Thibault (Seine and Marne), France, by change of name from Les Fils de William Saurin, d.b.a. William Saurin, Lagny-Saint-Thibault (Seine and Marne), France. Filed Mar. 25, 1969.

WILLIAM SAURIN

Priority claimed under Sec. 44(d) on French Reg. No. 744,987, dated July 31, 1968. "William Saurin" is not the name of any particular living individual.
For Canned Meat, Vegetables and Fruits (Int. Cl. 29).
First use 1953; in commerce 1967.

SN 323,123. Pick-Salami Limited, Scarborough, Ontario, Canada. Filed Mar. 28, 1969.

PICKFEIN

Owner of Canadian Reg. No. 159,320, dated Nov. 22, 1968.
For Prepared Meat Products (Int. Cl. 29).

SN 324,422. Controlled Food Systems, Inc., Pittsburgh, Pa. Filed Apr. 14, 1969.



For Frozen Desserts—Namely, Ice Cream, Ice Milk, Water Ices, Sherbet; and Mellorine and Concentrates for Preparing Frozen Desserts—Namely, Colloidal Suspension Agents, Emulsifiers, Food Balance Salts, Mineral Salts and Sweeteners (Int. Cl. 30).
First use Jan. 15, 1969.

SN 325,225. S. R. Rosati Inc., d.b.a. Samuel R. Rosati, Clifton Heights, Pa. Filed Apr. 22, 1969.



"S. R. Rosati" is the name of a particular living individual whose consent is of record. The drawing is lined for the color red, but no claim is made to the color so named.
For Water Ice, Ice Cream, and Frozen Confections (Int. Cl. 30).
First use about June 1954.

SN 327,838. Tee-Pee Olives, Inc., New York, N.Y. Filed May 21, 1969.

REINETA

For Olives (Int. Cl. 31).
First use Apr. 16, 1969.

SN 328,038. D & D Bean Company, Greeley, Colo. Filed May 22, 1969.

PEAK

Owner of Reg. No. 209,672.
For Dried Beans, Peas, Lentils, Barley and Popcorn, All in Their Natural State (Int. Cl. 29).
First use 1923, on beans.

SN 331,433. Virginia Lee Smith, d.b.a. Smith Produce Company, Fairmont, W. Va. Filed June 30, 1969.



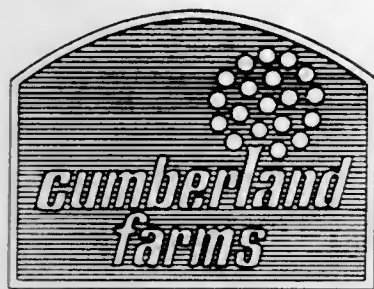
The word "Tomato" is disclaimed apart from the rest of the trademark. The figure of the princess in the drawing is fanciful.
For Fresh Tomatoes (Int. Cl. 31).
First use Mar. 11, 1961.

SN 331,434. Virginia Lee Smith, d.b.a. Smith Produce Company, Fairmont, W. Va. Filed June 30, 1969.



The word "Tomato" is disclaimed apart from the rest of the mark.
For Fresh Tomatoes (Int. Cl. 31).
First use Apr. 15, 1950.

SN 333,539. Cumberland Farms Dairy, Inc., Canton, Mass. Filed July 25, 1969.



The drawing is lined for the color blue which color is a feature of the mark. Owner of Reg. No. 813,569.

For Food Products—Namely, Ice Cream (Int. Cl. 30).
First use Mar. 31, 1968; Jan. 15, 1944, in a different form.

SN 336,567. Francis F. Rosin, d.b.a. Garden Food Products, Chicago, Ill. Filed Aug. 28, 1969.

SUNNY DAYS

For Fruit Flavored Food Beverages and Frozen Fruit Juices (Int. Cl. 32).
First use July 29, 1969.

SN 339,444. Mead Johnson & Company, Evansville, Ind. Filed Oct. 1, 1969.

BULGEFREE

For Snack Chips of a Corn Meal Nature (Int. Cl. 29).
First use Sept. 5, 1969.

SN 339,445. Mead Johnson & Company, Evansville, Ind. Filed Oct. 1, 1969.

SLIM PUFFS

Applicant disclaims exclusive right to the use of the word "Puffs" apart from the mark as shown.

For Snack Chips of a Corn Meal Nature (Int. Cl. 29).
First use Sept. 5, 1969.

SN 339,566. C. E. Grosjean Rice Milling Co., San Francisco, Calif. Filed Oct. 2, 1969.

GROSJEAN'S

Owner of Reg. No. 887,228.

For Rice, Rice Flour, and Packaged Rice Products, in Which Rice is the Principal Ingredient and Dehydrated Vegetables Are Secondary Ingredients (Int. Cl. 30).

First use during 1916; during 1967, in a different form.

SN 340,805. Mead Johnson & Company, Evansville, Ind. Filed Oct. 15, 1969.

SKINNIES

Owner of Reg. No. 867,662.

For Snack Chips of a Corn Meal Nature (Int. Cl. 29).
First use Sept. 18, 1969.

SN 340,985. Emig & Co., Eberbach, Germany. Filed Oct. 17, 1969.

SCHLOSS HEIDELBERG

The words "Schloss Heidelberg" mean "castle Heidelberg." Owner of German Reg. No. 793,149, dated Aug. 13, 1964.
For Fruit Juices (Int. Cl. 32).

SN 342,367. Thomas J. Kiley, d.b.a. Compact Donut Co. and Compact Donut Supply Co., Cleveland, Ohio. Filed Nov. 3, 1969.

COMPACT DONUT

The word "Donut" is disclaimed apart from its use in the mark.

For Donut Flour and Icing (Int. Cl. 30).

First use Aug. 22, 1969.

SN 342,597. Ralston Purina Company, St. Louis, Mo. Filed Nov. 4, 1969.

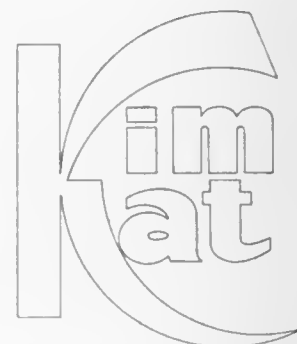
OZARK CHECKERBOARD

Owner of Reg. No. 860,245.

For Dairy Cattle Feed (Int. Cl. 31).

First use Oct. 8, 1968.

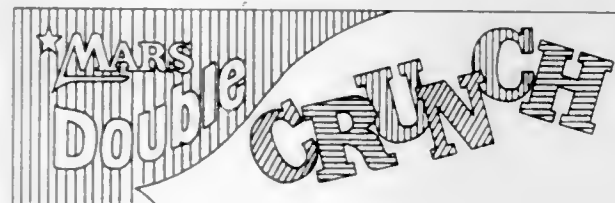
SN 343,629. Kimbell Foods, Inc., Fort Worth, Tex. Filed Nov. 17, 1969.



For Cat Food (Int. Cl. 31).

First use Aug. 27, 1969.

SN 344,192. Mars, Incorporated, Wilmington, Del. Filed Nov. 21, 1969.



The drawing is lined for the colors red, brown and blue, but no claim to color is made. No claim is made to the exclusive use of the words "Double Crunch" apart from the mark as a whole. Owner of Reg. Nos. 304,055, 543,758, and 677,437.

For Candy (Int. Cl. 30).

First use Oct. 20, 1969.

SN 346,233. Firma Arnaa Mejeri V. Ellif Pedersen, Logum-klostet, Denmark. Filed Dec. 15, 1969.

L'AMULETTE

"L'Amulette" means "the amulet" or "the charm," in the English language.

For Cheese (Int. Cl. 29).

First use December 1964; in commerce Dec. 15, 1967.

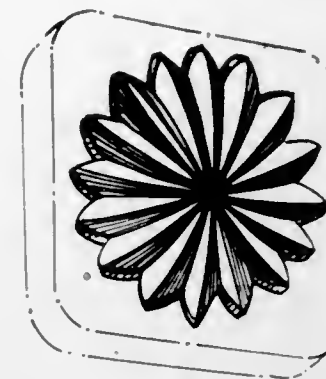
SN 346,673. Wayne Candles, Inc., Fort Wayne, Ind. Filed Dec. 18, 1969.

SNUGGLES

For Candles (Int. Cl. 30).

First use on or before Oct. 30, 1922.

SN 346,952. Leo Peters, Grand Rapids, Mich. Filed Dec. 22, 1969.



For Square Butter and Margarine Cubes (Int. Cl. 29).
First use at least as early as June 1961.

SN 349,315. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 22, 1970.

BRUNCH MUNCH

For Dog Food (Int. Cl. 31).

First use at least as early as Dec. 30, 1969.

SN 349,317. Armour-Dial, Inc., Chicago, Ill. Filed Jan. 22, 1970.

CODDLE

For Dog Food (Int. Cl. 31).

First use at least as early as Dec. 30, 1969.

SN 349,651. King of Spuds, Inc., East Grand Forks, Minn. Filed Jan. 26, 1970.

FLAVOR-VALU

For Fresh Potatoes (Int. Cl. 31).

First use November 1959.

SN 350,189. The Quaker Oats Company, Chicago, Ill. Filed Feb. 2, 1970.

SCHUMACHER

Owner of Reg. No. 179,284.

For Mixed Feeds (Int. Cl. 31).

First use at least as early as 1923.

SN 351,044. La Fe Tropical Fruits, Inc., Miami, Fla. Filed Feb. 10, 1970.

La Fe

"La Fe" is a Spanish word which means "the faith" in Spanish.

For Foods and Ingredients of Foods—Namely, Guava Jelly, Prune Paste, Mango Paste, Orange Paste, Guava Cream, Guava With Jelly, Orange Rinds in Syrup, Prunes in Syrup, Guava Marmalade, Grated Coconut in Syrup, Guava Seeded Halves, Papaya Chunks in Syrup, Milk Cream (a Solid Food Product Made from Milk, Sugar, and Corn Syrup) (Int. Cl. 29).

First use during the month of May 1968.

TM 880 O.G.—10

SN 351,664. T W Apples, d.b.a. T.W. Apples, Watsonville, Calif. Filed Feb. 18, 1970.



No claim is made to the representation of an apple, apart from the mark as shown.

For Fresh Apples (Int. Cl. 31).

First use Jan. 20, 1970.

SN 352,445. Bil-Jac Foods, Inc., Medina, Ohio. Filed Feb. 26, 1970.

BIL-JAC

For Frozen Dog Food (Int. Cl. 31).

First use Feb. 16, 1947.

SN 354,266. The Quaker Oats Company, Chicago, Ill. Filed Mar. 17, 1970.

BURRY'S BEST

Applicant makes no claim of exclusive right to use of the word "Best" separate and apart from the mark shown. Owner of Reg. Nos. 764,031, 865,885, and others.

For Cookies (Int. Cl. 30).

First use Feb. 19, 1970; Dec. 14, 1934, as to "Burry's."

SN 355,005. Tootsie Roll Industries, Inc., Chicago, Ill. Filed Mar. 25, 1970.

TOOTSIE TOTS

Owner of Reg. Nos. 62,179, 112,327, and others.

For Candy (Int. Cl. 30).

First use at least as early as Mar. 20, 1970.

SN 356,574. The Pillsbury Company, Minneapolis, Minn. Filed Apr. 13, 1970.

BROWNIE PALS

Applicant disclaims the word "Brownie" apart from the mark as shown.

For Baked Food Products—Namely, Brownies (Int. Cl. 30).

First use Mar. 27, 1970.

SN 358,237. Firch Baking Company, Erie, Pa. Filed Apr. 29, 1970.

Firch's

For Bakery Foods—Namely, Breads, Rolls, Cakes, Donuts, and Cookies (Int. Cl. 30).

First use 1924.

SN 361,074. The Quaker Oats Company, Chicago, Ill. Filed May 28, 1970.

COLONEL CORN

Applicant makes no claim of exclusive right to use of the word "Corn" separate and apart from the mark shown. Owner of Reg. No. 775,497.

For Ready-To-Eat Cereal (Int. Cl. 30).
First use May 1, 1970.

SN 362,622. The Pillsbury Company, Minneapolis, Minn. Filed June 15, 1970.

TOTABLES

For High Protein, Nutritionally Balanced Instant Breakfast in Solid Form (Int. Cl. 30).
First use Dec. 1, 1969.

SN 364,204. Ralston Purina Company, St. Louis, Mo. Filed July 2, 1970.

OZARK SWEET MIX

Applicant disclaims the words "Sweet Mix" apart from the mark as shown.

For Cattle and Horse Feed (Int. Cl. 31).
First use May 27, 1970.

SN 367,770. Duffy-Mott Company, Inc., New York, N.Y. Filed Aug. 12, 1970.

SWEET 'n LOW

Owner of Reg. No. 603,115.
For Canned Fruits (Int. Cl. 29).
First use September 1965; Feb. 20, 1954, in a different form.

Class 47—Wines

SN 345,498. A. Racke KG, Bingen/Rhine, Germany. Filed Dec. 5, 1969.

BLACKBIRD

Owner of German Reg. No. 844,524, dated Apr. 14, 1961.
For Wines (Int. Cl. 33).

SN 351,793. De La Salle Institute, Rheem Valley, Calif. Filed Feb. 19, 1970.



All wording, except "The Christian Brothers," is disclaimed apart from the mark as shown. Owner of Reg. Nos. 562,913, 870,199, and others.

For Cream Port (Int. Cl. 33).
First use Aug. 1, 1969.

Class 49—Distilled Alcoholic Liquors

SN 358,488. Turret Imports Ltd., West Palm Beach, Fla. Filed Apr. 30, 1970.

HUTIQUE

For Liqueur (Int. Cl. 33).
First use Jan. 13, 1970.

Class 50—Merchandise Not Otherwise Classified

SN 343,272. The Franklin Mint, Inc., Yeadon, Pa. Filed Nov. 12, 1969.

THE GENIUS OF MICHELANGELO

"Michelangelo" is the christian name of the Italian artist, deceased 1564.

For Commemorative Medals (Int. Cl. 14).
First use Nov. 10, 1969.

SN 343,351. Woodford Manufacturing Company, Des Moines, Iowa. Filed Nov. 12, 1969.

BRIDGOMATIC

For Ramp-Type Dock Plates (Int. Cl. 6).
First use July 26, 1967.

SN 343,352. Woodford Manufacturing Company, Des Moines, Iowa. Filed Nov. 12, 1969.

PORTABRIDGE

For Ramp-Type Dock Plates (Int. Cl. 6).
First use Aug. 10, 1967.

SN 352,063. Associates Engraving Company, Springfield, Ill. Filed Feb. 24, 1970.



The mark consists of the letters MD and design.
For Decorative Metal Plaques and Awards (Int. Cl. 16).
First use Feb. 3, 1970.

SN 352,187. New Freedom, Inc., Carmichael, Calif. Filed Feb. 24, 1970.

THE "SIGN OF THE TIMES"

For Small Sculpture Reproductions (Int. Cl. 20).
First use on or about Feb. 9, 1970.

SN 353,116. Work Area Protection Corporation, Elmhurst, Ill. Filed Mar. 4, 1970.



For Stands for Carrying Signs Such as Road Construction Signs and Vehicular Traffic Control Signs and the Like (Int. Cl. 6).
First use Aug. 17, 1969.

Class 51—Cosmetics and Toilet Preparations

SN 284,930. Miles Laboratories, Inc., Elkhart, Ind. Filed Nov. 15, 1967.

SUN FREE

For Sun Screening Lotion (Int. Cl. 3).
First use Oct. 25, 1967.

SN 313,302. International Chemical & Cosmetic Company S.p.A., Milan, Italy. Filed Nov. 29, 1968.

OVERFAX

Priority claimed under Sec. 44(d) on Italian application filed Oct. 26, 1968; Reg. No. 234,364, dated Dec. 18, 1968.

For Whitening Agent Incorporated as an Ingredient in Dentifrices (Int. Cl. 3).

SN 323,041. Whink Products Company, Eldora, Iowa. Filed Mar. 27, 1969.



For Foaming Bath Oil (Int. Cl. 3).
First use Feb. 21, 1969.

SN 339,291. Villager Industries, Inc., Philadelphia, Pa. Filed Sept. 30, 1969.

CELA

The English translation of the French word "Cela" is "that."

For Perfume, Cologne, Bath Oil and Dusting Powder (Int. Cl. 3).

First use Aug. 6, 1969.

SN 342,655. Michel Cosmetics, Inc., Long Island City, N.Y. Filed Nov. 4, 1969.

DEMODEXIN

For Eyelash Cleansing Lotion (Int. Cl. 3).
First use Sept. 4, 1969.

SN 364,983. Colgate-Palmolive Company, New York, N.Y. Filed July 13, 1970.

LIQUID LIGHTS

Applicant disclaims the word "Liquid" apart from the mark as shown.

For Hair Spray (Int. Cl. 3).
First use June 12, 1970.

SN 366,847. Lever Brothers Company, New York, N.Y. Filed Aug. 3, 1970.

DYNA-WHITE

For Dentifrice (Int. Cl. 3).
First use July 22, 1970.

SN 366,862. Organon Inc., West Orange, N.J. Filed Aug. 3, 1970.

ENZYDENT

For Toothpaste (Int. Cl. 3).
First use on or prior to July 20, 1970.

Class 52—Detergents and Soaps

SN 303,037. Clayton Manufacturing Company, El Monte, Calif. Filed July 18, 1968.

KARIKLEEN

For Heavy Duty Industrial Cleaning Compound for Use With a Power Washer or Steam Cleaner To Clean Exterior Painted Surfaces (Int. Cl. 3).
First use Apr. 24, 1968.

SN 308,818. Schratz Products, Inc., Detroit, Mich. Filed Oct. 3, 1968.



The phrase "Of London" is disclaimed apart from the mark as shown.

For Hand and Bath Soaps (Int. Cl. 3).
First use June 1, 1968.

SN 313,325. National Tea Co., Chicago, Ill. Filed Nov. 29, 1968.

EMERALD LOTION

The word "Lotion" is disclaimed apart from the mark as shown.

For Household Detergents—Namely, Dish Washing Detergent (Int. Cl. 3).

First use Oct. 30, 1968.

SN 332,151. Schuyler Development Corporation, Reading, Pa. Filed July 9, 1969.

WONDER-FIL

For Detergent Compositions—Namely, Laundry Detergents for Clothes Washing; Window Washing and Cleaning Compounds; Windshield Cleaning Compounds; and Paint Removing Compounds (Int. Cl. 3).

First use January 1968.

SN 338,841. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Sept. 25, 1969.

DACOTEX FRESH 'N CLEAN

Applicant disclaims the word "Clean" apart from the mark as shown. Owner of Reg. No. 823,088.
For Solvent/Detergent Combination for Use by Professional and Self-Service Dry Cleaners (Int. Cl. 3).
First use Jan. 31, 1969.

SN 340,646. Villager Industries, Inc., Philadelphia, Pa. Filed Oct. 14, 1969.

CELA

The English translation of the French word "Cela" is "that."
For Toilet Soap (Int. Cl. 3).
First use Aug. 6, 1969.

SN 348,387. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 13, 1970.

LIQUID LIGHTS

Applicant disclaims the word "Liquid" apart from the mark as shown.
For Hair Shampoo (Int. Cl. 3).
First use Nov. 19, 1969.

SN 350,126. STP Corporation, Des Plaines, Ill. Filed Jan. 30, 1970.

MR. "500"

For Additive Cleaning Preparation for Vehicle Radiators Which Removes Rust and Scale (Int. Cl. 3).
First use Dec. 10, 1969.

SERVICE MARKS

Class 100—Miscellaneous

SN 302,080. Hospitality House, Inc., Bloomington, Ind. Filed July 5, 1968.



Applicant disclaims the term "House" apart from the mark as shown.
For Nursing Homes Services for the Aged in Which Both Medical and Convalescent Care Are Provided (Int. Cl. 42).
First use July 1, 1964.

SN 357,513. Lever Brothers Company, New York, N.Y. Filed Apr. 21, 1970.

POT SHOT

Applicant disclaims the word "Pot" apart from the mark as shown.
For Cleaning Preparation for Pots and Pans (Int. Cl. 3).
First use Mar. 31, 1970.

SN 357,935. Alcon Laboratories, Inc., Fort Worth, Tex. Filed Apr. 27, 1970.

CETA-TAR

For Soap-Free and Detergent-Free Hair Shampoo for the Control of Dandruff (Int. Cl. 3).
First use Dec. 11, 1969.

SN 358,076. Pennwalt Corporation, Philadelphia, Pa. Filed Apr. 27, 1970.

POLY-D

For Laundry Detergent (Int. Cl. 3).
First use Apr. 2, 1970.

SN 364,858. E. R. Squibb & Sons, Inc., New York, N.Y. Filed July 10, 1970.

COLOR POO

For Children's Shampoo (Int. Cl. 3).
First use July 8, 1970.

SN 368,403. Fremont Industries, Inc., Shakopee, Minn. Filed Aug. 19, 1970.

VALLEY DEW

For Detergents—Namely, Liquid Dishwash Detergents and Laundry Detergents (Int. Cl. 3).
First use Mar. 20, 1970.

SN 306,138. HMM Publishing Co. Inc., Chicago, Ill. Filed Aug. 28, 1968.

BUNNY BURGER

Applicant claims the exclusive right to the use of the word "Burger" as a part of its service mark, but not otherwise. Owner of Reg. Nos. 810,554 and 810,555.
For Specially Prepared Chopped Sirloin Steak, as Part of a Restaurant Service (Int. Cl. 42).
First use on or about Aug. 1, 1966.

SN 322,465. Pizza Pub of America, Inc., Independence, Mo. Filed Mar. 21, 1969.

**Pizza
Pub**

Applicant disclaims the term "Pizza" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use on or about Apr. 1, 1967.

SN 327,143. Guardsmark, Inc., Memphis, Tenn. Filed May 13, 1969.

Gi

For Providing Guards for Private Property (Int. Cl. 42).
First use July 19, 1965.

SN 327,144. Guardsmark, Inc., Memphis, Tenn. Filed May 13, 1969.

A STITCH IN TIME

For Service of Providing Guards for Private Property (Int. Cl. 42).
First use June 15, 1967.

SN 328,075. Richardson, Bellows, Henry & Co., Inc., Washington, D.C. Filed May 22, 1969.

RBH

For Devising and Validating Tests to Determine Employment Skills for Others (Int. Cl. 42).
First use Dec. 31, 1947.

SN 329,864. Instructional Simulations, Inc., Newport, Minn. Filed June 12, 1969.

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For Services of Consultation, Research and Development of Learning Games for Others (Int. Cl. 42).
First use on or about July 21, 1968.

SN 334,194. Autocode, Inc., Washington, D.C. Filed Aug. 1, 1969.

MUNICOMP

For Search of Municipal Law Court Decisions and Legislation Utilizing a Computer Search and Retrieval System (Int. Cl. 42).
First use June 24, 1969.

SN 335,077. The Thin Man, Incorporated, New Haven, Conn. Filed Aug. 11, 1969.

THE THIN MAN

For Restaurant Services, Specifically, the Preparation, Serving and Dispensing of Low Calorie Food and Non-Alcoholic Beverages (Int. Cl. 42).
First use Aug. 7, 1969.

SN 339,454. The Pizza Inn, Inc., Arlington, Tex. Filed Oct. 1, 1969.

OUR WURST IS THE BEST

For Restaurant Services (Int. Cl. 42).
First use on or about July 15, 1969.

SN 339,482. The Living Bank, Houston, Tex. Filed Sept. 29, 1969.

THE LIVING BANK

Applicant disclaims the word "Bank" apart from the mark as shown.
For Obtaining Donations of Parts of the Human Body for Medical Purposes, Including Transplantation (Int. Cl. 42).
First use Oct. 10, 1968.

SN 343,254. Checkered Apron, Inc., Macon, Ga. Filed Nov. 12, 1969.

CHECKERED APRON

For Restaurant Services (Int. Cl. 42).
First use Mar. 20, 1962.

SN 343,316. Dolly Madison Industries, Inc., Philadelphia, Pa. Filed Nov. 12, 1969.

**THE
PLACE**

For Restaurant Services (Int. Cl. 42).
First use Aug. 21, 1969.

SN 344,466. Twin-Tiki Inns of America, Inc., Eddyville, Ky. Filed Nov. 24, 1969.

TWIN TIKI INN

The word "Inn" is disclaimed apart from the mark as shown.
For Motel Services (Int. Cl. 42).
First use May 30, 1969.

SN 344,616. D'Amores, Inc., Grand Prairie, Tex. Filed Nov. 26, 1969.



For Restaurant Services (Int. Cl. 42).
First use July 4, 1969.

SN 353,619. Burgener Technical Enterprises Limited, Toronto, Ontario, Canada. Filed Mar. 10, 1970.



Applicant disclaims the words "Wear Check" separate and apart from the mark as shown, at the same time reserving its common law rights with respect thereto.

For Services Offered to the Automotive and Aircraft Industries and to Others—Namely, the Spectrographic Analysis of Used Lubricants Employed in Machinery To Ascertain the Presence and Amount of Certain Substances Contained Therein To Determine Machine Condition (Int. Cl. 42).

First use Dec. 1, 1966; in commerce Feb. 15, 1967.

SN 358,675. Telmar Communications Corp., New York, N.Y. Filed May 4, 1970.

TAPPER

For Providing Automatic Data Storage and Retrieval Services to Subscribers (Int. Cl. 42).
First use Dec. 23, 1968.

SN 368,025. Marriott Corporation, Washington, D.C. Filed Aug. 14, 1970.

BUCKBOARD JANE

For Restaurant Services (Int. Cl. 42).
First use at least as early as Aug. 6, 1970.

SN 368,026. Marriott Corporation, Washington, D.C. Filed Aug. 14, 1970.

THE BIG CHEESE

For Restaurant Services (Int. Cl. 42).
First use at least as early as August 1969.

SN 368,027. Marriott Corporation, Washington, D.C. Filed Aug. 14, 1970.



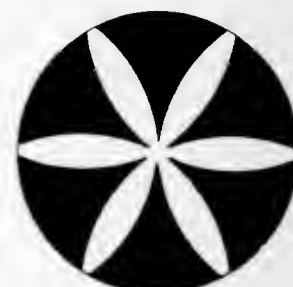
The human figure depicted in the drawing is fanciful and does not represent an actual living person. Owner of Reg. No. 783,754 and others.

For Restaurant Services (Int. Cl. 42).

First use at least as early as Aug. 6, 1970; on or about Aug. 30, 1963, in a different form.

Class 101—Advertising and Business

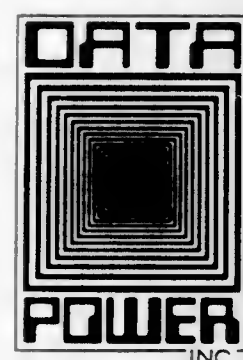
SN 313,731. Schawk Graphics, Inc., Chicago, Ill. Filed Dec. 5, 1968.



For Lithographic Color Separation, Lithographic, and Printing Services (Int. Cl. 35).

First use in or about October 1967.

SN 332,924. Data Power Inc., New York, N.Y. Filed July 18, 1969.



For Computer Data Processing Services, and Franchising Services—Namely, Business, Technical and Other Assistance in the Establishment and Operation of Data Processing Centers for Others (Int. Cl. 35).

First use Apr. 15, 1969.

Subj. to Intf. with SN 355,315.

SN 338,130. Computer Catalogs Incorporated, Boston, Mass. Filed Sept. 17, 1969.

CCI

For Providing a Computerized Catalog Look-Up System for Subscribers (Int. Cl. 35).

First use Sept. 5, 1969.

Subj. to Intf. with SN 344,950 and SN 347,295.

SN 338,131. Computer Catalogs Incorporated, Boston, Mass. Filed Sept. 17, 1969.

COMPULOG

For Providing a Computerized Catalog Look-Up System for Subscribers (Int. Cl. 35).

First use Sept. 5, 1969.

SN 346,102. Helen D. Neumann, d.b.a. H.D.N. Bookkeeping and Accounting Service, St. Paul, Minn. Filed Dec. 12, 1969.



For Financial Services of Bookkeeping and Accounting, Including Tax and Related Matters (Int. Cl. 35).

First use on or about Nov. 8, 1966.

SN 349,729. Amerco, Phoenix, Ariz. Filed Jan. 27, 1970.

AMERCO

For Business Management Consulting Services (Int. Cl. 35).
First use Apr. 9, 1969.

SN 355,315. Manpower, Inc., Milwaukee, Wis. Filed Mar. 30, 1970.

DATAPOWER

For Key Punching, Computer Data Processing, Computer Programming, and Systems Consultation Services (Int. Cl. 35).

First use Feb. 17, 1967.

Subj. to Intf. with SN 332,924.

Class 102—Insurance and Financial

SN 320,229. Arthur A. Anderson, New York, N.Y. Filed Feb. 27, 1969.

ERICIUS

For Managing Money Matters and Investment Funds of Others (Int. Cl. 36).

First use January 1969.

SN 331,717. Bank of America National Trust & Savings Association, San Francisco, Calif. Filed July 3, 1969.

FOR THE BUSINESS OF LIVING

For Commercial, Savings, Loan, Trust Department, and Credit Financing Banking Services (Int. Cl. 36).

First use Dec. 26, 1968.

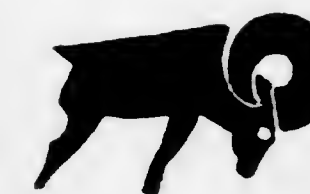
SN 339,154. The Detroit Automobile Inter-Insurance Exchange, Detroit, Mich. Filed Sept. 29, 1969.

NeighborCare

For Type of Liability Insurance Company Claims Adjusting Whereby in Certain Cases the Insurer Will Make Advance Payments to the Claimant Without Obtaining a Final Release of the Insured (Int. Cl. 36).

First use on or about Feb. 1, 1967.

SN 343,649. Audax Fund, Incorporated, Milwaukee, Wis. Filed Nov. 17, 1969.



For Mutual Fund Investment Services (Int. Cl. 36).
First use September 1969.

SN 343,650. Audax Fund, Incorporated, Milwaukee, Wis. Filed Nov. 17, 1969.

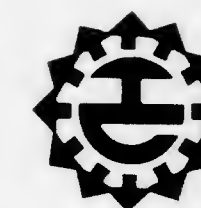
AUDAX

For Mutual Fund Investment Services (Int. Cl. 36).
First use September 1969.

Class 105—Transportation and Storage

SN 273,998. John J. Stevenson, d.b.a. Travel Central, Seattle, Wash. Filed June 15, 1967.

TRAVEL CENTRAL



Applicant disclaims the word "Travel" apart from the mark.

For Travel Agency Services (Int. Cl. 39).

First use March 1967.

SN 316,096. Global Van Lines, Inc., Anaheim, Calif. Filed Jan. 8, 1969.



Owner of Reg. Nos. 661,769 and 695,839.
For Travel Agency Services Such as Making Reservations and Arranging for Transportation (Int. Cl. 39).
First use on or about Nov. 4, 1968.

SN 320,414. Admiral Travel Service, Inc., d.b.a. Honeymoon Travel Service, Philadelphia, Pa. Filed Mar. 3, 1969.



Applicant disclaims the word "Travel" apart from the mark.
For Travel Agency Services (Int. Cl. 39).
First use in or about March 1968.

Class 107 — Education and Entertainment

SN 335,748. Samuel Augustus Davidson, Lake George, Colo. Filed Aug. 20, 1969.



Applicant disclaims the word "Campground."
For Operation of Campground Facilities (Int. Cl. 41).
First use Apr. 1, 1969.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 314,652. The American Board of Registration of Electroencephalographic Technologists, Inc., Cleveland, Ohio. Filed Dec. 10, 1968.

R. EEG T.

For Indicating Membership in Applicant.
First use June 1967.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials Class 7 — Cordage

902,832. ANIM/S. Rohm and Haas Company. SN 334,744. Pub. 9-8-70. Filed 8-7-69.

902,833. IREX. Amriean Cyanamid Company. SN 335,732. Pub. 9-8-70. Filed 8-20-69.

902,834. GEMITATION. Tivian Laboratories Incorporated. SN 339,474. Pub. 9-8-70. Filed 10-1-69.

902,835. WHITOX. Benllite Corporation of America. SN 342,224. Pub. 6-16-70. Filed 10-31-69.

902,836. WEARLON. Dodge-Wasmund Mfg., Inc. SN 348,125. Pub. 9-8-70. Filed 1-9-70.

902,837. THERMALON. Dodge-Wasmund Mfg., Inc. SN 348,126. Pub. 9-8-70. Filed 1-9-70.

902,838. THERMALOY. Dodge-Wasmund Mfg., Inc. SN 348,127. Pub. 9-8-70. Filed 1-9-70.

902,839. MIXCOR. Fort Wayne Reduction, Inc. SN 360,636. Pub. 9-8-70. Filed 5-25-70.

902,840. LANCRYL. Purex Corporation, Ltd., d.b.a. Lanson Chemical Corporation. SN 360,936. Pub. 9-8-70. Filed 5-27-70.

902,855. EXXON. Standard Oil Company. SN 296,765. Pub. 9-15-70. Filed 4-29-68.

Class 10 — Fertilizers

902,856. MULCH-ALL. Excel-Mineral Company, Inc., d.b.a. Excel Mineral Co. SN 336,055. Pub. 9-8-70. Filed 8-25-69.

Class 11 — Inks and Inking Materials

902,857. CHEMOLENE GOLD RIBBON INK. Chemolene Industries, Inc. SN 328,655. Pub. 9-8-70. Filed 5-29-69.

Class 12 — Construction Materials

902,858. INTERNATIONAL INDUSTRIES INC. ETC. AND DESIGN. International Industries, Inc. SN 293,830. Pub. 11-19-68. Filed 3-21-68.

902,859. EARLY COLONIAL. Majestic Tile Company. SN 321,517. Pub. 9-8-70. Filed 3-12-69.

902,860. MADEIRA LINDA. U.S. Plywood-Champlon Papers Inc. SN 326,966. Pub. 9-8-70. Filed 5-12-69.

902,861. MARCO-CRETE. Uni-Wall Interlock, Inc. SN 328,372. Pub. 9-8-70. Filed 5-26-69.

902,862. SPARTINA. United States Ceramic Tile Company. SN 328,753. Pub. 9-8-70. Filed 5-29-69.

902,863. MODULAGE HOMES ETC. AND DESIGN. Albee Homes, Inc. SN 335,641. Pub. 9-8-70. Filed 8-19-69.

902,864. TRI-DOR. American Enclosures Company. SN 353,710. Pub. 9-8-70. Filed 3-11-70.

902,865. SANDHURST. Johns-Manville Corporation. SN 353,884. Pub. 9-8-70. Filed 3-12-70.

902,866. MICROBAN. Johns-Manville Corporation. SN 355,239. Pub. 9-8-70. Filed 3-27-70.

902,867. CERAMOSPRAY. Asbestospray Corporation. SN 355,335. Pub. 9-8-70. Filed 3-30-70.

902,868. PALAZZO. Georgia Tile Distributors, Inc. SN 355,387. Pub. 9-8-70. Filed 3-30-70.

902,869. PANELCREST. Panelboard Manufacturing. SN 355,537. Pub. 9-8-70. Filed 3-31-70.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

902,870. MISCELLANEOUS DESIGN. Home Interiors & Gifts, Inc. MULTIPLE CLASS (Classes 13, 30, 33, 34, 50, and 101). SN 282,464. Pub. 9-8-70. Filed 10-13-67.

902,871. MISCELLANEOUS DESIGN. Temple Industries, Inc. SN 302,654. Pub. 9-8-70. Filed 7-12-68.

902,872. FULL-BORE. The Aro Corporation. SN 313,797. Pub. 9-8-70. Filed 12-6-68.

902,873. MG COUPLING. Shapiro Bros. Industries. SN 317,766. Pub. 9-8-70. Filed 1-28-69.

Class 2 — Receptacles

902,841. GENPAK. General Plastics Company Limited. SN 338,147. Pub. 7-14-70. Filed 9-17-69.

Class 4 — Abrasives and Polishing Materials

902,842. GLOBO. Globus-Werke Frltz Schulz Jun. SN 307,795. Pub. 6-23-70. Filed 8-14-68.

Class 6 — Chemicals and Chemical Compositions

902,843. KEM. Kem Manufacturing Corporation. SN 256,450. Pub. 9-19-67. Filed 10-14-66.

902,844. CHEMICATOR. Universal Oil Products Company. SN 262,081. Pub. 5-14-68. Filed 1-9-67.

902,845. DIANOL. Koninklijke Zwavelzuurfabrieken Voorheen Ketjen N.V. SN 293,725. Pub. 5-26-70. Filed 3-20-68.

902,846. BIO-SEAL. Alfred Bloch and Eugene H. Bernstein (co-owners). MULTIPLE CLASS (Classes 6 and 26). SN 305,175. Pub. 11-25-69. Filed 8-15-68.

902,847. T. Master Chemical Corporation. SN 323,584. Pub. 9-8-70. Filed 4-3-69.

902,848. ZYTOX. Ferguson Fumigants, Inc. SN 324,710. Pub. 6-2-70. Filed 4-16-69.

902,849. FLAMENCO. The Mearl Corporation. SN 330,396. Pub. 7-28-70. Filed 6-18-69.

902,850. GULF. Gulf Oil Corporation. SN 346,896. Pub. 9-8-70. Filed 12-22-69.

902,851. DYNASIL. Dynamit Nobel Aktiengesellschaft. SN 347,017. Pub. 9-8-70. Filed 12-23-69.

902,852. PETRAMIN. Farbenfabriken Bayer Aktiengesellschaft. SN 347,092. Pub. 9-8-70. Filed 12-24-69.

902,853. POPCORN. Collier Carbon and Chemical Corporation. SN 347,224. Pub. 9-8-70. Filed 12-29-69.

902,854. MULTIFEX IDX. Diamond Shamrock Corporation. SN 359,953. Pub. 9-8-70. Filed 5-18-70.

- 902,874. TERRA SANCTA GUILD. Terra-Sancta Creations, Inc. MULTIPLE CLASS (Classes 13, 28, 32, 34, 37, and 50). SN 320,870. Pub. 9-8-70. Filed 3-5-69.
- 902,875. DELRO. Delro Manufacturing Corporation. SN 323,092. Pub. 6-9-70. Filed 3-28-69.
- 902,876. MONOCAR HC AND DESIGN. Jose L. Gonzalez, Marco A. Fonseca, and Enrique T. Gibbon (partnership). SN 334,079. Pub. 9-8-70. Filed 7-31-69.
- 902,877. MISCELLANEOUS DESIGN. Wrought Washer Mfg. Co. SN 339,984. Pub. 9-8-70. Filed 10-6-69.
- 902,878. HI-RISE. Beneke Corporation. SN 353,720. Pub. 9-8-70. Filed 3-11-70.

Class 14 — Metals and Metal Castings and Forgings

- 902,879. IBC. Industrial Brush Company. MULTIPLE CLASS (Classes 14 and 29). SN 325,039. Pub. 9-8-70. Filed 4-21-69.
- 902,880. GIMEL. Uguine Kuhlmann. SN 351,067. Pub. 9-8-70. Filed 2-10-70.
- 902,881. DIACOR. Glenn R. Lee Company, Inc. SN 359,179. Pub. 9-8-70. Filed 5-8-70.

Class 15 — Oils and Greases

- 902,882. NONSCENTS. Carolina Company, Inc., d.b.a. The Carolina Soap & Candle Makers. SN 288,599. Pub. 9-1-70. Filed 1-11-68.
- 902,883. BUCK'S-V-OIL AND DESIGN. Peter Pendarvis, d.b.a. Oil Engineers & Co. SN 319,942. Pub. 9-8-70. Filed 2-24-69.
- 902,884. PIPE-BREAK. Calfonex, Inc. SN 329,834. Pub. 9-8-70. Filed 6-12-69.
- 902,885. SNAKE OIL. Turtle Wax, Inc. SN 330,795. Pub. 9-8-70. Filed 6-23-69.

Class 16 — Protective and Decorative Coatings

- 902,886. NU-FRIGERATOR. Arthur C. Mangels Industries, Inc. SN 361,228. Pub. 9-8-70. Filed 6-1-70.

Class 17 — Tobacco Products

- 902,887. MARDI GRAS. Bayuk Cigars Incorporated. SN 328,263. Pub. 12-2-69. Filed 5-26-69.
- 902,888. SUNLAND. Philip Morris Incorporated. SN 356,731. Pub. 9-8-70. Filed 4-13-70.
- 902,889. CERTINA. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V. SN 357,818. Pub. 9-8-70. Filed 4-24-70.
- 902,890. BUCKO. Utica Tobacco Company, Inc. SN 357,876. Pub. 9-8-70. Filed 4-24-70.
- 902,891. WINCHESTER. R. J. Reynolds Tobacco Company. SN 358,470. Pub. 9-8-70. Filed 5-4-70.
- 902,892. FLAMBEAU. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V. SN 358,944. Pub. 9-8-70. Filed 5-6-70.
- 902,893. SWEET CHARITY. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V. SN 358,946. Pub. 9-8-70. Filed 5-6-70.
- 902,894. CIRCLE. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V. SN 358,947. Pub. 9-8-70. Filed 5-6-70.

- 902,895. SQUARE CIRCLE. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V. SN 358,948. Pub. 9-8-70. Filed 5-6-70.
- 902,896. MILE HIGH. Consolidated Cigar Corporation. SN 359,473. Pub. 9-8-70. Filed 5-12-70.
- 902,897. SENTINEL. Jeno F. Paulucci, d.b.a. The Sentinel Company. SN 331,643. Pub. 9-15-70. Filed 7-2-69.
- 902,898. HONCHOS. Consolidated Cigar Corporation. SN 359,477. Pub. 9-8-70. Filed 5-12-70.

Class 18 — Medicines and Pharmaceutical Preparations

- 902,899. TOBAN. USV Pharmaceutical Corporation. SN 316,260. Pub. 9-8-70. Filed 1-9-69.
- 902,900. LYSODREN. Calbiochem. SN 336,243. Pub. 9-8-70. Filed 8-18-69.

Class 19 — Vehicles

- 902,901. DYANE. Societe Anonyme Automobiles Citroen, assignee of Societe Anonyme Andre Citroen. MULTIPLE CLASS (Classes 19 and 23). SN 289,857. Pub. 2-17-70. Filed 1-30-68.
- 902,902. TOM SAWYER. Tom Sawyer Boats, Inc. SN 328,081. Pub. 9-8-70. Filed 5-22-69.
- 902,903. ANCHOR LOK. Royal Industries, Inc. SN 328,345. Pub. 1-27-70. Filed 5-26-69.
- 902,904. THE BIG BLUE. Harsco Corporation. MULTIPLE CLASS (Classes 19 and 23). SN 339,321. Pub. 9-8-70. Filed 9-30-69.
- 902,905. RIDGE RUNNER AND DESIGN. Donald H. Hagen. SN 359,356. Pub. 9-8-70. Filed 5-11-70.
- 902,906. SINGLEAF. Spectra McIntosh Corporation. SN 361,620. Pub. 9-8-70. Filed 6-3-70.
- 902,907. CHIMO AND DESIGN. Somovex Inc. SN 361,766. Pub. 9-8-70. Filed 6-4-70.
- 902,908. LANDOHOMER. Landola, Incorporated. SN 362,034. Pub. 9-8-70. Filed 6-8-70.
- 902,909. LANDOLA. Landola, Incorporated. SN 362,035. Pub. 9-8-70. Filed 6-8-70.

Class 20 — Linoleum and Oiled Cloth

- 902,910. PANACHE. American Biltrite Rubber Co., Inc. SN 345,280. Pub. 6-2-70. Filed 12-4-69.

Class 21 — Electrical Apparatus, Machines, and Supplies

- 902,911. PANASONIC. Matsushita Electric Industrial Co., Ltd. SN 284,489. Pub. 5-19-70. Filed 11-9-67.
- 902,912. IN-TROL. Elcon Systems, Inc. SN 301,923. Pub. 11-18-69. Filed 7-3-68.
- 902,913. WE'VE GOT THE PLANE BRAINS. Cessna Aircraft Company, assignee of Aircraft Radio Corporation. MULTIPLE CLASS (Classes 21, 26, and 38). SN 306,984. Pub. 9-8-70. Filed 9-10-68.
- 902,914. AGIETRONIC. AG Fur Industrielle Elektronik A.G.I.E. SN 307,779. Pub. 9-8-70. Filed 9-17-68.
- 902,915. DOOR-TONE. Winston E. Kock. SN 307,783. Pub. 9-8-70. Filed 9-16-68.

- 902,916. CATHEDRAL DOOR-TONE. Winston E. Kock. SN 307,784. Pub. 9-8-70. Filed 9-16-68.
- 902,917. CHAMP. Columbia Broadcasting System, Inc. SN 314,204. Pub. 9-8-70. Filed 12-11-68.
- 902,918. READ O C. Allied Computer Systems, Inc. SN 316,761. Pub. 8-25-70. Filed 1-16-69.
- 902,919. ADDAPLUG. Associated Engineering Corporation. SN 321,150. Pub. 9-8-70. Filed 3-10-69.
- 902,920. PLUSISTOR. Victory Engineering Corporation. SN 323,036. Pub. 9-8-70. Filed 3-27-69.
- 902,921. WAVECOM AND DESIGN. Wavecom, Inc. SN 323,162. Pub. 9-8-70. Filed 3-28-69.
- 902,922. TELEX. The Telex Corporation. SN 323,385. Pub. 9-8-70. Filed 4-1-69.
- 902,923. TRAFFIC COMMANDER. The Mosler Safe Company. SN 324,736. Pub. 9-8-70. Filed 4-16-69.
- 902,924. MICRO-PATCH. Major Corporation. SN 325,367. Pub. 9-8-70. Filed 4-23-69.
- 902,925. AMPTECTOR. Westinghouse Electric Corporation. SN 326,270. Pub. 9-8-70. Filed 5-2-69.
- 902,926. ALBIE. Jahco, Inc. SN 334,339. Pub. 9-8-70. Filed 8-4-69.
- 902,927. MPI. Medical Plastics, Inc. SN 340,673. Pub. 9-8-70. Filed 10-14-69.
- 902,928. NURSE-VIEW. Wells Television, Inc. SN 346,439. Pub. 9-8-70. Filed 12-17-69.
- 902,929. MICROPOWER. Space and Tactical Systems Corp. SN 346,974. Pub. 9-8-70. Filed 12-22-69.
- 902,930. TRIPLE-E AND DESIGN. Southwire Company. SN 353,789. Pub. 9-8-70. Filed 3-11-70.

Class 22 — Games, Toys, and Sporting Goods

- 902,931. SIMPLEX. Steinhilber & Co. N.V. SN 288,138. Pub. 2-10-70. Filed 1-4-68.
- 902,932. WEE. AMF Incorporated, by change of name from American Machine & Foundry Company. SN 300,167. Pub. 9-8-70. Filed 6-11-68.
- 902,933. RIFLED SHAFT ETC. AND DESIGN. Shakespeare Company. SN 315,791. Pub. 9-8-70. Filed 1-3-69.
- 902,934. MISCELLANEOUS DESIGN. Oktebug Distributing Company. SN 346,498. Pub. 9-22-70. Filed 12-17-69.
- 902,935. T O T E - A - C R A F T. Miner Industries, Inc. SN 322,314. Pub. 9-8-70. Filed 3-20-69.
- 902,936. PLIM-MASTER AND DESIGN. Central Quality Industries, Inc. SN 322,519. Pub. 9-8-70. Filed 3-24-69.
- 902,937. HOOTENANNA. William H. Peters, d.b.a. Mantaray Co. SN 332,521. Pub. 9-8-70. Filed 7-14-69.
- 902,938. STICK-AROUNDS. Mattel, Inc. SN 359,966. Pub. 9-8-70. Filed 5-18-70.
- 902,939. PUSH-AHOOP. William H. Doub, d.b.a. D & W Enterprises. SN 361,218. Pub. 9-8-70. Filed 6-1-70.
- 902,940. GRAND WESTERN. Mattel, Inc. SN 361,231. Pub. 9-8-70. Filed 6-1-70.
- 902,941. RING DANCE. Mattel, Inc. SN 361,232. Pub. 9-8-70. Filed 6-1-70.
- 902,942. ZOOMIES. Mattel, Inc. SN 361,235. Pub. 9-8-70. Filed 6-1-70.
- 902,943. SCENE-MAKERS. Mattel, Inc. SN 361,446. Pub. 9-8-70. Filed 6-2-70.
- 902,944. FINISHERS. Mattel, Inc. SN 361,447. Pub. 9-8-70. Filed 6-2-70.
- 902,945. KLOOGE. Mattel, Inc. SN 361,448. Pub. 9-8-70. Filed 6-2-70.
- 902,946. GRASS CRUSHER. Mattel, Inc. SN 361,449. Pub. 9-8-70. Filed 6-2-70.
- 902,947. ROAD HOG. Mattel, Inc. SN 361,450. Pub. 9-8-70. Filed 6-2-70.
- 902,948. PROFESSIONAL. Mattel, Inc. SN 361,452. Pub. 9-8-70. Filed 6-2-70.
- 902,949. OOZE. Mattel, Inc. SN 361,453. Pub. 9-8-70. Filed 6-2-70.
- 902,950. HOT WINGS. Mattel, Inc. SN 362,615. Pub. 9-8-70. Filed 6-15-70.
- 902,901. (See Class 19 for this trademark.)
- 902,904. (See Class 19 for this trademark.)
- 902,951. MICRO-CUT. A. Stephan U. Söhne. SN 251,664. Pub. 9-8-70. Filed 8-3-66.
- 902,952. K-WAY. Eaton Yale & Towne Inc., assignee, by mesne assignment, of The K-Way Dispensing Equipment Company. MULTIPLE CLASS (Classes 23 and 31). SN 264,747. Pub. 6-2-70. Filed 2-15-67.
- 902,953. TRIM. The W. E. Bassett Company. SN 270,042. Pub. 9-8-70. Filed 4-26-67.
- 902,954. LASTEC AND DESIGN. Laser Technology, Inc. SN 289,994. Pub. 9-8-70. Filed 1-31-68.
- 902,955. DUMORE. The Dumore Company. SN 295,320. Pub. 9-8-70. Filed 4-10-68.
- 902,956. Z-LODA. Guenther Systems, Inc. SN 305,826. Pub. 9-8-70. Filed 8-23-68.
- 902,957. OPTIMA AND DESIGN. Practica A.G. SN 308,311. Pub. 9-8-70. Filed 9-26-68.
- 902,958. MUNCK MONOLOADER. Sverre Munck Aksjeselskap. SN 313,739. Pub. 9-8-70. Filed 12-5-68.
- 902,959. PERA DESIGN. Production Engineering Research Association of Great Britain. SN 317,610. Pub. 9-8-70. Filed 1-27-69.
- 902,960. WEST-AIRE. West Chemical Products, Inc. SN 319,215. Pub. 9-8-70. Filed 2-14-69.
- 902,961. COMPRESS. Automated Building Components, Inc. SN 321,622. Pub. 9-8-70. Filed 3-13-69.
- 902,962. BEST-YET. Sportsmans Aids, Inc. SN 325,087. Pub. 9-8-70. Filed 4-21-69.
- 902,963. DG AND DESIGN. Didge-Glaser, Inc. SN 330,726. Pub. 9-8-70. Filed 6-23-69.
- 902,964. LITHODYNE. Graphex, Inc. SN 337,658. Pub. 9-8-70. Filed 9-11-69.
- 902,965. PECK-CHECK. Deschner Corporation. SN 338,378. Pub. 9-8-70. Filed 9-19-69.
- 902,966. MARS ETC. AND KNIGHT AND CIRCLE DESIGN. Thomas L. Gentilini. SN 342,436. Pub. 9-8-70. Filed 11-3-69.
- 902,967. ATLAS. Atlas Tool & Manufacturing Co. SN 347,197. Pub. 7-21-70. Filed 12-29-69.
- 902,968. CHEVRON DESIGN. Standard Oil Company of California. SN 350,967. Pub. 9-8-70. Filed 2-9-70.
- 902,969. LABORSABER. Alphonse O. Bohrer, d.b.a. Laborsaber. SN 351,895. Pub. 9-8-70. Filed 2-20-70.
- 902,970. LECTI-COTE. North American Rockwell Corporation. SN 352,847. Pub. 9-8-70. Filed 3-2-70.
- 902,971. MIRROR-GOLD. North American Rockwell Corporation. SN 352,849. Pub. 9-8-70. Filed 3-2-70.
- 902,972. HOE. R. Hoe & Co., Inc. SN 353,304. Pub. 9-8-70. Filed 3-6-70.
- 902,973. RAT-PAC AND DESIGN. Valley Tow-Rite, Inc. SN 361,541. Pub. 9-8-70. Filed 6-3-70.
- 902,974. PXTONE. Bridgeport Implement Works, Inc. SN 362,591. Pub. 9-8-70. Filed 6-15-70.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

Class 24 — Laundry Appliances and Machines

Class 26—Measuring and Scientific Appliances

- 902,846. (See Class 6 for this trademark.)
 902,913. (See Class 21 for this trademark.)
 902,976. TARGETRONIC. Atlas-Rand Corp. SN 303,639. Pub. 5-19-70. Filed 7-26-68.
 902,977. MOSLER 410. The Mosler Safe Company. SN 303,921. Pub. 9-8-70. Filed 7-30-68.
 902,978. LOG AND DESIGN. Tek Bearing Company, Inc., d.b.a. Auto Safety Equipment Company. SN 304,632. Pub. 5-19-70. Filed 8-7-68.
 902,979. VIATRON AND DESIGN. Viatron Computer Systems Corporation. SN 314,280. Pub. 9-8-70. Filed 12-11-68.
 902,980. CIRCLE/SIZER. Pro-Skill Golf Corp., assignee of Michael Storti, d.b.a. Pro-Skill Golf Co. SN 316,350. Pub. 9-8-70. Filed 1-10-69.
 902,981. ACCRALINE. Barber-Colman Company. SN 317,307. Pub. 9-8-70. Filed 1-23-69.
 902,982. DATASCRIBE. Vanguard Data Systems, Inc. SN 322,504. Pub. 9-8-70. Filed 3-21-69.
 902,983. LANCER. Sherwood Medical Industries Inc. SN 323,375. Pub. 7-14-70. Filed 4-1-69.
 902,984. SCOPAC. Travis Electronics, Inc. SN 323,743. Pub. 6-2-70. Filed 4-4-69.
 902,985. H/I AND DESIGN. Hacker Instruments, Inc., by change of name from William J. Hacker & Co., Inc. SN 326,276. Pub. 9-8-70. Filed 5-2-69.
 902,986. RED-D-TUBE. Chase Instruments Corp. SN 326,992. Pub. 9-8-70. Filed 5-12-69.
 902,987. HYDROLOG. Hydrospace Research Corporation. SN 327,147. Pub. 9-8-70. Filed 5-13-69.
 902,988. KIM-RAK. Owens-Illinois, Inc. SN 332,193. Pub. 9-8-70. Filed 7-10-69.
 902,989. LOGI-TRAN. Fabri-Tek Incorporated. SN 333,389. Pub. 9-8-70. Filed 7-24-69.
 902,990. MARI-JET. Bel-Art Products. SN 336,309. Pub. 9-8-70. Filed 8-26-69.
 902,991. SIGNATRON. Signatron, Inc. SN 343,920. Pub. 9-8-70. Filed 11-19-69.
 902,992. KOVER-WELD. ESB Incorporated. SN 350,654. Pub. 5-19-70. Filed 2-6-70.
 902,993. LIQU I-LEVEL. Davanac Industries Ltd. SN 353,447. Pub. 9-8-70. Filed 3-9-70.
 902,994. PHILIPS AND DESIGN. N.V. Philips' Gloeilampen-fabriek. SN 355,153. Pub. 9-8-70. Filed 3-26-70.
 902,995. LASERTRAC. Ovitron Corporation. SN 355,558. Pub. 9-8-70. Filed 4-1-70.
 902,996. MULTIGARD. American Allsafe Company, Inc. SN 355,598. Pub. 9-8-70. Filed 4-1-70.
 902,997. OPTOSCOPE. Beatrice Foods Co. SN 355,611. Pub. 9-8-70. Filed 4-1-70.
 902,998. BLI. Blotronex Laboratory, Incorporated. SN 362,953. Pub. 9-8-70. Filed 6-18-70.
 902,999. CRONEL. E. I. du Pont de Nemours and Company. SN 363,347. Pub. 9-8-70. Filed 6-23-70.

Class 28—Jewelry and Precious-Metal Ware

- 902,874. (See Class 13 for this trademark.)

Class 29—Brooms, Brushes, and Dusters

- 902,879. (See Class 14 for this trademark.)

Class 30—Crockery, Earthenware, and Porcelain

- 902,870. (See Class 13 for this trademark.)
 903,000. KESSINGTON AND DESIGN. Royal Song, Inc. SN 324,510. Pub. 11-4-69. Filed 4-14-69.

Class 31—Filters and Refrigerators

- 902,952. (See Class 23 for this trademark.)

Class 32—Furniture and Upholstery

- 902,874. (See Class 13 for this trademark.)
 903,001. THE KINGFISH. Sportsmen's Industries, Inc. SN 300,489. Pub. 9-8-70. Filed 6-14-68.
 903,002. FILE-O-FAX AND DESIGN. File-O-Fax Corporation. SN 334,834. Pub. 9-8-70. Filed 8-8-69.
 903,003. MILIEU AND DESIGN. Thayer Cogglin, Inc. SN 359,492. Pub. 9-8-70. Filed 5-12-70.
 903,004. MAGIC SLEEP. White Stores, Inc. SN 360,181. Pub. 9-8-70. Filed 5-18-70.

Class 33—Glassware

- 902,870. (See Class 13 for this trademark.)

Class 34—Heating, Lighting, and Ventilating Apparatus

- 902,870. (See Class 13 for this trademark.)
 902,874. (See Class 13 for this trademark.)
 903,005. SOLARANGE. The Vendo Company. SN 314,374. Pub. 9-8-70. Filed 12-12-68.
 903,006. TK. Emerson Electric Co. SN 325,855. Pub. 9-8-70. Filed 4-29-69.
 903,007. EXECUTIVE. A. O. Smith Corporation. SN 328,601. Pub. 9-8-70. Filed 5-28-69.
 903,008. SELECT-A-WAVE. Electrovert, Inc. SN 333,544. Pub. 9-8-70. Filed 7-25-69.
 903,009. CLIMATEWISE. Federal Pacific Electric Company. SN 335,857. Pub. 9-8-70. Filed 8-21-69.
 903,010. ANSCOR AND DESIGN. Anderson-Snow Corporation. SN 347,189. Pub. 7-21-70. Filed 12-29-69.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 903,011. GOODWIN AND DESIGN. Midland International Corporation (Delaware corporation), by merger into Midland International Corporation (Missouri corporation). SN 312,483. Pub. 9-8-70. Filed 11-18-68.

Class 36—Musical Instruments and Supplies

- 903,012. AMPEG AND DESIGN. The Ampeg Co., Inc. SN 329,422. Pub. 9-8-70. Filed 6-9-69.

- 903,013. FOX AND DESIGN. Fox Products Corporation. SN 345,332. Pub. 9-8-70. Filed 12-4-69.
 903,014. DIGITONE. James Selwyn Stanley. SN 350,138. Pub. 9-8-70. Filed 1-30-70.
 903,015. TAE AND DESIGN. Trans Atlantic Electronics Ltd. SN 361,665. Pub. 9-8-70. Filed 6-4-70.
 903,040. APPLETON-CENTURY-CROFTS. Meredith Corporation. SN 360,103. Pub. 9-8-70. Filed 5-18-70.
 903,041. WELCOME WAGON MAGAZINE. Welcome Wagon International, Inc. SN 360,184. Pub. 9-8-70. Filed 5-18-70.
 903,042. LANCELOT. Newspaper Enterprise Association, Inc. SN 360,581. Pub. 9-8-70. Filed 5-22-70.

Class 37—Paper and Stationery

- 902,874. (See Class 13 for this trademark.)
 903,016. ERASE-SURE. All-States Business Products Corp. of New Jersey. SN 304,852. Pub. 6-16-70. Filed 8-12-68.
 903,017. STRATHMORE PAPERS AND DESIGN. Hammermill Paper Company. SN 309,570. Pub. 9-8-70. Filed 10-14-68.
 903,018. SECUR-A-CARD. Securadyne, Ltd. SN 317,695. Pub. 9-8-70. Filed 1-28-69.
 903,019. LETRACOLOR. Letraset U.S.A., Inc. SN 318,438. Pub. 9-8-70. Filed 2-5-69.
 903,020. ULTRA BULK. P. H. Glatfelter Company. SN 320,143. Pub. 9-8-70. Filed 2-26-69.
 903,021. NEENAH. Kimberly-Clark Corporation. SN 320,612. Pub. 9-8-70. Filed 3-3-69.
 903,022. RITUAL OF FRIENDSHIP. Jerome J. Ellis, d.b.a. Jay Printing Specialties. SN 325,737. Pub. 9-8-70. Filed 4-28-69.
 903,023. DUPLIFORM. The Mead Corporation. SN 325,767. Pub. 9-8-70. Filed 4-28-69.
 903,024. DUPLIRUN. The Mead Corporation. SN 325,768. Pub. 9-8-70. Filed 4-28-69.
 903,025. POROBOND. Acme Backing Corporation. SN 332,075. Pub. 9-8-70. Filed 7-9-69.
 903,026. P AND DESIGN. Paper Manufacturers Company. SN 336,009. Pub. 9-8-70. Filed 8-22-69.
 903,027. N DESIGN. Milprint, Inc., d.b.a. Nicolet Paper Company. SN 359,062. Pub. 9-8-70. Filed 5-7-70.

Class 38—Prints and Publications

- 902,913. (See Class 21 for this trademark.)
 903,028. SCORE. Programming Methods Incorporated. SN 314,111. Pub. 9-8-70. Filed 12-10-68.
 903,029. THE LIFE CYCLE LIBRARY. Kimberly-Clark Corporation. SN 318,966. Pub. 1-27-70. Filed 2-12-69.
 903,030. THE LIFE CYCLE LIBRARY AND DESIGN. Kimberly-Clark Corporation. SN 318,967. Pub. 3-10-70. Filed 2-12-69.
 903,031. SPEC. 16 Magazine, Inc. SN 327,032. Pub. 9-8-70. Filed 5-12-69.
 903,032. OCLI SPECTRUM. Optical Coating Laboratory, Inc. SN 336,006. Pub. 7-21-70. Filed 8-22-69.
 903,033. THE LITTLE CLOWN'S CIRCUS. Mattel, Inc. SN 338,720. Pub. 9-8-70. Filed 9-24-69.
 903,034. SCIENCE. American Association for the Advancement of Science. SN 343,809. Pub. 9-8-70. Filed 11-18-69.
 903,035. AAAS. American Association for the Advancement of Science. SN 343,811. Pub. 9-8-70. Filed 11-18-69.
 903,036. AAAS BULLETIN. American Association for the Advancement of Science. SN 343,813. Pub. 9-8-70. Filed 11-18-69.
 903,037. AAAS AND DESIGN. American Association for the Advancement of Science. SN 343,816. Pub. 9-8-70. Filed 11-18-69.
 903,038. A VOICE FOR CHILDREN ETC. AND DESIGN. Day Care and Child Development Council of America, Inc. MULTIPLE CLASS (Classes 38 and 100). SN 346,345. Pub. 9-8-70. Filed 12-16-69.
 903,039. 4 AND DESIGN. Psychological Associates, Inc. SN 359,571. Pub. 9-8-70. Filed 5-13-70.
 903,043. "CEST CHEERS" (SAY CHEERS). The Lovable Company. SN 314,758. Pub. 9-8-70. Filed 12-18-68.
 903,044. PENGUIN. Munsingwear, Inc. SN 315,942. Pub. 6-2-70. Filed 1-6-69.
 903,045. PRINCESS LORI. Staff Supermarket Associates, Inc. SN 318,992. Pub. 1-13-70. Filed 2-12-69.
 903,046. "LITTLE HELPER." Shannon Mfg. Co. SN 322,532. Pub. 9-8-70. Filed 3-24-69.
 903,047. COLLEGIATE. Collegiate Cap & Gown Company. SN 328,955. Pub. 9-8-70. Filed 6-3-69.
 903,048. LEATHERLYKE. Maynard H. Moore, Jr. Inc. SN 332,249. Pub. 9-8-70. Filed 7-10-69.
 903,049. MALONE PANTS. Woolrich Woolen Mills. SN 332,877. Pub. 9-8-70. Filed 7-17-69.
 903,050. SUSAN LAD. Orazi Manufacturing, Inc. SN 340,181. Pub. 7-14-70. Filed 10-8-69.
 903,051. PEPITO BY FOWNES. Fownes Brothers & Co., Incorporated. SN 341,379. Pub. 9-8-70. Filed 10-22-69.
 903,052. DORYA AND OVAL DESIGN. Jose Katalfe and Ruben Menasce, d.b.a. Cormal S.A. SN 341,525. Pub. 9-8-70. Filed 10-23-69.
 903,053. HIDDEN CHARM. Hidden Charm, Inc. SN 342,116. Pub. 9-8-70. Filed 10-30-69.
 903,054. BALLANTYNE OF PEBBLES AND DESIGN. Ballantyne of Pebbles Incorporated. SN 342,220. Pub. 9-8-70. Filed 10-31-69.
 903,055. BALLANTYNE OF PEBBLES. Ballantyne of Pebbles Incorporated. SN 342,221. Pub. 9-8-70. Filed 10-31-69.
 903,056. JEFF-RICHARD. Jeff-Richard, Inc. of Pennsylvania. SN 343,001. Pub. 9-8-70. Filed 11-7-69.
 903,057. WAVERLY. Teen-Age Beachwear Corp. SN 345,099. Pub. 9-8-70. Filed 12-2-69.
 903,058. MADELINE. AFM, Inc. SN 345,540. Pub. 7-21-70. Filed 12-8-69.
 903,059. THE BROADWAY YOUNG CROWD AND DESIGN. Broadway-Hale Stores, Inc. SN 346,715. Pub. 9-8-70. Filed 12-19-69.
 903,060. PARADISE BAY ORIGINALS. Elise Blouse of Boston, Inc. SN 347,156. Pub. 9-8-70. Filed 12-29-69.
 903,061. PIERRE LUCIE. Jonathan Logan, Inc. SN 350,393. Pub. 9-8-70. Filed 2-3-70.
 903,062. AMPHIBIANS. La Sport, Inc. SN 350,493. Pub. 9-8-70. Filed 2-4-70.
 903,063. DATERS. Dunham Brothers Company, d.b.a. Dunham's. SN 352,462. Pub. 9-8-70. Filed 2-26-70.
 903,064. CR BLAZER. Donald S. Lavigne, Inc. SN 352,642. Pub. 9-8-70. Filed 2-27-70.
 903,065. ALHAMBRA. Wembley Industries, Inc. SN 352,694. Pub. 9-8-70. Filed 2-27-70.
 903,066. IMPRIMIS. Wembley Industries, Inc. SN 352,697. Pub. 9-8-70. Filed 2-27-70.
 903,067. FORGE/LTD. Munsingwear, Inc. SN 355,719. Pub. 9-8-70. Filed 4-2-70.
 903,068. SWEETHEART. The Lovable Company. SN 359,061. Pub. 9-8-70. Filed 5-7-70.
 903,069. ANVIL. Anvil Brand, Incorporated. SN 360,621. Pub. 9-8-70. Filed 5-25-70.
 903,070. TEACH-ME-TOY. Hanes Corporation. SN 362,198. Pub. 9-8-70. Filed 6-10-70.
 903,071. B & B LORRYS AND DESIGN. Eagle Clothes, Inc., d.b.a. B & B Lorrays Stores. SN 362,813. Pub. 9-8-70. Filed 6-16-70.

- 903,072. EXPERTS CLUB. White Stag Manufacturing Co. SN 362,979. Pub. 9-8-70. Filed 6-18-70.
- 903,073. YOUNG ACTIVES WHITE STAG AND DESIGN. White Stag Manufacturing Co. SN 363,407. Pub. 9-8-70. Filed 6-23-70.

Class 40—Fancy Goods, Furnishings, and Notions

- 903,074. HOSEY POSEYS. Lengene Company, Inc. SN 325,762. Pub. 9-8-70. Filed 4-28-69.
- 903,075. HAIR HOUSE. The Hair House, Inc. MULTIPLE CLASS (Classes 40 and 51). SN 327,620. Pub. 9-8-70. Filed 5-19-69.
- 903,076. VIAGGIATORE. Carmine Merlino Hair Creations, Inc. SN 334,304. Pub. 9-8-70. Filed 8-4-69.
- 903,077. ZIP-STICK. Volt Industries, Inc. SN 344,917. Pub. 9-8-70. Filed 11-28-69.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 903,078. COLTON 90. J. P. Stevens & Co., Inc. SN 323,857. Pub. 9-8-70. Filed 4-7-69.
- 903,079. PERMATAIN. Albany International Corp. SN 338,023. Pub. 9-8-70. Filed 9-16-69.
- 903,080. BRETMAR FABRIC LTD. AND DESIGN. Bretmar Fabrics Ltd. SN 352,559. Pub. 9-8-70. Filed 2-27-70.
- 903,081. PERRY FABRIC LTD. AND DESIGN. Perry Fabrics Ltd. SN 352,569. Pub. 9-8-70. Filed 2-27-70.
- 903,082. CARRIAGE TRADE. Deering Milliken, Inc. SN 354,070. Pub. 9-8-70. Filed 3-16-70.
- 903,083. LEAPS AND BOUNDS. Deering Milliken, Inc. SN 354,071. Pub. 9-8-70. Filed 3-16-70.
- 903,084. BRAVA. E. T. Barwick Industries, Inc. SN 360,622. Pub. 9-8-70. Filed 5-25-70.
- 903,085. SHOWTIME. E. T. Barwick Industries, Inc. SN 360,623. Pub. 9-8-70. Filed 5-25-70.
- 903,086. LATITUDE. Deering Milliken, Inc. SN 361,922. Pub. 9-8-70. Filed 6-8-70.
- 903,087. LONGITUDE. Deering Milliken, Inc. SN 361,923. Pub. 9-8-70. Filed 6-8-70.
- 903,088. B & B LORRYS AND DESIGN. Eagle Clothes, Inc., d.b.a. B & B Lorrays Stores. SN 362,811. Pub. 9-8-70. Filed 6-16-70.

Class 44—Dental, Medical, and Surgical Appliances

- 903,089. THERMA-GAUZE. William Eldus. SN 348,769. Pub. 9-8-70. Filed 1-16-70.
- 903,090. POLYESTOL. Glenwood Laboratories, Inc. SN 349,230. Pub. 9-8-70. Filed 1-21-70.
- 903,091. HYDROSONICBATH. Linden Laboratories, Inc. SN 349,363. Pub. 9-8-70. Filed 1-22-70.
- 903,092. QUADRI-POISE. Guardian Products Company, Inc. SN 349,359. Pub. 9-8-70. Filed 1-28-70.
- 903,093. DURATOMIC. Myerson Tooth Corporation. SN 350,507. Pub. 9-8-70. Filed 2-4-70.
- 903,094. NEFLEX. Union Carbide Corporation. SN 350,625. Pub. 9-8-70. Filed 2-5-70.
- 903,095. NEPHREX. Union Carbide Corporation. SN 350,626. Pub. 9-8-70. Filed 2-5-70.

- 903,096. GENT-L-PULSE. O.E.M. Meducal, Inc. SN 351,140. Pub. 9-8-70. Filed 2-11-70.
- 903,097. COMPUT-EK. Computer Instruments Corporation. SN 352,784. Pub. 9-8-70. Filed 3-2-70.

Class 45—Soft Drinks and Carbonated Waters

- 903,098. MISCELLANEOUS DESIGN. The Southland Corporation. MULTIPLE CLASS (Classes 45 and 46). SN 284,245. Pub. 9-8-70. Filed 11-6-67.
- 903,099. SNAP. Essential Products Company, Inc. SN 314,308. Pub. 9-8-70. Filed 12-12-68.
- 903,100. POPSTERS AND DESIGN. Milk-Mart System, Inc. SN 327,652. Pub. 9-8-70. Filed 5-19-69.
- 903,101. DESIGN OF BOY HOLDING A CUP. Chilly Willie Sales Corporation. SN 342,228. Pub. 9-8-70. Filed 10-31-69.
- 903,102. PRO GO. S.C.S. Corporation. SN 344,732. Pub. 9-8-70. Filed 11-26-69.
- 903,103. SPATS. The Coca-Cola Company. SN 350,419. Pub. 9-8-70. Filed 2-4-70.
- 903,104. VERVE. The Coca-Cola Company. SN 356,548. Pub. 9-1-70. Filed 4-13-70.

Class 46—Foods and Ingredients of Foods

- 903,098. (See Class 45 for this trademark.)
- 903,105. JOHNSTON. Ward Foods, Inc., assignee, by mesne assignment, of Robert A. Johnston Company. SN 228,690. Pub. 9-8-70. Filed 9-27-65.
- 903,106. KYOWA. Kyowa Hakko Kogyo Co., Ltd. SN 274,527. Pub. 9-8-70. Filed 6-22-67.
- 903,107. ALTMEISTER. Rich. Hengstenberg. SN 285,063. Pub. 9-8-70. Filed 11-16-67.
- 903,108. R-100. International Salt Company. SN 286,682. Pub. 9-8-70. Filed 12-11-67.
- 903,109. HONEES AND DESIGN. André Prost, Inc. SN 291,698. Pub. 9-8-70. Filed 2-23-68.
- 903,110. DELMONICO IRON-SKILLET SUPPER. Delmonico Foods, Inc. SN 303,780. Pub. 6-3-69. Filed 7-29-68.
- 903,111. CHEF SPECIAL AND DESIGN. Edith B. Kaderli. SN 311,040. Pub. 7-14-70. Filed 10-31-68.
- 903,112. PEACHTREE FARMS. Clyde F. Baylor Company, d.b.a. Peachtree Farms Company. SN 313,603. Pub. 9-8-70. Filed 12-4-68.
- 903,113. LOTTE. Lotte Co., Ltd. SN 314,662. Pub. 9-8-70. Filed 12-5-68.
- 903,114. TEXAS TROPIC AND DESIGN. Lake Delta Citrus Association. SN 316,976. Pub. 9-8-70. Filed 1-16-69.
- 903,115. BALDINGER'S. Abner Baldinger, d.b.a. Baldinger's Truffade Co. SN 322,813. Pub. 9-8-70. Filed 3-26-69.
- 903,116. MISCELLANEOUS DESIGN. Armour and Company. SN 325,326. Pub. 9-8-70. Filed 4-23-69.
- 903,117. SQUIRE JACK'S AND SHIELD DESIGN. Wehling Enterprises, Inc. MULTIPLE CLASS (Classes 46 and 100). SN 326,026. Pub. 9-8-70. Filed 5-1-69.
- 903,118. LIFELINE. Borden, Inc. SN 326,623. Pub. 9-8-70. Filed 5-7-69.
- 903,119. FRISCO FRIES. American Potato Company. SN 328,149. Pub. 7-14-70. Filed 5-23-69.
- 903,120. GO-LO. Home Town Foods, Inc. SN 329,861. Pub. 9-8-70. Filed 6-12-69.
- 903,121. ROYAL RIBS. Joseph L. Blissett. SN 330,708. Pub. 9-8-70. Filed 6-23-69.
- 903,122. TERRY. The Addison Terry Company, Inc. SN 332,770. Pub. 9-8-70. Filed 7-16-69.
- 903,123. COUNTY FAIR. R. J. Reynolds Foods, Inc. SN 333,061. Pub. 7-28-70. Filed 7-22-69.

- 903,124. WHITE SATIN. The Amalgamated Sugar Company. SN 333,239. Pub. 9-8-70. Filed 7-23-69.
- 903,125. CANEPA'S ETC. AND DESIGN. The John B. Canepa Company. SN 334,303. Pub. 9-8-70. Filed 8-4-69.
- 903,126. AO DESIGN. American Optical Corporation. SN 334,959. Pub. 9-8-70. Filed 8-11-69.
- 903,127. BALANCE. General Mills, Inc. SN 335,504. Pub. 9-8-70. Filed 8-18-69.
- 903,128. LA PASIEGA. La Pasiega Food Distributors, Inc., assignee of Gustavo Gonzalez, d.b.a. La Pasiega Packing. SN 335,755. Pub. 9-8-70. Filed 8-20-69.
- 903,129. CATER COUNTER. General Mills, Inc. SN 336,743. Pub. 5-12-70. Filed 9-2-69.
- 903,130. CORONET. Seffner Food Products Company, Inc. SN 337,099. Pub. 9-8-70. Filed 9-4-69.
- 903,131. MOONFIRE. W. R. Grace & Co. SN 337,299. Pub. 7-28-70. Filed 9-8-69.
- 903,132. FORBIDDEN FRUIT. Carnation Company. SN 338,751. Pub. 9-8-70. Filed 9-24-69.
- 903,133. DEL MAR VA. Del-Mar-Va Packing Company. SN 339,276. Pub. 9-8-70. Filed 9-30-69.
- 903,134. UNCLE BEN'S. Uncle Ben's, Inc. SN 339,516. Pub. 9-8-70. Filed 10-2-69.
- 903,135. SUNNY HONEY. Land O'Lakes Creameries, Inc. SN 339,728. Pub. 9-8-70. Filed 10-3-69.
- 903,136. GOLDEN HARVEST. The Rath Packing Company. SN 340,280. Pub. 7-28-70. Filed 10-9-69.
- 903,137. ROYAL CUTLET. Kenal Salmon Packing Co., d.b.a. Parks Canning Company. SN 341,160. Pub. 9-8-70. Filed 10-20-69.
- 903,138. CHOC-O-BUDDY. Maryland Baking Co. SN 342,653. Pub. 9-8-70. Filed 11-4-69.
- 903,139. FARM BRAND. Colonial Stores Incorporated. SN 343,665. Pub. 9-8-70. Filed 11-17-69.
- 903,140. BUSHEL BERRY. Food Foundation, Inc. SN 344,105. Pub. 9-8-70. Filed 11-20-69.
- 903,141. HONEY-DOO AND DESIGN. Carl Anderson, d.b.a. Anderson Honey-Doo Products. SN 346,163. Pub. 9-8-70. Filed 12-15-69.
- 903,142. HONEY-DOO. Carl Anderson, d.b.a. Anderson Honey-Doo Products. SN 346,164. Pub. 9-8-70. Filed 12-15-69.
- 903,143. GO AND DESIGN. Arkansas Grain Corporation. SN 346,446. Pub. 6-9-70. Filed 12-17-69.
- 903,144. BOTTLE DESIGN. Reese Finer Foods, Inc. SN 347,175. Pub. 9-8-70. Filed 12-29-69.
- 903,145. TAP'N APPLE. Richard Dunkelberger. SN 347,686. Pub. 9-8-70. Filed 1-5-70.
- 903,146. DESERT QUEEN AND DESIGN. Vessey and Company, Inc., d.b.a. Vessey & Co. Inc. SN 348,485. Pub. 9-8-70. Filed 1-14-70.
- 903,147. RAREBIT. Wurm Brothers Company. SN 351,292. Pub. 9-8-70. Filed 2-13-70.
- 903,148. COUNTRY MANOR. P & C Food Markets, Inc. SN 352,198. Pub. 9-8-70. Filed 2-24-70.
- 903,149. ELFIN DELIGHTS. Keebler Company. SN 352,822. Pub. 9-8-70. Filed 3-2-70.
- 903,150. JESSE JO. Jesse Jones Sausage Company. SN 352,964. Pub. 9-8-70. Filed 3-3-70.
- 903,151. DOUGH-NUPS. General Foods Corporation. SN 353,478. Pub. 9-8-70. Filed 3-9-70.
- 903,152. BISON BERTO BRAND AND DESIGN. Bison Products Co., Inc. SN 354,390. Pub. 9-8-70. Filed 3-18-70.
- 903,153. BISON AND DESIGN. Bison Products Co., Inc. SN 354,391. Pub. 9-8-70. Filed 3-18-70.
- 903,154. TOP FARE. Nebraska Consolidated Mills Company, d.b.a. Nixon & Company. SN 355,720. Pub. 9-8-70. Filed 4-2-70.
- 903,155. MAPLECREST. Nebraska Consolidated Mills Company, d.b.a. Boaz Egg Company and Red Hat Poultry. SN 355,721. Pub. 9-8-70. Filed 4-2-70.
- 903,156. CALF CROP. Ralston Purina Company. SN 356,578. Pub. 9-8-70. Filed 4-13-70.
- 903,157. CHEEZ-WILLIERS. General Mills, Inc. SN 356,914. Pub. 9-8-70. Filed 4-15-70.

- 903,158. AMBERGLOW. The John B. Canepa Company. SN 357,268. Pub. 9-8-70. Filed 4-20-70.
- 903,159. TOASTERINOS. Buitoni Foods Corporation. SN 357,676. Pub. 9-8-70. Filed 4-23-70.
- 903,160. MEXICAN GARDEN. Ocean Garden Products, Inc., d.b.a. Mexican Garden Products. SN 358,244. Pub. 9-8-70. Filed 4-29-70.
- 903,161. GARDEN LAND. Ocean Garden Products, Inc., d.b.a. Mexican Garden Products. SN 358,246. Pub. 9-8-70. Filed 4-29-70.
- 903,162. SANDWICH PRO. Carter-Wallace, Inc. SN 359,051. Pub. 9-8-70. Filed 5-7-70.
- 903,163. MARBLES. Frito-Lay, Inc. SN 359,053. Pub. 9-8-70. Filed 5-7-70.
- 903,164. SILVER-COTE. Gold-Cote, Inc. SN 361,220. Pub. 9-8-70. Filed 6-1-70.
- 903,165. STAR POINT. Kelseyville Packing Company. SN 361,224. Pub. 9-8-70. Filed 6-1-70.
- 903,166. SEA PAL. A. Paladini, Inc. SN 362,963. Pub. 9-8-70. Filed 6-18-70.

Class 47—Wines

- 903,167. DUC TRIBERT D'HARGILLY. Dufouleur Freres. SN 325,587. Pub. 9-8-70. Filed 4-25-69.
- 903,168. PEDRO DOMEQ VENERABLE AND DESIGN. Pedro Domeq, S.A. SN 333,431. Pub. 9-8-70. Filed 7-24-69.
- 903,169. BERRY CUP. Quality Fruit Wines Corp. SN 347,691. Pub. 9-8-70. Filed 1-5-70.
- 903,170. COCK AND CORONET DESIGN. Cockburn Smithies & Companhia Limitada. SN 362,485. Pub. 9-8-70. Filed 6-12-70.

Class 48—Malt Beverages and Liquors

- 903,171. MALT DUCK. The National Brewing Co. SN 359,566. Pub. 9-8-70. Filed 5-13-70.

Class 49—Distilled Alcoholic Liquors

- 903,172. CHARRED KEG. Majestic Distilling Company, Inc. SN 204,484. Pub. 9-8-70. Filed 10-21-64.
- 903,173. GOLDEN GATE. E. Martinoni Co., d.b.a. Seabrook & Company. SN 349,925. Pub. 7-21-70. Filed 1-29-70.

Class 50—Merchandise Not Otherwise Classified

- 902,870. (See Class 13 for this trademark.)
- 902,874. (See Class 13 for this trademark.)
- 903,174. PORT-A-POLE. William D. Staggs. SN 324,761. Pub. 9-8-70. Filed 4-16-69.
- 903,175. DIA PRINT AND DESIGN. The Dia-Print Company, Inc. SN 358,900. Pub. 9-8-70. Filed 5-6-70.

Class 51—Cosmetics and Toilet Preparations

- 903,075. (See Class 40 for this trademark.)
- 903,176. AMBI. A.P.D. Industries Limited. SN 287,261. Pub. 7-8-69. Filed 12-20-67.
- 903,177. SPRAY OF BEAUTY. American Home Products Corporation. SN 326,739. Pub. 9-8-70. Filed 5-8-69.

- 903,178. FACE FRONT. Pfizer Inc., by change of name from Chas. Pfizer & Co., Inc. SN 330,063. Pub. 9-8-70. Filed 6-16-69.
- 903,179. FIVE O' SHARP. Ben Nye Inc. SN 334,607. Pub. 7-21-70. Filed 5-6-69.
- 903,180. SEA DUST. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden. SN 336,390. Pub. 9-8-70. Filed 8-27-69.
- 903,181. SEA SMOOTH. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden. SN 336,392. Pub. 9-8-70. Filed 8-27-69.
- 903,182. SEA EMOLLIENT. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden. SN 336,393. Pub. 9-8-70. Filed 8-27-69.
- 903,183. SILHOUETTE. Johnson & Johnson, d.b.a. Personal Products Company. SN 353,005. Pub. 9-8-70. Filed 3-4-70.
- 903,184. THE HOUSE OF STYLE. La Maur, Inc., d.b.a. The House of Style. MULTIPLE CLASS (Classes 51 and 52). SN 357,501. Pub. 9-8-70. Filed 4-21-70.
- 903,185. BARE NECESSITY. Carter-Wallace, Inc. SN 358,147. Pub. 9-8-70. Filed 4-28-70.
- 903,186. DANISH GIRL. Carter-Wallace, Inc. SN 358,149. Pub. 9-8-70. Filed 4-28-70.
- 903,187. LOVE MATES. Cosmetically Yours, Inc. SN 359,709. Pub. 9-8-70. Filed 5-14-70.

Class 52 — Detergents and Soaps

- 903,184. (See Class 51 for this trademark.)
- 903,188. WASCO AND DESIGN. Wasatch Chemical Company. SN 306,414. Pub. 7-8-69. Filed 8-30-68.
- 903,189. DOCTOR CARPET. Salan Corporation. SN 334,379. Pub. 9-8-70. Filed 8-4-69.
- 903,190. CARAVELLE. H. E. Butt Grocery Company, d.b.a. Park Products Company. SN 355,076. Pub. 9-8-70. Filed 3-26-70.
- 903,191. GENTLE HAND. Colgate-Palmolive Company. SN 355,176. Pub. 9-8-70. Filed 3-27-70.
- 903,192. ECOLOPURE. Columbian Rope Company. SN 362,312. Pub. 9-8-70. Filed 6-11-70.
- 903,193. EARTH-SAVER. Columbian Rope Company. SN 362,313. Pub. 9-8-70. Filed 6-11-70.
- 903,194. PRESERVE. Columbian Rope Company. SN 362,314. Pub. 9-8-70. Filed 6-11-70.
- 903,195. ECOLOGENT. Columbian Rope Company. SN 362,315. Pub. 9-8-70. Filed 6-11-70.

Service Marks

Class 100 — Miscellaneous

- 903,038. (See Class 38 for this trademark.)
- 903,117. (See Class 46 for this trademark.)
- 903,196. OLD WORLD CHEESE SHOP AND DESIGN. Old World Cheese Shop. MULTIPLE CLASS (Classes 100 and 101). SN 292,973. Pub. 9-8-70. Filed 3-11-68.
- 903,197. SIMOPTIMIZATION. Consolidated Analysis Centers Inc. SN 298,809. Pub. 9-8-70. Filed 5-22-68.
- 903,198. LITCHFIELD PARK PROPERTIES. Litchfield Park Properties. SN 304,361. Pub. 9-8-70. Filed 8-5-68.
- 903,199. HICKORY HUT ETC. AND DESIGN. Leon Poteete. SN 305,489. Pub. 9-8-70. Filed 8-19-68.
- 903,200. COMPUTACOLOR. Pantone, Incorporated. SN 311,915. Pub. 9-8-70. Filed 11-12-68.
- 903,201. MMB MASTER MORTGAGE BANKER. Mortgage Bankers Association of Greater New Orleans. SN 313,013. Pub. 9-8-70. Filed 11-25-68.
- 903,202. ROS-A-BEF. Pizza Pub of America, Inc. SN 319,633. Pub. 9-8-70. Filed 2-19-69.

- 903,203. COUNTRY STYLE DONUTS. Country Style Donuts. SN 330,723. Pub. 9-8-70. Filed 6-23-69.
- 903,204. HTR HAT AND CIRCLE DESIGN. Highway Travelers Restaurant, Inc. SN 335,575. Pub. 9-8-70. Filed 8-18-69.
- 903,205. NOTICENTER. The Reader's Digest Association, Inc. SN 335,729. Pub. 9-8-70. Filed 8-20-69.
- 903,206. DIXIE KITCHEN. Dixie Kitchens, Inc. SN 337,021. Pub. 9-8-70. Filed 9-4-69.
- 903,207. JUST FOR THE FUN OF IT (DESIGN). International Industries, Inc., d.b.a. International House of Pancakes. SN 337,662. Pub. 9-8-70. Filed 9-11-69.
- 903,208. STUCKEY'S. Stuckey's, Inc. SN 338,656. Pub. 9-8-70. Filed 9-23-69.
- 903,209. CALL FOR ACTION AND DESIGN. Call for Action, Inc. SN 352,410. Pub. 9-8-70. Filed 2-26-70.
- 903,210. THE SALEM TRADER AND DESIGN. The Salem Trader Restaurants, Inc. SN 353,629. Pub. 9-8-70. Filed 3-10-70.

Class 101 — Advertising and Business

- 902,870. (See Class 13 for this trademark.)
- 903,196. (See Class 100 for this trademark.)
- 903,211. EBCOA. Vinyl Specialties of America, d.b.a. Ethical Business Council of America. SN 277,156. Pub. 9-8-70. Filed 7-31-67.
- 903,212. MAGIC KEY INNS AND DESIGN. Golden Key Inns of America, Inc. SN 286,126. Pub. 7-14-70. Filed 12-4-67.
- 903,213. NATIONWIDE. Nationwide Income Tax Service Company. SN 308,713. Pub. 7-14-70. Filed 10-2-68.
- 903,214. TIRAS. Dynamics Research Corporation. SN 322,055. Pub. 9-8-70. Filed 3-18-69.
- 903,215. FRIENDSHIP CENTER. Hallmark Cards, Incorporated, d.b.a. Ambassador Cards. SN 326,375. Pub. 9-8-70. Filed 5-5-69.
- 903,216. TWIN FAIR. The Twin Fair, Inc. SN 328,750. Pub. 9-8-70. Filed 5-29-69.
- 903,217. THE MAIL BOX AND DESIGN. Mark A. Wood. SN 340,076. Pub. 9-8-70. Filed 10-7-69.
- 903,218. ANN HERBERT. Ann Herbert Company. SN 341,732. Pub. 9-8-70. Filed 10-13-69.
- 903,219. HOLIDAY WONDERLAND. International Productions, Inc. SN 349,921. Pub. 9-8-70. Filed 1-29-70.

Class 102 — Insurance and Financial

- 903,220. SA RC SUPERAMERICA AND DESIGN. Northwestern Refining Co. SN 272,294. Pub. 9-8-70. Filed 5-24-67.
- 903,221. 1 AND DESIGN. Seattle-First National Bank. SN 312,815. Pub. 9-8-70. Filed 11-21-68.
- 903,222. BABS. Lawrence G. Chait & Co., Inc. SN 316,619. Pub. 9-8-70. Filed 1-15-69.

Class 103 — Construction and Repair

- 903,223. CALL THE REDD MAN. J. C. Redd, d.b.a. Redd Pest Control Company, Inc. SN 318,978. Pub. 9-8-70. Filed 2-12-69.
- 903,224. PRESTIGE. Van Dyne-Crotty, Inc. SN 323,491. Pub. 9-8-70. Filed 4-2-69.
- 903,225. BISSELL. Bissell Inc. SN 331,855. Pub. 9-8-70. Filed 7-7-69.

Class 105 — Transportation and Storage

- 903,226. TRAVELRAMA. Travel Industries, Incorporated. SN 315,796. Pub. 9-8-70. Filed 1-3-69.

- 903,227. AIR DISPATCH WHERE GOOD PEOPLE WORK . . . FOR YOU. Air Dispatch Inc. SN 316,514. Pub. 9-8-70. Filed 1-14-69.
- 903,228. ARROW AND GLOBE DESIGN. Holiday Inns, Inc., by change of name from Holiday Inns of America, Inc. SN 317,056. Pub. 9-8-70. Filed 1-21-69.
- 903,229. CJ AND DESIGN. Cooper-Jarrett Inc. SN 323,434. Pub. 9-8-70. Filed 4-2-69.
- 903,230. MISCELLANEOUS DESIGN. Gary M. Sampson, d.b.a. Adventure Travel Service. SN 329,631. Pub. 9-8-70. Filed 6-10-69.
- 903,231. COSMOS OF LONDON. Group Voyagers, Inc., d.b.a. Globus Tours. SN 330,834. Pub. 9-8-70. Filed 6-24-69.
- 903,232. WE PUT THE WORLD TOGETHER FOR YOU. Travel Systems/International, Ltd. SN 349,054. Pub. 9-8-70. Filed 1-20-70.
- 903,233. ACCU-RES AND DESIGN. Western Air Lines, Inc. SN 353,143. Pub. 9-8-70. Filed 3-5-70.
- 903,234. ACCU-RES. Western Air Lines, Inc. SN 353,144. Pub. 9-8-70. Filed 3-5-70.

Class 106 — Material Treatment

- 903,235. WATER WATCH. Betz Laboratories, Inc. SN 310,749. Pub. 9-8-70. Filed 10-29-68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

- 903,245. A. T. Cross Company, Lincoln, R.I. SN 347,550. Filed 1-2-70.

PEN PURSE

For Pen and Pencil Cases (Int. Cl. 16).
First use March 1968.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

- 903,246. C.E.M. Company, Inc., Danielson, Conn. SN 270,887. Filed P.R. 5-8-67; Am. S.R. 12-9-69.

SPACERS

For Drawing Spacers.
First use Apr. 14, 1967.

Class 22 — Games, Toys, and Sporting Goods

- 903,247. Super Toys, Inc., Detroit, Mich. SN 290,347. Filed P.R. 2-5-68; Am. S.R. 9-10-70.



For Toys—Namely, Dolls, Toy Weapons, Toy Air and Land Vehicles, Educational and Scientific Toys, and Miscellaneous Toys of Various Sizes (Int. Cl. 28).
First use Jan. 9, 1968.

TM 880 O.G.—11

- 903,236. WATER WATCH AND DESIGN. Betz Laboratories, Inc. SN 310,752. Pub. 9-8-70. Filed 10-29-68.
- 903,237. ZYCO. Zyco Manufacturing, Inc., d.b.a. Zyco Magnetic Tracks. SN 319,661. Pub. 9-8-70. Filed 2-19-69.
- 903,238. MISCELLANEOUS DESIGN. Newsfilm Laboratory, Inc. SN 339,350. Pub. 9-8-70. Filed 9-30-69.

Class 107 — Education and Entertainment

- 903,239. LUM AND ABNER. Chester H. Lauck and Norris Goff. SN 313,590. Pub. 9-8-70. Filed 12-4-68.
- 903,240. SIR GOONY GOLF AND DESIGN. Golf Players, Inc. SN 315,619. Pub. 9-8-70. Filed 12-31-68.
- 903,241. GROWTH/CHANGE SEMINARS AND DESIGN. Leasco Systems & Research Corporation. SN 317,244. Pub. 9-8-70. Filed 1-22-69.
- 903,242. COPE TRAINING. Data Analysis Associates. SN 321,479. Pub. 9-8-70. Filed 3-12-69.
- 903,243. RYMIE THE CLOWN ACT. Harry C. Reimschuessel. SN 334,864. Pub. 9-8-70. Filed 8-8-69.
- 903,244. MR. WHOODINI. Lawrence J. Thompson. SN 346,814. Pub. 9-8-70. Filed 12-22-69.

- 903,248. Pittman Products, Inc., d.b.a. Sportsways, Huntington Park, Calif. SN 304,246. Filed P.R. 8-2-68; Am. S.R. 8-14-70.

"THE WORLD'S MOST ADVANCED DIVING EQUIPMENT"

For Underwater Diving Equipment—Namely, Diving Regulators, Tanks, Tank Valves, Boots and Back Packs, Snorkels, Masks, Fins, Sea Spears and Spear Heads, Wet Suits, and Weight Belts (Int. Cls. 9 and 28).
First use 1961.

- 903,249. Milton Bradley Company, Springfield, Mass. SN 322,266. Filed P.R. 3-20-69; Am. S.R. 6-1-70.

KITTY PUZZLE

For Jigsaw Puzzles (Int. Cl. 28).
First use Sept. 1, 1968.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 903,250. Blast Kleen Booth, Inc., Hollywood, Fla. SN 332,309. Filed P.R. 7-11-69; Am. S.R. 8-19-70.

BLAST KLEEN BOOTH

For Abrasive Blasting Machines and Shot Peening Machines, and Parts Thereof, for Surface Cleaning of Articles (Int. Cl. 7).
First use September 1966.

Class 37—Paper and Stationery

903,251. Dennison Manufacturing Company, Framingham, Mass. SN 353,361. Filed P.R. 3-9-70; Am. S.R. 8-11-70.

MINI STRIP

For Embossing Tape (Int. Cl. 16).
First use July 10, 1969.

Class 38—Prints and Publications

903,252. The Railway Equipment and Publication Company, New York, N.Y. SN 328,632. Filed P.R. 5-29-69; Am. S.R. 8-24-70.

THE OFFICIAL INTERMODAL EQUIPMENT REGISTER

For Transportation Reference Periodical, Published Quarterly (Int. Cl. 16).
First use Apr. 28, 1969.

903,253. The Railway Equipment and Publication Company, New York, N.Y. SN 328,633. Filed P.R. 5-29-69; Am. S.R. 8-24-70.



For Transportation Reference Periodical, Published Quarterly (Int. Cl. 16).
First use Apr. 28, 1969.

903,254. The Railway Equipment and Publication Company, New York, N.Y. SN 329,309. Filed P.R. 6-6-69; Am. S.R. 8-24-70.

THE OFFICIAL INTERMODAL EQUIPMENT REGISTER

For Transportation Reference Periodical, Published Quarterly (Int. Cl. 16).
First use Apr. 28, 1969.

903,255. Pittway Corporation, Cleveland, Ohio. SN 332,989. Filed P.R. 7-18-69; Am. S.R. 8-26-70.

PRODUCT FILE

For Trade Publication in the Form of Request Forms for Further Information Relating to Products (Int. Cl. 16).
First use on or about June 30, 1969.

903,256. Dell Publishing Co., Inc., New York, N.Y. SN 338,840. Filed P.R. 9-25-69; Am. S.R. 9-8-70.

ASTRO

For Books (Int. Cl. 16).
First use Aug. 29, 1969.

903,257. Branson Instruments, Inc., Stamford, Conn. SN 348,107. Filed P.R. 1-9-70; Am. S.R. 8-24-70.

ULTRASONIC NEWS

For Newsletter Published From Time to Time (Int. Cl. 16).
First use prior to Apr. 30, 1969.

903,258. The Bureau of National Affairs, Inc., Washington, D.C. SN 364,213. Filed 7-2-70.

SECURITIES REGULATION & LAW REPORT

For Periodically Published News Reports (Int. Cl. 16).
First use June 4, 1969.

Class 46—Foods and Ingredients of Foods

903,259. Luden's, Inc., Reading, Pa. SN 335,994. Filed P.R. 8-22-69; Am. S.R. 9-10-70.

Mrs. Miller's

"Mrs. Miller" is a fictional identity.
For Candy (Int. Cl. 30).
First use July 28, 1969.

Class 50—Merchandise Not Otherwise Classified

903,260. Lowry Development Corporation, Winchester, Mass. SN 335,993. Filed P.R. 8-22-69; Am. S.R. 8-17-70.

REDECAP

For Household Bowl Covers (Int. Cl. 21).
First use Aug. 8, 1969.

Service Marks**Class 100—Miscellaneous**

903,261. Burgener Technical Enterprises Limited, Toronto, Ontario, Canada. SN 281,358. Filed P.R. 9-28-67; Am. S.R. 3-10-70.

WEAR CHECK

For Services Offered to the Automotive and Aircraft Industries and to Others—Namely, the Spectrographic Analysis of Used Lubricants Employed in Machinery To Ascertain the Presence and Amount of Certain Substances Contained Therein To Determine Machine Condition (Int. Cl. 42).
First use Dec. 1, 1966; in commerce Feb. 15, 1967.

903,262. James Marvin Mitchell, Jr., Little Rock, Ark. SN 327,397. Filed 5-15-69.

MEDIC

For Pharmaceutical Prescription Services (Int. Cl. 42).
First use Dec. 18, 1961.

TRADEMARK REGISTRATIONS RENEWED

- 80,870. REPRESENTATION OF HANDGRIP DESIGN. Cl. 35 (Int. Cl. 6). 2-7-11.
81,056. RED BOY. Cl. 46 (Int. Cl. 29). 2-28-11.
81,096. RED TOP. Cl. 46 (Int. Cl. 29). 2-28-11.
262,073. MICHEL. Cl. 51 (Int. Cl. 3). 9-24-29.
271,639. "SATINESQUE." Cl. 42 (Int. Cls. 18 and 27). 6-17-30.
274,922. BOSTIK. Cl. 42 (Int. Cl. 24). 9-9-30.
275,219. "FW" AND DESIGN. Cl. 23 (Int. Cl. 7). 9-16-30.
276,711. JEWEL. Cl. 16 (Int. Cl. 2). 10-28-30.
277,605. "HALL" AND CIRCLE DESIGN. Cl. 30 Int. Cl. 21). 11-18-30.
277,679. SQUARE DEAL. Cl. 39 (Int. Cl. 25). 11-25-30.
277,745. WELLER'S. Cl. 46 (Int. Cls. 29 and 30). 11-25-30.
278,165. BLUE PLATE AND DESIGN. Cl. 46 (Int. Cl. 29). 12-9-30.
278,816. EL MARTILLO AND DESIGN. Cl. 23 (Int. Cl. 8). 12-30-30.
279,666. "UPTOWN" AND DESIGN. Cl. 39 (Int. Cl. 25). 1-20-31.
279,769. CHOKLA. Cl. 46 (Int. Cl. 30). 1-20-31.
444,132. DURAHART. Cl. 16 (Int. Cl. 2). 8-8-50.
444,212. AAA. Cl. 23 (Int. Cl. 7). 9-12-50.
444,411. TOTEM. Cl. 52 (Int. Cl. 3). 2-20-51.
444,412. TWENTY CARATS. Cl. 52 (Int. Cl. 3). 2-20-51.
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519,459. KNOLLWOOD. Cl. 39 (Int. Cl. 25). 1-3-50.
521,799. DURHAM DUPLEX AND DESIGN. Cl. 23 (Int. Cl. 8). 3-7-50.
523,444. "GATELY'S." Cl. 39 (Int. Cl. 25). 4-4-50.
525,649. EXERCYCLE. Cl. 22 (Int. Cl. 28). 5-30-50.
526,839. QUEENSBURY AND DESIGN. Cl. 39 (Int. Cl. 25). 6-27-50.
526,878. MONOCILLIN. Cl. 18 (Int. Cl. 5). 6-27-50.
527,012. PRECO. Cl. 34 (Int. Cl. 11). 6-27-50.
527,264. SAFETY SEAL. Cl. 50 (Int. Cl. 11). 7-4-50.
527,427. LET THE GOOD EARTH PRODUCE. Cl. 1 (Int. Cl. 31). 7-4-50.
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528,188. F. M. BOHANNON'S LUCKY JOE AND DESIGN. Cl. 17 (Int. Cl. 34). 8-1-50.
528,494. MENTHO-NOVA AND DESIGN. Cl. 18 (Int. Cl. 5). 8-1-50.
528,513. THE GENERATOR. Cl. 38 (Int. Cl. 16). 8-1-50.
529,030. FERRY-MORSE. Cl. 1 (Int. Cl. 31). 8-15-50.
529,854. MINTIE. Cl. 23 (Int. Cl. 7). 8-29-50.
529,930. MONOCILLIN-D.A. Cl. 18 (Int. Cl. 5). 8-29-50.
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530,665. LEAPING POWER AND DESIGN. Cl. 21 (Int. Cl. 9). 9-12-50.
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531,601. RUGER AND DESIGN. Cl. 23 (Int. Cl. 7). 10-10-50.
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532,044. ADDRESS SAVER. Cl. 37 (Int. Cl. 16). 10-17-50.
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532,807. PERMAHYDE AND DESIGN. Cl. 50 (Int. Cl. 18). 10-31-50.
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532,954. GRIPITITE. Cl. 23 (Int. Cl. 7). 10-31-50.
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760,561. BINAPLEX. Cl. 21. 11-26-63.

The following registrations issued Oct. 6, 1964

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778,005. SOUTHWEST AND DESIGN. Cls. 2 and 37.
778,007. SILVER CREST. Cl. 2.
778,008. TOS-A-FILT. Cl. 2.
778,009. STRYCOTE. Cl. 2.
778,010. FILM-FYTER. Cl. 2.
778,012. PF AND DESIGN. Cl. 2.
778,016. B-38. Cl. 5.
778,020. HURRICANE. Cl. 5.
778,024. PROTECTO. Cl. 6.
778,026. SWI AND DESIGN. Cls. 8, 21, 22, 27, 29, and 30.
778,028. VER-DUNG. Cl. 10.
778,029. MOO-NURE. Cl. 10.
778,033. ALUMA STONE. Cl. 12.
778,034. W WESCON. Cl. 12.
778,035. ADCO AND DESIGN. Cl. 12.
778,036. UC. Cl. 12.
778,037. "DEPLON." Cl. 12.
778,038. TEMPLE DIXIELAND. Cl. 12.
778,041. ALLSTATE. Cl. 12.
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778,096. POLYCYCLE. Cl. 21.
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778,100. BELCOR. Cl. 21.
778,102. STROMBOLI. Cl. 21.
778,111. BANKGAMMON. Cl. 22.
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778,125. FLEET WING. Cl. 23.
778,126. CLEAN-CUT. Cl. 23.
778,132. RESIST-O-WOOD. Cl. 23.
778,133. FLUID EQUIPMENT INC. AND DESIGN. Cl. 23.
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778,171. MISCELLANEOUS DESIGN. Cl. 28.
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778,185. VIKING. Cl. 35.
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AMF Inc., from American Machine & Foundry Co., New York, N.Y. 902,932, pub. 9-8-70. Cl. 22.
A. P. D. Industries Ltd., Nassau, Bahamas. 903,176, pub. 7-8-69. Cl. 51.
ARO Corp., The, Bryan, Ohio. 902,872, pub. 9-8-70. Cl. 13.
Acme Backing Corp., New York, N.Y. 903,025, pub. 9-8-70. Cl. 37.
Addison Terry Co., Inc., The, Tulsa, Okla. 903,122, pub. 9-8-70. Cl. 46.
Air Dispatch Inc., New York, N.Y. 903,227. Cl. 105.
Aircraft Radio Corp.: See—
Cessna Aircraft Co.
Albany International Corp., Albany, N.Y. 903,079, pub. 9-8-70. Cl. 42.
Albee Homes, Inc., Niles, Ohio. 902,863, pub. 9-8-70. Cl. 12.
Albert Pipe Supply Co., Inc., Brooklyn, N.Y. 537,923, ren. 11-24-70. Cl. 13.
Allied Computer Systems, Inc., Madison, Conn. 902,918, pub. 8-25-70. Cl. 21.
All-States Business Products Corp., Dover, N.J. 903,016, pub. 6-16-70. Cl. 37.
Amalgamated Sugar Co., The, Ogden, Utah. 903,124, pub. 9-8-70. Cl. 46.
American Allsafe Co., Inc., Buffalo, N.Y. 902,996, pub. 9-8-70. Cl. 26.
American Association for the Advancement of Science, Wash-
ington, D.C. 903,034-7, pub. 9-8-70. Cl. 38.
American Blitrite Rubber Co., Inc., Trenton, N.J. 902,910, pub. 6-2-70. Cl. 20.
American Can Co., New York, N.Y. 778,016, canc. Cl. 5.
American Cyanamid Co., Wayne, N.J. 902,833, pub. 9-8-70. Cl. 1.
American Enclosures Co., Novi, Mich. 902,864, pub. 9-8-70. Cl. 12.
American Finish & Chemical Co., Chelsea, Mass. 530,129, ren. 11-24-70. Cl. 6.
American Home Products Corp., New York, N.Y. 903,177, pub. 9-8-70. Cl. 51.
American Machine & Foundry Co.: See—
AMF Inc.
American Optical Corp., Southbridge, Mass. 903,126, pub. 9-8-70. Cl. 46.
American Potato Co., San Francisco, Calif. 903,119, pub. 7-14-70. Cl. 46.
American Publishing Corp., Waltham, Mass. 778,111, canc. Cl. 22.
Ampeg Co., Inc., The, Linden, N.J. 903,012, pub. 9-8-70. Cl. 36.
Anchor Hocking Glass Corp., Lancaster, Ohio. 778,178, canc. Cl. 33.
Anderson, Carl, d.b.a. Anderson Honey-Doo Products, Kasson, Minn. 903,141-2, pub. 9-8-70. Cl. 46.
Anderson-Snow Corp., Schiller Park, Ill. 903,010, pub. 7-21-70. Cl. 34.
Anvil, Brand, Inc., New York, N.Y. 903,069, pub. 9-8-70. Cl. 39.
Arden, Elizabeth, Sales Corp., d.b.a. Elizabeth Arden, New York, N.Y. 903,180-2, pub. 9-8-70. Cl. 51.
Arkansas Grain Corp., Stuttgart, Ark. 903,143, pub. 6-9-70. Cl. 46.
Armour & Co., Chicago, Ill. 903,116, pub. 9-8-70. Cl. 46.
Armour Pharmaceutical Co., Chicago, Ill. 531,018, ren. 11-24-70. Cl. 18.
Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan. 778,207, -canc. Cl. 39.
Asbestospray Corp., Newark, N.J. 902,867, pub. 9-8-70. Cl. 12.
Ashe-Houston Co. Inc., The, South Norwalk, Conn. 778,132, -canc. Cl. 23.
Associated Engineering Corp., Brookline, Mass. 902,919, pub. 9-8-70. Cl. 21.
Atlas-Rand Corp., Paramus, N.J. 902,976, pub. 5-19-70. Cl. 20.
Atlas Tool & Mfg. Co., St. Louis, Mo. 902,967, pub. 7-21-70. Cl. 23.
Automated Building Components, Inc., Miami, Fla. 902,961, pub. 9-8-70. Cl. 23.
B&G Enterprises Inc., d.b.a. LaFrance Dry Cleaners, Youngs-
town, Ohio. 531,877, ren. 11-24-70. Cl. 103.
Babcock & Wilcox Co., The, New York, N.Y. 528,513, ren. 11-24-70. Cl. 38.
Bailey, Julius Noah, Donna, Tex. 350,197, canc. Cl. 18.
Baker, L. K., & Co., Columbus, Ohio. 538,135, ren. 11-24-70. Cl. 46.
Baldinger, Abner, d.b.a. Baldinger's Truffade Co., New York, N.Y. 903,115, pub. 9-8-70. Cl. 46.
Ballantyne of Peebles Inc., New York, N.Y. 903,054-5, pub. 9-8-70. Cl. 39.
Barber-Colman Co., Rockford, Ill. 902,981, pub. 9-8-70. Cl. 26.
Bardenheier, John, Wine & Liquor Co., St. Louis, Mo. 537-527, ren. 11-24-70. Cl. 47.
Barker, Raymond L., Chicago, Ill. 778,020, canc. Cl. 5.

Barwick, E. T., Industries, Inc., Chamblee, Ga. 903,084-5, pub. 9-8-70. Cl. 42.
Bassett, W. E., Co., The, Derby, Conn. 902,953, pub. 9-8-70. Cl. 23.
Baumwollindustrie Erlangen-Bamberg A.G., Erlangen, Ger-
many. 778,210, -canc. Multiple Class (Classes 39 and 42).
Baylor, Clyde F., Co., d.b.a. Peachtree Farms Co., Atlanta, Ga. 903,112, pub. 9-8-70. Cl. 46.
Bayuk Cigars Inc., Philadelphia, Pa. 902,887, pub. 12-2-69. Cl. 17.
Beatrice Foods Co., Chicago, Ill. 902,997, pub. 9-8-70. Cl. 26.
Beecham Inc., Clifton, N.J. 526,878, ren. 11-24-70. Cl. 18.
Beecham Inc., Clifton, N.J. 527,868, ren. 11-24-70. Cl. 18.
Beecham Inc., Clifton, N.J. 529,880, ren. 11-24-70. Cl. 18.
Beecham Inc., Clifton, N.J. 537,808, ren. 11-24-70. Cl. 18.
Bel-Art Products, Pequannock, N.J. 902,900, pub. 9-8-70. Cl. 26.
Belcor Corp., The, Newark, N.J. 778,100, -canc. Cl. 21.
Benke Corp., Columbus, Miss. 902,878, pub. 9-8-70. Cl. 13.
Benllite Corp. of America, New York, N.Y. 902,835, pub. 6-16-70. Cl. 1.
Bert, Louis, & Cie, Barsac, Gironde, France. 778,291, -canc. Cl. 47.
Better Government Association, Chicago, Ill. 751,061, -canc. Cl. 107.
Betz Laboratories, Inc., Trevose, Pa. 903,235-6. Cl. 106.
Biotronex Laboratory, Inc., Silver Spring, Md. 902,998, pub. 9-8-70. Cl. 26.
Bison Products Co., Inc., Buffalo, N.Y. 903,152-3, pub. 9-8-70. Cl. 46.
Bissell Inc., Grand Rapids, Mich. 903,225. Cl. 103.
Bissett, Joseph L., Dayton, Ohio. 903,121, pub. 9-8-70. Cl. 46.
Blast Kleen Booth, Inc., Hollywood, Fla. 903,250. Cl. 23.
Bloch, Alfred, and Eugene H. Bernstein, Highland Park, N.J. 902,846, pub. 11-25-69. Multiple Class (Classes 6 and 26).
Elise Blouse of Boston, Inc., Boston, Mass. 903,060, pub. 9-8-70. Cl. 39.
Bohrer, Alphonse O., d.b.a. Laborsaber, St. Louis, Mo. 902,969, pub. 9-8-70. Cl. 23.
Borden, Inc., New York, N.Y. 271,639, ren. 11-24-70. Cl. 42.
Borden, Inc., New York, N.Y. 903,118, pub. 9-8-70. Cl. 46.
Borg-Warner Corp., Chicago, Ill. 778,090, -canc. Cl. 19.
Botz, James H., Jr., Franklin Lakes, N.J. 778,269, -canc. Cl. 45.
Brach, E. J., & Sons, Chicago, Ill. 778,287, -canc. Cl. 46.
Bradford Dyer's Association, Ltd., The, Bradford, England. 188,190, -canc. Cl. 42.
Bradley, Milton, Co., Springfield, Mass. 903,249. Cl. 22.
Branson Instruments, Inc., Stamford, Conn. 903,257. Cl. 38.
Bretmar Fabrics Ltd., New York, N.Y. 903,080, pub. 9-8-70. Cl. 42.
Bridgeport Implement Works, Inc., Stratford, Conn. 902,974, pub. 9-8-70. Cl. 23.
Brimacombe, W. R., and Southwest Tag Mfg. Co., d.b.a. South-
west Carton Co., Kansas City, Mo. 778,005, -canc. Multiple
Class (Classes 2 and 37).
Broadway-Hale Stores, Inc., Los Angeles, Calif. 903,059, pub. 9-8-70. Cl. 39.
Brouwerij (Brasserie) Martinus Voorheen (Anclennement)
Brouwerij (Brasserie) J. Van Ginderachter N.V., Merchtem,
Belgium. 778,293, -canc. Cl. 48.
Budget Payment Corp., Rhinebeck, N.Y. 778,315, -canc. Cl. 102.
Bulton Foods Corp., South Hackensack, N.J. 903,159, pub. 9-8-70. Cl. 46.
Bureau of National Affairs, Inc., The, Washington, D.C. 903,258. Cl. 38.
Burgener Technical Enterprises Ltd., Toronto, Ontario, Canada. 903,261. Cl. 100.
Butt, H. E., Grocery Co., Corpus Christi, Tex. 903,190, pub. 9-8-70. Cl. 52.
C.E.M. Co., Inc., Danielson, Conn. 903,246. Cl. 13.
CPC International Inc., Englewood Cliffs, N.J. 531,766, ren. 11-24-70. Cl. 46.
Cal-Dri Fruits, Inc., Colfax, Calif. 778,286, -canc. Cl. 46.
Calfonex, Inc., Englewood, N.J. 902,884, pub. 9-8-70. Cl. 15.
Call For Action, Inc., Washington, D.C. 903,209. Cl. 100.
Calwis Co., Green Bay, Wis. 778,010, -canc. Cl. 2.
Calwis Co., Green Bay, Wis. 778,135, -canc. Cl. 23.
Calwis Co., Green Bay, Wis. 778,308, -canc. Cl. 52.
Candulor Ltd., Zurich, Switzerland. 531,522-3, ren. 11-24-70. Cl. 44.
Canepa, John B., Co., The, Chicago, Ill. 903,125, pub. 9-8-70. Cl. 46.
Canepa, John B., Co., The, Chicago, Ill. 903,158, pub. 9-8-70. Cl. 46.
Capps, J., & Sons, Ltd., Jacksonville, Ill. 536,139, ren. 11-24-70. Cl. 39.
Carnation Co., Los Angeles, Calif. 903,132, pub. 9-8-70. Cl. 46.
Carolina Co., Inc., d.b.a. The Carolina Soap & Candle Makers,
Southern Pines, N.C. 902,882, pub. 9-1-70. Cl. 15.
Carter-Wallace, Inc., New York, N.Y. 903,162, pub. 9-8-70. Cl. 46.
Carter-Wallace, Inc., New York, N.Y. 903,185-6, pub. 9-8-70. Cl. 51.

Castle & Cooke, Inc., Honolulu, Hawaii. 534,202, ren. 11-24-70. Cl. 46.
 Celanese Coatings Co., New York, N.Y. 444,132, ren. 11-24-70. Cl. 16.
 Central Quality Industries, Inc., Polo, Ill. 902,936, pub. 9-8-70. Cl. 22.
 Cessna Aircraft Co., Wichita, Kans., from Aircraft Radio Corp., Hoonton, N.J. 902,913, pub. 9-8-70. Multiple Class (Classes 21, 26, and 38).
 Chait, Lawrence G., & Co., Inc., New York, N.Y. 903,222. Cl. 102.
 Chase Instruments Corp., Lindenhurst, N.Y. 902,986, pub. 9-8-70. Cl. 26.
 Chemetron Corp., Chicago, Ill. 530,531, ren. 11-24-70. Cl. 44.
 Chemetron Corp., Chicago, Ill. 531,274, ren. 11-24-70. Cl. 14.
 Chemolene Industries, Inc., Bordentown, N.J. 902,857, pub. 9-8-70. Cl. 11.
 Chestnut Hill Industries, Inc., Hollywood, Fla. 778,213, can. Cl. 39.
 Chicompe Mills, Inc., New York, N.Y. 778,219, can. Cl. 39.
 Chilly Willie Sales Corp., Laurinburg, N.C. 903,101, pub. 9-8-70. Cl. 45.
 Cluett, Peabody & Co., Inc., Troy, N.Y. 530,720, ren. 11-24-70. Cl. 39.
 Coca-Cola Co., The, Atlanta, Ga. 903,103-4, pub. 9-8-70. Cl. 45.
 Cockburn Smiths & Companhia, Ltd., Oporto, Portugal. 903-170, pub. 9-8-70. Cl. 47.
 Coggin, Thayer, Inc., High Point, N.C. 903,003, pub. 9-8-70. Cl. 32.
 Colgate-Palmolive Co., New York, N.Y. 903,191, pub. 9-8-70. Cl. 52.
 Collegiate Cap & Gown Co., Champaign, Ill. 903,047, pub. 9-8-70. Cl. 39.
 Collier Carbon & Chemical Corp., Los Angeles, Calif. 902,853, pub. 9-8-70. Cl. 6.
 Collins, Ashton B., d.b.a. Reddy Kilowatt, Short Hills, N.J., & New York, N.Y. 408,393, can. Cl. 38.
 Colonial Stores Inc., Atlanta, Ga. 903,139, pub. 9-8-70. Cl. 46.
 Columbia Broadcasting System, Inc., New York, N.Y. 902,917, pub. 9-8-70. Cl. 21.
 Columbian Rope Co., Auburn, N.Y. 534,289, ren. 11-24-70. Cl. 7.
 Columbian Rope Co., Auburn, N.Y. 903,192-5, pub. 9-8-70. Cl. 52.
 Computer Instruments Corp., Hempstead, N.Y. 903,097, pub. 9-8-70. Cl. 44.
 Conductive Hospital Accessories Corp., Boston, Mass. 537-876, ren. 11-24-70. Cl. 26.
 Conn. General Life Insurance Co., Bloomfield, Conn. 531,355, ren. 11-24-70. Cl. 102.
 Consolidated Analysis Centers Inc., Santa Monica, Calif. 903-197, pub. 9-8-70. Cl. 100.
 Consolidated Cigar Corp., New York, N.Y. 902,896, pub. 9-8-70. Cl. 17.
 Consolidated Cigar Corp., New York, N.Y. 902,898, pub. 9-8-70. Cl. 17.
 Cooper-Jarrett, Inc., Orange, N.J. 903,229, Cl. 105.
 Corning Glass Works, Corning, N.Y. 778,137, can. Cl. 23.
 Cosmetically Yours, Inc., Yonkers, N.Y. 903,187, pub. 9-8-70. Cl. 51.
 Country Style Donuts, Union, N.J. 903,203, Cl. 100.
 Creative Monograms Inc., New York, N.Y. 778,170, can. Cl. 28.
 Critzas Industries, Inc., St. Louis, Mo. 537,868, ren. 11-24-70. Cl. 21.
 Cross, A. T. Co., Lincoln, R.I. 903,245, Cl. 2.
 Cross Country, Inc., Kearny, N.J. 778,340, can. Cl. 105.
 Curran Industries Inc., Wayland, Mass. 778,095, can. Cl. 21.
 Custom Beverage Products Co., d.b.a. The Chocolate Drink Co., Indianapolis, Ind. 279,769, ren. 11-24-70. Cl. 46.
 Dair-Fresh Vitamin Co., St. Louis, Mo. 778,070, can. Cl. 18.
 Darn, Ernst W., d.b.a. Ernst W. Darn Co., Inc., Gardena, Calif. 538,142, ren. 11-24-70. Cl. 16.
 Dart Industries Inc., d.b.a. The West Bend Co., Los Angeles, Calif. 532,970, ren. 11-24-70. Cl. 13.
 Data Analysis Associates, New York, N.Y. 903,242, Cl. 107.
 Davanac Industries Ltd., Montreal, Quebec, Canada. 902,993, pub. 9-8-70. Cl. 26.
 Davis, Al, Radio, Inc., Los Angeles, Calif. 778,094, can. Cl. 21.
 Dawnwood Farms, Inc., Wassale, N.Y. 533,686, ren. 11-24-70. Cl. 46.
 Day Care & Child Development Council of America, Inc., Washington, D.C. 903,038, pub. 9-8-70. Multiple Class (Classes 38 and 100).
 Debs Co., Canoga Park, Calif. 754,093, can. Cl. 26.
 Deco Plastics Corp., Marlton, N.J. 778,037, can. Cl. 12.
 Deering Milliken, Inc., New York, N.Y. 903,082-3, pub. 9-8-70. Cl. 42.
 Deering Milliken, Inc., New York, N.Y. 903,086-7, pub. 9-8-70. Cl. 42.
 Dell Publishing Co., Inc., New York, N.Y. 903,256, Cl. 38.
 Del-Mar-Va Packing Co., Federalsburg, Md. 903,133, pub. 9-8-70. Cl. 46.
 Delmonico Foods, Inc., Hershey, Pa. 903,110, pub. 6-3-69. Cl. 46.
 Delro Mfg. Corp., Plainview, N.Y. 902,875, pub. 6-9-70. Cl. 13.
 Demoor, Inc., Cleveland, Ohio. 778,301, can. Cl. 50.
 Dennison Mfg. Co., Framingham, Mass. 903,251, Cl. 37.
 Deschner Corp., Inglewood, Calif. 902,965, pub. 9-8-70. Cl. 23.
 Diamond Shamrock Corp., Cleveland, Ohio. 902,854, pub. 9-8-70. Cl. 6.
 Dia-Print Co., Inc., The, Williamsport, Pa. 903,175, pub. 9-8-70. Cl. 60.

Didde-Glaser, Inc., Emporia, Kans. 902,963, pub. 9-8-70. Cl. 23.
 Dixie Kitchens, Inc., Omaha, Nebr. 903,206, Cl. 100.
 Dodge-Wasumund Mfg., Inc., Pico Rivera, Calif. 902,836-9, pub. 9-8-70. Cl. 1.
 Domecq, Pedro, S.A., Cadiz, Spain. 903,168, pub. 9-8-70. Cl. 47.
 Doub, William H., d.b.a. D & W Enterprises, Immokalee, Fla. 902,939, pub. 9-8-70. Cl. 22.
 Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V., Jour, Netherlands. 902,889, pub. 9-8-70. Cl. 17.
 Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V., Joure, Netherlands. 902,892-5, pub. 9-8-70. Cl. 17.
 Dow Chemical Co., The, Midland, Mich. 778,072, can. Cl. 18.
 Dresser Industries, Inc., Dallas, Tex. 535,917, ren. 11-24-70. Cl. 21.
 Drugs for Veterinary Medicine, Inc., Yonkers, N.Y. 755,840, can. Cl. 18.
 Drycrete, Inc., Flomaton, Ala. 534,090, ren. 11-24-70. Cl. 12.
 Dufouleur Freres, Nutis-Saint-Georges, Cote-d'Or, France. 903,167, pub. 9-8-70. Cl. 47.
 Dumore Co., The, Racine, Wis. 902,955, pub. 9-8-70. Cl. 23.
 Dunham Bros. Co., Brattleboro, Vt. 903,063, pub. 9-8-70. Cl. 39.
 Dunhill, Alfred, Ltd., London, England. 534,705, ren. 11-24-70. Cl. 8.
 Dunkelberger, Richard, Shoemakersville, Pa. 903,145, pub. 9-8-70. Cl. 46.
 Du Pont de Nemours, E. I., & Co., Wilmington, Del. 902,999, pub. 9-8-70. Cl. 26.
 Duratech Mfg. Corp., Peekskill, N.Y. 778,092, can. Cl. 20.
 Dynamics Research Corp., Wilmington, Mass. 903,214, Cl. 101.
 Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. 902-851, pub. 9-8-70. Cl. 6.
 ESB Inc., Philadelphia, Pa. 902,992, pub. 5-19-70. Cl. 26.
 Eagle Clothes, Inc., d.b.a. B & B Lorrays Stores, New York, N.Y. 903,071, pub. 9-8-70. Cl. 39.
 Eagle Clothes, Inc., d.b.a. B & B Lorrays Stores, New York, N.Y. 903,088, pub. 9-8-70. Cl. 42.
 Eaton Yale & Towne Inc., Cleveland, Ohio. 538,737, ren. 11-24-70. Cl. 23.
 Eaton Yale & Towne Inc., from The K-Way Dispensing Equipment Co., Cleveland, Ohio. 902,952, pub. 6-2-70. Multiple Class (Classes 23 and 31).
 Eldus, William, Suffern, N.Y. 903,089, pub. 9-8-70. Cl. 44.
 Elcon Systems, Inc., Troy, Mich. 902,912, pub. 11-18-69. Cl. 21.
 Electrix, Inc., Port Chester, N.Y. 778,162, can. Cl. 23.
 Electrovert, Inc., Mount Vernon, N.Y. 903,008, pub. 9-8-70. Cl. 34.
 Elgin Sweeper Co., Elgin, Ill. 778,125, can. Cl. 23.
 Ellis, Jerome J., d.b.a. Jay Printing Specialties, Saginaw, Mich. 903,022, pub. 9-8-70. Cl. 37.
 Emerson Electric Co., St. Louis, Mo. 903,006, pub. 9-8-70. Cl. 34.
 Essential Products Co., Inc., New York, N.Y. 903,699, pub. 9-8-70. Cl. 45.
 Estate Homes, Inc., Elkhart, Ind. 757,641, can. Cl. 19.
 Ethical Business Council of America, d.b.a. Vinyl Specialties of America, Louisville, Ky. 903,211, Cl. 101.
 Evanson, P., Boat Co., Philadelphia, Pa. 116,773, can. Cl. 19.
 Excel-Mineral Co., Inc., d.b.a. Excel Mineral Co., Los Angeles, Calif. 902,856, pub. 9-8-70. Cl. 10.
 Exericycle Corp., New York, N.Y. 525,649, ren. 11-24-70. Cl. 22.
 Fabri-Tek Inc., Minneapolis, Minn. 902,989, pub. 9-8-70. Cl. 26.
 Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 902,852, pub. 9-28-70. Cl. 6.
 Fawcett, J. Leon, Neodesha, Kans. 530,047, ren. 11-24-70. Cl. 23.
 Fay, Leslie, Inc., New York, N.Y. 778,257, can. Cl. 42.
 Federal Pacific Electric Co., Newark, N.J. 903,009, pub. 9-8-70. Cl. 34.
 Fennimore Fabrics, Inc., Cobleskill, N.Y. 778,247, can. Cl. 42.
 Ferguson Fumigants, Inc., Hazelwood, Mo. 902,848, pub. 6-2-70. Cl. 6.
 Ferry-Morse Seed Co. (Calif.), Mountain View, Calif. 527,427, ren. 11-24-70. Cl. 1.
 Ferry-Morse Seed Co. (Calif.), Mountain View, Calif. 529,030, ren. 11-24-70. Cl. 1.
 File-O-Fax Corp., Buffalo, N.Y. 903,002, pub. 9-8-70. Cl. 32.
 Financial Programs, Inc., Denver, Colo. 778,316, can. Cl. 102.
 Flexnit Co., Inc., New York, N.Y. 778,226, can. Cl. 39.
 Flexnit Co., Inc., New York, N.Y. 778,229, can. Cl. 39.
 Fluid Equipment, Inc., Cleveland, Ohio. 778,133, can. Cl. 23.
 Food Foundation, Inc., Chicago, Ill. 903,140, pub. 9-8-70. Cl. 46.
 Forney Engineering Co., Dallas, Tex. 532,536, ren. 11-24-70. Cl. 34.
 Fownes Bros. & Co., Inc., New York, N.Y. 903,051, pub. 9-8-70. Cl. 39.
 Fox, Milton, Los Angeles, Calif. 778,169, can. Cl. 28.
 Fox Products Corp., South Whitley, Ind. 903,013, pub. 9-8-70. Cl. 36.
 Frito-Lay, Inc., Dallas, Tex. 903,163, pub. 9-8-70. Cl. 46.
 Garlock Inc., Palmyra, N.Y. 778,187, can. Cl. 35.
 Gately Clothing Co., Chicago, Ill. 519,459, ren. 11-24-70. Cl. 39.
 Gately Clothing Co., Chicago, Ill. 523,444, ren. 11-24-70. Cl. 39.
 General Electric Co., Pittsfield, Mass. 751,567, can. Cl. 21.
 General Electric Co., Schenectady, N.Y. 778,096, can. Cl. 21.

General Foods Corp., White Plains, N.Y. 903,151, pub. 9-8-70. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 903,127, pub. 9-8-70. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 903,129, pub. 3-12-70. Cl. 46.
 General Mills, Inc., Minneapolis, Minn. 903,157, pub. 9-8-70. Cl. 46.
 General Motors Corp., Detroit, Mich. 778,163-4, can. Cl. 24.
 General Plastics Co. Ltd., Cookshire, Quebec, Canada. 902-841, pub. 7-14-70. Cl. 2.
 General Tire & Rubber Co., The, Akron, Ohio. 778,245, can. Cl. 42.
 Gentilini, Thomas L., Virginia, Minn. 902,966, pub. 9-8-70. Cl. 23.
 Georgia Tile Distributors, Inc., Douglasville, Ga. 902,868, pub. 9-8-70. Cl. 12.
 Gillette Co., The, Boston, Mass. 538,284, ren. 11-24-70. Cl. 23.
 Givaudan Corp., Clifton, N.J. 533,080, ren. 11-24-70. Cl. 6.
 Glatfelter, P. H. Co., Spring Grove, Pa. 903,020, pub. 9-8-70. Cl. 37.
 Glenwood Laboratories, Inc., Tenafly, N.J. 903,090, pub. 9-8-70. Cl. 44.
 Globus-Werke Fritz Schulz Jun., Neuburg, Germany. 902,842, pub. 6-23-70. Cl. 4.
 Gold-Cote, Inc., Nernon, Calif. 903,164, pub. 9-8-70. Cl. 46.
 Golden Key Inns of America, Inc., Yakima, Wash. 903,212, Cl. 101.
 Golden State Steel Corp., San Francisco, Calif. 778,054, can. Cl. 13.
 Golf Players, Inc., Chattanooga, Tenn. 903,240, Cl. 107.
 Gonzalez, Gustavo, d.b.a. La Paslega Packing, Miami, Fla. 903,128, pub. 9-8-70. Cl. 46.
 Gonzalez, Jose L., Marco A. Fonseca, & Enrique T. Gibbon, Mexico City, Mexico. 902,876, pub. 9-8-70. Cl. 13.
 Goodall Rubber Co., Trenton, N.J. 537,056, ren. 11-24-70. Cl. 35.
 Goodyear Rubber Co., Middletown, Conn. 277,679, ren. 11-24-70. Cl. 39.
 Grace W. R., & Co., New York, N.Y. 903,131, pub. 7-28-70. Cl. 46.
 Graphex, Inc., Lawrence, Mass. 902,964, pub. 9-8-70. Cl. 23.
 Group Voyagers, Inc., d.b.a. Globus Tours, New York, N.Y. 903,231, Cl. 105.
 Guardian Products Co., Inc., North Hollywood, Calif. 903-092, pub. 9-8-70. Cl. 44.
 Guenther Systems, Inc., Buchanan, N.Y. 902,956, pub. 9-8-70. Cl. 23.
 Guinan, John R., d.b.a. The Mentho-Nova Co., Towson, Md. 528,494, ren. 11-24-70. Cl. 18.
 Gulf Oil Corp., Pittsburgh, Pa. 902,850, pub. 9-8-70. Cl. 6.
 Gusse Bros. Motor Sales, North Fond du Lac, Wis. 778,143, can. Cl. 23.
 Gutmann, Ferdinand, & Co., Brooklyn, N.Y. 527,264, ren. 11-24-70. Cl. 50.
 Hacker Instruments, Inc., from William J. Hacker & Co., Inc., West Caldwell, N.J. 902,985, pub. 9-8-70. Cl. 26.
 Hacker, William J., & Co., Inc.: See—
 Hacker Instruments, Inc.
 Hagen, Donald H., Minneapolis, Minn. 902,905, pub. 9-8-70. Cl. 19.
 Hair House, Inc., The, Omaha, Nebr. 903,075, pub. 9-8-70. Multiple Class (Classes 40 and 100).
 Hall China Co., The, East Liverpool, Ohio. 277,605, ren. 11-24-70. Cl. 30.
 Hallmark Cards Inc., d.b.a. Ambassador Cards, Kansas City, Mo. 903,215, Cl. 101.
 Hammermill Paper Co., Erie, Pa. 903,017, pub. 9-8-70. Cl. 37.
 Hanes Corp., Winston-Salem, N.C. 903,070, pub. 9-8-70. Cl. 39.
 Harco Corp., Camp Hill, Pa. 902,904, pub. 9-8-70. Multiple Class (Classes 19 and 23).
 Helsingborgs Fryshus Aktiebolag, Johanneshov, Sweden. 757-320, can. Cl. 31.
 Hemlinway & Bartlett Mfg. Co., The, Greenwich, Conn. 537-845, ren. 11-24-70. Cl. 43.
 Hengstenberg, Rich., Esslingen, Neckar, Germany. 903,107, pub. 9-8-70. Cl. 46.
 Herbert, Ann, Co., Jeffersontown, Ky. 903,218, Cl. 101.
 Hidden Charm, Inc., Chicago, Ill. 903,053, pub. 9-8-70. Cl. 39.
 Highway Travelers Restaurant, Inc., Raleigh, N.C. 903,204, Cl. 100.
 Hoe, R., & Co., Inc., New York, N.Y. 902,972, pub. 9-8-70. Cl. 23.
 Holiday Inns of America, Inc., Memphis, Tenn. 903,228, Cl. 105.
 Home Interiors & Gifts, Inc., Dallas, Tex. 902,870, pub. 9-8-70. Multiple Class (Classes 13, 30, 33, 34, 50, and 101).
 Home Town Foods, Inc., Jacksonville, Fla. 903,120, pub. 9-8-70. Cl. 46.
 Hooker Chemical Corp., Niagara Falls, N.Y. 530,654, ren. 11-24-70. Cl. 6.
 Hooker Chemical Corp., Niagara Falls, N.Y. 531,542, ren. 11-24-70. Cl. 15.
 Hooker Chemical Corp., Niagara Falls, N.Y. 532,198, ren. 11-24-70. Cl. 6.
 Hunt Process Co., Inc., Santa Fe Springs, Calif. 530,685, ren. 11-24-70. Cl. 12.
 Hunt-Wesson Foods, Inc., Fullerton, Calif. 278,105, ren. 11-24-70. Cl. 46.
 Huntington Mills, Inc., Philadelphia, Pa. 778,235, can. Cl. 39.
 Hydrospace Research Corp., Rockville, Md. 902,987, pub. 9-8-70. Cl. 26.
 Imperial Chemical Industries Ltd., London, England. 530,704, ren. 11-24-70. Cl. 16.

Imperial Metal Industries (Kynoch) Ltd., Birmingham, England. 530,370, ren. 11-24-70. Cl. 9.
 Industrial Brush Co., Pomona, Calif. 902,879, pub. 9-8-70. Multiple Class (Classes 14 and 29).
 Industrial Consulting & Design Service, Scotch Plains, N.J. 753,732, can. Cl. 37.
 Interco Inc., St. Louis, Mo. 279,666, ren. 11-24-70. Cl. 39.
 International Industries, Inc., Baltimore, Md. 902,858, pub. 11-19-68. Cl. 12.
 International Industries, Inc., d.b.a. International House of Pancakes, North Hollywood, Calif. 903,207, Cl. 100.
 International Productions, Inc., Jacksonville, Fla. 903,219, Cl. 101.
 International Salt Co., Clarks Summit, Pa. 903,108, pub. 9-8-70. Cl. 46.
 Iroquois Industries Inc., Buffalo, N.Y. 519,235, ren. 11-24-70. Cl. 48.
 Jabeo, Inc., Portland, Oreg. 902,920, pub. 9-8-70. Cl. 21.
 James River Paper Co., Richmond, Va. 534,182, ren. 11-24-70. Cl. 37.
 Jeff-Richard, Inc., Philadelphia, Pa. 903,056, pub. 9-8-70. Cl. 39.
 Jeffrey Gallon, Inc., Columbus, Ohio. 532,954, ren. 11-24-70. Cl. 23.
 Jensen Machinery, Inc., Fort Lauderdale, Fla. 902,975, pub. 9-8-70. Cl. 24.
 Jewel Paint & Varnish Co., Chicago, Ill. 276,711, ren. 11-24-70. Cl. 16.
 Johns-Manville Corp., New York, N.Y. 902,865-6, pub. 9-8-70. Cl. 12.
 Johnson & Johnson, d.b.a. Personal Products Co., New Brunswick, N.J. 903,183, pub. 9-8-70. Cl. 51.
 Johnston, Robert A., Co., Milwaukee, Wis. 903,105, pub. 9-8-70. Cl. 46.
 Jones, Jesse, Sausage Co., Garner, N.C. 903,150, pub. 9-8-70. Cl. 46.
 K-Way Dispensing Equipment Co., The: See—
 Eaton Yale & Towne Inc.
 Kaderli, Edith B., Old Greenwich, Conn. 903,111, pub. 7-14-70. Cl. 46.
 Kanwischer, Jerzy, d.b.a. Fleckweg Distributors, Berkeley, Calif. 778,305, can. Cl. 52.
 Katalife, Jose, and Ruben Menasce, d.b.a. Cormat S.A., Buenos Aires, Argentina. 903,052, pub. 9-8-70. Cl. 39.
 Katz, Julius, d.b.a. Julius Katz & Son, New York, N.Y. 755,052, can. Cl. 28.
 Kay Jewelry Stores, Inc., d.b.a. Fairfax Industries, Washington, D.C. 778,008, can. Cl. 2.
 Keebler Co., Elmhurst, Ill. 903,149, pub. 9-8-70. Cl. 46.
 Kelseyville Packing Co., Kelseyville, Calif. 903,165, pub. 9-8-70. Cl. 46.
 Kem Mfg. Corp., Tucker, Ga. 902,843, pub. 9-19-67. Cl. 6.
 Kenal Salmon Packing Co., Seattle, Wash. 903,137, pub. 9-8-70. Cl. 46.
 Kimberly-Clark Corp., Neenah, Wis. 903,021, pub. 9-8-70. Cl. 37.
 Kimberly-Clark Corp., Neenah, Wis. 903,029-30, pub. 1-27-70. Cl. 38.
 Kinetic Chemicals, Inc., Wilmington, Del. 408,801, can. Cl. 6.
 Kirsch Co., Sturgis, Mich. 534,584, ren. 11-24-70. Cl. 32.
 Rock, Winston E., Ann Arbor, Mich. 902,915-16, pub. 9-8-70. Cl. 21.
 Kocolene Oil Corp., Seymour, Ind. 530,567, ren. 11-24-70. Cl. 15.
 Kohlmoor, Waldes, Inc., Long Island City, N.Y. 534,171, ren. 11-24-70. Cl. 13.
 Koninklijke Zwaartzuurfabrieken Voorheen Ketjen N.V., Amsterdam, Netherlands. 902,845, pub. 5-26-70. Cl. 6.
 Kratt, Wm. Co., Union, N.J. 534,473, ren. 11-24-70. Cl. 36.
 Kutrubes, Leo P., d.b.a. National Laboratories, Lexington, Mass. 778,167, can. Cl. 26.
 Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan. 903,106, pub. 9-8-70. Cl. 46.
 Laboratory for Electronics, Inc., Boston, Mass. 778,191, can. Cl. 36.
 Lachapelle, Gerald L., and Leo J. Wallace, Lewiston, Maine. 778,102, can. Cl. 21.
 Laher Spring & Electric Car Corp., Oakland, Calif. 530,665, ren. 11-24-70. Cl. 21.
 Lake Delta Citrus Association, Weslaco, Tex. 903,114, pub. 9-8-70. Cl. 46.
 La Saur, Inc., d.b.a. The House of Style, Minneapolis, Minn. 903,184, pub. 9-8-70. Multiple Class (Classes 51 and 52).
 Landola, Inc., Converse, Ind. 902,908-9, pub. 9-8-70. Cl. 13.
 Land O'Lakes Creameries, Inc., Minneapolis, Minn. 903,135, pub. 9-8-70. Cl. 46.
 Large Charge Corp of America, Inc., d.b.a. L-C Corp., Clearwater, Fla. 778,532, can. Cl. 45.
 Laser Technology, Inc., North Hollywood, Calif. 902,854, pub. 9-8-70. Cl. 23.
 La Sport, Inc., Asbury Park, N.J. 903,062, pub. 9-8-70. Cl. 39.
 Lauck, Chester H., and Norris Goff, Hot Springs National Park, Ark. 903,239, Cl. 107.
 Lavigne, Donald S., Inc., Miami, Fla. 903,064, pub. 9-8-70. Cl. 39.
 Lawtex Corp., d.b.a. Merrick Mills, Dalton, Ga. 778,331, can. Cl. 42.
 Leasco Systems & Research Corp., Bethesda, Md. 903,241, Cl. 107.
 Lee, Glenn R., Co., Inc., Kokomo, Ind. 902,881, pub. 9-8-70. Cl. 14.
 Leith, Arthur B., Lowell, Mass. 750,297, can. Cl. 52.
 Lengene Co., Inc., New York, N.Y. 903,074, pub. 9-8-70. Cl. 40.
 Leonhardt, Henry, Jr., d.b.a. Oro Coin & Stamp Co., Clayton, Mo. 778,339, can. Cl. 52.
 Les Parfums de Dana, Inc., New York, N.Y. 444,411-12, ren. 11-24-70. Cl. 52.

Letrasat U.S.A., Inc., Mountain View, Calif. 903,019, pub. 9-8-70, Cl. 37.
 Linden Laboratories, Inc., State College, Pa. 903,091, pub. 9-8-70, Cl. 44.
 Litchfield Park Properties, Litchfield Park, Ariz. 903,198, pub. 9-8-70, Cl. 100.
 Logan, Jonathan, Inc., New York, N.Y. 903,061, pub. 9-8-70, Cl. 39.
 Lotte Co., Ltd., Tokyo, Japan. 903,113, pub. 9-8-70, Cl. 46.
 Lovable Co., The, Atlanta, Ga. 903,043, pub. 9-8-70, Cl. 39.
 Lovable Co., The, Atlanta, Ga. 903,068, pub. 9-8-70, Cl. 39.
 Lowry Development Corp., Winchester, Mass. 903,260, Cl. 50.
 Lunden's Inc., Reading, Pa. 903,259, Cl. 46.
 Magic Sparkles, Inc., Newark, N.J. 752,620, can. Cl. 50.
 Maisel's Indian Trading Post, Albuquerque, N.M. 778,171, can. Cl. 28.
 Majestic Distilling Co., Inc., Lansdowne, Md. 903,172, pub. 9-8-70, Cl. 49.
 Majestic Tile Co., Melrose Park, Ill. 902,859, pub. 9-8-70, Cl. 12.
 Major Corp., Crystal Lake, Ill. 902,924, pub. 9-28-70, Cl. 21.
 Mandel, Stanley J., d.b.a. Continental Textile & Supply Co., Chicago, Ill. 532,807, ren. 11-24-70, Cl. 50.
 Mangels, Arthur C., Industries, Inc., Philadelphia, Pa. 902,886, pub. 9-8-70, Cl. 16.
 Manrep Industries, Inc., New York, N.Y. 778,250, can. Cl. 42.
 Maple Leaf Mfg. Co., Inc., New York, N.Y. 739,015, can. Cl. 37.
 Marley Co., The, Kansas City, Mo. 532,911, ren. 11-24-70, Cl. 31.
 Marley Co., The, Kansas City, Mo. 533,664-5, ren. 11-24-70, Cl. 31.
 Mar-Tay, Inc., Orlando, Fla. 778,069, can. Cl. 18.
 Martinoli E. Co., South San Francisco, Calif. 903,173, pub. 7-21-70, Cl. 49.
 Maryland Baking Co., Owings Mills, Md. 903,138, pub. 9-8-70, Cl. 46.
 Master Chemical Corp., Perrysburg, Ohio. 902,847, pub. 9-8-70, Cl. 6.
 Mattel, Inc., Hawthorne, Calif. 902,938, pub. 9-8-70, Cl. 22.
 Mattel, Inc., Hawthorne, Calif. 902,940-50, pub. 9-8-70, Cl. 22.
 Mattel, Inc., Hawthorne, Calif. 903,033, pub. 9-8-70, Cl. 38.
 Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 902,911, pub. 9-19-70, Cl. 21.
 McKee, Jack C., d.b.a. Drifter Mfg. Co., Gallatin, Tenn. 730,000, can. Cl. 19.
 Mead Corp., The, Dayton, Ohio. 903,023-24, pub. 9-8-70, Cl. 37.
 Mearl Corp., The, Ossining, N.Y. 902,849, pub. 7-28-70, Cl. 6.
 Medical Plastics, Inc., Minneapolis, Minn. 902,927, pub. 9-8-70, Cl. 21.
 Meducal, O. E. M., Inc., Union, N.J. 903,096, pub. 9-8-70, Cl. 44.
 Merille Shoe Corp., New York, N.Y. 778,330, can. Cl. 39.
 Meredith Corp., Des Moines, Iowa. 903,040, pub. 9-8-70, Cl. 38.
 Merilino, Carmine, Hair Creations, Inc., Brooklyn, N.Y. 903,076, pub. 9-8-70, Cl. 40.
 Michel Cosmetics, Inc., Long Island City, N.Y. 262,073, ren. 11-24-70, Cl. 51.
 Midland International Corp., North Kansas City, Mo. 903,011, pub. 9-8-70, Cl. 35.
 Milk-Mart System, Inc., Wauseon, Ohio. 903,100, pub. 9-8-70, Cl. 45.
 Milprint, Int., d.b.a. Nicolet Paper Co., Milwaukee, Wis. 903,027, pub. 9-8-70, Cl. 37.
 Miner Industries, Inc., New York, N.Y. 902,935, pub. 9-8-70, Cl. 22.
 Minton, Louis & Co., Manchester, England. 529,854, ren. 11-24-70, Cl. 23.
 Mitchell, James Marvin, Jr., Little Rock, Ark. 903,262, Cl. 100.
 Modern Pen Mfg. Co., Inc., New York, N.Y. 778,197, can. Cl. 37.
 Montclair Mobile Homes, Inc., Montclair, Calif. 778,086, can. Cl. 19.
 Moore, Maynard H., Jr., Inc., Stoneham, Mass. 903,048, pub. 9-8-70, Cl. 39.
 Moore-Handley, Inc., d.b.a. Applied Management Controls Co., Birmingham, Ala. 778,313, can. Cl. 101.
 Morris, Philip Inc., New York, N.Y. 902,888, pub. 9-8-70, Cl. 17.
 Mortgage Bankers Association of Greater New Orleans, Non-Profit Assn., New Orleans, La. 903,201, pub. 9-8-70, Cl. 100.
 Mosler Safe Co., The, Hamilton, Ohio. 902,923, pub. 9-8-70, Cl. 21.
 Mosler Safe Co., The, Hamilton, Ohio. 902,977, pub. 9-8-70, Cl. 26.
 Multi-Stitch Corp., New York, N.Y. 778,255, can. Cl. 42.
 Munsingwear, Inc., Minneapolis, Minn. 903,044, pub. 7-2-70, Cl. 39.
 Munsingwear, Inc., Minneapolis, Minn. 903,067, pub. 9-8-70, Cl. 39.
 Myerson Tooth Corp., Cambridge, Mass. 903,093, pub. 9-8-70, Cl. 44.
 N.V. Philips' Gloeilampenfabrieken, Eindhoven, Netherlands. 902,904, pub. 9-8-70, Cl. 26.
 National Brewing Co., The, Baltimore, Md. 903,171, pub. 9-8-70, Cl. 48.
 National Starch & Chemical Corp., New York, N.Y. 530,754, ren. 11-24-70, Cl. 5.
 National Steel Container Corp., Chicago, Ill. 778,012, can. Cl. 2.
 Nationwide Income Tax Service Co., Detroit, Mich. 903,213, Cl. 101.
 Natural Doll Co., Inc., New York, N.Y. 778,112, can. Cl. 22.

Nebraska Consolidated Mills Co., d.b.a. Nixon & Co., Omaha, Nebr. 903,154-5, 9-8-70, Cl. 46.
 Nethercutt Laboratories, d.b.a. Cosgenic Labs, Hollywood, Calif. 778,338, can. Cl. 51.
 Newman Clock Co., Inc., New York, N.Y. 184,015, can. Cl. 27.
 Newsfilm Laboratory, Inc., Los Angeles, Calif. 903,238, Cl. 106.
 Newspaper Enterprises Association, Inc., Cleveland, Ohio. 903,042, pub. 9-8-70, Cl. 38.
 North American Rockwell Corp., Pittsburgh, Pa. 531,001, ren. 11-24-70, Cl. 13.
 North American Rockwell Corp., Pittsburgh, Pa. 902,970-1, pub. 9-8-70, Cl. 23.
 Northwestern Refining Co., St. Paul Park, Minn. 903,220, Cl. 102.
 Nye, Ben, Inc., West Hollywood, Calif. 903,179, pub. 7-21-70, Cl. 51.
 ORCCO Industries, Inc., Los Angeles, Calif. 778,259, can. Cl. 42.
 Ocean Garden Products, Inc., d.b.a. Mexican Garden Products, San Diego, Calif. 903,160-1, pub. 9-8-70, Cl. 46.
 O'Keefe Brewing Co. Ltd., Toronto, Ontario, Canada. 778,292, can. Cl. 48.
 Oklebug Distributing Co., Tulsa, Okla. 902,934, pub. 9-22-70, Cl. 22.
 Old World Cheese Shop, Toronto, Ontario, Canada. 903,196, pub. 9-8-70, Multiple Class (Classes 100 and 101).
 Onsrud Machine Works, Inc., Niles, Ill. 778,152, can. Cl. 23.
 Optical Coating Laboratory, Inc., Santa Rose, Calif. 903,032, pub. 7-21-70, Cl. 38.
 Orazi Mfg., Inc., Elizabeth, N.J. 903,050, pub. 7-14-70, Cl. 39.
 Original Crispy Pizza Crust Co., of Philadelphia, Inc., d.b.a. Chianti Cheese Co., Philadelphia, Pa. 778,284, can. Cl. 46.
 Ovitron Corp., Newburgh, N.Y. 902,995, pub. 9-8-70, Cl. 26.
 Owens-Illinois, Inc., Toledo, Ohio. 902,988, pub. 9-8-70, Cl. 26.
 Oxford Mfg. Co., Inc., d.b.a. Maxon Shirt Co. Division, Greenville, S.C. 778,232, can. Cl. 39.
 Oxford Mfg. Co., Inc., d.b.a. Maxon Shirt Co. Division, Greenville, S.C. 778,236, can. Cl. 39.
 P & C Food Markets Inc., Syracuse, N.Y. 903,148, pub. 9-8-70, Cl. 46.
 Pacific Alaska Fisheries, Inc., Seattle, Wash. 81,056, ren. 11-24-70, Cl. 46.
 Pacific Alaska Fisheries, Inc., Seattle, Wash. 81,096, ren. 11-24-70, Cl. 46.
 Paladini, A., Inc., Oakland, Calif. 903,166, pub. 9-8-70, Cl. 46.
 Palmetto Garment Co., Inc., Travelers Rest, S.C. 526,839, ren. 11-24-70, Cl. 39.
 Panacolor, Inc., Hollywood, Calif. 778,201, can. Cl. 38.
 Panelboard Mfg. Co., Inc., Somerville, N.J. 902,869, pub. 9-8-70, Cl. 12.
 Pangburn Co., Inc., Fort Worth, Tex. 537,752, ren. 11-24-70, Cl. 46.
 Pantone, Inc., New York, N.Y. 903,200, pub. 9-8-70, Cl. 100.
 Paper Manufacturers Co., Philadelphia, Pa. 903,026, pub. 9-8-70, Cl. 37.
 Paulucci, Jeno F., d.b.a. The Sentinel Co., Duluth, Minn. 902,987, pub. 9-15-70, Cl. 17.
 Pendarvis, Peter, d.b.a. Oil Engineers & Co., Santa Ana, Calif. 902,883, pub. 9-8-70, Cl. 15.
 Pennsylvania Flexible Metallic Tubing Co., Paoli, Pa. 80,870, ren. 11-24-70, Cl. 35.
 Pennwalt Corp., Philadelphia, Pa. 530,246, ren. 11-24-70, Cl. 14.
 Perry Fabrics Ltd., New York, N.Y. 903,081, pub. 9-8-70, Cl. 42.
 Peters, William H., d.b.a. Manta-Ray Co., Montpelier, Ohio. 902,937, pub. 9-8-70, Cl. 22.
 Pfizer, Chas., & Co., Inc., New York, N.Y. 903,178, pub. 9-8-70, Cl. 51.
 Phillips, Ed., & Sons Co., Minneapolis, Minn. 531,006, ren. 11-24-70, Cl. 47.
 Pittman Products, Inc., d.b.a. Sportsways, Huntington Park, Calif. 903,248, Cl. 22.
 Pittway Corp., Cleveland, Ohio. 903,255, Cl. 38.
 Pizza Pub of America, Inc., Independence, Mo. 903,202, Cl. 100.
 Plasbond Corp., Santa Cruz, Calif. 722,834, can. Cl. 29.
 Porter, H. K., Co. Inc., Pittsburgh, Pa. 778,062, can. Cl. 16.
 Poteete, Leon, San Antonio, Tex. 903,199, pub. 9-8-70, Cl. 100.
 Practica A.G., Hergiswil, Nidwald, Switzerland. 902,957, pub. 9-8-70, Cl. 23.
 Prairie States Corp., Danville, Ill. 778,024, can. Cl. 6.
 Precor, Inc., Los Angeles, Calif. 527,012, ren. 11-24-70, Cl. 34.
 Production Engineering Research Association of Great Britain, Mowbray, England. 902,959, pub. 9-8-70, Cl. 23.
 Programming Methods Inc., New York, N.Y. 903,028, pub. 9-8-70, Cl. 38.
 Pro-Skil Golf Corp., from Michael Stortl, d.b.a. Pro-Skil Golf Co., Rosemont, Pa. 902,980, pub. 9-8-70, Cl. 26.
 Prost, André, Inc., Douglaston, N.Y. 903,109, pub. 9-8-70, Cl. 46.
 Psychological Associates, Inc., St. Louis, Mo. 903,039, pub. 9-8-70, Cl. 38.
 Purex Corp., Ltd., d.b.a. Lanson Chemical Corp., Lakewood, Calif. 902,840, pub. 9-8-70, Cl. 1.
 Purity Paint Products Corp., Brooklyn, N.Y. 778,065, can. Cl. 16.
 Quality Fruit Wines Corp., Yonkers, N.Y. 903,169, pub. 9-8-70, Cl. 47.
 R.P.B. Corp., Los Angeles, Calif. 757,268, can. Cl. 23.
 Radio Cores, Inc., Oak Lawn, Ill. 752,850, can. Cl. 21.
 Railway Equipment & Publication Co., The, New York, N.Y. 903,252-4, Cl. 38.
 Ralston Purina Co., St. Louis, Mo. 903,156, pub. 9-8-70, Cl. 46.
 Rapsarda, Inc., Springfield, Mass. 778,323, can. Cl. 23.

Rath Packing Co., The, Waterloo, Iowa. 903,136, pub. 7-28-70, Cl. 46.
 Rayne-Delman Shoes, Inc., New York, N.Y. 529,968, ren. 11-24-70, Cl. 39.
 Reader's Digest Association, Inc., The, New Castle, N.Y. 903,205, Cl. 100.
 Red Gold, Inc., Elwood, Ind. 538,230, ren. 11-24-70, Cl. 46.
 Redd, J. C., d.b.a. Redd Pest Control Co., Inc., Jackson, Miss. 903,223, Cl. 103.
 Reese Finer Foods, Inc., Chicago, Ill. 903,144, pub. 9-8-70, Cl. 46.
 Reimschuessel, Harry C., Toledo, Ohio. 903,243, Cl. 107.
 Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 902,891, pub. 9-8-70, Cl. 17.
 Reynolds, R. J., Inc., New York, N.Y. 903,123, pub. 7-28-70, Cl. 46.
 Rheingold Breweries, Inc., Brooklyn, N.Y. 533,121, ren. 11-24-70, Cl. 48.
 Riviana Foods Inc., Houston, Tex. 538,128-9, ren. 11-24-70, Cl. 46.
 Robinson Houchin Optical Co., The, Columbus, Ohio. 536,847, ren. 11-24-70, Cl. 26.
 Rochester Wire Spring Co., Inc., Rochester, N.Y. 778,056, can. Cl. 13.
 Rockwell Mfg. Co., Pittsburgh, Pa. 530,474, ren. 11-24-70, Cl. 23.
 Rockwell Mfg. Co., Pittsburgh, Pa. 532,650-51, ren. 11-24-70, Cl. 13.
 Rohm & Haas Co., Philadelphia, Pa. 902,832, pub. 9-8-70, Cl. 1.
 Roll Forming Corp., Shelbyville, Ky. 536,088, ren. 11-24-70, Cl. 14.
 Royal Industries, Inc., Pasadena, Calif. 902,903, pub. 1-27-70, Cl. 19.
 Royal Song, Inc., Gardena, Calif. 903,000, pub. 11-4-69, Cl. 30.
 Royal Velvet, Inc., Staten Island, N.Y. 778,193, can. Cl. 36.
 Rudy Mfg. Co., Dowagie, Mich. 778,052, can. Cl. 13.
 Ruger Equipment Co., Inc., Whitcherville, Ohio. 531,601, ren. 11-24-70, Cl. 23.
 S. C. S. Corp., Lubbock, Tex. 903,102, pub. 9-8-70, Cl. 45.
 St. Regis Paper Co., New York, N.Y. 778,009, can. Cl. 2.
 Salan Corp., Tulsa, Okla. 903,189, pub. 9-8-70, Cl. 52.
 Salem Trader Restaurants, Inc., The, Latham, N.Y. 903,210, Cl. 100.
 Sampson, Gary M., d.b.a. Adventure Travel Service, Detroit, Mich. 903,230, Cl. 105.
 Samuels, T. W., Distillery, Inc., Deatsville, Ky. 537,747, ren. 11-24-70, Cl. 49.
 Sarkes Tarzian, Inc., Bloomington, Ind. 754,188, can. Cl. 36.
 Sawyer, Tom, Boats, Inc., Hannibal, Mo. 902,902, pub. 9-8-70, Cl. 19.
 Scantlin Electronics, Inc., Los Angeles, Calif. 760,561, can. Cl. 21.
 Schlitz, Jos., Brewing Co., d.b.a. Burgermeister Brewing Corp., Milwaukee, Wis. 778,321, can. Cl. 2.
 Scovill Mfg. Co., Waterbury, Conn. 534,718, ren. 11-24-70, Cl. 21.
 Sears, Roebuck & Co., Chicago, Ill. 534,775, ren. 11-24-70, Cl. 39.
 Seattle-First National Bank, Seattle, Wash. 903,221, Cl. 102.
 Sea-Wide Industries, Inc., Philadelphia, Pa. 778,026, can. Multiple Class (Classes S. 21, 22, 27, 29, and 30).
 Securadine Ltd., Lynbrook, N.Y. 903,018, pub. 9-8-70, Cl. 37.
 Seffner Food Products Co., Seffner, Fla. 903,130, pub. 9-8-70, Cl. 46.
 Sellers, O. R., d.b.a. Redi Steam Mfg. Co., Waco, Tex. 778,324, can. Cl. 23.
 Shakespeare Co., Kalamazoo, Mich. 902,933, pub. 9-8-70, Cl. 22.
 Shannon Mfg. Co., North Hollywood, Calif. 903,046, pub. 9-8-70, Cl. 39.
 Shapiro Bros. Industries, Van Nuys, Calif. 902,873, pub. 9-28-70, Cl. 13.
 Shaw-Walker Co., The, Muskegon, Mich. 535,589, ren. 11-24-70, Cl. 32.
 Shell Oil Co., New York, N.Y. 778,003, can. Cl. 1.
 Sherwin-Williams Co., Cleveland, Ohio. 533,351, ren. 11-24-70, Cl. 16.
 Sherwood Medical Industries Inc., Chicago, Ill. 902,983, pub. 7-14-70, Cl. 26.
 Shully's Industries Ltd., Toronto, Canada. 778,033, can. Cl. 12.
 Signatron, Inc., Lexington, Mass. 902,991, pub. 9-8-70, Cl. 26.
 16 Magazine, Inc., New York, N.Y. 903,031, pub. 9-8-70, Cl. 38.
 Smith, A. O., Corp., Milwaukee, Wis. 903,007, pub. 9-8-70, Cl. 34.
 Smith, Kenneth, Inc., Kansas City, Mo. 531,496, ren. 11-24-70, Cl. 22.
 Societe Anonyme Andre Citroen: See—
 Societe Anonyme Automobiles.
 Societe Anonyme Automobiles, from Societe Anonyme Andre Citroen, Paris, France. 902,901, pub. 2-17-70, Multiple Class (Classes 19 and 23).
 Solar-Peabody, Inc., River Rouge, Mich. 778,060, can. Cl. 15.
 Somovex Inc., to St-Jean-Port-Joli, Quebec, Canada. 902,907, pub. 9-8-70, Cl. 19.
 Southern Pine Lumber Co., Diboll, Tex. 778,038, can. Cl. 12.
 Southland Corp., The, Dallas, Tex. 903,098, pub. 9-8-70, Multiple Class (Classes 45 and 46).
 Southwire Co., Carrollton, Ga. 902,930, pub. 9-8-70, Cl. 21.
 Space & Tactical Systems Corp., Burlington, Mass. 902,929, pub. 9-8-70, Cl. 21.
 Spectra McIntosh Corp., Chicago, Ill. 902,906, pub. 9-8-70, Cl. 19.
 Spiller Hosiery Co., Doylestown, Pa. 531,034, ren. 11-24-70, Cl. 39.
 Sportsmans Aids, Inc., Houston, Tex. 902,962, pub. 9-8-70, Cl. 23.
 Sportsmen's Industries, Inc., Hialeah Gardens, Fla. 903,001, pub. 9-8-70, Cl. 32.
 Staff Supermarket Associates, Inc., Jericho, N.Y. 903,045, pub. 1-13-70, Cl. 39.
 Staggs, William D., Phoenix, Ariz. 903,174, pub. 9-8-70, Cl. 50.
 Standard Oil Co., Flemington, N.J. 902,855, pub. 9-15-70, Cl. 7.
 Standard Oil Co. of California, San Francisco, Calif. 902,968, pub. 9-8-70, Cl. 23.
 Stange Co., Chicago, Ill. 536,921, ren. 11-24-70, Cl. 46.
 Stange Co., Chicago, Ill. 538,377, ren. 11-24-70, Cl. 46.
 Stanley, James S., Princeton, N.J. 903,014, pub. 9-8-70, Cl. 36.
 Stanley Works, The, New Britain, Conn. 278,816, ren. 11-24-70, Cl. 23.
 Sta-Rite Industries, Inc., Delavan, Wis. 530,178, ren. 11-24-70, Cl. 23.
 Steinmeier & Co. N.V., Aalst, Netherlands. 902,931, pub. 11-24-70, Cl. 22.
 Stephan, A., u. Sohne, Hamelin, Germany. 902,951, pub. 9-8-70, Cl. 23.
 Stevens, J. P., & Co., Inc., New York, N.Y. 903,078, pub. 9-8-70, Cl. 42.
 Stortl, Michael: See—
 Pro-Skil Golf Corp.
 Stowe-Woodward, Inc., Newton Upper Falls, Mass. 778,139, can. Cl. 23.
 Street, R. R., & Co., Inc., Oak Brook, Ill. 532,092, ren. 11-24-70, Cl. 52.
 Stuckey's Inc., Eastman, Ga. 903,208, Cl. 100.
 Studebaker Corp., South Bend, Ind. 778,126, can. Cl. 23.
 Sun Oil Co., Philadelphia, Pa. 533,763, ren. 11-24-70, Cl. 15.
 Sunbeam Corp., Chicago, Ill. 444,212, ren. 11-24-70, Cl. 23.
 Super Toys, Inc., Detroit, Mich. 903,247, Cl. 22.
 Sverre Musikk Afsjeselskap, Bergen, Norway. 902,958, pub. 9-8-70, Cl. 23.
 Taylor Bros., Inc., Winston-Salem, N.C. 528,188, ren. 11-24-70, Cl. 17.
 Teen-Age Beachwear Corp., New York, N.Y. 903,057, pub. 9-8-70, Cl. 39.
 Tek Bearing Co., Inc., d.b.a. Auto Safety Equipment Co., Farmingdale, N.Y. 902,978, pub. 5-19-70, Cl. 26.
 Telex Corp., The, Tulsa, Okla. 902,922, pub. 9-8-70, Cl. 21.
 Temple Industries, Inc., Diboll, Tex. 902,871, pub. 9-8-70, Cl. 13.
 Tension Envelope Corp., Kansas City, Mo. 530,589, ren. 11-24-70, Cl. 2.
 Tension Envelope Corp., Kansas City, Mo. 532,044, ren. 11-24-70, Cl. 37.
 Terra-Sancta Creations, Inc., Philadelphia, Pa. 902,874, pub. 9-8-70, Multiple Class (Classes 13, 25, 32, 34, 37, and 50).
 Texize Chemicals, Inc., Greenville, S.C. 778,302, can. Cl. 51.
 Thompson, Lawrence J., Livonia, Mich. 903,244, Cl. 107.
 Thoro-Speed Corp., Yellow Springs, Ohio. 778,156, can. Cl. 23.
 Tiffany Tile Corp., Tampa, Fla. 778,041, can. Cl. 12.
 Tivian Laboratories Inc., Providence, R.I. 902,834, pub. 9-8-70, Cl. 1.
 Trans Atlantic Electronics Ltd., Dorval, Quebec, Canada. 903,015, pub. 9-8-70, Cl. 36.
 Travel Industries, Inc., Hartford, Conn. 903,226, Cl. 105.
 Travel Systems/International, Ltd., Oak Brook, Ill. 903,232, Cl. 105.
 Travis Electronics, Inc., Newton, Mass. 902,984, pub. 6-2-70, Cl. 26.
 Tucker Mfg. Corp., Leominster, Mass. 778,007, can. Cl. 2.
 Turtle Wax, Inc., Chicago, Ill. 902,885, pub. 9-8-70, Cl. 15.
 Twin Fair, Inc., The, Depeu, N.Y. 903,216, Cl. 101.
 USM Corp., Boston, Mass. 274,922, ren. 11-24-70, Cl. 42.
 USV Pharmaceutical Corp., New York, N.Y. 902,899, pub. 9-8-70, Cl. 18.
 Uguine, Kuhlmann, Paris, France. 902,880, pub. 9-8-70, Cl. 14.
 Uncle Ben's, Inc., Houston, Tex. 903,134, pub. 9-8-70, Cl. 46.
 Union Carbide Corp., New York, N.Y. 903,094-5, pub. 9-8-70, Cl. 44.
 Union Spécial Machine Co., Chicago, Ill. 533,040, ren. 11-24-70, Cl. 23.
 United Artists Records, Inc., New York, N.Y. 778,194, can. Cl. 36.
 United States Ceramic Tile Co., Canton, Ohio. 902,862, pub. 9-8-70, Cl. 12.
 U.S. Plywood-Champion Papers Inc., New York, N.Y. 902,860, pub. 9-8-70, Cl. 12.
 United States Rubber Co., New York, N.Y. 778,098, can. Cl. 21.
 Universal Marlon Corp., Jacksonville, Fla. 778,116, can. Cl. 23.
 Universal Oil Products Co., Des Plaines, Ill. 902,844, pub. 5-14-68, Cl. 6.
 Uni-Wall Interlock, Inc., Denver, Colo. 902,861, pub. 7-21-70, Cl. 12.
 Upjohn Co., The, Kalamazoo, Mich. 532,119, ren. 11-24-70, Cl. 18.
 Upjohn Co., The, Kalamazoo, Mich. 532,211, ren. 11-24-70, Cl. 18.
 Usonian Corp., Akron, Ohio. 778,036, can. Cl. 12.
 Utica Tobacco Co., Inc., Utica, N.Y. 902,890, pub. 9-8-70, Cl. 17.
 Valley Tow-Rite, Inc., Lodi, Calif. 902,973, pub. 9-8-70, Cl. 23.
 Van Brode Milling Co., Inc., Clinton, Mass. 778,144, can. Cl. 23.

Van Dyne-Crotty, Inc., Dayton, Ohio. 903,224. Cl. 103.
 Vanguard Data Systems, Inc., Newport Beach, Calif. 902,982.
 pub. 9-8-70. Cl. 26.
 Van Houten, C. J., & Zoon N.V., Weesp, Netherlands. 778,274.
 can. Cl. 46.
 Vendo Co., The, Kansas City, Mo. 903,005. pub. 9-8-70. Cl. 34.
 Vessey & Co., Inc., d.b.a. Vessey & Co. Inc., El Centro, Calif.
 903,146. pub. 9-8-70. Cl. 46.
 Viatron Computer Systems Corp., Burlington, Mass. 902,979.
 pub. 9-8-70. Cl. 26.
 Victory Engineering Corp., Springfield, N.J. 902,920. pub.
 9-8-70. Cl. 21.
 Viking Corp., The, Hastings, Mich. 778,166. can. Cl. 26.
 Viking Corp., The, Hastings, Mich. 778,180. can. Cl. 34.
 Viking Corp., The, Hastings, Mich. 778,185. can. Cl. 35.
 Virginia Cattle Feeding Corp., Branchville, Va. 778,028-29.
 can. Cl. 10.
 Volt Industries Inc., East Meadows, N.Y. 903,077. pub. 9-8-
 70. Cl. 40.
 Wagner, Raymond T., Louisville, Ky. 536,349. ren. 11-24-70.
 Cl. 18.
 Wasatch Chemical Co., Salt Lake City, Utah. 903,188. pub.
 7-8-69. Cl. 32.
 Wavecom, Inc., Chatsworth, Calif. 902,921. pub. 9-8-70. Cl.
 21.
 Waylitz Co., The, Chicago, Ill. 537,355. ren. 11-24-70. Cl. 1.
 Weck, Edward & Co., Inc., Long Island City, N.Y. 521,799.
 ren. 11-24-70. Cl. 23.
 Wehling Enterprises, Inc., Cincinnati, Ohio. 903,117. pub.
 9-8-70. Multiple Class (Classes 46 and 100).
 Welskittel, Harry C., Inc., Baltimore, Md. 778,046. can. Cl.
 13.
 Welcome Wagon International, Inc., Memphis, Tenn. 903,041.
 pub. 9-8-70. Cl. 38.
 Weller, J., Co., The, Oak Harbor, Ohio. 277,745. ren. 11-24-70.
 Cl. 46.
 Wells Television, Inc., New York, N.Y. 902,928. pub. 9-8-70.
 Cl. 21.
 Wembley Industries, Inc., New Orleans, La. 903,065-6. pub.
 9-8-70. Cl. 39.
 West Chemical Products, Inc., Long Island City, N.Y. 902,960.
 pub. 9-8-70. Cl. 23.
 Western Air Lines, Inc., Los Angeles, Calif. 903,233-4. Cl. 105.
 Western Concrete, Inc., Phoenix, Ariz. 778,034. can. Cl. 12.
 Westinghouse Electric Corp., East Pittsburgh, Pa. 902,925.
 pub. 9-8-70. Cl. 21.
 Wheeler, Foster, Corp., Livingston, N.J. 275,219. ren. 11-24-
 70. Cl. 23.
 White Stag Mfg., Co., Portland, Ore. 903,072-3. pub. 9-8-70.
 Cl. 39.
 White Stores, Inc., Wichita County, Tex. 903,004. pub. 9-8-70.
 Cl. 32.
 Wings & Wheels Express, Inc., Flushing, N.Y. 778,319. can.
 Cl. 105.
 Wood, Mark A., Indianapolis, Ind. 903,217. Cl. 101.
 Woolrich Woolen Mills, Woolrich, Pa. 903,049. pub. 9-8-70.
 Cl. 39.
 Wrought Washer Mfg. Co., Milwaukee, Wis. 902,877. pub.
 9-8-70. Cl. 13.
 Wurm Brothers Co., Chicago, Ill. 903,147. pub. 9-8-70. Cl. 46.
 Zyco Mfg., Inc., d.b.a. Zyco Magnetic Tracks, Cornwells
 Heights, Pa. 903,237. Cl. 106.

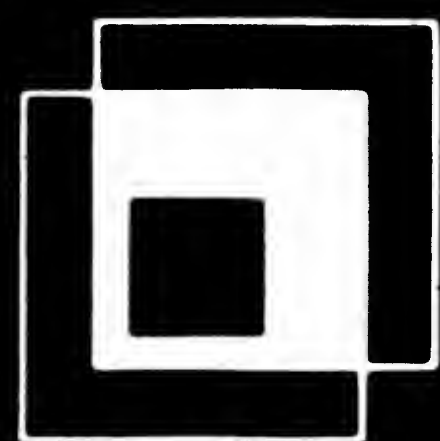
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VOL 880

NOVEMBER

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